

**SULTAN CITY COUNCIL  
AGENDA ITEM COVER SHEET**

---

ITEM NO: D-2

DATE: September 16, 2010

SUBJECT: Population Forecast and Allocation 2025-2030

CONTACT PERSON: Deborah Knight, City Administrator

**ISSUE:**

The issue before the city council is to review the population forecast and allocation for 2025 through 2030 prepared by Studio Cascade. The city has an existing population forecast that extends to 2025 for the comprehensive plan. The population forecast and allocation for 2025-2030 is necessary to support the current effort to update to the water system plan and general sewer plan.

The water system plan and general sewer plan must show where the city's future population and employment areas will be in order to plan and fund the infrastructure needed to serve these areas.

Information in the report will also help identify ways in which the city's urban growth area (UGA) may need to be adjusted during the 10-year comprehensive plan update in 2015 based on the type and intensity of development forecast to occur throughout the city.

The Population Forecast and Allocation Report finds:

1. Population may shift away from environmentally constrained areas as identified in Scenario 1 (Attachment A – Table 2.1 and pages 10-11). During the 10-year update, the city should evaluate increasing average densities in some areas to accommodate projected growth.
2. In order to accommodate a projected population increase during the 2025 to 2030 planning period, the city may need to plan for increased densities for all residential land uses and allow mixed use development in the areas west of the Sultan River and east of Rice Road (Attachment A – Table 2.2 and pages 12-13).
3. Collaboration with the county to reassess population forecasts and the Urban Growth Area's geographical extent and location will be crucial during the 10-year comprehensive plan update in 2015.

## PLANNING BOARD DISCUSSION:

The planning board reviewed the population allocation at its September 7, 2010 meeting as a discussion item. The board has concerns with the proposal to allocate approximately 350 dwelling units (950 people) into the area east of Rice Road - Figure 2.2 on page 13 of the report.

The planning board and staff discussed the proposed changes to the 2011 comprehensive plan goals and policies that direct growth to the area west of the Sultan River and east of Rice Road. Specifically, the goals and policies that support creating future economic and employment centers in these areas and the current urban center zone in the city's historic business district. Together with the policies that encourage bike and pedestrian connections and transit service, the city is laying the framework for urban level densities where utilities and infrastructure can be more easily and efficiently provided.

This approach in turn can help keep impact and utility connection fees at more reasonable levels in line with surrounding communities.

The board also expressed concerns about the timing of the proposed changes. The board was concerned that the affected property owners would believe the zoning and land use changes would take effect with the adoption of the 2011 comprehensive plan update. This is not the case. The 2011 comprehensive plan update is the 7-year "compliance" update. The 10-year update which begins in 2013, and will be adopted in 2015, will extend the planning period to 2030. The 10-year update provides the opportunity to discuss with Snohomish County the need to amend Sultan's Urban Growth Area.

In other words, the population forecast and allocation report for 2025-2030 is to plan for future utility extensions. The proposed allocations will guide future efforts to amend the zoning map but will not change the zoning map at this time.

Property owners wishing to add residential uses to currently zoned commercial properties will need to go through the process to amend the land use zoning during the annual comprehensive plan update. Allocating population to this area in the water system plan and general sewer plan lays the framework for these changes to take place in the future.

## STAFF RECOMMENDATION:

This is an opportunity for the city council to review the population forecast and allocation report prepared by Studio Cascade, ask questions and identify any areas of concern.

This is the council's first opportunity to study how the goals and policies proposed for the 2011 comprehensive plan could be implemented through the zoning code as required by the Growth Management Act.

## SUMMARY:

The population allocation report was scheduled as a discussion item at the council's September 9, 2010 meeting. The city council moved to reschedule the discussion at the special meeting on September 16, 2010.

### Population Forecast

The planning board and city council reviewed the population forecast for 2025-2030 prepared by EcoNorthwest at the joint meeting on June 29, 2010. The planning board and city council agreed to use the medium population forecast presented by EcoNorthwest. The medium population forecast projects that Sultan's UGA will grow to 13,409 people by 2030, and increase of 2,290 between 2025 and 2030.

The growth rate used in the medium forecast (3.8% average annual growth) is based on Sultan's historical growth rate over the 1990 to 2009 period which is very similar to the growth rate over the last 29 years.

Following direction from the planning board and city council, Studio Cascade has been working to allocate the increase of 2,290 people within Sultan's existing urban growth area.

### Population Allocation

The city's 2008 revision to the 2004 comprehensive plan allocated population throughout the city limits and UGA by Sultan's transportation analysis zones (STAZ). This is a way to divide up the city and identify when and where people are expected to reside and businesses will locate in the future.

In creating the allocation, the city presumes that Sultan's population will distribute according to certain patterns consistent with the comprehensive plan's land use designation and apparent market trends.

Assigning anticipated growth to individual STAZ regions allows the city to target utilities and infrastructure investment to meet expected demand.

The Snohomish County buildable lands report was used as the foundation for the population allocation report. The 2008 buildable lands report identifies land available for development in Snohomish County. The buildable lands report takes into consideration geological restrictions, such as steep slopes, critical areas, wetlands, frequently flooded areas, etc.

The population allocation combines the information from the buildable lands report and the city's land use designations within each STAZ to distribute the planned population increases from 2025 through 2030.

Actual development patterns may be different than planned development. This is because individual property owners and developers can use the city's development regulations such as cluster developments to mitigate for environmental impacts and increase densities. The population allocation analysis and STAZ is a look at how populations might be distributed for planning purposes.

### Scenarios

The population forecast and allocation report (Attachment A) provides three scenarios:

1. Scenario 1 – Baseline Forecast 2006 through 2025 (page 10)
2. Scenario 2 – 2010 Adopted Forecast for Sultan and UGA 2025-2030 (page 12)
3. Scenario 3 – Reduced Population Forecast and UGA 2006-2030

### Scenario 1 - Baseline Forecast

The first scenario is based on the city's 2008 comprehensive plan and the adopted population projection of 11,119.

Table 2.1 in Attachment A, page 10 indicates a significant unused capacity in STAZ 22 and 23 (the area generally east of Rice Road), which is consistent with the 2008 comprehensive plan. The 2008 plan showed no residential development in this area which is consistent with the current Highway Oriented Development zoning.

While the Baseline Forecast is consistent with the 2008 comprehensive plan, it does indicate a potential shift population based on environmental constraints identified in the analysis.

Generally, the analysis shows STAZ 2, 6, 7, 11 and 18 may see increases in allocation while STAZ 8, 17, 19, 20 and 21 may see decreases in allocation. The city should evaluate increasing average densities in some areas to accommodate projected growth.

### Scenario 2 – 2010 Adopted Forecast 2025-2030

This scenario is based on the city council and planning board population forecast of 13,409 for 2030. Table 2.2 in Attachment A, page 12 shows the increase in population and dwelling units from 2025 to 2030 a total of 2,290 people into 836 dwelling units (assuming 2.74 people/unit). Further this scenario assumes that in 2025 the city reached its population forecast of 11,119 people.

Table 2.2 indicates the city will need to increase the average densities in all residential land uses **and** to allow mixed-use development (residential plus commercial) in STAZ 1, 22 and 23.

Scenario 2 assumes that STAZ 1 (west of the Sultan River) will have a population increase of 340 people and 124 dwelling units. STAZ 22 and 23 (east of Rice Road) will have a population increase of 957 people and 349 dwelling units. STAZ 22 and 23 will need to accommodate 40 percent of the growth between 2025 and 2030. These increases represent a significant increase over the existing housing development trends.

### Scenario 3 – Reduced Population Forecast

This scenario is based on EcoNorthwest's alternative population forecast for 2030. Scenario 3 forecasts a total population of 9,720 for 2030 compared to 13,409 in Scenario 2. While this population forecast will not be used for the 2011 comprehensive plan or the updates to the water system plan and general sewer plan, it may help inform the city's work with Snohomish County during the 10-year update in 2015.

Scenario 3 assumes mixed-use (residential and commercial) development will be permitted in STAZ 1, 22 and 23 but the forecast population can be accommodated within the city without changing the zoning to allow residential development in those areas.

### SUMMARY:

This analysis indicates several issues may need to be more carefully addressed as the city and county collaborate on revising the comprehensive plans and population forecasts during the 10-year update in 2015.

1. the forecasts to 2025 may be too high, overstating the community's growth rate and impacting the degree to which the city may be required to invest in infrastructure.
2. Accommodating forecast growth in scenarios 1 and 2 within the existing UGA will require the city to consider significant increases in development intensity and/or density in the UGA to actively direct new housing into central core neighborhoods.
3. Collaboration with Snohomish County to reassess population forecasts and the UGA's geographical extent and location will be crucial in the 10-year update.
4. Scenario 3 requires a new (and lower) population forecast and/or allocation from Snohomish County during the 10-year update.

**RECOMMENDED ACTION:**

This is an opportunity for the city council to review the population forecast and allocation report prepared by Studio Cascade, ask questions and identify any areas of concern.

**ATTACHMENTS:**

A – Population Allocation 2025-2030

B – Population Forecast

August 31, 2010

Deborah Knight, City Administrator  
Robert Martin, Community Development Director  
City of Sultan  
PO Box 1199  
Sultan, WA 98290

**Subject: Population Allocation 2025 - 2030**

Dear Deborah and Bob:

Attached is a report on population forecast and allocation, presented in two sections. The first section recaps the ECONorthwest population forecasts, excerpting their tables 8 and 9 to provide two views on how population may increase in Sultan and its urban growth area. The second section builds on that work, distributing population growth across the city and UGA based on a series of assumptions and our understanding of the City's likely land use policy direction.

We understand that this report will help inform the City's current water and wastewater system planning. We also hope it will help the City in its upcoming discussions with Snohomish County on its update to the Buildable Lands Report and comprehensive plan due in 2013. Information from this report will help identify ways in which the City's UGA may need to be adjusted, based on the type and intensity of development forecast to occur in each of Sultan's transportation analysis zones.

Please feel free to contact me to discuss this in greater detail.

Sincerely,



William Grimes, AICP  
Principal, Studio Cascade, Inc.

# 1 - Population Forecast



The City of Sultan is in the process of updating its Comprehensive Plan, as part of a 7-year Growth Management Act (GMA) required update. The City has an existing population forecast that extends to 2025 but needs a population forecast that extends to 2030 for its water and wastewater planning. In addition, the City's existing forecast is based on Snohomish County's 2007 Buildable Lands Report, which allocated a specific population to Sultan for 2025. The City wishes to reconsider that allocation when the County next updates its Buildable Lands Report and undertakes its comprehensive plan update in 2013.

Material in this section of the report is excerpted from ECONorthwest's technical memorandum, dated June 13, 2010. While that report provides extensive detail on population forecasting and trends relevant to Sultan, this report concentrates on the memo's findings related to growth forecasts in Sultan and its urban growth area (UGA).

Population forecasts serve several purposes. They allow municipalities to estimate the

amount of necessary infrastructure capacity to meet forecast demand. This ensures that municipalities have sufficient capacity to accommodate projected growth. Population forecasts also allow municipalities to develop estimates of how much housing will be needed. These estimates in turn allow for an estimate of how much land will be needed to accommodate housing and employment growth.

## Sultan UGA Population Forecast

This section presents the population forecast for Sultan's UGA. ECO developed high, medium, and low growth rates for Sultan to show a range of population growth scenarios. The forecast growth rates are based on: official population estimates from the State, Snohomish County's forecast of population to 2025, and historical growth trends. Each of the three forecast alternatives would meet the County's allocations of population to small cities. The forecasts presented in Table 1.1 are:

- The **Low** population forecast projects that Sultan's UGA will grow to 12,398 people by 2030, an increase of 1,279 people between 2025 and 2030. By 2040, the low forecast shows that Sultan's population will reach 15,414 people. The growth rate used in the low forecast (2.2% average annual growth) is based on the County's historical growth rate over the 1990 to 2009 period. The low population forecast assumes that Sultan's growth rate will decrease from 4.5% to 2.2% after 2025 and that Sultan will only grow at the same rate as the County.
- The **Medium** population forecast projects that Sultan's UGA will grow

to 13,409 people by 2030, an increase of 2,290 people between 2025 and 2030. By 2040, the medium forecast shows that Sultan's population will reach 19,500 people. The growth rate used in the medium forecast (3.8% average annual growth) is based on the Sultan's historical growth rate over the 1990 to 2009 period and is very similar to the City's growth rate over the last 29 years (3.7%). The medium population forecast assumes that Sultan's growth rate will decrease from 4.5% to 3.8% after 2025. This assumption seems reasonable, given that Sultan's historical growth rate has been stable over a long period.

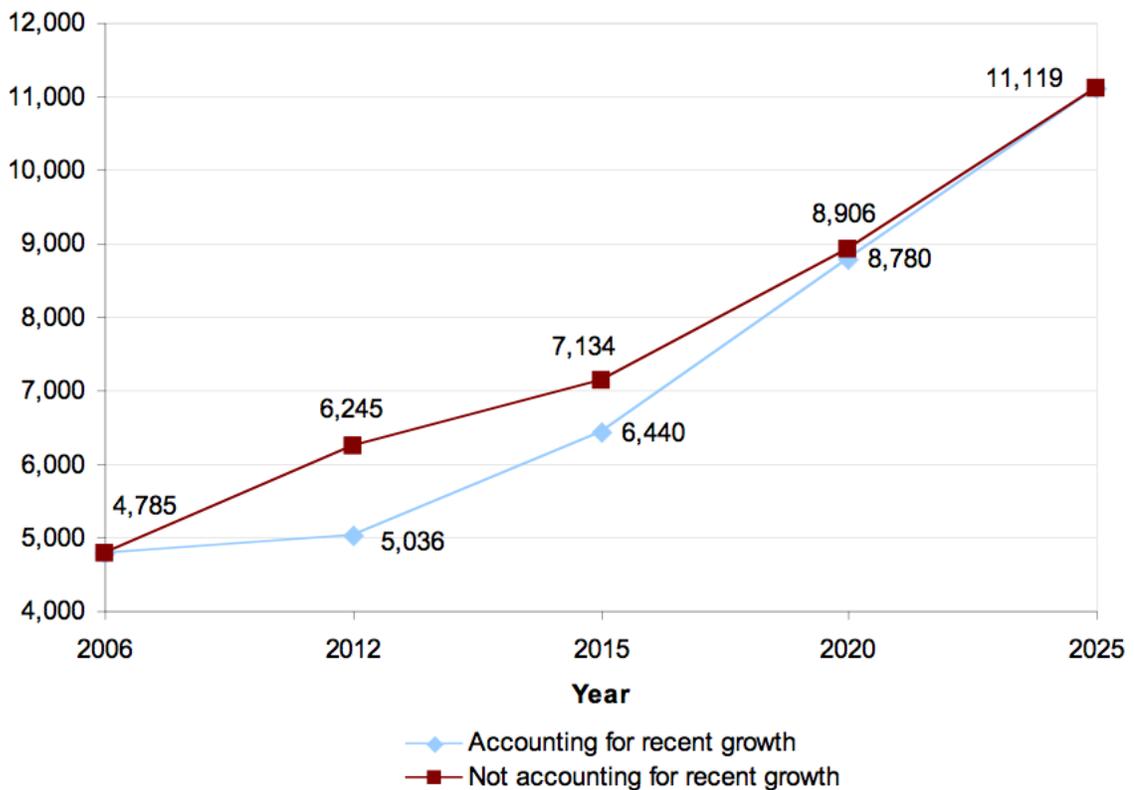
- The **High** population forecast projects that Sultan's UGA will grow to 13,881 people by 2030, an increase of 2,762 people between 2025 and 2030. By 2040, the high forecast shows that Sultan's population will reach 21,634 people. The growth rate used in the low forecast (4.5% average annual growth) is based on Snohomish County's forecast growth rate for Sultan over the 2006 to 2025 period. The high population forecast assumes that Sultan will continue to grow at 4.5% after 2025. Maintaining this growth rate will require the City to make investments in public facilities. The City may also need to consider urban growth policies to accommodate this amount of growth, such as policies that promote denser residential development or expanding the City's UGA.

**Table 1.1** – Range of population forecasts, City of Sultan UGA, 2006 to 2040 (excerpted from ECONorthwest's Table 8)

Year	Low	Medium	High
2006	4,785	4,785	4,785
2010	5,714	5,714	5,714
2015	7,134	7,134	7,134
2020	8,906	8,906	8,906
2025	11,119	11,119	11,119
2030	12,398	13,409	13,881
2035	13,824	16,170	17,329
2040	15,414	19,500	21,634

The City is considering asking Snohomish County to revisit the City’s forecast for the 2006 to 2025 period when the County updates

its buildable lands analysis. Sultan’s population has not grown at the forecast rate during the 2006 to 2009 period. Rather than growing at an average of 4.5% annually, Sultan grew at 0.9% between 2006 and 2009. Sultan’s population will need to grow at a higher rate in the future to reach the projected growth of 11,119 people by 2025. Figure 1.2 shows an illustration of Sultan’s potential growth curve to reach the target population. Figure 1.2 assumes that Sultan continues to grow at 0.9% through 2012, based on the slow recovery from the current recession. By 2012, Sultan would have about 5,036 people, about 1,200 people fewer than the forecast of 6,245 people. Sultan would need to grow faster (7.2% average annual growth) during the 2012 to 2020 period to “catch up” to meet the population target in 2025.



**Figure 1.1** - Graph illustrates how Sultan's population will need to increase to achieve 2025 forecast taking recent growth into account. (Source: ECONorthwest)

# Sultan UGA Alternative Population Forecast

Table 1.2 presents an alternative forecast of population growth in Sultan, assuming that the City does not meet the Snohomish County population target by 2025. This forecast is illustrative in nature and may require further refinement based on input from City staff. The forecast growth rates are based on: official population estimates from the State and historical growth trends. The forecasts presented in Table 1.2 are:

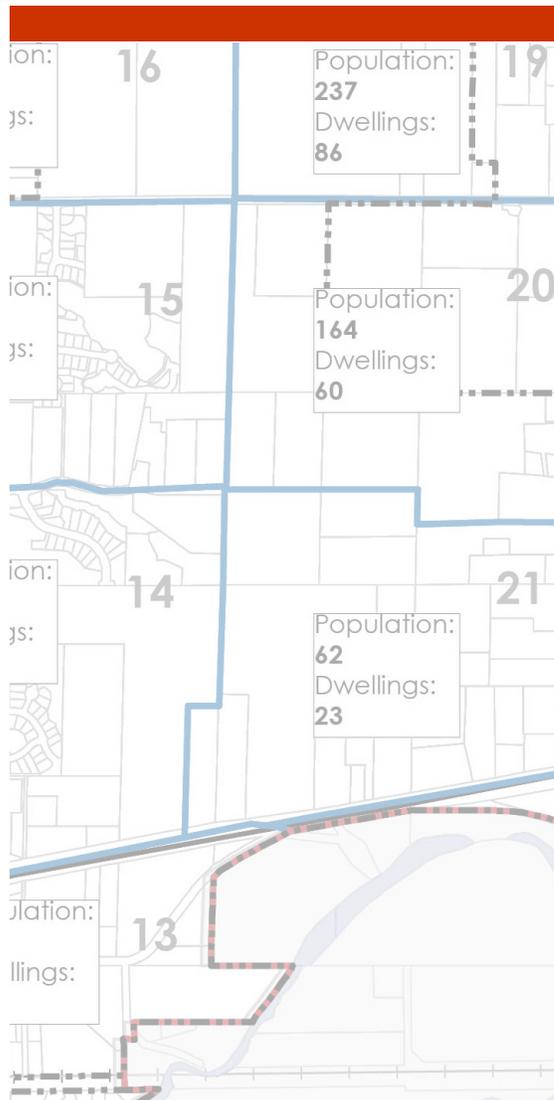
- The **Low** population forecast projects that Sultan’s UGA will grow to 11,078 people by 2040, at an average annual growth rate of 2.5%. The low population forecast assumes that Sultan will grow somewhat faster than the County grew historically, which is substantially slower than the City’s historical growth rate. This scenario would not result in a population that would meet the allocations of population to small cities described in Tables 6 and 7.
- The **Medium** population forecast projects that Sultan’s UGA will grow to 13,075 people by 2040, at an average annual growth rate of 3.0%. The medium population forecast assumes that Sultan will grow faster than the County grew historically but slower than the City’s historical growth rate. This scenario would result in a population to meet the allocation of population to small cities described in Table 6 but not Table 7.
- The **High** population forecast projects that Sultan’s UGA will grow to 17,004 people by 2040, at an average annual growth rate of 3.8%.

**Table 1.2** – Alternative population forecasts, City of Sultan UGA, 2006 to 2040 (excerpted from ECONorthwest’s Table 9)

Year	Low	Medium	High
2006	4,785	4,785	4,785
2010	5,282	5,386	5,554
2015	5,976	6,244	6,693
2020	6,761	7,239	8,065
2025	7,649	8,392	9,718
2030	8,654	9,729	11,710
2035	9,791	11,279	14,111
2040	11,078	13,075	17,004

The high population forecast assumes that Sultan continues to grow at its historical rate. This scenario would result in a population to meet the allocation of population to small cities.

# Population Allocation



## Task

The City of Sultan is in the process of updating its comprehensive water and wastewater master plans, targeting a planning horizon in the year 2030. The City is also updating its comprehensive plan, revising policies to ensure compliance with the Growth Management Act and targeting a planning horizon of 2025. As part of its work to update its comprehensive plan and water and wastewater plans now and to prepare for a subsequent comprehensive plan update in 2013, the City forecast population through 2030. This technical memo allocates that population forecast across the urban growth area (UGA), focusing on the period from 2025 through 2030. This will inform the utilities planning now underway and will advance the City's work with Snohomish County on the 2013 comprehensive plan update.

# Method

This analysis and population allocation uses as a baseline the population forecast prepared by ECONorthwest, building on current population estimates and the forecast included in the City’s comprehensive plan. It follows a six-step process to estimate where development will occur in Sultan for the period from 2025 through 2030.

The City’s comprehensive plan allocates population throughout the city limits and UGA by Sultan’s transportation analysis zones (STAZ), indicating in general terms how much and where growth will occur through the year 2025. That allocation, drawn from the comprehensive plan’s Appendix F, is shown in Figure 2.1 and in Table 2.1. In creating that allocation, the City presumed that Sultan’s population will distribute according to certain patterns, consistent with the comprehensive plan’s land use designations and apparent market trends. Assigning anticipated growth to individual STAZ regions allows the City to target utilities and infrastructure investment to meet expected demand.

Snohomish County’s buildable lands report contributed to the population allocation study. That report identifies which land was available for development as of 2008 in Snohomish County. It established density guidelines to help estimate the intensity of land development throughout the County, and it is used today as a guide to help local jurisdictions and the County meter development and land consumption. The County’s methodology for the report was consistent with a regional approach to assess land developability, and it is accepted that local studies conducted at a more refined scale may produce results that vary from the County’s buildable lands report to some degree.

Snohomish County maintains GIS data layers for various topographic, environmental and geological conditions that restrict or limit land development. Those “critical area” layers, including frequently-flooded areas, hazardous soils, sensitive habitat, critical aquifer areas and wetlands, indicate where development potential is limited. Combining the STAZ layer with the critical areas layers, the City can establish which portions of each STAZ are more likely to develop.

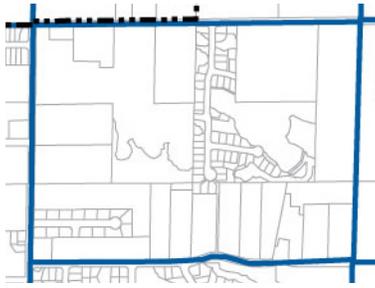
By combining the various available data layers, building on the population allocation already produced through 2025 and considering the City’s land use designations within each STAZ, this population allocation effort distributes population increase from 2025 through 2030.

# Resources Consulted

This population allocation exercise built upon previous work performed by others. Since the primary focus here was to allocate the expected population growth across the Sultan UGA, accurate information related to population distribution and growth, environmental constraints and parcel boundaries was essential. Principal data sources for this analysis included:

- Snohomish County GIS
- ECONorthwest’s population forecast for Sultan, dated June 19, 2010
- City of Sultan Comprehensive Plan
- Snohomish County Comprehensive Plan
- Snohomish County Buildable Lands Report
- Snohomish County GIS

## Steps to allocate population growth from 2025 through 2030



### Step 1 - Digitize STAZ boundaries

This step creates a new data layer reflecting previous work by the City to define Sultan transportation analysis zones (STAZ), subdividing the larger TAZ districts used by the Puget Sound Regional Council (PSRC) in its transportation modeling.



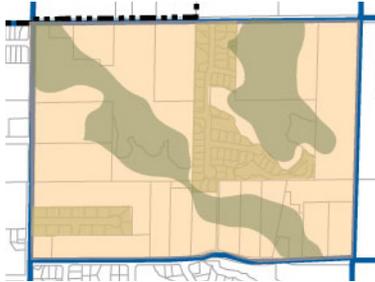
### Step 2 - Overlay constraints layer

This step identifies what land lies within critical areas, based on information supplied by Snohomish County for wetlands, sensitive habitat, critical aquifer areas, frequently-flooded areas and unstable soils. These constraints limit the extent to which land can develop.



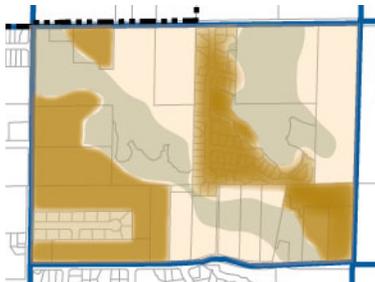
### Step 3 - Identify occupied land

This step reveals which land within the STAZ is already developed and/or occupied, making it unavailable to accommodate additional forecast growth without redevelopment. Information for this layer is drawn from Snohomish County's buildable lands report.



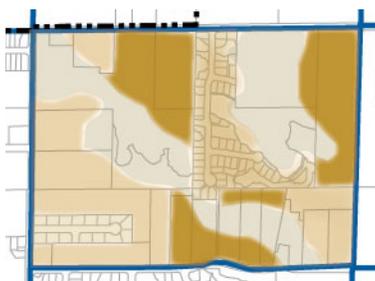
### Step 4 - Identify available residential land

This step reveals which land within the STAZ is vacant and available for residential development free of critical areas constraint. Available land contains all area within the STAZ minus land already developed or classified as a critical area.



### Step 5 - Estimate land consumption for 2025 population forecast

This step estimates the quantity of land necessary to accommodate the forecast population growth through the year 2025, based on the 2008 comprehensive plan's population allocation, land use designations and a population of 2.74 persons per household. It does not identify specific parcels targeted for development. It estimates only acreage, independent of ownership or location.



### Step 6 - Estimate land available for 2030 forecast population

This step estimates how much land is available within the STAZ to accommodate additional population growth, based on the comprehensive plan's land use designations and an average household size of 2.74. It constitutes the balance of land within the STAZ remaining after completing Steps 2 through 5.

# Assumptions

Information incorporated into this analysis is based on several assumptions, some of which may or may not reflect current community conditions. This process, however, was not intended to reconsider or update previous assumptions. It merely seeks to build on existing analyses and the assumptions contained within them to allocate geographically the forecast incremental population growth between 2025 and 2030.

Underlying assumptions in this work include:

- Assumptions made in earlier work upon which this analysis is based are valid and accurate.
- Densities for residential development as included in the County’s buildable lands report are physically achievable and supportable by the local market.
- Critical areas information supplied by the County is understood to be approximate, but it is still an appropriate representation of which land is unsuitable or unattractive to development because of environmental constraint.
- Land area reductions in frequently flooded areas may be overestimated, as residential development is allowed in accordance with flood regulations.
- Population forecasts for Sultan’s 2008 comprehensive plan and the subsequent forecasts prepared by ECONorthwest are accurate predictions of population growth in Sultan and its UGA.
- The boundary and extent of Sultan’s UGA are fixed, directing development at urban levels of intensity within the existing UGA.
- The average household size for the forecast period is 2.74 persons per household, which is from 2007 and being correlated with 2009 wastewater flow data.
- As a rule, the percent of population growth captured by the STAZ will remain constant for the five-year forecast period, unless there is insufficient land available within the STAZ to accommodate it.
- Development will occur faster in larger vacant properties, generally at the edges of the community, before infill occurs. However, policy and regulatory direction for increased housing in the community center will increase share of housing there during the 2025 to 2030 period.

# Calculations

Recent population forecasts from ECONorthwest provided two different population estimates from 2025 to 2030. The first forecast, Table 1.1, built upon the forecast included in the City’s adopted 2008 comprehensive plan and used growth rates based on official estimates from the State, Snohomish County forecasts, and historical growth trends. This forecast expects Sultan’s population, including UGA, to increase from 11,119 to 13,409 during the five years between 2025 and 2030.

The second ECONorthwest forecast, Table 1.2, assumes Sultan will not reach its 2008 comprehensive plan’s projected population of 11,119 by 2025. This estimate is based on official estimates from the State and historical growth trends. It calls for Sultan’s 2025 population to be approximately 8,392, almost 3,000 less than the 2008 comprehensive plan’s

forecast. The medium forecast from Table 1.2 predicts Sultan's population will increase from 8,392 to 9,729 during the five years between 2025 and 2030. The figures and tables on the following pages indicate – by STAZ – how the forecast population increase is expected to distribute across the city and UGA.

All three scenarios used the following methodology to distribute- by STAZ- the forecast population increase. The methodology is also presented graphically and in a summarized form page 7 above.

The first step created a new geographic data layer call Sultan's transportation analysis zones to reflect previous work by the City.

The second step removed lands impacted by critical areas: wetlands, steep slopes, streams, and floodplains. For wetlands and streams lands within buffer areas were also removed; it was assumed the largest buffers would be in place.

The third step use the County's Buildable Lands Report to determine the amount of land available for development, that is, lands identified as partially used, vacant, redevelopable, or pending.

The fourth step again used the County's Buildable Lands Report to make further reductions for public lands, institutional use, and market factors. The reductions used were the same as those in the 2007 Buildable Land Report: 5% for public lands and institutional uses and 15% and 30% for market availability.

The fifth step took land that is likely to develop- the result from steps 2 through 4- and calculated the total number of dwelling

units- by STAZ- using the densities for Low to Moderate Density, Moderate Density and High Density from the 2008 comprehensive plan.

The sixth step estimated how much land is available with in the STAZ to accommodate the additional population growth using the 2007 average household size of 2.74 people per dwelling unit.

Figure 2.1 and Table 2.1 indicate the condition as forecast for 2025, based on information drawn from the City's 2008 comprehensive plan. Figure 2.2 and Table 2.2 indicate the forecast increases from 2025 to 2030 using the estimates provided in Table 8 of the ECONorthwest projections (Table 1.1 of this report). Figure 2.3 and Table 2.3 indicate the forecast condition for 2030 using the estimates provided in Table 9 of the ECONorthwest projections (Table 1.2 of this report).

## Scenario 1 - 2008 Baseline Forecast for Sultan & UGA 2006 through 2025

The first scenario, is based on the city's 2008 comprehensive plan but revises the forecast population and dwelling unit number to reflect the adopted population projection of 11,119. Scenario 1 allocates the population of 11,119 as forecast in the 2008 comprehensive plan using existing city policy and regulations as a guide. The first column in Table 2.1, is the STAZ, shown graphically in Figure 2.1, the second and third columns are the allocated forecast population and dwelling units respectively. The final column shows the dwelling unit capacity at existing average densities, that is the number of dwelling units the STAZ can accommodate at existing densities.

The first scenario requires the City of Sultan to allocate an additional 6,335 people into 2,312 dwelling units. In order to meet this requirement, it is necessary for the City of Sultan "use up" most of its available capacity throughout the City. This dwelling unit capacity use can be seen by comparing the third and fourth columns. Where the third and fourth columns are equal, the STAZ has reached capacity. Where the third column is less than the fourth column, the STAZ has remaining capacity, and where the third column is greater than the fourth column projected buildout for the STAZ has exceeded its capacity. If capacity has been exceeded, as in STAZ 7, 16, 20, and 21, it is necessary to increase the average densities in those areas.

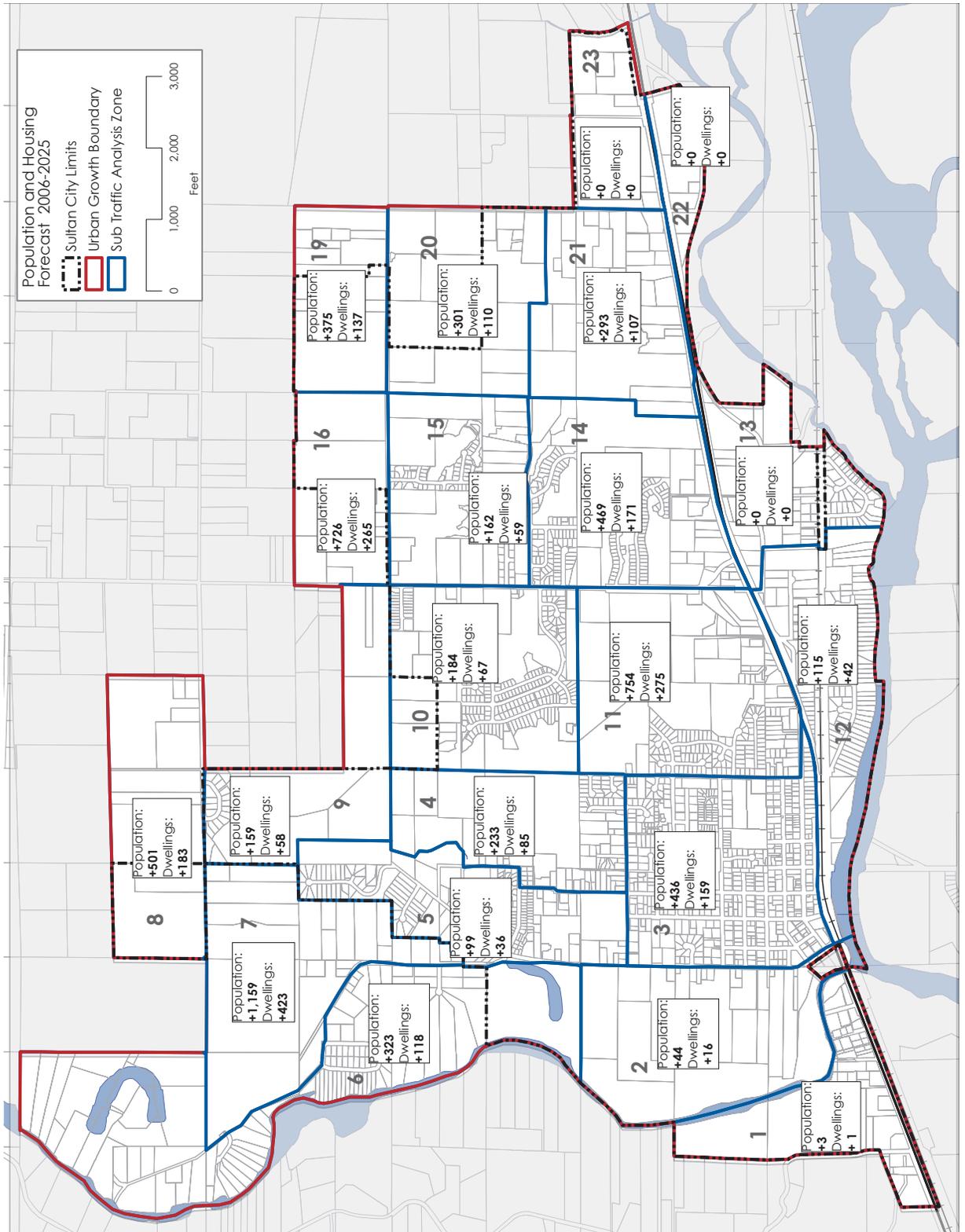
Table 2.1 indicates significant unused capacity in STAZ 22 and 23, which is consistent with the 2008 comprehensive plan that showed no residential development in those areas of town. While Scenario 1 is generally consistent with the 2008 comprehensive plan, it does

anticipate some population shift into other areas of the City based on environmental constraints identified in the analysis. Generally STAZ 3, 6, 7, 11, and 18 may see increases, while STAZ 8, 17, 19, 20, and 21

**Table 2.1** – 2008 Baseline STAZ population allocation 2006 - 2025

STAZ	Population	Units	Dwelling Capacity at Existing Densities
1	3	1	1
2	44	16	16
3	436	159	159
4	233	85	85
5	99	36	36
6	323	118	118
7	1,159	423	138
8	501	183	183
9	159	58	58
10	184	67	67
11	754	275	275
12	115	42	42
13	0	0	0
14	469	171	171
15	162	59	59
16	726	265	38
19	357	137	137
20	301	110	49
21	293	107	47
22	0	0	328
23	0	0	766
<b>Total</b>	<b>6,335</b>	<b>2,312</b>	<b>2,774</b>

may see decreases.



**Figure 2.1** - This population distribution allocates forecast growth based on the City's 2008 comprehensive plan population forecast and distribution, the City's land use and critical areas policies, and the County's GIS data.

## Scenario 2 - 2010 Adopted Forecast for Sultan & UGA 2025 through 2030

This scenario is based on ECONorthwest's population forecast for 2030, Table 1.1 of this document, which comes from Table 8 of the City of Sultan Preliminary Population Forecast memo. Table 2.2, only shows the **increase** in population and dwelling units from 2025 to 2030, a total of 2,290 people into 836 dwelling units. Further, this scenario assumes that in 2025 the City reached its population forecast of 11,119 people.

The Sultan City Council has adopted this growth forecast for the 2010 comprehensive plan update. The City plans to review the forecast and distribution cooperation with Snohomish County at the time of the countywide update cycle in 2013.

The first column in Table 2.2 is the STAZ, which is shown graphically in Figure 2.2. The second and third columns, also shown in Figure 2.2, show the population and dwelling units increases for the 5-year period following 2025 to 2030. The fourth column shows any remaining dwelling unit capacity at existing densities in 2030 assuming the population and dwelling allocations presented in Table 2.1. A negative number in the fourth column indicates that the capacity for that STAZ has been exceeded at the current densities.

As the last column in Table 2.2 indicates, this scenario requires the City to increase the average densities for its all residential land uses **and** to allow higher density residential uses in STAZ 1, 11, 22 and 23. Scenario 2 assumes that STAZ 22 and 23 will accommodate approximately 40 percent of the growth between 2025-2030. These increases represent a significant increase over the existing housing development trends.

**Table 2.2** – 2010 Adopted STAZ population allocation 2025 - 2030

STAZ	Population	Units	Remaining Dwelling Capacity in 2030
1	340	124	17
2	14	5	-5
3	33	12	-12
4	55	20	-20
5	36	13	-13
6	48	18	-17
7	51	19	-304
8	70	25	-26
9	57	21	-21
10	66	24	-25
11	160	59	16
12	42	15	-15
13	0	0	0
14	53	19	-20
15	58	21	-22
16	38	14	-241
19	82	30	-30
20	49	18	-30
21	82	30	158
22	480	175	153
23	477	174	593
<b>Total</b>	<b>2,290</b>	<b>836</b>	<b>500</b>

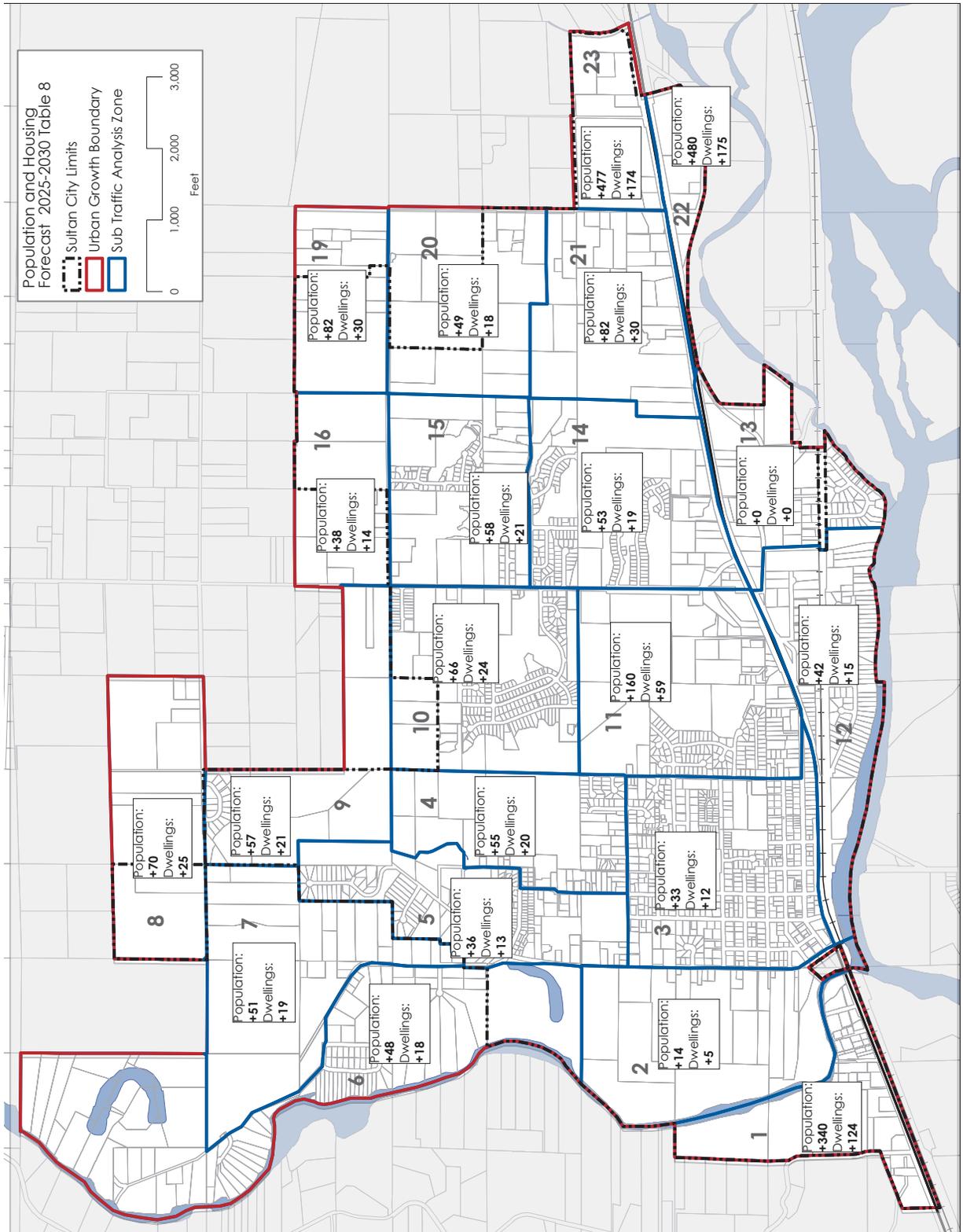


Figure 2.2 - This population distribution allocates forecast growth based on Table 2.2, the City's land use and critical areas policies, and the County's GIS data.

## Scenario 3 - Reduced Population Forecast for Sultan & UGA 2006 through 2030

This scenario is based on ECONorthwest's alternative population forecast for 2030, Table 1.2 of this document, which comes from Table 9 of the City of Sultan Preliminary Population Forecast memo. The memo reexamines the City's 2008 population forecast, reducing the rate of population growth based on a series of assumptions and reflection on more current population and market trends. Scenario 3 forecasts a total population of 9,729 for the City of Sultan in 2030, which is an increase of 4,944 people from the estimate used in the 2008 comprehensive plan. This scenario allocates 4,944 people into 1,804 dwellings throughout the city and UGA, which is approximately 1,400 less dwelling units than the currently adopted forecast.

While this population forecast does not impact the update process for the 2010 planning effort, it may help inform the City's work with Snohomish County during the 10-year update scheduled for 2013. Results from the 2013 population forecast and distribution exercise may influence the size and location of the City's UGA.

The first column in Table 2.3, is the STAZ, shown graphically in Figure 2.3, the second and third columns, also seen in Figure 2.3, are the allocated forecast population and dwelling units respectively. The fourth column shows the dwelling unit capacity at existing average densities, that is the number of dwelling units the STAZ can accommodate at existing densities. Remaining dwelling unit capacity can be seen by comparing the third and fourth columns. Where the third and fourth columns are equal, the STAZ has reached capacity. Where the third column is less than the fourth column, the STAZ has remaining capacity.

Scenario 3 and its reduced forecast allows the City to allocate the forecast population and without increasing minimum densities throughout the City. Scenario 3 assumes that higher density residential development will be permitted in STAZ 1, 22 and 23 but the forecast population can be accommodated within the City without allowing residential development in those areas.

**Table 2.3** – Reduced Population Forecast STAZ allocation 2006 - 2030

STAZ	Population	Units	Dwelling Capacity at Existing Densities
1	386	141	142
2	29	11	16
3	283	103	159
4	152	55	85
5	65	24	36
6	211	77	118
7	246	90	138
8	325	119	183
9	104	38	58
10	119	43	67
11	490	179	275
12	75	27	42
13	0	0	0
14	304	111	171
15	104	38	59
16	68	25	38
19	245	89	137
20	88	32	49
21	334	121	295
22	480	175	328
23	836	306	766
<b>Total</b>	<b>4,944</b>	<b>1,804</b>	<b>2,774</b>

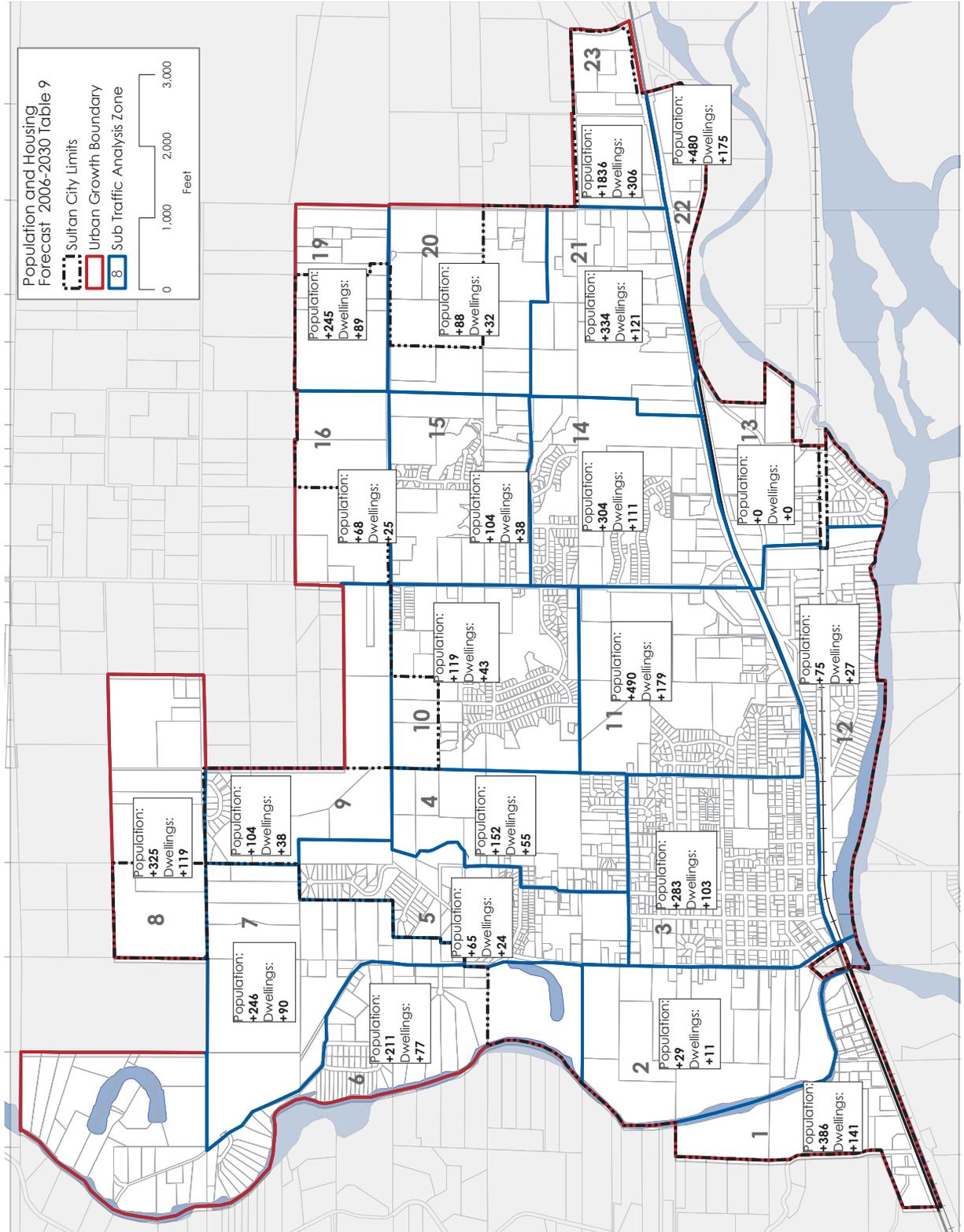


Figure 2.3 - This population distribution allocates forecast growth based on Table 2.3, the City's land use and critical areas policies, and the County's GIS data.

# Findings

This analysis indicated that several issues may need to be more carefully addressed as the City and County collaborate on revising their comprehensive plans and population forecasts in 2013.

- The forecasts to 2025 may be too high, overstating the community's rate of growth and impacting the degree to which the City may be required to invest in infrastructure.
- Accommodating forecast growth in scenarios 1 and 2 within the existing UGA will require the City to consider significant increases in development intensity and/or density in the UGA and to actively direct new housing into its central core neighborhoods.
- Policy direction by the City to redirect housing to infill its older neighborhoods may influence the rate at which housing is constructed on the community's periphery.
- Collaboration with the County to reassess population forecasts and the UGA's geographic extent and location will be crucial in the 10-year update.
- Scenario 3 requires a new population forecast and/or allocation from the County.

# **ECONorthwest**

ECONOMICS • FINANCE • PLANNING

Phone • (541) 687-0051  
FAX • (541) 344-0562  
info@eugene.econw.com

Suite 400  
99 W. 10th Avenue  
Eugene, Oregon 97401-3001

Other Offices  
Portland • (503) 222-6060  
Seattle • (206) 622-2403

**June 13, 2010**

**TO: Deborah Knight**  
**CC: Bill Grimes**  
**FROM: Beth Goodman and Bob Parker**  
**SUBJECT: CITY OF SULTAN PRELIMINARY POPULATION FORECAST**

---

The City of Sultan is in the process of updating its Comprehensive Plan, as part of a 7-year Growth Management Act (GMA) required update. The City has an existing population forecast that extends to 2025 but needs a population forecast that extends to 2030 for the Comprehensive Plan update. In addition, the City's existing forecast is based on Snohomish County's 2007 Buildable Lands Report, which allocated a specific population to Sultan for 2025. The City wishes to reconsider that allocation when the County next updates its Buildable Lands Report.

Population forecasts serve several purposes. Population forecasts allow municipalities to estimate the amount of infrastructure capacity that is necessary to provide. This ensures that municipalities have sufficient capacity to accommodate projected growth. The population forecast also allows municipalities to develop estimates of how much housing will be needed. These estimates in turn allow for an estimate of how much land will be needed to accommodate housing growth.

## **DATA SOURCES AND METHODS**

The population forecasts presented in this memorandum build from a range of secondary data sources. All of the data used in developing the forecasts are from easily available standard sources:

- The Washington Office of Financial Management provides current population estimates and long-term state and county population forecasts;
- The 2007 Snohomish Buildable Lands Report provides population targets and capacities for each urban growth area (UGA) in the County;
- The City of Sultan Comprehensive Plan provides forecasts of growth used as the basis for water and wastewater system development; and
- The Puget Sound Regional Council's (PSRC) *Vision 2040* report provides growth strategies for population within the region, including for Snohomish County.

## FORECASTING METHODS

The literature about population forecasting identifies many accepted approaches to projecting or forecasting population. More robust approaches use component models (natural increase plus migration). Simpler approaches extrapolate from historic trends. At large geographic levels, migration becomes less of a factor making component models more accurate. For smaller regions such as Snohomish County, migration and other factors are more difficult to document, making it more difficult to accurately forecast growth in areas with a relatively small population. Appendix A discusses issues with small area forecasts in more detail.

At the national or state level, employment growth has a larger effect on population growth. Standard cohort-component models can provide relatively accurate forecasts of population growth in larger areas where the migration component is small. Such models are frequently applied in areas where there is relative stability in demographic characteristics and vital statistics (e.g., birth and death rates).

Table 1 summarizes several methods for forecasting population in small areas. These methods are relatively simple and rely on past trends as an indicator of future growth. A number of assumptions are implicit in these methods: (1) past growth is a good indicator of future growth; (2) factors affecting local population growth will not change substantially; and (3) selection of base year can significantly affect the forecast.

**Table 1. Basic population forecasting methods for small areas**

Method	Description
Trend extrapolation	Uses historical population growth rates and extrapolates them into the future.
Ratio trend	Uses current city/county ratio of population and extrapolates to the future.
Comparative	Past growth pattern is compared with growth patterns of larger, older areas. Should consider social, economic, political, and other variables.

Source: ECONorthwest

The forecasts presented in this memorandum uses the **trend extrapolation** method, which compounds population growth. This method uses historical trends as the basis to determine future growth. The forecast compounds population growth by assuming that as the population gradually grows, the number of people added each year will also grow.<sup>1</sup> The forecast also considers a ratio method to forecast a range of Sultan's potential share of Snohomish County's growth allocated to small cities. We chose these

<sup>1</sup> Compounding population growth is mathematically similar to compound interest on a bank account. As more population accumulates, the same percent change will result in greater absolute growth over time. For example, if an area has 1,000 people and grows at 3% per year, the first year the area will grow by 30 people (to 1,030 people) and the second year the area will grow by 31 people (to 1,061 people).

methods because they are (1) consistent with historical population growth trends, (2) a relatively simple approach that builds from historical data and assumptions about future City and County growth policies, and (3) allow for the assumption that the incorporated communities will grow at different rates from each other and the County.

## **ORGANIZATION OF THIS MEMORANDUM**

The remainder of the memorandum is organized into the following sections:

- **Historical Population Growth** describes the historical population growth in Sultan, Snohomish County, and Washington State.
- **Forecasts of Population Growth** presents existing population forecasts for Sultan.
- **Sultan UGA Population Forecast** presents high, medium, and low range forecasts for the Sultan UGA.
- **Appendix A, Issues With Small Area Forecasts** describes common problems observed with small area population forecasts.

## HISTORICAL POPULATION GROWTH

Table 2 shows population growth in Washington State, Snohomish County, and the City of Sultan for the 1980 to 2009 period. Table 2 shows that the City of Sultan grew at an average annual growth rate (AAGR) of about 3.7% between 1980 to 2009, adding 2,977 people over the 29 year period. The City's growth rate of 3.7% was higher than the County growth rate (2.6%) or the State average (1.7%).

**Table 2. Population growth, Washington State, Snohomish County, City of Sultan, 1980 to 2009**

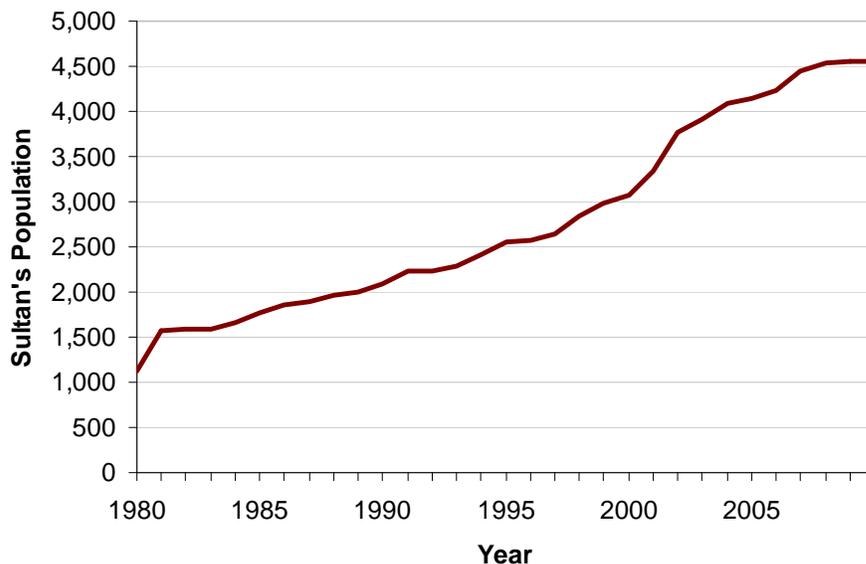
Year	Washington State	Snohomish County	Sultan
1980	4,132,353	337,720	1,578
1985	4,415,785	381,094	1,850
1990	4,866,663	465,628	2,236
1995	5,470,104	527,649	2,568
2000	5,894,143	606,024	3,344
2005	6,256,400	655,800	4,225
2009	6,668,200	704,300	4,555
<b>Change 1980 to 2009</b>			
Number	2,535,847	366,580	2,977
Percent	61%	109%	189%
AAGR	1.7%	2.6%	3.7%
<b>Change 1990 to 2009</b>			
Number	1,801,537	238,672	2,319
Percent	37%	51%	104%
AAGR	1.7%	2.2%	3.8%
<b>Change 2000 to 2009</b>			
Number	774,057	98,276	1,211
Percent	13%	16%	36%
AAGR	1.7%	2.2%	3.8%

Source: Washington State Office of Financial Management

Note: AAGR is average annual growth rate

<http://www.ofm.wa.gov/pop/april1/cociseries/default.asp>

Figure 1 shows Sultan's population growth over the 1980 to 2009 period. The City's growth has been relatively linear over the 29-year period. The fastest period of growth occurred in the early 2000's. Since 2008, Sultan's growth has flattened out, probably as a result of the national recession and housing market decline.

**Figure 1. Population growth, City of Sultan, 1980 to 2009**

Source: Washington State Office of Financial Management  
<http://www.ofm.wa.gov/pop/april1/cociseries/default.asp>

## FORECASTS OF POPULATION GROWTH

### SNOHOMISH COUNTY FORECAST

As part of the *Vision 2040* project, the PSRC adopted a regional growth strategy for Snohomish County in April 2008 and amended the growth strategy in May 2009. Table 3 presents the regional growth strategy for Snohomish County. Table 3 shows that Snohomish County is forecast to grow by about 446,000 people over the 2000 to 2040 period, an increase of 74% at an average annual growth rate of 1.4%.

Table 3 shows the allocation of growth within the County, based on the size of city. Small cities, which includes Sultan, are forecast to grow from 42,000 people in 2000 to 78,000 people in 2040, an increase of about 37,000 people (88% increase) at an average annual growth rate of 1.6%.<sup>2</sup>

<sup>2</sup> Snohomish County's small cities currently include: Brier, Darrington, Gold Bar, Granite Falls, Index, Lake Stevens, Snohomish, Stanwood, Sultan, and Woodway.

**Table 3. Snohomish County Regional Growth Strategy, 2000 to 2040**

Regional Geography	Metro Cities	Core Cities	Larger Cities	Small Cities	Unincorp'd UGAs	Rural	TOTAL
2000 Population	99,000	48,000	147,000	42,000	158,000	112,000	606,000
Pct Share by Regional Geography	16.4%	7.9%	24.3%	6.9%	26.0%	18.5%	100.0%
RGS Pop Allocation 2000-2040	90,000	40,000	85,000	37,000	148,000	46,000	446,000
Pct Share by Regional Geography	20.2%	9.0%	19.0%	8.3%	33.2%	10.3%	100.0%
2040 Population	190,000	88,000	232,000	78,000	306,000	158,000	1,052,000
Pct Share by Regional Geography	18.0%	8.3%	22.1%	7.5%	29.1%	15.0%	100.0%

Source: Regional Growth Strategy, Amended May 28, 2009, PSRC  
<http://www.psrc.org/growth/vision2040/background>

Table 4 presents Snohomish County's population forecast for the Sultan UGA for 2006 to 2025. The forecast projects that Sultan's population will increase from 4,785 people in 2006 to 11,119 people in 2025, an increase of 6,334 people over the 19 year period at an average annual growth rate (AAGR) of 4.5%. The forecast projects that about 40% of growth will occur in unincorporated parts of Sultan's UGA.

**Table 4. Population forecast, Sultan UGA, 2006 to 2025**

	2006	2025 Target	Change 2006		
			to 2025	Percent	AAGR
Sultan UGA	4,785	11,119	6,334	132%	4.5%
Sultan City	4,440	8,190	3,750	84%	3.3%
Unincorporated	345	2,929	2,584	749%	11.9%

Source: Snohomish County 2007 Buildable Lands Report, Table 1

Note: AAGR is average annual growth rate

[http://www1.co.snohomish.wa.us/Departments/PDS/Divisions/LR\\_Planning/Information/Demographics/Buildable\\_Lands/](http://www1.co.snohomish.wa.us/Departments/PDS/Divisions/LR_Planning/Information/Demographics/Buildable_Lands/)

## SULTAN WATER AND WASTEWATER FACILITIES PLANNING

The City of Sultan's water and wastewater facilities planning is based on forecasts of expected population growth. Table 5 shows the population forecast that is the basis for Sultan's water and wastewater facilities planning. The forecasts were developed at different times, with the sewer plan's forecast developed in 2006 and the water plan's forecast developed in 2008. As a result, they use different years to form the population base and use different assumptions about the City's forecast growth rate. Table 5 shows:

- **The water facilities plan** assumes that Sultan's population will increase from 4,440 people in 2006 to 11,119 people by 2025, an increase of 6,679 people at an average annual growth rate of 5.0%. This forecast is consistent with the City's adopted forecast of 11,119 people by 2025.
- **The wastewater facilities plan** assumes that Sultan's population will increase from 5,492 people in 2010 to 12,540 people by 2029, an increase of 7,048 people at an average annual growth rate of 4.4%. Based on this growth rate, extrapolating

the 2010 population out, the 2025 population would be 10,539, which is less than the City's adopted forecast for 11,119 people in 2025.

**Table 5. Water and wastewater facilities population forecast, City of Sultan, 2006 to 2025 and 2010 to 2029**

Year	Water Plan	Sewer Plan
2006	4,440	--
2010	--	5,492
2025	11,119	--
2029	--	12,540
<b>Change in population for water 2006 to 2025</b>		
Number	6,679	--
Percent	150%	--
AAGR	5.0%	--
<b>Change in sewerred population 2010 to 2029</b>		
Number	--	7,048
Percent	--	128%
AAGR	--	4.4%

Source: Water plan forecast: City of Sultan Comprehensive Plan Appendix O Water and Sewer Plan Draft Amendments, August 2008  
Sewer plan forecast: Wastewater facility plan executive summary, 2006  
Note: AAGR is average annual growth rate

## EXPECTED GROWTH IN SNOHOMISH COUNTY'S SMALL CITIES

Table 3 shows that the PSRC's Vision 2040 assumes that small cities in Snohomish County will accommodate 37,000 additional population between 2000 to 2040. The Vision 2040 does not describe how that population will be allocated among the small cities. The forecasted growth may be absorbed by these small cities in many different ways. This section describes two potential ways that the 37,000 people may be allocated among the cities: (1) based on recent growth trends and (2) based on Snohomish County's forecast of growth over the 2006 to 2025 period.

### Recent growth trends alternative

The assumption in Table 6 is that the 37,000 people will be allocated to the small cities based on growth patterns over the 2000 to 2009 period. Table 6 shows that the small cities grew by 5,421 people over the nine year period, with the majority of growth in: Stanwood (31%), Sultan (22%), Granite Falls (19%), and Snohomish (12%). To meet the 37,000 persons goal, the small cities will need to add 31,578 people over the 2010 to 2040.

Table 6 assumes that these people will be distributed among the small cities based on the percent of growth that these cities had over the 2000 to 2009 period. For example, Sultan accounted for 22% of growth in the small cities over the nine year period and would account for 22% of the additional 31,578 people in small cities.

**Table 6. Growth in small cities, based on growth trends over the 2000 to 2009 period, Snohomish County small cities, 2000 to 2040**

	Growth 2000 to 2009		Pop. Growth to Reach 37,000		
	Population Change	% Small City Growth 2000 to 2009	2010 to 2040 Growth	Average Annual Growth	2040 Population
Brier	107	2%	623	21	7,113
Darrington	369	7%	2,150	72	3,655
Gold Bar	136	3%	792	26	2,942
Granite Falls	1,028	19%	5,988	200	9,363
Index	(2)	0%	(12)	-	143
Snohomish	651	12%	3,792	126	12,937
Stanwood	1,667	31%	9,711	324	15,301
Sultan	1,211	22%	7,054	235	11,609
Woodway	254	5%	1,480	49	2,670
<b>Total</b>	<b>5,421</b>	<b>100%</b>	<b>31,578</b>	<b>1,053</b>	<b>65,733</b>

Source: Regional Growth Strategy, Amended May 28, 2009, PSRC

Population change from 2000 to 2009 is based on Office of Financial Management population estimates

Note: The numbers in Table 6 may not add up exactly as a result of rounding.

Note: The list of small cities does not include Lake Stevens, which is expected to be taken out of the small city category in the near future.

### Snohomish County's forecast alternative

The assumption in Table 7 is also that the 37,000 people will be allocated to the small cities but based on the patterns described in the Snohomish County population forecast for the 2006 to 2025 period. Table 7 shows that the small cities are forecast to grow by 20,260 people over the 19 year period, with the majority of growth in: Sultan (31%), Snohomish (21%), Granite Falls (18%), and Stanwood (17%). To meet the 37,000 persons goal, the small cities will need to add 16,741 people over the 2025 to 2040.

Table 7 assumes that these people will be distributed among the small cities based on the percent of growth that these cities are forecast to have over the 2006 to 2025. For example, Sultan accounted for 31% of growth in the small cities over the nine year period and would account for 31% of the additional 31,578 people in small cities.

**Table 7. Growth in small cities, based on forecast growth over the 2006 to 2025 period, Snohomish County small cities, 2000 to 2040**

	Forecast Growth 2006 to 2025		Pop. Growth to Reach 37,000		
	Population Change	% Small City Growth 2000 to 2009	2025 to 2040 Growth	Average Annual Growth	2040 Population
Brier	1,310	6%	1,082	72	8,775
Darrington	532	3%	440	29	2,108
Gold Bar	617	3%	510	34	3,141
Granite Falls	3,728	18%	3,080	205	9,155
Index	35	0%	29	2	221
Snohomish	4,342	21%	3,588	239	16,424
Stanwood	3,357	17%	2,774	185	10,054
Sultan	6,334	31%	5,234	349	14,912
Woodway	5	0%	4	-	945
<b>Total</b>	<b>20,260</b>	<b>100%</b>	<b>16,741</b>	<b>1,115</b>	<b>65,735</b>

Source: Regional Growth Strategy, Amended May 28, 2009, PSRC

Population change from 2000 to 2009 is based on Office of Financial Management population estimates

Note: The numbers in Table 6 may not add up exactly as a result of rounding.

Note: The list of small cities does not include Lake Stevens, which is expected to be taken out of the small city category in the near future.

Tables 6 and 7 provide a range of population growth that Sultan might need to accommodate to meet the PSRC's Vision for growth in Snohomish County's small cities.

## SULTAN UGA POPULATION FORECAST

This section presents the population forecast for Sultan's UGA. ECO developed high, medium, and low growth rates for Sultan to show a range of population growth scenarios. We expect to revise the forecasts based on input from City staff. The forecast growth rates are based on: official population estimates from the State, Snohomish County's forecast of population to 2025, and historical growth trends. Each of the three forecast alternatives would meet the allocations of population to small cities described in Tables 6 and 7. The forecasts presented in Table 8 are:

- The **Low** population forecast projects that Sultan's UGA will grow to 12,398 people by 2030, an increase of 1,279 people between 2025 and 2030. By 2040, the low forecast shows that Sultan's population will reach 15,414 people. The growth rate used in the low forecast (2.2% average annual growth) is based on the County's historical growth rate over the 1990 to 2009 period. The low population forecast assumes that Sultan's growth rate will decrease from 4.5% to 2.2% after 2025 and that Sultan will only grow at the same rate as the County.
- The **Medium** population forecast projects that Sultan's UGA will grow to 13,409 people by 2030, an increase of 2,290 people between 2025 and 2030. By 2040, the medium forecast shows that Sultan's population will reach 19,500 people. The growth rate used in the low forecast (3.8% average annual growth) is based on

the Sultan's historical growth rate over the 1990 to 2009 period and is very similar to the City's growth rate over the last 29 years (3.7%). The medium population forecast assumes that Sultan's growth rate will decrease from 4.5% to 3.8% after 2025. This assumption seems reasonable, given that Sultan's historical growth rate has been stable over a long period.

- The **High** population forecast projects that Sultan's UGA will grow to 13,881 people by 2030, an increase of 2,762 people between 2025 and 2030. By 2040, the high forecast shows that Sultan's population will reach 21,634 people. The growth rate used in the low forecast (4.5% average annual growth) is based on Snohomish County's forecast growth rate for Sultan over the 2006 to 2025 period. The high population forecast assumes that Sultan will continue to grow at 4.5% after 2025. Maintaining this growth rate will require the City to make investments in public facilities. The City may also need to consider urban growth policies to accommodate this amount of growth, such as policies that promote denser residential development or expanding the City's UGA.

**Table 8. Range of population forecasts, City of Sultan UGA, 2006 to 2040**

Year	Low	Medium	High
2006	4,785	4,785	4,785
2010	5,714	5,714	5,714
2015	7,134	7,134	7,134
2020	8,906	8,906	8,906
2025	11,119	11,119	11,119
2030	12,398	13,409	13,881
2035	13,824	16,170	17,329
2040	15,414	19,500	21,634
<b>Change 2025 to 2030</b>			
Number	1,279	2,290	2,762
Percent	12%	21%	25%
AAGR	2.2%	3.8%	4.5%
<b>Change 2025 to 2040</b>			
Number	4,295	8,381	10,515
Percent	39%	75%	95%
AAGR	2.2%	3.8%	4.5%

Source: ECONorthwest

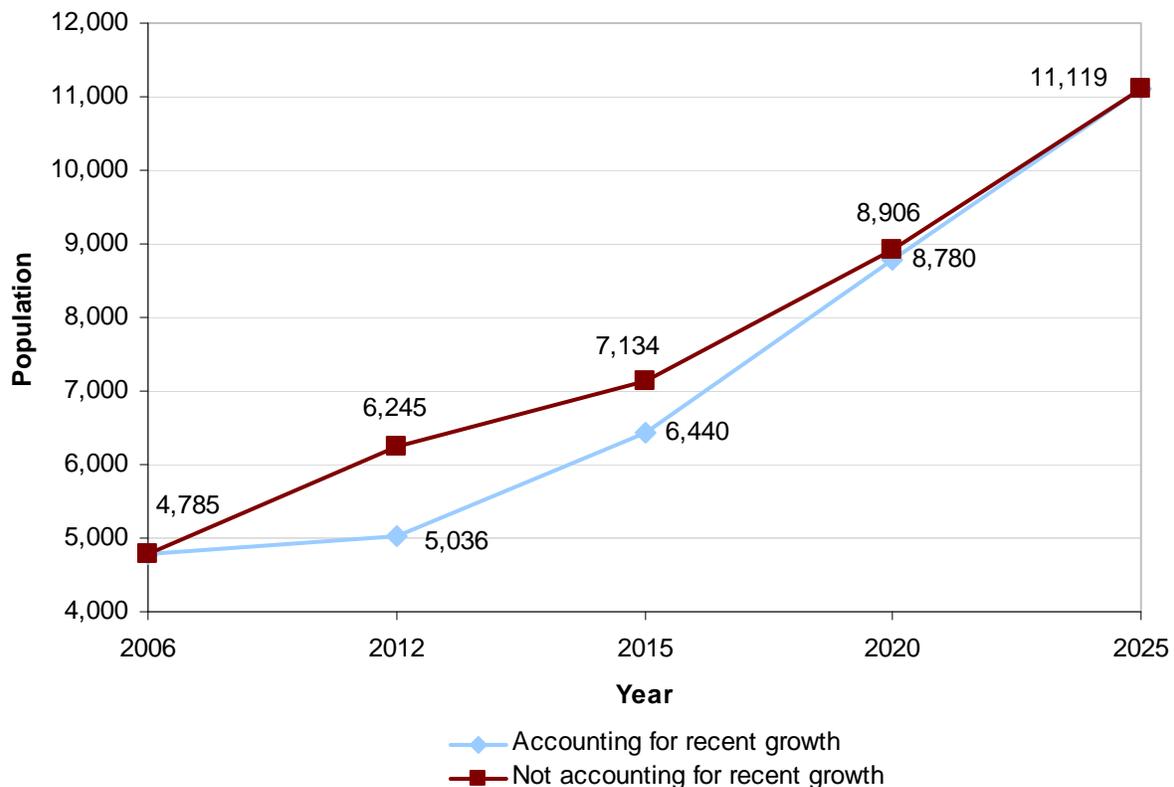
Note: AAGR is average annual growth rate

Green shading denotes the forecast from Snohomish County.

The City is considering asking Snohomish County to revisit the City's forecast for the 2006 to 2025 period when the County updates its buildable lands analysis. Sultan's population has not grown at the forecast rate during the 2006 to 2009 period. Rather than growing at an average of 4.5% annually, Sultan grew at 0.9% between 2006 and 2009. Sultan's population will need to grow at a higher rate in the future to reach the projected growth of 11,119 people by 2025. Figure 2 shows an illustration of Sultan's potential growth curve to reach the target population. Figure 2 assumes that Sultan continues to grow at 0.9% through 2012, based on the slow recovery from the current

recession. By 2012, Sultan would have about 5,036 people, about 1,200 people fewer than the forecast of 6,245 people. Sultan would need to grow faster (7.2% average annual growth) during the 2012 to 2020 period to “catch up” to meet the population target in 2025.

**Figure 2. Potential growth based on existing population forecast to 2025, City of Sultan,**



Source: ECONorthwest

Table 9 presents an alternative forecast of population growth in Sultan, assuming that the City does not meet the Snohomish County population target by 2025. This forecast is illustrative in nature and may require further refinement based on input from City staff. The forecast growth rates are based on: official population estimates from the State and historical growth trends. The forecasts presented in Table 9 are:

- The **Low** population forecast projects that Sultan’s UGA will grow to 11,078 people by 2040, at an average annual growth rate of 2.5%. The low population forecast assumes that Sultan will grow somewhat faster than the County grew historically, which is substantially slower than the City’s historical growth rate. This scenario would not result in a population that would meet the allocations of population to small cities described in Tables 6 and 7.

- The **Medium** population forecast projects that Sultan's UGA will grow to 13,075 people by 2040, at an average annual growth rate of 3.0%. The medium population forecast assumes that Sultan will grow faster than the County grew historically but slower than the City's historical growth rate. This scenario would result in a population to meet the allocation of population to small cities described in Table 6 but not Table 7.
- The **High** population forecast projects that Sultan's UGA will grow to 17,004 people by 2040, at an average annual growth rate of 3.8%. The high population forecast assumes that Sultan continues to grow at its historical rate. This scenario would result in a population to meet the allocation of population to small cities described in Tables 6 and 7.

**Table 9. Alternative population forecasts,  
City of Sultan UGA, 2006 to 2040**

Year	Low	Medium	High
2006	4,785	4,785	4,785
2010	5,282	5,386	5,554
2015	5,976	6,244	6,693
2020	6,761	7,239	8,065
2025	7,649	8,392	9,718
2030	8,654	9,729	11,710
2035	9,791	11,279	14,111
2040	11,078	13,075	17,004
<b>Change 2006 to 2030</b>			
Number	3,869	4,944	6,925
Percent	51%	59%	71%
AAGR	2.5%	3.0%	3.8%
<b>Change 2006 to 2040</b>			
Number	6,293	8,290	12,219
Percent	82%	99%	126%
AAGR	2.5%	3.0%	3.8%

Source: ECONorthwest

Note: AAGR is average annual growth rate

Green shading denotes the forecast from Snohomish County.

## APPENDIX A. ISSUES WITH SMALL AREA FORECASTS<sup>3</sup>

Planning implies forecasting. To use policies to change the future in ways that decision makers think their constituents would find beneficial, one must first have an idea of what could or is likely to occur in the absence of those policy changes.

Forecasting is usually better, and better received, if it is based on a model of how the world works. In the context of housing and economic development, that understanding must certainly include how households and businesses make decisions about where to locate, and what types of buildings to occupy.

In the context of land use and growth management, the main variables that one must forecast are population and employment, which are then used to forecast the demand for new built space (housing, offices, warehouses, retail stores, and so on). The demand for built space creates a derived demand for land on which to build that space.

The amount of land needed depends on the type and density of space that will be built to accommodate population and employment growth. The type and density of development will be a function of market factors (demand and supply conditions) and public policy (especially about density and infrastructure, but also about transportation, economic development, environmental protection, and so on). This function of forecasting is central to the Sultan Comprehensive Plan: it will allow the City to determine how much land to make available for different uses to accommodate 20 years of population and employment growth.

The main point is that (1) forecasting growth requires a consideration of many variables that interact in complicated ways, and (2) any forecast of a single future is bound to be wrong – there are many possible futures that are more or less likely depending on one's assessment of the likelihood of the assumptions.

Thus, in conjunction with the forecasts, it is useful to describe the limitations of small area forecasts. Following is a discussion of why small area forecasts are highly uncertain:

- Projections for population in most municipalities and counties are not based on deterministic models of growth; they are simple projections of past growth rates into the future. They have no quantitative connection to the underlying factors that explain why and how much growth will occur.
- Even if planners had a sophisticated model that links all these important variables together (which they do not), they would still face the problem of having to forecast the future of the variables that they are using to forecast growth (in, say, population or employment). In the final analysis, all forecasting requires making *assumptions* about the future.

---

<sup>3</sup> This section builds from work previously completed by ECONorthwest.

- Comparisons of past population projections to subsequent population counts have revealed that even much more sophisticated methods than the ones used in the study "are often inaccurate even for relatively large populations and for short periods of time."<sup>4</sup> The smaller the area and the longer the period of time covered, the worse the results for any statistical method.
- Small areas start from a small base. A new subdivision of 200 homes in Snohomish County would have an effect on total population of 0.1%. That same subdivision in a community of 200 would increase Sultan's housing stock by about 11% – and population by a similar percentage.
- Especially for small jurisdictions in areas that can have high growth potential (e.g., because they are near to concentrations of demand in neighboring metropolitan areas, or because they have high amenity value for recreation or retirement), there is ample evidence of very high growth rates in short-term; there are also cases (fewer) of high growth rates sustained over 10 to 30 years.
- Public policy makes a difference. Municipalities can affect the rate of growth through infrastructure, land supply, incentives and other policies. Such policies generally do not have an impact on growth rates in a region, but may cause shifts of population and employment among municipalities.

Because of the uncertainty associated with small area forecasts, many forecasts present ranges of future population. Municipalities have many reasons to use point forecasts: among the most important are projections of future revenues, need for infrastructure, and need for land. These factors provide sufficient rationale for municipalities to develop and adopt point forecasts. That fact, however, does not mean they are any more accurate.

In summary, the longer the forecast, the greater the potential that actual population growth will vary from the forecast. This implies that municipalities should closely monitor actual population growth so that either (1) plans can be modified to account for variations, or (2) policies can be implemented that increase the likelihood of achieving the population growth.

One final comment on forecasts: population forecasts are often viewed as "self-fulfilling prophecies." In many respects they are intended to be; local governments create land use, transportation, and infrastructure plans to accommodate the growth forecast. Those planning documents represent a series of policy decisions. Thus, how much population a local government chooses to accommodate is also a policy decision. In short, the forecast and the plans based on the forecast represent the municipality's future vision.

---

<sup>4</sup>Murdock, Steve H., et al. 1991. "Evaluating Small-Area Population Projections." *Journal of the American Planning Association*, Vol. 57, No. 4, page 432.