



City of Snoqualmie Urban Growth Area Analysis

Part IIIA: Future Land Use Needs Assessment

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December 9, 2011

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Introduction

The purpose of this phase of the Urban Growth Area Analysis is to examine future land use needs in the City of Snoqualmie and to compare the supply of vacant buildable and redevelopable land with projected demand to meet those needs. In particular, the analysis examines land uses in two general categories:

- **Institutional:** Police, Fire, City Hall/Municipal Administration, Schools, Higher/Continuing Education, Library, Parks, and Medical Facilities
- **Other Non-Residential Uses:** Retail, Office, Industrial, and Hospitality

The demand for institutional uses is largely driven by projected population growth, while the demand for other non-residential uses is driven by both projected population and employment growth. In addition, the demand in both categories reflects the City's economic development goals. The analysis provides projected needs for each type of land use, described in narrative form and summarized at the end of each section of this chapter.

A complete table detailing the amount of land currently zoned for non-residential uses in each planning area by type of use is included at the end of this section, as **Table 16**, followed by a map in **Appendix 1**.

Institutional Land Use Needs Analysis Overview

Based on 2010 Census figures and the residential development projections from City staff, Snoqualmie is expected to grow somewhere between 40% and 50% by 2032 (based on a range of low, mid, and high population estimates). This includes the development of new housing units within the current city limits, as well as the annexations and development of areas currently outside city limits but within the urban growth boundary. In roughly the same amount of time, between 1990 and 2010, the city grew by almost 700%. Based on the 2032 population projections provided by City staff, Snoqualmie is likely to experience population growth over the next two decades that averages around 2% annually.

Snoqualmie's projected population is largely determined by build-out of three large master-planned development that have existing entitlements through development agreements and master plan approvals. These include Snoqualmie Ridge II, Kimball Creek Village, and the Salish Expansion (~900, 125, and 175 new housing units, respectively). Therefore, more rapid short-term growth is likely to occur as planned development in these projects is completed.

The population forecasts provided by the City of Snoqualmie include the following possible ranges:

- **Low:** 14,807 (39% growth by 2032)
- **Mid:** 15,508 (45% growth by 2032)
- **High:** 16,046 (50% growth by 2032)

For much of the analysis below, particularly with regard to institutional uses, the highest population forecast is used because it represents the upper limit of growth expected over the next two decades and

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therefore is most useful for the purpose of testing the capacity of existing institutional uses. The highest population forecast was also considered acceptable for most cases because it varies by less than 10% from the low population forecast. Due to the potential for variability, the analyses related to schools and retail were performed using all three population forecasts in order to demonstrate the range of possible outcomes.

Institutional Land Use Needs Analysis, by Type of Use

Police

According to the Comprehensive Plan, the existing Snoqualmie Police Station was constructed in 1999 with a current capacity to accommodate 18 officers and 3 support staff. The facility was designed for future expansion to accommodate an additional 21 officers and staff. Below is a calculation of the number of officers needed based on the level-of-service formula used in the City of Snoqualmie Comprehensive Plan:

- Baseline population of 8,000 x 2.25 officers per 1,000 people = 18 officers plus support staff
- Additional population of 8,046 by 2032 [high forecast] x 1.9 officers per each additional 1,000 people = Additional 15 officers plus support staff
- *Note: a lower ratio is used once the population is above 8,000 because of efficiency gains in policing.*

The existing police station is likely near or at its current capacity of 21 employees. The Comprehensive Plan states that the police station was designed for a future expansion of 3,360 SF that could accommodate an additional 21 officers and staff, thus bringing the total capacity to 42. Assuming a total current staff of 21 and an expected growth of 15 new officers (plus additional support staff) through 2032, the existing police station, once expanded, will be able to meet the City's need through the next two decades.

Fire

The existing 16,000 SF Snoqualmie Fire Station was opened in 2005. It accommodates both professional firefighters and the volunteers that support the Snoqualmie Fire Department. The Comprehensive Plan estimates the facility is able to accommodate 36 to 40 full-time equivalent (FTE) staff. The City of Snoqualmie Fire Department uses a service level ratio of 1 FTE per 1,000 residents. Assuming a high population forecast of just over 16,000 in 2032, the city would require 16 total firefighters plus additional support staff to meet its future needs. Given the existing fire station's capacity of 36 FTE there is more than enough capacity within the facility to serve the population and its expected growth through 2032.

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City Hall/Municipal Administration

The City of Snoqualmie Comprehensive Plan contains service ratios for the number of municipal employees in each city department based on the population. Based on these ratios and a high-end forecast of 16,046 residents in 2032, the following number of city employees can be expected:

- Building Department: 0.5 FTE per \$10M in new construction = 4 FTE in 2032*
- Admin/Executive/Finance: 1.1 FTE per 1,000 residents = 18 FTE in 2032
- Parks & Recreation: 0.9 FTE per 1,000 residents = 14 FTE in 2032
- Planning: 0.5 FTE per 1,000 residents = 8 FTE in 2032
- Public Works & Utilities: 1.7 FTE per 1,000 residents = 27 FTE in 2032; split between City Hall and Public Works buildings.

Based on these ratios, the City of Snoqualmie would have approximately 57.5 FTE located at City Hall in 2032 (plus 13.5 additional FTE at the Public Works Building) if it reaches its high population forecast during the next two decades.

**It is difficult to forecast the volume of construction in Snoqualmie in 2032. The existing Comprehensive Plan assumes 6 FTE will eventually be reduced to 4 FTE by 2022, presumably as development winds down in Snoqualmie Ridge. Given the relatively minor magnitude of this issue, this analysis will simply assume 4 FTE in 2032.*

The City of Snoqualmie opened its new City Hall in December 2009. The calculations above show that City Hall will need capacity for approximately 57.5 FTE by 2032. The facility currently has sufficient space to accommodate 6 – 7 additional staff, which could result in a need for additional space by 2032, unless level of service standards are adjusted downward.. The public works facility, located at the wastewater treatment site, currently has 8 Parks Department staff and 18 Public Works Department staff. Additional shop and/or staff space can be accommodated through expansion on the existing site if and when needed.

Parks and Open Space

The City of Snoqualmie Comprehensive Plan addresses the level of service standards used for open space in the city, and in particular, open space used for parks. There are currently 107.5 acres of mini, neighborhood and community parks in Snoqualmie (including 5.0 acres at Sandy Cover Park that is also considered for the purposes of determining water access areas). The Comprehensive Plan also addresses the need for natural/conservancy areas, stating that the amount required should be sufficient to protect the resource. The Comprehensive Plan states Snoqualmie has 559 acres of existing natural/conservancy areas and does not address a need for any increase in the future.

Overall, the City standard is for 10.25 acres of park per 1,000 residents, which represents a combination

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of three separate standards for mini, neighborhood and community parks. Based on the existing inventory of open space (including the 16-acre community park to be built in Snoqualmie Ridge Phase II) and the forecasted population in 2032, it is expected that Snoqualmie will have a need for additional park land, particularly community parks. A similar deficit was found to exist at the time the most recent City of Snoqualmie Comprehensive Plan was issued. Snoqualmie has typically required parks be addressed as part of annexation proposals that include residential development, such that parks land and facilities are provided for through project mitigation as part of new development. The table below outlines how much land will be needed in Snoqualmie for parks space based on the low, mid, and high population forecasts for 2032.

Table 1: Parks and Open Space Demand Summary

	2011 Supply (acres)	2032 Need based on High population forecast (acres)	Surplus/(Deficit) based on High population forecast (acres)	2032 Need based on Mid population forecast) (acres)	Surplus/(Deficit) based on Mid population forecast (acres)	2032 Need based on Low population forecast) (acres)	Surplus/(Deficit) based on Low population forecast (acres)
Mini Park							
<i>Level of Service Standard = .25 acres per 1,000 residents</i>	10.2	4.0	6.2	3.9	6.4	3.7	6.5
Neighborhood Park (3)							
<i>Level of Service Standard = 2 acres per 1,000 residents</i>	30.8	32.1	(1.3)	31.0	(0.2)	29.6	1.2
Community Park							
<i>Level of Service Standard = 8 acres per 1,000 residents</i>	66.5	128.4	(61.9)	124.1	(57.6)	118.5	(52.0)
Total	107.5	164.5	(56.9)	159.0	(51.4)	151.8	(44.2)
Parkways and Trails (miles) (2)							
<i>Level of Service Standard = 1.5 miles per 1,000 residents</i>	28.0	24.1	3.9	23.3	4.7	22.2	5.8

(1) Existing "Water Access" is assumed to be sufficient when Snoqualmie Falls and Three Forks areas are included.

(2) Existing trails total from City of Snoqualmie web site.

(3) Includes 5.0 acres of Sandy Cove Park.

Schools

The following analysis is based on projected school enrollment provided by the Snoqualmie Valley School District as calculated in October 2010. It assumes that all near-term planned capital projects (i.e. additional elementary school, additional middle school, and high school expansion) will be funded and built. The analysis examined school capacity and enrollment in 2030 and during each preceding year. This allows the analysis to take into account the fact that enrollment often rises and falls and does not necessarily increase indefinitely and linearly.

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Elementary School: It is anticipated that an additional elementary school will be constructed and ready for occupancy by 2015, yielding a total **district-wide capacity of 3,925 by 2015**, including space in portable units. Only the school district's high forecast predicts that enrollment would ever go above capacity. The district forecasts that elementary school enrollment will reach 3,963 in 2022, exceeding capacity by 38 seats. Enrollment is expected to return below capacity within a few years of that peak.

- 2030 Low Projection: 3,638 students
- 2030 Mid Projection: 3,708 students
- 2030 High Projection: 3,777 students

Middle School: It is anticipated that a new middle school will be constructed and ready for occupancy by 2014, yielding a **total district-wide capacity of 2,205 by 2015**, including space in portable units. None of the school district's enrollment forecasts exceed the expected capacity at any point through 2030.

- 2030 Low Projection: 1,857 students
- 2030 Mid Projection: 1,893 students
- 2030 High Projection: 1,928 students

High School: The existing Mt. Si high school is scheduled to be expanded in 2014, **yielding a district-wide capacity of 2,478 high school students by 2015**, including space in portable units. None of the school district's enrollment forecasts exceed the anticipated capacity at any point through 2030.

- 2030 Low Projection: 2,309 students
- 2030 Mid Projection: 2,353 students
- 2030 High Projection: 2,397 students

Higher Education / Continuing Education

In a 2007 early meeting with the King County Executive and staff regarding a proposed Snoqualmie UGA expansion near the I-90 interchange submitted by the Snoqualmie Valley Hospital District, the Executive suggested the potential for locating a branch campus of Bellevue College (then BCC) on the Echo Glen (State Juvenile Detention Center) or the proposed UGA expansion area to serve residents of East King County. The City followed up with meetings with then BCC President regarding their interest in locating a branch campus in Snoqualmie. BCC and the Snoqualmie Valley Hospital discussed plans for the co-location of a potential medical facility and a community college campus, and the Hospital District created a conceptual plan showing a location for the hospital, medical office building, a BCC branch building(s) and senior housing. The Executive recommended that the UGA be expanded to provide for this opportunity. However, In October 2008 the King County Council denied the UGA expansion due to uncertainty about the ability of the parties to commit to that location. In subsequent years, the hospital moved forward with plans to build on a much smaller parcel west of Snoqualmie Parkway within city limits. At this time there are no plans to include a higher education component on or near the new hospital site within the City.

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In October, 2011, Bellevue College announced that it would site a satellite campus in the Issaquah Highlands area. It is unclear at this time what all of the deciding factors were in the selection of the Issaquah site. However, in 2008 Bellevue College advised that it could not expend resources on a site that was not zoned to permit a community college campus. Thus, the need for properly zoned property was likely a key factor. The City of Snoqualmie has maintained its strong desire to attract a similar type and size of campus for higher education or continuing education purposes. Such a campus could provide local opportunities for job training and employment for Snoqualmie and East King County area residents and significantly reduce vehicle miles travelled. In order to attract interest from an institution, it is imperative that available land exists in a desirable, properly zoned location for a campus use. At this time, there is no designation specifically applicable to this type of use for land within the City; however, schools are allowed as a conditional use in all City zoning districts, except Open Space and Utility districts.

Library

The 2006 Snoqualmie Comprehensive Plan assumed a new 6,000 sq. ft. library would be needed over the subsequent decade. In August 2007 a new 6,000 sq. ft. King County Library branch opened in Snoqualmie Ridge to serve Snoqualmie residents. The library was built in a way to allow future expansion up to a total of 10,000 square feet.

In terms of future needs, there is a lack of a specific standard used widely to determine how large a city's library should be. After reviewing a range of comprehensive plans and individual library standards, a ratio of 1.0 square feet per resident within the library's service area is common. This approximate standard is supported by statewide library data for Wisconsin – a system often referenced by library planners. Based on a sample of nearly 400 libraries in Wisconsin, the average space was 1.09 square feet per resident within each library's service area. With that in mind, it is worth further considering the population that the Snoqualmie Library aims to serve. A library designed to serve only residents within city limits will necessarily be smaller than one designed to serve residents of nearby portions of unincorporated King County.

As of 2010, Snoqualmie has a ratio of approximately 0.56 SF of library space per capita (based on City population). If the population of Snoqualmie expands to the high projection of 16,046 and the library is expanded to 10,000 as has been planned, then the city would have a service level of 0.6 SF per capita. While this may be below a standard of 1.0 SF, it is worth noting that Snoqualmie residents have access to the full King County library system, including larger branches in nearby communities.

Medical facilities

The Snoqualmie Valley Hospital serves as the medical facility for King County Hospital District 4, an area that includes the City of Snoqualmie and other communities, and included 45,000 people as of 2006. The current hospital is expected to be replaced in the relatively near future with a new a 60,000 SF

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facility near the intersection of Snoqualmie Parkway and I-90 at a site that was acquired by the hospital and is currently under development. The new facility will represent a doubling of the space in the existing hospital.

A variety of factors were considered to determine whether the new Snoqualmie Valley Hospital and its site will be sufficient to meet community needs through 2032 or if additional land may be needed.

Based on an analysis of these factors it is reasonable to assume that once the new facility is constructed no future land will be needed for the following two decades. This determination is likely to remain true unless the factors described below change significantly:

- 1) The hospital is limited because of its designation as a Critical Access and Necessary Provider hospital. The federal government designates Critical Access hospitals primarily for the purpose of allowing revised Medicare reimbursement procedures that make the hospital more financially viable and less prone to closure. **Critical access hospitals such as Snoqualmie Valley are allowed a maximum of 25 beds.** This is the same number of beds in the existing hospital, as well as the new, planned facility.
- 2) In addition to the Critical Access designation, Snoqualmie Valley Hospital has been deemed a necessary provider by the Washington State Department of Health. This designation affects certain aspects of how the hospital operates, but most importantly, it impacts Snoqualmie Valley's ability to relocate and build a new facility. New Critical Access Hospitals (including existing hospitals moving to new sites in the same city) cannot be built within 35 miles of another hospital unless they are also considered a "necessary provider." In other words, Snoqualmie Valley is only able to relocate because of its very specific status. Washington and all other states have not been permitted to designate any additional "necessary providers" as of 2006.
- 3) A recently approved 175-bed Swedish Medical Center is being built less than 13 miles away in Issaquah, making the justification for additional hospital beds in Snoqualmie difficult, if not impossible. Snoqualmie Valley Hospital is able to operate because it enjoys the benefit of being designated as Critical Access and Necessary Provider. The hospital fills a very specific role for Snoqualmie and the surrounding communities that is unlikely to expand dramatically nor require significantly more land.

Other Non-Residential Land Needs Overview

Projected demand for Retail, Office, Industrial, and Hospitality uses are quantified in this section.

Retail land use demand was estimated using the Retail Leakage Analysis completed as part of this report and projected to 2032 by estimating annual spending, in current dollars, by new households. A total of

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2,373 new households are projected to be added to the City by 2032, according to City data.¹ By multiplying projected new households by average household spending and adjusting for income variance and spending patterns across income brackets, total expenditures were established for each category of retail spending. These total expenditures were equated to expected acreage needs using average retail square footages for each category; the acreage across all categories was then summed to provide a total projected acreage need. Additional adjustments were made to this total, including reductions to the desired capture of retail vehicle sales (reduced to 20% of projected demand for 2032) as well as a 25% market factor to allow for “unanticipated choices of individuals and firms who may acquire land in excess of the anticipated need,” and “for land which may be held out of use because of personal preferences or whims of a few property owners or because of legal complications which make the land unavailable for immediate development.”^{2,3}

Though not in the scope of this report, demand for retail uses driven by tourism demand has been documented in previous retail studies for the City of Snoqualmie (including the 2002 E.D. Hovee & Company Snoqualmie Retail Development Plan and the 2006 ERA Retail Analysis report). At the time of writing (2002), the Hovee report estimated \$18.3M in current tourism-related uses in the Snoqualmie area (not necessarily confined to the City of Snoqualmie). This included an estimated \$9.9M (\$12.5M in current, inflation-adjusted dollars) that was spent on expenditure categories that could be considered retail (including dining). For comparison purposes, about \$35.6M was spent by Snoqualmie residents in 2010 on retail categories considered for the retail leakage analysis in this report, including dining. Since the publication of the Hovee report in 2002, tourism-related uses have continued to grow, most noticeably with the opening of the high-performance driving school, Dirtfish Rally School, on the former mill site. As explained in Phase I, the school attracts personnel from government agencies, large corporations, and private sector groups. Tourism packages with other local attractions, such as the Salish Lodge are available – the driving school is also exploring the possibility of new package deals with other businesses, including the Casino and Golf Course, to increase the scope of the tourism opportunities. It is clear that tourism-related retail demand is significant when compared to Snoqualmie resident retail demand and should be weighed as an additional factor when considering the need for land in retail use.

Office, Hospitality, and Industrial land use demand estimates were produced using employment data projections provided by the Puget Sound Regional Council for various employment sectors. A detailed explanation of the data and methodology used to calculate land needs is included in this section.

¹ City of Snoqualmie Buildable Lands Analysis data, 2011

² Bremerton, et al. v. Kitsap County, 95-3-0039, Final Decision and Order (Central Puget Sound Growth Management Hearings Board, 1995).

³ Providing for a “market factor” is also supported by independent market analysis. As stated on page 18 of the 2006 Retail Analysis for the City of Snoqualmie by Economic Research Associates, the City should over-zone for commercial uses. If zoning exactly matches demand, higher land prices could elevate the feasibility threshold for commercial development, encouraging developers and their tenants to seek lower cost locations in neighboring communities.

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Other Non-Residential Land Use Needs Analysis, by Type of Use

The following analysis of land use needs includes “all other non-residential land uses,” which include retail, office, industrial, and hospitality uses. The supply of each category of land use was determined in Phase II of this analysis. Land determined to be vacant or redevelopable was assigned to a discrete category – retail, industrial, and office/hospitality. Office and hospitality supply acreages were combined in order to relate directly to demand data derived from PSRC employment projections, since office and hospitality employment was contained in the same category. Vacant or redevelopable parcels assigned to one category – for example, retail – were not assigned to any other category, such as office / hospitality. Assumptions were made regarding the expected use of parcels where multiple uses were permitted. This expected use was based on information provided directly by the City.

Retail

A retail leakage study was completed to estimate the amount of spending by *local households* that is currently lost to retailers in other communities. Based on the volume of spending lost, the study then determined the amount of land necessary to accommodate the amount of retail space needed to capture that spending. As of 2010, approximately 23.2 additional acres of land would be needed if Snoqualmie were to have enough retail to capture **all** local resident spending. This is meant to represent a theoretical scenario and not necessarily a specific policy recommendation.

In addition to current retail leakage, the analysis also examined the amount of retail that would be needed to capture spending from new households added to the City of Snoqualmie between today and 2032. The City of Snoqualmie estimates that up to 2,373 potential new residential units could be built by that date. The retail spending of these new households was calculated by assuming that this new population will have similar income and spending characteristics to existing households in Snoqualmie. The 2,373 new households that could be added to Snoqualmie by 2032 would generate nearly \$87 million of additional retail spending each year. If all of this retail spending were to occur locally in Snoqualmie (again, a theoretical scenario), there would be a need for approximately 20.3 additional acres of land for retail uses.

By combining the amount of land needed to eliminate all existing retail leakage *and* the spending of future households we can arrive at a total amount of land needed to capture all spending of just City residents. Subtracting a portion of potential demand capture for vehicle sales, a use considered not especially desirable by the City, results in a baseline total of 21.8 acres of retail leakage. Adding this total to the projected total of land needed by 2032 (again, adjusting for an 80% reduction in desired capture of demand for vehicle sales) results in a grand total of **42.1 acres** of land needed in retail use to eliminate all retail leakage by 2032. Again, this represents a theoretical value that is not necessarily feasible for Snoqualmie to capture. It may be desirable or necessary to allow a certain amount of retail spending to “leak” to other communities. For example, while a share greater than 0% is possible, it is

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unlikely that retailers in Snoqualmie would ever be able to capture all local spending on new and used vehicles. For this reason, the desired capture goal for vehicle sales was reduced. The total of 42.1 acres represents an upper limit value that can be used as a starting point and then revised based on City policies, community preferences, and market realities.

It should be noted that this analysis did *not* address employees who are not residents of the City or residents of the surrounding rural area. The Countywide Planning Policies provide that cities located in the rural area, such as Snoqualmie, should provide retail, educational and social services for city residents and surrounding Rural Areas.⁴

The table below provides detail on the expected retail leakage for all categories considered in the retail leakage study.

Table 2: Projected Retail Leakage through 2032

Category	Demand Generated by Additional Households Created between Now and 2032			Existing Retail Leakage		Total Land Needed (acres)
	Retail Demand from new households created through 2032	Additional Stores Needed	Land Needed Assuming Overall 0.3 FAR (acres)	Additional Stores Needed	Land Needed Assuming Overall 0.3 FAR (acres)	
Groceries						
Housekeeping supplies						
Personal care products and services	\$ 19,789,830	1.2	3.2	1.2	3.1	6.3
Restaurants, bars, and catering (1)	\$ 12,998,715	11.4	2.8	8.3	2.0	4.8
Home maintenance, repairs, and other expenses	\$ 4,982,699	4.4	2.3	4.5	2.3	4.6
Furniture	\$ 1,711,603	2.3	0.7	1.9	0.6	1.3
Floor coverings	\$ 179,344	0.2	0.1	-	-	0.1
Major appliances						
Miscellaneous household equipment	\$ 4,837,400	4.9	1.2	4.3	1.0	2.2
Clothing, shoes, jewelry and accessories	\$ 7,832,424	18.2	3.1	24.8	4.2	7.2
Vehicle purchases (net outlay) (2)	\$ 10,962,071	0.4	1.1	0.6	1.7	2.8
Gas stations (gas, conv. store purchases, tobacco) (3)	\$ 8,521,342	2.8	1.9	3.6	2.4	4.2
Vehicle maintenance and repairs	\$ 2,722,825	3.1	0.8	2.1	0.5	1.4
Audio and visual equipment and services	\$ 4,446,921	5.1	1.1	5.2	1.1	2.1
Pets, toys, hobbies, and playground equipment	\$ 4,428,308	11.5	1.8	16.3	2.5	4.3
Other entertainment supplies, equipment, & services	\$ 2,682,644	2.8	0.9	3.8	1.3	2.2
Reading materials	\$ 711,650	0.4	0.3	0.6	0.4	0.7
			21.1		23.2	44.3
Revised total, given 80% reduction in desired capture of vehicle sales			20.3		21.8	42.1
(1) 60% of total area assumed for seating; occupancy based on 15 sq. ft. per occupant.						
http://www.jhcarr.com/Support/ergonomics.PDF						
(2) Land assumption prorated based on the calculations from the Snoqualmie Retail Leakage Study						
(3) Gas stations assumed to require 2/3 acre per store.						

Note: All calculations and sums are rounded to the nearest tenth; actual values in cells have a higher level of precision, which could result in an apparent difference in sums of displayed (rounded) values and the spreadsheet calculated total using actual values in cells.

⁴ Current Countywide Planning Policies, Section I.D, Vision for King County 2012

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Office, Hospitality, and Industrial Land

Unlike with the retail analysis, a separate *market* analysis was not performed to determine land needed for office, hospitality, and industrial development through 2032. Instead, the demand analysis for office, hospitality, and industrial uses was performed using data from the PSRC Population, Households, and Employment Forecast, last updated in 2006.⁵ It is important to note some underlying assumptions regarding these forecasts:

- PSRC's Population, Households and Employment Forecast was last updated in 2006. Forecast assumptions and review were based on the comprehensive plans and emerging development trends at the time.
- The region adopted VISION 2040 in April 2008, an updated plan for accommodating the nearly 5 million people and 3 million jobs forecast for the region by 2040. Many cities and counties in the region are or will be working in the next several years, to adopt new growth targets and comprehensive plans consistent with VISION 2040.
- Some jurisdictions may have adopted major changes to local zoning regulations that are not accounted for in the current forecasts.
- The country and region entered into a recession unanticipated by the 2006 forecasts.

About the PSRC Methodology for Small Area Employment Forecasting:

The PSRC employment forecasts for small areas is a “top down” forecast, which drives models for residential and employment forecasting (the “DRAM” and “EMPAL” models) that allocate the future year estimates of jobs, population, and households to each of 219 Forecast Analysis Zones (FAZs) in the region. The FAZ areas are based on geographic zones that are comprised of between one and nine census tracts – not city boundaries. Each FAZ generally corresponds with the community or municipality for which it is named, but does not follow exact political boundaries.⁶ In the case of Snoqualmie, the City is mostly included in two FAZs – 6505 and 6506 – which also include the Cities of North Bend, as well as Preston and Fall City. For the purpose of our analysis, the employment trends captured in these cities and rural areas around Snoqualmie (as well as Snoqualmie itself) are assumed to be similar to those expected for the City of Snoqualmie alone.

Comparing PSRC Small Area Forecasts for Employment with the CPP Job Target

The current County-wide Planning Policy (CPP) job target for the City of Snoqualmie through 2031 is 1,050 jobs. This target, though ultimately based on forecast data to some degree, is also intended for use in advancing policy objectives. This target also does not include specific categories of employment

⁵ Puget Sound Regional Council, *Important Update on PSRC Land Use Forecasts*,

<http://psrc.org/data/forecasts/land-use-forecasts-update/> Accessed 9/16/2011

⁶ <http://psrc.org/data/forecasts/saf/>

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types that can be compared to the supply of land zoned for specific uses (and therefore suitable for accommodating certain types of employment). Therefore, this analysis used the PSRC small area forecasts for employment as way to establish estimates for demand via growth rates in specific areas of employment. Because of the differences in methodology for arriving at the job target provided in the CPPs and employment forecasts for the forecast area zones, the data cannot be easily compared. It should be emphasized, however, that the job growth target of 1,050 new jobs by 2031 underscores the importance of providing the capacity to address multiple, complementary city and County goals (including maintaining a jobs/housing balance, providing living wage jobs, reducing out-commuting, and enhancing opportunities for local shopping and tourism).

Using PSRC Data with City of Snoqualmie Data to Forecast Employment Growth and Acreage Needs:

PSRC employment data was used to establish estimates of growth for the Snoqualmie area in terms of the categories provided in their analysis: 1) Manufacturing; 2) Wholesale trade, transportation services, communications, and utilities (WTCU); and 3) Finance, insurance, real estate, and services (FIREs). The other two categories of employment forecasts addressed by PSRC include Retail and Government / Education, which have been addressed separately in this report by separate data sources.

PSRC identifies forecasted job growth over time for each of these categories, beginning with year 2010 and continuing to 2040. For the purposes of this report, a range of 2010-2030 was used to estimate a 20-year change in employment.⁷ An adjustment for the final two years (2031-2032) was made in order to provide a consistent timeframe for this report, and assumed a linear constant growth factor of the average growth in the preceding 20 years for each category.

A baseline of 1,784 total full-time and part-time jobs was assumed for the City of Snoqualmie in 2010 (based on a recent City of Snoqualmie employment survey). PSRC's 2010 estimate for Snoqualmie, North Bend, Fall City and Preston employment was 5,622, growing to 7,336 in 2030 – 30% overall employment growth over 20 years. This growth rate, applied to Snoqualmie's current baseline employment total of 1,784, equals an estimated 544 new jobs over 20 years. As mentioned above, an adjustment factor was applied for the years of 2031-2032, giving a total of 580 new jobs by 2032. Out of these, a total of 464 new jobs fall into categories not covered by retail or institutional employment (retail and institutional land use needs were determined independently of the PSRC data and are discussed separately in this report). Each of the categories of employment forecasts was applied to a category of land use addressed in existing City analysis for buildable land and a per-acre employee ratio assigned.⁸ The following land use categories and corresponding per-acre employee ratios were used:

⁷ This report addresses the need for non-residential land over the 20-year period of 2012-2032. Because of data limitations specific to this time period, the 20-year period between 2010 and 2030, for which data was available, was used to estimate demand for that time frame.

⁸ Employee ratios were determined from existing city analysis documentation.

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Table 3: Employment Ratios Used for Analysis

PSRC Employment Category ⁹	City Employment Category (for purpose of estimating employees/acre)	Employee/Acre Ratio
Finance, Insurance, Real Estate and Services, incl. Hotels (FIRES)	Office	23 employees/acre
Manufacturing	Light Industrial	10 employees/acre
Wholesale Trade, Transportation Services, Communication, and Utilities (WTCU)	Office	23 employees/acre

Using this methodology, 464 new jobs are estimated for the three employment categories (covering office, light industrial, and hospitality, et al.) not inclusive of retail or institutional by 2032. Using the City-provided assumptions for employee/acre density, this equates to an estimate of 24.8 acres of land needed to accommodate these jobs. A 25% market factor was then applied to this total to allow for “unanticipated choices of individuals and firms who may acquire land in excess of the anticipated need,” and “for land which may be held out of use because of personal preferences or whims of a few property owners or because of legal complications which make the land unavailable for immediate development.”¹⁰ This adjustment brings the total acreage required for these employment categories to **31 acres**. About two-thirds of these jobs are projected to be in the “FIRES” sector (finance, insurance, real estate, and services – including hospitality), which represents about 20.6 acres of the total.

Table 4: Summary of Estimated Projected Employment Growth, Based on PSRC Data

Snoqualmie Total Employment, 2010	Snoqualmie Projected Total Employment, 2032 (est., using PSRC data)	Total # New Jobs, 2032 in FIRES, WTCU, and Manufacturing (est.)	# New Mnfrg Jobs, 2032 (est.)	# New WTCU Jobs, 2032 (est.)	# New FIRES Jobs, 2032 (est.)
1,784	2,483	464	42	42	380

The above employment values for each category were then multiplied by the appropriate employment ratios and converted to a total acreage demand value. Manufacturing and WTCU values were added

⁹ The following employment categories from the 2006 PSRC Employment Forecast were used for the demand analysis of employment for “other non-residential uses,” excluding retail and institutional:

FIRES: The number of jobs in SIC 07, 60 - 67, 70, 72 - 74, 75 - 76, 78 - 81, 83 - 84, 86, 89.

Manufacturing: The number of jobs in SIC 19 - 39, plus the Puget Sound Naval Shipyard (PSNS) in Kitsap County.

WTCU: The number of jobs in wholesale trade, transportation services, communication, and utilities, SIC 40 - 42, 44 - 51.

¹⁰ Bremerton, et al. v. Kitsap County, 95-3-0039, Final Decision and Order

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together to approximate demand for a range of uses broadly classified as industrial, including light industrial uses and “flex” space (represented by several examples in the Snoqualmie Ridge Business Park).

Table 5: Summary of Land Use Needs for Office / Hospitality and Industrial Uses through 2032

Total Projected Acres Demand – Manufacturing / Industrial	Total Projected Acres Demand - WTCU (Treated as industrial)	Total Projected Acres Demand – FIRES (Treated as office / hospitality)
5.2 Acres	5.2 Acres	20.6 Acres
	Total Acres – All Categories, Including 25% Market Factor	31.0 Acres

The total estimated demand for each category represented by the PSRC data translates roughly to the following categories that can be matched by land supply already defined as part of the buildable lands analysis:

Table 6: Total Estimated Demand for Office / Hospitality and Industrial Land Uses through 2032

PSRC Land Use Type	Snoqualmie Land Use Type	Acreage Demand, through 2032
Manufacturing, WTCU	Industrial	10.4 Acres
FIRES	Office, Hospitality	20.6 Acres

The above values were used as the basis for the supply / demand analysis, below, and all subsequent phases of this report.

Supply / Demand Analysis for Institutional Land Uses

As described in the Land Needs Assessment section above, the City of Snoqualmie is not expected to experience future land needs exceeding its supply for most institutional uses within the 2012 – 2032 time period. It is expected that schools, library, police, fire, hospital and municipal uses (i.e. city hall) will either not require additional land, or if they do require land in the future then it has already been acquired and designated for such use. The latter condition is true for two schools (elementary and middle) and the Snoqualmie Valley Hospital site. Two school sites in the Snoqualmie Ridge development area are currently vacant but being retained by the school district for anticipated development and use. Other institutional uses such as the library and police station will be able to maintain adequate service capacity through 2032 by undertaking expansions within their existing footprint, or utilizing land that has been made available for municipal uses. For example, the fire station currently sits on an approximately 20-acre lot that is designated “municipal campus.” It is assumed that at least some of that land could be made available for future uses related to municipal services.

The two institutional land uses likely to generate future demand for land are parks and higher / continuing education. With regard to parks, the needs assessment above shows that up to 57 acres of land will be needed for parks in order to adequately serve the forecasted population in 2032. The

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majority of this land will be needed for future “community parks.” Determining whether the adequacy of supply of land available for future park development will require further consideration. While no land has currently been set aside or designated to accommodate those 57 acres of park space, the City anticipates requiring dedication of park land consistent with its adopted acreage standards as part of future pre-annexation agreements, development agreements, and/or project mitigation, similar to the requirements for provision of parks land and facilities includes as conditions of project approval for Snoqualmie Ridge. For this reason, the projected deficit of land for community parks was not viewed as a particularly serious issue for the City at this time, although provision of park land within the UGA will reduce the amount of area available for development of other uses.

With regard to higher / continuing education uses, a 20-acre campus – the same size as the future Bellevue College Issaquah Campus – was used as the baseline for assuming future land use needs. This baseline was used because of Bellevue College’s prior involvement with a proposal for a branch campus in the City of Snoqualmie near the I-90 / SR-18 Interchange. It was assumed that a similarly-sized campus could locate in the City of Snoqualmie within the 2012-2032 timeframe. Currently, the Mill site is the only areas in the City’s urban growth area with close to appropriate zoning (schools as a conditional use) that could accommodate a land use of that size. Part B of this analysis further examines the suitability of this location for a campus use and provides alternative measures for meeting this potential demand.

Table 7: Institutional Land Supply/Demand Summary

Total Land Supply, 2011	Total Projected Demand, 2032	Surplus/(Deficit) Acreage
51.0 Acres	71.0 Acres	(20.0 Acres)

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Supply / Demand Analysis for Other Non-Residential Uses

Retail

The retail leakage study estimates that approximately 44 acres of land would be needed to meet the demand of all existing households and all households expected to be added in Snoqualmie through 2032. It is important to reiterate that this figure represents a hypothetical situation only, wherein Snoqualmie households make all of their retail purchases within the city limits. That level of retail service is likely not possible or desirable for a number of reasons, but it is nonetheless a *starting point* for determining future retail land needs.

The City of Snoqualmie has identified four areas currently zoned for retail development, detailed below:

Table 8: Retail Land Supply Summary¹¹

Planning Area	Vacant – Buildable Land	Redevelopable Land
Historic Snoqualmie	1.0 Acres	2.8 Acres
Snoqualmie Ridge Phase I	2.5 Acres	0.0 Acres
Snoqualmie Ridge Phase II	5.8 Acres	0.0 Acres
Snoqualmie Falls	0.0 Acres*	0.0 Acres
Subtotal	9.3 Acres	2.8 Acres
Total	12.1 Acres	

* If an expansion of the Salish Lodge and Spa is built across SR-202 from the existing hotel, it may include retail uses primarily catering to tourist demand.

The table above shows that a total of **12.1 acres** could be available for future retail uses, including both vacant and redevelopable land. If built, a future hotel built as part of an expansion of the Salish Lodge could also accommodate a small portion of the city's future retail needs – though, since this would be limited only to a restaurant that would cater mostly to tourists, it would likely not satisfy demand demonstrated by the retail leakage study, which was designed to represent local demand within the City of Snoqualmie.

As noted in **Table 1** earlier in this chapter, an estimated total of 42.1 acres dedicated to retail uses will be needed to capture all City household spending by 2032. The City has set a goal of capturing two-thirds of that demand, excluding all but a desired capture of 20% of auto retail demand (a determination was made by the City not to prioritize retail capture of auto sales). The total acreage represented by a two-thirds capture of projected retail spending by 2032, excluding 80% of demand for vehicle sales, is 28.1 acres. Adding a 25% market factor brings this total to **35.1 acres** of land required to meet projected retail demand by 2032. Therefore, a *deficit* of 23.0 acres exists for retail uses.

¹¹ Retail uses were not considered for the Mill Planning Area because of its relative isolation and distance from the existing and planned population of the City.

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Table 9: Retail Land Supply/Demand Summary

Total Land Supply, 2011	Total Projected Demand, 2032 (based on 2/3 retail leakage capture)	Surplus/(Deficit) Acreage
12.1 Acres	35.1 Acres	(23.0 Acres)

Office, Hospitality, and Industrial/Flex Uses

The projected demand based on PSRC employment forecasts equate to about **31 acres** of additional land needed in the categories covered by Manufacturing, WTCU, and FIRES (including a 25% market factor). 10.4 acres of this demand was classified generally as “Industrial,” and 20.6 acres was classified generally as office / hospitality (FIRES). Based on PSRC’s forecasts, the majority of the growth expected in the Snoqualmie area in the next 20 years will be in the FIRES sector. The employment classifications covered by the FIRES category include uses likely to be housed in office or professional buildings that could be accommodated in areas zoned for commercial office uses, such as the Snoqualmie Ridge Business Park or the “S-21” parcel located near the I-90/SR-18 interchange. The buildable lands analysis found a total of 80.8 acres potentially available for office and hospitality uses, and 64.9 acres potentially available for light industrial/flex uses. These figures include both vacant and redevelopable land, including 56 acres in each category attributable to the Mill planning area. The following land could be potentially available for development for office / hospitality or light industrial / flex uses:

Table 10: Office / Hospitality – Land Supply Summary:

Available Locations	Acreage
Historic Snoqualmie	2.6
Snoqualmie Ridge 1	17.4
Snoqualmie Ridge 2	0.8
Snoqualmie Falls	8.0
Mill	56.0
Total	84.8

Table 11: Light Industrial / Flex – Land Supply Summary:

Available Locations	Acreage
Historic Snoqualmie	0.9
Snoqualmie Ridge 1	1.9
Meadowbrook	6.1
Mill	56.0
Total	64.9

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According to the above data, sufficient land for office / hospitality and light industrial / flex uses could be accommodated in parcels currently-zoned for these uses in the City. Much of this acreage is attributable to the Mill site, though sufficient available land exists outside of the Mill site. Whether or not the parcels available for development for these uses are *suitable* for such development will be examined in the next section (Part B) of this report.

Table 12: Office and Hospitality Land Supply / Demand Summary

Total Land Supply, 2011	Total Projected Demand, 2032	Surplus/(Deficit) Acreage
84.8 Acres	20.6 Acres	64.2 Acres

Table 13: Light Industrial and Flex Land Supply / Demand Summary

Total Land Supply, 2011	Total Projected Demand, 2032	Surplus/(Deficit) Acreage
64.9 Acres	10.4 Acres	54.5 Acres

CPP Job Target Comparison

The CPP job target of 1,050 jobs differs significantly with the number of jobs projected using the PSRC forecast data to estimate growth jobs in office, hospitality, and industrial categories. The table below is provided to illustrate a comparison of projected demand using the same assumed rates of growth derived from the PSRC small area forecasts for the Snoqualmie area, as well as the same assumptions for employees/acre provided by the City of Snoqualmie. Although a deficit of land for office/hospitality uses does not result, given the large potential supply of land provided by the Mill Planning area, projected land needs for these uses are significantly higher.

Table 14: Projected Land Needs for Office and Industrial Uses, Assuming CPP Target of 1,050 jobs by 2031.

	Job Target, 2031	# New Mnfrg (Considered Industrial)	# New WTCU (Considered Industrial)	# New FIRES (Considered Office)
Total Jobs, 2031	1,050	75	75	688
Total Acres, 2031		7.5	7.5	29.9
Total Acres, 25% Market Factor Applied		9.3	9.3	37.4
Total Acres, Including Market Factor				56.1
Total Acres Industrial				18.7
Total Acres Office / Hospitality				37.4

Summary and Recommendation

The purpose of this analysis was to determine whether the supply of land in the City of Snoqualmie will be adequate to meet all non-residential needs through 2032. There is a fair amount of certainty that available land will be sufficient for most institutional uses, except higher / continuing education uses. For higher / continuing education, a suitability analysis is included in the next section of this report, as well as recommended reasonable measures to accommodate projected deficits in projected land needs.

In terms of other non-residential uses, including retail, office, hospitality, and industrial uses, a deficit of available land projected for the 2012 – 2032 timeframe clearly exists for retail uses. As such, the suitability of existing land and reasonable measures to address this deficit are explored thoroughly in the following section of this report. As for office, hospitality, and industrial uses, it is less clear that a deficit could exist, but suitability of potential sites must also be carefully reviewed in order to provide more certainty on the issue of supply. A suitability analysis is included in the subsequent section.

A detailed breakdown of land supply by type of use and by planning area is provided in the following pages that summarizes projected deficits and surplus of different land use types.

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Table 15: Summary of Land Supply and Projected Deficit through 2032, by Use Type

Summary of Land Need and Supply			
Institutional	Use Category	Comments on Need through 2032	Total Projected Deficit
Institutional	Police	Space to accommodate 15 <i>additional</i> officers and support staff.	None. Additional staff will be accommodated by planned expansion of existing facility.
	Fire	Accommodation of 16 (<i>total</i>) firefighters plus support staff.	None. Additional staff hired through 2032 will be accommodated within existing facility.
	City Hall and Public Works Buildings	<i>City Hall:</i> Space to accommodate a <i>total</i> of 57.5 FTE in City Hall by 2032. The facility currently has sufficient space to accommodate 6 – 7 additional staff. <i>Public Works:</i> The facility, located at the wastewater treatment site, currently has 8 Parks Department staff and 18 Public Works Department staff.	City Hall: Uncertain – with space for only an additional 6-7 staff, additional space may eventually be required if service levels are not reduced. Public Works: Staff hired through 2032 will be accommodated within existing facility or accommodate through on-site expansion
	Open Space	Additional 44.2 to 56.9 acres for parks, depending on the degree of population growth.	44.2 to 56.9 acres. Areas or parcels have not been identified, acquired, or reserved for future parks.
	Schools	Land to accommodate additional elementary school and middle school.	None: Sites have been acquired by the school district to meet enrollment needs through 2032.
	Higher Education	The City has expressed a strong desire to attract a higher education and/or continuing education campus – 20 acres has been established as a reasonable size for such a campus.	20 acres
	Library	Moderate expansion will be needed to maintain an acceptable level of service.	None: The library was built to accommodate a future expansion of 4,000 sq. ft., which should be sufficient
	Medical Facilities	The planned site for the new hospital has been acquired development underway.	None: Limits on the number of beds and the addition of 175 beds at Swedish-Issaquah makes it unlikely the hospital will need additional land.
Other Non-Residential	Retail	Assuming a goal of capturing two-thirds of projected retail leakage by 2032, not counting auto retailers, and including a 25% market factor, 35.1 acres needed.	23.0 acres
	Office, Hospitality, Industrial	An estimated 464 new jobs translates to approximately 31 acres of additional land needed for uses in these categories. <i>Considering the CPP job target of 1,050 jobs by 2031, this acreage should be considered a minimum.</i>	Possibly none assuming vacant / underdeveloped land is suitable. A suitability analysis of specific parcels must be undertaken.

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Comments on Projected Deficits for Parks

With regard to parks, assuming employment forecasts produced by the City of Snoqualmie are met, there is very little available land within existing areas of Snoqualmie to accommodate additional parks, especially larger community parks. According to the City's analysis, most available non-residential land *within the existing city limits* is expected to be developed for office, industrial, retail and institutional uses, consistent with approved development entitlements. The City expects that some of the only land that may be available is a few acres in Historic Snoqualmie. This consists mostly small lots with existing houses within the floodway, which are targeted for development of a riverwalk trail along the Snoqualmie River and not suitable or desirable for development of a community park with active recreation facilities. There is also approximately four acres near Snoqualmie Falls that is not expected to be developed, but it is well below the size necessary for a community park, located adjacent to SR202, in an area proposed for a new roundabout. Given this lack of land, the City may want to consider the availability of future community park sites outside of the City limits but within the urban growth area (for example, the Snoqualmie Hills Planning Areas, which will eventually be annexed into the City of Snoqualmie), in order to meet adopted level of service standards for community park acreage. As was done with Snoqualmie Ridge, Snoqualmie Ridge II, and Kimball Creek Village mixed-use development proposals, park land was provided as part of the development as a condition of project approval in order to mitigate for demand created by new housing. Therefore, the available land supply in the Snoqualmie Hills Planning Area would be reduced by the parks acreage needed to meet demand from proposed residential development.

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Table 16: Total Acreage of Vacant and Redevelopable Land Zoned for Non-Residential Uses, By Planning Area, Including Projected Surplus and/or Deficit

Planning Areas	Total Acreages of Buildable Vacant and Redevelopable Land Zoned for Non-Residential Uses						
	Land Status	Supply	Zoning category				
			Institutional	Retail	Office/Hospitality	Light Industrial/Flex	
Historic Snoqualmie	Vacant	3.0	0.0	1.0	2.0	0.0	
	Redevelopable	4.3	0.0	2.8	0.6	0.9	
Snoqualmie Ridge 1	Vacant	21.8	0.0	2.5	17.4	1.9	
	Redevelopable	0.0	0.0	0.0	0.0	0.0	
Snoqualmie Ridge 2	Vacant	57.6	51.0	5.8	0.8	0.0	
	Redevelopable	0.0	0.0	0.0	0.0	0.0	
Snoqualmie Hills	Vacant	0.0	0.0	0.0	0.0	0.0	
	Redevelopable	0.0	0.0	0.0	0.0	0.0	
Snoqualmie Falls	Vacant	8.0	0.0	0.0	8.0	0.0	
	Redevelopable	0.0	0.0	0.0	0.0	0.0	
Meadowbrook	Vacant	0.0	0.0	0.0	0.0	0.0	
	Redevelopable	6.1	0.0	0.0	0.0	6.1	
Mill	Vacant	51.0	0.0	0.0	25.5	25.5	
	Redevelopable	61.0	0.0	0.0	30.5	30.5	
Total land supply by category:	Vacant	141.3	Institutional	Retail	Office/Hospitality	Light Industrial/Flex	
	Redevelopable	71.4					
	Total	212.7	51.0	12.1	84.8	64.9	
Supply/Demand Analysis	Total Supply	Acres	Supply - Specific Uses	Acres	Demand - Specific Uses w/ 25% market factor, except institutional	Acres	Surplus / (deficit)
	Vacant	141.3	Institutional	51.0	Institutional	71.0	(20.0)
	Redevelopable	71.4	Retail	12.1	Retail	35.1	(23.0)
			Office/Hospitality	84.8	Office/Hospitality	20.6	64.2
	All	212.7	Manufacturing/Lt. Ind./Flex	64.9	Manufacturing/Lt. Ind.	10.4	54.5

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Appendix 1: Estimated Annual Spending (In Current Dollars) of New Households Expected to be Created in Snoqualmie, through 2032

Estimated Annual Spending (in current dollars) of New Households Expected to be Created in Snoqualmie from Today through 2032(1)

(2,373 New Households x Average Annual Household Spending x Income Variance)

Category	Average Annual Spending Per Household (2)	Percent of Households in Each Income Bracket: Based on Current Income Distribution in Snoqualmie										Total
		Less than \$5,000	\$5,000 to \$9,999	\$10,000 to \$14,999	\$15,000 to \$19,999	\$20,000 to \$29,999	\$30,000 to \$39,999	\$40,000 to \$49,999	\$50,000 to \$69,999	\$70,000 and more		
		0.55%	0.55%	0.30%	1.10%	3.15%	4.08%	4.07%	9.20%	77.00%		
Number of New Households Expected in Each Income Bracket through 2032 (3) (4)												
		13	13	7	26	75	97	97	218	1,827		
Groceries (5)	\$5,049	\$43,033	\$40,126	\$27,348	\$85,840	\$292,147	\$378,760	\$449,765	\$1,051,511	\$12,392,857		\$14,766,436
Restaurants, bars, and catering	\$3,872	\$26,151	\$18,891	\$11,115	\$39,007	\$150,173	\$258,740	\$318,038	\$817,217	\$11,355,510		\$12,998,715
Housekeeping supplies	\$741	\$6,316	\$5,086	\$4,298	\$10,840	\$40,868	\$52,033	\$58,309	\$162,534	\$1,881,094		\$2,222,120
Home maintenance, repairs, & other expenses	\$1,484	\$11,236	\$8,269	\$4,827	\$20,391	\$78,314	\$84,361	\$86,677	\$302,306	\$4,384,834		\$4,982,699
Furniture (7)	\$486	\$2,053	\$3,098	\$1,719	\$7,682	\$16,423	\$23,110	\$31,436	\$94,154	\$1,531,444		\$1,711,603
Floor coverings (7)	\$46	\$132	\$547	\$51	\$792	\$1,188	\$2,378	\$3,768	\$4,101	\$166,340		\$179,344
Major appliances (7)	\$301	\$1,128	\$1,720	\$899	\$3,009	\$11,900	\$17,407	\$25,184	\$67,415	\$887,726		\$1,016,689
Miscellaneous household equipment (7)	\$1,133	\$6,130	\$5,194	\$4,885	\$13,779	\$37,434	\$78,364	\$112,029	\$190,887	\$3,370,876		\$3,820,711
Clothing, shoes, jew elry and accessories	\$2,464	\$12,374	\$10,496	\$16,705	\$38,604	\$112,227	\$157,634	\$179,948	\$502,760	\$6,799,211		\$7,832,424
Vehicle purchases (net outlay)	\$3,395	\$15,503	\$12,073	\$7,096	\$32,358	\$166,571	\$319,575	\$234,960	\$846,073	\$9,324,468		\$10,962,071
Gas stations (gas, conv. store purchases,	\$2,796	\$18,067	\$17,103	\$8,981	\$41,530	\$143,548	\$222,838	\$267,394	\$665,809	\$7,133,275		\$8,521,342
Vehicle Maintenance and repairs (8) (9)	\$860	\$4,973	\$3,811	\$2,250	\$11,981	\$39,841	\$64,868	\$74,271	\$212,203	\$2,307,766		\$2,722,825
Audio and visual equipment and services	\$1,415	\$12,632	\$7,528	\$4,534	\$18,374	\$63,577	\$108,039	\$113,035	\$346,065	\$3,771,721		\$4,446,921
Pets, toys, hobbies, and playground equipment	\$1,201	\$7,152	\$3,767	\$3,335	\$11,538	\$51,593	\$59,940	\$72,183	\$192,084	\$4,025,516		\$4,428,308
Other entertainment supplies, equipment, & Personal care products and services	\$817	\$5,312	\$4,034	\$1,374	\$3,358	\$26,657	\$54,025	\$66,319	\$251,581	\$2,269,168		\$2,682,644
Reading materials	\$833	\$6,757	\$4,352	\$2,814	\$11,774	\$36,254	\$54,236	\$60,076	\$158,298	\$2,465,880		\$2,801,273
												\$711,650

Notes:

- 1) The income brackets presented here are those used in the Consumer Expenditure Survey (CEX). The household income data presented in the U.S. Census/American Community Survey uses different income brackets and was therefore adjusted to match the CEX. In doing this adjustment, it was assumed that households were evenly distributed within each Census income bracket.
- 2) Household expenditure data comes from the Consumer Expenditure Survey, Selected Western Metropolitan Statistical Areas, 2008-2009 for Seattle unless otherwise noted.
- 3) Household income data from U.S. Census, American Community Survey, 2005-2009.
- 4) Number of additional households expected to be created by 2032 is from City of Snoqualmie Buildable Lands table 3.4
- 5) Includes alcohol for home consumption. Calculated using http://www.ers.usda.gov/briefing/cpifoodandexpenditures/data/Expenditures_tables/table4.htm
- 6) Estimate based on national Consumer Expenditure figure adjusted to the median household income of Snoqualmie and subtracting \$696 for property
- 7) Household spending potential estimated based on the Household Furnishing sub-category shares for the West region found in the CEX Region of Residence table.
- 8) Consumer Expenditure Survey, 2009. Region of Residence, Table 8.