



Land Capacity & Demand Results

WHATCOM 2031 ▪ Urban Growth Area Review ▪ August 14, 2009

Overview

Purpose of Report

As stated by the Western Washington Growth Management Hearings Board¹, a Land Capacity Analysis is a “critical mechanism for the sizing of a UGA because it is utilized to determine how much urban land is needed. It is prospective – looking forward over the coming 20 years to see if there is enough land within the UGA to accommodate the growth that has been allocated to the area. However, part of this determination of how much land is available is filled with assumptions or “educated guesses” that lack absolute certainty...”

On February 10, 2009, Whatcom County Planning and Development Services published an initial analysis of the capacity of the ten urban growth areas in Whatcom County to accommodate growth over the next twenty year period. On March 16, 2009, a revised analysis was published. This August 14, 2009 update documents the city proposals for Urban Growth Areas and the County Executive’s recommendations for Urban Growth Areas and Urban Growth Area Reserves, and includes adjustments in assumptions and minor changes in methodology.

Whatcom County has worked closely with cities on review of the analysis and the methodologies used. This version of the Land Capacity and Demand analysis incorporates that input. Highlights of the changes in assumption and methodology include:

- Methodology Amendments – Cities and county staff agreed to remove land from the developable inventory which was located in a floodplain of the unincorporated portions of the Urban Growth Area. This change ensures that additional pressure to develop floodplains does not occur due to this UGA designation.
- Alternatives – This report compares the initial proposals received from cities or community groups, and the County Executive’s recommendations. These changes include alternative growth allocations and UGA boundaries. The Executive’s recommendations also include designation of Urban Growth Area Reserves, with associated population and/or employment capacity.
- Density Assumptions – Changes to densities assigned to various land use zones have been incorporated. Maximum densities that can only be achieved through bonuses were not used as benchmarks in this analysis, instead relying only on the standard range of densities allowed. Some cities proposed achieved densities, and those densities are shown in the city analysis. The county proposal uses densities between achieved and planned densities in some zones to develop a more realistic outcome to the analysis. These densities are documented in the assumptions and Attachment 3.

¹ Final Decision and Order, Case No. 08-2-0021c, Jack Petree, Futurewise, Dean Haverstraw, Caitac USA Corp and Robert Wiesen, Petitioners v. Whatcom County.

Methodology

The land capacity analysis is based on the *methodology* dated August 14, 2009. The methodology and amendments are attached for reference as Attachment 2.

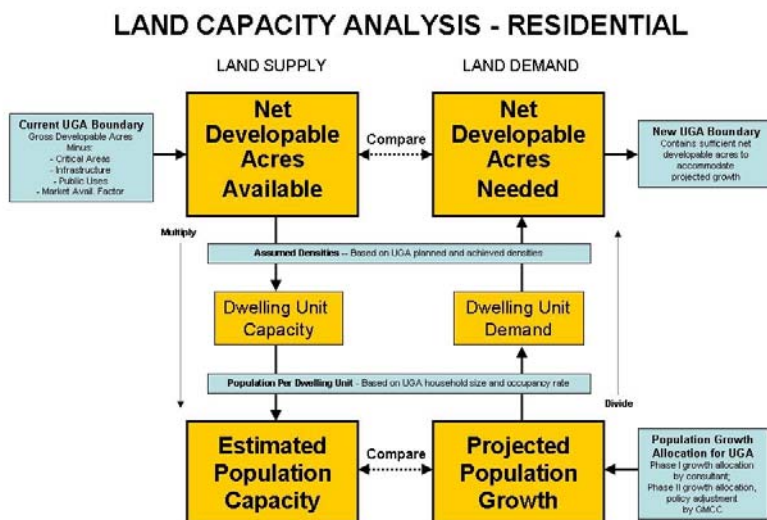
The land capacity methodology was approved by the Growth Management Coordinating Council on December 3, 2008, and subject to public hearing before the Whatcom County Council on December 9, 2009. The Growth Management Coordinating Council was presented with minor amendments to the methodology on January 21, 2009. The amended land capacity methodology was presented to the Whatcom County Planning Commission and County Council at the February 17, 2009 EIS Scoping Hearing. Following that scoping hearing, additional minor amendments to the methodology were incorporated and published on March 11, 2009 based on discussions with city planners. Except for the change in how land within the floodplain is calculated, this methodology remains unchanged from the March 11, 2009 methodology.

Land Demand and Land Supply

The land capacity analysis includes a review of land supply and land demand. *Land demand* is based on two growth allocation alternatives: 1) initial proposals received from cities or the community and 2) the County Executive’s recommendation for growth forecasts, allocation and each UGA. Land demand is shown in Tables 2 through 7 later in this report.

Land supply is an estimate of the amount of residential and employment land available within the ten designated urban growth areas. The analysis identifies land supply for either existing city limits or the unincorporated portions of the urban growth area designation. The surplus or shortfall is based on the combination of both the city and unincorporated urban growth area designation.

The following diagram demonstrates the relationship of supply and demand used in this process for residential growth.



Issues with Land Capacity Methodology

Whatcom County received critique of the land capacity methodology after the initial results were published. This critique focused on the following primary issues: assumed densities, lot aggregation, and deductions for infrastructure and critical areas. As pointed out by the Growth Management Hearings Board, a land capacity analysis is filled with assumptions or educated guesses that lack absolute certainty. The following is in response to the main points of critique with the methodology.

Assumed densities: The first generation of the results were based on planned densities of the underlying land use plans. Cities were allowed to propose achieved densities based on the methodology; only a small handful of cities proposed achieved densities. The Growth Management Hearings Board made clear that the County can look “prospectively to the future potential for land within the UGA if the City were to include additional sprawl reducing measures such as minimum densities in residential neighborhoods, provisions to allow for accessory dwelling units...” Using planned densities results in sprawl reducing measures. Where cities proposed achieved densities, the county considered those proposals and selected a density the represented a mid-range between planned and achieved. Overall densities for each UGA are appropriate to that community and are reflected in the summary charts for each UGA.

Table 1: Assumed Residential Densities (per Net Acre²)

Study Area	City Proposal		Executive Recommendation	
	City Limits	Unincorporated	City Limits	Unincorporated
Bellingham UGA	6.8	5.9	7.5	7.1
Birch Bay UGA		4.9		5.4
Blaine UGA	4.8	4.0	4.8	4.0
Columbia Valley UGA		4.0		4.0
Everson UGA	4.6	4.6	4.6	4.5
Ferndale UGA ³	7.9	4.0	6.5	4.0
Lynden UGA	6.1	7.4	6.1	7.6
Nooksack UGA	4.2	4.5	4.3	4.9
Sumas UGA	5.5	4.1	5.6	

² Net densities are calculated after subtraction of public uses, critical areas, infrastructure and market factor. Net density summaries are affected by alternatives that may select less low-density lands for the Urban Growth Area.

³ The City of Ferndale did not submit a proposal that was consistent with the County Land Capacity Methodology. City densities in the City proposal reflect planned densities based on the city’s comprehensive plan. Ferndale proposed the net densities adopted in its Buildable Lands Inventory (BLI) and Comprehensive Plan but the BLI defines net land as gross land minus public uses and critical areas (p.2). The County methodology defines net land as gross minus public uses, critical areas, future public uses, other public uses, infrastructure and a market factor. Because of the difference in the way net lands (and therefore net densities) are defined, if Ferndale inserted the BLI density into the County spreadsheet in place of the densities now assumed, it will dramatically underestimate the dwelling units and population capacity. Ferndale’s BLI densities were checked against County by applying the BLI density to the acreage after critical areas are subtracted (before the other factors are subtracted) and the population capacity results are very similar. In other words, Ferndale’s BLI density (used as the BLI defined it) is roughly equivalent to the County assumed densities in terms of number of dwelling units and population over the same geographic area.

Lot aggregation: The results consider residential parcels greater than three times the underlying planned density as partially developed and subject to inclusion in the analysis. For example, if a parcel is 30,000 square feet in area and the minimum lot size is 7,200 square feet, this parcel would be considered partially utilized. The minimum lot size is deducted from the parcel and 22,800 square feet of land is placed into the gross developable land inventory. Critics of the methodology incorrectly believe that this would then result in a potential three additional lots. Deductions would also apply to these areas placed in the gross land inventory, including deductions for critical areas (over 10%), other public uses (5%), infrastructure (23% in Bellingham), and market factor (25% for partially used residential). Thus, in this example, only one additional parcel would result, which would be a realistic estimate of creating two dwelling units on a 30,000 square foot parcel in a city with urban density zoning.

In addition to this example, the land capacity methodology does not account for many other infill strategies, such as accessory dwelling units, residential housing on upper floors in commercial centers, and infill on lots less than three times the minimum lot size of the underlying zone.

So, while there are certainly instances where the methodology would overestimate capacity in one location based on lot aggregation, there are equal instances where the methodology underestimates capacity. This balance allows for the overall proper sizing of Urban Growth Areas.

Deductions for infrastructure and critical areas: The methodology uses data from the past five years to calculate how much land should be reduced for infrastructure (roads, stormwater, etc.). While some have argued that these requirements are increasing, particularly for stormwater, this is speculative at best, and fails to look at strategies such as reduction of roads internal to land divisions to make them more friendly to non-motorized transportation.

The analysis also uses the best available data for deduction of critical areas. While not all critical areas are likely accounted for in the data base, those experienced with critical areas mapping also note that areas are shown that should not be deducted from the inventory. Since this is imprecise information, the importance of monitoring land supply should be noted in the event that significant additional land base is removed due to critical area protection measures within urban areas.

Critical area buffers were included in the gross developable land inventory for residential areas due to the ability to transfer densities to other parts of the parcel. For example, a minimum lot size requirement of 7,200 square feet can include a portion of the buffer within the minimum lot size, provided that there is still sufficient area for buildings and driveways. Cluster housing or planned developments can similarly transfer these densities to more suitable parts of a parcel. Buffers were deducted from the inventory for commercial and industrial zones.

Land Monitoring: As part of implementation of this Urban Growth Area review, Whatcom County proposes to monitor growth to ensure that assumptions used in this analysis are current and accurate. In addition, periodic review of the methodology would also be pursued to improve the accuracy of the results.

Land Demand

The land capacity analysis is based on two alternative allocation scenarios (initial proposal and Executive recommendation). The following tables outline these alternatives and the background data used to determine these proposals.

Table 2, Forecasts and Allocations for Population Growth

Study Area	2008 Population	City Proposal		Executive Recommendation	
		Growth Allocation	2029 Total Population	Growth Allocation	2029 Total Population
Bellingham UGA	89,284	23,771	113,055	22,477	111,761
Birch Bay UGA	5,290	4,329	9,619	3,239	8,529
Blaine UGA	4,667	4,700	9,367	4,249	8,916
Columbia Valley UGA	3,924	1,076	5,000	1,076	5,000
Everson UGA	2,395	1,948	4,343	1,228	3,623
Ferndale UGA	12,019	8,687	20,706	8,121	20,140
Lynden UGA	11,613	7,414	19,027	4,546	16,159
Nooksack UGA	1,137	1,159	2,296	944	2,081
Sumas UGA	1,279	793	2,072	793	2,072
<i>Rural</i>	<i>58,305</i>	<i>9,074</i>	<i>68,466</i>	<i>8,300</i>	<i>67,692</i>
TOTALS	191,000	62,951	253,951	54,973	245,973

The County Executive proposal also includes some areas be allocated additional population as a Growth Reserve. The following additional population would be allocated as outlined in the Comprehensive Plan.

Table 3, UGA and UGA Reserve Allocations for Population Growth

Study Area	2008 Population	City/Community Proposal		Executive Recommendation		
		Growth Allocation	2029 Total Population	UGA Growth Allocation	Reserve Allocation	2029 Total Population with Reserve
Bellingham UGA	89,284	23,771	113,055	22,477	4,441	116,202
Birch Bay UGA	5,290	4,329	9,619	3,239	1,090	9,619
Blaine UGA	4,667	4,700	9,367	4,249	0	8,916
Columbia Valley UGA	3,924	1,076	5,000	1,076	0	5,000
Everson UGA	2,395	1,948	4,343	1,228	720	4,343
Ferndale UGA	12,019	8,687	20,706	8,121	566	20,706
Lynden UGA	11,613	7,414	19,027	4,546	957	17,116
Nooksack UGA	1,137	1,159	2,296	944	0	2,081
Sumas UGA	1,279	793	2,072	793	0	2,072
<i>Rural</i>	<i>58,305</i>	<i>9,074</i>	<i>68,466</i>	<i>8,300</i>	<i>774</i>	<i>68,466</i>
TOTALS	191,000	62,951	253,951	54,973	8,548	254,521

The following tables show the share of population growth and annual growth areas.

Table 4, Share of Population Growth by Study Area

	2008 Population	Share of Population Growth				Policy Based			
		2008 Share of Population	1990- 2000	2000- 2008	1990- 2008	Current Comp Plan	GMCC Proposed	Executive Proposed UGA	Executive Proposed with Reserve
Bellingham UGA	89,284	46.7%	43.0%	46.9%	44.5%	51.4%	37.8%	40.9%	42.4%
Birch Bay UGA	5,290	2.8%	5.8%	3.3%	4.8%	7.5%	6.9%	5.9%	6.8%
Blaine UGA	4,667	2.4%	3.2%	4.5%	3.7%	4.6%	7.5%	7.7%	6.7%
Columbia Valley UGA	3,924	2.1%	5.2%	5.9%	5.5%	3.7%	1.7%	2.0%	1.7%
Everson UGA	2,395	1.3%	1.3%	0.5%	1.0%	2.4%	3.1%	2.2%	3.1%
Ferndale UGA	12,019	6.3%	7.6%	8.6%	8.0%	10.8%	13.8%	14.8%	13.7%
Lynden UGA	11,613	6.1%	8.1%	8.4%	8.2%	10.7%	11.8%	8.3%	8.7%
Nooksack UGA	1,137	0.6%	0.7%	1.0%	0.8%	1.4%	1.8%	1.7%	1.5%
Sumas UGA	1,279	0.7%	0.5%	1.2%	0.8%	1.0%	1.3%	1.4%	1.2%
<i>Rural</i>	59,392	31.1%	24.7%	19.7%	22.8%	6.3%	14.4%	15.1%	14.3%
TOTALS	191,000	100.0%	100%	100%	100%	100%	100%	100%	100%

The following table shows the annual average growth rate from 1990 through 2008, and the policy based growth rates in the Comprehensive Plan, proposed by cities and the Growth Management Coordinating Council, and County Executive. In general, projected growth rates are smaller than those experienced in recent years due to countywide population target reflecting a slower growth rate than previously experienced.

Table 5, Population Growth Rate by Study Area

	2008 Population	Share of Population Growth				Policy Based			
		2008 Share of Population	1990- 2000	2000- 2008	1990- 2008	Current Comp Plan	GMCC Proposed	Executive Proposed UGA	Executive Proposed with Reserve
Bellingham UGA	89,284	46.7%	2.5%	1.7%	2.1%	1.7%	1.1%	1.1%	1.3%
Birch Bay UGA	5,290	2.8%	7.2%	2.0%	4.9%	3.5%	2.9%	2.3%	2.9%
Blaine UGA	4,667	2.4%	3.1%	2.6%	2.9%	2.4%	3.4%	3.1%	3.1%
Columbia Valley UGA	3,924	2.1%	18.1%	5.9%	12.5%	3.2%	1.2%	1.2%	1.2%
Everson UGA	2,395	1.3%	2.5%	0.7%	1.7%	2.5%	2.9%	2.0%	2.9%
Ferndale UGA	12,019	6.3%	3.6%	2.4%	3.1%	2.6%	2.6%	2.5%	2.6%
Lynden UGA	11,613	6.1%	4.1%	2.4%	3.3%	2.6%	2.4%	1.6%	1.9%
Nooksack UGA	1,137	0.6%	3.8%	3.0%	3.5%	3.4%	3.4%	2.9%	2.9%
Sumas UGA	1,279	0.7%	2.3%	3.2%	2.7%	2.4%	2.3%	2.3%	2.3%
<i>Rural</i>	59,392	31.1%	2.0%	1.1%	1.6%	0.3%	0.7%	0.6%	0.7%
TOTALS	191,000	100.0%	2.7%	1.7%	2.3%	1.6%	1.4%	1.2%	1.4%

The following tables show the alternative allocations for employment.

Table 6, Forecasts and Allocations for Employment

Study Area	2008 Employment	City/Community Proposal		Executive Recommendation	
		Growth Allocation	2029 Total Employment	Growth Allocation	2029 Total Employment
Bellingham UGA	51,153	18,829	69,982	18,829	69,982
Birch Bay UGA	436	489	925	489	925
Blaine UGA	2,971	1,903	4,874	1,903	4,874
Cherry Point UGA	1,182	760	1,942	760	1,942
Columbia Valley UGA	90	455	545	359 ⁴	449 ⁵
Everson UGA	638	628	1,266	602	1,240
Ferndale UGA	5,534	4,747	10,281	4,335	9,869
Lynden UGA	4,832	3,559	8,391	3,115	7,947
Nooksack UGA	206	290	496	130	336
Sumas UGA	254	391	645	391	645
<i>Rural</i>	<i>10,130</i>	<i>3,373</i>	<i>13,503</i>	<i>2,276</i>	<i>12,406</i>
TOTALS	77,426	35,424	112,850	33,188	110,614

Table 7, Share of Employment Growth by Study Area

Study Area	2008 Employment	2008 Share of Employment	City - GMCC Proposed	Executive Proposed UGA	Executive Proposed with Reserve
Bellingham UGA	51,153	66.1%	53.2%	56.7%	56.6%
Birch Bay UGA	436	0.6%	1.4%	1.5%	1.5%
Blaine UGA	2,971	3.8%	5.4%	5.7%	5.7%
Cherry Point UGA	1,182	1.5%	2.1%	2.3%	2.3%
Columbia Valley UGA	90	0.1%	1.3%	1.1%	1.3%
Everson UGA	638	0.8%	1.8%	1.8%	1.8%
Ferndale UGA	5,534	7.1%	13.4%	13.1%	13.0%
Lynden UGA	4,832	6.2%	10.0%	9.4%	9.4%
Nooksack UGA	206	0.3%	0.8%	0.4%	0.4%
Sumas UGA	254	0.3%	1.1%	1.2%	1.2%
<i>Rural</i>	<i>10,130</i>	<i>13.1%</i>	<i>9.5%</i>	<i>6.9%</i>	<i>6.8%</i>
TOTALS	77,426	100.0%	100%	100%	100%

⁴ Columbia Valley also includes a Reserve employment allocation of 59. This is the only UGA with a Reserve employment allocation.

⁵ See note above.

Table 8: Assumptions Used in Allocation of Population

Study Area	Proposed Allocation	Share of Growth	UGA Reserve	Assumption
Bellingham UGA	22,477	40.9%	4,441	The UGA allocation is based on the LCA result, only slightly less than city request of 23,771. The balance in Reserve is calculated by using the historic growth share of 44.5% of the 2029 population forecast recommended first by consultants (251,490), then by staff, and third by GMCC before alteration to meet individual city requests.
Birch Bay UGA	3,239	5.9%	1,090	Used EIS low range, which is more than a 50% increase over the historic 3.3% share of population from 2000 – 2008, and is slightly higher than the 4.8% growth experienced from 1990 – 2008. Put balance of Community Plan into Growth Reserve.
Blaine UGA	4,249	7.7%	0	Used 50% increase over 2000 – 2008 historic growth share of 4.5%. No reserve growth allocation due to capacity of city to accommodate additional population.
Columbia Valley UGA	1,076	2.0%	0	Used County Council action in March 2009
Everson UGA	1,228	2.2%	720	Used 50% increase over 1990 – 2000 historic growth share of 1.3%. Put balance of city request into reserve allocation.
Ferndale UGA	8,121	14.8%	566	Used 50% increase over 2000 – 2008 historic growth share of 8.6%. Put balance of city request into reserve allocation.
Lynden UGA	4,546	8.3%	957	Used capacity of UGA designation and UGA Reserve designation for allocation. Historic growth share for Lynden is 8.4%; without a 50% increase the allocation would be 5,288 and with an increase it would be 7,932.
Nooksack UGA	944	1.7%	0	Used 50% increase over 2000 – 2008 historic growth share of 1.0%
Sumas UGA	793	1.4%	0	Used EIS High limit. Historic share of growth at 1.2% would have been 755. A 50% increase over historic share of growth would be 1,133.
Rural	8,300	15.1%	774	Used GMCC recommendation of approximately 15% of total county growth.

Table 9: Assumptions Used in Allocation of Employment

Study Area	Proposed Allocation	Share of Growth	UGA Reserve	Assumption
Bellingham UGA	18,829	56.7%	0	Used city's request. Ratio of population to employment indicates a large share of employees commute to city. There is a balance of employment capacity in UGA, so increase in employment allocation was not proposed.
Birch Bay UGA	489	1.5%	0	Use small increase in historic share of employment to encourage more local jobs to serve population.
Blaine UGA	1,903	5.7%	0	Used city request which was at high end of employment range. The employment number exceeds the 49% labor participation rate.
Cherry Point	760	2.3%	0	Used EIS high range based on increase population forecast and resulting jobs at Cherry Point.
Columbia Valley UGA	359	1.1%	59	Used land capacity results.
Everson UGA	602	1.8%	0	Used 49% labor participation rate of allocated population.
Ferndale UGA	4,335	13.1%	0	Used 49% labor participation rate of total population for 2029. Note: number is outside the EIS High range for Ferndale, which was only 3,670.
Lynden UGA	3,115	9.4%	0	Used estimated capacity of employment lands per analysis. Exceeds 49% labor participation rate of population allocation, but less than 49% of total estimated population.
Nooksack UGA	130	0.4%	0	Used what the UGA can accommodate
Sumas UGA	391	1.2%	0	Used request which equals 49% labor participation of population allocation. Note: number is outside the EIS High range for Sumas, which was only 181. Data errors in baseline employment numbers existed in Sumas.
Rural	2,276	6.9%	0	Used EIS low for rural areas.

Land Supply Results

Population: Several of the Urban Growth Areas have been found to be sized greater than necessary to accommodate either existing growth allocations or new allocations. The only Urban Growth Areas where reductions are not required due to land supply and demand are Bellingham and Lynden. Bellingham's Urban Growth Area is proposed for reduction for watershed reasons, and consideration will need to be given for higher growth forecasts as discussed below.

All of the Urban Growth Areas are adequately sized to accommodate the County Executive's recommended growth allocations and corresponding Urban Growth Area designation as outlined in Attachment 1.

Additional growth allocations have been set aside in reserve for later allocation to designated Urban Growth Area Reserves. The urban areas of Bellingham and Lynden have growth allocation reserves that are likely to be needed in order to accommodate the growth and vision of the community.

The City of Lynden has identified areas where they wish to have that growth allocated, but additional discussion regarding this area is proposed before that growth is allocated.

A reserve allocation of population has also been set aside for the Bellingham Urban Growth Area. Bellingham has been, and will continue to be, the primary population and employment center in Whatcom County. The request from the city was a "no action" alternative that fell short on historic growth rates. This will likely cause additional pressure on development of surrounding rural lands and commuter traffic into the employment center of the county. The city is requested to propose how they would accommodate an additional 4,441 people through infill, changes in land use plans, or expansion of the Urban Growth Area.

Employment: Land supply for employment shows that all urban areas have sufficient land set aside for employment, except for the City of Blaine. The City of Blaine has excess residential land supply in which to change land use plans to accommodate the employment allocated to that community.

Overview: As with the previous analysis, each Urban Growth Area must also be separately analyzed for whether the right balance of land is available for growth. For example, while an area may show an excess land supply for employment, there may not be an adequate supply of land for industrial development. Similarly, while a residential land supply analysis shows an adequate supply of land for future residents, the mix of housing types and land may not provide adequate supply of single family homes.

Attachment 1 outlines the summary findings of the various Urban Growth Areas.

Attachment 1

Urban Growth Area Land Capacity Summary Sheets

Attachment 2

Land Capacity Methodology

Attachment 3

Urban Growth Area Land Capacity Detail Sheets