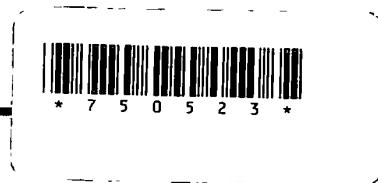


Schroader, Kathy



From: Orjiako, Oliver
Sent: Friday, November 13, 2015 8:20 AM
To: Euler, Gordon, Alvarez, Jose, Anderson, Colete, Albrecht, Gary, Hermen, Matt, Kamp, Jacqueline; Lebowsky, Laurie, Lumbantobing, Sharon
Cc: Schroader, Kathy
Subject: FW
Attachments: Planning Assumption Choices rev 106 docx, GraphOfPopulationOptions.xlsx

FYI and for the record Thanks

From: Madore, David
Sent: Friday, November 13, 2015 1:10 AM
To: Orjiako, Oliver; Madore, David
Subject:

Oliver,

The attached Word file was refined and simplified so the basic tables and graphs can be simply understood by the citizens at the open houses.

We can omit the detailed source notes for the open houses. In particular, tables 1 and 2 and the population graphic should be most helpful.

As you can see, I sorted through all the population related history to arrive at these definitions. The Excel file is also attached from access to the components.

I welcome your feedback.

Thank you,

David

Clark County

2016 Comprehensive Growth Management Plan Update



CHECKING IN ON OUR FUTURE

Proposed Changes to Planning Assumptions

An Evidence Based Proposal to the Community

11/13/2015

This document focuses primarily on the rural components of the Comp Plan, particularly Alternative 1 and Alternative 4. The proposal contrasts existing choice A with the proposed choice B and provides the factual basis for each. Table 1 provides the assumptions that define the methods for calculating the capacity for rural parcels to accommodate population growth. Table 2 provides the general planning assumptions for population growth, accommodating that growth, GMA considerations, and logical conclusions. The Reference Section provides relevant evidence, the historical basis, and supporting calculations for the two assumptions tables. The purpose of this document is to present the compelling need to revise the original draft assumptions with more accurate, appropriate, realistic, and evidence based foundations and to apply the insight gained from staff, cities, citizens, the GIS database, and actual historical records to the planning methods and process.

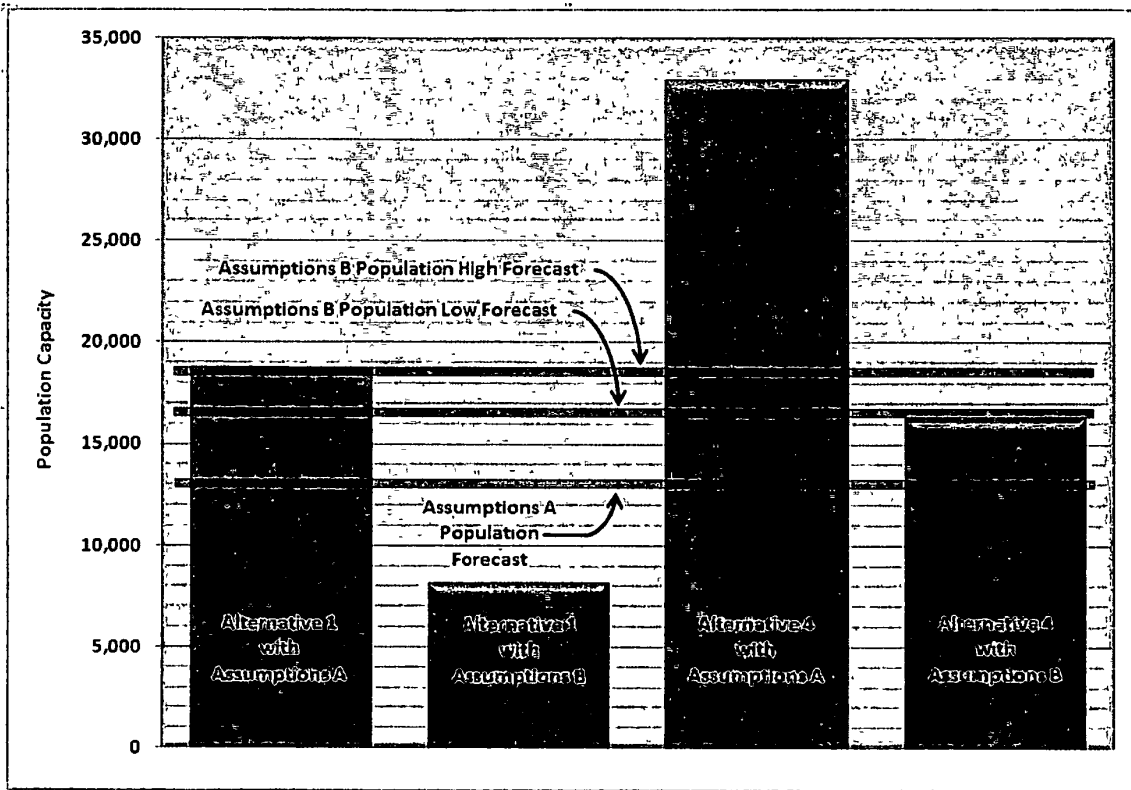
Table 1: GIS Rural Vacant Buildable Lands Model (VBLM) Assumptions

Ref	A (existing)	B (proposed)
1	Every possible rural parcel shall be counted as a parcel that will develop regardless of conditions that would likely make it unlikely.	Parcels that cannot reasonably be expected to develop should not be counted as likely to develop. Those include remainder lots of already developed cluster developments that are prohibited from further development
2	Rural parcels located in areas far from basic infrastructure with continuous long term commercial forestry operations should be counted as parcels that will develop.	Parcels located in areas far from any infrastructure with continuous long term commercial forestry operations likely to continue should not be counted as likely to develop.
3	Rural parcels including 100% of environmentally constrained areas that lack the necessary area for septic systems and well clearances shall be counted as rural parcels that will develop	Rural parcels that have less than 1 acre of environmentally unconstrained land necessary for septic systems and well clearances should not be counted as likely to develop.
4	History has shown that about 30% of parcels with an existing home do not get further divided. About 10% of vacant parcels do not get further divided. For that reason, for many years, 30% of dividable parcels with homes and 10% of vacant dividable parcels are deducted from the available totals for planning purposes. But every rural parcel shall be counted as a parcel that will divide to the maximum degree possible.	History has shown that about 30% of parcels with an existing home do not divide further. About 10% of vacant parcels do not divide further. For that reason, for many years, 30% of dividable parcels with homes and 10% of vacant dividable parcels are deducted from the available totals for planning purposes. For the same reasons, these deductions should be applied to both urban and rural parcels alike.
5	Lots that are up to 10% smaller than the minimum lot size should be considered as conforming lots and counted as likely to develop as provided by current county code.	Same
6	All nonconforming parcels with 1 acre shall be counted as rural parcels that will develop	10% of nonconforming parcels with at least 1 acre of unconstrained area will likely develop at the same rate indicated by historical records
7	A 15% Market Factor provides some margin for the law of supply and demand to satisfy the GMA affordable housing goal. But a 0% Market Factor shall be used for rural areas.	A deduction of up to 7.5% is appropriate to provide some margin for the law of supply and demand for rural parcels to help satisfy the GMA affordable housing goal
8	A 27.7% infrastructure deduction for infrastructure including roads, storm water, parks, schools, fire stations, conservation areas, lakes, streams, protected buffers, Etc.. But no such deduction is provided for rural areas.	Same

Table 2: Planning Assumptions

Planning Assumption	A (existing)	B (proposed)
1	The 20 year urban population is forecasted to increase by 116,609.	Same
2	The actual historical urban/rural split has consistently been 86/14. But a 90/10 split shall be used instead to lower the rural population growth forecast to only 12,955 persons	The actual historical urban/rural split that has consistently been 86/14 Using 86/14 would forecast 18,980 new rural persons. Using 87 5/12 5 would forecast 16,656 new rural persons.
3	The annual county-wide population growth rate is forecasted to be 1.28%. Increasing from 448,845 in 2015 to 578,391 in 2035 is a total increase of 129,546 persons	The county-wide population is forecasted to increase from 448,845 in 2015 to a maximum of 583,486 in 2035 for maximum increase of 135,571 persons which is 1.32% per year. 583,486 is less than 1% higher than 578,391
4	The above assumptions assert that Alternative 1 can accommodate 18,814 new persons which is 45% more than the rural area can accommodate for choice A. (18,814 / 12,955)	The above updated assumptions show that Alternative 1 can only accommodate 8,182 new persons which is at least 50% too low. Thus Alternative 1 is not viable since it cannot comply with the GMA requirement to provide for the forecasted growth. (8,182 / 16,656)
5	The above assumptions assert that Alternative 4 can accommodate 32,987 new persons which is 155% too high and therefore stated by the DSEIS to have too much impact. (32,987 / 12,957)	The above assumptions assert that Alternative 4 can accommodate 16,332 new rural persons which is near the forecasted rural population growth of 16,656 to 18,980 persons.
6	No improvements or mitigations that were identified in the public process should be allowed Each alternative must be accepted or rejected as is. Any revisions would require the process to start over and miss the required deadline.	The Alternative 4 updated maps include mitigation that increases the variety of lot sizes including AG 20, preserves large parcels near UGBs for future employment, and better preserves the rural character. These revisions and planning assumptions should be allowed as proposed
7	Cluster options may be but are not necessarily included in any Alternative and therefore may not be available to preserve open space or large areas of habitat.	Rural cluster options are to be integrated into Alternative 4 within the limits of the law per previous direction given by the Board for all rural zones to preserve open space and to better provide for larger aggregated areas of habitat.
8	Alternative-1 defines 57% of existing R parcels as nonconforming, 76% of existing AG parcels as nonconforming, and 89% of existing FR parcels as nonconforming. It does not fit the actual ground truth.	The updated Alternative-4 map should be adopted to correct the mismatch between Alternative 1 and the actual ground truth, to respect predominant lots sizes, to resolve some spot zoning problems, and to best accommodate the forecasted population

The above table is based on the SDEIS and resolution# 2015-04-05 adopted on the April 14, 2015. Where the SDEIS and does not match that resolution, the data from approved resolution is used.



The following table documents the actual urban / rural split for the last 20 years:

Year	County-wide Population	Rural Population	Percent Rural Population	Urban / Rural Split
1995	279,522	43,254	15.5	84/16
1996	293,182	44,882	15.3	85/15
1997	305,287	46,409	15.2	85/15
1998	319,233	48,104	15.1	85/15
1999	330,800	49,429	14.9	85/15
2000	346,435	51,182	14.8	85/15
2001	354,870	52,002	14.7	85/15
2002	369,360	53,548	14.5	85/15
2003	375,394	54,146	14.4	86/14
2004	384,713	54,869	14.3	86/14
2005	395,780	56,009	14.2	86/14
2006	406,124	57,551	14.2	86/14
2007	414,743	58,608	14.1	86/14
2008	419,483	59,042	14.1	86/14
2009	424,406	59,623	14.0	86/14
2010	427,327	59,858	14.0	86/14
2011	432,109	60,544	14.0	86/14
2012	435,048	60,845	14.0	86/14
2013	443,277	61,489	13.9	86/14
2014	446,785	61,948	13.9	86/14

Source: Clark County Assessor GIS records:

The following table documents the actual capacity of the rural area to accommodate the potential population increase for Alternative-1 and Alternative-4 using proposed choice B assumptions compared to the existing choice A assumptions considered in the DSEIS.

	Alt-1 Capacity per DSEIS Choice A (existing)	Alt-1 Actual Capacity Choice B (proposed)	Alt-4 Capacity per DSEIS Choice A (existing)	Alt-4 Actual Capacity Choice B (proposed)
Rural Zone	5,684	2,570	9,880	4,710
Agriculture Zone	970	286	1,958	733
Forest Zone	419	162	563	1,097
Nonconforming likely		183		74
Other Rural Zones		124		124
Gross potential growth home sites	7,073	3,325	12,401	6,638
7.5% Market Factor deduction	0	-249	0	-498
Net potential growth of home sites	7,073	3,076	12,401	6,140
Potential population growth	18,814	8,182	32,987	16,332

Source: Clark County GIS:

Correcting the population growth planning assumptions:

The following table lists the population, growth rates, and urban/rural split options for resolving the differences between the tables in the DSEIS, the adopted resolutions, and planning assumptions:

Ref.	Starting population in the year 2015	20-year county-wide population projection	Planned county-wide population growth	Planned urban population growth	Planned rural population growth	Stated annual growth rate	Actual annual growth rate
1	448,845	578,391*	129,546*	116,591	12,955	1.12%*	1.28%
2	447,865	577,431*	129,566*	116,609	12,957	1.25%*	1.29%
3	448,815	577,431*	128,616*	115,754	12,862	1.26%*	1.27%
4	448,845*	583,486	135,571	116,591*	18,980	1.32%	1.32%
5	448,845*	582,092	133,247	116,591*	16,656	1.31%	1.31%

* indicates a directly specified parameter that drives the other parameters.

The calculations for each of the table entries are as follows:

Ref 1: The most recent population growth projection was adopted on April 14, 2015 via resolution# 2015-04-05

<http://clark.wa.gov/thegrid/documents/2015-04-05.pdf>

2015 starting population = 578,391 – 129,546 = 448,845

The Urban/rural population growth split = 90% urban, 10% rural

2035 urban population growth = 129,546 * 0.9 = 116,591

2035 rural population growth = 129,546 * 0.1 = 12,955

County-wide annual growth rate = 578,391 / 448,845 = 1.2886208

The 20th root of 1.2886208 = 1.012759, annual growth rate = 1.28%

Ref 2: DSEIS table S-1 on page S-2

<http://clark.wa.gov/cgrid/images/DSEISTableS-1.JPG>

2015 starting population = 577,431 – 129,566 = 447,865

The Urban/rural population growth split = 90% urban, 10% rural

2035 urban population growth = 129,566 * 0.9 = 116,609

2035 rural population growth = $129,566 * 0.1 = 12,957$
County-wide annual growth rate = $577,431 / 447,865 = 1.289297$
The 20th root of 1.289297 = 1.012859, annual growth rate = 1.29%

Ref 3: DSEIS table 1-1 on page 1-2

<http://clark.wa.gov/cgrid/images/DSEISTable1-1.JPG>

2015 starting population = $577,431 - 128,616 = 448,815$
The Urban/rural population growth split = 90% urban, 10% rural
2035 urban population growth = $128,616 * 0.9 = 115,754$
2035 rural population growth = $128,616 * 0.1 = 12,862$
County-wide annual growth rate = $577,431 / 448,815 = 1.286568$
The 20th root of 1.286568 = 1.0126786, annual growth rate = 1.27%

Ref 4: Corrected starting population and urban population growth to original resolution# 2015-04-05 with 86/14 urban rural split.

For 86/14 urban/rural population split, the numbers are as follows:

2035 urban population growth = 116,591 (from resolution# 2015-04-05)
Keeping the same urban growth, the rural population growth is calculated as follows, where X = the rural population growth:
 $X = 116,591 * .14 / .86 = 18,980$
County-wide population growth = $116,591 + 18,980 = 135,571$
 $X = 135,592$ county-wide population growth
County-wide 2035 population = $447,865 + 135,571 = 583,436$
County-wide annual growth rate = $583,436 / 448,845 = 1.299861$
The 20th root of 1.299861 = 1.0131992, annual growth rate = 1.32%

Ref 5: Corrected starting population and urban population growth to original resolution# 2015-04-05 with 87.5/12.5 urban/rural split.

For 87.5/12.5 urban/rural population growth split, the numbers are as follows:
2035 urban population growth = 116,591 (from resolution# 2015-04-05)

Keeping the same urban growth, the rural population growth is calculated as follows, where X = the rural population growth:

$$X = 116,591 * .125 / .875 = 16,656$$

$$\text{County-wide population growth} = 116,591 + 16,656 = 133,247$$

$$\text{County-wide 2035 population} = 448,845 + 133,247 = 582,092$$

$$\text{County-wide annual growth rate} = 582,092 / 448,845 = 1.2968664$$

$$\text{The 20}^{\text{th}} \text{ root of } 1.2968664 = 1.01308238, \text{ annual growth rate} = 1.31\%$$

	Forecasted PopulationGrowth
Alt-1 map with assumptions A	18814
Alt-1 map with assumptions B	8182
Alt-4 draft map with assumptions A	32987
Alt-4 revised map with assumptions B	16332

