Clark County

2016 Comprehensive Growth Management Plan Update

CHECKING IN ON OUR FUTURE

Proposed Changes to Planning Assumptions

An Evidence Based Proposal by Councilor David Madore

11/4/2015

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, accommodate that growth, GMA considerations, and logical conclusions. The Reference Section provides relevant evidence, the historical basis, and supporting calculations for the two tables. The purpose of this document is to present decision makers with 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.

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

Ref	A (existing)	B (proposed)
1	Remainder lots of already developed cluster developments with permanent covenants prohibiting further development shall be counted as rural parcels that will develop.	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. No concrete data is available to support findings regarding the number of remainder lots. Cluster remainder lots have not been excluded from the rural capacity estimates because there is no systemic way of identifying them and excluding them. We are working on identifying those subdivisions that are in the Tidemark system since 1999 and providing parcel level data to GIS to digitize. Those cluster developments prior to 1994 will require identification through the data we have on microfilm. These parcels have not been legally identified. Plat notes have not been reviewed to determine whether further division is actually precluded on these parcels. Staff has not been advised which land is excluded as cluster remainders, and has no basis to conclude how much land is excluded, or whether the exclusion of this land is appropriate.
2	Parcels located in areas far from any infrastructure with continuous long term commercial forestry operations are counted as rural parcels that will develop. Parcels meeting this criterion were excluded from the number of developable lots in the DSEIS. Nothing in CCC would prohibit development, and their owners may be relying upon the developability of those lands. Those parcels should have been included in the calculations.	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. This conclusion is contrary to law.
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. . The Habitat Ordinance, CCC 40.440.020.B.~~(~~3~~)~~, and the Wetlands Ordinance, CCC 40.450.010.~~(~~B~~).(~~4.~~)(~~c~~), ~~ordinances~~ each have a

		reasonable use provision which states: "This chapter shall not be used to deny or reduce the number of lots of a proposed rural land division allowed under applicable zoning density." New advanced septic technologies allow for systems where lots not previously considered feasible for development are now developable. To determine whether any particular parcel can be developed it must be reviewed on an individual basis. Rural parcels may share wells with neighbors, and septic drain fields may be placed on neighboring properties.
4	The adopted "Never to Convert" deductions used by the VBLM inside the Urban Growth Boundaries shall be omitted outside the Urban Growth Boundaries. All built and all vacant rural parcels shall be counted as rural parcels that will develop.	The adopted VBLM used for urban areas assumes that a percentage of properties that have an existing residence will likely not divide further. That same 30% "Never to Convert" assumption should apply to already built rural parcels as well. The adopted VBLM used for urban areas assumes that a percentage of vacant properties will likely not divide further. That same 10% "Never to Convert" assumption should apply to vacant rural parcels as well. This would be a BOCC policy decision.
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 at least 1 acre shall be counted as rural parcels that will develop.	10% of (legal?) nonconforming parcels with at least 1 acre of unconstrained area will likely develop at the same rate indicated by historical records. No concrete data is available to support these findings. This would be a BOCC policy decision.
7	The 15% Market Factor used for urban parcels to provide some margin for the law of supply and demand to satisfy the GMA affordable housing goal inside the UGB shall not apply outside the UGB. The market factor is an ***addition*** to the land needed in an urban growth area to accommodate 20-year growth projections, because of assumed fluctuating demand for that area. WAC 365-196-310(4)(b)(ii)(F). Market factor is a tool used to size the UGA and does not directly impact the number of lots under study. The market factor is not used to satisfy the affordable housing goals.	A deduction of up to 7.5% is appropriate to provide some margin for the law of supply and demand of rural parcels to help satisfy the GMA affordable housing goal. The market factor is not used to satisfy the affordable housing goals. It is used to size an area, not to determine the number of lots in the area. Market factor, the use of which is authorized by the WAC, is an addition to the amount of land available for development, not a subtraction. It is extremely unlikely that all of the lots designated as available for development over a 20-year period will develop over 8 years, after which time

		a new GMA update will be due, and can make any revisions that are then needed. Subtracting an arbitrary number of lots from the 20-year supply is not supportable in law or reason.
8	A 27.7% infrastructure deduction is use for urban parcels. But because rural parcels are larger, the rural infrastructure deduction is assumed to be small. No deduction shall be used for rural parcels for any infrastructure such as roads, storm water, parks, schools, fire stations, conservation areas, lakes, streams, protected buffers, Etc.	Same An infrastructure deduction in the rural area would be unsupportable because infrastructure needs do not reduce the number of available lots there, given code allowances for inclusion of land associated with roads and private stormwater facilities.

Table 2: Planning Assumptions

Planning Assumption	A (existing)	B (proposed)
1	The 20 year urban population is forecasted to increase by 116,609.	Same 577,431-448,845 *.9= 115,727 (urban) 12,858 (rural)
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 12,957 persons. The urban/rural split means the allocation of the population growth, not the allocation of the population itself, between the urban and rural areas. The population itself may have been split 86%/14% over the period from 1994 to 2014, but that is not the same as the population growth split, which was 89%/11% during that period.	The actual historical urban/rural split that has consistently been 86/14 should be used as the factual basis to forecast a realistic rural population growth of 16,325 persons. Urban/Rural split is a planning assumption used to determine the percentage of growth that is anticipated in the urban and rural areas respectively. The 1994 plan used an 80/20 split. The 2004 and 2007 plan updates both used a 90/10 split. The attached table indicates the total annual population of the county and rural areas from 1994 to 2014. The percentage of county population residing in the rural area has declined from 15.47% to 13.87% in the 20 year period. This decline is captured in the 11.18% percent of total growth going to the rural area in the same time interval. From 2007 to 2014 the percent of rural growth has been 10.42% of total county growth. See 6th column on page 5. The urban/rural split is based on the future growth, not the population, for a particular year.
3	The annual county-wide population growth rate is forecasted to be 1.25%. Increasing from 447,865 in 2015 to 577,431 in 2035 is a total increase of 129,566 persons which is 1.279% per year. 448,845 is the estimated population	The county-wide population with the 86/14 split is forecasted to increasing from 447,865 in 2015 to 580,799 in 2035 for a total increase of 132,934 persons which is 1.308% per year. (0.029% higher than A). 580,799 is 0.58% higher than 577,431.

	for the 2015 base year. GIS and Planning use natural log versus Average Annual Compound Growth rate to calculate growth rate. What is the derivation of the 1.279%?	
4	The above assumptions assert that Alternative 1 can accommodate 18,814 new persons which is 45% too high in the rural areas. (18,814 / 12,957)	The above updated assumptions show that Alternative 1 can only accommodate 8,182 new persons which is 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 / 16,325) The urban/rural split is based on the future growth-, not the population, for a particular year.
5	The above assumptions assert that Alternative 4 can accommodate 32,987 new persons which is 155% too high and therefore stated by the SDEIS to have too much impact. (32,987 / 12,957)	The above assumptions assert that Alternative 4 can accommodate 16,332 new persons to fit the forecasted rural population growth nearly exactly.
6	The Alternative 4 map without mitigation revisions does not preserve large parcels near the UGBs for future employment, removes 20 acre AG zoning, and is said by the SDEIS to change the rural character.	The Alternative 4 updated map includes mitigation that increases the variety of parcels, preserves large parcels near the UGBs for future employment, and better preserves the rural character by including 20 acre AG minimum lot sizes.
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. Clustering is currently allowed by code in the Rural zones. Code changes that would govern clustering should be adopted, consistent with GMA, after a preferred alternative is selected.	Rural cluster options are to be integrated into Alternative 4 per previous direction given by the Board for all rural zones to preserve open space and to better provide for large areas of habitat. Residential cluster development in the agricultural areas would need to comply with RCW 36.70A.177,as well as other GMA provisions concerning protection of resource industries.
8	Alternative-1 defines 60% of existing R parcels as nonconforming, 70% of existing AG parcels as nonconforming, and 80% of existing FR parcels as nonconforming. The DSEIS does not recommend the selection of any alternative. The numbers cited are not a legal problem, but rather describe the rural landscape.	The updated Alternative-4 definition and 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. Some of the issues include the following: Legal lots, spot zoning, low-density rural sprawl, protection of resource lands, rural character, capital facilities needed to accommodate growth, and water supply.

Reference Section – the factual basis for assumptions

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	Percent of Population Growth in Rural Area
1995	279,522	43,254	15.5	84/16	na
1996	293,182	44,882	15.3	85/15	11.9
1997	305,287	46,409	15.2	85/15	12.6
1998	319,233	48,104	15.1	85/15	12.2
1999	330,800	49,429	14.9	85/15	11.5
2000	346,435	51,182	14.8	85/15	11.2
2001	354,870	52,002	14.7	85/15	9.7
2002	369,360	53,548	14.5	85/15	10.7
2003	375,394	54,146	14.4	86/14	9.9
2004	384,713	54,869	14.3	86/14	7.8
2005	395,780	56,009	14.2	86/14	10.3
2006	406,124	57,551	14.2	86/14	14.9
2007	414,743	58,608	14.1	86/14	12.3
2008	419,483	59,042	14.1	86/14	9.2
2009	424,406	59,623	14.0	86/14	11.8
2010	427,327	59,858	14.0	86/14	8.0
2011	432,109	60,544	14.0	86/14	14.3
2012	435,048	60,845	14.0	86/14	10.2
2013	443,277	61,489	13.9	86/14	7.8
2014	446,785	61,948	13.9	86/14	13.1

Source: Clark County Assessor GIS records based on the population. From 1995 through 2014, the total population of the county grew from 279,522 to 446,785, which is total growth of 167,263. During the same time, the county's rural population grew from 43,254 to 61,948, or 18,694 additional residents in the rural area. The overall percent of the county's total population growth from 1995 through 2014 that occurred in the rural area was 11.2, and the urban/rural split, as that term is generally used for comprehensive planning, was 89/11.

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)	New 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 The market factor is an ***addition*** to the land needed in an urban growth area to accommodate 20-year growth projections, because of assumed fluctuating demand for that area. WAC 365-196-310(4)(b)(ii)(F).	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: Columns 1 and 3 are from the DSEIS. GIS did supply numbers that appear in Columns 2 and 4, based upon Councilor Madore's requests and assumptions. New Alt 4 was not studied in the DSEIS.

The following table provides the forecasted population for choices A and B.

ref	Year	County-wide Population A	County-wide Growth A	Urban Growth A & B	Rural Growth B	County-wide Growth B	County-wide Population B
0	2015	447865 Should be 448,845	0	0	0	0	447865 Should be 448,845
1	2016	453591	5726	5153	721	5874	453739
2	2017	459391	11526	10373	1452	11825	459690
3	2018	465265	17400	15660	2192	17852	465717
4	2019	471213	23348	21013	2942	23955	471820
5	2020	477238	29373	26436	3701	30137	478002
6	2021	483340	35475	31928	4470	36398	484263
7	2022	489520	41655	37490	5249	42739	490604
8	2023	495779	47914	43123	6037	49160	497025
9	2024	502118	54253	48828	6836	55664	503529
10	2025	508538	60673	54606	7645	62251	510116
11	2026	515040	67175	60458	8464	68922	516787
12	2027	521626	73761	66385	9294	75679	523544
13	2028	528295	80430	72387	10134	82521	530386
14	2029	535050	87185	78467	10985	89452	537317
15	2030	541891	94026	84623	11847	96470	544335
16	2031	548819	100954	90859	12720	103579	551444
17	2032	555837	107972	97175	13605	110780	558645
18	2033	562943	115078	103570	14500	118070	565935
19	2034	570141	122276	110048	15407	125455	573320
20	2035	577431	129566	116609	16325	132934	580799

Thus the 2035 rural population growth forecasted using assumptions choice B is 16,325 that leaves the forecasted urban growth rate the same but updates the urban/rural split to 86/14.

Correcting the population growth planning assumptions:

The planning assumptions published on Table S-1 on page of the SDEIS show the following:

Total population projection for 2035 = 577,431

Projected new residents = 129,566

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

Annual population growth rate = 1.25%

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

Thus the 2035 urban population growth = 129,566 This number is incorrect; the correct number is 128,616, and is shown on Table 1-1 Summary of Planning Assumptions on page 1-2 of the DSEIS. *0.9 = 116,609

Thus the 2035 rural population growth = 129,566 *0.1 = 12,957

The more precise annual population growth rate using the original choice A assumptions is calculated as follows:

577,431 / 447,865 = 1.2893

The 20^{th} root of 1.2893 = 1.279 which translates to a 1.279% annual growth rate.

Councilor Madore's calculation of the growth rate results in the average annual geometric growth rate compounded annually. Planning and GIS, however calculate an average annual exponential growth rate with continuous compounding.

The corrected annual population growth rate is calculated as follows:

580,799 / 447,865 = 1.29682

The 20^{th} root of 1.29682 = 1.01308 which translates to a 1.308% annual growth rate.

Councilor Madore's calculation of the growth rate results in the average annual geometric growth rate compounded annually. Planning and GIS, however calculate an average annual exponential growth rate with continuous compounding.

Thus, the forecasted annual population growth rate using choice A assumptions is 0.029% higher than the forecast of choice A assumptions.
(1.308% - 1.279% = 0.029%) The method used to calculate the growth rate here results in the average annual geometric growth rate compounded annually. Planning and GIS, however calculate an average annual exponential growth rate with continuous compounding.

The proposed planning assumptions for choice B are as follows:
Total population projection for 2035 = 580,799 (0.58% different)
Total county-wide increase = 132,934 persons (2.6% different, 132,934 / 129,566)
Annual county-wide population growth rate = 1.308% (0.029% different)
Urban/rural population growth split = 86% urban, 14% rural (updated from 90/10)
Thus the 2035 urban population growth = 116,609 persons (same)
Additional details will be provided.

Population Comparisons

	DSEIS	Corrected 2015 base population	Proposed	Proposed with 2015 base population adjustment
2015 Base	448,815	448,845	447,865	448,845
Growth	128,616	128,586	132,934	131,954
2035 forecast	577,431	577,431	580,799	580,799
Average Annual Exponential Growth Rate (Continuous Compounding)	1.26	1.26	1.30	1.29
Average Annual Geometric Growth Rate (Compounding Annually)	1.27	1.27	1.31	1.30

Planning and GIS have provided a corrected 2015 base population of 448, 845. Based on that number, the countywide growth over 20 years is estimated to be 128,586. The estimated growth rate would then be 1.29 %.