

**O'Donnell, Mary Beth**

---

**From:** McCall, Marilee  
**Sent:** Tuesday, April 28, 2015 5:01 PM  
**To:** Amanda Smeller-Woodland; Snodgrass, Bryan; Eiken, Chad; Elizabeth Decker-Consultant; Eric Eisemann-Consultant; Erin Erdman-Battle Ground; Jeff Niten-Ridgefield; Jeff Sarvis-La Center; Lee Knottnerus-Ridgefield; Mitch Kneipp-Washougal; Pete Roberts-Yacolt; Phil Bourquin-Camas; Ransom, Matt; Robert Maul-Camas; Sam Crummett-Battle Ground; Towne, Sandra; Sara Fox-Camas; 'Steve Stuart-Ridgefield'  
**Cc:** Albrecht, Gary; Alvarez, Jose; Anderson, Colete; Euler, Gordon; Hermen, Matt; Kamp, Jacqueline; Lebowsky, Laurie; Niten, Jeff; O'Donnell, Mary Beth; Orjiako, Oliver  
**Subject:** VBLM Report for Discussion at Friday's meeting

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged



CP16#0134

*FYI. Please call Gary with any questions.*

*Gary Albrecht 360.397.2280 ext. 4318  
[gary.albrecht@clark.wa.gov](mailto:gary.albrecht@clark.wa.gov)*

---

**From:** Albrecht, Gary  
**Sent:** Tuesday, April 28, 2015 4:53 PM  
**To:** McCall, Marilee  
**Subject:** RE: Issue Paper 6 for Discussion at Friday's meeting

Marilee,  
Attached is the 2015 BLR for review.

Gary



---

**From:** McCall, Marilee  
**Sent:** Monday, April 27, 2015 4:31 PM  
**To:** Amanda Smeller-Woodland; Snodgrass, Bryan; Eiken, Chad; Elizabeth Decker-Consultant; Eric Eisemann-Consultant; Erin Erdman-Battle Ground; Jeff Niten-Ridgefield; Jeff Sarvis-La Center; Lee Knottnerus-Ridgefield; Mitch Kneipp-Washougal; Pete Roberts-Yacolt; Phil Bourquin-Camas; Ransom, Matt; Robert Maul-Camas; Sam Crummett-Battle Ground; Towne, Sandra; Sara Fox-Camas; Steve Stuart-Ridgefield  
**Cc:** Albrecht, Gary; Alvarez, Jose; Anderson, Colete; Euler, Gordon; Hermen, Matt; Kamp, Jacqueline; Lebowsky, Laurie; Niten, Jeff; O'Donnell, Mary Beth; Orjiako, Oliver  
**Subject:** Issue Paper 6 for Discussion at Friday's meeting

*Attached is Issue Paper 6 for discussion at Friday's meeting.*

*VBLM numbers are coming up next.  
Thank you!*

**Marilee McCall | Administrative Assistant**

**Clark County Community Planning**

**360-397-2280 ext. 4558**

1300 Franklin Street | Vancouver, WA 98660

P.O. Box 9810 | Vancouver, WA 98666

[www.clark.wa.gov/planning](http://www.clark.wa.gov/planning)

---

**From:** Orjiako, Oliver  
**Sent:** Monday, April 27, 2015 4:26 PM  
**To:** McCall, Marilee  
**Subject:** Issue\_Paper\_6\_CWPP\_draft1\_(2).docx

<< File: Issue\_Paper\_6\_CWPP\_draft1\_GE (2).docx >>

Hi Marilee:

Please, another document for discussion at the County-City Coordination meeting. Need to send out when you can or with the BLR. Thank you very much!

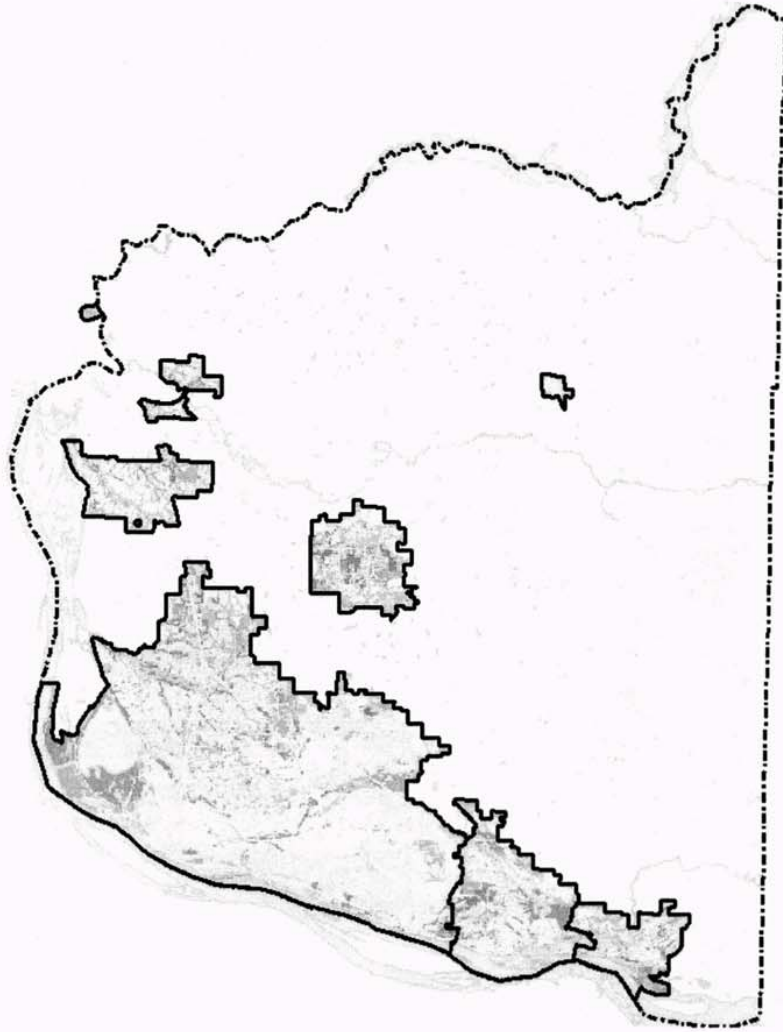
Oliver



proud past, promising future

**CLARK COUNTY**  
WASHINGTON

**BUILDABLE  
LANDS  
REPORT,  
June 2015**



**Board of Commissioners**

David Madore, Chair

Tom Mielke

Jeanne Stewart

**County Manager**

Mark McCauley

**Clark County Community Planning**

Oliver Orjiako, Director

Gordy Euler, Program Manager

Gary Albrecht, Planner II

**Clark County Information and  
Technology**

Jon Levitre

Community Planning would like to thank:

**Clark County GIS**

Ken Pearrow

Barbara Hatman

## EXECUTIVE SUMMARY

The Growth Management Act (GMA) requires the county and its cities to provide sufficient land to accommodate specific population and employment targets. This is the third buildable lands report since 1990. It presents a series of basic, quantifiable indicators in Clark County and tracks how they are changing each year.

Clark County coordinated with its cities to compile data that shows the progress of each community's comprehensive plan toward the goals of sprawl reduction and concentrated urban growth identified in the Growth Management Act. Each community collects development data, which is forwarded to the county and added to a central database located at this webpage: [http://www.clark.wa.gov/planning/comp\\_plan/monitoring.html#capacity](http://www.clark.wa.gov/planning/comp_plan/monitoring.html#capacity)

The primary sources of data are new commercial, industrial and residential building permits, subdivisions and short plats, and site plan reviews from July 1, 2006 through December 31, 2014. Clark County's Geographic Information System (GIS) was used to link parcel serial numbers taken from new building permits issued to identify parcels within city and urban growth area boundaries, acreage and critical lands coverage.

In this report, residential, commercial and industrial acres developed are shown as **net acreage**. It does not reflect the following types of infrastructure: public right-of-way, private streets, public utility easements, open space tracts, or parks.

Following are the major observations presented in this report:

- During the analysis period (2006-2014) Clark County achieved a split of 66% single-family development and 34% multi-family development. Within the Vancouver city limits, the split is 38% single-family and 62% multi-family.
- Residential development within urban growth areas of Clark County consumed 1,245 acres with a density of 4.7 dwelling units per acre. Based on the inventory of vacant and buildable land (vblm), there are 7,513 net buildable acres that can accommodate 51,436 households. At 2.66 persons per household urban growth areas can accommodate 136,820 persons.
- There were 1,387 building permits issued in the rural area on 7,799 acres. Given the underlying zoning, the total vacant and development potential in the rural area is 9,390 lots. Assuming 2.66 persons per household, there is potential for additional rural capacity of 24, 977 persons. Overall, the county can accommodate 161,797 persons.
- The review and evaluation has indicated that commercial and industrial development in the UGAs during the period consumed 3,372 acres of land. Commercial uses consumed 2,704 acres and industrial uses consumed 668 acres. Based on the 2015 VBLM inventory there are 2,057 net buildable commercial acres and 3,982 net buildable industrial acres.

- Review of development indicates that 43% of all residential development occurred on land with some environmental constraint. More importantly, this percent does not imply that development is occurring on lands with critical areas, because in general environmentally constrained lands are not being developed.
- The evaluation report demonstrates that the UGAs are nearly providing no more than 75 percent of any one housing type.
- Employment density was difficult to estimate because of the proprietary nature of employment data. However, new building permits from 2006 to 2014 indicate an employment density observed at 9.3 commercial and 10.9 industrial employees per acre.
- Ridgefield commercial employment density appears to be on target with 16.3 employees per acre, and Battle Ground at 23.7 and Vancouver at 11.1 employees per acre are exceeding the industrial employment density of nine units per acre.
- Despite the county's observed employment density not being on target, the total number of new employees has grown since 2006. Jurisdictions are likely to have added more employees on existing and built commercial and industrial buildings without adding new square footage.

## Table of Contents

Introduction .....	4
Process .....	5
Methodology .....	5
Baseline Assumptions .....	6
Housing and Job Totals .....	6
Employment .....	8
Single-family Residential Development .....	8
Multi-family Development .....	10
Clark County Housing Split .....	13
Residential Building Permits by Year and Jurisdiction .....	15
Non-residential .....	17
Employment Density Methodology .....	18
Commercial and Industrial Building Permits by Year and Jurisdiction .....	18
Development in Constrained Areas .....	22
Infrastructure Analysis .....	23
Assessment of Reasonable Measures .....	24
Buildable Land Needs & Capacity Analysis .....	30
Appendix A .....	36

## **Introduction**

This report responds to and satisfies the review and evaluation requirements of the Washington State Growth Management Act (GMA) in RCW 36.70A.215, commonly referred to as the “buildable lands” statute. The report was prepared by county staff and the cities using the Clark County Community Framework process, the county’s adopted multi-jurisdictional process for GMA issues.

The Comprehensive Plan indicates the Buildable Lands Program, at a minimum should answer the following questions:

- What is the actual density and type of housing that has been constructed in UGA’s since the last comprehensive plan was adopted? Are urban densities being achieved within UGA’s? If not, what measures could be taken, other than adjusting UGA’s, to comply with the GMA?
- How much land was actually developed for residential use and at what density since the comprehensive plan was adopted? Based on this and other relevant information, how much land would be needed for residential development during the remainder of the 20-year comprehensive planning period?
- To what extent have capital facilities, critical areas, and rural development affected the supply of land suitable for development over the comprehensive plan’s 20-year timeframe?
- Is there enough suitable land in Clark County and each city to accommodate county-wide population growth for the 20-year planning period?
- Does the evaluation demonstrate any inconsistencies between the actual level of residential, commercial, and industrial development that occurred during the review period compared to the vision contained in the county-wide planning policies and comprehensive plans and the goals and requirements of the GMA?
- What measures can be taken that are reasonably likely to increase consistency during the subsequent eight-year period, if the comparison above shows inconsistency?

The Growth Management Act (GMA) requires the county and its cities to provide sufficient land to accommodate specific population and employment targets. This is the third buildable lands report since 1990. It presents a series of basic, quantifiable indicators in Clark County and tracks how they are changing each year.

This buildable lands report helps answer the questions above and fulfills the monitoring requirement as required by RCW 36.70A.215(2)(a). The indicators presented in this report help jurisdictions monitor identified reasonable measures to increase consistency between stated county-wide planning policies, and GMA goals.



**Process**

Clark County, in consultation with each city, has been working cooperatively to address the requirements of Section 215. In 2005, Community Planning received a grant from Washington State Department of Commerce formerly known as Community Trade and Economic Development (CTED). That grant provided a valuable opportunity to unify buildable lands data into one system and make collection and analysis easier for individual cities and the county. Through that process, a methodology was developed for collecting the buildable land data in the link below (see Data Transfer Protocols and Monitoring of Growth Management Trends).

[http://www.clark.wa.gov/planning/comp\\_plan/monitoring.html#capacity](http://www.clark.wa.gov/planning/comp_plan/monitoring.html#capacity)

The data collection methods and procedures were developed through the Clark County Growth Management Act (GMA) Technical Advisory Committee (TAC). An Amendment to the countywide planning policies was adopted by reference as Ordinance 2000-12-16 by the Board of County Commissioners.

The Ordinance amended language in the Community Framework Plan to comply with the requirements of RCW 36.70A.215. The Growth Management Act requires Clark County to compile data that shows the process of each community's comprehensive plan toward the goals of the Growth Management Act. Each community collects development data, which is forwarded to the county and added to a central database. The web site draws data from that database. It allows citizens, interest groups, elected officials and advisory boards the most comprehensive source of planning data.

**Methodology**

Following the first Buildable Lands report, the county met with each building official and city staffs to refine how data was to be compiled in the future. Each month, staff in each jurisdiction (except Yacolt) forwards an electronic spreadsheet to the county with updated development data such as permit types, parcel numbers, numbers of units, etc. Staff performs a quality assurance check to ensure data has permit number, permit type, parcel number, number of units, building square feet for non-commercial permits, and issue dates. They look for duplicates and check for errors with parcel numbers, addresses, number of units and square feet.

If data is missing or incorrect, staff contacts the respective jurisdiction. Staff also adds missing parcel numbers by using the parcel match option in Clark View.

Information Technology extracts permit data for Clark County and Yacolt, and transfers the files to a server. The server completes the following steps: normalize and read data, translate data, import data, obtain GIS data, generate reports in PDF format, and generates an exception report. The exception report contains permits that are not recognized by the server. If the error rate is greater than one to three percent per jurisdiction for the total number of permits, the county contacts the jurisdiction to correct the discrepancy. County staff also performs a visual check to confirm that the data has merged into the database correctly. The county runs another program that creates a report and a PDF file that is automatically placed on the web.

The primary sources of data were from new commercial, industrial and residential building permits, subdivisions and short plats that have been issued or reviewed from July 1 2006 through

December 31, 2014. Clark County's Geographic Information System (GIS) was used to link parent parcel serial numbers taken from new building permits issued to identify parcels within city and urban growth area boundaries, acreage and critical lands coverage.

Data for the infrastructure analysis is from a vacant and underutilized model run. This infrastructure analysis classifies schools, public land, easements and right of ways.

### **Baseline Assumptions**

The planning assumptions approved in Resolution 2015-04-05 have to do with growth rates, population, and persons per household, and are listed below:

- No more than 75 percent of any product type of detached/attached housing
- Average residential densities in urban areas would be 8 units per net acre for Vancouver, 6 for Battle Ground, Ridgefield, Camas, Washougal, 4 units per net acre for La Center, and no minimum for the town of Yacolt
- Infrastructure factor of 27.7 percent for residential development and 25 percent for industrial and commercial development
- 2.66 persons per household
- 20 employees per commercial acre; 9 employees per industrial acre; and 20 employees per business park acre
- A 15 percent market factor for residential, commercial, industrial and business park
- Population growth of 129,546; 90 percent of the population will live in urban areas; 10 percent in rural areas
- A total population of 578,391 by 2035, an annual growth rate of 1.26

### **Housing and Job Totals**

**INDICATOR:** Estimated total population and jobs, and new jobs to new population ratio.

### **Background and Relevance**

Tracking the number of people who live and work in the community is a fundamental measure of how fast the community is growing and what additional land may be needed to accommodate future growth. A goal of growth management is to encourage the development of housing in proximity to job growth. The strategy of balancing housing and job growth is intended to reduce the need for long commutes, and to keep living and working communities easily accessible to each other. However, when housing growth occurs it often takes several years for sufficient job growth to occur in the area and vice-versa. Reduced vehicle trips result in less demand on the existing street infrastructure.

Under the GMA, Clark County and its cities are required to plan for a total population projection as provided by the state Office of Financial Management. Clark County's population forecast for the 20-year planning period ending 2035 is 578,391 in 2035. Since 2007, the County's population has increased by 42,120 persons or by 10.5 percent change as seen in Table 1 below.

**Data Collection**

Official population estimates as of January 1<sup>st</sup> for all cities and counties in the state are produced annually by the Washington Office of Financial Management (OFM). Employment estimates were provided by the local office of the Washington Department of Employment Security (ESD). Employment data includes covered by state employment insurance, not including self-employed workers. On the following page, table 1 shows the estimated population trends of urban growth areas in Clark County from 2006 to 2014, and estimated population projections for 2035. Table 2 illustrates Clark County population and employment patterns from 2007 to 2013. Table 3 demonstrates countywide household employment trends to 2013.

**Table 1  
Annual Population Estimates for Clark County, 2006-2035**

Urban Growth Areas	2006	2007	2008	2009	2010	2011	2012	2013	2014	Adopted 2035 Population Allocation	2006-2014 Percent Change
Battle Ground	17,072	18,654	18,867	19,297	19,479	19,851	20,052	20,163	20,871	39,305	22.3%
Camas	19,259	20,015	20,311	20,626	21,073	21,588	21,911	22,049	22,843	34,410	18.6%
LaCenter	2,708	3,017	3,069	3,010	3,050	3,220	3,135	3,163	3,209	7,914	18.5%
Ridgefield	4,164	5,015	5,112	5,175	5,402	5,608	5,741	6,150	6,575	26,356	57.9%
Vancouver	286,287	293,973	296,859	300,055	300,525	302,108	304,262	307,767	315,460	371,943	10.2%
Washougal	13,444	14,003	14,722	14,862	15,007	15,328	15,249	15,502	15,932	22,510	18.5%
Woodland	88	88	88	89	88	92	91	88	89	339	1.3%
Yacolt	1,500	1,535	1,578	1,613	1,636	1,645	1,644	1,653	1,661	1,986	10.8%
Rural County	61,573	58,408	58,840	59,642	59,689	60,049	60,280	60,112	62,205	73,628	1.0%
<b>Total</b>	<b>406,095</b>	<b>414,708</b>	<b>419,445</b>	<b>424,368</b>	<b>425,949</b>	<b>429,490</b>	<b>432,365</b>	<b>436,647</b>	<b>448,847</b>	<b>578,391</b>	<b>10.5%</b>

SOURCE: Clark County Department of GIS

NOTE: A portion of the City of Woodland is in Clark County.

**Table 2  
Clark County Population & Jobs, 2007-2013**

Year	Population	Jobs
2007	414,708	137,500
2008	419,445	137,400
2009	424,368	131,800
2010	425,949	130,500
2011	429,490	131,700
2012	432,365	134,500
2013	436,647	138,600
Annual Percent Change	0.9%	0.1%
Percent Change 2007-2013	5.3%	0.8%

SOURCE: Clark County GIS and ESD.



**Table 3**  
**Clark County Household Jobs**

Year	Households	Population	Persons Per Household	Jobs	Jobs Per Household
2007	150,640	414,708	2.75	137,500	0.91
2008	153,531	419,445	2.73	137,400	0.89
2009	155,095	424,368	2.74	131,800	0.85
2010	155,533	425,949	2.74	130,500	0.84
2011	160,304	429,490	2.68	131,700	0.82
2012	160,145	432,365	2.70	134,500	0.84
2013	163,000	436,647	2.68	138,600	0.85

SOURCE: Clark County GIS and ESD.

**Observations**

During this period, 1,100 jobs and 21,939 new persons were added to Clark County.

**Employment**

The GMA does not mandate a source that must be considered in planning for future employment. However, in this report the county uses ESD to make comparisons between employment and employment densities. In 2007, commercial and industrial employment assumptions were 20 and 9 jobs per acre, respectively, to plan for future employment.

**Observations**

- From 2006 to 2014, Clark County added 21,939 new people, an average growth increase of 5.3%; for the same period job growth was 0.8%.
- National recession starting in 2008 reversed a period of fast economic growth and low unemployment, resulting in significant layoffs and unemployment rates increasing to 11% by February 2013 in Clark County.

**Single-family Residential Development Activity (2006-2014)**

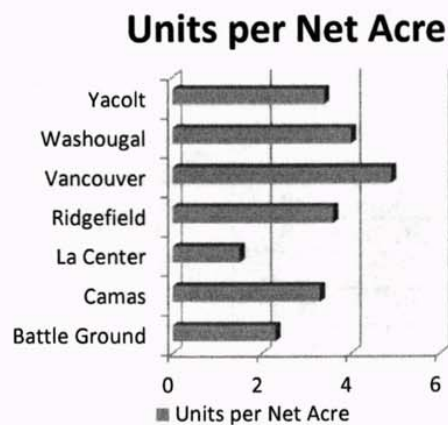
Indicators of residential development include lot creation, subdivisions, and building permits. Monitoring building permits provides a measure of the level of construction activity and the rate at which residential land is being developed. Table 4 below shows the number of new single-family building permits issued between July 1, 2006 and December 31, 2014. Single family includes single-family residential, accessory dwelling units (ADU), and mobile homes (on individual lots). Chart 1 on page eleven shows the density of development by UGA and the number of acres permitted for single-family detached residences. Refer to Tables 7 -14 for an annual breakdown of each jurisdiction’s building permits.

**Table 4**  
**Single-Family Building Permits, 2006 – 2014**

Jurisdiction		Single Family		
		Units	Acres	Units/ Acre
<b>Battle Ground</b>				
	City	506	175	2.9
	UGA	45	62	0.7
	<b>Sub Total</b>	551	237	2.3
<b>Camas</b>				
	City	899	273	3.3
	UGA	21	9	2.3
	<b>Sub Total</b>	920	282	3.3
<b>La Center</b>				
	City	66	34	1.9
	UGA	7	13	0.5
	<b>Sub Total</b>	73	47	1.5
<b>Ridgefield</b>				
	City	679	130	5.2
	UGA	5	62	0.1
	<b>Sub Total</b>	684	192	3.6
<b>Vancouver</b>				
	City	1,719	271	6.3
	UGA	4,534	1,006	4.5
	<b>Sub Total</b>	6,253	1,277	4.9
<b>Washougal</b>				
	City	547	99	5.5
	UGA	7	40	0.2
	<b>Sub Total</b>	554	139	4.0
<b>Yacolt</b>				
	City	51	15	3.4
	UGA	0	0	0.0
	<b>Sub Total</b>	51	15	3.4
<b>Clark County Rural</b>		1,382	7,784	0.2
<b>Total Cities</b>		4,467	998	4.5
<b>Total UGAs</b>		4,619	1,193	3.9
<b>Overall Average Density</b>		9,086	2,191	4.1

Source: Clark County Community Planning.

**Chart 1**  
**New Single-Family Development Density by UGA, 2006-2014**



Source: Clark County Community Planning

### **Observations**

Between 2006 and 2014:

- Overall average density on single-family residential density is 4.1 units per acre.
- City of Vancouver has observed a density of 6.3 units per acre and Vancouver's unincorporated UGA observed a density of 4.5.
- Based on building permits, Clark County has developed on a total of 2,191 acres of single-family residential land in the urban growth areas.

### **Multi-family Development Activity (2006-2014)**

Multi-family building permits issued from July 1, 2006 through December 31, 2014 were collected. Multi-family includes multi-family residential, duplexes, and new mobile home parks. Table 5 on the following page shows multi-family building permits from 2006-2014; charts 2 and 3 on page 13 show the density of development by UGA and the number of residential acres developed.

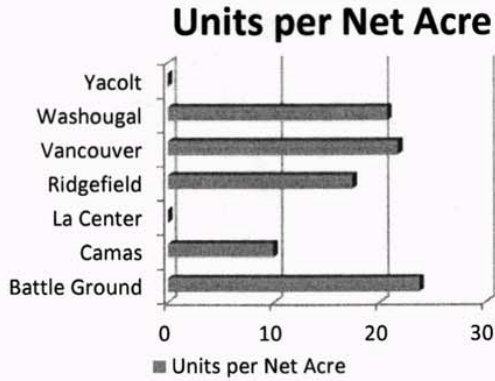
**Table 5**  
**Multi-Family Building Permits, 2006-2014**

Jurisdiction		Multi-Family		
		Units	Acres	Units/ Acre
<b>Battle Ground</b>				
	City	280	11.8	23.7
	UGA	0	0.0	0.0
	<b>Sub Total</b>	<b>280</b>	<b>11.8</b>	<b>23.7</b>
<b>Camas</b>				
	City	107	10.8	9.9
	UGA	0	0.0	0.0
	<b>Sub Total</b>	<b>107</b>	<b>10.8</b>	<b>9.9</b>
<b>La Center</b>				
	City	0	0.0	0.0
	UGA	0	0.0	0.0
	<b>Sub Total</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
<b>Ridgefield</b>				
	City	4	0.2	17.4
	UGA	0	0.0	0.0
	<b>Sub Total</b>	<b>4</b>	<b>0.2</b>	<b>17.4</b>
<b>Vancouver</b>				
	City	2,838	135.2	21.0
	UGA	1,217	51.7	23.5
	<b>Sub Total</b>	<b>4,055</b>	<b>186.9</b>	<b>21.7</b>
<b>Washougal</b>				
	City	163	7.9	20.7
	UGA	0	0.0	0.0
	<b>Sub Total</b>	<b>163</b>	<b>7.9</b>	<b>20.7</b>
<b>Yacolt</b>				
	City	0	0.0	0.0
	UGA	0	0.0	0.0
	<b>Sub Total</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>
<b>Clark County Rural</b>		<b>5</b>	<b>15.6</b>	<b>0.3</b>
<b>Total Cities</b>		<b>3,392</b>	<b>165.9</b>	<b>20.4</b>
<b>Total UGAs</b>		<b>1,217</b>	<b>51.7</b>	<b>23.5</b>
<b>Overall Average Density</b>		<b>4,609</b>	<b>217.6</b>	<b>21.2</b>

Source: Clark County Community Planning,



**Chart 2**  
**New Multi-Family Development Density by UGA, 2006-2014**



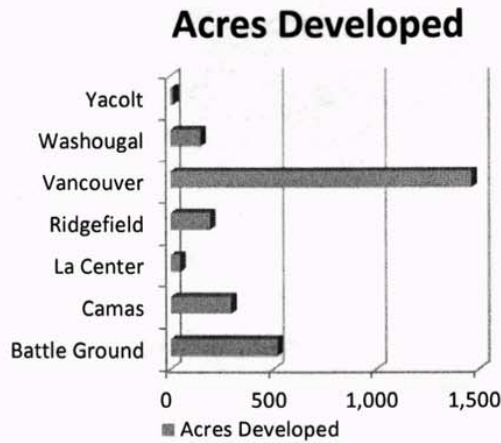
Source: Clark County Community Planning

**Observations**

Between 2006 and 2014:

- Overall, average density for multi-family building permits is 21.2 units per net acre.
- Vancouver’s UGA multi-family density shows 21.7 units per net acre.

**Chart 3**  
**Total Single- and Multi-Family Residential Acres Developed by UGA, 2006-2014**



Source: Clark County Community Planning



## **Observations**

Between 2006 and 2014:

- Based on building permits, Clark County has developed on a total of 2,409 acres of urban residential land.
- 2,141 acres of single-family residential land has developed within the Urban Growth Areas, which is 88.9% of all residential land developed.
- Multi-family development has occurred on 217.6 acres of urban land, which is 9.0% of all urban residential land that was developed.
- City of Vancouver's single-family residential land occurred on 271 acres at 6.3 dwelling units per acre, which is 66.7% of Vancouver's residential land developed.
- City of Vancouver's multi-family residential land occurred on 166 acres at 21.0 dwelling units per acre, which is 33.3% of Vancouver's residential land developed.

### **Clark County Housing Split**

Countywide Planning Policy 1.1.12 in the 2007 Clark County Comprehensive Plan specifies that no more than 75 percent of new dwelling units to be a specific product type (i.e. single-family housing). Table 6 on the following page shows single-family and multi-family split from July 1, 2006 to December 31, 2014 for each of the Urban Growth Areas.

**Table 6**  
**Single- and Multi-Family Split, 2006-2014**

Jurisdiction		Single-Family			Multi-Family			Total		
		Units	%SF	Acres	Units	%MF	Acres	Units	Acres	Units/ Acre
<b>Battle Ground</b>										
	City	506	64%	175.1	280	36%	11.8	786	187	4.2
	UGA	45	100%	62.2	0	0%	0.0	45	62	0.7
	<b>Sub Total</b>	<b>551</b>	<b>66%</b>	<b>237.3</b>	<b>280</b>	<b>34%</b>	<b>11.8</b>	<b>831</b>	<b>249</b>	<b>3.3</b>
<b>Camas</b>										
	City	899	89%	273.1	107	11%	10.8	1,006	284	3.5
	UGA	21	100%	9.3	0	0%	0.0	21	9	2.3
	<b>Sub Total</b>	<b>920</b>	<b>90%</b>	<b>282.4</b>	<b>107</b>	<b>10%</b>	<b>10.8</b>	<b>1,027</b>	<b>293</b>	<b>3.5</b>
<b>La Center</b>										
	City	66	100%	34.0	0	0%	0.0	66	34	1.9
	UGA	7	100%	13.2	0	0%	0.0	7	13	0.5
	<b>Sub Total</b>	<b>73</b>	<b>100%</b>	<b>47.2</b>	<b>0</b>	<b>0%</b>	<b>0.0</b>	<b>73</b>	<b>47</b>	<b>1.5</b>
<b>Ridgefield</b>										
	City	679	99%	130.3	4	1%	0.2	683	131	5.2
	UGA	5	100%	62.0	0	0%	0.0	5	62	0.1
	<b>Sub Total</b>	<b>684</b>	<b>99%</b>	<b>192.3</b>	<b>4</b>	<b>1%</b>	<b>0.2</b>	<b>688</b>	<b>193</b>	<b>3.6</b>
<b>Vancouver</b>										
	City	1,719	38%	271.5	2,838	62%	135.2	4,557	407	11.2
	UGA	4,534	79%	1006.0	1,217	21%	51.7	5,751	1,058	5.4
	<b>Sub Total</b>	<b>6,253</b>	<b>61%</b>	<b>1277.0</b>	<b>4,055</b>	<b>39%</b>	<b>186.9</b>	<b>10,308</b>	<b>1,464</b>	<b>7.0</b>
<b>Washougal</b>										
	City	547	77%	99.0	163	23%	7.9	710	107	6.6
	UGA	7	100%	40.4	0	0%	0.0	7	40	0.2
	<b>Sub Total</b>	<b>554</b>	<b>77%</b>	<b>139.4</b>	<b>163</b>	<b>23%</b>	<b>7.9</b>	<b>717</b>	<b>147</b>	<b>4.9</b>
<b>Yacolt</b>										
	City	51	100%	15.0	0	0%	0.0	51	15	3.4
	UGA	0	0%	0.0	0	0%	0.0	0	0	0.0
	<b>Sub Total</b>	<b>51</b>	<b>100%</b>	<b>15.0</b>	<b>0</b>	<b>0%</b>	<b>0.0</b>	<b>51</b>	<b>15</b>	<b>3.4</b>
	<b>Clark County Rural</b>	<b>1,382</b>	<b>100%</b>	<b>7783.7</b>	<b>5</b>	<b>0%</b>	<b>15.6</b>	<b>1,387</b>	<b>7,799</b>	<b>0.2</b>
	<b>Total Cities</b>	<b>4,467</b>	<b>57%</b>	<b>998.0</b>	<b>3,392</b>	<b>43%</b>	<b>165.9</b>	<b>7,859</b>	<b>1,164</b>	<b>6.8</b>
	<b>Total UGAs</b>	<b>4,619</b>	<b>79%</b>	<b>1193.4</b>	<b>1,217</b>	<b>21%</b>	<b>51.7</b>	<b>5,836</b>	<b>1,245</b>	<b>4.7</b>
	<b>Grand Total</b>	<b>9,086</b>	<b>66%</b>	<b>2191.4</b>	<b>4,609.0</b>	<b>34%</b>	<b>217.6</b>	<b>13,695</b>	<b>2,409</b>	<b>5.7</b>

Source: Clark County Community Planning.

**Observations**

Between 2006 and 2014:

- County overall achieved a split of 66% single-family and 34% multi-family.
- Vancouver's overall split averaged 38% single-family and 62% multi-family; Vancouver UGA under the county jurisdiction exceeds the assumption of no more than 75 percent of one housing type.

- Overall, observed density on Single- & Multi-family residential dwelling units per acre is 5.7.

### Residential Building Permits by Year and Jurisdiction

The following residential tables are reported by year from July 1, 2006 to December 31, 2014 for each jurisdiction and assembled by Clark County Community Planning.

**Table 7  
Rural Annual Residential Development**

Clark County	2006			2007			2008			2009			2010			2011			2012			2013			2014			Total 2006-2014		
	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre
Single Family	198	1,268.2		286	1,501.2	0.2	150	872.8	0.2	105	644.5	0.2	109	519.6	0.2	85	413.3	0.2	112	681.3	0.2	168	894.8	0.2	171	987.9	0.2	1,384	7,783.7	0.2
Rural	198	1,268.2		286	1,501.2	0.2	150	872.8	0.2	105	644.5	0.2	109	519.6	0.2	85	413.3	0.2	112	681.3	0.2	168	894.8	0.2	171	987.9	0.2	1,384	7,783.7	0.2
Multi-Family	0			0			0			0			0			1	0.9		1	5.3		1	3.2		2	6.2		5	15.6	0.3
Rural	0			0			0			0			0			1	0.9		1	5.3		1	3.2		2	6.2		5	15.6	0.3
Total Rural	198			286	1,501.2	0.2	150	872.8	0.2	105	644.5	0.2	109	519.6	0.2	86	414.2	0.2	113	686.6	0.2	169	898.0	0.2	173	994.1	0.2	1,389	7,799.2	0.2

**Table 8  
Battle Ground Annual Residential Development**

Battle Ground	2006			2007			2008			2009			2010			2011			2012			2013			2014			Total 2006-2014		
	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre
Single Family	23	7.5	3.1	86	17.6	4.9	86	38.4	1.7	47	16.6	2.8	59	21.3	2.8	32	8.9	3.6	41	19.6	2.1	70	22.4	3.1	82	22.8	3.6	506	175.1	2.9
City	23	7.5	3.1	86	17.6	4.9	86	38.4	1.7	47	16.6	2.8	59	21.3	2.8	32	8.9	3.6	41	19.6	2.1	70	22.4	3.1	82	22.8	3.6	506	175.1	2.9
UGA	4	7.1	0.6	7	7.2	1.0	2	2.2	0.9	3	3.1	1.0	7	8.0	0.9	5	6.8	0.7	6	9.6	0.6	7	10.7	0.7	4	7.6	0.5	45	62.2	0.7
Multi-Family	0			0			0			0			0			0			0			0			0			0		
City	0			20	1.4	14.6	4	0.4	10.5	80	4.3	18.5	0			24	0.8	30.3	30	1.0	30.3	122	4.0	30.7	0			280	11.8	23.7
UGA	0			0			0			0			0			0			0			0			0			0		
Total UGA	27	14.7	1.8	113	26.1	4.3	72	40.9	1.8	130	23.9	5.4	66	29.3	2.3	61	16.5	3.7	77	30.2	2.6	199	37.1	5.4	86	30.4	2.6	831	249.1	3.3

**Table 9  
Camas Annual Residential Development**

Camas	2006			2007			2008			2009			2010			2011			2012			2013			2014			Total 2006-2014		
	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre
Single Family	70	25.4	2.8	104	86.9	1.2	84	12.0	7.0	71	17.7	4.0	141	38.3	3.7	60	12.7	4.7	76	16.1	4.7	126	30.5	4.1	167	33.1	5.0	899	272.6	3.3
City	70	25.4	2.8	104	86.9	1.2	84	12.0	7.0	71	17.7	4.0	141	38.3	3.7	60	12.7	4.7	76	16.1	4.7	126	30.5	4.1	167	33.1	5.0	899	272.6	3.3
UGA	0			0			0			1	1.1	1.0	0			3	1.0	2.9	3	0.5	6.5	5	0.7	7.7	9	6.1	1.5	21	9.3	2.3
Multi-Family	0			0			0			0			0			0			0			0			0			0		
City	9	0.8		12	1.2	10.2	0			5	0.3	18.5	51	3.0					30	0.91	33.0	0			0			107	6.2	17.3
UGA	0			0			0			0			0			0			0			0			0			0		
Total UGA	79	26.2	3.0	116	88.1	1.3	84	12.0	7.0	77	19.0	4.1	192	41.3	4.6	63	13.8	4.6	109	17.6	6.2	131	31.2	4.2	176	39.2	4.6	1027	288.1	3.6

**Table 10  
La Center Annual Residential Development**

La Center	2006			2007			2008			2009			2010			2011			2012			2013			2014			Total 2006-2014		
	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre
Single Family	2	5.3	0.4	14	5.5	2.6	6	1.3	4.7	4	0.6	6.6	12	1.94	6.2	6	6.2	1.0	5	1.0	5.2	11	11.2	1.0	6	1.06	5.7	66	34.0	1.9
City	2	5.3	0.4	14	5.5	2.6	6	1.3	4.7	4	0.6	6.6	12	1.94	6.2	6	6.2	1.0	5	1.0	5.2	11	11.2	1.0	6	1.06	5.7	66	34.0	1.9
UGA	0			1	1.5		0			0			0			2	7.5	0.3	2	2.0	1.0	1	1.2	0.9	1	1.0	1.0	7	13.2	0.5
Multi-Family	0			0			0			0			0			0			0			0			0			0		
City	0			0			0			0			0			0			0			0			0			0		
Total UGA	2	5.3	0.4	15	7.0	2.2	6	1.3	4.7	4	0.6	6.6	12	1.9	6.2	8	13.7	0.6	7	3.0	2.3	12	12.3	1.0	7	2.1	3.4	73	47.2	1.5



**Table 11  
Ridgefield Annual Residential Development**

Ridgefield	2006			2007			2008			2009			2010			2011			2012			2013			2014			Total 2006-2014				
	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre		
Single Family																																
City	59	28.0	2.1	49	8.1	6.1	26	13.0	2.0	27	4.4	6.1	77	10.3	7.5	55	10.9	5.1	117	16.1	7.3	174	24.4	7.1	96	15.1	6.4	680	130.3	5.2		
UGA	1	39.4		1	4.3		0			0			1	10.8		0			1	5.1	0.2	1	2.4	0.4	0			5	62.0	0.1		
Multi-Family																																
City	0			4	0.2		0			0			0			0			0			0			0			4				
<b>Total UGA</b>	<b>60</b>	<b>67.4</b>	<b>0.9</b>	<b>54</b>	<b>12.6</b>	<b>4.3</b>	<b>26</b>	<b>13.0</b>	<b>2.0</b>	<b>27</b>	<b>4.4</b>	<b>6.1</b>	<b>78</b>	<b>21.1</b>	<b>3.7</b>	<b>55</b>	<b>10.9</b>	<b>5.1</b>	<b>118</b>	<b>21.2</b>	<b>5.6</b>	<b>175</b>	<b>26.8</b>	<b>6.6</b>	<b>96</b>	<b>16.1</b>	<b>6.4</b>	<b>689</b>	<b>192.2</b>	<b>3.6</b>		

**Table 12  
Vancouver Annual Residential Development**

Vancouver	2006			2007			2008			2009			2010			2011			2012			2013			2014			Total 2006-2014			
	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	
Single Family																															
City	148	37.6	3.9	418	49.8	8.4	222	40.2	5.5	120	20.4	5.9	127	19.2	6.6	92	14.3	6.4	182	30.6	6.0	216	30.9	7.0	203	28.3	7.2	1,728	271.2	6.4	
UGA	464	80.1	5.8	953	189.8	5.0	449	68.8	6.5	317	55.2	5.7	401	86.8	4.6	233	65.3	3.6	397	88.1	4.5	646	182.0	3.5	674	190.1	3.5	4,534	1,006.2	4.5	
Multi-Family																															
City	403	15.1	26.8	445	32.8	13.6	237	12.0	19.8	73	7.1	10.2	67	1.7	40.4	92	2.5	37.2	305	14.6	20.9	615	28.1	21.9	601	21.3	28.2	2,838	135.1	21.0	
UGA	5	0.4	13.5	127	2.4	53.1	29	0.5	56.3	2	0.2	13.3	18	0.8	21.7	206	3.4	61.3	163	9.6	16.9	583	25.5	22.9	87	9.2	9.4	1,220	52.0	23.5	
<b>Total UGA</b>	<b>1020</b>	<b>133.2</b>	<b>7.7</b>	<b>1943</b>	<b>274.7</b>	<b>7.1</b>	<b>937</b>	<b>121.5</b>	<b>7.7</b>	<b>512</b>	<b>82.9</b>	<b>6.2</b>	<b>613</b>	<b>108.5</b>	<b>5.7</b>	<b>623</b>	<b>85.4</b>	<b>7.3</b>	<b>1047</b>	<b>142.9</b>	<b>7.3</b>	<b>2,060.0</b>	<b>266.6</b>	<b>7.7</b>	<b>1,565.0</b>	<b>248.9</b>	<b>6.3</b>	<b>10,320</b>	<b>1,464.5</b>	<b>7.0</b>	

**Table 13  
Washougal Annual Residential Development**

Washougal	2006			2007			2008			2009			2010			2011			2012			2013			2014			Total 2006-2014			
	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	
Single Family																															
City	0			122	24.0	5.1	69	11.1	6.2	22	3.9	5.6	45	7.6	5.9	61	9.3	6.5	49	9.3	5.3	101	18.6	5.4	78	15.3	5.1	547	99.0	5.5	
UGA	0			2	2.4		0			0			0			1	1.4		1	1.5	0.7	1	5.0	0.2	2	30.1		7	40.4	0.2	
Multi-Family																															
City	0			144	6.9		19	1.0		0			0			0			0			0			0			163	7.9	20.6	
<b>Total UGA</b>	<b>0</b>	<b></b>	<b></b>	<b>268</b>	<b>33.2</b>	<b>8.1</b>	<b>88</b>	<b>12.2</b>	<b>7.2</b>	<b>22</b>	<b>3.9</b>	<b>5.6</b>	<b>46</b>	<b>7.6</b>	<b>5.9</b>	<b>62</b>	<b>10.7</b>	<b>6.8</b>	<b>60</b>	<b>10.8</b>	<b>4.6</b>	<b>102</b>	<b>23.6</b>	<b>4.3</b>	<b>80</b>	<b>46.4</b>	<b>1.8</b>	<b>717</b>	<b>147.3</b>	<b>4.9</b>	

**Table 14  
Yacolt Annual Residential Development**

Yacolt	2006			2007			2008			2009			2010			2011			2012			2013			2014			Total 2006-2014			
	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	Units	Acres Used	Units/Acre	
Single Family																															
City	15	4.8		7	1.8	3.9	14	4.9	2.9	5	1.3	3.9	8	1.8	4.4	1	0.2	5.6	0			0			1	0.2	4.3	51	15.0	3.4	
<b>Total UGA</b>	<b>16</b>	<b>4.8</b>	<b></b>	<b>7</b>	<b>1.8</b>	<b>3.9</b>	<b>14</b>	<b>4.9</b>	<b>2.9</b>	<b>5</b>	<b>1.3</b>	<b>3.9</b>	<b>8</b>	<b>1.8</b>	<b>4.4</b>	<b>1</b>	<b>0.2</b>	<b>5.6</b>	<b>0</b>	<b></b>	<b></b>	<b>0</b>	<b></b>	<b></b>	<b>1</b>	<b>0.2</b>	<b>4.3</b>	<b>51</b>	<b>15.0</b>	<b>3.4</b>	

**Non-residential**

**Commercial and Industrial Development and Employment Density**

Data on commercial building permits issued from July 1, 2006 through December 31, 2014 was collected (Table 15). Tenant improvements were excluded unless the improvement resulted in an increase of building square footage. The parcel serial number from each building permit was linked to a GIS coverage to determine the parcel size, geography and critical area. Commercial building permits include commercial, industrial and multi-family development. Table 16 on page seventeen reflects industrial building permits sorted by comprehensive plan designation for industrial uses. The Department Information and Technology provided information for tables 15 and 16.

**Table 15  
Commercial Building Permits by UGA and Comp Plan Designation**

<b>UGA</b>	<b>Number of Permits</b>	<b>Acre</b>	<b>Critical Acres</b>	<b>Percent Critical</b>
Battle Ground	63	224.8	168.1	75%
Camas	27	102.8	16.9	16%
La Center	2	4.5	0.3	7%
Ridgefield	6	33.5	12.6	38%
Vancouver	293	1,539.2	547.9	36%
Washougal	2	2.2	1.1	50%
Yacolt	1	1.1	0.0	0%
<b>Total</b>	<b>394</b>	<b>1,908.0</b>	<b>747.0</b>	<b>39%</b>
<b>Rural</b>	<b>19</b>	<b>795.7</b>	<b>552.6</b>	<b>69%</b>
<b>County Total</b>	<b>413</b>	<b>2,703.6</b>	<b>1,299.6</b>	<b>48%</b>

Note: Acreage for commercial development is in net acres.

**Table 16  
Industrial Building Permits by UGA and Comp Plan Designation**

<b>UGA</b>	<b>Number of Permits</b>	<b>Acres</b>	<b>Critical Acres</b>	<b>Percent Critical</b>
Battle Ground	2	2.2	1.4	66%
Ridgefield	4	26.1	10.7	41%
Vancouver	68	465.6	222.0	48%
Washougal	1	1.2	1.2	101%
<b>Total</b>	<b>75</b>	<b>495.0</b>	<b>235.2</b>	<b>48%</b>
<b>Rural</b>	<b>4</b>	<b>173.4</b>	<b>130.1</b>	<b>75%</b>
<b>County Total</b>	<b>79</b>	<b>668.3</b>	<b>365.4</b>	<b>55%</b>

Note: Acreage for industrial development is in net acres.

**Observations**

- Based on commercial building permits issued, development occurred on 2,703.6 acres of commercially designated land and 668.3 acres of industrial designated land.

**Employment Density Methodology**

This information is for employment based on new construction permits from July 1, 2006 to June 30, 2014. The building permit information was matched to parcels and employment locations to obtain acres and employment. In table 17, a total of 224 records matched between the new construction permits and the employment records. Commercial values include the following permit types: commercial, institutional, office and retail permit types. Industrial values include industrial permit types.

**Table 17  
Commercial and Industrial Employment Density**

		Urban Growth Area								
		Battle Ground	Camas	LaCenter	Ridgefield	Vancouver	Washougal	Yacolt	Rural	Grand Total
Commercial	Employees	882	127	22	223	15,523	0	0	195	16,972
	Acres	79	11	5	14	1,462	0	0	249	1,819
	Employees per Acre	11.1	11.7	4.7	16.3	10.6	0.0	0.0	0.8	9.3
Industrial	Employees	21	0	0	12	3,043	7	0	10	3,093
	Acres	1	0	0	2	273	1	0	7	284
	Employees per Acre	23.7	0.0	0.0	6.0	11.1	6.0	0.0	1.4	10.9

Source: Clark County GIS

**Observations**

A caveat of the observations below is that they are from a limited set of employment data.

- The planning assumptions applied in 2007 were based on employees per net acre; twenty (20) for commercial and nine (9) for industrial. The result is that the observed densities are lower than the 2007 planning assumptions.
- From 2006 to 2014, new permits show employees per net acre for commercial at 9.3 employees per acre and industrial 10.9 employees per net acre.
- Clark County has seen employment gains from 2006 to 2014. It is likely that some businesses have added employees, which would not require new building permits and may account for the low employment density reported.

**Commercial and Industrial Building Permits by Year and Jurisdiction**

The following commercial and industrial tables are reported by year for each jurisdiction from July 1, 2006 to December 31, 2014, and are from Clark County Information Technology.



**Table 18**  
**Battle Ground Annual Commercial and Industrial Permits**

Battle Ground UGA	Year Issued	Number of Permits	Acres	Critical Acres	Percent Critical
Commercial	2006	7	15.3	13.3	87%
	2007	15	84.4	70.3	83%
	2008	17	40.9	28.6	70%
	2009	2	10.2	9.7	95%
	2010	6	23.9	20.4	85%
	2011	1	10.0	9.5	95%
	2012	2	1.5	1.3	86%
	2013	8	31.7	11.5	36%
	2014	5	6.9	3.7	53%
<b>Commercial Total</b>		<b>63</b>	<b>224.8</b>	<b>168.1</b>	<b>75%</b>
Industrial	2013	1	0.9	0.1	15%
	2014	1	1.3	1.3	100%
<b>Industrial Total</b>		<b>2</b>	<b>2.2</b>	<b>1.4</b>	<b>66%</b>

**Table 19**  
**Camas Annual Commercial Permits**

Camas UGA	Year Issued	Number of Permits	Acres	Critical Acres	Percent Critical
Commercial	2007	3	3.2	0.2	5%
	2008	4	16.3	0.6	4%
	2009	2	22.8	1.9	8%
	2010	2	16.6	5.7	34%
	2011	6	22.8	0.2	1%
	2013	2	18.4	8.4	46%
	2014	8	2.7	0.0	0%
<b>Commercial Total</b>		<b>27</b>	<b>102.8</b>	<b>16.9</b>	<b>16%</b>

**Table 20**  
**La Center Annual Commercial Permits**

La Center UGA	Year Issued	Number of Permits	Acres	Critical Acres	Percent Critical
Commercial	2007	1	4.2	0.3	8%
	2013	1	0.2	0.0	0%
<b>Commercial Total</b>		<b>2</b>	<b>4.5</b>	<b>0.3</b>	<b>7%</b>

**Table 21  
Ridgefield Annual Commercial and Industrial Permits**

Ridgefield UGA	Year Issued	Number of Permits	Acres	Critical Acres	Percent Critical
Commercial	2006	3	14.0	11.0	79%
	2013	1	5.7	0.4	7%
	2014	2	13.8	1.1	8%
<b>Commercial Total</b>		<b>6</b>	<b>33.5</b>	<b>12.6</b>	<b>38%</b>
Industrial	2007	1	2.3	1.5	65%
	2008	3	23.8	9.2	39%
<b>Industrial Total</b>		<b>4</b>	<b>26.1</b>	<b>10.7</b>	<b>41%</b>

**Table 22  
Vancouver Annual Commercial and Industrial Permits**

Vancouver UGA	Year Issued	Number of Permits	Acres	Critical Acres	Percent Critical
Commercial	2006	34	67.9	24.1	36%
	2007	53	338.0	101.6	30%
	2008	49	230.0	81.3	35%
	2009	25	226.5	59.4	26%
	2010	32	99.1	14.0	14%
	2011	27	142.2	110.5	78%
	2012	24	57.9	5.7	10%
	2013	15	119.4	11.6	10%
	2014	34	258.2	139.7	54%
<b>Commercial Total</b>		<b>293</b>	<b>1,539.2</b>	<b>547.9</b>	<b>36%</b>
Industrial	2006	7	15.0	0.2	1%
	2007	15	41.2	17.6	43%
	2008	13	215.7	91.5	42%
	2009	7	50.5	17.1	34%
	2010	3	5.1	0.0	0%
	2011	6	43.9	25.7	59%
	2012	8	43.8	27.9	64%
	2013	4	38.7	38.5	100%
	2014	5	11.8	3.5	30%
<b>Industrial Total</b>		<b>68</b>	<b>465.6</b>	<b>222.0</b>	<b>48%</b>



**Table 23  
Washougal Annual Commercial and Industrial Permits**

Washougal UGA	Year Issued	Number of Permits	Acres	Critical Acres	Percent Critical
Commercial	2010	1	1.1	1.1	100%
	2014	1	1.1	0.0	0%
<b>Commercial Total</b>		<b>2</b>	<b>2.2</b>	<b>1.1</b>	<b>50%</b>
Industrial	2014	1	1.2	1.2	100%
<b>Industrial Total</b>		<b>1</b>	<b>1.2</b>	<b>1.2</b>	<b>100%</b>

**Table 24  
Yacolt Annual Commercial Permits**

Yacolt UGA	Year Issued	Number of Permits	Acres	Critical Acres	Percent Critical
Commercial	2012	1	1.1	0.0	0%
<b>Commercial Total</b>		<b>1</b>	<b>1.1</b>	<b>0.0</b>	<b>0%</b>

**Table 25  
Rural Clark County Commercial and Industrial Permits**

Rural Clark County	Year Issued	Number of Permits	Acres	Critical Acres	Percent Critical
Commercial	2006	3	6.0	3.7	62%
	2007	3	212.5	170.1	80%
	2009	3	46.4	32.2	69%
	2010	2	9.5	5.5	58%
	2011	3	316.5	192.6	61%
	2013	4	202.3	148.5	73%
	2014	1	2.5	0.0	0%
<b>Commercial Total</b>		<b>19</b>	<b>795.7</b>	<b>552.6</b>	<b>69%</b>
Industrial	2007	1	7.3	7.1	97%
	2009	2	15.0	4.9	33%
	2011	1	151.1	118.2	78%
<b>Industrial Total</b>		<b>4</b>	<b>173.4</b>	<b>130.1</b>	<b>75%</b>

## Development in Constrained Areas

**INDICATOR:** Percentage of total development that occurs in areas designated as environmentally critical.

### Background and Relevance

Tracking development in critical lands provides an indicator of impacts from growth to the environment and illustrates the general effectiveness of environmental protection measures. It is also an indicator of land demand. When there is a high demand for land, development tends to occur more frequently on areas that are more difficult to develop. Critical lands are identified in Clark County code Title 40 Unified Development.

### Data Collection

Only the constrained portion of a parcel is identified in the VBLM. Table 26 illustrates the percent of vacant and underutilized constrained land that converted to built by UGA for residential, commercial and industrial land from 2007 to 2014. The critical layer is based on best available science, and includes a new slopes layer and the most recent habitat and species information. For a description of constrained acres and percent constraint developed see Appendix A.

**Table 26**  
**Vacant and Underutilized Land Converted to Built, 2007-2014**

Urban Growth Area	Residential			Commercial			Industrial		
	Total Converted to Built (Acres)	Of Total Built-Converted w/Constraints (Acres)	Percent Built w/Constraints	Total Converted to Built (Acres)	Of Total Built-Converted w/Constraints (Acres)	Percent Built w/Constraints	Total Converted to Built (Acres)	Of Total Built-Converted w/Constraints (Acres)	Percent Built w/Constraints
Battle Ground	286	190	66.5%	105	74	70.3%	105	91	86.2%
Camas	366	228	62.4%	13	5	40.1%	124	82	66.0%
La Center	23	7	29.2%	5	4	82.7%	0	0	0.0%
Ridgefield	322	162	50.4%	16	10	62.3%	189	87	46.2%
Vancouver	1,577	526	33.3%	338	96	28.6%	626	237	37.8%
Washougal	152	65	42.7%	11	4	34.6%	83	46	55.0%
Woodland	0	0	0.0%	0	0	0.0%	0	0	0.0%
Yacolt	14	6	40.7%	1	0	0.0%	0	0	0.0%
<b>Total UGAs</b>	<b>2,739</b>	<b>1,183</b>	<b>43.2%</b>	<b>489</b>	<b>193</b>	<b>39.6%</b>	<b>1,126</b>	<b>542</b>	<b>48.1%</b>

Source: Community Planning and Clark County GIS

### Observations

Between 2007 and 2014:

- 1,183 acres of residential development occurred on parcels with some constrained areas, or 43.2%.
- 193 acres of commercial development occurred on parcels with some constrained areas or 39.6%.
- 542 acres of industrial development occurred on parcels with some constrained areas or 48.18%

## Infrastructure Analysis

**INDICATOR:** Actual vacant and underutilized developed acres that have converted to infrastructure.

### Background and Relevance

Land used for infrastructure is not available for housing or employment development. It is important to know the amount of available land that will be needed to provide the necessary infrastructure for development. This indicator will help calculate the amount of land needed for growth.

### Data Collection

The 2007 Comprehensive Growth Management Plan assumed infrastructure will consist of 27.5 percent for residential development and 25 percent for industrial and commercial development. The Vacant and Buildable land model comparison report provides a breakdown of easements & infrastructure by residential, industrial, and commercial land. Table 27 shows the results of the Department of Assessment & GIS's infrastructure evaluation from January 1, 2007 to December 31, 2014. Table 27 below shows the percentage of infrastructure that was built or converted to infrastructure.

**Table 27  
Infrastructure Summary**

Easement & Infrastructure	Residential Acres	Percent of Residential Converted to Infrastructure	Commercial Acres	Percent of Commercial Converted to Infrastructure	Industrial Acres	Percent of Industrial Converted to Infrastructure	Total Commercial and Industrial Acres	Percent of Commercial and Industrial Converted
Vacant & Underutilized Land (2007)	2,739.4		488.7		1,126.4		1,615.1	37.1%
Easements & Right of Way	213.8	7.8%	46.8	9.6%	57.4	5.1%	104.2	2.4%
Schools	10.2	0.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%
Public Lands (Except Right of Way)	171.0	6.2%	29.4	6.0%	220.8	19.6%	250.2	5.7%
Greenway (Public & Private)	339.0	12.4%	19.6	4.0%	182.4	16.2%	202.0	4.6%
<b>Easement &amp; Infrastructure Total</b>	<b>733.9</b>	<b>26.8%</b>	<b>95.7</b>	<b>19.6%</b>	<b>460.7</b>	<b>40.9%</b>	<b>556.4</b>	<b>12.8%</b>

Source: Clark County Community Planning and Clark County GIS.

Note: Percent of residential, commercial and industrial is a portion of vacant and underutilized land that converted to infrastructure.

### Observations

From January 1, 2007 to December 31, 2014, Residential easements and infrastructure consumed less than the assumed 27.7 percent of development. About 740 acres or 26.8 percent of residential vacant and underutilized land converted to built land in all UGAs. Industrial and commercial accounted for 12.8 percent, which is less than the assumption of 25 percent for development.



## **Assessment of Reasonable Measures**

Clark County and the incorporated cities within the county have completed review under RCW 36.70A.215 which includes comparisons between development that has occurred and the original planning assumptions and targets. In 2007, the following actions were identified as necessary revisions to local development regulations. These revisions were to be incorporated into the update process and adopted in an ordinance or resolution to ensure compliance with the GMA. These measures reflect changes in regulation that would gradually allow for higher density development within the planning horizon.

### **City of Battle Ground**

- Review the ratio of zoned land to density goals to assure the plan is implementing current countywide density goals and housing type mix.
- Develop a mixed-use ordinance and examine minimum densities in certain districts as tools to achieve density goals.
- Examine annexation criteria and coordinated annexation and sub-area planning to assure efficient, compatible use of newly annexed lands.

### **City of Camas**

- Designate and zone 75% of the residential land for single-family detached and 25% for multi-family and other. The zoning districts would provide a range of densities such that the average density for all new residential development yields 6 dwelling units per acre.
- Adopt minimum/maximum lot size provisions for single family zoning districts.
- Adopt minimum density requirements for multi-family residential zoning districts.
- Adopt provisions for mixed-use development.
- Adopt a variety of development standards (particularly road standards) that promote more efficient use of land while maintaining a quality level of service.
- Rezone large lot districts (e.g. 15,000 and 20,000 sq. ft. lots) to smaller lot districts.
- Revise Planned Unit Development (PUD) Ordinance in 1995 allowing a 20% density bonus.

### **City of Washougal**

- Require minimum lot sizes.
- Adopted a mixed-use ordinance that allows 16 units per acre for residential use. Also allowed in commercial zone - Adopted 2000.
- Allow for accessory apartments in all residential zone districts. Adopted in 2001.
- Revised Planned Unit Development (PUD) Ordinance in 1995 allowing a 20% density bonus and density transfer to protect critical lands.
- Developed downtown revitalization plan with proposed increased residential densities with commercial uses on first floors and residences above at 16 units to the acre.

**City of Vancouver**

- Adopt infill ordinance in the Vancouver urban growth area, including city limits, in cooperation with the county.
- Revise planned unit development and mixed-use standards.

**City of Ridgefield**

- Increase minimum density in low-density residential zones from 3 units per buildable acre.
- Remove density limitation of 3 units per acre on constrained lands.
- Increase percentage of land in medium density residential zones.
- Review Planned Unit Development (PUD) ordinance and add development incentives, if needed.

**La Center**

- Reduce lot size requirements for multi-family development.
- Make street frontage improvements consistent between single family and multi-family zones.
- Allow manufactured homes on lots smaller than 5 acres.
- Create opportunities for manufactured home parks with design standards.
- Develop PUD, cluster housing and/or townhouse development opportunities.

Since 2007, the following actions were taken by local jurisdictions. Identified below are revisions to local development regulations. Those identified in bold type are reasonable measures that jurisdictions have adopted since 2002.

#### **City of Battle Ground**

- **The City of Battle Ground Comprehensive Plan, 2004, Chapter 3: Land Use Element, reviewed the ratio of zoned land to density goals, assuring the plan is implementing current countywide density goals and housing type mix.**
- **Battle Ground has developed a mixed-use ordinance, Ord. 04-024 § 20 (part), 2004. Their updated 2006 development code, Title 17, Chapter 17.101.040 and 2004 Comprehensive Plan, examine minimum densities in certain districts as tools to achieve density goals.**
- **Battle Ground Comprehensive Plan, 2004, contains a growth management element that addresses annexation and sub-area planning in four growth management goals, listed below.**

#### **Growth Management Goal 1: The City will seek a sustainable rate of growth**

##### Objectives

**GMO1.1** The City will coordinate its growth projections and growth goals with other jurisdictions.

**GMO1.2** The City will balance its growth with other City goals.

**GMO1.3** The City will strive to grow at a rate that maintains its small town character.

**GMO1.4** The City will work to provide adequate urban services concurrently with development.

**GMO1.5** The City will encourage efficient growth within the existing city limits before pursuing additional annexations.

**GMO1.6** The City will coordinate with Battle Ground School District during annexation processes to maintain District service standards

**Growth Management Goal 2: Future growth is to occur primarily to the west and south of the current city limits and in all directions consistent with the 50-year vision.**

##### Objectives

**GMO2.1** The City will primarily focus future planning efforts to the south and west of the current city limits.

**GMO2.2** The City will focus secondary planning efforts for future growth to the north and east.

**Growth Management Goal 3: The City will encourage the efficient and**

**sustainable expansion of the City through the Urban Growth Areas.**

Objectives

**GMO3.1** The City will seek to achieve desirable growth patterns through annexations.

**GMO3.2** The City will seek to achieve a jobs/housing balance through annexations.

**Growth Management Goal 4: The City will work with the County and other jurisdictions in determining growth policies for the Area of Influence.**

Objectives

**GMO4.1** The City will seek to preserve the Area of Influence for future urban growth patterns anticipated by the Vision.

**City of Camas**

- **The City of Camas designated and zoned, consistent with the 2004 Comprehensive Plan, 75% of land for single-family residential with a range of densities such that the average density for new development can yield 6 dwelling units per acre. 75/25 Split and 6 units per acre, identified through Ordinance 236; 1/26/04, and implemented through Ord. 2362, 1/26/04 and Ord. 2363, 1/26/04.**
- **Minimum lot sizes in residential districts, identified through Ord. 2361;1/26/04, and implemented through Ord. 2363, 1/26/07. This includes minimum lot sizes in both single-family and multi-family zoning districts.**
- **In 2006, Camas established minimum and maximum lot sizes for multifamily zoning districts.**
- **Mixed Use - identified through Ord. 2361 1/26/04, and implemented through Ord. 2838, 11/11/04**
- **The City of Camas adopted developments standards under Title 17. 19. The following revisions to this title have occurred: Ord. 2375, 07/12/04; Ord. 2409, 6/13/05; Ord. 2411, 7/11/05; Ord. 2422, 10/17/05, Ord. 2443, 4/17/06.**
- **Great public discussion through Comp. Plan update hearings and addressed through Ordinance 2361, 1/26/04 and Ord. 2370 3/08/004.**
- **The Planned Residential Development section of code was revised 1/26/04 through Ord. 2364 and includes provisions whereby the City may allow for increasing density up to 20% based on design and layout.**

### **La Center**

- **In 2006, La Center adopted new dimensional standards for multiple-family developments that address lot size requirements. La Center Municipal Code Title 17 ZONING, Chapter 17.25.060, Dimensional standards/multiple-family developments.**
- **January 2007, La Center confirmed that street frontage improvements are consistent between single- and multi-family zones.**
- **December 2004, the City of La Center adopted a modified version of the state model code allowing manufactured homes on all residential zoning districts. La Center Municipal Code Title 17 ZONING, Chapter 17.25.100, Manufactured Homes.**
- **December 2004, the City of La Center adopted new code language allowing for manufactured home parks with design standards. La Center Municipal Code Title 17 ZONING, Chapter 17.85.050, Manufactured home parks and subdivisions.**
- **In 2006, La Center discontinued their PUD Ordinance. Cluster housing and/or townhouse development opportunities are apparent in the 2006 dimensional standards for multiple-family developments. La Center Municipal Code Title 17 ZONING, Chapter 17.25.060, Dimensional standards/multiple-family developments.**

### **City of Ridgefield**

- **Residential Ordinance for newly created lots approved through the subdivision process amended in September 2005 (Ordinance 18.210.050) to allow a range of density in low-density residential zones from 3 to 8 units per buildable acre.**
- **The City of Ridgefield has proposed increasing their medium density residential zones in the Comprehensive Growth Management Plan Preferred Urban Growth Area Map: October 24, 2006.**

### **City of Vancouver**

- **In 2003, City Council adopted an infill ordinance in the Vancouver urban growth area including city limits, in cooperation with the county.**
- **The City of Vancouver revised the planned unit development and mixed-use standards in 2004 and 2005, respectively.**

### **City of Washougal**

- **In 1995, the city council adopted minimum lot sizes, and revised the Planned Unit Development (PUD) Ordinance, allowing a 20% density bonus and density transfer to protect critical lands.**



- **In 2000, the city council adopted a mixed-use ordinance that allows 16 units per acre for residential use.**
- **In 2001, the city council adopted residential zone districts that allow for accessory apartments in all residential zone districts.**
- **The City of Washougal revised their PUD ordinance allowing a density bonus and density transfer to protect critical lands. Title 18: Chapter 18.64.030, Dimensional and improvement requirements; (Ord. 1496 § 1, 2004; Ord. 1475 § 1, 2004; Ord. 1465 § 1, 2003; Ord. 1454 § 1, 2003; Ord. 1233 § 1 (Exh. A), 1997), and Chapter 18.38, Woodburn Hill Subarea Development; (Ord. 1520 § 1, 2005; Ord. 1421 § 1, 2001; Ord. 1253 § 1, 1997)**
- **The City of Washougal Municipal Code Title 18, Chapter 18.32 COMMERCIAL DISTRICTS (CV, CC, CH)\* (Ord. 1503 § 1, 2005; Ord. 1496 § 1, 2004; Ord. 1473 § 1, 2004; Ord. 1437 § 1, 2002; Ord. 1398 § 1 (Exh. A), 2000), and Chapter 18.35 TOWN CENTER DISTRICTS (Ord. 1547 § 3 (Exh. A), 2006) implement a downtown revitalization plan with proposed increased residential densities with commercial uses on first floors and residences above, at 16 units per acre.**

In summary, several of the cities have addressed their reasonable measures by adopting local development regulations. However, these changes in regulations may not immediately reflect higher density development within the time reviewed (2006-2014). The market and economy might regulate development and density, which may delay development with higher densities. These adopted measures will likely be reflected in the next buildable lands evaluation report. If cities do not increase their densities, then county-wide planning policies will need to be amended possibly before the next Buildable Lands Report is completed.

### Buildable Land Needs & Capacity Analysis

In 1992, Clark County began the Vacant Lands analysis to determine the potential capacity of urban growth areas to accommodate projected growth for the next 20 years to the year 2012. County staff met with interested parties from the development and environmental community to collectively examine criteria to be used to compute the supply of land available for development within each urban growth boundary. From the process, a methodology was developed using Clark County's Department of Geographic Information System (GIS) as the primary data source.

The evaluation component of the RCW 36.70A.215 Review and Evaluation Program, at a minimum, shall: "Determine whether there is sufficient suitable land to accommodate the countywide population projection established for the county pursuant to RCW 43.62.035 and the subsequent population allocations within the county and between the county and its cities and the requirements of RCW 36.70A.110."

The amount of land needed to accommodate projected growth through the 2035 planning horizon is the subject of this section. The amount of buildable land needed will be instrumental in the update of the comprehensive plan and provide a framework for addressing the land supply needs of a new 20-year planning horizon.

The two tables below indicate the amount of residential land needed to accommodate the projected population based on (1) the 2015 Comprehensive Growth Management Plan baseline assumptions; and (2) the densities observed since 2006. Each table provides the 2015 population (January 1st), the remaining population for planning horizon 2035, and the residential units and acres needed.

**Table 28**  
**2035 Residential Land Need Based on 2015 Comprehensive Plan Baseline Assumptions**

UGA	2015 Population	Remaining Population for planning horizon 2035	Residential units needed	Assumed units per net acre	Residential acres needed	Deficit	Surplus	2015 Vacant and Buildable Land inventory in net acres
<b>Battle Ground</b>	20,871	15,972	6,005	6	1,001		69	1,070
<b>Camas</b>	22,843	11,255	4,231	6	705		187	892
<b>LaCenter</b>	3,209	3,233	1,216	4	304		69	373
<b>Ridgefield</b>	6,575	13,087	4,920	6	820		189	1,009
<b>Vancouver</b>	315,460	52,786	19,845	8	2,481		1,142	3,622
<b>Washougal</b>	15,932	6,023	2,264	6	377		99	477
<b>Woodland</b>	89	229	86	4	22		4	25
<b>Yacolt</b>	1,661	303	114	4	28		15	44
<b>Total</b>	386,640	114,322	42,978	7	6,140			7,513

Source: Clark County Community Planning. Note: Land needs are based on the VBLM2015 model using net acres.

**Table 29**  
**2035 Residential Land Need Based on Observed Density**

UGA	2015 Population	Remaining Population for planning horizon 2035	Residential units needed	Observed units per acre	Residential acres needed	Deficit	Surplus	2015 Vacant and Buildable Land inventory in net acres
Battle Groun	20,871	15,972	6,005	3.3	1,820	-750		1,070
Camas	22,843	11,255	4,231	3.5	1,209	-317		892
LaCenter	3,209	3,233	1,216	1.5	810	-437		373
Ridgefield	6,575	13,087	4,920	3.6	1,367	-357		1,009
Vancouver	315,460	52,786	19,845	7	2,835		788	3,622
Washougal	15,932	6,023	2,264	4.9	462		14	477
Woodland	89	229	86	4	22		4	25
Yacolt	1,661	303	114	3.4	33		10	44
<b>Total</b>	<b>386,640</b>	<b>129,546</b>	<b>48,702</b>	<b>5.7</b>	<b>8,544</b>	<b>-1,032</b>		<b>7,513</b>

Source: Clark County Community Planning. Note: Land needs are based on the VBLM 2015 model using net acres.

In conclusion, based on observed density and the 2015 VBLM, the UGAs show a deficit of 1,032 acres. If residential development continues to develop at the observed densities, then this deficit might become true by 2035. It is important to note that the observed densities occurred at a period of a deep recession having a significant impact to development occurring in the housing sector. However, Battle Ground, Camas, La Center, Ridgefield, Vancouver, Washougal and Clark County have adopted local development regulations and revitalization of downtown areas that may reflect higher density development within the planning horizon. The market and economy might regulate development and density possibly delaying UGAs seeing on the ground development with higher densities. For exact development regulations, please see the assessment of reasonable measures section.

### **Commercial and Industrial Needs Analysis**

The 2007 Comprehensive Plan assumed an employment density of twenty (20) jobs per acre for commercial development and nine (9) jobs per acre for industrial development.

The Board chose to plan for a total of 91,200 net new jobs. According to the 2015 VBLM, (76,978 jobs) and additional land requested through redevelopment (16,775 jobs) by the cities of Battle Ground, La Center, and Ridgefield, and the public sector jobs (7,400), the county has capacity for 101,153 net new jobs. Public sector employment is not accounted for in the model. ESD estimates up to 7,400 new public sector jobs over the next twenty years. We anticipate that most of those public sector jobs will occur on existing facilities, and therefore will not require new lands.

### **Capacity Analysis**

The following tables provide the vacant and buildable lands per urban growth area in the



residential, commercial and industrial areas based on the 2015 VBLM. Countywide there are 7,513 net buildable residential acres with a capacity of 136,820 residents; 2,057 net buildable commercial acres with an employment capacity of 41,138 and 3,982 net buildable industrial acres with an employment capacity of 35,840. Potential jobs not captured by the vblm increase the number of total jobs by 16,775, and the public sector jobs add 7,400, thus increasing the total job capacity from 76,978 to 101,153.

**Table 30  
Residential Capacity Analysis, 2015**

Jurisdiction	Gross Acres	Net Acres	House holds	Population Capacity	Average Density per Net Acre
<b>Battle Ground</b>					
City	1,620.6	737.8	4,427	11,774	6
UGA	750.9	332.0	1,992	5,299	6
Total	2,371.5	1,069.8	6,419	17,073	6
<b>Camas</b>					
City	1,561.3	700.2	4,201	11,174	6
UGA	432.2	192.2	1,153	3,067	6
Total	1,993.5	892.3	5,354	14,242	6
<b>La Center</b>					
City	574.4	251.4	1,006	2,675	4
UGA	314.1	121.8	487	1,296	4
Total	888.5	373.2	1,493	3,971	4
<b>Ridgefield</b>					
City	1,583.2	654.0	3,924	10,438	6
UGA	858.2	355.2	2,131	5,669	6
Total	2,441.3	1,009.2	6,055	16,108	6
<b>Vancouver</b>					
City	1,208.4	567.1	4,536	12,067	8
UGA	6,764.4	3,055.4	24,443	65,019	8
Total	7,972.8	3,622.5	28,980	77,086	8
<b>Washougal</b>					
City	578.6	255.2	1,531	4,074	6
UGA	499.2	221.4	1,328	3,533	6
Total	1,077.8	476.6	2,860	7,606	6
<b>Yacolt</b>					
City	65.1	36.4	146	388	4
UGA	16.4	7.3	29	77	4
Total	81.6	43.7	175	465	4
<b>Woodland</b>					
City	5.8	2.0	8	21	4
UGA	88.9	23.3	93	247	4
Total	94.8	25.2	101	269	4
<b>URBAN TOTAL</b>	<b>16,921.7</b>	<b>7,512.6</b>	<b>51,436</b>	<b>136,820</b>	<b>7</b>
<b>Urban Growth Target</b>				<b>129,546</b>	

Source: Clark County Community Planning and VBLM 2015

Note: Residential market factor is included in the land capacity target.

**Table 31  
Rural Capacity Analysis, 2015**

Comprehensive Plan Designation	Conforming Vacant Lots			Undersized Vacant Lots (no minimum not size)	Total Potential Vacant Lots	Rural Capacity
	Current	Potential Dividable	Total			
R-5	1,203	2,648	3,851	1,470	5,321	14,154
R-10	146	536	682	475	1,157	3,078
R-20	19	33	52	70	122	325
FR-40	34	90	124	643	767	2,040
FR-80	21	609	630	307	937	2,492
AG-20	156	432	588	498	1,086	2,889
<b>Total Rural</b>	<b>1,579</b>	<b>4,348</b>	<b>5,927</b>	<b>3,463</b>	<b>9,390</b>	<b>24,977</b>

Source: Clark County GIS

**Table 32  
Commercial and Industrial Capacity Analysis**

Jurisdiction	COMMERCIAL			INDUSTRIAL			Total Jobs
	Gross Acres	Net Acres	Jobs	Gross Acres	Net Acres	Jobs	
<b>Battle Ground</b>							
City	591.4	372.5	7,449	335.3	177.3	1,596	9,045
UGA	59.0	39.5	790	28.8	10.9	98	888
<b>Total</b>	<b>650.4</b>	<b>411.9</b>	<b>8,239</b>	<b>364.1</b>	<b>188.3</b>	<b>1,694</b>	<b>9,933</b>
<b>Camas</b>							
City	514.3	337.2	6,744	846.1	456.9	4,112	10,856
UGA	0.0	0.0	0	76.7	36.2	326	326
<b>Total</b>	<b>514.3</b>	<b>337.2</b>	<b>6,744</b>	<b>922.8</b>	<b>493.1</b>	<b>4,438</b>	<b>11,182</b>
<b>La Center</b>							
City	63.6	44.2	884	83.3	48.2	434	1,318
UGA	0.0	0.0	0	1.1	0.7	6	6
<b>Total</b>	<b>63.6</b>	<b>44.2</b>	<b>884</b>	<b>84.4</b>	<b>48.8</b>	<b>440</b>	<b>1,324</b>
<b>Ridgefield</b>							
City	270.1	179.3	3,587	942.0	506.2	4,556	8,143
UGA	17.8	12.2	245	65.5	35.6	321	565
<b>Total</b>	<b>287.9</b>	<b>191.6</b>	<b>3,831</b>	<b>1,007.4</b>	<b>541.8</b>	<b>4,877</b>	<b>8,708</b>
<b>Vancouver</b>							
City	519.9	369.1	7,383	2,706.5	1,391.1	12,520	19,903
UGA	868.3	604.2	12,083	1,861.1	1,022.4	9,202	21,285
<b>Total</b>	<b>1,388.3</b>	<b>973.3</b>	<b>19,466</b>	<b>4,567.7</b>	<b>2,413.5</b>	<b>21,722</b>	<b>41,188</b>
<b>Washougal</b>							
City	83.8	56.3	1,126	167.8	62.9	566	1,693
UGA	45.5	31.8	635	343.0	205.2	1,847	2,482
<b>Total</b>	<b>129.3</b>	<b>88.1</b>	<b>1,762</b>	<b>510.8</b>	<b>268.1</b>	<b>2,413</b>	<b>4,175</b>
<b>Yacolt</b>							
City	14.1	10.6	211	9.7	6.5	59	270
UGA	0.0	0.0	0	39.6	21.9	198	198
<b>Total</b>	<b>14.1</b>	<b>10.6</b>	<b>211</b>	<b>49.2</b>	<b>28.5</b>	<b>256</b>	<b>468</b>
<b>Woodland</b>							
City	0.0	0.0	0	0.0	0.0	0	0
UGA	0.0	0.0	0	0.0	0.0	0	0
<b>Total</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0</b>	<b>0</b>
<b>Urban Job Total</b>	<b>3,047.8</b>	<b>2,056.9</b>	<b>41,138</b>	<b>7,506.4</b>	<b>3,982.2</b>	<b>35,840</b>	<b>76,978</b>
<b>Public Sector</b>							<b>7,400</b>
<b>Redevelopment</b>							<b>16,775</b>
<b>Employment Growth Target</b>							<b>101,153</b>

Source: Clark County Community Planning and VBLM 2015.

**Vacant and Buildable Lands Model planning assumptions are discussed in Appendix A.**

**Summary**

- Based on the 2015 VBLM inventory of vacant and buildable land there are 7,513 net buildable acres. At a potential of 7 dwelling units per acre and 2.66 persons per household, this land area will accommodate 136,820 persons. The Urban Growth Target is 129,546 persons, and the January 1, 2015 Clark County population estimate is 448,845. Therefore, the 2015 VBLM has capacity to accommodate the Urban Growth Target of 578,381 by 2035.
- Based on the current inventory of vacant and buildable land, there are 2,057 net buildable commercial acres and 3,982 net buildable industrial acres. Thus, there is potential job capacity of 76,978 plus the public sector jobs that are not included in the vacant and buildable lands model, and including 16,775 jobs that will occur from redevelopment totaling 101,153 potential jobs.
- Based on the existing zoning, the total vacant and development potential in the rural area is approximately 9,390 lots. Assuming 2.66 persons per household, there is capacity to add 24,977 persons in the rural areas.

The data collected for this report is available online at [http://www.clark.wa.gov/planning/comp\\_plan/monitoring.html#capacity](http://www.clark.wa.gov/planning/comp_plan/monitoring.html#capacity) or via CD-Rom from Clark County Community Planning.

## Appendix A

### VACANT AND BUILDABLE LANDS MODEL

The Vacant Buildable Lands Model (VBLM) is a planning tool developed to analyze residential, commercial, and industrial lands within urban growth areas. The model serves as a tool for evaluating urban area alternatives during Clark County 20-year Comprehensive Growth Management Plan updates and for monitoring growth patterns during interim periods. The VBLM analyzes potential residential and employment capacity of each urban growth area within the county based on vacant and underutilized land classifications. This potential capacity is used to determine the amount of urban land needed to accommodate projected population and job growth for the next 20 years during plan updates and to analyze land consumption or conversion rates on an annual basis for plan monitoring purposes.

In 1992, Clark County began evaluating vacant lands as part of the initial 20-year growth management plan. At that time, County staff met with interested parties from development and environmental communities to examine criteria and establish a methodology for computing potential land supply available for development. A methodology relying on the Clark County Assessor's database and Geographic Information System (GIS) as primary data sources was developed. As a result the VBLM is a GIS based model built on geoprocessing scripts.

In the spring of 2000, the Board of Clark County Commissioners appointed a technical advisory committee consisting of local government agencies, Responsible Growth Forum members, and Friends of Clark County to revisit this process. They reviewed definitions for each classification of land and planning assumptions for determining potential housing units and employment.

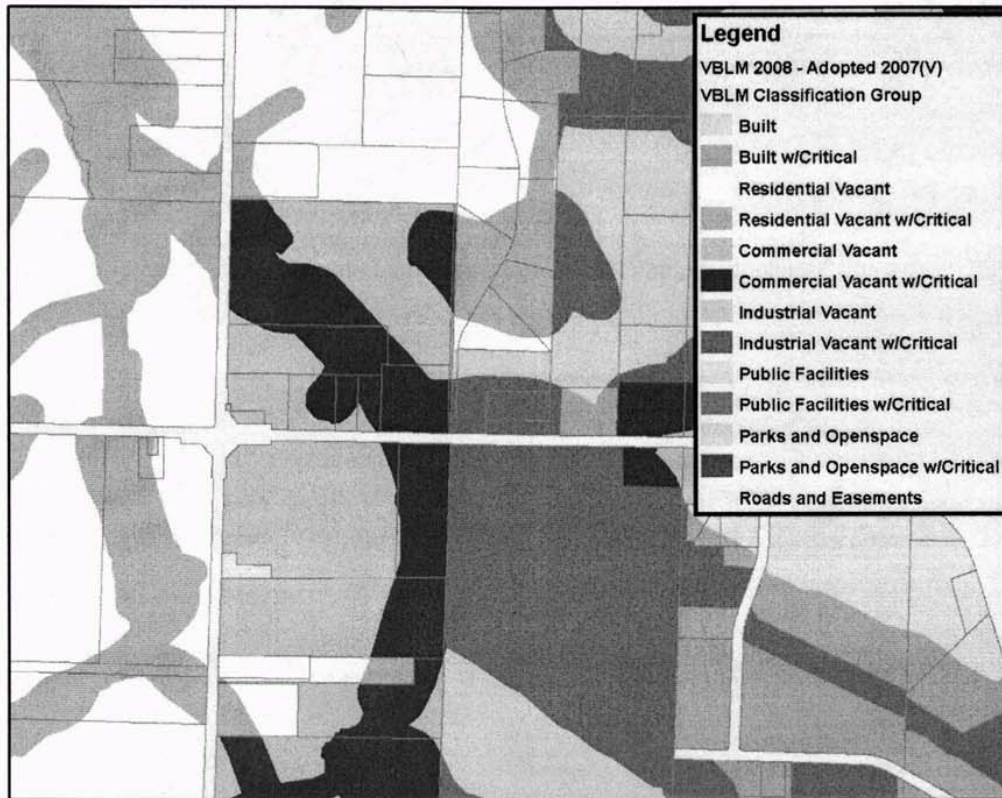
Another comprehensive review of the VBLM criteria and assumptions was undertaken in 2006 as part of the growth management plan update. This review compared the 1996 prediction to the 2006 model. This review demonstrated that for the most part the model was a good predictor of what land would develop. However, changes were made to the model based on results of this review. Important changes to the model include:

- Underutilized land determination for all models was changed to a building value per acre criteria.
- The industrial model and commercial model now have consistent classifications. The industrial model was revised to match the commercial process.
- Environmental constraints methodology changed from applying assumptions to parcels based on percentage of critical land to simply identifying



constrained and non constrained land by parcel and applying higher deductions to constrained lands.

*Example Map of Constrained Lands*



Benefits of the current improvements are more consistency and easier monitoring of the model. Better accounting for private open space, constrained lands, and exempt port properties. And calculations for underutilized lands are more dynamic.

### **Model Classifications**

The model classifies lands into three urban land use categories--residential, commercial, and industrial. Lands are grouped into land use codes based on comprehensive plan designations for model purposes. Lands designated as parks & open space, public facility, mining lands, or airport within the urban growth areas are excluded from available land calculations. Additionally, all rural and urban reserve designated lands are excluded from the model. Table 1 lists a breakdown of the land use classes.

Table 1: Land Use Classes

LU	Comprehensive Plan Classification	VBLM Model
1	Urban Low Density Residential	Residential – Urban Low
1	Single-Family_Low	Residential – Urban Low
1	Single-Family_Medium	Residential – Urban Low
1	Single-Family_High	Residential – Urban Low
2	Urban Medium Density Residential	Residential – Urban High
2	Urban High Density Residential	Residential – Urban High
2	Multi-Family_Low	Residential – Urban High
2	Multi-Family_High	Residential – Urban High
3	Neighborhood Commercial	Commercial
3	Community Commercial	Commercial
3	General Commercial	Commercial
3	City Center	Commercial
3	Regional Center	Commercial
3	Downtown	Commercial
3	Commercial	Commercial
4	Mixed Use	Commercial
4	Town Center	Commercial
5	Office Park/Business Park	Commercial
5	Light industrial/Business park	Commercial
5	Employment Campus	Commercial
6	Light Industrial	Industrial
6	Heavy Industrial	Industrial
6	Railroad Industrial	Industrial
6	Industrial	Industrial
33	Mixed use - Residential	Residential
34	Mixed use - Employment	Commercial

The model classifies each urban parcel as built, vacant, or underutilized by the three major land uses. Additionally lands with potential environmental concerns and/or geologic hazards as consistent with the applicable section of the Clark County and other municipal codes are classified as constrained (critical lands) lands. Constrained lands are identified by parcel in the model.

**Constrained lands include:**

- 100 year floodplain or flood fringe
- Wetlands inventory (NWI, high quality, permitted, modeled) with 100 foot buffer
- Slopes greater than 15 percent (>25% for City of Vancouver)
- Land slide area that has active or historically unstable slopes
- Designated shorelines

- Hydric soils with 50 foot buffer
- Habitat areas with 100 foot buffer
- Species areas with 300 foot buffer
- Riparian stream buffers by stream type (Table 2)

Table 2: Riparian Buffers

Stream Type	Countywide	Vancouver Exception
Type S (Shoreline)	250 Feet	175 Feet
Type F (Fish Bearing)	200 Feet	175 Feet
Type NP (Non-fish bearing, perennial)	100 Feet	150 Feet
Type NP (Non-fish bearing, seasonal)	75 Feet	100 Feet

### Residential Model

Important residential classifications include vacant, vacant critical, underutilized, and underutilized critical. These classes are used to determine gross acres available for development. Vacant exempt, vacant lots less than 5,000 square feet and all other classes are excluded from available land calculations. Table 3 lists all residential classes.

Table 3: Residential Classifications

RESCLASS	Description
0	Not Residential
1	Built
2	Unknown
3	Vacant
4	Underutilized
5	Roads and Easements
6	Mansions and Condos
12	Built Exempt
13	Vacant Exempt
14	Vacant Critical
18	Underutilized Critical
19	Less than 5,000 square feet
20	Private Open Space
21	Parks and Open Space

Criteria for classifying residential lands are as follows:

- ↳ Residential Vacant Criteria
  - Building value less than \$13,000



- Not tax exempt
  - Not an easement or right of way
  - Not a state assessed or institutional parcel
  - Not a mobile home park
  - Parcel greater than 5,000 square feet
- Underutilized
    - Same as Vacant except building value criteria is replaced with a building value per acre criteria.
    - Building value per acre of land is below the 10<sup>th</sup> percentile of building value per acre for all residential parcels within all UGAs. The 10<sup>th</sup> percentile is calculated by the model for each year and for each UGA alternative.
    - Parcel size greater than 1 acre
- Mansions and Condos
    - Parcel size greater than 1 acre
    - Building value per acre greater than the 10<sup>th</sup> percentile.
- Residential Exempt
    - Properties with tax exempt status
- Easements and right of ways
- Constrained (Critical lands)
    - All classifications may be subdivided into constrained vs. not constrained. Constrained lands are described above.

### **Commercial and Industrial Models**

Commercial and industrial lands are classified using consistent criteria with one exception; industrial classes include exempt port properties in the current model.

Important commercial classes for determining gross acres available for development include vacant, vacant critical, underutilized, and underutilized critical. Vacant exempt and vacant lots less than 5,000 square feet are excluded from available land calculations. Table 4 lists all commercial classes.

Table 4: Commercial Classifications

COMCLASS	Description
0	Not Commercial
1	Built
2	Vacant
3	Underutilized
5	Vacant Lot less than 5,000 sq feet
7	Vacant Critical
9	Underutilized Critical
10	Vacant Exempt

Important industrial classes for determining gross acres available for development include vacant, vacant critical, exempt vacant port property, exempt vacant port property critical, underutilized, underutilized critical, exempt underutilized port property, and exempt underutilized port property critical. All exempt not port properties are excluded in the available land calculations. Table 5 lists all industrial classes.

Table 5: Industrial Classifications

INCLASS	Description
0	Not Industrial
1	Vacant
2	Underutilized
3	Vacant Critical
4	Underutilized Critical
6	Built
7	Exempt Vacant Port Property
8	Exempt Vacant Not Port
9	Exempt Vacant Port Property Critical
10	Exempt Underutilized Port
11	Exempt Underutilized Port Critical
12	Exempt Underutilized Not Port
15	Easements

Commercial and industrial models classify vacant and underutilized land as follows:

- Vacant land
  - Building value less than \$67,500
  - Not "Assessed With"- Some parcels are assessed with other parcels. These parcels are often parking lots, or multiple parcels comprising a single development. All assessed with parcels are considered built.
  - Not Exempt.
    - Port property is exempt, and is included as a separate classification in the Industrial land model.



- Not an Easement or right of way
  - Parcel greater than 5,000 square feet
  - Not a state assessed or institutional parcel
- Underutilized Lands
    - Same as vacant except building value criteria is replaced with a building value per acre criteria of less than \$50,000.
  - Constrained (Critical lands)
    - All classifications may be subdivided into constrained vs. not constrained. Commercial and industrial constrained lands are defined the same as residential constrained lands and are listed above.
  - Exempt Port Properties in the Industrial Model
    - Includes lands that are under port ownership and available for development. Buildable exempt port properties are included in available land calculations.
    - Port properties can be classified as vacant, underutilized, or constrained.

The model produces a summary of gross residential, commercial, and industrial acres available for development. Gross acres are defined as the total raw land available for development prior to any deductions for infrastructure, constrained lands, and not to convert factors.

### Planning Assumptions

The next step in the buildable lands process is applying planning assumptions to the inventory of vacant and underutilized gross acres in order to arrive at a net available land supply. These assumptions account for infrastructure, reduced development on constrained land, and never to convert factors. Use factors along with employment and housing units per acre densities are applied to derived net acres to predict future capacities.

#### Residential Model Planning Assumptions:

- 27.7% deduction to account for both on and off-site infrastructure needs.
  - 20% infrastructure deduction for mixed use lands.
- Never to convert factor
  - 10% for vacant land
  - 30% for underutilized
- 50% of available constrained (critical) land will not convert
- 60% of mixed use land will develop as residential, 85% residential for Battle Ground mixed use - residential and 25% residential for mixed use - employment.

### Commercial and Industrial Model Planning Assumptions

- 25% infrastructure factor applied for both commercial and industrial lands.
- 20% of available constrained (critical) commercial and mixed use land will not convert
- 50% of available constrained (critical) industrial land will not convert
- 40% of mixed use land will develop as commercial, 15% commercial for Battle Ground mixed use - residential and 75% commercial for mixed use - employment.

Employees and unit per acre density assumptions are applied to net developable acres to predict future employment and housing unit capacities. Densities are set by the Current Planning staff based on observed development and comprehensive plan assumptions for each UGA.

Applied residential densities vary by UGA. Table 6 lists the units per acre by UGA.

*Table 6: Residential units per Acre*

<b>Urban Growth Area</b>	<b>Applied Housing Units per Net Developable Acre</b>
Battle Ground	6
Camas	6
La Center	4
Ridgefield	6
Vancouver	8
Washougal	6
Woodland	6
Yacolt	4

Applied employment densities vary by land use as well. Commercial classes which includes commercial, business park, and mixed use categories apply 20 employees per acre while industrial classes apply 9 employees per acre.

Applying residential and employment planning assumptions to the VLM results produce housing units and employment carrying capacity estimates for urban growth areas. These estimates help monitor growth on an annual basis and is part of the criteria used for setting UGA boundaries during growth management plan updates.

Current model layers and reports are available for viewing in Clark County's GIS MapsOnline web application at:

<http://gis.clark.wa.gov/vblm/>

Underutilized land classes are grouped with vacant classes by land use in MapsOnline and on other map products. Table 7 lists the group classes used for mapping.

*Table 7: Group Classes*

GRPCLASS	Description
1	Built
2	Built w/Critical
3	Residential Vacant
4	Residential Vacant w/Critical
5	Commercial Vacant
6	Commercial Vacant w/Critical
7	Industrial Vacant
8	Industrial Vacant w/Critical
9	Public Facilities
10	Public Facilities w/Critical
11	Parks and Open Space
12	Parks and Open Space w/Critical
13	Roads and Easements

For more information on the model inputs, structure and outputs, please contact Clark County Community Planning at (360) 397-2280 or Clark County Geographic Information System (GIS) at (360) 397-2002.