

ECONOMIC OPPORTUNITIES ANALYSIS

CITY OF CORNELIUS

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I. Introduction & Key Findings

- The City of Cornelius has a population of 11,900 as of 2015. Since 2000, the City has averaged a 1.4% increase in population annually. While population growth has stagnated since 2010, the City is expected average a 1.5% annual growth in population, adding 5,500 individuals by 2040.
- At present, the City’s annual wages and level of educational attainment is significantly below average levels in Washington County and the Portland MSA. The wage level disparity between the City of Cornelius and the rest of the metro area has grown markedly worse in the last five years as average wages levels have increased overall but decreased slightly in the City of Cornelius.
- The City has seen a solid level of employment growth during the last five years, averaging a 3.7% annual increase in the number of employees in the City, slightly higher growth than the 3.2% experienced in Washington County.
- Employment growth was strongest in Other Services, Leisure & Hospitality, Retail Trade and Construction, which outperformed most sectors in percentage growth and outpaced Washington County growth in those sectors.
- The City’s Baseline employment forecast is based on Metro’s most recent estimated employment forecast which indicates the City is expected to add roughly 1,870 employees through 2040. The resulting total employment land demand is 106 acres (Figure 1).
- The sectors in which the City is most likely to experience future growth include certain manufacturing and technology sectors, agriculture related food processing, small business entrepreneurship and dining, leisure and hospitality.
- Given economic potential and the City’s need to increase its taxable assessment property value base, a second “Healthy City” land demand scenario estimates total land demand for the City is within the range of 171 and 260 acres (Figure 1).

Figure 1 City of Cornelius Land Need by Use Type (Acres)

Use Type	Need For Land (Acres)		
	Baseline (Metro)	Healthy City Scenario	
		Low	High
OFFICE COMMERCIAL	11.6	18.7	28.5
INDUSTRIAL	75.3	121.2	184.3
RETAIL COMMERCIAL	19.3	31.1	47.2
TOTAL	106.3	171.0	260.0

SOURCE: E.D. Hovee & Company, PNW Economics, LLC

II. Prevailing Economic Trends & Outlook

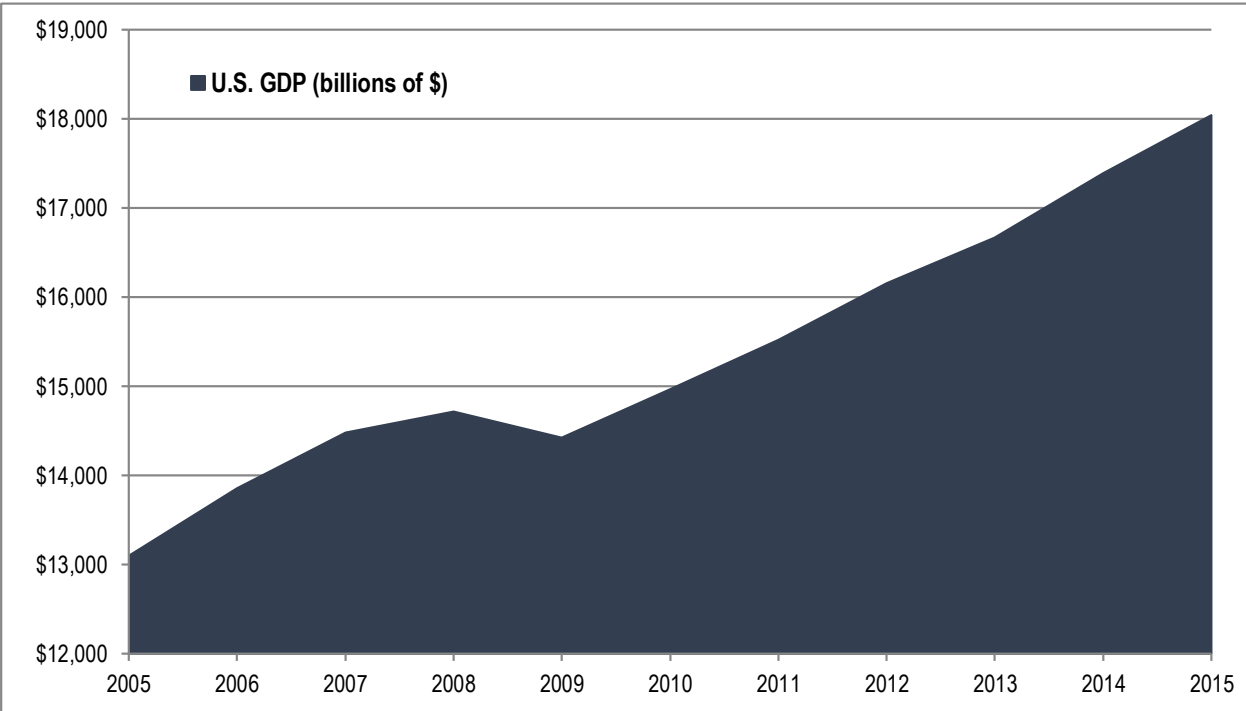
The following section provides background on key economic trends that impact the City of Cornelius and will potentially drive demand for land within the City. The section starts by looking at U.S. growth and then compares the U.S. economy with trends in the Portland metro area. Lastly, we look at trends in the City of Cornelius.

National & Portland MSA Economic Trends

U.S. GDP

The national economy has recorded nearly six consecutive years of Gross Domestic Product (GDP) growth as of the end of 2015, as displayed in Figure 2. The end of 2016 will mark the seventh consecutive year of national economic expansion. Since 2009, the worst year of the national Great Recession, U.S. GDP has averaged 3.0% annual expansion.

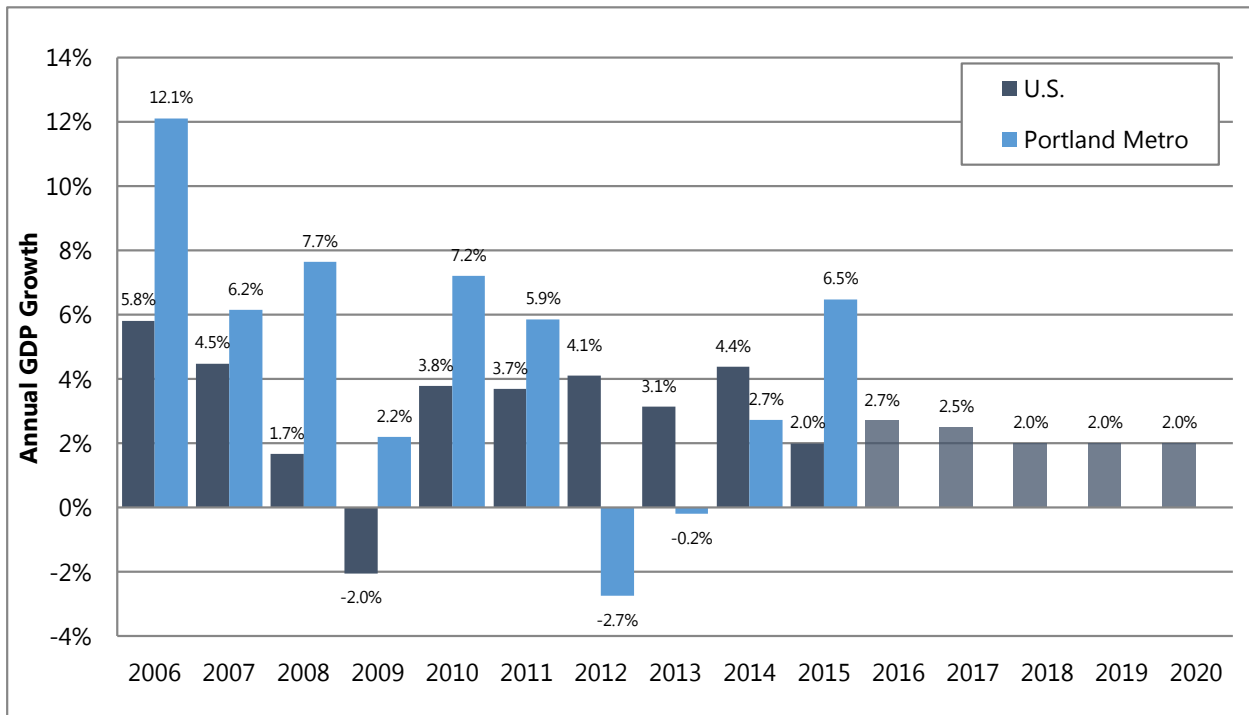
Figure 2 U.S. Real Gross Domestic Product (GDP) Trend, 2005-2015



SOURCE: U.S. Bureau of Economic Analysis

Figure 3 compares the annual, real U.S. GDP growth rate with the Portland metro area’s growth rate since 2006. The Portland metro area has experienced somewhat volatile growth in the past ten years. While GDP remained in the positive during the worst of the recession, it did drop by 2.7% during the recovery in 2012 and 2013. However, since then, Portland has been growing steadily and is expected to outpace national growth in the next few years.

Figure 3 Annual U.S. & Portland MSA Real Gross Domestic Product (GDP) Growth, 2006-2020



SOURCE: U.S. Bureau of Economic Analysis and PNW Economics

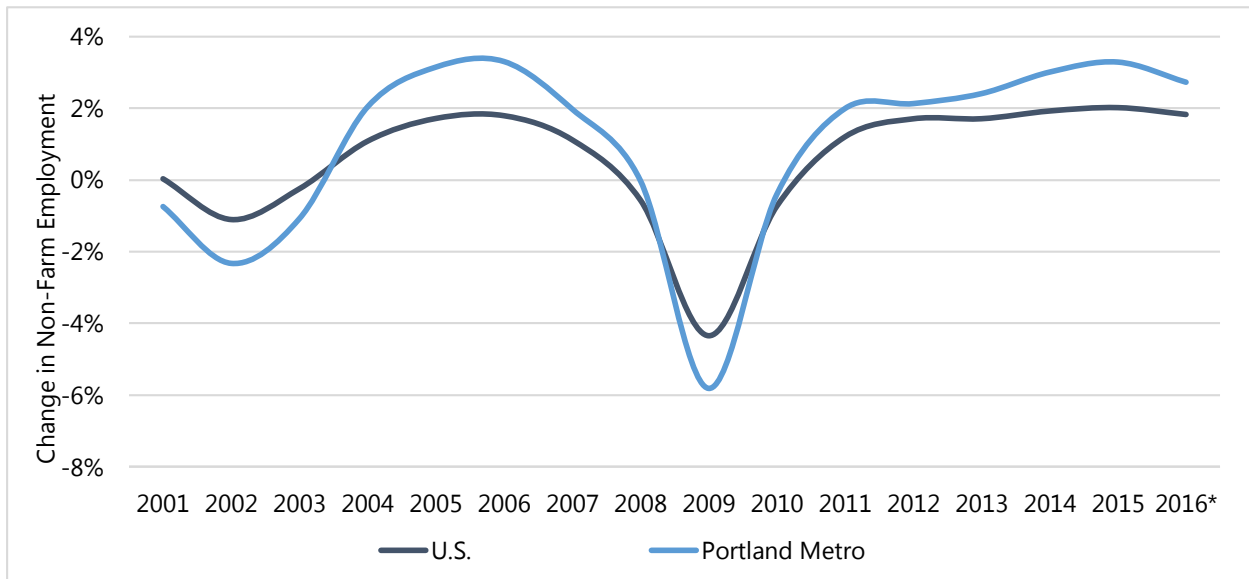
U.S. & Portland MSA Employment

Both national and Portland MSA employment have grown since 2010, averaging 1.7 percent and 2.7 percent annual growth, respectively. During the next few years, the general consensus is that the U.S. as well as Portland metro can expect continued job growth.

There is some concern at the national level that there may be signs of weakening in the economy, such as weak industrial production, wage growth slowdown and possible decline of consumer spending but in each case it is still unclear whether changes are temporary or whether they are a sign of some larger shift in the economy.

The Portland MSA, on the other hand, shows very little signs of slowing. It continues to add jobs and wage growth. That said, job growth rates have slowed slightly during the last quarter but are still exceeding population growth. The Portland metro is expected to maintain recent job growth averages through 2017 with growth expected to slow in 2018 and 2019.

Figure 4 Annual U.S. & Portland MSA Employment Trend, 2000-2016 (Seasonally Adjusted)



*2016 Estimated

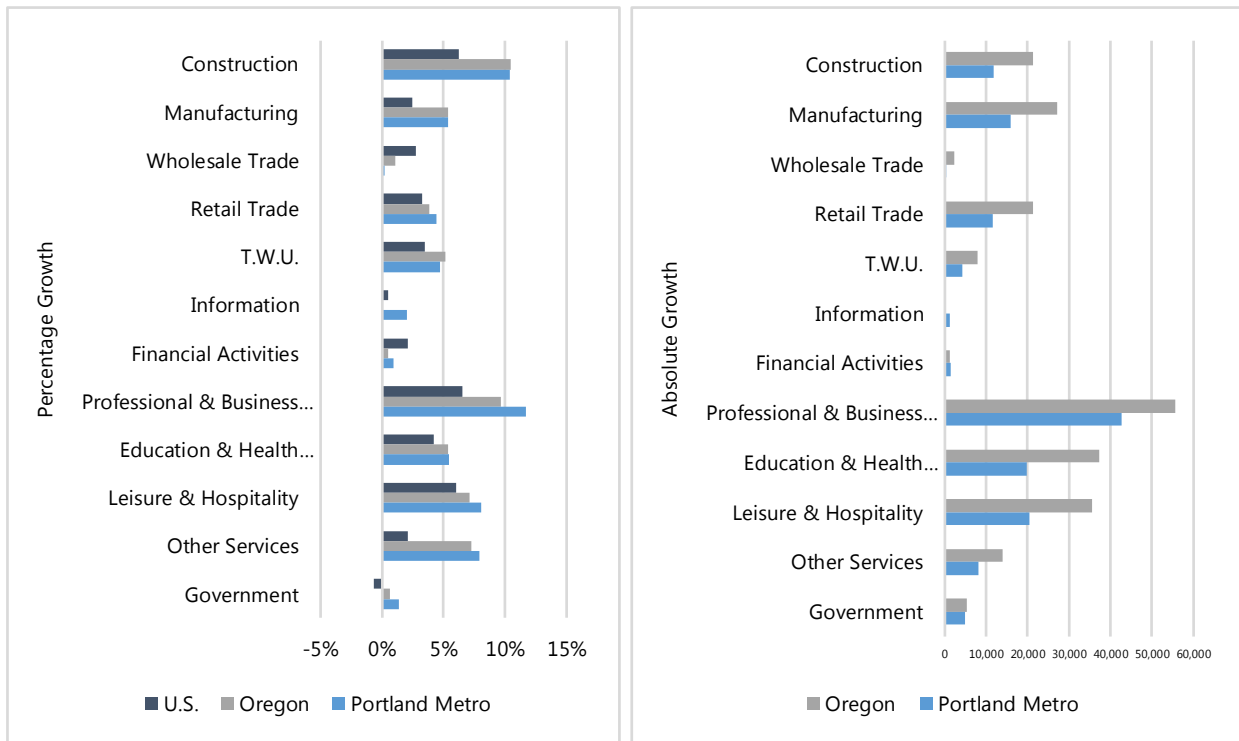
SOURCE: U.S. Bureau of Labor Statistics and PNW Economics

Portland Metro Industry Sector Employment

Between 2010 and 2015, Portland metro area industries have generally fared similarly in terms of growth or contraction as they have nationwide, though more rapidly since 2014. Figure 5 provides illustration of five-year jobs-added trend since 2010 for each of the twelve major, non-farm industry sectors, as well as percentage growth trend since 2010 for each sector.

Like nationwide, Professional & Business Services, Leisure & Hospitality and Education & Health Services all added the most jobs of the broad industry sectors of the regional economy. From a percentage growth perspective, Professional & Business Services, Construction, Leisure & Hospitality and Other Services grew by the highest rates over the past five years.

Figure 5 U.S., Oregon & Portland Metro Industry Sector Employment Change (2010-2015)



SOURCE: U.S. Bureau of Labor Statistics, Oregon Employment Department and PNW Economics

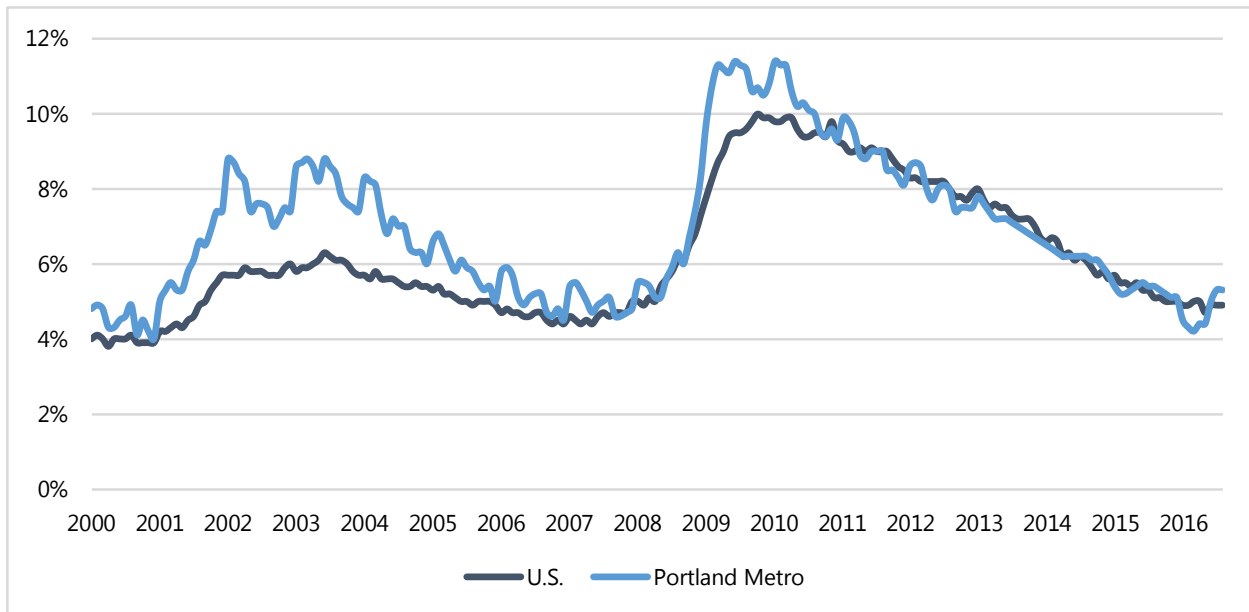
U.S. & Portland MSA Unemployment

Figure 6 displays the U.S. and Portland MSA jobless rate from January 2000 to August 2016. At 4.9%, the national unemployment rate has increased slightly after hitting its lowest level of 4.7% in May since prior to the Great Recession. Job gains have been steady and significant since 2014. But according to the U.S. Bureau of Labor Statistics, total “underemployment” in the U.S. – those unemployed and looking for work, as well as discouraged workers, underutilized workforce given skills and experience, as well as part-time employment by virtue of no full-time position availability – peaked at roughly 17% in 2009 and remained above 12% for roughly four years until September of 2014. It has been declining since and it now stands at 9.6%.¹

The Portland MSA’s unemployment rate was 5.3% as of August 2016, up from 4.2% in March. The increase in the unemployment rate is largely due to more individuals re-entering the labor market as jobs have become more plentiful.

¹ <http://www.bls.gov/news.release/empsit.t15.htm>. (U-6 labor underutilization rate time series)

Figure 6 Annual U.S. & Portland MSA Unemployment Rate, 2000-2016 (Seasonally Adjusted)



SOURCE: U.S. Bureau of Labor Statistics

The upshot of the recent acceleration in hiring and the steady decrease in unemployment since 2014 has been a likely hike in interest rates by the Federal Reserve over the next six months. Expansionary policy of low interest rates, in order to incent continued consumer spending as well as reducing the cost of financing business capital investment and expansion, will likely continue but with modest and careful policy bias towards slight rate increases.

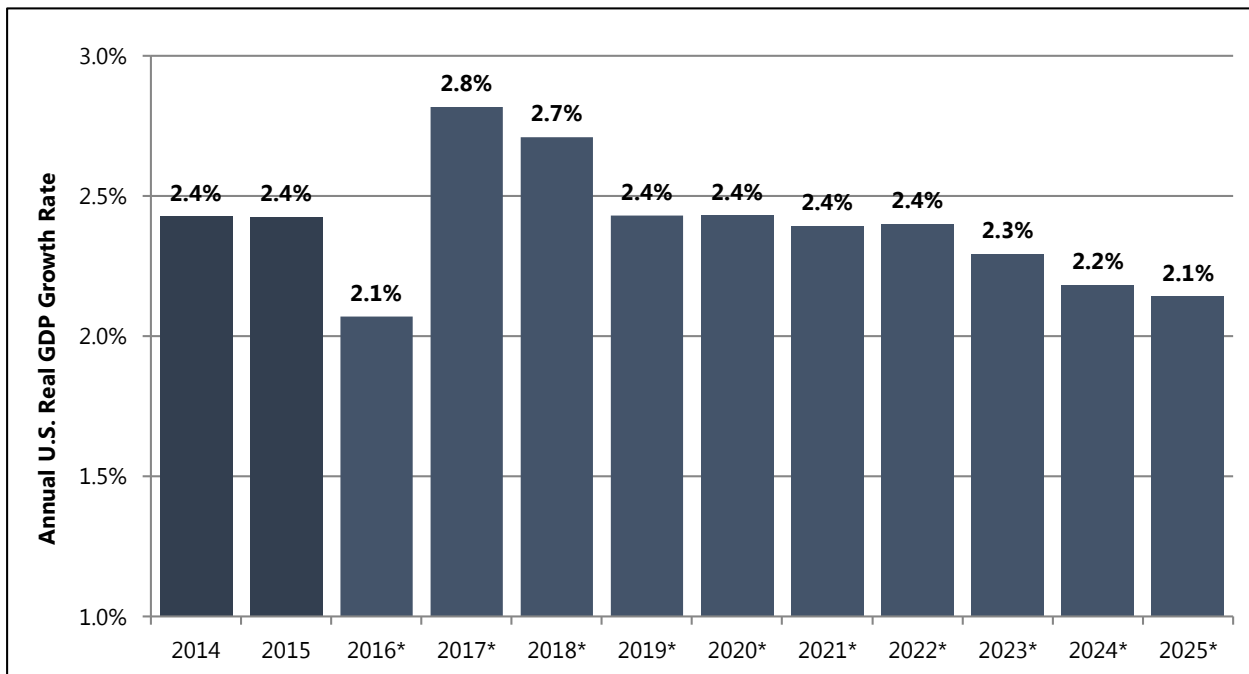
U.S. Economic Outlook

Figure 7 provides a graphical summary of the most recent forecast of annual, U.S. real GDP through 2025 by the U.S. Office of Management and Budget (OMB).

The most recent forecast, conservative in nature and the basis of planning the annual U.S. federal budget, is generally positive with economic growth expected for the foreseeable future, all things equal. This year is expected to see growth by roughly 2.1%, with an acceleration thereafter as oil prices and energy employment weakness shores up.

National economic growth is expected to average over 2.7% annually in 2017 and 2018, while growth averages roughly 2.3% annually thereafter assuming no significant economic shocks.

Figure 7 Forecasted U.S. Real GDP Annual Growth (2014-2025)



*Forecast values

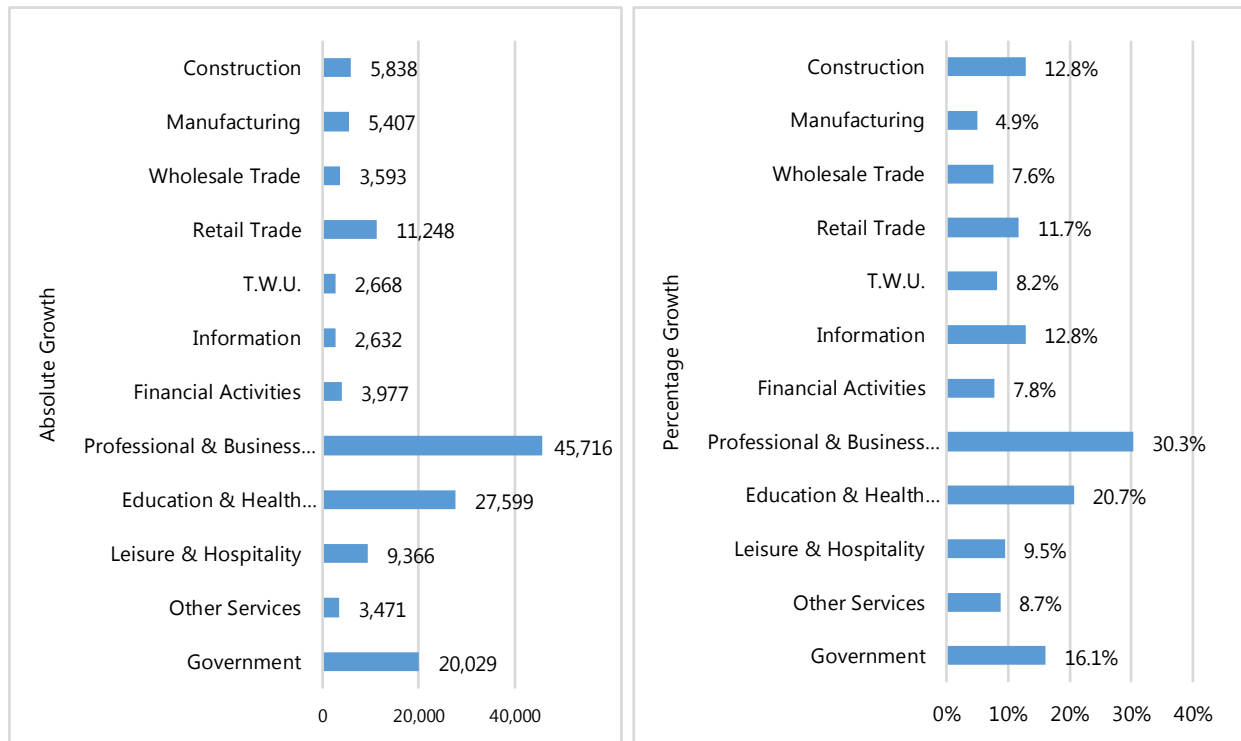
Source: U.S. Office of Management and Budget (June 2016)

Portland-Vancouver-Hillsboro MSA Economic Outlook

Given a sustained expectation of growth in the national economy, the Portland-Vancouver-Hillsboro MSA can be expected to continue to expand employment for the foreseeable future, assuming no unexpected economic shocks. Figure 8 provides a ten-year forecast of industry sector employment in the seven-county Portland metro MSA region, from 2016 to 2026. The forecast is derived by utilizing the September 2016 State of Oregon employment forecast by the Oregon Office of Economic Analysis² and long-term, trended relationship between Oregon industry sector employment and metro area employment.

² <https://www.oregon.gov/das/OEA/Pages/forecastcorev.aspx>

Figure 8 Portland-Vancouver-Hillsboro MSA Industry Employment Forecast, 2016-2026



SOURCE: Oregon Office of Economic Analysis, Oregon Employment Department, and PNW Economics, LLC

The Portland metro region is expected to steadily add 141,545 jobs over the next ten years, averaging 1.2% annual growth. In terms of total jobs added, the following sectors are expected to lead:

- Professional & Business Services: +45,716 jobs (30% growth)
- Educational & Health Services: +27,599 jobs (21% growth)
- Government: +20,029 jobs (16% growth)
- Retail Trade: +11,248 jobs (12% growth)
- Leisure & Hospitality: +9,366 jobs (9.5% growth)
- Construction: +5,838 jobs (13% growth)
- Manufacturing: +5,407 jobs (5% growth – Slowest in the region)

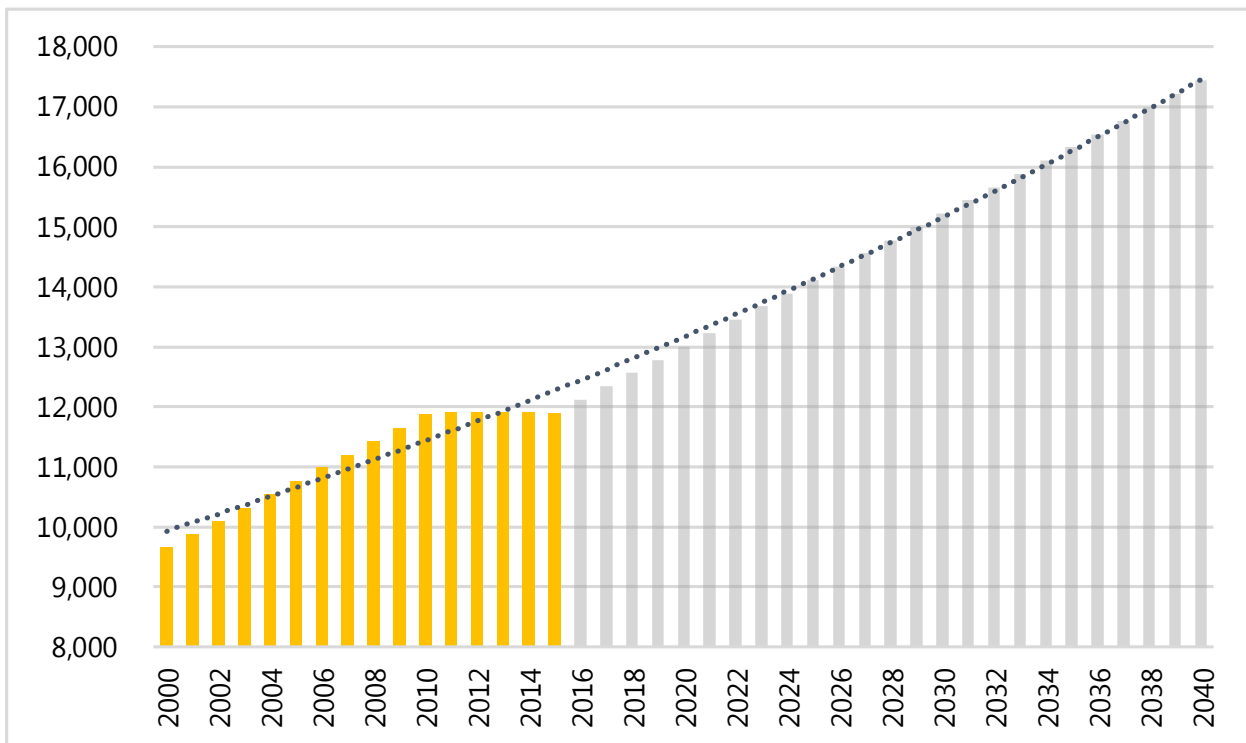
Other points to consider:

- Professional & Business Services: Technical services within the sector are a major driver of office and industrial space need. The sector is expected to grow significantly, likely driving industrial space and land need accordingly.
- All sectors utilize industrial space or land in some capacity, whether for primary operations or maintenance, storage, etc.

City of Cornelius Demographic & Economic Trends

The City of Cornelius has a population of 11,900 as of 2015 according to the Portland State University Population Research Center. Since 2000, the City has grown by an average of 1.4% annually, however since 2010, population growth has remained stagnant or has declined slightly. Going forward, that trend is expected to reverse and the City can expect to grow at an average annual rate of 1.5%, adding 5,532 individuals by 2040.

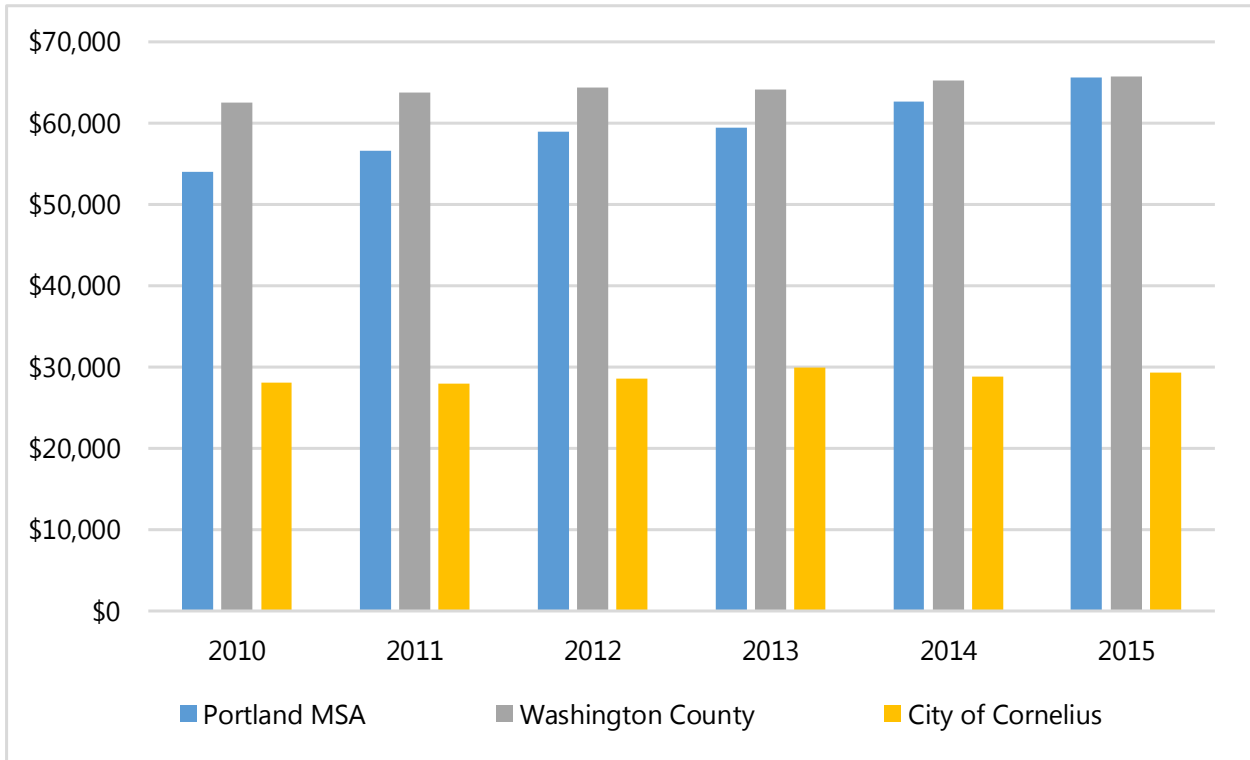
Figure 9 City of Cornelius Population Growth & Forecast (2000-2040)



Source: Portland State University Population Research Center, Metro and PNW Economics

Figure 10 compares annual wages across the Portland MSA, Washington County and the City of Cornelius. The City's annual wages have consistently averaged about 50% less than Washington County wages. Since 2010, City annual wages have dropped from 52% of average Washington County wages to 45%, largely because County wage growth (4% AAGR) is outpacing City wage growth (0.9% AAGR).

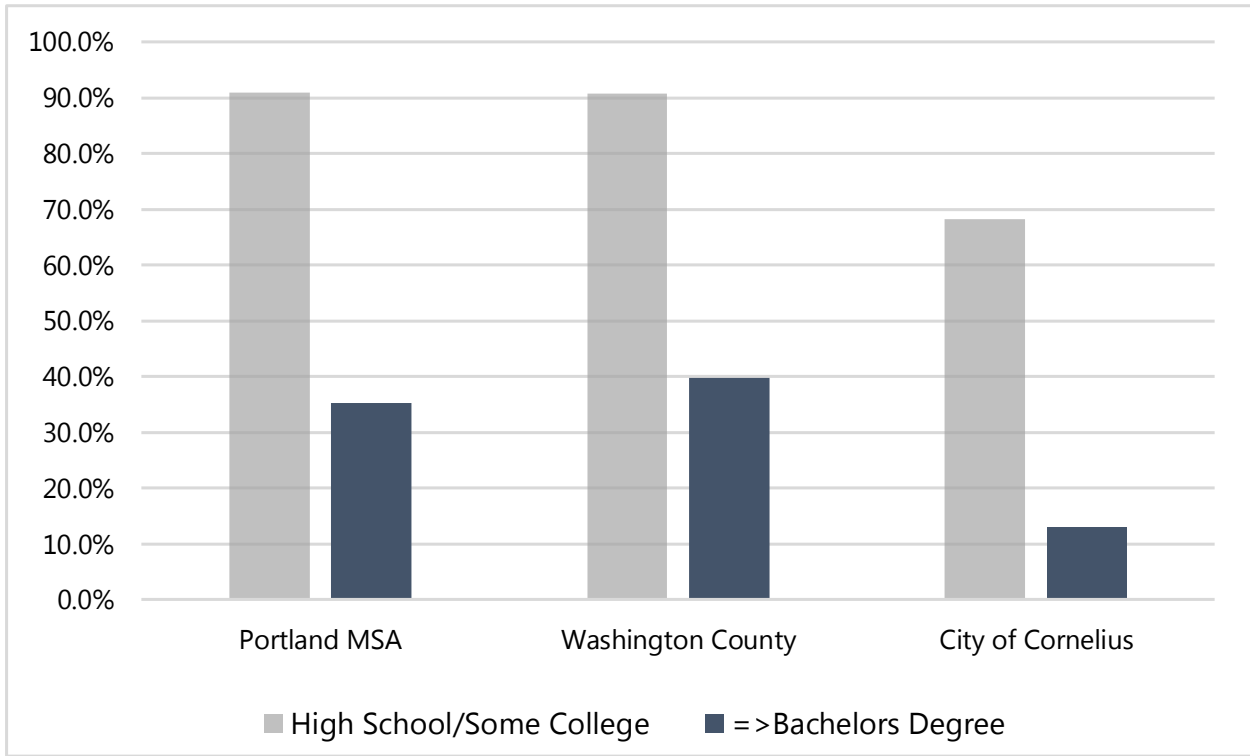
Figure 10 Portland MSA, Washington County & City of Cornelius Annual Wages



Source: Oregon Employment Department, PNW Economics

Figure 11 compares educational attainment in the City of Cornelius with that of the Portland MSA and Washington County. The City has an overall lower level of high school graduates and individuals with a Bachelor's degree or higher.

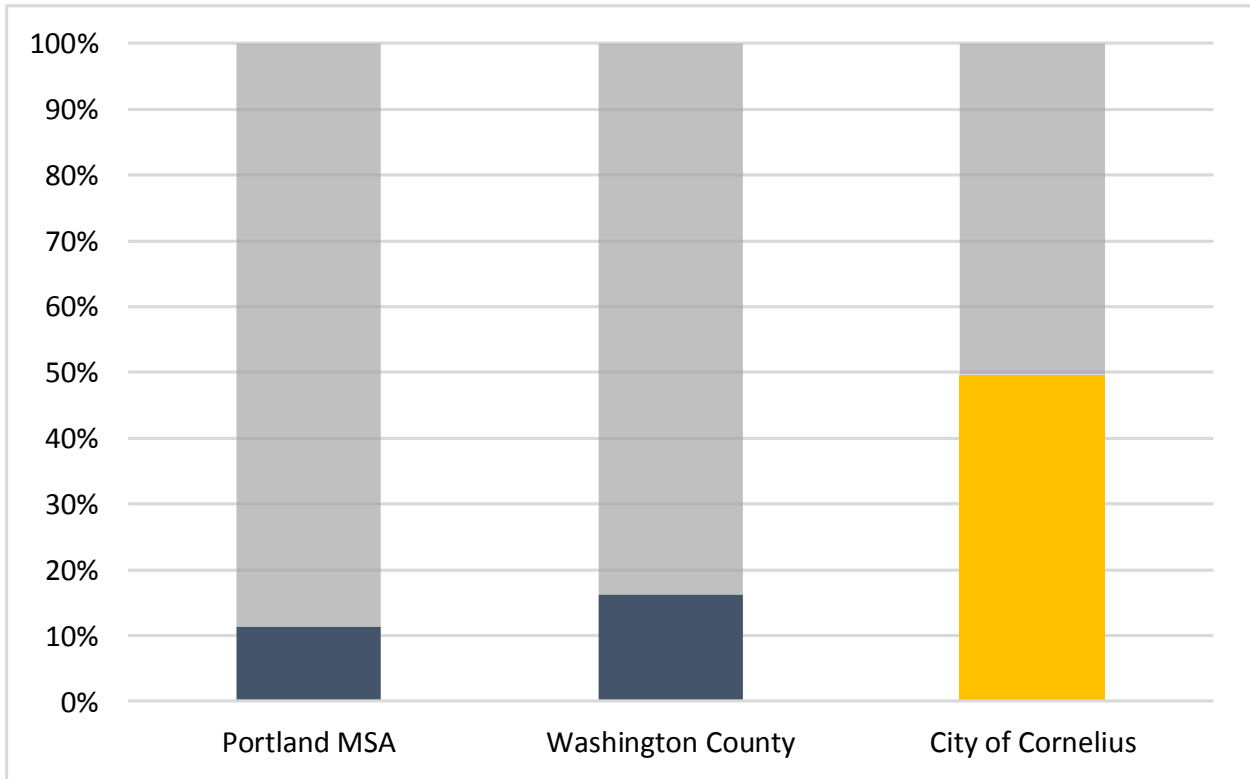
Figure 11 Portland MSA, Washington County & City of Cornelius Educational Attainment



Source: U.S. Census Bureau, PNW Economics

Figure 12 compares the Latino share of population in the City of Cornelius to the Portland MSA and Washington County. The City has a 50% share of Latino population while the Portland MSA has a share of just over 10% and Washington County overall, a share of just over 15%.

Figure 12 Portland MSA, Washington County & City of Cornelius Latino Share of Population

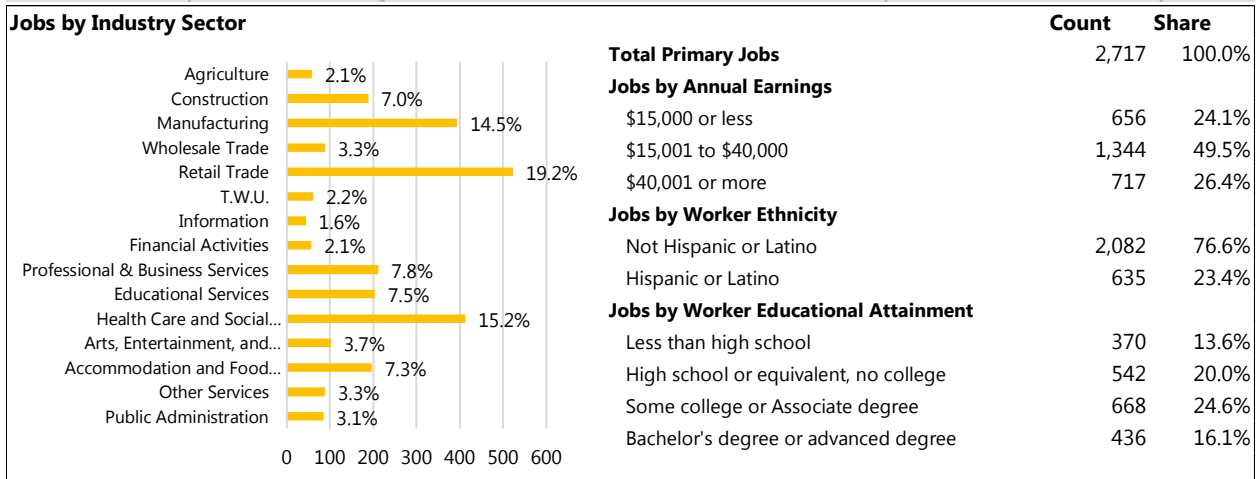


Source: U.S. Census Bureau, PNW Economics

City of Cornelius Employment

Figure 13 summarizes employment in the City of Cornelius. Employment is concentrated (dark blue portion of the map) in the central zone of the City, along Hwy 8 and Baseline Street. As of 2015, the City had 2,717 jobs, with Retail Trade accounting for nearly 20% of jobs, followed by Health Care (15.2%, 413 jobs) and Manufacturing (14.5%, 394 jobs). In addition, despite a relatively high Latino population, Latino workers find work outside of the City.

Figure 13 City of Cornelius Employment Distribution

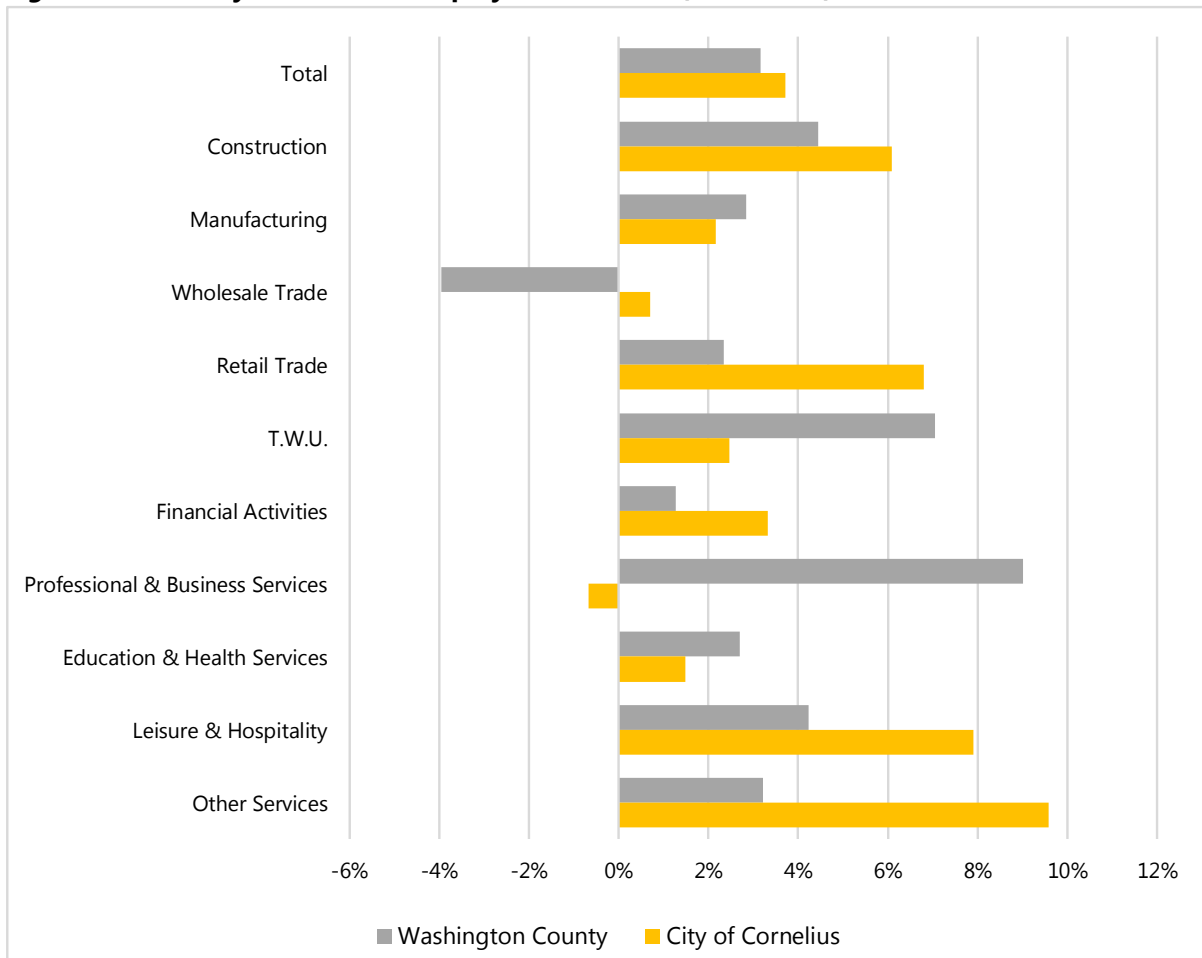


Source: U.S. Census Bureau On the Map, Oregon Employment Department and PNW Economics

Figure 14 shows the employment growth within industry sectors since 2010. The City has experienced growth in most sectors averaging a 3.7% overall average annual growth rate. The Other Services, Leisure & Hospitality, Retail Trade and Construction outperformed most sectors

in percentage growth. Much of the growth in the Retail Trade sector is due to the opening of Walmart in 2010 as well as moderate workforce expansion by it and other larger retailers. Similarly, growth in Leisure & Hospitality is due to either opening or moderate expansion by established restaurant chains within the City. Growth in Other Services and Construction is largely due to moderate expansion by a few established firms within the sector and by new small firms starting up within the City. A review of the firm activity in Other Services and Construction indicates a fairly active micro-business community.

Figure 14 City of Cornelius Employment Growth (2010-2015)*



*Some sectors not shown due to confidentiality.
 Source: Oregon Employment Department and PNW Economics

III. City of Cornelius Employment Forecast & Land Demand

Employment Land & Site Demand Methodology

Demand for employment land and sites for a defined market area is calculated as a function of future potential employment within a geographic area and business characteristics by sector. Accordingly, the two forecasts of site demand are presented below. First, the baseline site demand forecast is based on the most recent employment forecast estimated by Metro and accepted by local jurisdictions. A second site demand forecast, dubbed the "Healthy City Scenario" forecast, is estimated based on both the City's economic development potential as well as the amount of development necessary for Cornelius to achieve a level of tax revenue per capita which would bring the City to parity with the level of tax revenue per capita in neighboring west Washington County jurisdictions.

The land demand forecasts are estimated according to the following general methodology:

- 1. Forecast industry sector employment based on best available industry sector data;*
- 2. Estimate the share of future employment that will utilize office and/or industrial space and land;*
- 3. Calculate amount of developed office/industrial space required for each future job;*
- 4. Estimate total office/industrial space demand as a function of future employment and average space required per job;*
- 5. Convert developed office/industrial space demand into office/industrial land demand utilizing building footprint, or floor area ratio (FAR) assumptions.*
- 6. Translate gross office/industrial land demand into demand for sites based on industry business size and facility characteristics.*

The resulting office and industrial land and site demand analysis for the City of Cornelius is discussed in this section. Unless otherwise specified, space and land usage assumptions are based on typical, regional office and industrial development patterns.

City of Cornelius Employment Forecast

A job growth forecast for the City of Cornelius is documented in Figure 15 based on the most recent 2015 Metro jobs forecast. The City of Cornelius is expected to add 1,866 jobs through 2040.

Figure 15 City of Cornelius Employment Forecast*, 2015-2025

City of Cornelius Employment Sector	Total Employment							Δ
	2010	2015	2020	2025	2030	2035	2040	'15-'40
Construction	163	219	251	282	314	346	378	159
Manufacturing	292	325	373	420	467	514	561	236
Wholesale Trade	94	97	111	125	139	153	167	70
Retail Trade	466	648	742	836	930	1,024	1,118	470
Transportation, Warehousing & Utilities	62	70	80	90	100	110	120	51
Financial Activities	46	54	62	70	78	86	93	39
Professional & Business Services	214	207	237	267	297	327	357	150
Education & Health Services	526	566	648	730	812	895	977	411
Leisure & Hospitality	144	211	242	272	303	333	364	153
Other Services	78	124	142	160	178	196	213	90
Total	2,086	2,521	2,887	3,253	3,618	3,984	4,349	1,866

*Employment forecast for certain sectors not available due to confidentiality.

SOURCE: PNW Economics utilizing Oregon Employment Department data

Baseline Employment & Land Demand Forecast

Underlying Assumptions

A series of office and industrial space utilization assumptions are required to quantify future demand for developed employment space, and then employment land demand.

Office and Industrial Share of Total Jobs

Figure 16 provides a summary of key assumptions for employment and building distributions in each major industry sector category. The share of broad regional industry sector jobs that utilize industrial space and land ranges from 10% for professional services-dominant sectors such as Government and Education & Health Services, to as high as 95% for traditional Production, Distribution, and Repair (PDR) – key industrial land-utilizing sectors - such as Manufacturing and Wholesale Trade.

Overall, roughly 33% of employment will prefer office space while 36% of employment will prefer to or need to utilize industrial space types and land if it is available.

This analysis utilizes three broad and distinct office and industrial structure and usage types that capture the majority of employment activity. Figure 16 provides assumptions about what percentage of employment growth expected to occur in each broad category of use: Warehouse & Distribution, General Industrial, and Industrial Business Park.

Figure 16 Employment & Space Distribution Assumptions

Employment Sector	Office	Industrial	Industrial Distribution by Building Type		
	% of Total Jobs	% of Total Jobs	Warehouse/ Distrib.	General Industrial	Business Park
Construction	50%	50%	10%	15%	75%
Manufacturing	5%	95%	50%	40%	10%
Wholesale Trade	5%	95%	70%	20%	10%
Retail Trade	10%	15%	50%	0%	50%
T.W.U.	30%	70%	70%	10%	20%
Information	70%	30%	0%	0%	100%
Financial Activities	70%	20%	0%	0%	100%
Professional & Business Services	65%	35%	0%	0%	100%
Education & Health Services	50%	10%	50%	0%	50%
Leisure & Hospitality	25%	15%	10%	0%	90%
Other Services	25%	75%	10%	65%	25%
Government	90%	10%	20%	20%	60%

SOURCE: PNW Economics based on regional project experience and Urban Land Institute national averages

Warehouse & Distribution Space

Physically, Warehouse & Distribution uses feature little to no office finish, high ceilings for product warehousing, packing, unpacking, and transfer, significant truck access and turnaround. Structures are frequently open warehouses inside, with more modern structures having high ceilings for higher-capacity and height inventory storage. A minority share of office space build-out can occur on a second floor in part of the structure. Uses are transportation-intensive and must be located proximate to easy access to and from major road and highway networks.

Industry sector usage is concentrated in Wholesale Trade, Transportation, Warehousing & Distribution, as well as various storage uses for most other industry sectors.

General Industrial

In this analysis, General Industrial space and land usage is a broad category that captures various, on-site production and repair activities that require site and building specifications specifically suited to the user or users in question. Operations on-site will usually be some business function involving value-added activities such as manufacture, fabrication, alteration, etc.

Structures typically have a small percentage of office finish, open structure floor plans for versatile manufacturing, storage, staging, or other business activity usage, high ceilings for product/warehousing or manufacture, and significant truck access and turnaround. Structures may also be associated with outdoor storage areas, or “laydown yards,” depending upon the user in question.

Manufacturing, Wholesale Trade, Construction, Utilities, some Warehousing & Distribution, Other Services (predominantly Repair Services), and Government will also use General Industrial space and land.

Overall, General Industrial space and land usage will vary the most among industrial types as space and land utilization will vary significantly from the particular business of each specific business or user to user.

Business Park

Business/Industrial Park space is usually distinguished from other industrial uses by higher office use build-out, higher quality building finish for customer service-oriented functions, and generally light industrial uses.

Structures will frequently have office or sometimes retail-like finish in front, sometimes high ceilings for product/warehousing or on-site manufacture, and truck doors in back usually. Industrial build-out is usually up to 50%, sometimes more, before the structure would be considered "office business park" due to predominantly office-related use. Industrial business park space will often serve as a low-cost alternative to traditional office space where ample parking for employees and customers is required.

From an industry perspective, Manufacturing (light), Professional & Business Services, and some Health Services (testing, etc.) will greatly utilize Business/Industrial Park space. Size of users varies most greatly in the Business Park category, as it is often developed as multi-tenant for flexible usage with higher finish for office and customer-service function.

Space Square Footage per Job

While space needed for office employment is straight-forward, determined by an average space per job of 255 per square foot, industrial employment assumptions vary across industries.

Figure 17 provides a summary of ultimate industrial space per job assumptions, in square feet, utilized in this analysis. Figures represent square footage of built structure per employee, not square footage of land per employee. Conversion of industrial space usage to land usage via a floor area ratio (FAR) is reserved for later in this subsection.

Future industrial space demand is estimated to range from:

- As low as 467 square feet per employee (Information, Financial Activities, Professional & Business Services); to
- As high as 2,000 square feet per employee in the Transportation, Warehousing & Utilities industry sector.

Figure 17 Industrial Space Usage Per Job (Square Feet) Assumptions

Industrial Space Usage	Square Feet per Job			Average Space per Job			
	Warehouse/ Distrib.	General Industrial	Business Park	Warehouse/ Distrib.	General Industrial	Business Park	Weighted Average
Construction	1,350	533	467	68	53	350	471
Manufacturing	1,750	1,100	750	875	440	75	1,390
Wholesale Trade	1,000	533	467	700	107	47	853
Retail Trade	1,350	533	467	675	0	234	909
Transportation, Warehousing & Utilities	2,000	1,500	825	1,400	150	165	1,715
Information	1,350	533	467	0	0	467	467
Financial Activities	1,350	533	467	0	0	467	467
Professional & Business Services	1,350	533	467	0	0	467	467
Education & Health Services	1,350	533	467	675	0	234	909
Leisure & Hospitality	1,350	533	467	135	0	420	555
Other Services	1,350	533	467	135	346	117	598
Government	1,350	533	467	270	107	280	657

SOURCE: PNW Economics based on regional project experience and Urban Land Institute national averages

Key Floor Area Ratio Assumptions

The primary factor for converting estimates of employment space demand into employment land demand is the floor area ratio (FAR), or the percentage of office or industrial land site that is covered by the building footprint. Figures 18 displays the assumed FARs for each of the major industry sector for both office and industrial uses.

Figure 18 Industrial Floor Area Ratio (FAR) Assumptions by Sector

Industrial Land Usage Factor	Assumed Floor Area Ratio (FAR)					
	2015	2020	2025	2030	2035	2040
Construction	0.10	0.10	0.10	0.10	0.10	0.10
Manufacturing	0.25	0.25	0.25	0.25	0.25	0.26
Wholesale Trade	0.25	0.25	0.25	0.25	0.25	0.26
Retail Trade	0.35	0.35	0.35	0.35	0.35	0.36
T.W.U.	0.15	0.15	0.15	0.15	0.15	0.15
Information	0.35	0.35	0.35	0.35	0.35	0.36
Financial Activities	0.35	0.35	0.35	0.35	0.35	0.36
Professional & Business Services	0.35	0.35	0.35	0.35	0.35	0.36
Education & Health Services	0.30	0.30	0.30	0.30	0.30	0.31
Leisure & Hospitality	0.30	0.30	0.30	0.30	0.30	0.31
Other Services	0.30	0.30	0.30	0.30	0.30	0.31
Government	0.25	0.25	0.25	0.25	0.25	0.26

Source: PNW Economics based on regional project experience and Urban Land Institute national averages

Applying FARs to industrial space need yields a calculation of “net” industrial land demand, which comprises the building footprint, parking and access, and associated landscaping. However, true or “gross” industrial land need requires public facilities such as roads, sidewalks,

setbacks, and other land use and zoning code requirements in addition to the core economic use of the property. Accordingly, a 10% “gross up” factor was utilized.

Office Land Demand

Given economic trends and anticipated job growth, the City of Cornelius is expected to see office land demand of roughly 11.6 acres through 2040. The bulk of demand is expected to come from Education & Health Services as well as Professional & Business Services. Figure 19 provides detailed analysis results.

Figure 19 Baseline Office Land Demand (Gross Acreage)

City of Cornelius Employment Sector	Office/Institutional Space Need						2015-40	Floor to Area Ratio	Predicted Land Need (Acres)						
	2015	2020	2025	2030	2035	2040			2015	2020	2025	2030	2035	2040	2015-40
Construction	30,711	35,165	39,619	44,072	48,526	52,980	22,269	0.35	2.0	2.3	2.6	2.9	3.2	3.5	1.5
Manufacturing	4,563	5,225	5,886	6,548	7,210	7,871	3,309	0.35	0.3	0.3	0.4	0.4	0.5	0.5	0.2
Wholesale Trade	1,362	1,559	1,757	1,954	2,151	2,349	987	0.35	0.1	0.1	0.1	0.1	0.1	0.2	0.1
Retail Trade	18,179	20,815	23,451	26,088	28,724	31,361	13,182	0.35	1.2	1.4	1.5	1.7	1.9	2.1	0.9
T.W.U.	5,869	6,721	7,572	8,423	9,274	10,126	4,256	0.35	0.4	0.4	0.5	0.6	0.6	0.7	0.3
Financial Activities	10,636	12,178	13,720	15,263	16,805	18,348	7,712	0.35	0.7	0.8	0.9	1.0	1.1	1.2	0.5
Professional & Business Service	37,736	43,209	48,682	54,154	59,627	65,100	27,363	0.35	2.5	2.8	3.2	3.6	3.9	4.3	1.8
Education & Health Services	79,401	90,916	102,431	113,946	125,461	136,976	57,575	0.35	5.2	6.0	6.7	7.5	8.2	9.0	3.8
Leisure & Hospitality	14,796	16,942	19,088	21,234	23,380	25,526	10,729	0.35	1.0	1.1	1.3	1.4	1.5	1.7	0.7
Other Services	8,678	9,936	11,195	12,454	13,712	14,971	6,293	0.35	0.6	0.7	0.7	0.8	0.9	1.0	0.4
Government	22,826	26,136	29,446	32,757	36,067	39,377	16,551	0.35	1.5	1.7	1.9	2.1	2.4	2.6	1.1
Total	244,868	280,380	315,892	351,404	386,916	422,428	177,559	0.35	16.1	18.4	20.7	23.0	25.4	27.7	11.6

SOURCE: PNW Economics

Industrial Land Demand

The City of Cornelius is expected to see industrial land demand of roughly 75 acres through 2040. Nearly 45% of that demand is expected to come from Manufacturing uses followed by Trade & Warehousing and Construction. Figure 20 provides detailed analysis results.

Figure 20 Baseline Industrial Land Demand (Gross Acreage)

City of Cornelius Employment Sector	Industrial Space Need (000s of sq. ft.)							2015-40	Predicted Land Need (Acres)						
	2015	2020	2025	2030	2035	2040	2015		2020	2025	2030	2035	2040	2015-40	
Construction	56.7	65.0	73.2	81.4	89.6	97.9	41.2	14.5	16.6	18.7	20.8	22.9	24.4	9.9	
Manufacturing	472.6	541.1	609.6	678.2	746.7	815.2	342.6	48.2	55.2	62.2	69.2	76.2	81.1	32.9	
Wholesale Trade	86.6	99.1	111.7	124.2	136.8	149.3	62.7	8.8	10.1	11.4	12.7	14.0	14.9	6.0	
Retail Trade	97.1	111.2	125.3	139.4	153.5	167.6	70.5	7.1	8.1	9.1	10.2	11.2	11.9	4.8	
T.W.U.	92.1	105.5	118.8	132.2	145.5	158.9	66.8	15.7	17.9	20.2	22.5	24.7	26.4	10.7	
Financial Activities	5.6	6.4	7.2	8.0	8.8	9.6	4.0	0.4	0.5	0.5	0.6	0.6	0.7	0.3	
Professional & Business Services	37.2	42.6	48.0	53.4	58.8	64.2	27.0	2.7	3.1	3.5	3.9	4.3	4.6	1.9	
Education & Health Services	56.6	64.8	73.0	81.2	89.4	97.6	41.0	4.8	5.5	6.2	6.9	7.6	8.1	3.3	
Leisure & Hospitality	19.3	22.1	24.9	27.7	30.5	33.4	14.1	1.6	1.9	2.1	2.4	2.6	2.8	1.1	
Other Services	61.1	69.9	78.8	87.6	96.5	105.4	44.3	5.2	5.9	6.7	7.4	8.2	8.7	3.5	
Total	999.3	1,144.3	1,289.1	1,434.1	1,578.9	1,724.1	724.8	110.3	126.3	142.2	158.2	174.2	185.6	75.3	

SOURCE: PNW Economics

Healthy City Scenario Land Demand Forecast

The City of Cornelius continues to be recognized as a distressed community by the State of Oregon³ due to its significantly lower education levels, average personal income, and higher unemployment rate than the rest of the state.

Perpetuation of economic distress within the City of Cornelius has severely limited the City's resources for capital facilities, infrastructure, and even basic services provision due to extraordinarily low taxable property value within City limits. As Figure 21 illustrates, the City's TAV is significantly lower than its neighbors.

Figure 21 Western Washington County Taxable Assessed Property Value Per Citizen

Jurisdiction	2015-16 TAV	2015 Population	TAV per Capita
Washington County	\$56,910,892,240	570,510	\$99,754
Banks	\$121,307,388	1,775	\$68,342
Cornelius	\$617,762,104	11,900	\$51,913
Forest Grove	\$1,439,016,002	23,080	\$62,349
Hillsboro	\$11,451,693,134	97,480	\$117,477
North Plains	\$192,832,071	2,015	\$95,698

Jurisdiction	2010-11 TAV	2010 Population	TAV per Capita
Washington County	\$46,603,239,186	531,070	\$87,753
Banks	\$98,256,105	1,775	\$55,356
Cornelius	\$526,129,362	11,875	\$44,306
Forest Grove	\$1,182,840,654	21,130	\$55,979
Hillsboro	\$8,683,371,983	91,970	\$94,415
North Plains	\$148,363,205	1,970	\$75,311

5-Year Change Jurisdiction	Taxable Assessed Value	Population	TAV per Capita
Washington County	22%	7%	14%
Banks	23%	0%	23%
Cornelius	17%	0%	17%
Forest Grove	22%	9%	11%
Hillsboro	32%	6%	24%
North Plains	30%	2%	27%

SOURCE: Washington County Assessor's Office and Portland State University Population Research Center

- For at least five years, Cornelius has had the lowest taxable assessed value (TAV) per resident among regional neighbors.

³ <http://www.oregon4biz.com/Publications/Distressed-List/>

- Cornelius experienced the slowest overall increase in TAV among neighbors and Washington County over the last five years.
- Accordingly, Cornelius TAV per capita grew at the third-lowest rate among neighboring cities and Washington County.

Based on results in Figure 21, the City of Cornelius is known to have the following taxable assessed property value constraint compared to its neighbors:

- **Compared to Washington County:** If Cornelius had the same taxable assessed property value per capita as Washington County (\$99,754 vs. \$51,913), the City would need to realize \$569.3 million in new, taxable assessed property value for per-capita equivalency.
- **Compared to Western Washington County Neighbors Average:** If Cornelius had the same taxable assessed property value per capita as Banks, Forest Grove, Hillsboro and North Plains (\$85,967 four-city average vs. \$51,913), Cornelius would need an additional \$405.2 million in new, taxable assessed property value for per-capita equivalency.
- **Compared to Forest Grove:** If Forest Grove equivalency were a taxable assessed property value target (per capita) for fiscal recovery (\$62,349 vs. \$51,913), Cornelius would need to experience an additional \$124.2 million in new, taxable assessed property value for per-capita equivalency.

Given typical values per-square-foot for different non-residential development, which would not contribute population and affect a per-capita benchmark, Figure 22 expresses the quantity of new, private and taxable development that would be required in Cornelius in order to mitigate the City's on-going tax base disparity.

Estimates are provided in terms of a range of different uses that could feasibly occur in Cornelius, particularly within the Cornelius city center. New development will of course occur in different forms, therefore a range of potential uses for context is reasonable to consider. Feasible uses range in development intensity for different floor area ratios (FARs). Possible development type FARs comprise:

- 0.25 FAR (suburban single-story retail);
- 0.33 FAR (industrial);
- 0.50 FAR (suburban two-story office);
- 1.00 FAR (suburban 2+story office).

Given the above, we find that at a minimum – equivalency with Forest Grove taxable assessed property value base – Cornelius would need to realize between 105 acres (all suburban retail) and 26 acres (all 2+story office) within the City to remedy current fiscal disadvantage. The scale of development under this scenario is more likely between 53 and 80 acres needed based on more likely, practical FARs of new construction.

Figure 22 New Taxable Assessed Property Value Need for Fiscal Equivalency

For Cornelius TAV/Resident to be..	Acres of Employment Use Development Needed Floor Area Ratio (FAR)			
	0.25	0.33	0.50	1.00
Washington County Average	481	365	241	120
West County Cities Average	343	260	171	86
Forest Grove Average	105	80	53	26

SOURCE: PNW Economics

It should be noted that Forest Grove, like Cornelius, has long been categorized as economically disadvantaged according to Business Oregon. Accordingly, the West Washington County cities average is a better benchmark of fiscal parity. To achieve taxable assessed property value base equivalent to the average of its neighbors, the City is estimated to require between 343 acres (all suburban retail) and 86 acres (all 2+story office). Because neither of those are truly feasible, the range is more likely between 171 acres and 260 acres of new, non-residential development based on more likely FARs and development mix.

City of Cornelius Industry Outlook & Economic Development Potential

Manufacturing, Tech and Agricultural Tech

The manufacturing sector in the City of Cornelius is small but important. Many existing manufacturing firms have been steadily adding employees over the last five years. While manufacturing is not expected to be a high growth sector over the next five years, the jobs firms offers in a community tend to require specialized training resulting in higher wages. Due to the competitive pressures many manufacturing firms encounter and their locational choices, creating a business environment in which firms can flourish unfettered, collaborate and reduce their respective cost burdens will not only encourage growth for existing firms but attract others. For firms within the City whose products compete at national or international levels and/or who fall within target sectors established at either the State or regional level, more may be required by the City to ensure the firms’ retention and success. For example, often these firms need assistance at the City level to facilitate the necessary relationships with State agencies which can provide the technical and/or funding assistance needed by firms at critical levels of expansion or competitive pressures.

Pacific University

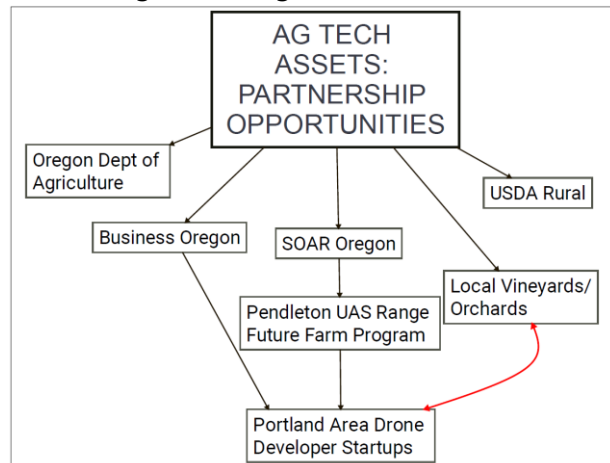
Opportunity? Partnership with the two Centers of the College of Business:

Berglund Center – “the place where innovative thinking, entrepreneurship and multidisciplinary team work comes together to launch new products, services and ideas”

Center for Global Business Studies – “carries out research and supports teaching related to international business, with a focus on the people, companies, and economies of the Pacific Northwest”

In addition to retaining current firms, the City's proximity to the City of Hillsboro offers the opportunity to attract certain types of technology firms. As Hillsboro's supply of industrial land becomes more constrained, Cornelius could conceivably capture smaller tech firms who need proximity to Hillsboro's highly skilled workforce but whose location is less dependent on being in Hillsboro or its accessibility to the larger Portland market. Business recruiters at the State level and industrial brokers have noted an increased demand from firms for smaller sites and existing modern business park industrial land with good access to highways. However, one current impediment likely to impact the City's ability to attract these types of firms, which are critically dependent on a younger, skilled engineering workforce is the lack of adequate public transportation. While a light rail link connecting Cornelius and Forest Grove to connections via Hillsboro would be an ideal solution, alternate solutions should be considered until ridership mass can be established that would allow for light rail investment.

One area of technology which Cornelius is in a beneficial position to potentially recruit is agriculture technology, an industry of growing importance. The industry, focused primarily on farming efficiency, realized more than \$4.6 billion of investment in 2015. Its subsectors range from management software to precision agriculture, sensors, robotics and smart irrigation. Many of the type of firms starting up in this sector require access to both a high-skilled technology labor force and on-the ground farming. In addition, as the use and testing of drones in agriculture continues to increase, leveraging Cornelius's agricultural assets to establish relationship with one of Oregon's Federal Aviation Administration (FAA) unmanned aircraft system test sites should be explored. A possibly path could be through the Oregon UAS Future Farm concept, an initiative through the Pendleton UAS Range. Working with local farmers of high value crops, such as vineyards and/or orchards, as well as the Pendleton UAS Range, SOAR Oregon and Business Oregon, the City could establish itself as a local testing site for developers. As the agriculture tech industry is in its infancy in Oregon at present, movement in this sector will likely require strong partnerships between current farm owners, the City, the Oregon Department of Agriculture's Development and Marketing program, Business Oregon, Oregon State University and others.



Lastly, it is likely that development in this area would encourage the development of Professional & Business Services, a sector which complements manufacturing and tech firms. Additionally, for further development or expansion in any of these sectors to be feasible, the City would need to address both the issue of water and power costs as well as transportation connections. Existing business owners have expressed concern about the impact of these issues

on production costs indicating they have likely also been factors in potential business not locating in the City.

Agriculture and Food Processing

Drawing on the extensive agriculture surrounding the City of Cornelius, there is opportunity for Cornelius to attract or encourage value-added food processing firms who would benefit from proximity to the source of production. In particular, the area grows a vast amount of fruit and nuts. While Cornelius and Forest Grove have current firms operating in this area—a freeze drier, broth/soup maker and fruit drier, there is likely capacity to expand development of the industry's presence in the City, particularly related to dried fruit.

According to the Oregon Department of Agriculture, the State has only two firms operating currently in this area and there is room for more. Opportunities to encourage growth in this area may require partnerships with the Oregon Department of Agriculture, Business Oregon and others. Food processing is a growing industry in the State and one that regularly attracts out of state firms looking to locate in Oregon. However, current firms have expressed two areas of concern which the City should consider for future planning. First is the juxtaposition of residential and industrial development for certain sites in the City. It was noted in speaking with firms, that the noise from food processing can cause issues for nearby residents. Second is the increasing traffic along Highway 10 and the difficulty it causes when moving large equipment and heavy trucks between Cornelius and the City of Hillsboro.

Micro-Business: Construction, Other Services and Latino Entrepreneurship

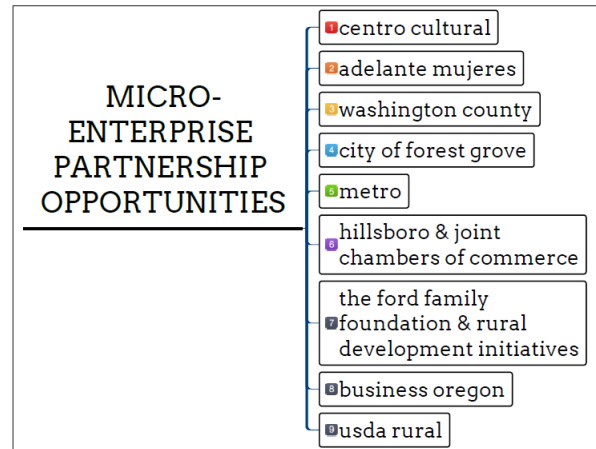
The role of entrepreneurs in an economy cannot be overstated. If successful, entrepreneurs create jobs, increase area wages and form industry synergies. Creating a supportive business community where entrepreneurs can thrive through collaboration and knowledge and experience-sharing will help to ensure that the City's small businesses contribute to economic development and spur further innovation. In today's economy, more so than in the past, small businesses face pressures and challenges to success that can only be overcome through meaningful partnerships.

As the City of Cornelius has a relatively high level of micro-businesses starting up, this could be an area of economic development strategy wherein the City could form relationships with regional and local existing small business services to support the growth and development of micro-businesses during the vulnerable and critical start-up phase. The types of businesses being formed in Cornelius: construction, landscape services, food and dining firms, and other services, are most in need of technical business assistance and avenues by which to bring products to market. Forming relationships with regional partners, such as Metro, Portland Development Commission, Washington County, Hillsboro Chamber of Commerce and others,

who are working to level the playing field for small, emerging and minority contracting firms could help Cornelius's growing construction and service firms.

In addition, focused support for entrepreneurs who are part of the immigrant population in Cornelius is another area where strategy could result in significant economic development for the City. Research indicates that the share of Latino entrepreneurs nationally has grown from 10% in 1996 to 22.1% in 2014, a rate of growth higher than any other immigrant group. Research also indicates that while the number of Latino-owned businesses has grown 50 times faster than non-Latino owned businesses, Latino-owned businesses struggle growing due primarily to lack of support, access to market and funding, leaving a \$1.4 trillion gap in the U.S. economy. Presumably, there exists a relative gap in the Cornelius economy as well. Cornelius is in a unique position to leverage, not only its share of Latino population, but existing organizations which have already established themselves as leaders in promoting and supporting immigrant businesses.

A first place to start would be formal City partnerships with Centro Cultural and Adelante Mujeres, both of which are already working with business in Cornelius and throughout Washington County. The City could also explore ways in which to leverage the numerous commercial kitchens in Cornelius and Forest Grove in order to start up a central food and wine hub, similar to either a food cart set up or the Mercado in southeast Portland. In either case, the City would have partnership opportunities for the study of feasibility, implementation and funding.



Leisure & Hospitality, Tourism and Community Events

Opportunity for growth in this sector is somewhat connected to growth in the City's microbusinesses, particularly in the area of dining and community events, such as farmers' markets, which would allow market access for many businesses.

However, beyond that, there are many opportunities for the City to create a community which draws visitors and supports a vibrant downtown. Beginning with an attractive space downtown to connect area wineries to the City's downtown as well as events that bring together wine, food, art and entertainment. There is opportunity to facilitate a connection between the City and area farms, some of which already offer agri-tourism opportunities. Other opportunities include providing a connection from the Tualatin Valley bike trail to the downtown, creating better marketing connections between the City and area golf courses and wetland/natural resources and community events.

Role of Business Recruitment Demand

Coordination with Business Oregon and other economic development partners to market site availability—given site qualities and transportation infrastructure investment in place—will largely result in local economic development success with new employer or sector recruitment above and beyond long-term growth trend for the City.

Economic development “home runs” may likely come from two primary sources:

- New business investment in Oregon from out-of-state firms recruited possibly with the assistance of Business Oregon or other partners; and
- Relocation or expansion of existing Oregon firms – greatly already in the Portland metro region – due to insufficient supply or unfeasible costs associated with staying in the Portland area.

The former are almost entirely unpredictable as development leads are unexpected and kept confidential, with information revealed only when development is committed after all detailed negotiations between interested public and private parties is complete.

The latter, business expansion or relocation from Portland, can in part be predicted by understanding how the broader Portland MSA is expected to grow without regards to where specifically that growth will land physically.

Another avenue of potential business expansion is that often firms with aggressive growth ambition and potential grow up within or nearby a City and at the point at which they reach a critical stage of pre-expansion, they often need support from regional and State partners, such as Business Oregon, in the areas of marketing and technical assistance. Facilitating the necessary relationships and contacts for existing firms can create beneficial direct and indirect returns for all parties.

Based on the analysis of land need throughout the region, no matter where it locates:

- The single-largest driver of industrial land demand broad region-wide will be Manufacturing firms across all durable and non-durable goods (654.5 gross acres);
- Ground Transportation & Freight Services is projected to drive the second-largest single need for industrial land and space at 464.2 acres.
- Construction firms, which frequently utilize low-intensity industrial sites for equipment, storage, and lay-down, are estimated to require 436 acres of industrial land through 2025.
- Business, Professional & Technical Services - which greatly utilizes business and industrial park space – is estimated to require over 410 acres of industrial land in the next ten years.

City of Cornelius Healthy City Scenario Land Forecast

The following land forecasts reflects a range of land demand based on both the City's economic development potential as well as the amount of development needed to remedy the City's relatively low taxable assessed property values. The total employment land need is between 171 acres and 260 acres distributed across use types based on the methodology described in previous sections for the baseline land forecast.

Figure 23 Baseline Metro and Healthy City Scenario Land Demand (2016-2040)

Use Type	Need For Land (Acres)		
	Baseline (Metro)	Healthy City Scenario	
		Low	High
OFFICE COMMERCIAL	11.6	18.7	28.5
INDUSTRIAL	75.3	121.2	184.3
RETAIL COMMERCIAL	19.3	31.1	47.2
TOTAL	106.3	171.0	260.0

Source: E.D. Hovee & Company and PNW Economics

Figure 24 reconciles the land demand for the Baseline Metro and Healthy City Scenario forecasts with the City's inventory of vacant land. Under the Baseline Metro forecast scenario, the City's current land supply may be adequate, if sites can be aggregated where needed and if they meet the location and access needs required by users. However, under the Healthy City Scenario forecasts, land demand is likely to exceed supply, particularly for industrial land, by a minimum of 17 acres and as high as 106 acres.

Figure 24 Baseline Metro and Healthy City Scenario Land Need Reconciliation (2016-2040)

Number of Sites by Use Type	Planning Horizon						
	Demand Projections			Vacant Supply (Sites)	Balance - Acres Needed		
	Baseline Metro	Healthy City Low	Healthy City High		Baseline Metro	Healthy City Low	Healthy City High
Office	11.6	18.7	28.5	38.0	(26.3)	(19.2)	(9.5)
Industrial	75.3	121.2	184.3	76.5	(1.2)	44.7	107.8
Commercial Retail	19.3	31.1	47.2	39.8	(20.5)	(8.8)	7.4
TOTAL	106.3	171.0	260.0	154.4	(48)	17	106

Source: E.D. Hovee & Company and PNW Economics