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## **ECONOMIC OPPORTUNITIES ANALYSIS (OREGON STATEWIDE PLANNING GOAL 9)**

Prepared For:  
City of Tigard, Oregon

June 2022



## Acknowledgments

Johnson Economics prepared this report for the City of Tigard, with support and analysis by Mackenzie and Angelo Planning Group. The consulting partners and the City of Tigard thank the many people who helped to develop this document.

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# I. INTRODUCTION

This report introduces analytical research presenting an Economic Opportunities Analysis (EOA) for the City of Tigard, Oregon.

Cities are required under the Oregon Statewide Land Use Planning system to periodically prepare estimates of future employment land demand with existing inventories of vacant and redevelopable employment land within their Urban Growth Boundary (UGB). These estimates and the associated analysis of the local economy and policy recommendations are collectively known as an Economic Opportunities Analysis (EOA) and are an adopted ancillary document to the city's Comprehensive Plan. The principal purpose of the analysis is to plan for an adequate land supply for economic development and employment growth in the community. Findings on forecasted land need and supply inform land use policies, infrastructure planning, community involvement, and coordination among local governments and the state.

To this end, this report is organized into the following primary sections:

- **Statement of Economic Objectives:** Lays out the primary economic objectives and assumptions underlying this analysis. This statement is derived from the City's Strategic Plan (2020-2025).
- **Economic Trends:** Provides an overview of national, state, and local economic trends affecting Washington County and the City of Tigard, including population projections, employment growth and a demographic profile.
- **Major Industries:** Analyzes current and projected representation of major industry sectors in Tigard, and implications for future growth and land need.
- **Employment Land Needs:** Presents projections of demand for industrial and commercial land based on anticipated employment growth rates by sector.
- **Capacity:** Summarizes the City's inventory of vacant, partially vacant, and redevelopable industrial and commercial land (employment land) within City of Tigard's corporate limits.
- **Reconciliation:** Compares the projected short- and long-term demand for employment land to the existing land inventory to determine the adequacy and appropriateness of capacity over a five and twenty-year horizon.
- **Conclusions:** Presents a summary of findings and policy implications.

The prior Economic Opportunities Analysis for the City of Tigard was adopted in 2011. Since that time, the community, the region, and the country have all experienced changes in employment, land supply, and macro-economic trends. Two urban reserve areas are currently under planning as River Terrace 2.0 and will also include some employment land (not included in the current inventory). These changes are reflected in the following analysis and inventory of buildable lands.

## **Oregon Statewide Planning Goal 9: Economic Development**

In addition to providing an analysis of the City's economic opportunities and needs, this report is intended to meet the requirements of Oregon Statewide Planning Goal 9 and the requirements for an EOA as specified in the administrative rules that implement Goal 9 (OAR 660-009).

## II. STATEMENT OF ECONOMIC OBJECTIVES

The focus of the City of Tigard is on efficient use of its existing land supply and urban reserves, as the community approaches buildout of its existing land supply and has limited opportunities available for further expansion of the UGB. The City aspires to encourage efficient use of its available land through planning and land use policy. To achieve this goal, commercial and industrial land should be well-planned to accommodate high employment density of living wage jobs, and promote social equity, and environmental sustainability.

The three objectives enumerated below were developed to align this employment land study with the City's forward-looking 2021 Strategic Plan. The Strategic Plan is the best and most recent representation of City goals and incorporates the community planning that went before it. The Strategic Plan includes the following objectives most relevant to this study:

- Build a resilient local economy in which residents' health and the health of local businesses increase together.
- Blend land uses to support a range of commercial and employment opportunities within and in proximity to residential neighborhoods.
- Locate and grow businesses to support walkability, connectivity, and accessibility for all business location decisions.
- Build mixed-use development that is inclusive of housing, shopping, employment, services and integrates transportation options.
- Plan and create in a manner that reduces climate impacts to the maximum extent practicable, especially for those most vulnerable.
- Advance equitable economic opportunity.

### **Objective 1: A Vibrant, Diverse and Scalable Economic Base**

Tigard will:

- A. Foster efficient development and redevelopment of employment lands, leveraging existing infrastructure and local and regional transportation assets.
- B. Provide flexible zoning that allows for mixing of uses and building types, co-location of complementary businesses, and future growth on site.
- C. Encourage site availability to accommodate business growth and career advancement opportunities to medium-to-high-skilled jobs for local residents, with living wage (for individuals) and family wage jobs
- D. Discourage the use of remaining employment lands by industries that tend to have a low average employment density on site.
- E. Facilitate home-based businesses (a.k.a. home occupations), side businesses, and opportunities for self-employment, with assistance for transitions to brick-and-mortar locations.

**Objective 2: An Equitable Economy**

Tigard's economic development focused land use policy will:

- A. Foster new and existing entry-level living-wage jobs with opportunities for continued career advancement.
- B. Incent affordable commercial rents and business spaces.
- C. Simplify development code standards to promote growth of new, small, and local businesses and development.
- D. Identify and mitigate nuisances, hazards, and negative externalities near more affordable business districts and residences.

**Objective 3: Sustainable Development**

Tigard's economic development focused land use policy will:

- A. Encourage sustainable development by incenting strategies such as reduced energy consumption, higher energy efficiency, reduced greenhouse gas emissions, transportation management plans, and on-site renewable energy production and use.
- B. Incent and implement improvements to the pedestrian network, bicycle facilities, and recreational trails linking businesses and residences.
- C. Incent provision of publicly accessible open space and enhanced tree canopies.

### III. ECONOMIC TRENDS

This section summarizes long and intermediate-term trends at the national, state, and local level that may influence economic conditions in the City of Tigard over the 20-year planning period. It also provides an economic context for growth projections and establishes a socioeconomic profile of the community. This report's national evaluation is focused on potential changes in structural socioeconomic conditions both nationally and globally. The analysis considers local growth trends, demographics, and economic performance.

#### NATIONAL TRENDS

Coming out of the prior recession, the United States enjoyed a sustained economic expansion beginning in 2011, which was sharply curtailed by the Covid-19 pandemic beginning in March 2020. The economic climate of 2020 and 2021 has been unusually volatile, with a great deal of uncertainty regarding the duration of the pandemic as well as the impact of policy responses to address it. However, as of the time of this report, widespread vaccination and the re-opening of the economy point toward recovery.

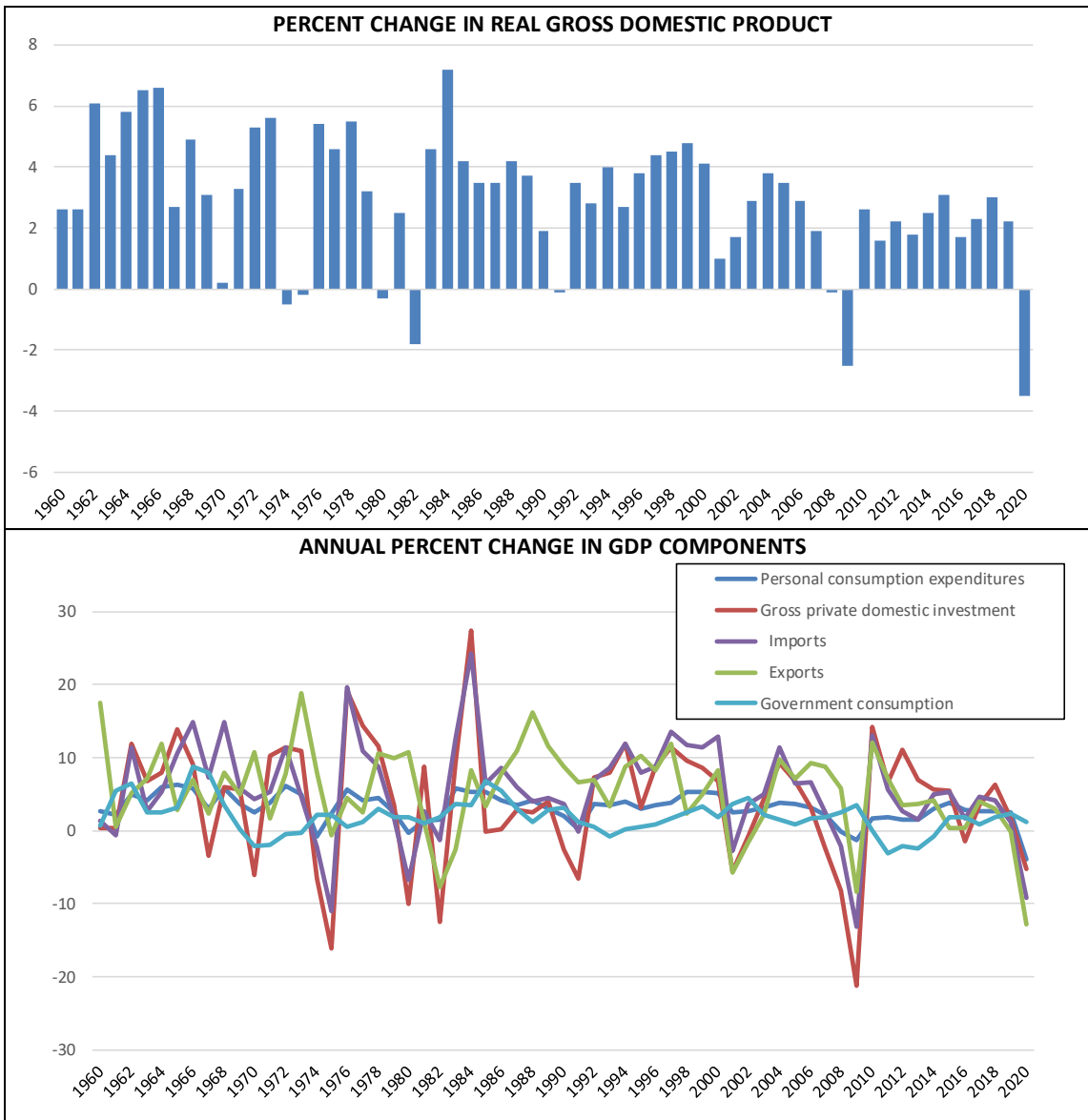
Specific observed and anticipated impacts of the pandemic on the economy will be addressed later in this narrative. Because of the temporary and extreme nature of the pandemic, much of this discussion focuses on longer-term trends that were in place before this period of disruption. The extent to which the economy will revert to long-term trends, and on which economic measures, is still unresolved at the time of this study.

At a national level there has been an on-going shift within the economy from consumption of domestically produced goods to consumption of services, especially services oriented around personal well-being (health, private education, finance). This is reflective of decreased costs of offshore production and increasing levels of wealth and discretionary income in the population. At the same time, growth in fixed investment (equipment and structures) and government defense spending is moderating – making manufactured goods a less-important part of the economy proportionally.

A commonly used and reported measure of economic prosperity is real gross domestic product (GDP). Real GDP is essentially a measure of national wealth adjusted for inflation, and the increased purchasing power of the population translates into greater investment in health care, education, housing, leisure, and many other factors. U.S. real GDP expanded at an average annual rate of 2.3% from 2010 through 2019, before 3.5% in 2020 due to the pandemic. In comparison, the average growth rate over the 1970 to 1999 period was 3.2%.

Potential GDP growth indicates future long-term growth at around 2.0% per year (correcting for volatility in inflation). Over the last century, the average annual growth rate has been 1.8%, despite considerable shifts in economic and social conditions. 2.0% growth would represent a reversion to this mean, after a period of stronger growth over the second half of the 20<sup>th</sup> Century. Long-term economic growth is more related to broad trends, such as population growth and investment in physical and human capital, than temporary economic fluctuations.

**FIGURE 3.01: NATIONAL GROSS DOMESTIC PRODUCT TRENDS**



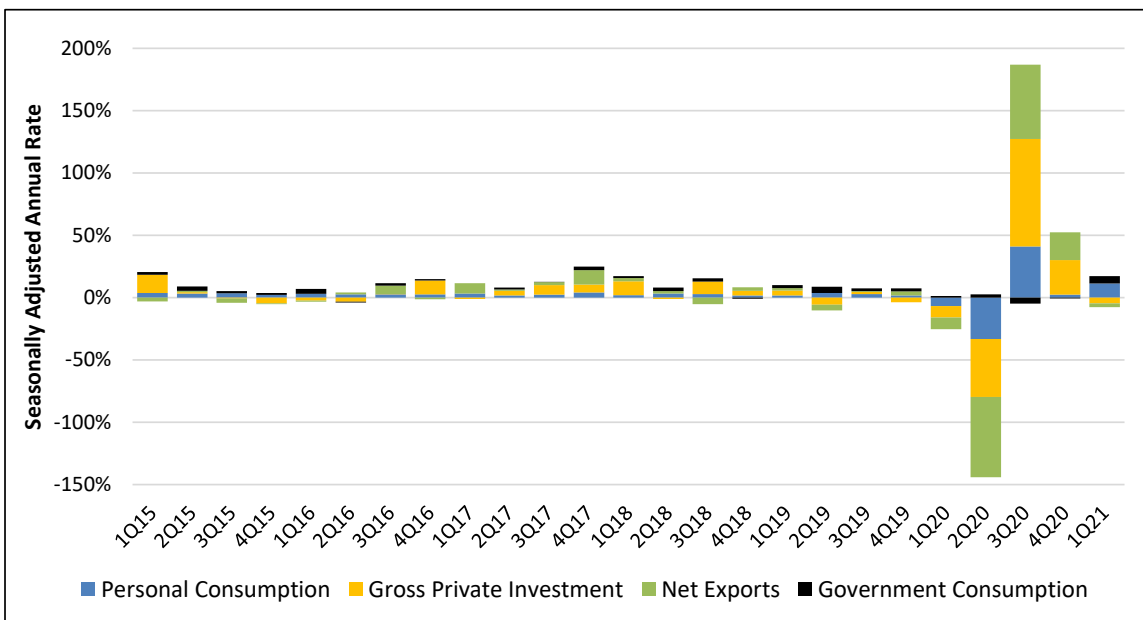
SOURCE: US Bureau of Economic Analysis

While the recent expansion cycle was expected to end in the next year or two, the pandemic brought growth to an unprecedented halt in March 2020. Real GDP at the national level declined 5% during the first quarter, and then 31.4% in the second quarter of 2020, before rebounding strongly for the remainder of the year.

A strong rebound in personal consumption, private investment, and exports offset modest declines in consumption. An unusual characteristic of the current downturn is that incomes increased due to high levels of stimulus spending. Fiscal policy responses replaced a significant share of lost income for many working-

class households. Personal savings have also surged over the past year, as households were consuming less of some goods and services such as travel and dining.

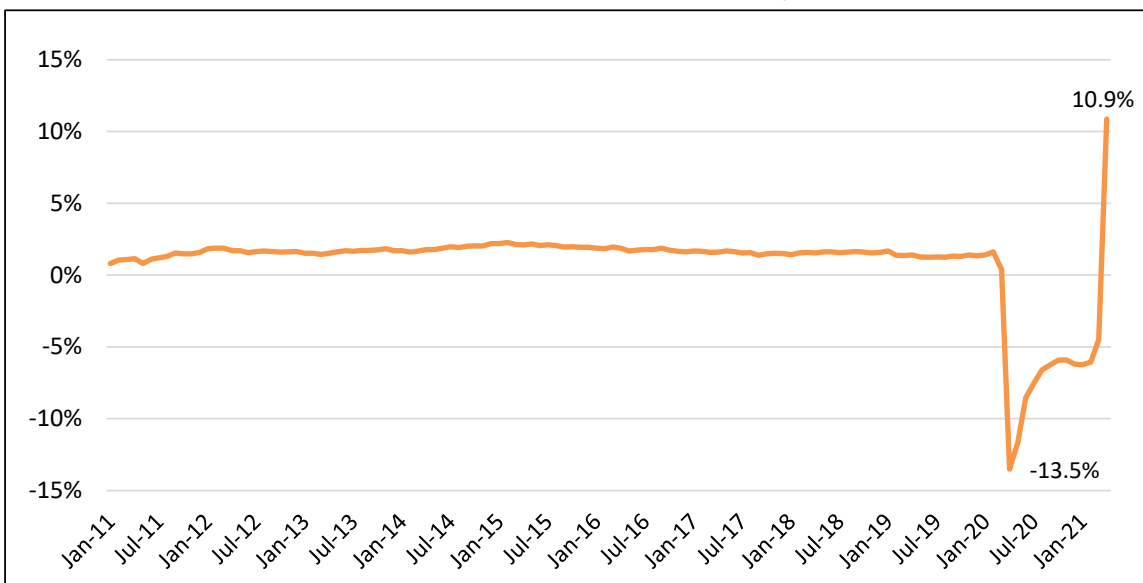
**FIGURE 3.02: REAL GDP GROWTH BY CONTRIBUTING SECTOR**



U.S. Bureau of Economic Analysis

Employment growth ranged between 1.4% and 2.2% (year-over-year) in the most recent expansion cycle from 2011 but declined an unprecedented 13.5% in Spring of 2020 as many businesses were forced to close. A significant amount of this loss has been recovered as the economy reopens, with recent growth of nearly 11% year-over-year compared to the lows.

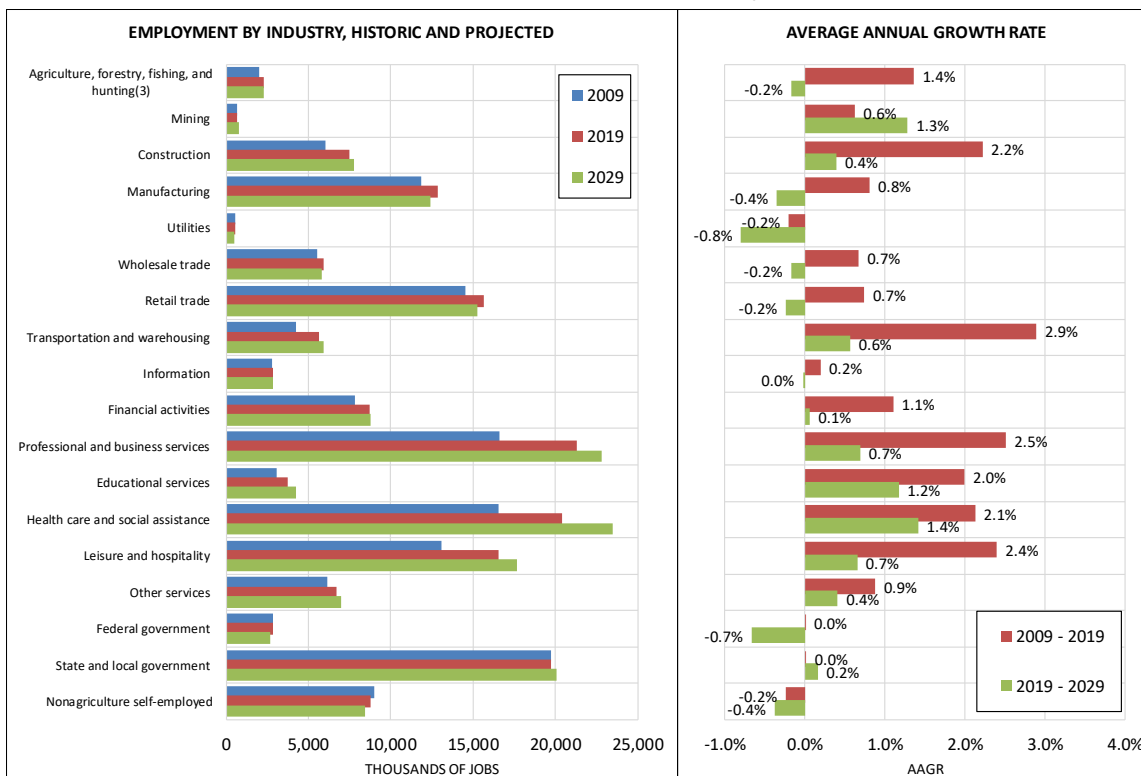
**FIGURE 3.03: YEAR OVER YEAR EMPLOYMENT GROWTH, UNITED STATES**



SOURCE: US Bureau of Labor Statistics, CES Data

At a national level, transportation and warehousing, professional services, tourism-related business, construction, and health care have seen some of the fastest growth over the last decade. Professional services and healthcare are now the sectors with the highest employment and are projected to provide the most new employment going forward, but at a more moderate growth rate. The aging of the population is expected to drive the healthcare sector over the next few decades.

**FIGURE 3.04: NATIONAL EMPLOYMENT GROWTH BY SECTOR, HISTORIC AND PROJECTED**



SOURCE: US Bureau of Economic Analysis

Recent trends and current forecasts reflect a shift from a production-based economy, featuring domestic manufacturing and natural resource extraction, toward a service-based economy that emphasizes technological innovation, research, and design.

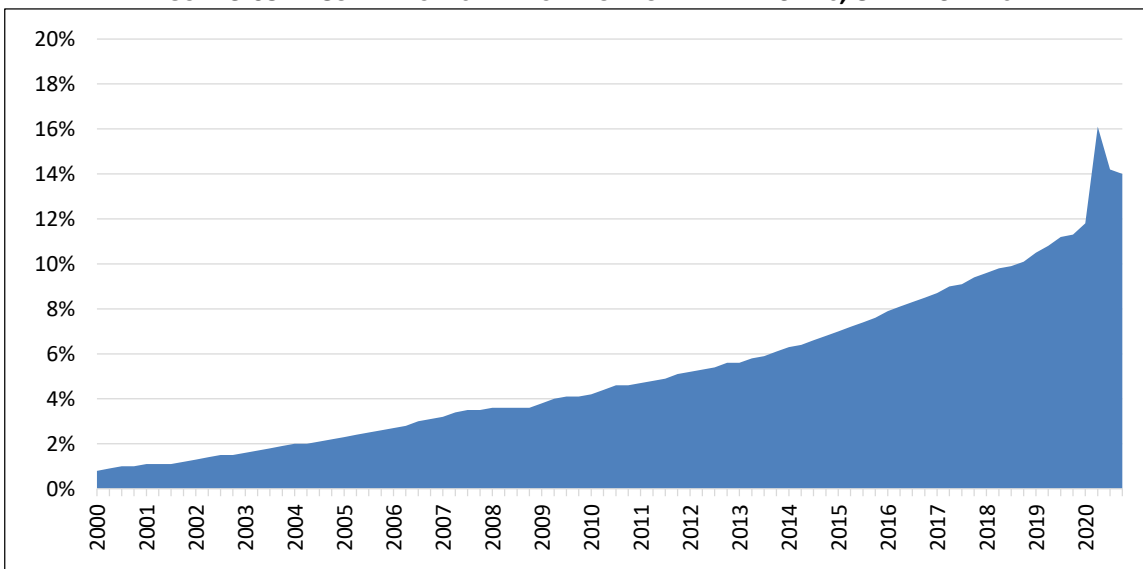
**E-Commerce Trends:** A national trend that is expected to have significant implications for the commercial and industrial real estate market is the anticipated growth in e-commerce. Online shopping is rapidly taking market share from brick-and-mortar retailers, making up more than 11% of all retail sales before the pandemic. In 2020, the market share of e-commerce jumped dramatically to more than 16% of all sales as households more frequently shopped from home. It has since fallen to roughly 14% but is likely to remain higher than pre-pandemic levels and pose an ongoing challenge for brick-and-mortar retailers. In 2020 consumers spent \$787.9 billion online with U.S. retailers, up 32% from 2019<sup>1</sup>.

This shift toward e-commerce is contributing to an increase in storage needs from retail stores to warehouses and distribution centers. At the same time, increased automation is driving consolidation

<sup>1</sup> US Department of Commerce

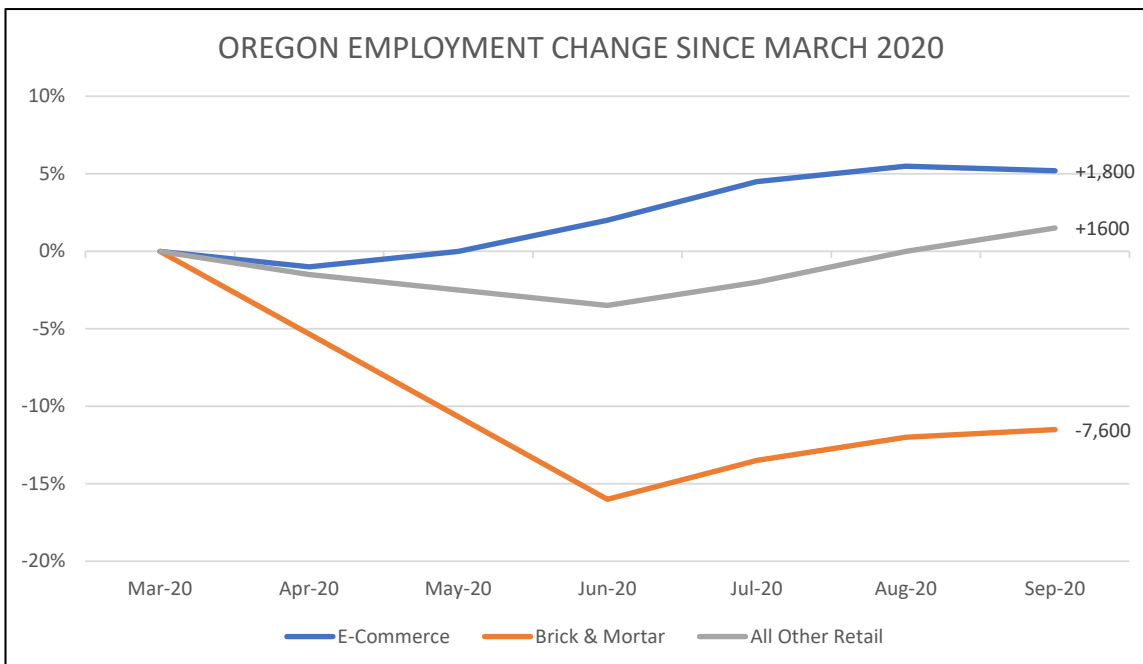
within the warehousing and distribution industry and increasing the reliance on larger third-party operators able to make heavy investments in warehousing capital and expertise. Automation is also impacting the manufacturing industry, though to a lesser extent and primarily among large industry leaders. Increased productivity through automation continues to reduce the reliance on human labor over time.

**FIGURE 3.05: E-COMMERCE AS A PERCENT OF TOTAL RETAIL SALES, UNITED STATES**



SOURCE: Retail Indicators Branch, US Census Bureau, JOHNSON ECONOMICS

**FIGURE 3.06: RETAIL EMPLOYMENT CHANGE BY TYPE SINCE MARCH 2020, STATE OF OREGON**



SOURCE: Oregon Office of Economic Analysis

Finally, changes in the use of mobile devices and growth in online services have caused a shift in the tech sector, from hardware manufacturing to software development. This pattern has been reflected in the

State of Oregon, with e-commerce employment increasing at the expense of brick-and-mortar retail employment.

**Work from Home Trends:** A major and sudden shift caused by the shutdown of many workplaces during the Covid-19 pandemic is that many employers and employees were forced to adapt quickly from a physical shared workplace to a work-from-home model. This trend differed greatly across industries and job classification. On-going trends towards increased e-commerce and automation also accelerated.

A national poll conducted by Pew Research<sup>2</sup> in October of 2020 found that those with higher incomes and educational attainment level reported being able to work from home at a much higher rate than those with less education and lower incomes. Sixty-two percent of those with a bachelor's degree or more education were able to work from home, compared to 23% without a college degree. Seventy-six percent of those identified as lower income, and 63% of those identified as middle income reported that they had job responsibilities that they could not do from home, while only 44% of upper income responders reported the same.

As of the time of this study, great uncertainty remains on the continuing prevalence of the work-from-home trend after the abatement of pandemic shutdowns. Most economists seem to agree that remote work is unlikely to remain at the peak level seen during the pandemic and may even fall significantly. However, there is also widespread agreement that the nature of work for many workers has permanently changed, and many of the shifts seen since spring of 2020 will persist at much higher levels than seen before the pandemic. Fifty-four percent of remote workers in the Pew poll reported that they would like to continue to work remotely, and a larger majority of the respondents reported that most aspects of the transition were easy.

The following are a few of the major trends and implications that are broadly predicted resulting from this unusual period:

- Professional work that typically took place in an office environment is anticipated to maintain much more flexibility for many workers. The expectations of individual employers will matter greatly in whether workers remain remote, hybrid or return to the office full time. Many large tech employers such as Facebook and Amazon will allow some workers to work remote permanently. Some major firms in finance have announced that they expect a full return to the office. How this trend settles out in the long term is unknown, but it seems a near certainty that many more professional workers will be working remotely or in a hybrid remote/on-site schedule.
- The difference between fully remote work and a hybrid schedule is important, because hybrid workers must still remain within a manageable commute distance from their external workplace. A large share of hybrid workers among the region's workforce can have the benefit of reducing traffic congestion.
- These trends are expected to put downward pressure on office rents, as firms need less space going forward. More available space and depressed rents would likely translate into less production of new office space in coming years as the existing supply is reabsorbed.

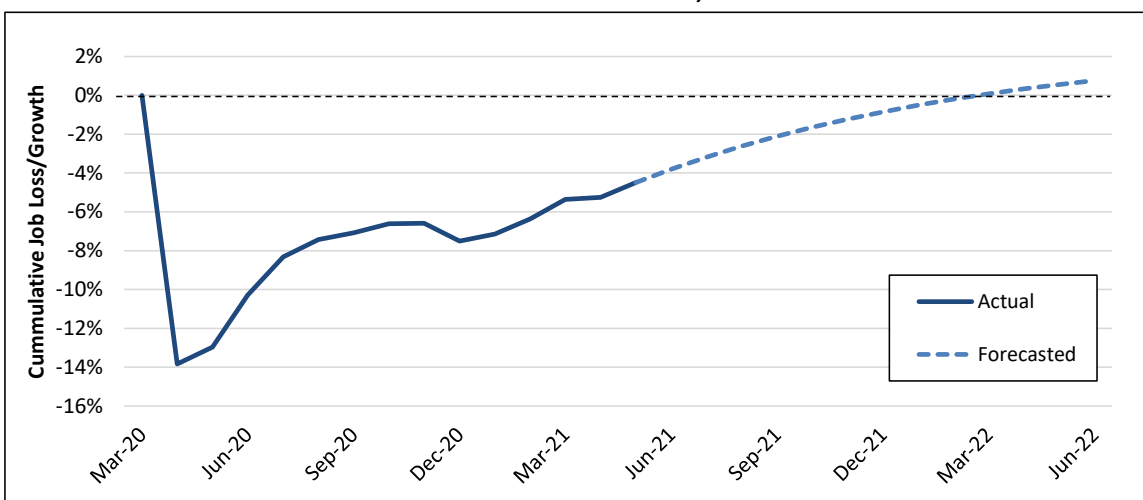
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<sup>2</sup> Parker, Kim, Juliana Horowitz, and Rachel Minkin. "How the Coronavirus Outbreak Has - and Hasn't - Changed the Way Americans Work." Pew Research Center. 9 Dec. 2020.

- The pandemic has accelerated workplace automation as companies have adopted new technology and software to adapt to the new reality. Many of these adaptations have created permanent efficiencies and will change the job responsibilities for some workers and potentially eliminate some jobs. The adoption of new messaging, meeting and collaboration systems is likely to reduce the need for some in-person administrative functions.
- Industries that were not amenable to remote work, such as dining, entertainment, and retail have faced a very challenging period during the occupancy and use restrictions stemming from the pandemic. These industries all lost businesses and the accompanying jobs over this period. The Federal Reserve estimates that over the first year of the Covid-19 pandemic (roughly April 2020 to April 2021) an additional 200,000 businesses closed over the expected rate. The Fed estimates that hair and nail salons, barbers, and other providers of personal services were the hardest hit making up half of the excess lost businesses.
- As the economy reopens and recovers, there is expected to be more vacant commercial real estate available, including spaces that retain full tenant improvements such as those for restaurant use. The misfortune of some businesses over the prior year may provide affordable opportunities for new businesses to grow in their place. Some large-format spaces, such as big box stores, movie theaters and shopping centers may face long term vacancies as they are more difficult to re-tenant.

**Statewide Employment Projections:** The economic context is more complicated and uncertain than typical due to the impact of the current pandemic and current and future policy responses. While the national and regional economy was expanding as late as February 2020, the pandemic triggered an unprecedented contraction of economic activity. While roughly 60% of employment losses in the state have been reversed, the short- and mid-term prospects for the economy will be heavily dependent upon the speed of the continuing recovery. As of late Spring 2021, trends in employment growth, consumer and travel spending, shrinking unemployment rolls, and vaccination rates point to a potentially robust reversal of the prior year’s losses.

**FIGURE 3.07: EMPLOYMENT PROJECTIONS, STATE OF OREGON**



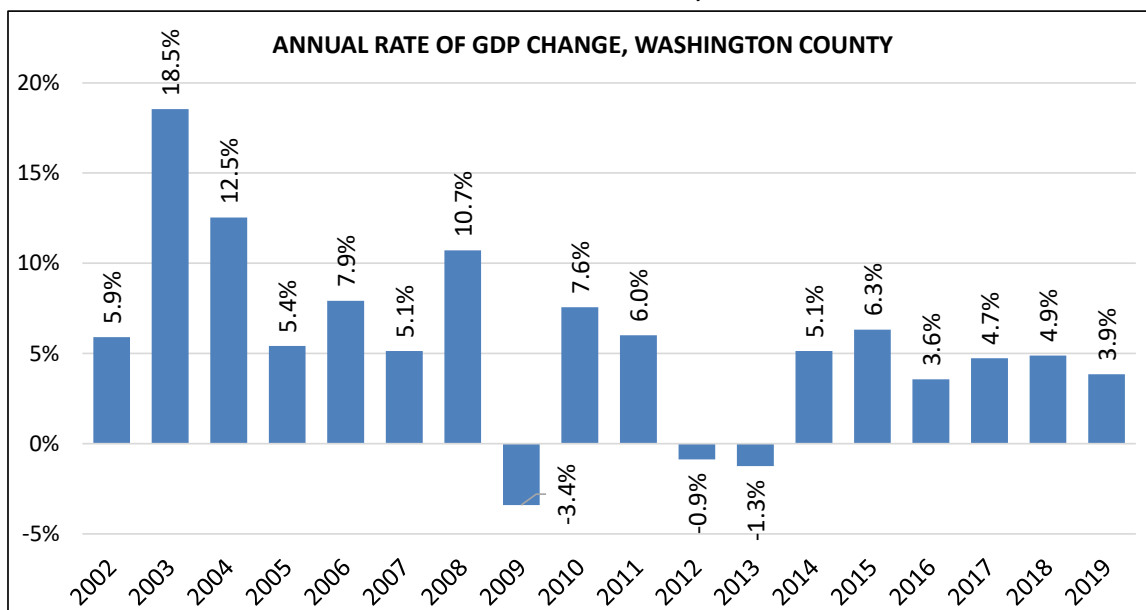
SOURCE: JOHNSON ECONOMICS

Our current employment forecast for the State of Oregon projects that a return to pre-pandemic employment levels will be achieved by Spring of 2022. Because of the unprecedented nature of the current economic swoon, there is increased uncertainty regarding this forecast. One potential scenario is that most of the prior employment is recovered relatively quickly, while restoring the final 5% to 10% takes longer.

## WASHINGTON COUNTY ECONOMIC TRENDS

**GDP:** Washington County recorded strong growth during the recent expansion cycle, with the annual rate of GDP change in the County averaging nearly 5% since 2014. After rebounding strongly from the recession of 2009, the County experienced flat growth in 2012 and 2013. In general, the 2010’s experienced more moderated GDP growth than the 2000’s which experienced some years of double-digit expansion.

**FIGURE 3.08: ANNUAL RATE OF GDP CHANGE, WASHINGTON COUNTY**

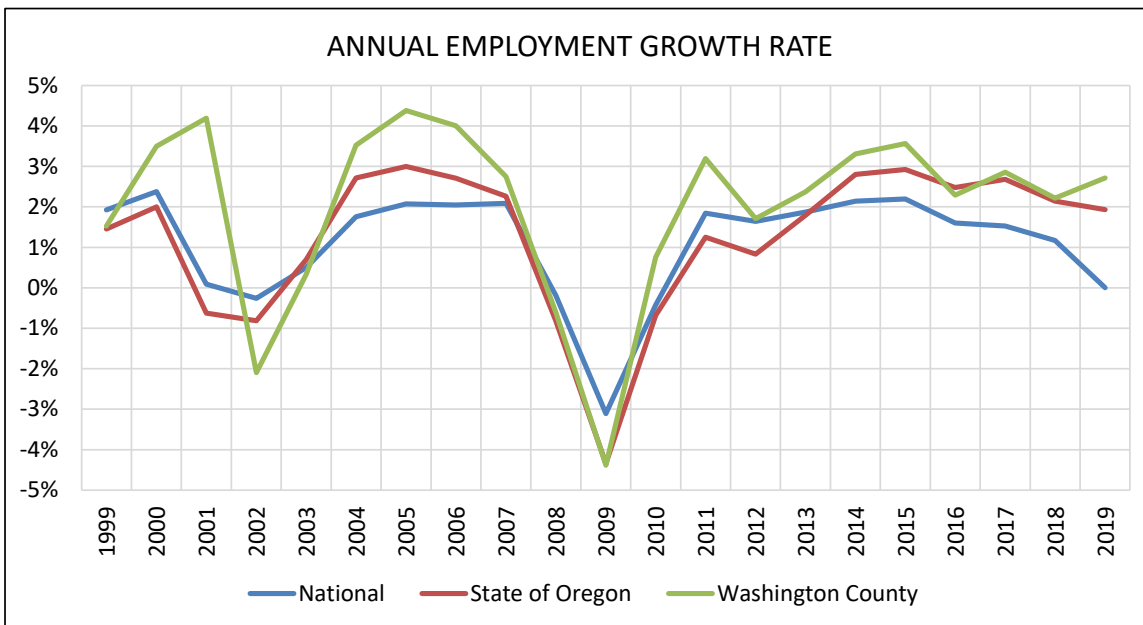


SOURCE: US Bureau of Economic Analysis

These data do not yet reflect the recession of 2020, in which the County is presumed to have experienced highly negative GDP in keeping with the national trend. While the impacts of the prior year are important, there currently is no reason to assume that broad economic trends will not revert to prior trendlines as the recovery takes hold and returns the country to low unemployment and economic growth. Given the long-term planning horizon of this analysis, a longer-term focus is ultimately more appropriate.

**County Employment:** Over the last two decades, Washington County has generally experienced a higher employment growth rate than the state or nation. The County also experienced a greater rate of job loss in the major recessions of 2001 and 2009, but the downtrends were short-lived. (Figure 3.09)

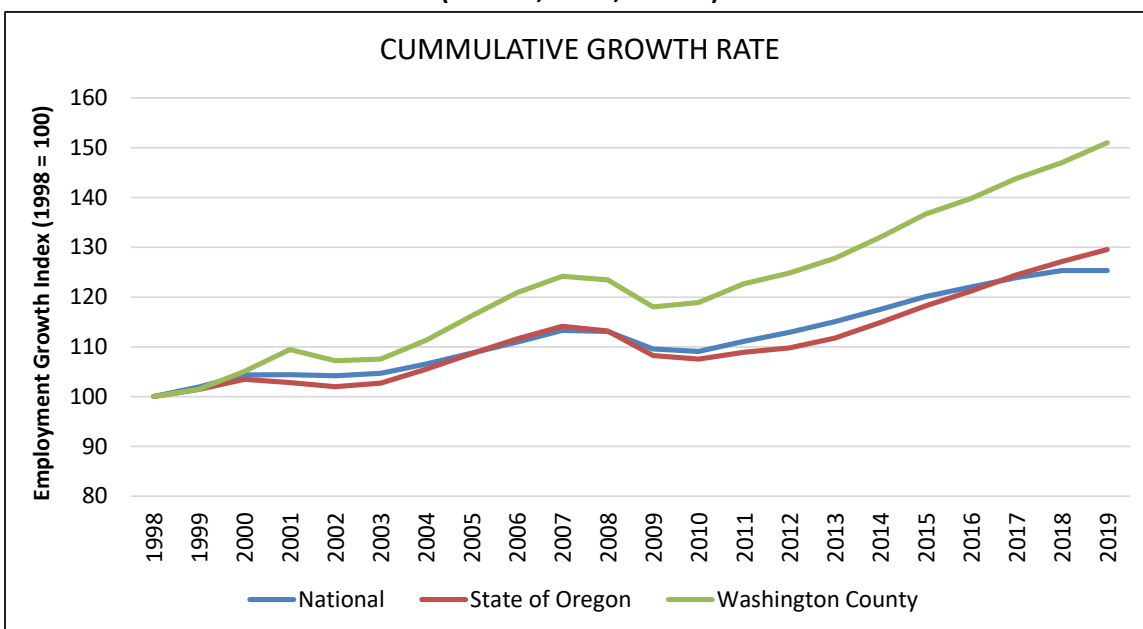
**FIGURE 3.09: COMPARISON OF ANNUAL EMPLOYMENT GROWTH RATES  
(COUNTY, STATE, NATION)**



SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

The cumulative impact of this growth is an over 50% expansion in the local employment base since 1998 in Washington County (from 246k jobs to nearly 400k jobs). The County’s cumulative growth was twice the relative growth in state or national employment.

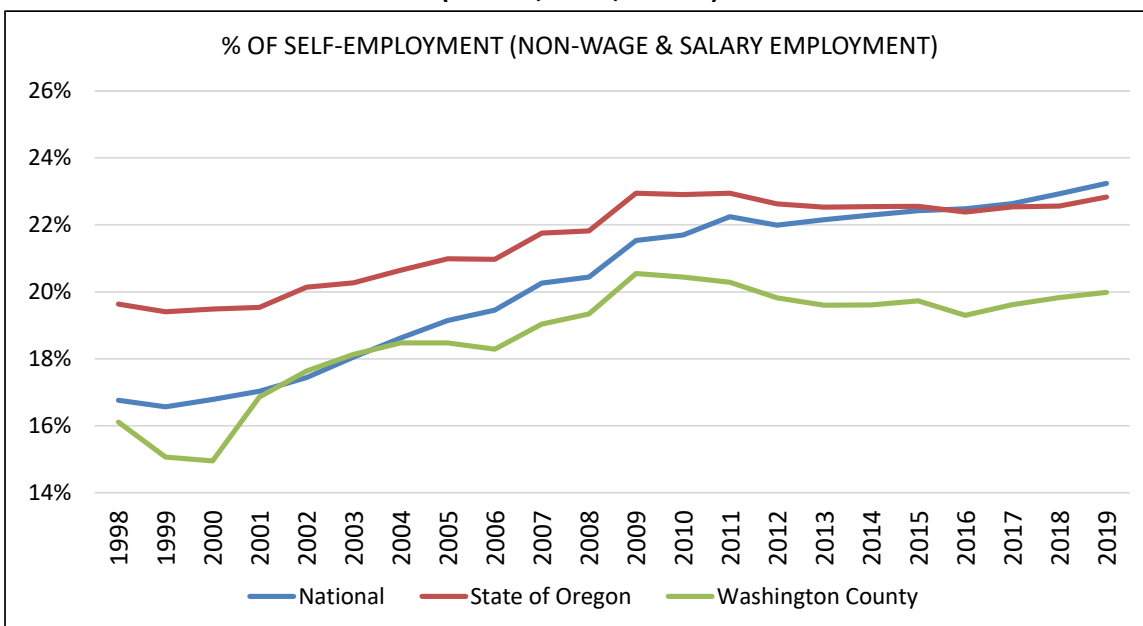
**FIGURE 3.10: CUMULATIVE EMPLOYMENT GROWTH (1998 = 100)  
(COUNTY, STATE, NATION)**



SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

The employment base in Washington County has a lower share of self-employed workers than the state and national averages, at roughly 20%, compared to 23%. The somewhat lower level of self-employment in Washington County is likely due to the number of large established employers in the county. Wage and salary employment accounts for roughly 80% of overall estimated employment in the county, compared to roughly 77% statewide and nationally.

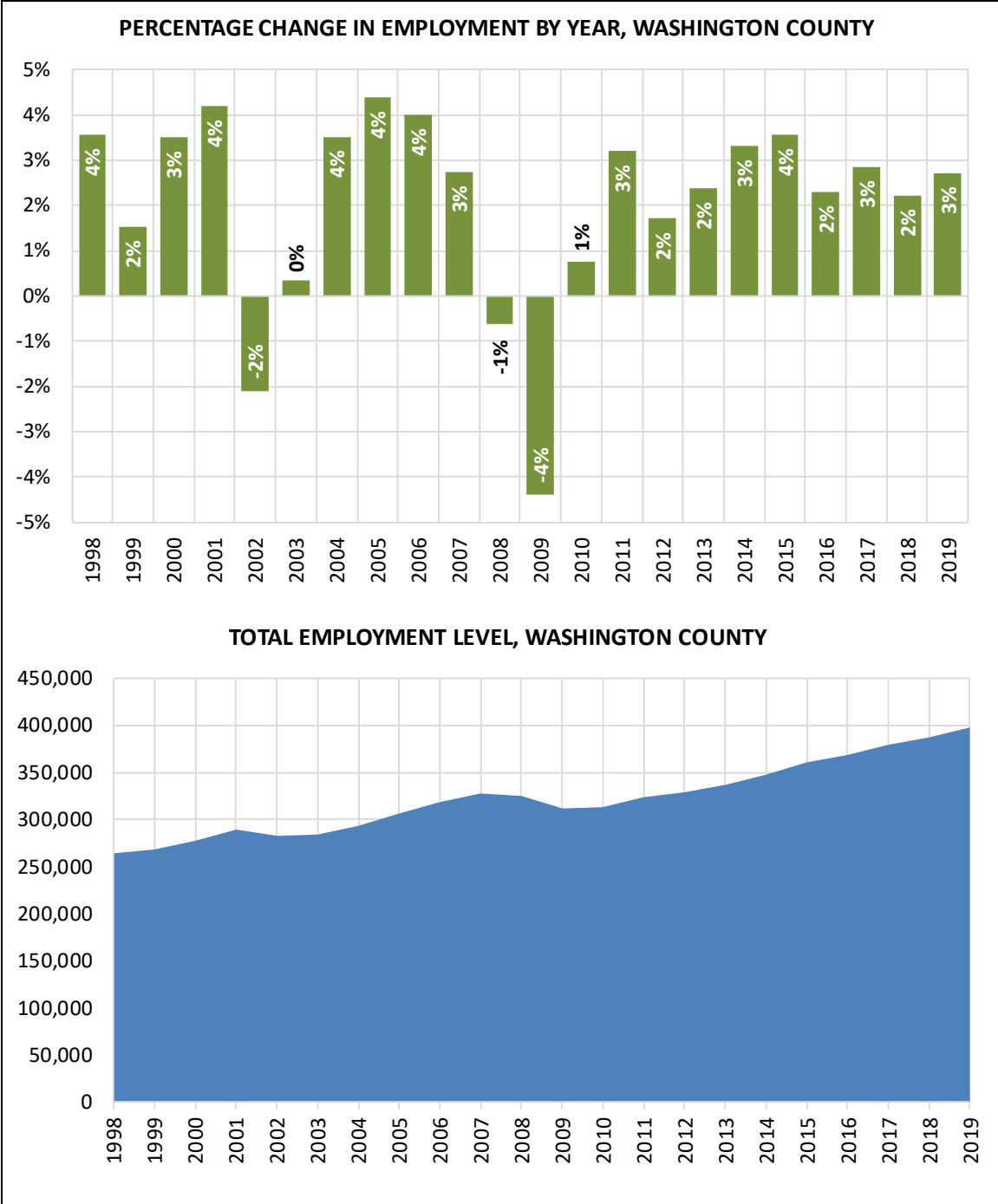
**FIGURE 3.11: % OF TOTAL EMPLOYMENT REPRESENTED BY SELF-EMPLOYMENT  
(COUNTY, STATE, NATION)**



SOURCE: U.S. Bureau of Economic Analysis, JOHNSON ECONOMICS

Countywide employment growth was robust over the last decade through 2019, with the county recovering the total job losses from the 2008 national financial crisis within three years (Figure 3.12). From 2011 through 2019, the County averaged 3% job growth per year, outpacing the average annual population growth in that period (1.2%).

FIGURE 3.12: WASHINGTON COUNTY EMPLOYMENT TRENDS

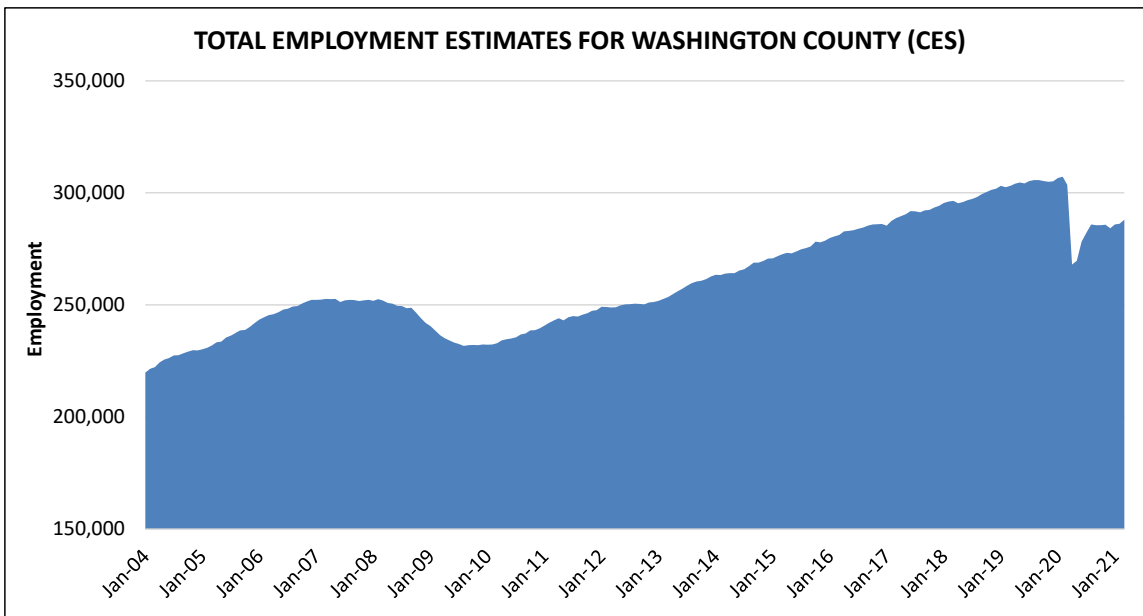


SOURCE: U.S. Bureau of Economic Analysis

Monthly Current Employment Statistics (CES) data and unemployment data provide a more current picture of the economic impacts of the pandemic in Washington County. Following the national trend, the impacts on employment were pronounced.

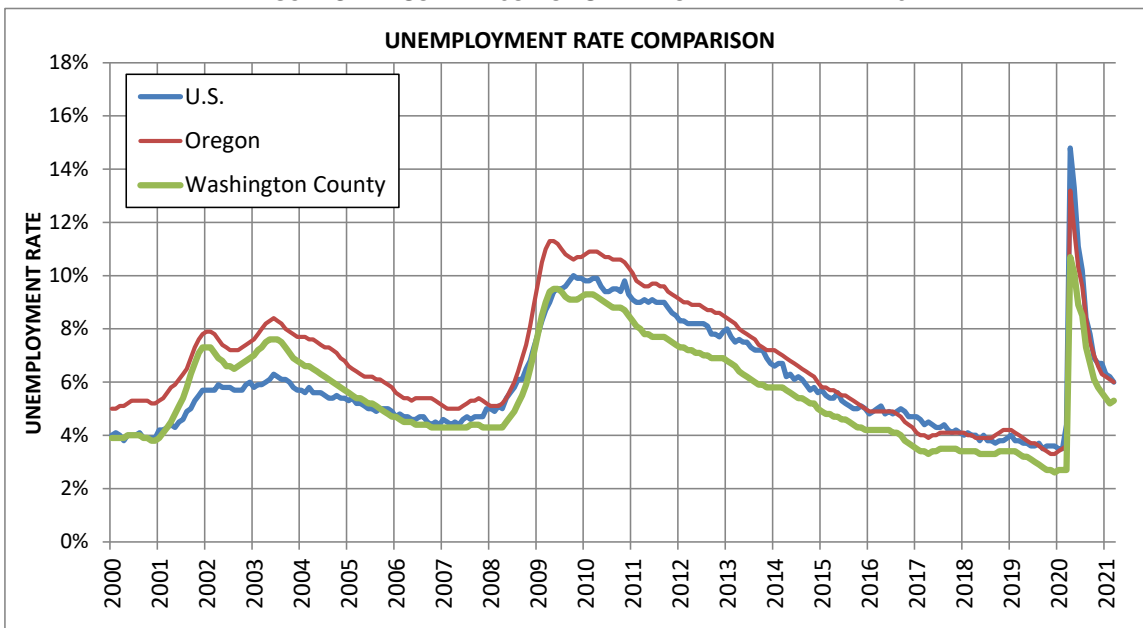
Initial estimates are that the county lost nearly 40,000 jobs (12.7%) from the high point in February 2020 to April 2020. Trepid job growth resumed the next month and has continued since, other than a small dip in December. (CES data excludes government, farm, and self-proprietor employment and therefore the total employment shown here differs from the total employment shown in the prior tables. Therefore, CES trends may best be seen as an indicator of the magnitude of employment trends, rather than quantity.)

**FIGURE 3.13: WASHINGTON COUNTY EMPLOYMENT LEVEL BY MONTH**



SOURCE: Oregon Employment Department, JOHNSON ECONOMICS

**FIGURE 3.14: COMPARISON OF UNEMPLOYMENT RATE TRENDS**



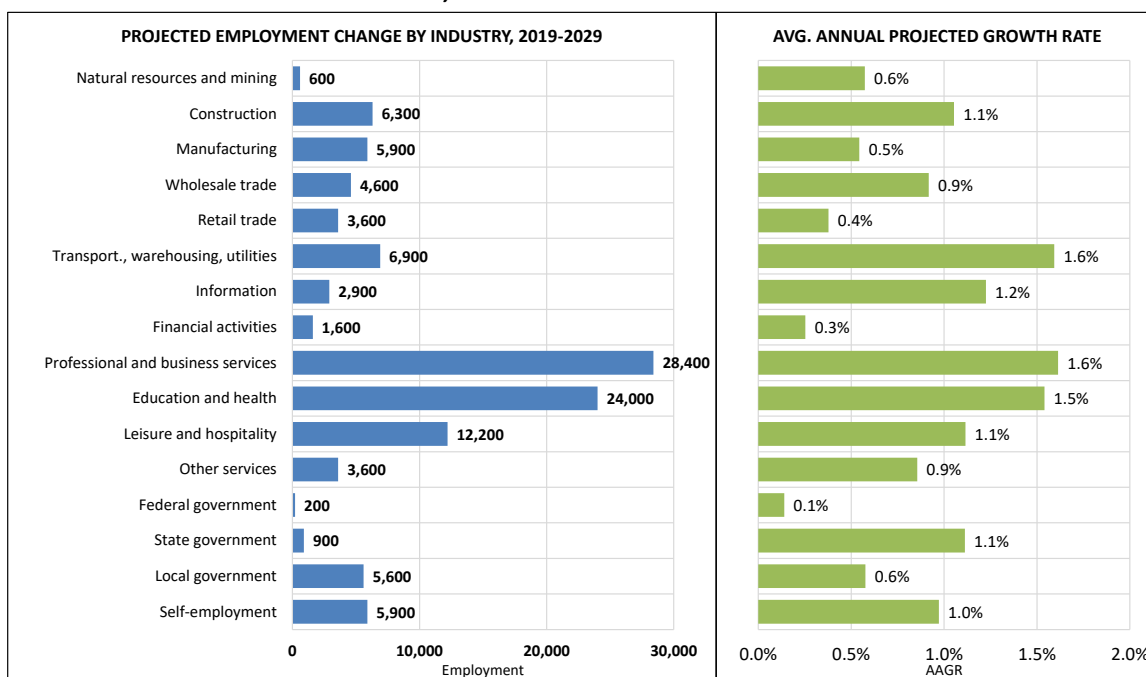
SOURCE: St. Louis Federal Reserve, JOHNSON ECONOMICS

**Unemployment:** After climbing to nearly 10% in 2009, the unemployment rate in Washington County fell steadily to 2.7% by early 2020, lower than the statewide or national rates. The sudden economic impact of the pandemic caused the unemployment rate to suddenly spike in April 2020 to nearly 11%, still lower than the rate at the state (13%) and national level (15%). At the peak of unemployment, over 25,000 workers claimed unemployment benefits.

Since then, unemployment has steadily fallen to an estimated at 5.3% (seasonally adjusted) by March 2021, with over 4,300 claimants. This is a swift recovery, and an unemployment rate of 5%, while nearly double the historically low pre-pandemic rate, is approaching what would be considered a healthy rate even in an economic expansion. As the economic recovery continues, this rate should be expected to continue falling, while the recently reported hiring woes of employers, indicate that many of these workers will return to employment at higher wage levels.

**Industry Growth Forecast:** The State of Oregon produces employment forecasts by sector and by sub-regions, which groups Washington County with Multnomah and Clackamas Counties into the broader Metro area. The most recent forecast anticipates a gain of over 113k jobs from 2019 through 2029, reflecting an average annual growth rate of 1.0% during the period. While that forecasted rate would seem quite low considering recent growth in Washington County, a year of growth has been lost due to the pandemic.

**FIGURE 3.15: PROJECTED EMPLOYMENT GROWTH BY SECTOR  
WASHINGTON, MULTNOMAH & CLACKAMAS COUNTIES**



SOURCE: State of Oregon Employment Department, Workforce and Economic Research Division

All industry sectors are forecast to expand over the next decade. Those forecast to grow at a higher-than-average rate are transportation, warehousing and utilities, professional services, education and health services, and information. Sectors projected to grow near the average rate of 1% are construction, government, and tourism-related industries.

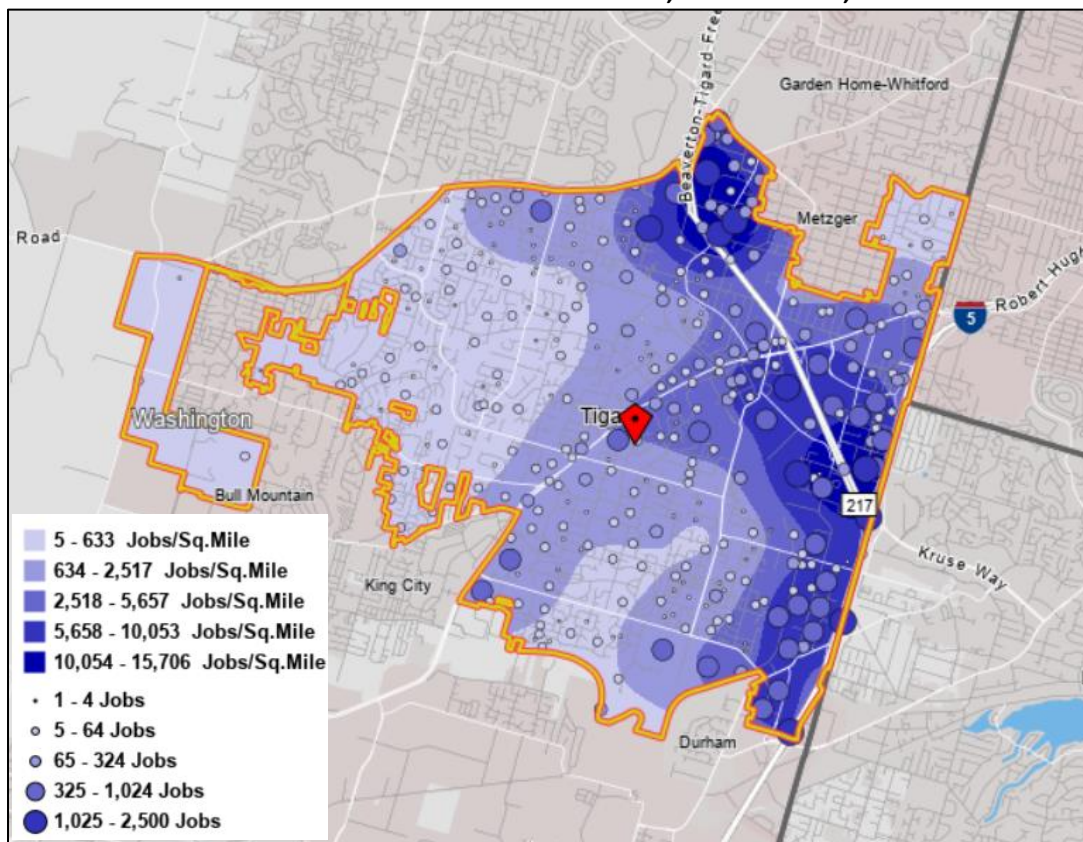
On an absolute basis, the greatest number of new jobs are forecast in professional services, education and health services, and tourism-related industries.

### CITY OF TIGARD ECONOMIC TRENDS

**Employment Distribution & Commuting (City):** The distribution of employment in Washington County is concentrated within the UGB of the Portland Metro area. The greatest shares of county employment are found in Hillsboro (29%) and Beaverton (25%) which are home to the county’s largest employers. Tigard has the third largest share at 16% of county employment.

Within Tigard, employment tends to be concentrated along the I-5 and 217 corridors including the Washington Square Regional Center.

**FIGURE 3.16: DISTRIBUTION OF EMPLOYMENT, CITY OF TIGARD, 2018**

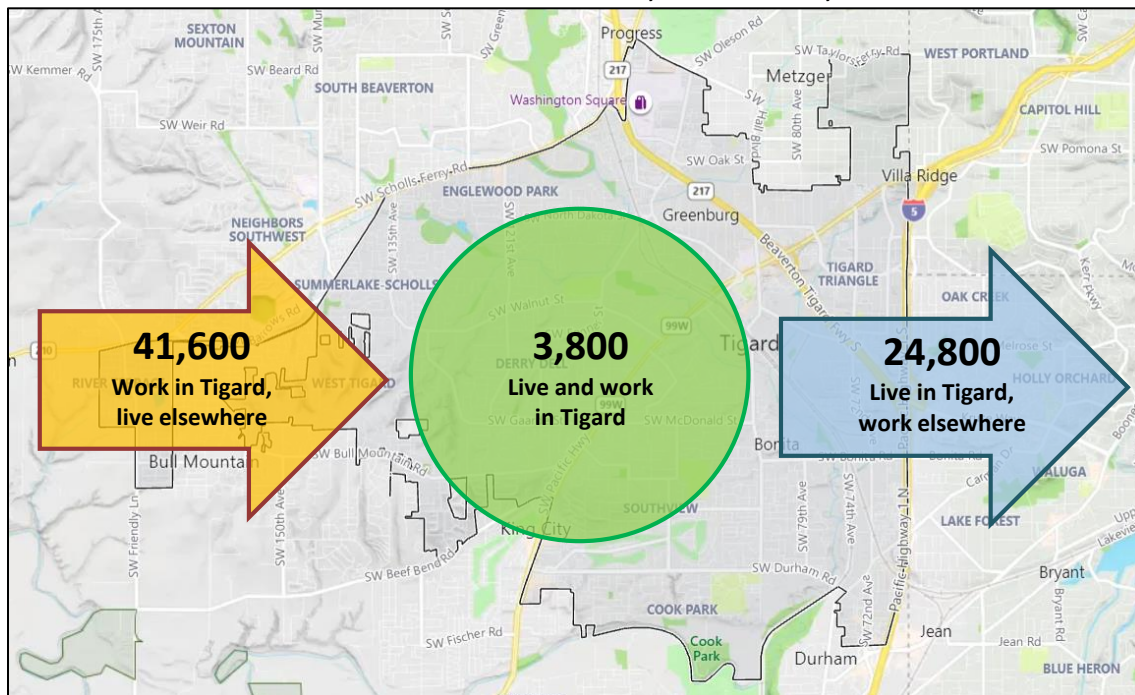


SOURCE: Census Bureau, LEHD Data

Figure 3.17 shows the inflow and outflow of commuters to Tigard according to the Census Employment Dynamics Database. These figures reflect “covered employment” as of 2018, the most recent year available. Covered employment refers to those jobs where the employee is covered by federal unemployment insurance. This category does not include many contract employees and self-employed and therefore is not

a complete picture of local employment. The figure discussed here is best understood as indicators of the general pattern of commuting and not exact figures.

**FIGURE 3.17: COMMUTING PATTERNS, CITY OF TIGARD, 2018**



SOURCE: Census Bureau, LEHD Data

As of 2018, the most recent year available, the Census estimated there were roughly 45,400 covered employment jobs located in Tigard. Of these, an estimated 3,800 or 8.4%, are held by local residents, while over 41,600 employees commute into the city from elsewhere. This general pattern is fairly common among many communities in the Metro area. The most common homes of local workers commuting into the city are Portland, Beaverton, and Hillsboro.

Similarly, of the estimated 28,600 employed Tigard residents, 87% of them commute elsewhere to their employment. The most common destinations for Tigard commuters are also Portland, Beaverton, and Hillsboro, followed by Tualatin and Lake Oswego.

**Implications:** Commuting patterns are an important element in the local economy. They are indicative of the labor shed companies can draw workers from, the extent to which job creation translates into increased demand for housing, goods, and services, and the overall balance of population and employment in the community. Tigard has an estimated 21,300 households as of 2019 (Census) meaning that the city features a jobs/household ratio of 2.1 jobs per household, while local households hold an average of 1.3 jobs.

This indicates that Tigard is a net-positive employment market that attracts workforce from around the region. This dynamic should present local job options for Tigard residents who would prefer to work closer to home and enjoy shorter commutes. In practice the types of local jobs available do not always match with the employment sectors of local residents.

Figure 3.18 shows a comparison of the estimated distribution of locally available employment by industry sector, and the estimated distribution of jobs that local Tigard residents hold (inside and outside the community) by industry sector.

The data show that the employment available locally exceeds the number of workers in the local workforce in those industry sectors. Only in the fields of education, manufacturing, health care, and government do the number of Tigard workers exceed the number of jobs in those fields available from local employers. As we've seen, it is most common for workers to commute to employment outside of the city. But this is an indication that local employment is available in most industry sectors if residents would like to work closer to home.

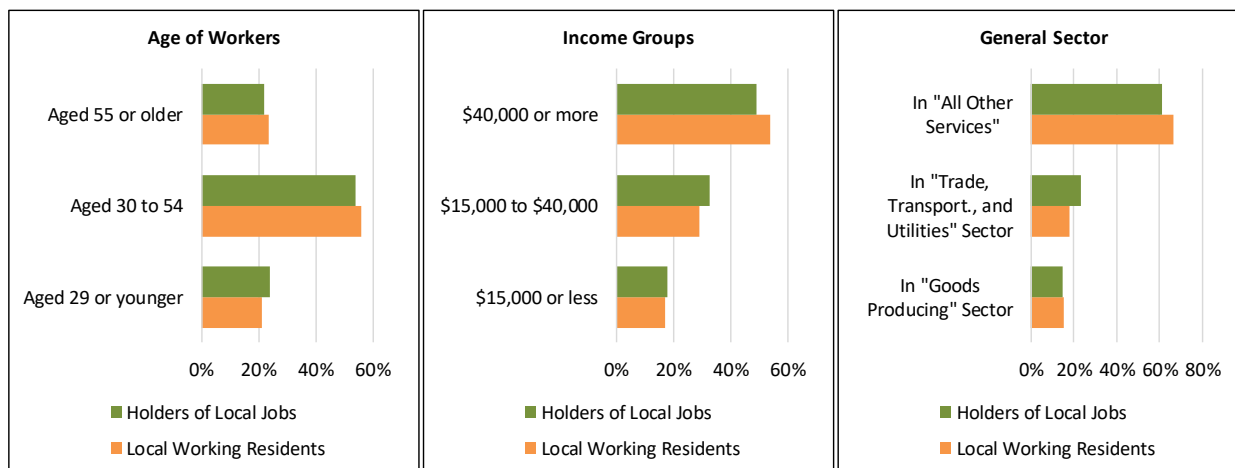
**FIGURE 3.18: COMPARISON OF NUMBER OF LOCAL JOBS TO LOCAL WORKFORCE, BY INDUSTRY**



SOURCE: Census Bureau, LEHD Data, Oregon Employment Department

The characteristics of the workforce commuting into and out of Tigard were similar in terms of incomes and age (Figure 3.19). Working Tigard residents are slightly more likely to be 30 years or older, and more likely to earn more than \$40,000. (These are the broad categories provided by this Census data set.)

**FIGURE 3.19: NET INFLOW-OUTFLOW DETAIL, CITY OF TIGARD AND WASHINGTON COUNTY, 2018**



SOURCE: Census Bureau, LEHD Data

As Tigard considers its broader economic development objectives, these commuting trends present a negative implication. Mobility and reducing vehicle miles are important elements of long-term sustainability that the widespread cross-commuting among Metro-area communities works against. A majority of both Tigard residents and employees at local businesses commute to work. The Census estimates that of 2019 75% of working local residents commuted to work in a single-occupancy vehicle, an additional 8% carpooled, 6% used public transit, and 8% worked from home.

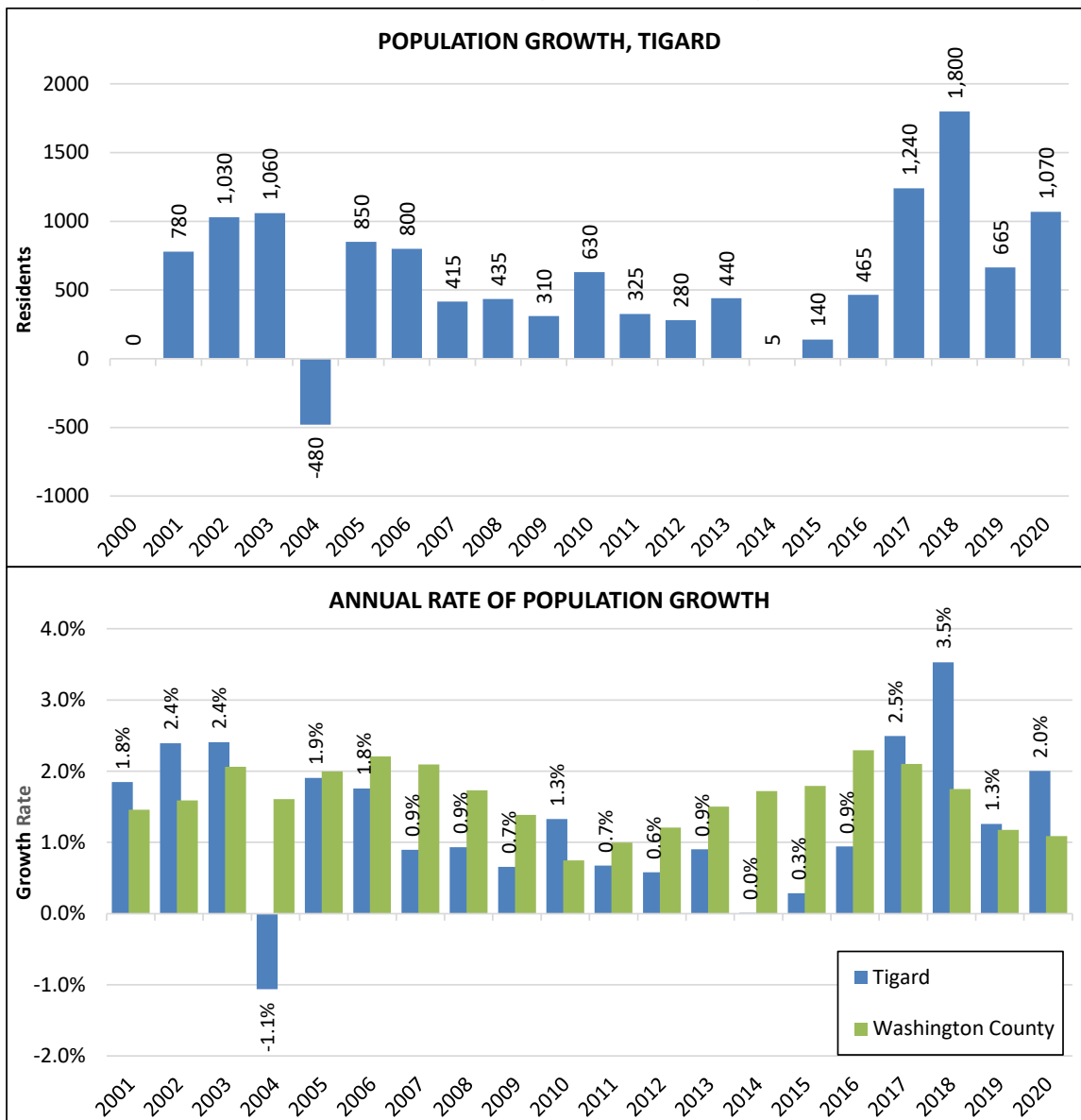
Widespread cross-commuting also has equity implications, as lower income and some disabled workers are less likely to have access to a dependable car or may be unable to drive. This increases the importance of having a wide variety of locally available work at a range of wage and skill levels, to reduce commuting times for residents who wish to work closer to home. As noted above, Tigard does feature a pool of local employment larger than the number of working individuals, so fares well on this measure.

**POPULATION AND WORKFORCE**

The City of Tigard has an estimated population of 54,500 as of 2020 according to the PSU Population Research Center (Figure 3.20).

Population growth has averaged just over 600 residents per year since 2000, but with significant year-to-year fluctuation during that time. Growth has accelerated since 2015, averaging nearly 900 new residents per year, and a growth rate of nearly 2% per year. A major driver of population increases at the local level are surges in housing development and new annexations to the city boundary. In Tigard, the addition of the River Terrace area has coincided with a surge in population as the area has built out with new housing.

**FIGURE 3.20: POPULATION GROWTH (RESIDENTS AND RATE), CITY OF TIGARD**



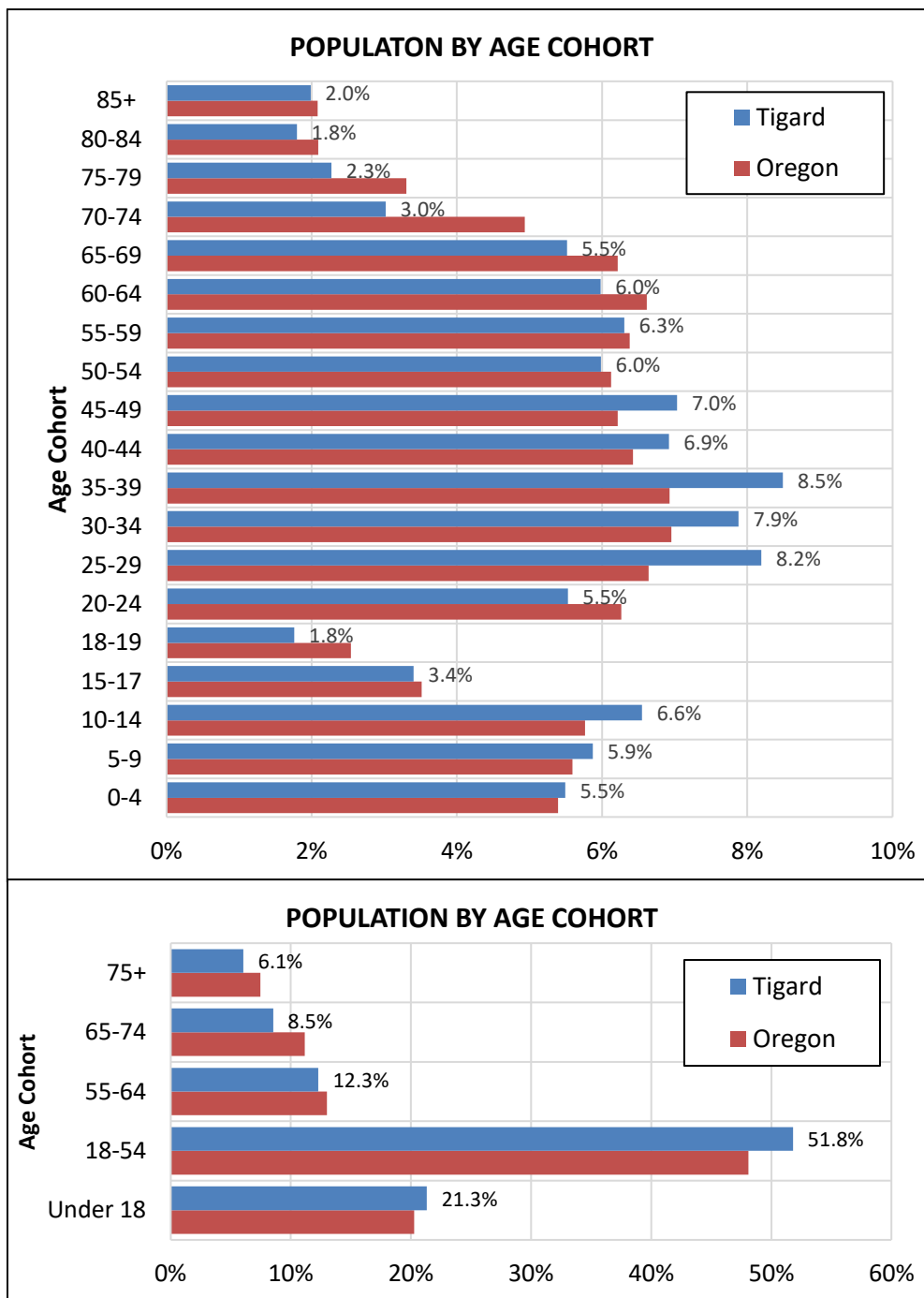
SOURCE: Population Research Center, Portland State University

Tigard’s population skews younger than statewide figures, with a greater share of the population in the prime work years, and a greater share of children in the community. As with the national trend, and Portland region, the city’s population is projected to become increasingly older in the coming decades, as the large Baby Boom generation continues to age into retirement.

The long-term impact of this on the local labor force will be a concern moving forward, as the number of younger residents is expected to decline in percentage terms. As Tigard has a greater share of residents under the age of 50 relative to the state, including millennials, these impacts may be somewhat mitigated. A robust local economy with stable, family-supportive employment and affordable housing options can continue to attract net migration of younger households.

Figure 3.21 shows that Tigard has a greater share of the population in prime family-forming and child-raising years (25 to 50 years) relative to the state, and a smaller share of population 60 years and older.

**FIGURE 3.21: DISTRIBUTION OF POPULATION BY AGE COHORT, TIGARD AND OREGON**



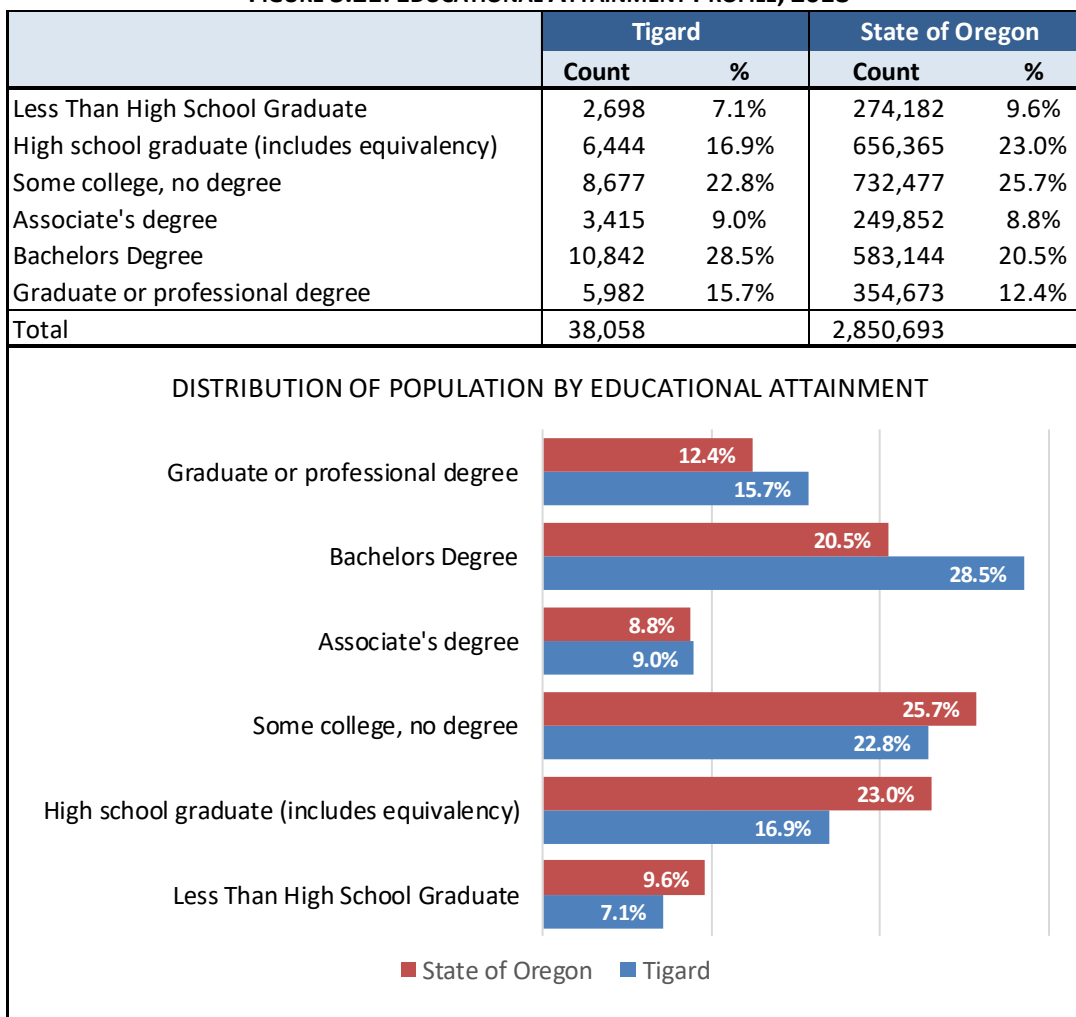
SOURCE: Population Research Center, Portland State University

The educational attainment level of residents in the City of Tigard varies from the statewide pattern, with a high level of residents having bachelor’s or advanced degrees. Of an estimated 38,058 persons 25 years or older in the City of Tigard, as estimated 53% have an associate degree or higher. This compares to a 42%

rate for Oregon. This represents a likely competitive advantage for the city, as an educated population attracts employers, retail and services, and other economic activity.

Working with community colleges and other partners on on-going education, workforce development and distance learning opportunities may be an important part of a local economic development strategy to train segments of the workforce with lower educational attainment in the skills that local industries need.

**FIGURE 3.21: EDUCATIONAL ATTAINMENT PROFILE, 2018**



SOURCE: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

## IV. MAJOR INDUSTRIES ANALYSIS

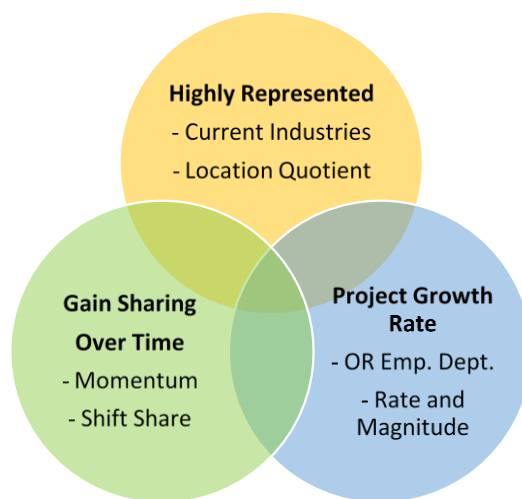
This element of the Economic Opportunities Analysis assesses the economic landscape in Washington County and the City of Tigard in major industry sectors. The objective of this process is to identify a range of industry types that provide current and potential economic opportunities over the planning period in alignment with economic development objectives.

### Elements of Industry Sector Analysis

A range of analytical tools are used to assess the local and regional economic landscape to identify the sectors that are likely to drive growth over the planning period.

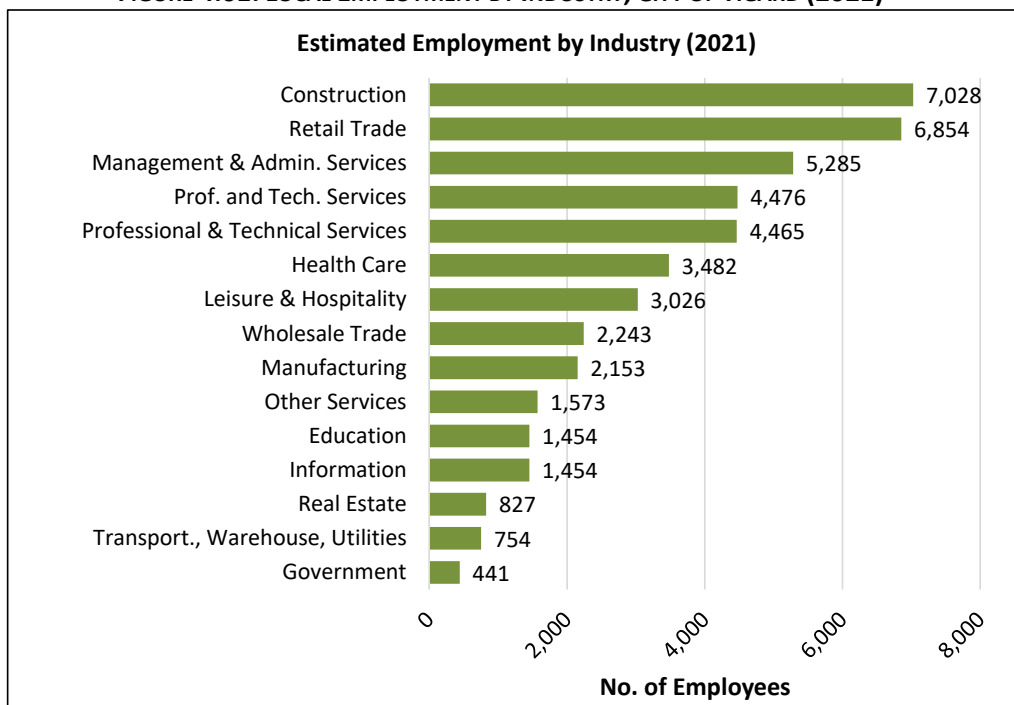
### LOCAL EMPLOYMENT SNAPSHOT

As discussed in more detail in the following section, Tigard features an estimated 45,500 jobs within its corporate boundaries as of 2021. This snapshot of current industry employment in the city are a guide to the past and present but may not represent the types of jobs and employment land uses that will best meet the community’s future objectives.



The following table presents the major industry sectors ranked by estimated number of employees. The largest sectors are construction, retail, and professional services.

**FIGURE 4.01: LOCAL EMPLOYMENT BY INDUSTRY, CITY OF TIGARD (2021)**



Source: Johnson Economics, Oregon Employment Department, BEA

Figure 4.02 presents the growth in employment in Tigard by major industry sector since 2010 according to QCEW data provided by the Oregon Employment Department. This time period covers the recent economic expansion since the prior recession of 2008, and also the employment losses of the last year (2020). Since 2010, the greatest employment growth was seen in the construction, professional services, and health care industries. Many other sectors experienced falling employment over this period, led by the management and administrative services sectors. These shifts are partially due to the relocation of some large employers into and out of the city.

**FIGURE 4.02: EMPLOYMENT BY INDUSTRY SECTOR, TIGARD (2010 - 2021)**

Major Industry Sector	QCEW Employment		Employment Growth '00-'21	
	2010 Employment	2021 Employment	New Jobs	% Growth
Construction	3,752	7,028	3,276	119%
Manufacturing	2,109	2,153	44	2%
Wholesale Trade	2,795	2,243	(553)	-20%
Retail Trade	7,408	6,854	(553)	-8%
Transport., Warehouse, Utilities	646	754	108	18%
Information	1,648	1,454	(194)	-12%
Finance & Insurance	5,041	4,476	(565)	-12%
Real Estate	656	827	171	28%
Professional & Technical Services	3,848	4,465	617	18%
Management & Admin. Services	6,115	5,285	(830)	-15%
Education	1,855	1,454	(401)	-23%
Health Care	2,631	3,482	851	34%
Leisure & Hospitality	3,421	3,026	(395)	-12%
Other Services	1,418	1,573	155	13%
Government	392	441	49	13%
<b>TOTAL</b>	<b>43,735</b>	<b>45,517</b>	<b>1,781</b>	<b>4%</b>

Source: Oregon Employment Department

In terms of total number of current jobs, the retail, finance and insurance, administrative services, and leisure and hospitality (tourism and dining) remain large employers in Tigard, despite job losses over the last decade.

The success of both professional service and industrial/construction businesses in Tigard is likely due to the historical availability of land in these zones, with excellent regional transportation access. Tigard's employment areas are located along the I-5 freeway, and the confluence of highways 99W and 217. This enables employers locating in Tigard access to a regionwide labor shed including all of the Metro area including SW Washington State as well as the Salem metro area to the south.

This access is also an advantage for shipping, or industries such as construction that may have job sites located across the Metro area. Tigard's southeast industrial zones have provided large sites, with quick access for employees and shipping. The Tigard Triangle area is also an extension of the Kruse Way corridor which is established as one of the top suburban professional office locations in the Metro area.

The network of regional access is also highly beneficial to retailers. The Washington Square Mall, big box retailers, and even some smaller stores rely on a regional customer base preferring access and visibility from high-traffic streets. The Highway 99 corridor is also a highly successful retail environment.

These are the historical development patterns that have led to the current distribution of employment and industries in the city. As discussed in the following sections of this report, the makeup of new businesses in the community is likely to change due to decreasing land availability and policy choices on how to use it efficiently.

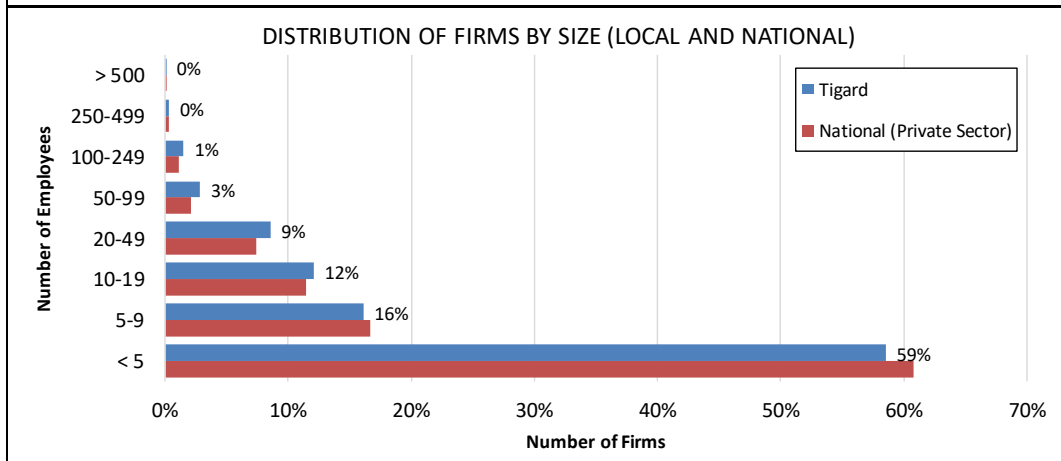
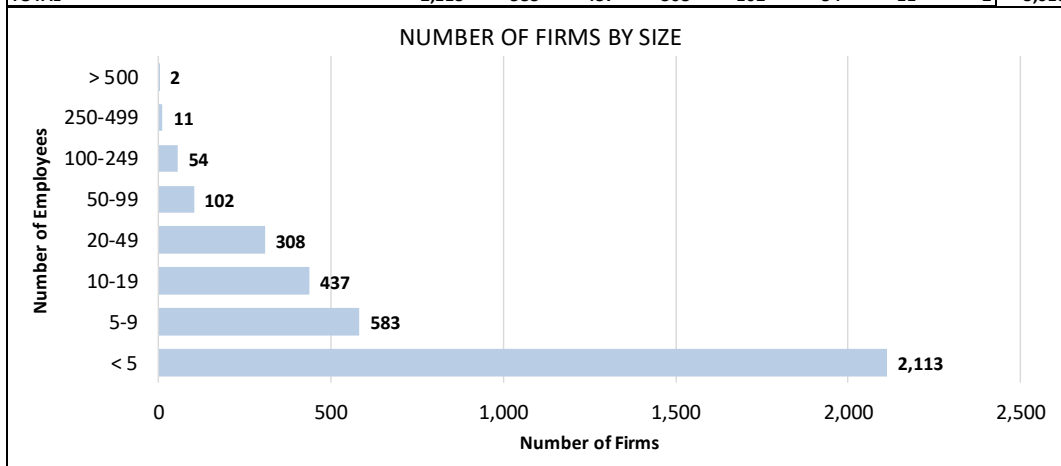
#### **CHARACTERISTICS OF LOCAL FIRMS**

The local employment base is largely dominated by small employers of 10 or fewer employees (75% of firms), which is a common pattern across most markets (see Figure 4.03). There are two employers of 500 or more employees, and 11 with 250 to 500 employees. Some of these may have employees spread over multiple locations.

Relative to the national distribution, Tigard has a slightly smaller share of small firms, and slightly greater share of firms with 10 to 100 employees. However, the differences are not large.

**FIGURE 4.03: DISTRIBUTION OF CURRENT FIRMS BY SIZE, TIGARD OREGON**

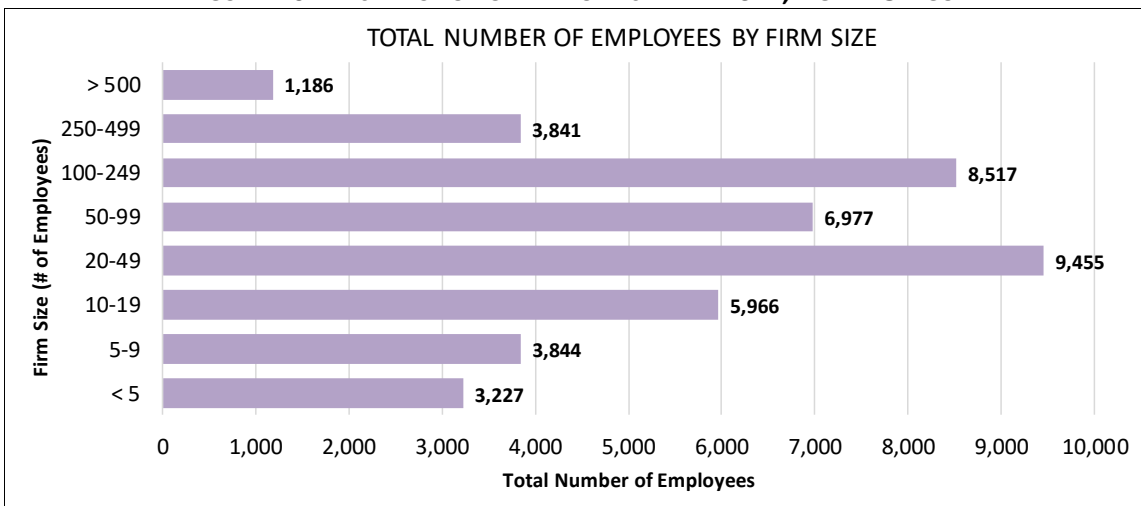
Industry	Firms by Size (By Number of Employees)								Total
	< 5	5-9	10-19	20-49	50-99	100-249	250-499	> 500	
Agriculture, forestry, fishing, and hunting	3	0	2	1	0	0	0	0	6
Mining	0	0	0	0	0	0	0	0	0
Construction	166	44	41	26	12	7	1	2	299
Food Manufacturing	13	7	3	0	0	0	0	0	23
Wood Manufacturing	12	5	5	6	2	1	0	0	31
Metals Manufacturing	32	10	6	9	4	4	0	0	65
Utilities	0	0	0	0	1	0	0	0	1
Wholesale trade	209	60	28	17	3	3	0	0	320
Retail trade	86	54	61	23	6	7	1	0	238
Retail trade	46	17	22	10	7	4	2	0	108
Transportation	30	3	5	3	1	0	0	0	42
Delivery and warehousing	9	4	1	1	1	1	0	0	17
Information	61	8	8	9	5	2	1	0	94
Finance and Insurance	182	40	29	20	7	8	2	0	288
Real Estate and Rental	100	23	12	6	2	0	0	0	143
Professional, Scientific, and Technical Services	389	89	49	40	11	1	0	0	579
Management of Companies and Enterprises	20	10	10	7	7	1	0	0	55
Administrative and Waste Management	129	28	27	22	4	6	3	0	219
Educational services	33	10	9	15	5	3	0	0	75
Health care and social assistance	166	70	42	33	11	2	0	0	324
Arts, Entertainment, and Recreation	22	7	7	5	0	0	0	0	41
Accommodation and Food Services	64	44	50	43	7	4	0	0	212
Other services	303	50	20	10	5	0	0	0	388
Government	1	0	0	2	1	0	1	0	5
Unclassified	37	0	0	0	0	0	0	0	37
<b>TOTAL</b>	<b>2,113</b>	<b>583</b>	<b>437</b>	<b>308</b>	<b>102</b>	<b>54</b>	<b>11</b>	<b>2</b>	<b>3,610</b>



Source: Oregon Employment Department

Figure 4.04 presents the estimated number of employees in firms of the different size categories. While there are relatively few larger employers, they still represent a significant share of overall employment due to their high number of employees.

**FIGURE 4.04: DISTRIBUTION OF EMPLOYEES BY FIRM SIZE, TIGARD OREGON**



Source: Johnson Economics, Oregon Employment Department

**Home Occupations:** As of the time of this report, Tigard had 171 home occupation businesses registered in the city. The total number of employees was 230, for an average 1.3 employees per business. However, nearly 80% of home occupation businesses report just one employee. There are a range of home business types, with the most common being some form of contractor or tradesperson who likely travels to other locations to complete projects, or someone providing personal services which might include accounting or legal services, beauty, or repair services.

**FIGURE 4.05: DISTRIBUTION OF EMPLOYEES BY FIRM SIZE, TIGARD OREGON**

Category	No. of Home Permits		No. of Employees	
Landscape, General, Trade Contractors:	27	16%	47	20%
Food Prep. and Products:	2	1%	3	1%
Misc. Durable Goods Production (Apparel, Furniture, Crafts, etc.):	13	8%	14	6%
Retail (Misc. Goods, Online & Mail):	30	18%	43	19%
Personal and Property Service (Beauty, Repair, Real Estate, etc.):	44	26%	58	25%
Professional Services (Accounting, Health, Legal, etc.):	54	32%	60	26%
Unknown:	1	1%	5	2%
<b>TOTAL:</b>	<b>171</b>		<b>230</b>	

Roughly 18% report some sort of retail service which likely includes mostly online sales. The largest category is those who provide services. This includes many personal services such as beauty, massage, and alternative health practitioners who provide services in a client’s home, also many self-occupied professionals such as accountants, lawyers and paralegals, and freelancers.

At an estimated 230 employees, these home occupations represent a very modest share of employment in Tigard, roughly 0.5%. This only includes home occupation businesses that have registered with the City and there are also likely many such businesses that are unregistered.

## ECONOMIC SPECIALIZATION

The most common analytical tool to evaluate economic specialization is a location quotient analysis. This metric compares the concentration of employment in an industry at the local level to a larger geography. All industry categories are assumed to have a quotient of 1.0 on the national level, and a locality's quotient indicates if the local share of employment in each industry is greater or less than the share seen nationwide.

For instance, a quotient of 2.0 indicates that locally, that industry represents twice the share of total employment as seen nationwide. A quotient of 0.5 indicates that the local industry has half the expected employment. Industries with a high location quotient are likely to be bringing additional economic activity and employment into the community.

**City of Tigard:** A location quotient analysis was completed for Tigard, which evaluated the distribution of local employment relative to national averages, as well as average annual wage levels by industry locally relative to national averages (Figure 4.06). The industries that are most highly represented relative to national averages were Construction, Retail, and Finance and Real Estate.

**FIGURE 4.06: INDUSTRY SECTOR SPECIALIZATION, CITY OF TIGARD, 2019<sup>3</sup>**

Rank	NAICS	Sector	Description	Empl.	Emp. L.Q.	Average Wage	Wages L.Q.
1	236	Construction	Construction of Buildings	1,589	3.0	\$72,873	0.9
2	448	Retail	Clothing and Clothing Accessories Stores	1,269	2.6	\$30,978	0.4
3	238	Construction	Specialty Trade Contractors	3,745	2.4	\$73,494	0.9
4	533	Real Estate	Lessors of Nonfinancial Intangible Assets	20	2.4	\$81,413	1.0
5	524	Financial	Insurance Carriers and Related Activities	1,861	2.3	\$79,908	1.0
6	525	Financial	Funds, Trusts, and Other Financial Vehicles	10	2.3	\$90,267	1.1
7	511	Information	Publishing Industries (except Internet)	571	2.3	\$137,411	1.7
8	453	Retail	Miscellaneous Store Retailers	640	2.2	\$34,158	0.4
9	442	Retail	Furniture and Home Furnishings Stores	354	2.1	\$42,811	0.5
10	523	Financial	Securities, Commodity Contracts, etc.	658	2.0	\$114,375	1.4
11	814	Other Services	Private Households	176	1.8	\$30,160	0.4
12	517	Information	Telecommunications	474	1.8	\$84,257	1.1
13	522	Financial	Credit Intermediation and Related Activities	1,572	1.7	\$97,091	1.2
14	611	Education	Educational Services	1,560	1.6	\$42,799	0.5
15	452	Retail	General Merchandise Stores	1,721	1.6	\$32,572	0.4
16	423	Wholesale	Merchant Wholesalers, Durable Goods	1,507	1.5	\$107,250	1.3
17	551	Prof. Services	Management of Companies and Enterprises	1,153	1.5	\$207,760	2.6
18	512	Information	Motion Picture and Sound Recording Industries	207	1.4	\$58,393	0.7
19	425	Wholesale	Wholesale Electronic Markets and Agents and Brokers	430	1.4	\$96,931	1.2
20	541	Prof. Services	Professional, Scientific, and Technical Services	4,061	1.3	\$87,669	1.1

SOURCE: Bureau of Labor Services

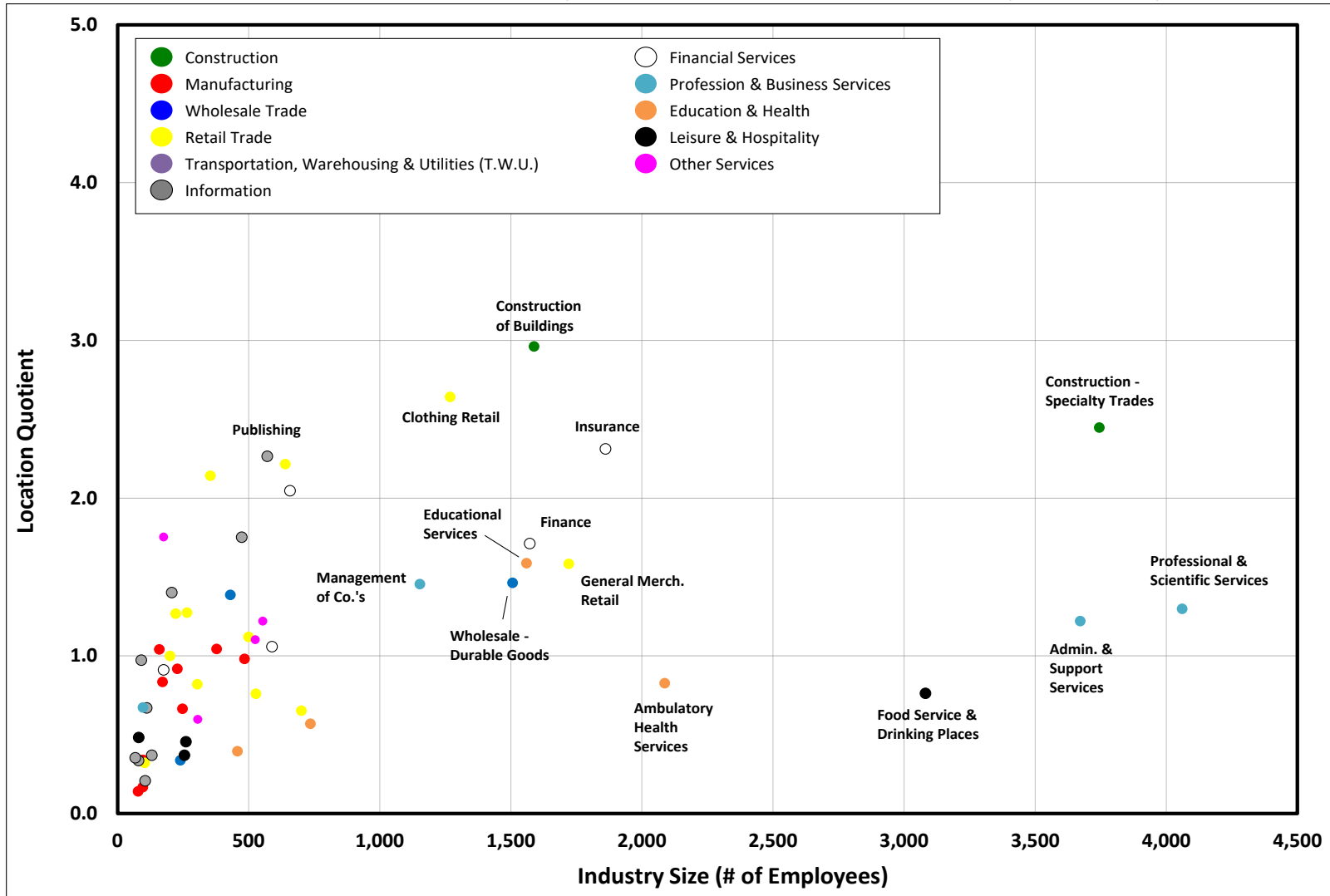
NAICS: North American Industry Classification System; visit [census.gov/eos/www/naics/](https://www.census.gov/eos/www/naics/) to learn more about the specific industry types included in each code.

<sup>3</sup> QCEW Data, Annual Average 2019 Data

These are not necessarily the subsectors with the highest overall employment levels. However, they are the subsectors with the highest representation relative to national levels, which indicates that the local economy may have competitive advantages in these industries. It may also indicate that the historic land use and zoning pattern in Tigard is amenable to certain industries over others.

Figures 4.07 and 4.08 (following pages) show the local subsectors graphed by L.Q. and the overall number of employees in those subsectors.

**FIGURE 4.07: INDUSTRY SUBSECTOR SPECIALIZATION, LOCATION QUOTIENT VS. NUMBER OF EMPLOYEES, CITY OF TIGARD, 2019**

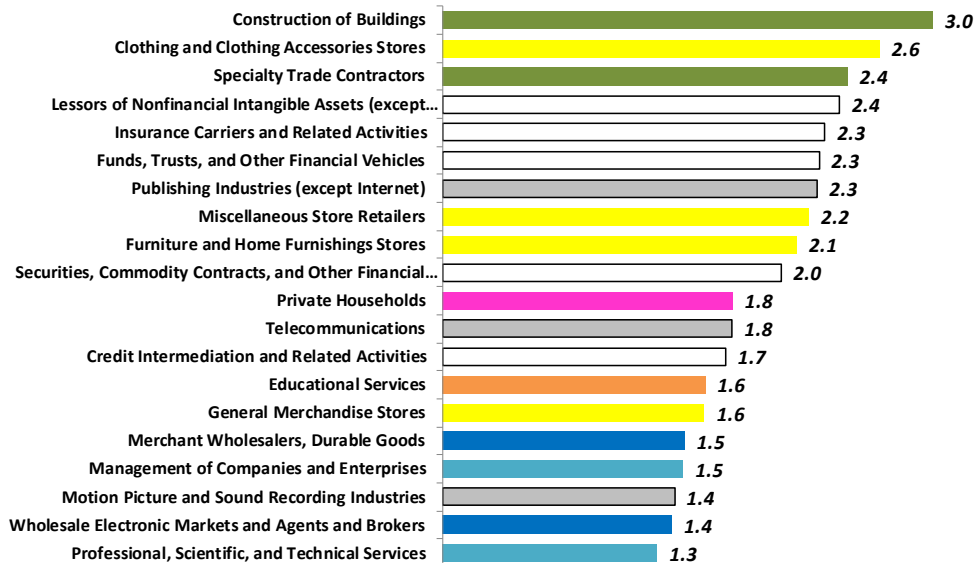


Source: QCEW Data, Annual Average 2019 Data

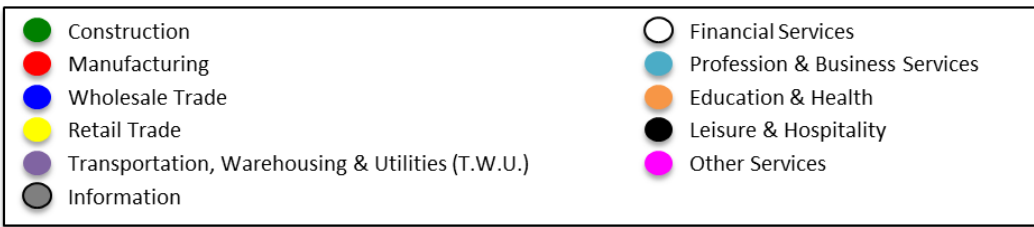
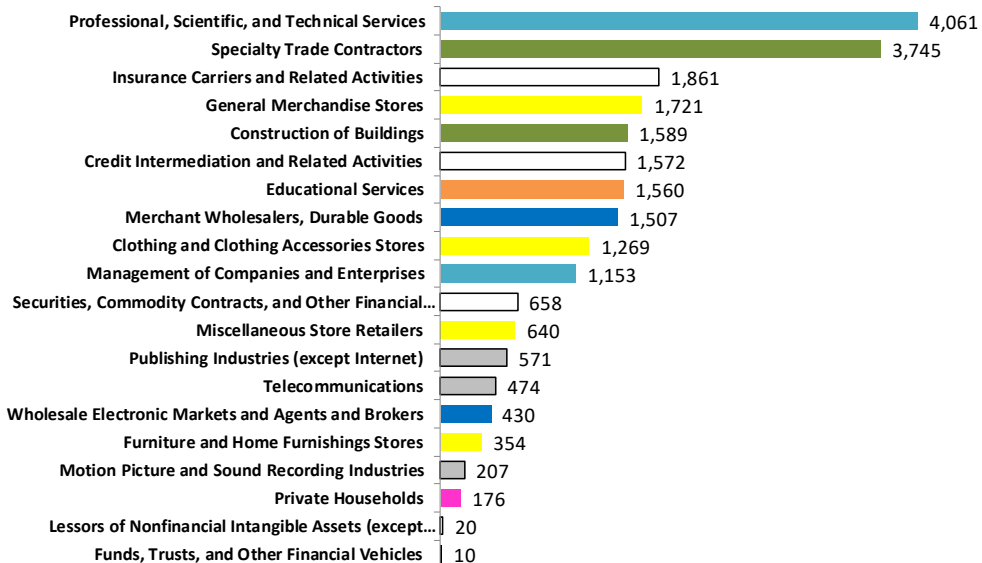


**FIGURE 4.08: SUBSECTORS WITH HIGHEST LOCATION QUOTIENT, CITY OF TIGARD, 2019**

**LOCATION QUOTIENT**



**TOTAL JOBS**



Source: QCEW Data, Annual Average 2019 Data



## ECONOMIC DRIVERS

The identification of the economic drivers of a local or regional economy are helpful in informing the character and nature of future employment, and by extension land demand over a planning cycle. To this end, we employ a shift-share analysis of the local economy emerging out of the current expansion cycle<sup>4</sup>.

A shift-share analysis measures the local effect of economic performance within a particular industry or occupation. The process considers local economic performance in the context of national economic trends—indicating the extent to which local growth can be attributed to unique regional context or is simply growth in line with broader national trends.

For example, consider that widget manufacturing is growing at a 1.5% rate locally, about the same rate as the local economy. On the surface we would consider the widget manufacturing industry to be healthy and contributing soundly to local economic expansion. However, consider also that widget manufacturing is booming across the country, growing at a robust 4% annually. In this context, local widget manufacturing is not keeping pace with the broader growth in the industry.

We can generally classify industries, groups of industries, or clusters into four groups:

**Growing, Outperforming:** Industries that are growing locally at a rate faster than the national average. These industries have characteristics locally leading them to be particularly competitive.

**Growing, Underperforming:** Industries that are growing locally but at a slower rate than the national average. These industries generally have a sound foundation, but some local factor is limiting growth.

**Contracting, Outperforming:** Industries that are declining locally but slower than the national average. These industries have structural issues that are impacting growth industry-wide. However, local firms are leveraging some local or regional factor that is making them more competitive than other firms on average.

**Contracting, Underperforming:** Industries that are declining locally at a rate faster than the national average. These industries have structural issues that are impacting growth industry wide. However, some local or regional factor is making it increasingly tough on local firms.

The average annual growth rate by industry from 2010 through 2019 (the most recent year available) for Tigard was compared to the national rate. The observed local change was compared to a standardized level reflecting what would be expected if the local industry grew at a rate consistent with national rates for that industry.

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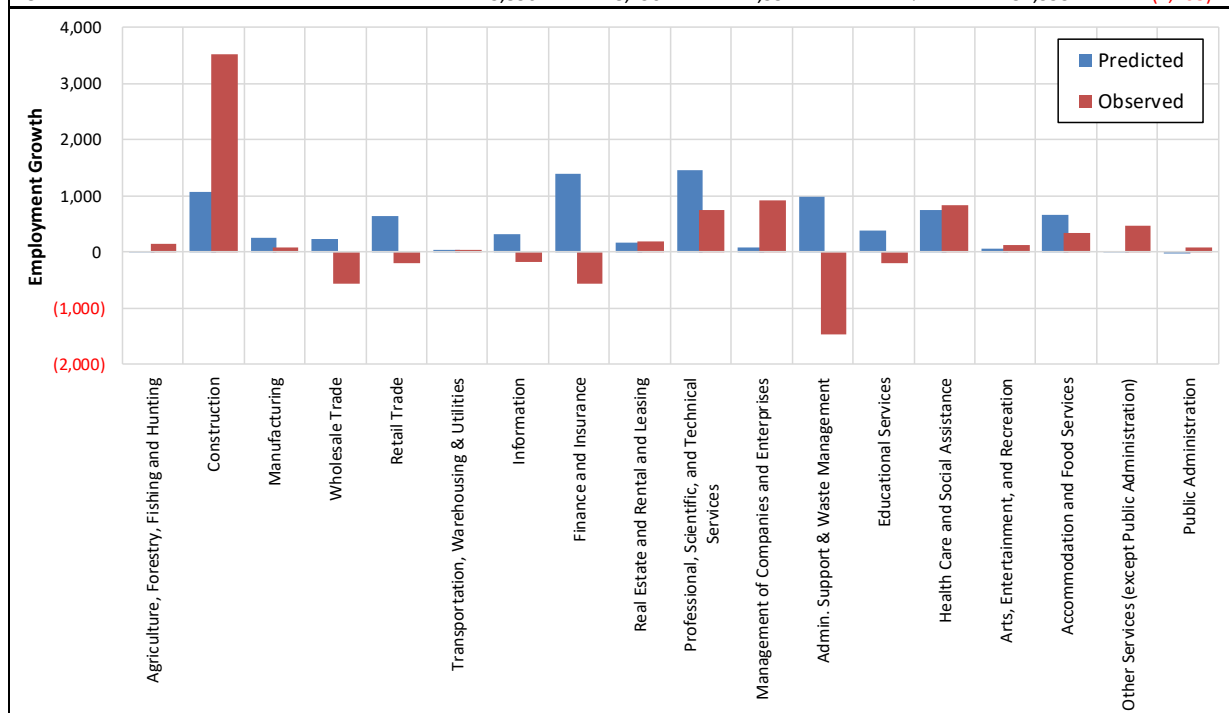
<sup>4</sup> Measured from the trough of recent recession to 2019, the most recent period available for local employment data.



As shown in Figure 4.09 & 4.10, some key industries showed growth exceeding national rates. These include construction, management of companies, and other services. Other sectors also experienced growth, but less than predicted if they had grown at the national rate.

**FIGURE 4.09: INDUSTRY SECTOR SHIFT SHARE ANALYSIS, CITY OF TIGARD (2010 – 2019)**

Industry	Average Employment		Net Change		Standardized Level - 2019 *	Regional Shift
	2010	2019	Total	AAGR		
Agriculture, Forestry, Fishing and Hunting	101	253	153	10.8%	104	150
Construction	3,752	7,273	3,521	7.6%	4,827	2,446
Manufacturing	2,109	2,186	77	0.4%	2,366	(181)
Wholesale Trade	2,795	2,237	(558)	-2.4%	3,026	(789)
Retail Trade	7,408	7,210	(198)	-0.3%	8,045	(836)
Transportation, Warehousing & Utilities	646	692	46	0.8%	696	(4)
Information	1,648	1,473	(174)	-1.2%	1,963	(489)
Finance and Insurance	5,041	4,479	(562)	-1.3%	6,435	(1,957)
Real Estate and Rental and Leasing	656	857	201	3.0%	823	35
Professional, Scientific, and Technical Services	3,848	4,591	743	2.0%	5,312	(721)
Management of Companies and Enterprises	384	1,304	919	14.5%	465	838
Admin. Support & Waste Management	5,731	4,261	(1,470)	-3.2%	6,722	(2,461)
Educational Services	1,855	1,651	(204)	-1.3%	2,245	(594)
Health Care and Social Assistance	2,631	3,471	840	3.1%	3,379	91
Arts, Entertainment, and Recreation	230	362	132	5.2%	293	69
Accommodation and Food Services	3,191	3,536	344	1.1%	3,847	(311)
Other Services (except Public Administration)	1,418	1,887	469	3.2%	1,433	454
Public Administration	392	468	76	2.0%	372	96
<b>TOTAL</b>	<b>43,836</b>	<b>48,190</b>	<b>4,354</b>	<b>1.1%</b>	<b>52,353</b>	<b>(4,163)</b>



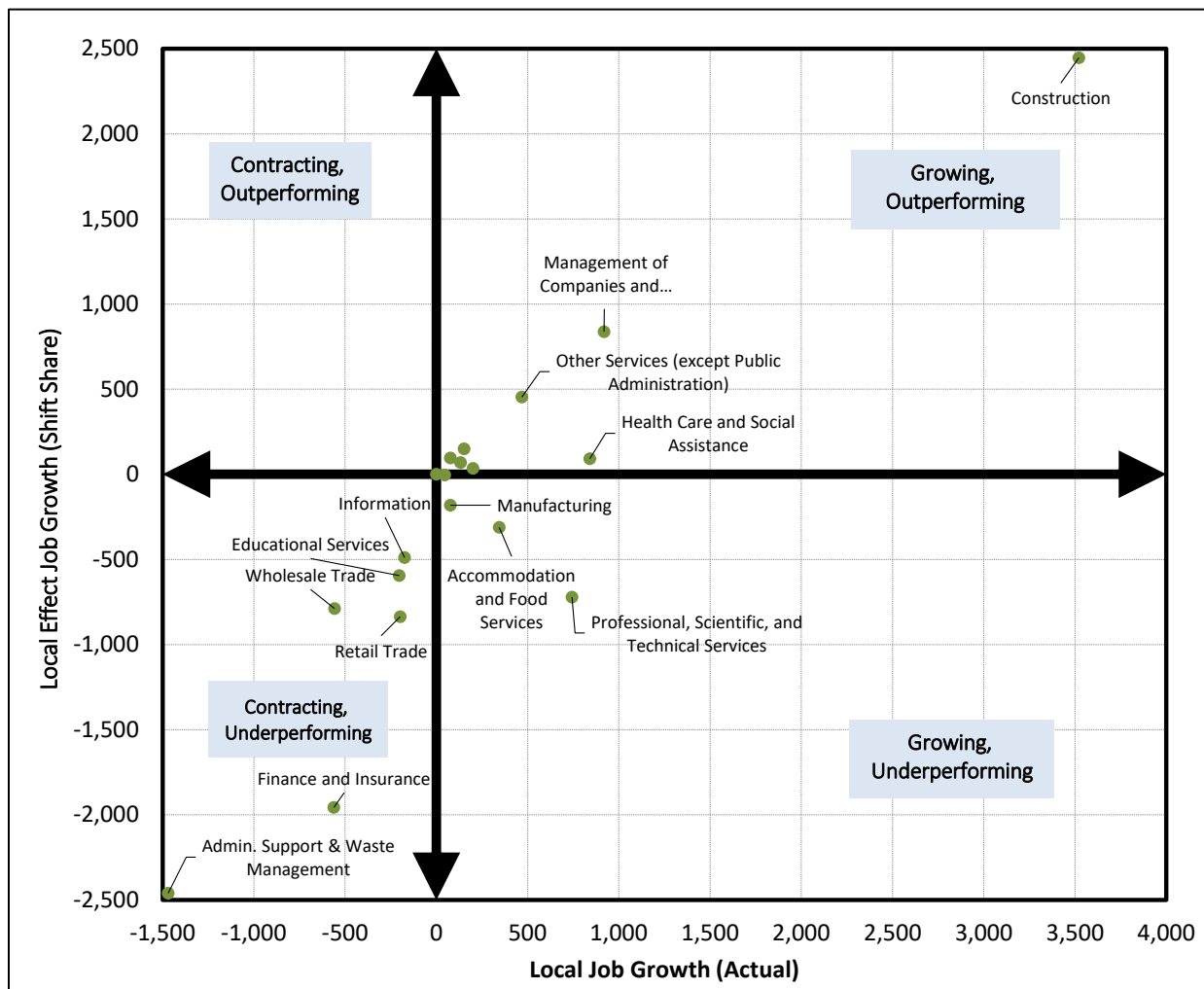
\* Employment level in each industry had it grown at the same rate as its counterparts at the national level over the same period.

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis



Figure 4.10 presents this data visually, comparing actual employment growth with the positive or negative shift based on national trends. This gives an indication of which sectors are outperforming, and which are contracting. In Tigard, some sectors have excelled as noted, while others are underperforming, or have even contracted. Finance and admin services are two sectors that have lost some major employers since 2010 and thus have fared worse than growing industries. Wholesale and retail trade, education and information have similarly contracted.

**FIGURE 4.10: INDUSTRY SECTOR SHIFT SHARE ANALYSIS, CITY OF TIGARD (2010 – 2019)**



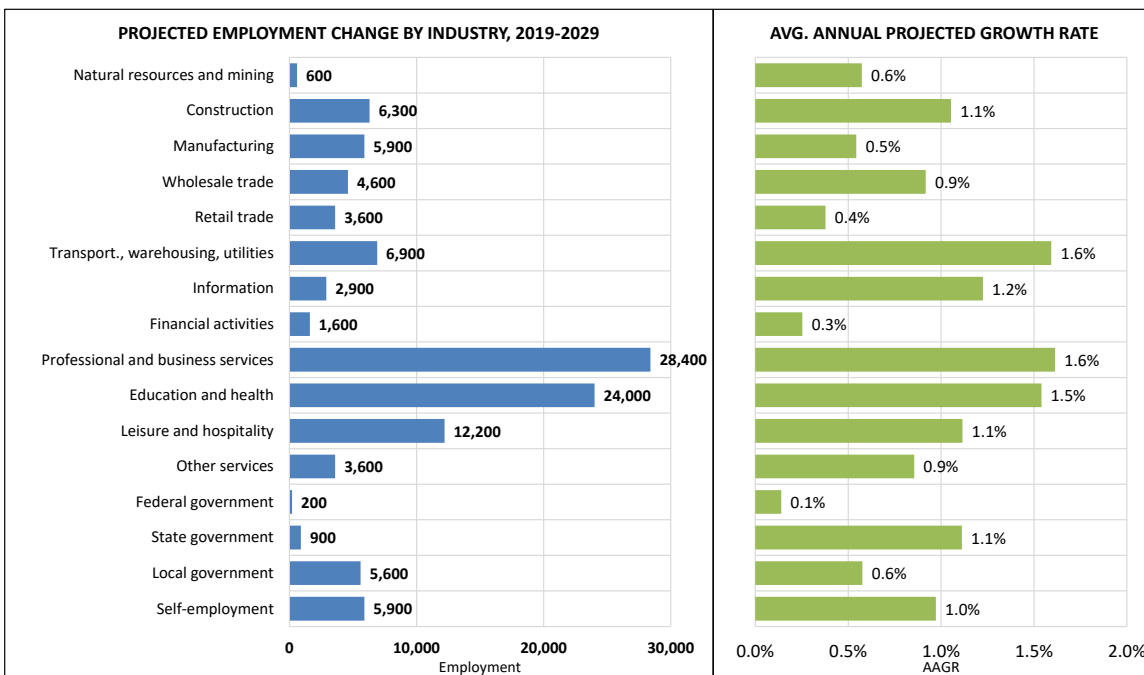
SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis

### PROJECTED EMPLOYMENT GROWTH

As noted in Section III, the State of Oregon produces employment forecasts by sector by sub-regions, which groups Washington County with Multnomah and Clackamas Counties into the broader Metro area. This forecast is an indicator of how different industry sectors are expected to fare in the region in coming years, including Washington County and Tigard. It is represented here for reference.



**FIGURE 4.11: PROJECTED EMPLOYMENT GROWTH BY SECTOR  
WASHINGTON, MULTNOMAH & CLACKAMAS COUNTIES**



SOURCE: State of Oregon Employment Department, Workforce and Economic Research Division

The most recent forecast anticipates a gain of over 113,000 jobs from 2019 through 2029, reflecting an average annual growth rate of 1.0% during the period. All industry sectors are forecast to expand over the next decade.

Those forecasted to grow at an above average rate are transportation, warehousing and information, reflecting the continuing growth of internet business, data centers, software and remote shopping. Other strong sectors are professional services due to the continuing evolution of the economy from good production towards services, and education and health services which continue to be a growing slice of the economy. Health care is expected to continue to grow with the aging of the large Baby Boomer cohort and this trend may be sustained for 20 years or more. Sectors projected to grow near the average rate of 1% are construction, government, and tourism-related industries. Of these, construction, and professional services, and health care have seen healthy growth in Tigard.

On an absolute basis, the greatest number of new jobs are forecasted in professional services; education and health services, and tourism-related industries.



## WORKFORCE CHARACTERISTICS OF MAJOR INDUSTRY SECTORS

### DIVERSITY

The following figure shows diversity in major industry sectors in Oregon.<sup>5</sup> Unfortunately, local data is not available. The data show that overall, the employed workforce in Oregon is an estimated 53% male, and 86% white. In contrast, the state population is estimated at 49% male, and 83% white.

Women have below-average representation in fields like construction, manufacturing, information, and professional services. Women have above average representation in finance and real estate, education, health, and leisure and hospitality (dining, and tourism-related).

The employed workforce identifies as 12% Latino compared to over 13% of the state population. Latinos have above average representation in agriculture, leisure and hospitality, and other services which includes many personal service businesses. Latinos have lower representation in sectors such as finance and information, relative to their share of the population.

**FIGURE 4.12: DIVERSITY IN EMPLOYMENT, BY INDUSTRY SECTOR, OREGON - 2019**

Industry	Gender Diversity		Race/Ethnicity Diversity			
	Men	Women	White	Black	Asian	Latino
11 Agriculture, Natural Resources	77%	23%	92%	0%	0%	35%
21 Mining	53%	0%	86%	0%	0%	0%
23 Construction	84%	16%	92%	2%	3%	14%
31-33 Manufacturing	74%	26%	84%	2%	8%	13%
42 Wholesale trade	58%	43%	89%	1%	3%	10%
44-45 Retail trade	58%	43%	89%	1%	3%	10%
48-49 Transportation, Warehousing, Utilities	71%	30%	85%	5%	4%	10%
51 Information	62%	37%	86%	0%	7%	8%
52 Finance and Insurance	46%	53%	88%	1%	8%	8%
53 Real Estate and Rental	46%	53%	88%	1%	8%	8%
54 Professional, Scientific, and Technical Services	60%	40%	86%	2%	6%	14%
55 Management of Companies and Enterprises	60%	40%	86%	2%	6%	14%
56 Administrative and Waste Management	60%	40%	86%	2%	6%	14%
61 Educational services	27%	73%	83%	3%	7%	10%
62 Health care and social assistance	27%	73%	83%	3%	7%	10%
71 Arts, Entertainment, and Recreation	44%	56%	84%	1%	8%	17%
72 Accommodation and Food Services	44%	56%	84%	1%	8%	17%
81 Other services	44%	56%	82%	3%	7%	17%
92 Government	52%	48%	90%	1%	4%	8%
99 Unclassified	na	na	na	na	na	na
<b>TOTAL:</b>	<b>53%</b>	<b>47%</b>	<b>86%</b>	<b>2%</b>	<b>6%</b>	<b>12%</b>

SOURCE: US Bureau of Labor Statistics

In Tigard, some of the sectors of greatest employment tend to have an under-representation of some groups, such as construction and professional and administrative services which have a low share of women relative to the population. These fields tend to have the expected representation of racial minorities. The

<sup>5</sup> U.S. Bureau of Labor Statistics, Geographic Profile of Employment and Unemployment, 2019



finance and real estate industries tend to have good representation of women, but poor representation of Latinos.

### **JOB SKILLS**

The major industry sectors discussed here cover the full range of occupations, wage levels, and fields of work, other than self-employment. Typically, any field has occupation that range from entry-level or trainee to senior-level management. When discussing the skills any industry requires, there are those that are particular to an industry or field, and those that are transferable across many or all industries.

**Hard Skills vs. Soft Skills:** Hard skills are those capabilities that can typically be defined and measured. These include knowledge-based skills that require specific education or on-the-job training to understand at least the basics of the field or business or run specific processes or machinery. These are capabilities that a newly recruited worker would not be expected to bring simply by being a bright, motivated person with the requisite “soft” skills.

Depending on the occupational field, hard skills may come from prior experience, on-the-job training, technical school, or a college degree. These often require a commitment from a worker to pursue a particular field and invest time, energy, and perhaps money in to attaining these hard skills in order to progress.

Hard skills are usually very particular to a specific industry. For instance, an accountant typically must have some accounting education, likely at the post-high school level. A heavy fork-lift driver must have specific training to do her job.

Soft skills are often more difficult to define and measure. These are the interpersonal and professional skills that allow an employee to function well in a workplace, collaborate with coworkers, and adapt to company culture. These skills can be hard to train, but many employers value them highly, and developing soft skills can be more important to long term career success than having the best hard skills.

Soft skills are often thought of as those that an employee brings with them, or perhaps learns after time in a professional environment. However, employees can be trained in soft skills, such as written and verbal communication, organization and time management, problem solving, giving and receiving feedback and others.

The following is a summary of the some of the key categories of skills sought in different employment environments. Many skills, such as good communication, trainability, and attention to detail are valued across workplaces. The skills discussed below are generally soft skills, as each occupation has its particular hard skills and certification requirements.

**Skills for Professional and White-Collar Environments:** Aside from the specific knowledge base required in specific fields (i.e., a certification for an electrician, legal degree for an attorney, etc.) office-based employers are generally looking for a set of soft skills in their employees that help the office function smoothly and meet the needs of coworkers, supervisors, and clients. Many office environments feature generalized administrative jobs that do not necessarily require a specialized education.



Some of the key skills that office-based employers seek are:

1. Basic computer literacy skills
2. Organizational skills
3. Strategic planning and scheduling skills
4. Time-management skills
5. Verbal and written communication skills
6. Professionalism
7. Critical thinking skills
8. Quick-learning skills
9. Attention to Detail

These skills help employees complete assigned tasks while coordinating with colleagues in a professional and collegial manner. Through the lens of workforce development, accepting a job in a professional office environment can offer a transition from blue collar or service industry employment into a white-collar environment, and perhaps a steppingstone into a new professional field. It should be noted that many jobs in manufacturing, construction trades and other blue-collar fields may actually offer better wage and benefits than administrative office employment.

**Skills for Industrial and Manufacturing Environments:** There is a wide variety of jobs that take place in an industrial environment. Manufacturing/production is one important category of industrial employment, but warehousing, raw materials processing, equipment yards, repair facilities, and many other activities take place in an industrial environment.

Some of the key skills that industrial employers seek are:

1. Attention to Detail
2. Critical Thinking
3. Communication
4. Computer-Aided Technology
5. Reliability
6. Trainability

Industrial employers may also seek some of the following technical skills, or the ability to be trained in:

7. Lean Manufacturing
8. Fabrication
9. Welding
10. Machining
11. Machine Maintenance and Repair
12. Machinery and Vehicle Operation

Jobs in industry often offer good wages to workers at a range of education levels and backgrounds. Technical training through educational programs or on-the-job allows industrial workers to build valuable capabilities in operating equipment and running processes. It is often time-consuming and expensive for employers to replicate these skills and experience, making dependable long-term workers valuable to industrial employers.

**Skills for Retail and Customer-Service Environments:** Employers in the retail, hospitality, personal services, and other customer-facing environments seek a specific set of skills from employees who often serve as the public face of the business and main contact with customers. Not surprisingly, interpersonal skills are highly valued as well as the ability to understand the business and even run a store at times without supervision.



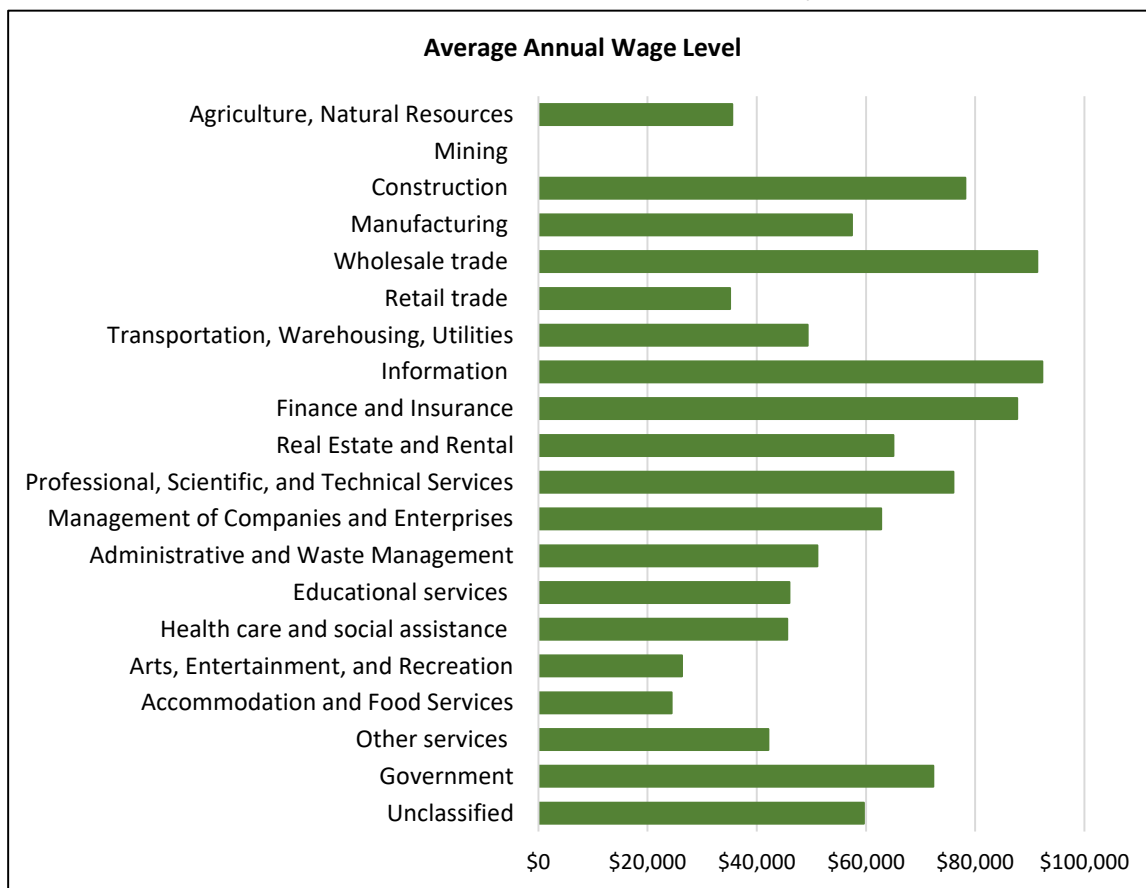
Skills important for customer-service employees are:

1. Attention to Detail
2. Understanding of the Business
3. Communication
4. Customer Service
5. Interpersonal Skills
6. Basic Computer Skills
7. Numeracy
8. Sales
9. Product and/or Service Knowledge

**AVERAGE WAGES BY INDUSTRY**

The major industry sectors have differing average wage levels. Figure 4.13 presents the average wage levels in Tigard (2019) by sector. The best paying sectors on average are information, wholesale business, finance, construction trades, and professional services. Lower paying sectors are retail, food service, entertainment, and accommodations.

**FIGURE 4.13: AVERAGE WAGE LEVEL PER INDUSTRY SECTOR, CITY OF TIGARD**



SOURCE: Oregon Employment Department



Figure 4.14 presents the average wage levels in Tigard based on 2019 QCEW data, compared average wages in the Portland Metro area (Oregon side) and the state. Tigard generally offers wages within 10% of the Portland Metro average in most sectors. Exceptions are administrative services and real estate where local wages are well higher than the Metro average.

In some sectors, most notably manufacturing and management of companies, average local wages are well below the Metro average. This is because some of Oregon's largest, most profitable, and well-paying companies are located elsewhere in the Metro area and pull up the regional average.

The high-tech companies in the Hillsboro area pay high wages for skilled manufacturing that exceed wages for more typical kinds of manufacturing. However, manufacturing wages in Tigard also trail the statewide average. Tigard has nearly 120 manufacturing firms representing a wide variety of company size and wage levels. Local firms feature annual average wages ranging from a few thousand dollars for individual proprietors, to an average of \$175,000/year. While Tigard has well-paying high-skilled manufacturing, it may be that the area simply has a greater share of lower-skilled, lower paying manufacturing employment than elsewhere in the Metro area.

**FIGURE 4.14: COMPARISON OF AVERAGE WAGE LEVEL PER INDUSTRY SECTOR  
CITY OF TIGARD, PORTLAND METRO, OREGON**

NAICS	Industry	2019			Tigard/ Metro
		Tigard	Pdx Metro	Oregon	
11	Agriculture, Natural Resources	\$35,500	\$38,700	\$36,700	92%
21	Mining	na	\$69,000	\$61,900	na
23	Construction	\$78,200	\$70,600	\$63,100	111%
31-33	Manufacturing	\$57,400	\$85,400	\$71,400	67%
42	Wholesale trade	\$91,400	\$81,500	\$75,600	112%
44-45	Retail trade	\$35,100	\$35,000	\$32,600	100%
48-49	Transportation, Warehousing, Utilities	\$49,300	\$53,700	\$53,300	92%
51	Information	\$92,300	\$98,100	\$89,600	94%
52	Finance and Insurance	\$87,700	\$95,400	\$85,700	92%
53	Real Estate and Rental	\$65,000	\$55,900	\$49,000	116%
54	Professional, Scientific, and Technical Services	\$76,000	\$91,100	\$82,900	83%
55	Management of Companies and Enterprises	\$62,800	\$136,400	\$123,700	46%
56	Administrative and Waste Management	\$51,100	\$42,900	\$39,800	119%
61	Educational services	\$46,000	\$41,700	\$39,800	110%
62	Health care and social assistance	\$45,600	\$56,000	\$53,300	81%
71	Arts, Entertainment, and Recreation	\$26,300	\$37,700	\$30,700	70%
72	Accommodation and Food Services	\$24,400	\$24,900	\$22,800	98%
81	Other services	\$42,100	\$41,000	\$35,500	103%
92	Government	\$72,300	\$67,600	\$61,300	107%
99	Unclassified	\$59,600	\$79,000	\$70,400	75%
<b>Average all Sectors:</b>		<b>\$59,100</b>	<b>\$63,200</b>	<b>\$55,000</b>	<b>94%</b>

SOURCE: Oregon Employment Department



### **TIGARD INDUSTRIES COMPARISON**

For reference, the table presented on the following page provides a comparison of the major industry sectors in Tigard based on the metrics discussed above. For each industry, the metrics are judged to be broadly Positive (green), Negative (red), or neutral.

These metrics represent the current and long-term industry trends in Tigard, but do not necessarily reflect the future prospects of these industries, in particular given the specific limitations on remaining employment land discussed in later sections of this report.


**FIGURE 4.12: SUMMARY OF PERFORMANCE METRICS OF MAJOR INDUSTRY SECTORS, CITY OF TIGARD**

Industry	Sample Firm Types	Share of Employment	Location Quotient	2019	Growth Since 2010	Metro Proj.	Projected
				Avg. Wage		Growth Rate (Annual)	New Empl. Growth (2041)
23 Construction	Building, Infrastructure, Land, Contractors, Trades	12.4% HIGH	2.1	\$78,245	94%	1.1%	1,639
31-33 Manufacturing	Food Processing, Wood Products, Metal Fab., Machinery, Electronics	5.0% MED.	0.5	\$57,378	4%	0.5%	247
42 Wholesale trade	Wholesalers of Auto, Durable Goods, Food, Retail goods	5.1% MED.	1.1	\$91,448	-20%	0.9%	450
44-45 Retail trade	All retail categories Autos, Durable, Groceries, Electronics, etc.	15.8% HIGH	1.3	\$35,085	-3%	0.4%	537
48-49 Transportation, Warehousing, Utilities	Air, Rail, Water Transport, Freight Storage & Movement, Energy Piping & Transmission	1.5% LOW	0.3	\$49,301	7%	1.6%	280
51 Information	Paper & Software Publishers, Movie and Sound Production, Telecommunications	3.2% MED.	1.4	\$92,338	-11%	1.2%	401
52 Finance and Insurance	Banks, Lenders, Insurance, Investment Services, Pensions, Securities Brokers	9.5% HIGH	2.0	\$87,707	-11%	0.1%	91
53 Real Estate and Rental	Property Management, Real Estate Lease and Sale, Realtors, Auto and Equip. Rental	1.8% LOW	1.0	\$64,961	31%	0.7%	122
54-56 Professional, Scientific, and Technical Services	Legal, Accounting, Technical, Scientific, Admin. Services, R&D, Advertising, Security	20.9% HIGH	1.2	\$63,887	2%	1.6%	3,602
61 Educational services	Elementary, Secondary, College, Trade and Specialty Schools	3.6% MED.	1.6	\$46,008	-11%	1.0%	330
62 Health care and social assistance	Medical and Dental, Hospitals Clinics, Laboratories, Home Care Nursing Homes, Family Services, Food and Housing Services	7.6% HIGH	0.5	\$45,618	32%	1.6%	1,326
71 Arts, Entertainment, and Recreation	Performing Arts, Theaters, Sports, Venues, Artists, Promotion, Performers, Museums, Recreation	0.8% LOW	0.4	\$26,286	58%	1.2%	99
72 Accommodation and Food Services	Hotels, Casinos, Campgrounds, Restaurants, Bars, Caterers, Cafeterias, Food Carts	7.8% HIGH	0.7	\$24,385	11%	1.1%	652
81 Other services	Repair and Maintenance, Beauty Services, Personal Services, Civic, Religious, Social Orgs.	3.6% MED.	1.0	\$42,136	33%	0.9%	292
92 Government	Local, State, Federal, Military, Executive Offices, Legislatures,	1.1% LOW	na	\$72,301	19%	0.6%	52
<b>TOTAL/AVERAGE:</b>				\$59,086	8%	1.0%	10,250



## V. EMPLOYMENT LAND USE & DEVELOPMENT TRENDS

### AVERAGE EMPLOYMENT DENSITY

Average employment density differs by land use and building type. In general, office space houses more employees per square foot, while industrial and warehousing house fewer employees per square foot on average. The employee/square foot averages used in this analysis were derived from Urban Land Institute data and have been periodically compared to recent trends in space usage.

These averages are by the building typology, rather than the industry sector. (Sector employment is converted to building type in the next section.)

**FIGURE 5.01: ESTIMATED AVERAGE EMPLOYMENT DENSITY BY BUILDING TYPOLOGY**

	Average Sq.Ft./Empl.	Floor Area Ratio	Vacancy Assumption	Avg. Jobs/Acre
<b>Office</b>	350	0.35	10%	39.2
<b>Institutional</b>	350	0.35	0%	43.6
<b>Retail</b>	500	0.25	10%	19.6
<b>Flex/B.P</b>	990	0.3	10%	11.9
<b>Gen. Ind.</b>	600	0.3	5%	20.7
<b>Warehouse</b>	1,000	0.35	5%	14.5
<b>Data Center</b>	8,000	0.35	5%	1.8
<b>Total</b>	1,680	0.32	6.4%	21.6

SOURCE: Johnson Economics, Urban Land Institute

### Implications for Employment Land Use

Through the lens of efficient use of remaining employment lands in Tigard, traditional office uses are likely to accommodate the most employment per buildable acre, while retail and industrial less so. There is also variance among industrial users. Manufacturers tend to have greater average job density, while warehousing provides low density. Data centers, which have become a more common use in the region since 2010 offer very high taxable value, but low employment density.

### LAND USE AND BUILDING EFFICIENCY

Aside from encouraging employment land uses that tend to have greater employment density, more efficient use of sites can increase the yield of real estate and jobs on available employment land. This can entail employers using smaller sites than they might have used in the past when land was more plentiful and less expensive. It can also include reducing the site space used for landscaping, buffers, and parking to allow more usable built space.



### **Economics of New Development**

One challenge in the suburban environment where land prices are lower than an urban core is that the developers themselves may not feel financial pressure to maximize use of sites. The private real estate market tends to provide greater density in response to higher property values. This section provides a general discussion of factors which impact the density of development or redevelopment in a neighborhood.

**Cost of Construction:** Cost to develop is a key determinant of final development forms. As a general rule, the higher-density development forms have a higher cost per square foot to construct. This is due to shifts in materials from wood and concrete to steel, the need for structured parking, and the need for more robust systems such as elevators, firewalls, and sprinklers.

Higher costs can be offset by a greater achievable density of leasable space, which has value when the achievable price is higher than the cost of construction excluding land. However, when achievable pricing is below construction costs, such as in the suburban market where achievable rents are typically cheaper?, there is no marginal value associated with the increase in density and development forms; lower density building forms remain the best economic use for the land in terms of rate of return.

**Risk:** At the most basic level the pace of development will be driven by perceived demand for real estate in a market and the achievable pricing. If demand and pricing are known to be strong, the perceived risk is reduced for developers, property owners, lenders and investors.

There are many areas of risk in real estate development including the following:

- **Scale and Time** – Most commercial development projects require a significant amount of capital to realize, often in the millions of dollars, and may take multiple years to complete, requiring upfront investment in a project that is unprofitable until completion, and entails carrying costs during the process.
- **Entitlement** – Securing entitlements for development can be an uncertain and time-consuming portion of the development process.
- **Financing** – Financial commitments can be fluid during the development process, with lenders and/or equity partners backing out of deals or renegotiating terms mid-development. These players can also limit flexibility.
- **Construction** – There are many risk factors associated with construction. The cost of materials and labor can fluctuate significantly, timing delays can impact contractor availability windows, unforeseen problems may emerge during site-work, etc.
- **Market** – Actual achievable rent levels and/or sales prices may be significantly different than assumed at the time development was initiated. In addition, capitalization rates (a measure of value set by the market) can shift significantly, which has a pronounced impact on income properties.

### **Economics of Redevelopment**

In addition to being subject to the considerations discussed above for new development, redevelopment projects have additional factors impacting feasibility.

**Highest and Best Use.** There are many considerations on whether a property or area is providing its “best use” in a general sense, including planning goals, social goals, equity, neighborhood fabric, etc. But for the



purposes of this discussion, a developer considering redevelopment of a property will usually seek to determine the “highest and best use” in the economic sense.

This term has a particular meaning in real estate development, which is the use that provides the best economic return, which leads to the highest value for the underlying land. The value of the underlying land is referred to as the “residual land value”.

For instance, under an obsolete use, a parcel may have a value of X. However, for a new use with a higher achievable rent and perhaps increased density, the developer may be willing to pay 2X for the parcel (i.e., for the buildable land). Under the new, more productive use, the land itself is literally worth more than the existing property (land and building) is worth under its current use.

**Challenges to Redevelopment:** Often a property or area may not be attracting redevelopment activity despite appearing to be a good candidate for new uses. What is often happening in these cases is that the existing property, while it may seem obsolete or in poor condition, still retains enough total value under its existing use (land and building) that it would cost too much to purchase as a building site for a new use.

While the new use would be able to achieve higher rents and be more economically productive, it is not enough of an improvement to overcome the remaining value in the existing use.

Another factor may be costs in addition to land purchase, which may mean site clean-up costs, liens, and entitlement issues. These costs should be, but are not always, reflected in the purchase price as a discount. The high cost and risk of preparing the site for redevelopment are why defunct gas stations, dry cleaners and other potentially contaminated sites often sit vacant for very long periods.

For these reasons, areas which seem like good candidates for redevelopment can persist for some time if the underlying land has not become valuable enough to justify new uses.

### **Implications for Employment Land Use**

There are usually market factors that explain why land is developing in the manner that it is. Where new development seems to be utilizing land less efficiently and producing buildings at lower densities, it is most often an indication that market rents and land values need more time to develop to where the market dictates greater efficiency.

In the Metro area, given land constraints within the UGB and the controls on rapid growth at the urban fringes, many suburban regional and town centers are seeing this type of market pressure that is shifting achievable densities. Tigard’s central city and Triangle areas are both showing signs that increased densities are becoming more feasible.

In general, office development will be capable of achieving greater future densities than industrial lands. Tigard’s business parks near the freeway offer examples of large four and five story professional office buildings. Commercial office and retail are also better suited for vertical mixed-use development as they can complement each other, as well as housing.



Industrial users are less amenable to greatly increasing density. These sectors rarely utilize multi-story buildings, other than for ancillary office functions. They also often require large outdoor yard and storage space, and maneuvering space for trucks and equipment. Industrial is generally less suited for mixed use development because of the negative externalities of noise, traffic, dust, and fumes that might be associated with industrial businesses. There are examples that mix light industrial and traditional office park development in “flex” space.

## ADAPTIVE REUSE

Adaptive reuse refers to the rethinking of obsolete, underused, or vacant properties for a new use. The need for this creative reuse is expected to be a growing trend due to changing commercial real estate market conditions such as closure of big box retail chains, challenges to indoor malls, and now the Covid-19 induced blow to existing retailers and office buildings.

### What is Adaptive Reuse?

The CCIM Institute, a commercial real estate industry group, proposed the following definition for adaptive reuse projects:

1. **Existing structure:** While adaptive reuse projects may involve some level of new construction or an expansion/addition of space, they always start with an existing structure.
2. **Functional and/or economic obsolescence:** All adaptive reuse projects commence with a property in a state of disrepair, high rate of vacancy, or with highest and best use in transition. In essence, the old use is no longer productive or economically viable, and the tenants have left.
3. **Change of use:** The project/property involves a repurposing of a prior structure and use, not a mere re-tenanting with tenant improvements.
4. **Economic viability:** Not only does the reuse need to be physically possible and legally permissible; it also must be economically viable. Local government incentives are sometimes necessary to make a project economically viable due to the cost of assemblage, higher repurposing costs with a greater cost-overrun risk than new construction, and speculative lease-up risks.

In addition to market forces impacting traditional retail and office buildings, reuse may also be driven by rising cost and scarcity of land making reuse of existing properties more viable. Public efforts to reuse historic or notable buildings while preserving their character are also a driver of reuse projects that often involve a public/private partnership.

### Examples of Adaptive Reuse of Commercial Real Estate

Adaptive reuse is highly specific to the unique qualities of the building and location, but a few examples are:

- Reuse of a historic building (i.e., train station) for new hotel, office, or housing.



- Conversion of a large-format retailer into multiple smaller retail spaces, an open multi-tenant marketplace, entertainment (indoor play structure, laser tag, etc.), gym, or warehouse/distribution space.
- Conversion of office space into a school or municipal space. Conversion of office into multifamily housing (this is often proposed but expensive due to the differences in floor plate layout between office and residential buildings.)
- Hotels can often make creative reuse of older and historic buildings in central locations, with the unusual building becoming a branding point for the business.
- Reuse of indoor shopping malls for hospital, university, or other institutional space.

### **Implications for Employment Land Use**

Each reuse development project is unique and difficult to predict. The main way that land use planners can facilitate reuse is by instituting flexible zoning that allows for a mix of uses so that properties can respond to changing market forces. The City can play a role in identifying large or key opportunities for reuse and perhaps participating in a public/private partnership to make them feasible. Tools like TIF can provide resources to participate in these projects.

As a community with limited employment land, reuse and redevelopment may become increasingly common in the Tigard's existing employment zones.

## **SUSTAINABLE DEVELOPMENT**

The commercial and industrial real estate industry have made significant bounds in adopting sustainable development measures over the last two decades. The U.S. Green Building Council introduced the Leadership in Energy and Environmental Design (LEED) designation in 1998, and the program introduced a clear route and set of best practices for developers to build more sustainable buildings. Now on version 4.1, LEED offers guidance and certification on building exteriors and interiors, operations and maintenance, transportation linkages, and other aspects of development.

Commercial and industrial developers have adopted green building features both to meet the environmental goals of company management, employees and shareholders, but also because there is a strong economic case to be made that these spaces are more valuable and perform better over time.

### **Sustainable Building Features**

The list of potential sustainable features is long and can include anything that improves energy and water use, use of more sustainable and recycled materials, health improvements for tenants, low impact landscaping, multi-modal transportation linkages and more. Commercial and industrial buildings can be more challenging for implementation due to features such as high ceilings and large rooms, extensive window cladding, and heating and cooling needs of specialized equipment.

While the list of eligible LEED features is extensive, a few examples are:

- Use of improved glass and daylighting to improve ambient light and reduce need for artificial light.
- Use of efficient LED lighting.



- Solar panels, and/or using renewable energy programs from local utilities.
- Recycled materials throughout construction, including in interior finishes such as carpet.
- Non-chemical-emitting materials, paints and finishes.
- Modern, energy-efficient mechanical systems.
- Water retaining landscaping such as bioswales and French drains.
- Water-efficient indoor plantings for air quality.
- Reflective, living, or cooling roof features.
- Reduction of waste and pollution from building and operations.

It is not necessary to obtain LEED certification to undertake green building or develop a sustainable property. Certification can add time and cost to a project, and many sustainable features are becoming industry standards as the benefits are understood and costs come down. LEED certification remains a valuable shorthand to indicate to tenants and investors that a property is sustainable. In addition, it should be noted that there are four levels of certification: certified, silver, gold & platinum.

### **The Business Case for Sustainable Development**

There is a strong business case for sustainable building features that have helped improve adoption. These features are ultimately attractive to business tenants, investors, and long-term owners and operators of employment space as evidenced that LEED certification is shown to increase the value of these properties.

- For property owners and investors, sustainable facilities are more attractive to prospective tenants who often pay a rent premium for having these features in their space. Happy tenants remain longer and reduce costs associated with vacancy and re-tenanting. Long-term operating costs are lower as energy, water, and waste costs are reduced. Low-maintenance features such as passive heating and cooling, reduced artificial lighting, self-sustaining landscaping, help reduce maintenance costs. Sustainable properties, particularly those with LEED certification will have higher resale values and are designed to last longer with less need for repair and renovation.
- For tenants, a green workplace conforms to the environmental values of the company and individual employees while offering other advantages. The business' commitment to sustainability can help attract and keep talented employees and promote health and productivity in the workplace. Operating costs that are passed to the tenant are reduced. A green stance also often agrees with the branding of modern companies, and investors and stakeholders in the business increasingly expect a commitment to sustainability as well.

### **Implications for Employment Land Use**

From a planning perspective, a city might choose to either require or incentivize sustainable features in new development. Sustainable features are often (but not always) more costly substitutes for older materials and techniques, so requiring them through zoning or building codes can run in to challenges from the building community and also have the perverse effect of disincentivizing new development by making it more expensive. Still, approaches such as requiring stormwater retention, encouraging density, public space, bike facilities, and reducing parking minimums are examples of statutory approaches to encouraging sustainability.



Public incentives for sustainable development are those that either reduce costs or improve profitability for the developer. These are commonly incentives that reduce property taxes for some period or give a “bonus” to the developer in the form of height, density, reduced parking that will increase the profitability of the building. These bonus incentives work best in parts of the city where market forces are already leading to more dense use of land. This can be difficult in some suburban cities where dense development, vertical and mixed uses are not yet occurring. Without a market pressure to build denser land uses, bonus height and density are less attractive incentives.

## **EQUITABLE DEVELOPMENT**

The potential impacts of land use and real estate development on equity is a growing concern in planning, transportation, and redevelopment projects. Major gentrification or redevelopment of neighborhoods have the potential to displace local households and businesses by directly disrupting their property or increasing land values and rents in an area making it difficult for current residents to remain. Marginalized people may include low-income renters, racial or ethnic minorities, those with disabilities, those with cultural or language barriers, small business owners, neighborhoods with traditionally low property values.

The Southwest Corridor Plan recently completed by Metro and partner communities included an Equitable Development Strategy that considered the impacts of a new light rail line between central Portland and cities to the south, including Tigard. While this study was an early step in understanding this problem, it involved many stakeholders and provides some guidance on equitable development in the area.

### **What is Equitable Development?**

The Southwest Equitable Development Strategy (SWEDS) defined equitable development as “an approach for meeting the needs of underserved communities through policies and programs that reduce disparities while fostering places that are healthy and vibrant.” The approach seeks to understand the perspectives of those most directly impacted by potential public investments, and to take those into account when making transportation and land use decisions. This means engaging the public and taking their experiences into account when making decisions about a proposed project, about new housing to support the growing population, and about equitable economic development.

Equitable development attempts to foresee and ameliorate such potential issues as:

- Availability of affordable housing
- Residential and business displacement/gentrification
- Equitable economic opportunity and wealth creation
- Multi-modal transportation accessibility
- Community health and safety
- Cultural and language barriers among marginalized residents and business owners

### **How to Help Promote Equitable Development**

Metro partnered with community organizations, especially those created by and serving historically marginalized communities, in creating specific recommendations to help promote equitable development, which include:



- Business education and job training
- Development of affordable housing
- Providing opportunities for affordable homeownership
- Strengthening community capacity
- Creating innovative pilot programs to directly address these issues

Pilot grants from Metro to address some of these issues included business education and outreach to small businesses (Mercy Corps NW), specialized career training to historically marginalized individuals working lower-wage jobs at OHSU to increase economic opportunity (Immigrant and Refugee Community Organization), and multiple affordable housing projects for renters and owners.

### **Gentrification and Displacement**

Displacement of residents and businesses can be one symptom of the process of gentrification. “Gentrification” is a charged term, which can have different definitions depending on the context. The process has multifaceted socio-economic drivers and impacts.

For the sake of this discussion, the most important definition is that:

Gentrification is a process which brings new households and businesses with greater financial resources into areas which have historically been occupied by households and businesses with fewer financial resources.

The natural economic outcome of this process is the displacement of some of the households and businesses with fewer resources over time. However, typically displacement is not distributed evenly:

- First and foremost, displacement is a much greater risk for renters than owners. By definition, renters are more susceptible to the whims of outside forces on their housing and business location, including from landlords and general market forces. While a renter may lock in stability with a 6 or 12 month lease, there is considerable uncertainty at the end of that period, particularly in a gentrifying market.
- Property owners have often locked in their costs for many decades through a mortgage, while Oregon’s property tax laws ensure that tax bills won’t climb too quickly even if the neighborhood is greatly appreciating in value. If a neighborhood has been low cost for some time, many long-time owners have paid off their mortgage, or have small monthly payments based on a low purchase price.
- Because of this dynamic, gentrification can be felt very differently by renters vs. property owners. Many owners have the ability to stay in the neighborhood even as prices rise around them. They also have the choice to sell their property and capitalize on the rising value. They may consider the increasing prices to be a positive trend.
- Renting housing is correlated with lower income levels, and lower income levels are correlated with a range of demographic categories including young people, single parents, disabled, racial and ethnic minorities, and immigrants. Therefore these groups may be disproportionately impacted by displacement depending on the profile of the neighborhood.
- Business displacement tends to lag residential gentrification, often by many years. In the early years of gentrification, there is often long-neglected and vacant commercial space in the neighborhood which can be used for new and pioneering businesses. Being underused, this type of space often represents a lower rent option compared to established neighborhoods. The



pioneering small businesses taking a chance on the neighborhoods in the early years may well suffer from rising rents in later years. Despite this, these pioneering businesses may actually be viewed as part of the problem, bringing change and attracting newcomers to the area.

- Once residential gentrification progresses and the cache of the neighborhood and increased spending power of new residents is generally apparent, then the existing commercial space will be rehabbed and leased and business lease rates will begin to climb. When achievable lease rates get high enough, redevelopment of existing properties into new space becomes more feasible.
- As with residents, businesses that own their property will be in a much more stable situation than businesses that lease. Small and emerging businesses are more likely to lease than established businesses. However, commercial property owners are more susceptible to rising property tax rates than homeowners.

It is important to remember that gentrification and displacement are the cumulative result of thousands of choices being made by individuals in the marketplace. This is why gentrification can seem so difficult for communities to address, and why individuals can feel powerless to change the trend even as they buy or sell a home in the neighborhood for a new higher price.

#### **Implications for Employment Land Use**

Many aspects of equitable development cannot be addressed directly through land use initiatives but are better suited to be addressed through related measures such as economic development, TIF districts, affordable housing programs, and community outreach. The main lever that land use planning has is to consider in advance the potential impacts that large planning initiatives might have on established lower-income or lower-property-value neighborhoods where marginalized groups might live or operate businesses. Planning should include these groups directly during the process.

In terms of spatial land use planning, an approach that prioritizes equitable multi-modal transportation access to neighborhoods for commuters and daily needs is important. The Metro 2040 Growth Concept that concentrates additional growth in town centers and transportation corridors aids with this, but paradoxically can lead to gentrification if centers of concentrated density successfully develop.

As noted, renters are more vulnerable to displacement than property owners. Owners, though they may be unhappy with neighborhood changes, are at least able to participate in gentrification through increasing property values. Or if a property is taken for a project, such as a new transportation right-of-way, the owner is at least compensated. Renters do not benefit from disruption in this way. Rising property values in an area tend to lead to increased rents and selling or redevelopment of rental properties. When a naturally occurring affordable housing (NOAH) property is condemned for a public project, it often is not replaced with similarly low-rent units, if at all.

For land use planners, permissive residential zoning that allows for a range of housing types, including multi-family, smaller and attached housing across the city can help alleviate the limited supply. Recent efforts on the state and local level to allow “middle housing” types in traditional single-family zones are an effort in this direction.

One of the most important approaches to consider for protecting lower-cost neighborhoods that serve marginalized groups is a counterintuitive one: tread lightly. This can be difficult as communities often want to assist these populations and physically improve and beautify neighborhoods seen as neglected.



However, successful efforts at renewal can lead to rising property values and exacerbate inequality and displacement. The stock of naturally occurring affordable housing and commercial real estate is far larger than the stock of subsidized affordable spaces. Reductions in the lower cost space that the market provides is difficult and expensive for non-profit agencies or the public to replace with formally subsidized space. The aging apartment complex or mobile home park can be an important source of low-income housing rather than a problem to “fix”. The small storefront on the “bad” street can be a low-rent solution for an emerging business owner.

Therefore, planning projects should carefully weigh how they will improve the lives of those living and working in an area, without incentivizing gentrification pressures. This may mean a more limited scope of improvements rather than an expansive scope. When displacement is projected, alternative housing or commercial real estate should be identified prior the changes whenever possible.



## VI. FORECAST OF EMPLOYMENT AND LAND NEED

### CITY OF TIGARD EMPLOYMENT FORECASTS

Goal 9 requires that jurisdictions plan for a 20-year supply of commercial and industrial capacity. Because employment capacity is the physical space necessary to accommodate new workers in the production of goods and services, employment need forecasts typically begin with a forecast of employment growth in the community. The previous analysis of economic trends and major industries set the context for these estimates. This analysis translates those trends into estimates of employment growth by broad industry. Forecasts are produced at the sector or subsector level (depending on available information), and subsequently aggregated to two-digit NAICS sectors. Estimates in this analysis are intended for long-range land planning purposes and are not designed to predict or respond to shorter-term business cycle fluctuations.

The projections in this analysis are built on an estimate of employment in 2021, the commencement year for the planning period. Employment growth will come as the result of net-expansion of businesses in the community, new business formation, or the relocation or recruitment of new firms. As explained in more detail below, two forecast scenarios are presented, one reflecting a slower baseline growth rate, and one reflecting a higher growth rate in keeping with the most recent Urban Growth Report adopted by Metro. The significant difference between these two growth rates results in a large difference in findings of job growth and land needs from the two forecasts as presented below.

Long-range forecasts typically rely on a macroeconomic context for growth. The forecast does not consider the impact of a significant but unpredictable exogenous shift in employment such as recruitment of a major employer.

### OVERVIEW OF EMPLOYMENT FORECAST METHODOLOGY

Our methodology starts with employment forecasts by major commercial and industrial sector. Forecasted employment is allocated to building type, and a space demand is a function of the assumed square footage per employee ratio multiplied by projected change. The need for space is then converted into land and site needs based on assumed development densities using floor area ratios (FARs).

**FIGURE 6.01: EMPLOYMENT PROJECTION TO LAND NEED FORECAST PROCESS**





The first analytical step of the analysis is to update covered employment to the 2021 base year. The Quarterly Census of Employment and Wages (QCEW) data was used to determine the City of Tigard's covered employment by industry through 2019. To update these estimates, we use observed industry specific growth rates for Washington County between 2019 and 2021. This included a year of growth from 2019 to 2020, and a year of significant contraction from 2020 to 2021 due to the pandemic.

The second step in the analysis is to convert "covered"<sup>6</sup> employment to "total" employment. Covered employment only accounts for a share of overall employment in the economy. Specifically, it does not consider sole proprietors or commissioned workers. Covered employment was converted to total employment based on observed ratios at the national level derived from the Bureau of Economic Analysis from 2010 through 2018. The differential is the most significant in construction, professional, and administrative services. The adjusted 2021 total employment base for the City of Tigard is 45,500 jobs.

**FIGURE 6.02: UPDATE TO 2021 BASELINE AND CONVERSION OF COVERED TO TOTAL EMPLOYMENT**

Major Industry Sector	QCEW Employment			Total Emp. Conversion <sup>2</sup>	2021 Estimate
	2019 Employment	'19-'21 County Δ <sup>1</sup>	2021 Estimate		
Construction	5,344	-1.7%	5,164	73%	7,028
Manufacturing	2,133	-0.8%	2,101	98%	2,153
Wholesale Trade	2,177	0.1%	2,182	97%	2,243
Retail Trade	6,808	-2.5%	6,472	94%	6,854
Transport., Warehouse, Utilities	632	4.4%	689	91%	754
Information	1,395	-0.7%	1,377	95%	1,454
Finance & Insurance	4,101	0.0%	4,099	92%	4,476
Real Estate	785	-1.8%	757	92%	827
Professional & Technical Services	4,061	-1.4%	3,950	88%	4,465
Management & Admin. Services	4,922	-2.5%	4,675	88%	5,285
Education	1,560	-6.1%	1,374	95%	1,454
Health Care	3,280	0.2%	3,290	95%	3,482
Leisure & Hospitality	3,679	-11.9%	2,856	94%	3,026
Other Services	1,561	-8.7%	1,301	83%	1,573
Government	468	-2.9%	441	100%	441
<b>TOTAL</b>	<b>42,906</b>	<b>-2.6%</b>	<b>40,730</b>	<b>89%</b>	<b>45,517</b>

<sup>1</sup> Forecasted AAGR from 2019-2029 for the Portland Tri-County submarket. Oregon Employment Department

<sup>2</sup> Bureau of Economic Analysis. Calculated as an eight-year average between 2010 and 2018

### **SCENARIO 1: SAFE HARBOR FORECAST**

The Goal 9 statute does not have a required method for employment forecasting. However, OAR 660-024-0040(9)(a) outlines several safe harbor methods, which are intended to provide jurisdictions a methodological approach that will not be challenged. The most applicable for the City of Tigard is 660-024-0040(9)(a)(A), which recommends reliance on the most recent regional forecast published by the Oregon Employment Department. This method applies industry specific growth rates for the Tri-County Metro

<sup>6</sup> The Department of Labor's Quarterly Census of Employment and Wages (QCEW) tracks employment data through state employment departments. Employment in the QCEW survey is limited to firms with employees that are "covered" by unemployment insurance.

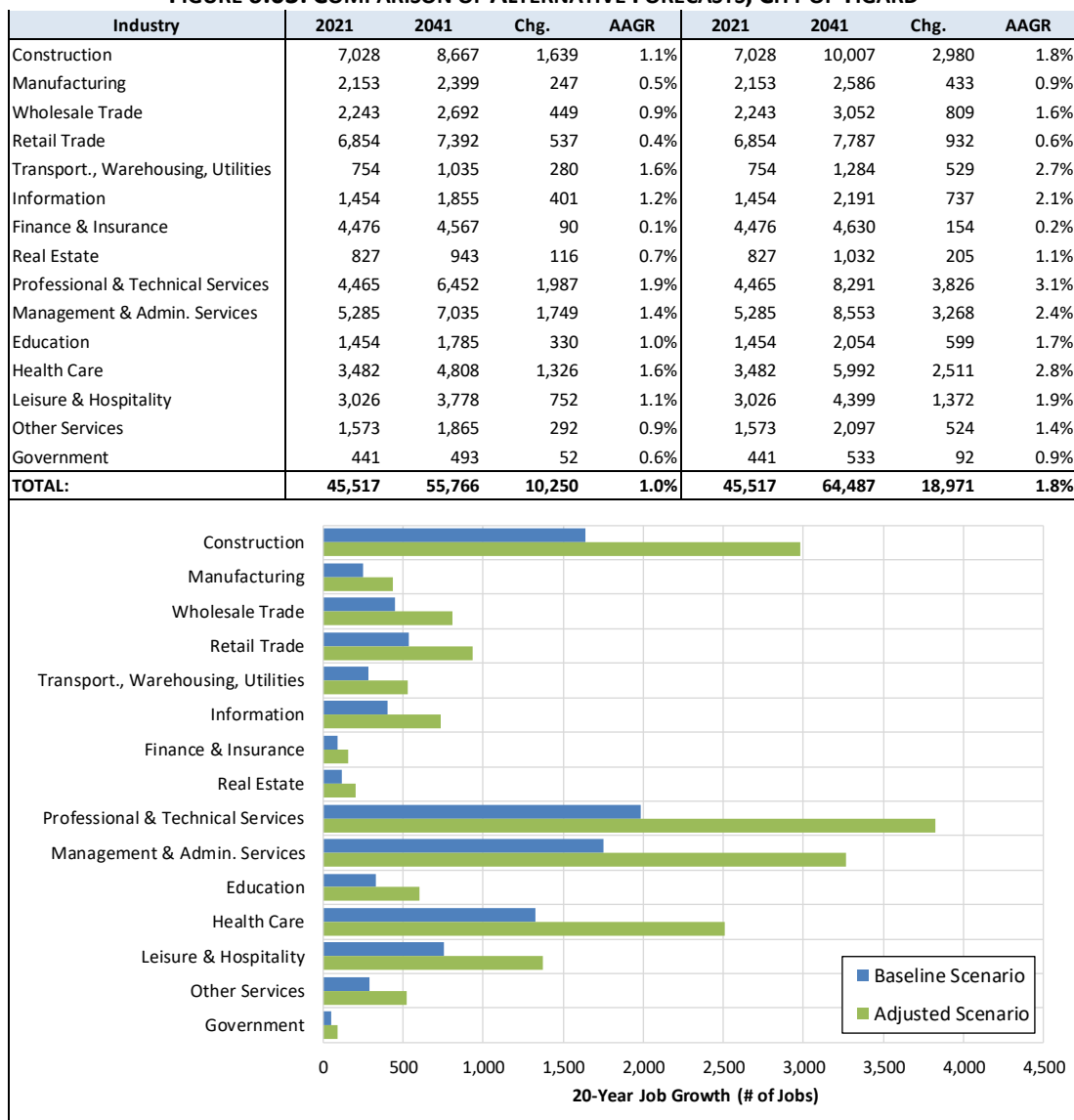


Region (Clackamas, Multnomah, & Washington counties) to the City of Tigard’s 2021 base. This method results in an average annual growth rate of 1.0%, with total job growth of 10,250 jobs over the 20-year forecast period. (See Figure 6.03)

**SCENARIO 2: ALTERNATIVE EMPLOYMENT FORECAST**

As a city in the Portland Metro region, Tigard also has growth projections for population, households and jobs prepared by the Metro regional government as part of its ongoing planning process. The latest adopted Urban Growth Report (UGR) for the region includes an estimate of Tigard employment in 2040 based on Metro’s model of allocating forecasted growth across the region. In this case, the UGR included a forecast of just under 64,000 jobs in Tigard in 2040, which would translate into a growth rate from the 2021 baseline of 1.8%. The alternate Scenario 2 forecast presented here based on that growth rate results in a higher alternate forecast of nearly 19,000 new jobs over the planning period, or 85% greater than Scenario 1.

**FIGURE 6.03: COMPARISON OF ALTERNATIVE FORECASTS, CITY OF TIGARD**



SOURCE: State of Oregon Employment Department, Metro, Johnson Economics



### **SUMMARY OF EMPLOYMENT FORECAST SCENARIOS**

The two forecast scenarios in this analysis range from 1.0% to 1.8% average annual growth. Job growth estimates range from 10,250 to 18,971 jobs. The greatest number of jobs are forecasted in construction, professional services, and health care. The fastest percentage growth rates are projected for professional services, health care, transportation/warehousing, and leisure & hospitality.

The estimates in the preceding analysis are useful for creating a baseline understanding of growth prospects by industry. These are common and accepted approaches when looking at large geographic regions. Forecasts grounded in broad-based economic variables do not always account for the realities of local businesses and trends among evolving industries. Any long-term forecast is inherently uncertain and should be updated on a regular basis to reflect more current information.

The 20-year forecasts were broken down into five-year increments, assuming a consistent rate of growth over the period. However, a 20-year forecast will include multiple business cycles, and that growth will be variable in practice.

**FIGURE 6.04: SUMMARY OF PROJECTION SCENARIOS, CITY OF TIGARD**

Industry	Overall Employment					Net Change by Period				Total 21-41
	2021	2026	2031	2036	2041	21-26	26-31	31-36	36-41	
<b>SCENARIO 1 (OED Forecast)</b>										
Construction	7,028	7,406	7,805	8,225	8,667	378	399	420	443	1,639
Manufacturing	2,153	2,212	2,273	2,335	2,399	59	61	62	64	247
Wholesale Trade	2,243	2,347	2,457	2,572	2,692	105	110	115	120	449
Retail Trade	6,854	6,985	7,118	7,253	7,392	131	133	136	138	537
T.W.U.	754	816	883	956	1,035	62	67	73	79	280
Information	1,454	1,545	1,642	1,745	1,855	91	97	103	110	401
Finance & Insurance	4,476	4,499	4,521	4,544	4,567	22	23	23	23	90
Real Estate	827	855	883	913	943	28	29	29	30	116
Professional & Technical Services	4,465	4,896	5,368	5,885	6,452	430	472	517	567	1,987
Management & Admin. Services	5,285	5,677	6,098	6,550	7,035	392	421	452	485	1,749
Education	1,454	1,531	1,611	1,696	1,785	76	80	85	89	330
Health Care	3,482	3,774	4,091	4,435	4,808	293	317	344	373	1,326
Leisure & Hospitality	3,026	3,199	3,382	3,574	3,778	173	182	193	204	752
Other Services	1,573	1,642	1,713	1,787	1,865	68	71	75	78	292
Government	441	454	467	480	493	13	13	13	14	52
<b>TOTAL:</b>	<b>45,517</b>	<b>47,837</b>	<b>50,311</b>	<b>52,950</b>	<b>55,766</b>	<b>2,321</b>	<b>2,474</b>	<b>2,639</b>	<b>2,816</b>	<b>10,250</b>
<b>SCENARIO 2 (Metro Taz Based)</b>										
Construction	7,028	7,677	8,386	9,161	10,007	649	709	775	846	2,980
Manufacturing	2,153	2,254	2,359	2,470	2,586	101	106	111	116	433
Wholesale Trade	2,243	2,422	2,616	2,825	3,052	180	194	209	226	809
Retail Trade	6,854	7,076	7,306	7,542	7,787	222	229	237	244	932
T.W.U.	754	861	984	1,124	1,284	107	122	140	160	529
Information	1,454	1,611	1,785	1,978	2,191	157	174	193	214	737
Finance & Insurance	4,476	4,514	4,553	4,591	4,630	38	38	39	39	154
Real Estate	827	874	924	977	1,032	47	50	53	56	205
Professional & Technical Services	4,465	5,212	6,084	7,102	8,291	747	872	1,018	1,188	3,826
Management & Admin. Services	5,285	5,961	6,724	7,584	8,553	676	762	860	970	3,268
Education	1,454	1,585	1,728	1,884	2,054	131	143	156	170	599
Health Care	3,482	3,988	4,568	5,232	5,992	506	580	664	761	2,511
Leisure & Hospitality	3,026	3,323	3,649	4,006	4,399	297	326	357	393	1,372
Other Services	1,573	1,690	1,816	1,951	2,097	117	126	135	145	524
Government	441	463	485	508	533	21	22	23	25	92
<b>TOTAL:</b>	<b>45,517</b>	<b>49,513</b>	<b>53,966</b>	<b>58,936</b>	<b>64,487</b>	<b>3,996</b>	<b>4,453</b>	<b>4,969</b>	<b>5,552</b>	<b>18,971</b>

SOURCE: State of Oregon Employment Department, Metro, Johnson Economics



## EMPLOYMENT LAND FORECAST

The next step in the analysis is to convert projections of employment into forecasts of land demand over the planning period. The conversion begins by allocating employment by sector into a distribution of building typologies those economic activities usually utilize. As an example, insurance agents typically locate in traditional office space, usually along commercial corridors. However, a percentage of these firms locate in commercial retail space adjacent to retail anchors. Cross-tabulating this distribution provides an estimate of employment in each typology.

The next step converts employment into space using estimates of the typical area per employee exhibited within each typology. Adjusting for a market vacancy assumption we arrive at an estimate of total space demand for each building type.

Finally, the analysis considers the physical characteristics of individual building types and the amount of land they typically require for development. The site utilization metric commonly used is referred to as a “floor area ratio” or FAR. For example, assume a 25,000-square foot general industrial building requires roughly two acres to accommodate its structure, setbacks, parking, and necessary yard/storage space. This building would have a FAR of roughly 0.29. Demand for space is then converted to net acres using a standard FAR for each development form.

### LAND DEMAND ANALYSIS –BASELINE FORECAST

In this step, projected employment growth is allocated into standard building typologies. The building typology matrix represents the share of sectoral employment that locates across various building types. The baseline forecast is used to demonstrate the methodology.

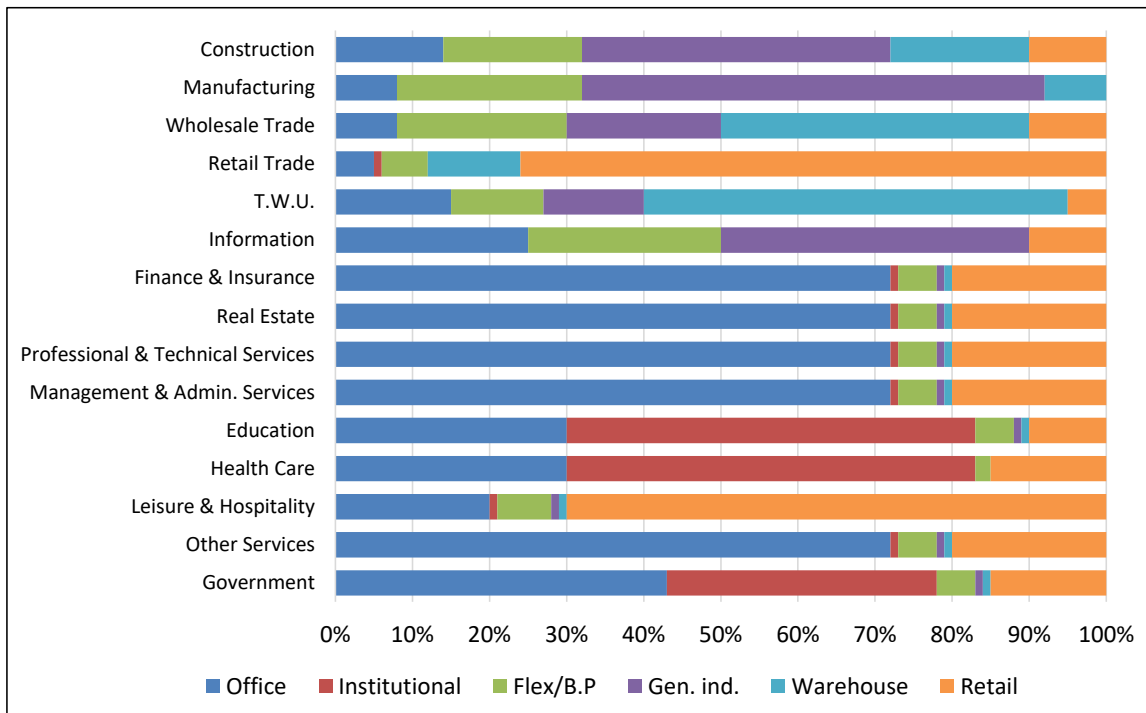
**FIGURE 6.05: DISTRIBUTION OF EMPLOYMENT BY SPACE TYPE, CITY OF TIGARD**

Industry Sector	20-year Job Forecast		BUILDING TYPE MATRIX					
	Number	AAGR	Office	Institutional	Flex/B.P	Gen. ind.	Warehouse	Retail
Construction	1,639	1.1%	14%	0%	18%	40%	18%	10%
Manufacturing	247	0.5%	8%	0%	24%	60%	8%	0%
Wholesale Trade	449	0.9%	8%	0%	22%	20%	40%	10%
Retail Trade	537	0.4%	5%	1%	6%	0%	12%	76%
T.W.U.	280	1.6%	15%	0%	12%	13%	55%	5%
Information	401	1.2%	25%	0%	25%	40%	0%	10%
Finance & Insurance	90	0.1%	72%	1%	5%	1%	1%	20%
Real Estate	116	0.7%	72%	1%	5%	1%	1%	20%
Professional & Technical Services	1,987	1.9%	72%	1%	5%	1%	1%	20%
Management & Admin. Services	1,749	1.4%	72%	1%	5%	1%	1%	20%
Education	330	1.0%	30%	53%	5%	1%	1%	10%
Health Care	1,326	1.6%	30%	53%	2%	0%	0%	15%
Leisure & Hospitality	752	1.1%	20%	1%	7%	1%	1%	70%
Other Services	292	0.9%	72%	1%	5%	1%	1%	20%
Government	52	0.6%	43%	35%	5%	1%	1%	15%
<b>TOTAL</b>	<b>10,250</b>	<b>1.0%</b>	<b>41%</b>	<b>9%</b>	<b>9%</b>	<b>11%</b>	<b>7%</b>	<b>22%</b>

Source: Johnson Economics



**FIGURE 6.06: DISTRIBUTION OF SPACE BY BUILDING TYPE AND INDUSTRY SECTOR, CITY OF TIGARD**



Source: Johnson Economics

Under the employment forecast scenario, employment housed in office space and retail accounts for the greatest share of growth, followed by employment housed in general industrial, institutional, flex/business park, and warehouse/distribution space.

**FIGURE 6.07: NET CHANGE IN EMPLOYMENT ALLOCATED BY BUILDING TYPE, CITY OF TIGARD – 2021-2041**

Industry Sector	20-year Job Forecast		NET CHANGE IN EMPLOYMENT BY BUILDING TYPE - 2021-2041						Total
	Number	AAGR	Office	Institutional	Flex/B.P	Gen. Ind.	Warehouse	Retail	
Construction	1,639	1.1%	230	0	295	656	295	164	1,639
Manufacturing	247	0.5%	20	0	59	148	20	0	247
Wholesale Trade	449	0.9%	36	0	99	90	180	45	449
Retail Trade	537	0.4%	27	5	32	0	64	408	537
T.W.U.	280	1.6%	42	0	34	36	154	14	280
Information	401	1.2%	100	0	100	160	0	40	401
Finance & Insurance	90	0.1%	65	1	5	1	1	18	90
Real Estate	116	0.7%	84	1	6	1	1	23	116
Professional & Technical Services	1,987	1.9%	1,431	20	99	20	20	397	1,987
Management & Admin. Services	1,749	1.4%	1,260	17	87	17	17	350	1,749
Education	330	1.0%	99	175	17	3	3	33	330
Health Care	1,326	1.6%	398	703	27	0	0	199	1,326
Leisure & Hospitality	752	1.1%	150	8	53	8	8	526	752
Other Services	292	0.9%	210	3	15	3	3	58	292
Government	52	0.6%	22	18	3	1	1	8	52
<b>TOTAL</b>	<b>10,250</b>	<b>1.0%</b>	<b>4,173</b>	<b>951</b>	<b>929</b>	<b>1,144</b>	<b>767</b>	<b>2,284</b>	<b>10,250</b>

Source: Johnson Economics

\* Table shows figures for Scenario 1.



Employment growth estimates by building type are then converted to demand for physical space. This conversion assumes the typical space needed per employee on average. This step also assumes a market vacancy rate, acknowledging that equilibrium in real estate markets is not 0% vacancy. We assume a 10% vacancy rate for office, retail, and flex uses, as these forms have high rates of speculative multi-tenant usage. A 5% rate is used for general industrial and warehouse—these uses have higher rates of owner occupancy that lead to lower overall vacancy. Institutional uses are assumed to have no vacancy.

The demand for space is converted into an associated demand for acreage using an assumed FAR. The combined space and FAR assumptions provide estimates of job densities, determined on a per net-developable acre basis.

**FIGURE 6.08: NET ACRES REQUIRED BY BUILDING TYPOLOGY, CITY OF TIGARD— 2021-2041**  
**SCENARIO 1 (BASELINE) AND SCENARIO 2 (ADJUSTED)**

BASELINE SCENARIO	DEMAND BY GENERAL USE TYPOLOGY, 2021-2041						Total
	Office	Institutional	Flex/B.P	Gen. Ind.	Warehouse	Retail	
Employment Growth	4,173	951	929	1,144	767	2,284	10,250
Avg. SF Per Employee	350	350	990	600	1,000	500	518
Demand for Space (SF)	1,461,000	333,000	920,000	686,000	767,000	1,142,000	5,309,000
Floor Area Ratio (FAR)	0.35	0.35	0.30	0.30	0.35	0.25	0.31
Market Vacancy	10.0%	0.0%	10.0%	5.0%	5.0%	10.0%	8.2%
Implied Density (Jobs/Acre)	39.2	43.6	11.9	20.7	14.5	19.6	23.8
<b>Net Acres Required</b>	<b>106.5</b>	<b>21.8</b>	<b>78.2</b>	<b>55.3</b>	<b>53.0</b>	<b>116.5</b>	<b>431.3</b>
<b>Gross Acres Required</b>	<b>133.1</b>	<b>27.3</b>	<b>97.8</b>	<b>69.1</b>	<b>66.2</b>	<b>145.6</b>	<b>539.1</b>

ADJUSTED SCENARIO	DEMAND BY GENERAL USE TYPOLOGY, 2021-2041						Total
	Office	Institutional	Flex/B.P	Gen. Ind.	Warehouse	Retail	
Employment Growth	7,817	1,783	1,702	2,077	1,398	4,194	18,971
Avg. SF Per Employee	350	350	990	600	1,000	500	516
Demand for Space (SF)	2,736,000	624,000	1,685,000	1,246,000	1,398,000	2,097,000	9,786,000
Floor Area Ratio (FAR)	0.35	0.35	0.30	0.30	0.35	0.25	0.31
Market Vacancy	10.0%	0.0%	10.0%	5.0%	5.0%	10.0%	100.0%
Implied Density (Jobs/Acre)	39.2	43.6	11.9	20.7	14.5	19.6	23.9
<b>Net Acres Required</b>	<b>199.4</b>	<b>40.9</b>	<b>143.3</b>	<b>100.4</b>	<b>96.5</b>	<b>214.0</b>	<b>794.4</b>
<b>Gross Acres Required</b>	<b>249.2</b>	<b>51.2</b>	<b>179.1</b>	<b>125.5</b>	<b>120.7</b>	<b>267.4</b>	<b>993.0</b>

Source: Johnson Economics

Commercial office and retail densities are 40 and 20 jobs per acre, respectively. Industrial uses range from 21 for general industrial to fewer than 15 jobs per acre for warehouse/distribution. The overall weighted employment density is 24 jobs per acre.

- As shown in Figure 6.08, the projected 10,250 job expansion in the local employment base using the Scenario 1 would require an estimated 539 gross acres of employment land.



- Under Scenario 1, there is an estimated need for 306 acres of land for commercial uses (office, institutional, retail) and an estimated need for 233 acres of land for industrial uses (industrial, warehouse, business park).
- The greater projected 18,971 job expansion in the local employment base using alternative Scenario 2 would require an estimated 993 gross acres of employment land.
- Under Scenario 2, there is an estimated need for 568 acres of land for commercial uses (office, institutional, retail) and an estimated need for 425 acres of land for industrial uses (industrial, warehouse, business park).
- In each case, the distribution of projected demand is more weighted toward commercial land (57%) than industrial land (43%).

In addition to ensuring adequate capacity for employment-driven land needs over a 20-year horizon, local jurisdictions are also required to demonstrate that they have an adequate capacity of readily available sites to meet their more immediate needs, which are defined as employment land needs over the next five years. As shown in the following table, that need is estimated at 125 gross acres under the slower-growth baseline scenario, and 215 gross acres under the higher-growth adjusted scenario.

**FIGURE 6.09: NET ACRES REQUIRED BY BUILDING TYPOLOGY, TIGARD – 5-YEAR**

BASELINE SCENARIO	DEMAND BY GENERAL USE TYPOLOGY, 2021-2041						
	Office	Institutional	Flex/B.P	Gen. Ind.	Warehouse	Retail	Total
Employment Growth	932	212	213	264	177	522	2,321
Avg. SF Per Employee	350	350	990	600	1,000	500	521
Demand for Space (SF)	326,000	74,000	211,000	159,000	177,000	261,000	1,208,000
Floor Area Ratio (FAR)	0.35	0.35	0.30	0.30	0.35	0.25	0.31
Market Vacancy	10.0%	0.0%	10.0%	5.0%	5.0%	5.0%	10.0%
Implied Density (Jobs/Acre)	39.2	43.7	11.9	20.6	14.4	20.7	23.2
<b>Net Acres Required</b>	<b>23.8</b>	<b>4.9</b>	<b>17.9</b>	<b>12.8</b>	<b>12.2</b>	<b>25.2</b>	<b>100.1</b>
<b>Gross Acres Required</b>	<b>29.7</b>	<b>6.1</b>	<b>22.4</b>	<b>16.0</b>	<b>15.3</b>	<b>31.5</b>	<b>125.2</b>

ADJUSTED SCENARIO	DEMAND BY GENERAL USE TYPOLOGY, 2021-2041						
	Office	Institutional	Flex/B.P	Gen. Ind.	Warehouse	Retail	Total
Employment Growth	1,610	367	366	454	303	898	3,996
<b>Net Acres Required</b>	<b>41.0</b>	<b>8.4</b>	<b>30.8</b>	<b>21.9</b>	<b>20.9</b>	<b>43.4</b>	<b>172.2</b>
<b>Gross Acres Required</b>	<b>51.3</b>	<b>10.5</b>	<b>38.5</b>	<b>27.4</b>	<b>26.2</b>	<b>54.3</b>	<b>215.2</b>

Source: Johnson Economics

\* Table shows figures for Scenario 1.

There is a significant distinction between capacity and readily available site supply. The readily available inventory must currently have appropriate entitlements and infrastructure capacity to accommodate short-term development.



## EMPLOYMENT LAND NEED FORECAST – NEEDED SITE SIZES

As discussed in Section IV, the local employment base is largely dominated by small employers of 10 or fewer employees (75% of firms), which is a common pattern across most markets. There are two employers of 500 or more employees, and 11 with 250 to 500 employees. Some of these may have employees spread over multiple locations.

Figure 6.10 presents the projected need for new commercial and industrial sites by size based on the industry growth projections presented above (baseline forecast). These site needs are an estimate of future needs to aid comparison to available supply (see following section.)

**FIGURE 6.10: ESTIMATED NUMBER OF SITES NEEDED BY SIZE (ACRES), TIGARD OREGON**  
**BASILINE SCENARIO**

LAND USE	0 TO .9 acres	1 to 4.9 acres	5 to 9.9 acres	10 to 19.9 acres	20 to 29.9 acres	30 to 49.9 acres	50 to 99.9 acres	100+ acres	TOTAL (sites)	TOTAL (acres)
Office	239	14	1	0	0	0	0	0	254	133
Institutional	47	12	1	0	0	0	0	0	60	47
Retail	103	25	2	1	0	0	0	0	131	146
<b>Commercial Total:</b>	<b>389</b>	<b>51</b>	<b>4</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>445</b>	<b>326</b>
Flex/B.P	38	6	3	1	0	0	0	0	48	98
Gen. Ind.	40	9	1	1	0	0	0	0	51	69
Warehouse	24	11	2	1	0	0	0	0	38	122
<b>Industrial Total:</b>	<b>102</b>	<b>26</b>	<b>6</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>137</b>	<b>289</b>
<b>TOTAL:</b>	<b>491</b>	<b>77</b>	<b>10</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>582</b>	<b>615</b>

Source: Johnson Economics, Oregon Employment Department

The estimates presented in Figure 6.10 are based on the average firm sizes of businesses in the different industry subsectors in Tigard. However, economic development and job growth are dynamic, and this estimate of site needs is unlikely to match actual future needs exactly. Communities should maintain flexibility and ensure a supply of a variety of site types with short-term availability, as allowed through the Goal 9 EOA process.

There will be a continued demand for real estate space and sites of all sizes to accommodate the full range of employers across sectors, but with a preponderance of sites for small to medium-sized firms.

### **ADDITIONAL CONSIDERATIONS IN LAND DEMAND**

Beyond a consideration of gross acreage, there is a significantly broader range of site characteristics that industries would require to accommodate future growth. Some key findings are summarized here:

- Industrial buildings are generally more susceptible to slope constraints due to larger building footprints. For a site to be competitive for most industrial uses, a 10% slope is the maximum preferred slope for development sites. Office and commercial uses are generally smaller and more



vertical, allowing for slopes up to 15%. Sites with slope of up to 25% are still considered developable, but with some challenges. Site users will prefer lesser slopes if available.

- Most industrial users require some direct access to a major transportation route, particularly manufacturing and distribution industries that move goods throughout the region and beyond. 10 to 20 miles to a major interstate is generally acceptable for most manufacturing activities, but distribution activities require 5 miles or less and generally prefer a direct interstate linkage. Visibility and access are important to most commercial activities and site location with both attributes from a major commercial arterial is commonly required.
- Retail users prefer locations with high visibility and high pass-by traffic, along with reasonable automobile access and on-site or nearby parking. Areas with high foot and bike traffic such as town centers can generally support small retailers and dining establishments if surrounding population density is sufficient.
- Access and capacity for water, power, gas, and sewer infrastructure is more important to industrial than commercial operations. Water/sewer lines of up to 10" are commonly required for large manufacturers.
- Fiber telecommunications networks are likely to be increasingly required in site selection criteria for many commercial office and manufacturing industries. Medical, high-tech, creative office, research & development, and most professional service industries will prefer or require strong fiber access in the coming business cycles.

**Appendix A provides detailed site preferences by land use and sub-sector typology.**



## VII. RECONCILIATION OF LAND NEED & SUPPLY

As outlined in the Buildable Lands Inventory (BLI), the City of Tigard has a modest inventory of available sites relative to anticipated employment growth. The available inventory for both commercial and industrial users is constrained by the prior build-out of most of the city's employment land, as well as the Urban Growth Boundary to the west.

Roughly 69% of this buildable land is found in the city's existing commercial and mixed-use zones which are generally intended for a combination of office-based, retail and commercial service uses. Roughly 31% of the identified buildable lands are in industrial zones that are intended for a combination of light and heavy industrial uses. (See Figure 7.01).

Roughly 43% of the remaining buildable acreage is in parcels identified as "vacant", 16% is in "partially vacant" sites, and 41% of the buildable acreage is in potential "redevelopment" sites. Similar amounts of the "redevelopable" acreage in the City are found in commercial vs. industrial zoning designations. In general, partially vacant and redevelopment sites will be considered less attractive to developers than vacant sites, due to the additional cost of dealing with existing uses on the site.

In total, there are an estimated 112 vacant or partially vacant acres, and 78 acres of potential redevelopment sites. The total 196 buildable acres include 163 commercial acres, and 33 industrial acres.

An additional 35 acres of buildable land are in the River Terrace planning areas in the city's urban reserves. This land is included in Figure 7.01 for reference but is not yet considered active inventory for the purposes of this EOA. (The future land use in these urban reserve areas is still under planning but are presumed to be some form of commercial or commercial mixed-use in the future. The most recent assumptions available for the size and position of the employment uses have been used in this analysis.)

Figure 7.01 (following page) provides a detailed summary of the estimated BLI of employment lands. Please see Appendix A for a detailed explanation of the BLI methodology and mapping.

Comparing this inventory to the 20-year forecast of employment land need generated earlier in this analysis indicates that the projected demand exceeds the estimated remaining capacity for new employment development.


**FIGURE 7.01: BUILDABLE LAND INVENTORY OF EMPLOYMENT LANDS, CITY OF TIGARD - 2022**

<i>Areas in City Limits</i>								
<i>Zone Abbreviation</i>	<i>Vacant Land</i>		<i>Partially Vacant Land</i>		<i>Redevelopable Land</i>		<i>TOTAL BUILDABLE LAND</i>	
	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>
<b>Commercial Zones</b>								
C-C (Community Commercial)	1	23.1	0	0.0	0	0.0	1	23.1
C-G (General Commercial)	3	0.5	17	9.3	6	10.4	26	20.1
C-N (Neighborhood Commercial)	0	0.0	0	0.0	0	0.0	0	0.0
C-P (Professional Commercial)	3	1.0	5	1.0	3	3.9	11	5.9
MU-CBD (Mixed Use Central Bus.)	1	0.2	18	5.9	2	1.1	21	7.2
MUC (Mixed Use Commercial)	3	2.4	2	1.3	4	11.3	9	15.0
MUC-1 (Mixed Use Commercial)	0	0.0	0	0.0	1	1.1	1	1.1
MUE (Mixed Use Employment)	1	7.6	0	0.0	0	0.0	1	7.6
MUE-1 (Mixed Use Employment)	10	11.8	4	1.5	2	2.8	16	16.1
MUE-2 (Mixed Use Employment)	1	1.1	0	0.0	0	0.0	1	1.1
MUR-1* (Mixed Use Residential)	0	0.0	0	0.0	0	0.0	0	0.0
MUR-2* (Mixed Use Residential)	0	0.0	0	0.0	0	0.0	0	0.0
TMU (Triangle Mixed Use)	23	14.7	25	8.4	6	10.9	54	33.9
<i>Commercial subtotal</i>	<i>46</i>	<i>62.4</i>	<i>71</i>	<i>27.3</i>	<i>24</i>	<i>41.4</i>	<i>141</i>	<i>131.2</i>
<b>Industrial Zones</b>								
I-H (Heavy Industrial)	0	0	0	0	1	2.85	1	2.9
I-L (Light Industrial)	7	2.64	0	0	4	30.97	11	33.6
I-P (Industrial Park)	6	16.96	5	2.12	1	2.83	12	21.9
<i>Industrial subtotal</i>	<i>13</i>	<i>19.6</i>	<i>5</i>	<i>2.1</i>	<i>6</i>	<i>36.7</i>	<i>24</i>	<i>58.4</i>
<b>City Total</b>	<b>59</b>	<b>82.0</b>	<b>76</b>	<b>29.5</b>	<b>30</b>	<b>78.1</b>	<b>165</b>	<b>189.6</b>
<i>Urban Reserve Areas</i>								
	<i>Vacant Land</i>		<i>Partially Vacant Land</i>		<i>Redevelopable Land</i>		<i>TOTAL BUILDABLE LAND</i>	
	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>
River Terrace West†	7	30.0	0	0.0	0	0.0	7	30
River Terrace South†	2	5.0	0	0.0	0	0.0	2	5
<i>Urban Reserve subtotal</i>	<i>9</i>	<i>35.0</i>	<i>0</i>	<i>0.0</i>	<i>0</i>	<i>0.0</i>	<i>9</i>	<i>35.0</i>

**Notes**

\* Only those specific tax lots identified in footnote 12 of Tigard Community Development Code Table 18.120.1.

† Only those areas identified for employment in the City's April 2021 River Terrace 2.0 Concept Plan

Source: Mackenzie, Appendix A

Figure 7.02 (following page) presents the BLI broken down by presumed development typology (i.e., office, retail, or industrial uses) most likely to be developed in each zone. For instance, the Community Commercial zone is likely to house mostly retail use, but with some small office users, while the General Commercial zone is assumed to house mostly retail use. These assumptions are generalized given the difficulty of predicting where future businesses will locate.



**FIGURE 7.02: RECONCILIATION OF BLI CAPACITY AND PROJECTED DEMAND, CITY OF TIGARD— 20 YEAR**

**BUILDABLE LAND INVENTORY (SUPPLY)**

Zone Abbreviation	Total Net Buildable Acreage	Retail Acreage	Office Acreage	Industrial Acreage	Flex Space Acreage
<b>Commercial Zones</b>					
C-C (Community Commercial)	23.1	17.3	5.8	0.0	0.0
C-G (General Commercial)	20.1	20.1	0.0	0.0	0.0
C-P (Professional Commercial)	5.9	0.9	5.0	0.0	0.0
MUC-CBD (Mixed Use Central Business District)	7.2	3.6	3.6	0.0	0.0
MUC (Mixed Use Commercial)	15.0	11.2	3.7	0.0	0.0
MUC-1 (Mixed Use Commercial)	1.1	0.8	0.3	0.0	0.0
MUE (Mixed Use Employment)	7.6	7.6	0.0	0.0	0.0
MUE-1 (Mixed Use Employment)	16.1	16.1	0.0	0.0	0.0
MUE-2 (Mixed Use Employment)	1.1	1.1	0.0	0.0	0.0
TMU (Triangle Mixed Use)	33.9	25.4	8.5	0.0	0.0
<b>Commercial subtotal</b>	<b>131.2</b>	<b>104.3</b>	<b>26.9</b>	<b>0.0</b>	<b>0.0</b>
<b>Industrial Zones</b>					
I-H (Heavy Industrial)	2.9	0.0	0.0	2.9	0.0
I-L (Light Industrial)	33.6	0.0	0.0	33.6	0.0
I-P (Industrial Park)	21.9	0.0	0.0	5.5	16.4
<b>Industrial subtotal</b>	<b>58.4</b>	<b>0.0</b>	<b>0.0</b>	<b>41.9</b>	<b>16.4</b>
<b>TOTAL CITY BUILDABLE ACRES:</b>	<b>189.6</b>	<b>104.3</b>	<b>26.9</b>	<b>41.9</b>	<b>16.4</b>
<b>Urban Reserve Areas</b>					
River Terrace West†	30.0	22.5	7.5	0.0	0.0
River Terrace South†	5.0	3.8	1.3	0.0	0.0
<b>Urban Reserve subtotal</b>	<b>35</b>	<b>26.25</b>	<b>8.8</b>	<b>0.0</b>	<b>0.0</b>

**PROJECTED 20-YEAR DEMAND (BASELINE SCENARIO)**

Land Use Category	Total Demand (Gross Acres)	Retail Demand (Acres)	Office Demand (Acres)	Industrial Demand (Acres)	Flex Demand (Acres)
Commercial Uses:	306.0	145.6	160.4		
Industrial Uses	233.0			135.3	97.8
<b>TOTAL DEMAND (GROSS ACRES):</b>	<b>539.1</b>	<b>145.6</b>	<b>160.4</b>	<b>135.3</b>	<b>97.8</b>

**RECONCILIATION**

Land Use Category	Total	Land Capacity - Surplus or (Deficit)			
		Retail	Office	Industrial	Flex Space
Commercial Uses:	(174.9)	(41.3)	(133.5)		
Industrial Uses	(174.7)			(93.3)	(81.3)
<b>TOTAL NEED (GROSS ACRES):</b>	<b>(349.5)</b>	<b>(41.3)</b>	<b>(133.5)</b>	<b>(93.3)</b>	<b>(81.3)</b>

Employment zones with no identified buildable parcels are excluded from table.

† Only those areas identified for employment in the City’s April 2021 River Terrace 2.0 Concept Plan

Source: Mackenzie, Johnson Economics



**Land Supply and Demand (acres):** The comparison of BLI (supply) to the forecasted 20-year need for employment lands (demand) show a probable deficit of land over the planning period if Tigard is to accommodate the growth in employment projected by this analysis.

Under the slower-growth Scenario 1 presented in Figure 7.02, there is a projected short fall of 175 acres of commercial land, and a very similar 174 acres of industrial land.

Under the higher-growth Scenario 2, there is a projected short fall of 437 acres of commercial land, and 367 acres of industrial land.

**Potential Future Land Supply:** In addition to the currently available inventory of buildable land identified in Tigard, there are additional sources of potential future supply that might alleviate the projected shortfall of employment land somewhat. There are two main sources of potential future inventory: the urban reserve areas, known as River Terrace West and South, and potential redevelopment and intensification of uses in the Washington Square Mall Area.

Combined, these areas are projected to potentially supply an additional 102 acres of commercial land for office and retail uses. These areas are not anticipated to include industrial capacity. This amount of additional buildable commercial land inventory is not sufficient to completely absorb the projected shortfall.

Figure 7.03 summarizes the potential future land supply in these areas. (The acreage depicted in the Washington Square area are not literal. The acreage represents the potential square footage assumptions of new commercial real estate, converted to hypothetical equivalent acreage using the same assumptions of FAR used in the EOA methodology.)

**FIGURE 7.03: POTENTIAL FUTURE EMPLOYMENT LAND INVENTORY**

Land Use Category	Land Capacity - Surplus or (Deficit)				
	Total	Retail	Office	Industrial	Flex Space
River Terrace West†	30.0	22.5	7.5		
River Terrace South†	5.0	3.8	1.3		
Wash. Sq. Area Redevelopment	67.4	12.8	54.7		
<b>TOTAL NEED (GROSS ACRES):</b>	<b>102.4</b>	<b>39.0</b>	<b>63.4</b>	<i>na</i>	<i>na</i>

† Only those areas identified for employment in the City's April 2021 River Terrace 2.0 Concept Plan

Source: Johnson Economics, Mackenzie, City of Tigard

**Land Supply and Demand (Site Size):** The following table presents the BLI broken down by the estimated site sizes of buildable parcels in each zone. There are an estimated 198 sites in the city (excluding the urban reserve areas. Most of these sites are less than one acre (72%). Of the remainder 24% are between one and



five acres, and only 5% are five acres or larger. Tigard has no truly large-lot development parcels in its remaining buildable employment land inventory.

**FIGURE 7.04: BUILDABLE LAND INVENTORY OF EMPLOYMENT LANDS, BY SIZE OF SITE**  
CITY OF TIGARD - 2022

<i>Areas in City Limits</i>							
<b>Zone Abbreviation</b>	<b>0 TO .9 acres</b>	<b>1 to 4.9 acres</b>	<b>5 to 9.9 acres</b>	<b>10 to 19.9 acres</b>	<b>20 to 29.9 acres</b>	<b>30 or more acres</b>	<b>Total</b>
<b>Commercial Zones</b>							
C-C (Community Commercial)	-	-	-	-	1	-	1
C-G (General Commercial)	18	8	-	-	-	-	26
C-P (Professional Commercial)	8	3	-	-	-	-	11
MU-CBD (Mixed Use Central Bus.)	20	1	-	-	-	-	21
MUC (Mixed Use Commercial)	4	5	-	-	-	-	9
MUC-1 (Mixed Use Commercial)	-	1	-	-	-	-	1
MUE-1 (Mixed Use Employment)	11	5	-	-	-	-	16
MUE-2 (Mixed Use Employment)	-	1	-	-	-	-	1
TMU (Triangle Mixed Use)	45	9	-	-	-	-	54
<i>Commercial subtotal</i>	106	33	1	0	1	0	141
<b>Industrial Zones</b>							
I-H (Heavy Industrial)	-	1	-	-	-	-	1
I-L (Light Industrial)	7	-	4	-	-	-	11
I-P (Industrial Park)	6	5	1	-	-	-	12
<i>Industrial subtotal</i>	13	6	5	0	0	0	24
<b>City Total</b>	<b>119</b>	<b>39</b>	<b>6</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>165</b>
<i>Urban Reserve Areas</i>							
<b>Zone Abbreviation</b>	<b>0 TO .9 acres</b>	<b>1 to 4.9 acres</b>	<b>5 to 9.9 acres</b>	<b>10 to 19.9 acres</b>	<b>20 to 29.9 acres</b>	<b>30 to 49.9 acres</b>	<b>Total</b>
River Terrace West†	0	7	0	0	0	0	7
River Terrace South†	0	2	0	0	0	0	2
<i>Urban Reserve subtotal</i>	0	9	0	0	0	0	9

#### Notes

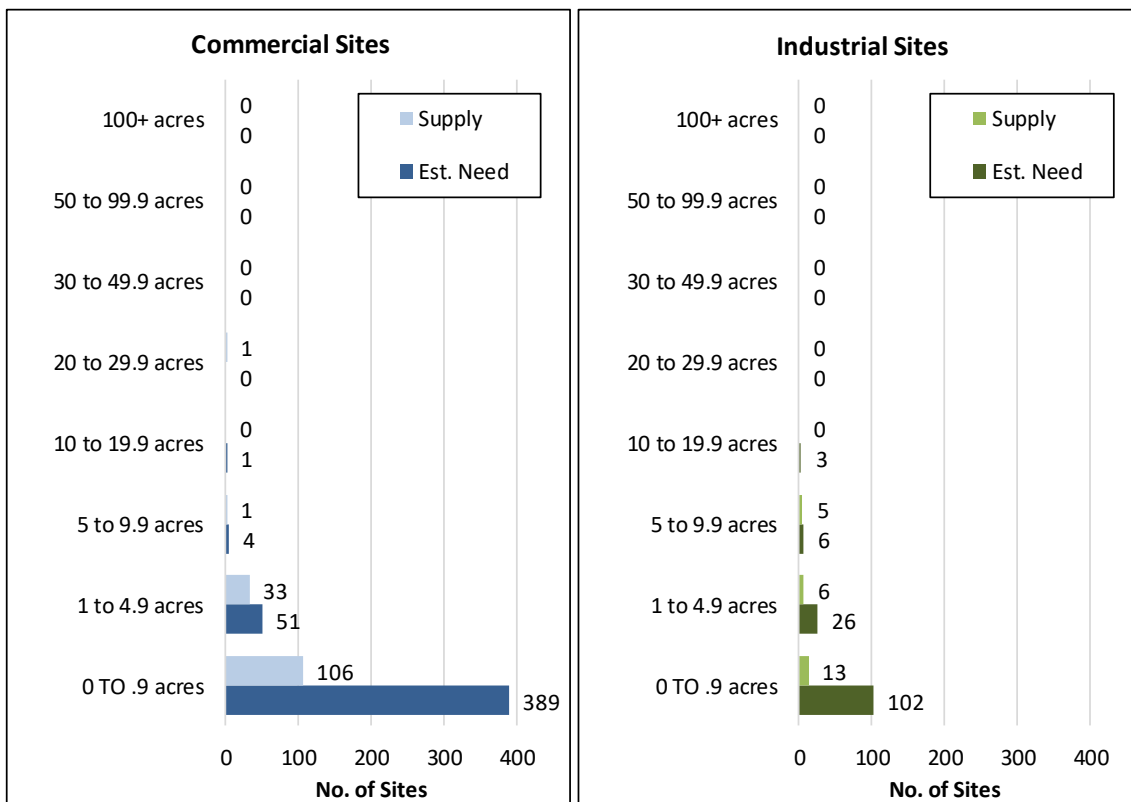
† Only those areas identified for employment in the City's April 2021 River Terrace 2.0 Concept Plan

Source: Mackenzie, Appendix A

The following figure presents a comparison of supply and demand for employment sites over the 20-year planning period. As noted in the prior section, the greatest share of demand is expected to be for relatively small sites of under one acre.



**FIGURE 7.05: RECONCILIATION OF BLI CAPACITY AND PROJECTED DEMAND, BY SIZE OF SITE  
CITY OF TIGARD— 20 YEAR**



Source: Johnson Economics, Mackenzie



## VIII. SUMMARY OF FINDINGS AND CONCLUSIONS

### **Employment Growth**

Tigard is home to an estimated 45,500 jobs as of 2021. The largest sectors by number of jobs are professional and management services, construction, retail, and finance. This analysis projects an annual growth range between 1.0% (Baseline) and 1.8% (Adjusted). Based on this range, the city would be expected to add between 10,250 and 18,970 new jobs by 2041 (absent land constraints discussed below). The greatest growth in number of jobs is projected to be in the professional and management services, construction, and health care sectors based on the City of Tigard's existing land use and business mix, and on forecasts for sector growth in the Portland Metro area from the Oregon Employment Department.

Broken down into broad categories of employment, it is projected that 50% of new employment will take place in a commercial or institutional office environment, 22% in a retail or storefront commercial service environment, and 28% in an industrial space environment.

### **Employment Land Need**

At the lower end of the projected growth range, there is an estimated 20-year need for 306 acres of land for commercial uses (Office, Institutional, Retail) and an estimated need for 233 acres of land for industrial uses (Industrial, Warehouse, and Business Park), adding to demand for a 539 total gross acres of employment land. The distribution of land demand between commercial land and industrial land is 53% to 47% respectively.

At the upper end of the projected growth range (adjusted growth scenario), there is a need for roughly 568 acres of land for commercial uses, and 425 acres for industrial uses, adding to demand for a 993 total gross acres of employment land.

### **Site Size**

A range of site sizes will be needed ranging from less than an acre to 30-acres to accommodate the projected business expansion. Different commercial and industrial uses have different site requirements driven by the specific nature of their business operations, firm size, location and infrastructure requirements, and other factors.

The local employment base is largely dominated by small employers of 10 or fewer employees (75% of firms), which is a common pattern across most markets. It is projected that a preponderance of the demand for employment sites over the plan period will continue to be for sites of less than 5 acres, with a majority being less than one acre. Multitenant spaces can also serve a collection of small firms.

### **Adequacy of Employment Land Supply**

The Buildable Land Inventory (BLI) of employment lands completed in conjunction with the EOA found a total of 189 buildable acres in commercial, industrial, and mixed-use zones. The available inventory for both commercial and industrial uses is constrained by the prior build-out of most of the city's employment land, as well as the Urban Growth Boundary to the west.



In total, there are an estimated 112 vacant or partially vacant acres, and 78 acres of potential redevelopment sites. The current inventory includes 131 commercial acres, and 58 industrial acres. In the future, there are expected to be additions to the inventory of employment land in areas that are currently under planning, including 35 acres in urban reserve areas, as well as additional redevelopment capacity in the Washington Square area.

The comparison of land supply (189 acres) to the forecasted range of demand for employment lands (roughly 550 acres to 1,000 acres over 20 years) shows a likely deficit of land over the planning period if Tigard is to house the growth in employment projected by Metro, and in this analysis.

Therefore, there is a significant projected short fall of employment land ranging from 350 acres to 800 acres.

At the lower end of the growth range there is a projected short fall of 133 acres of commercial office land, 43 acres of retail land, and 175 acres of industrial land. At the high end of the growth range there is a projected short fall of 274 acres of commercial office land, 163 acres of retail land, and 367 acres of industrial land.

### **Conclusion**

The EOA identifies a probable acute shortfall of employment land in Tigard over the planning period. The projected shortfall is worst for industrial land, but also likely in commercial office and retail land. These findings are the basis for the following discussion of potential policy approaches and strategies to meeting the need for employment growth going forward, to inform subsequent phases of this project.

### **THREE POTENTIAL POLICY APPROACHES**

To address a projected acute shortfall of buildable employment land, Tigard faces three primary policy approaches, discussed below:

- 1) Maintain the Status Quo, Accept Growth Limitations**
- 2) Seek Opportunities for Expansion**
- 3) Use Remaining Employment Lands More Efficiently**

- 1) Maintain the Status Quo:** Tigard is reaching build-out of its land zoned for employment. While the expected addition of urban reserve areas in River Terrace will add some additional land, it is still expected to be far less than the projected need. The community might choose to maintain the status quo and accept that the city will likely achieve less employment growth than projected in this analysis. Build-out of remaining land, and redevelopment of existing employment areas would accommodate some additional growth and new businesses, largely in keeping with current development patterns. A shortage of land may also generate pressure to raise land and real estate prices, which could incent some greater employment density over time. However, large businesses and fast-growing businesses may face some constraints on where they can locate.

One result might be a decreasing jobs-to-housing ratio, as new residential development outpaces new employment development over time. As noted in the EOA report, the city currently features an estimated jobs/household ratio of 2.1 jobs per household, while local households hold an



average of 1.3 jobs. This means that currently Tigard is a net importer of labor, which is beneficial to the community's economy and provides job choice to local households. Over time, with serious constraints on employment land, this ratio should decrease as the city has a greater supply of residential land relative to employment capacity.

- 2) Seek Opportunities for Expansion:** For communities with boundaries that are not largely constrained by neighboring cities, a finding of land need in a Goal 9 EOA (or Goal 10 Housing Needs Analysis) would typically spur discussion over expanding that city's urban growth boundary in order to accommodate the 20-year-land need. In the case of Tigard and some other Metro communities, the city is largely hemmed in by neighboring cities on three sides.

Opportunity for expansion remains on the west side of Tigard, as reflected in the on-going planning of the River Terrace urban reserve areas. However, there is a modest amount of employment land planned in these two areas relative to the 20-year need, and there are no prospects for further expansion to the west for the foreseeable future. Furthermore, the far-western edge of Tigard will not be a strong location for many types of businesses and employers given the distance from major transportation routes. Businesses are likely to be limited to those serving the immediate residential neighborhoods (retail/dining/commercial services), and perhaps some serving rural Washington County outside the UGB (farm and supply/ equipment/services).

After the annexation of River Terrace West and South, the remaining land to the west of Tigard will be a combination of protected rural reserves, and undesignated reserves. Before any planning or annexation of undesignated areas can occur, they must be designated for urban development by Metro and the state. This is a long-term political process that Tigard can advocate but cannot directly undertake on the local level. On a practical level, these areas might be designated, planned and annexed within the 20-year planning period. But given these complications, and the locational disadvantages of these undesignated areas for large-scale employment users, these areas do not seem to present a reliable opportunity for expansion of employment land on the scale of the finding of 20-year need. This conclusion supports the need to accommodate as much employment growth as possible within the City's current employment zones.

- 3) Use Remaining Employment Lands More Efficiently:** This approach is recommended and the basis for the more detailed policy recommendations prepared in a subsequent phase of the Tigard Made project. Given the constraints on existing and future employment land in Tigard, the community should pursue a strategy that recognizes this reality and aims to make more efficient use of remaining vacant commercial and industrial land and properties that are potential candidates for redevelopment. To accommodate job growth on the remaining land supply, future development might feature increased job density, make better use of sites, and leverage transportation and other public infrastructure.

This process of seeking "efficiency measures" is actually required prior to pursuing a UGB expansion for residential land. Cities are not required to take a similar approach for meeting employment land needs but doing so will be consistent with the City's Strategic Plan and the guiding objectives for the EOA process. It will help the City encourage development in areas that



already are served by infrastructure, are adjacent to other employment uses, and are close to residential areas where workers may live.

Land efficiency measures are an important step to alleviate some of the shortfall of employment land in Tigard but may not accommodate all the potential employment growth found in the EOA. Market conditions and redevelopment pressures in existing employment zones will dictate the pace and scale of new land uses. But in the long term, implementing efficiency measures can reduce the cost to serve new employment uses, increase land efficiency, and potentially promote more synergy between nearby industrial, commercial, and residential land uses.

### **Recommendation**

Given the practical challenges to expanding the city boundary to add sufficient new employment land, it is recommended that Tigard pursue a strategy of encouraging future development and redevelopment to make the most efficient use of existing employment land. These findings and recommendations form the basis of detailed recommendations on code language, zoning, and incentive programs in a subsequent phase of the Tigard Made project.

**TECHNICAL MEMO:  
CITY OF TIGARD  
EMPLOYMENT LANDS  
BUILDABLE LANDS  
INVENTORY AND SITE  
SUITABILITY ANALYSIS**

**To**

Johnson Economics

**For**

Tigard MADE Economic  
Opportunities Analysis

**Dated**

October 11, 2021

***Revised December 14, 2021***

**Project Number**

2210073.00



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**APPENDIX**

- A. Business Oregon Industrial Development Competitiveness Matrix

## **I. INTRODUCTION AND PURPOSE**

Tigard MADE is an endeavor by the City of Tigard, Oregon, to “Maintain, Advance, and Diversify Employment” in the City. As one component of this effort, the City has embarked upon the 2021 Economic Opportunities Analysis (EOA), which is being carried out by a consultant team led by Johnson Economics, with support from Mackenzie and from Angelo Planning Group.

This technical memo describes Mackenzie’s findings related to the employment areas buildable lands inventory and site suitability analysis. Information from this document will be incorporated into the EOA’s reconciliation of employment land supply and demand in the main report by Johnson Economics.

## II. EMPLOYMENT LANDS BUILDABLE LANDS INVENTORY

As part of this project, the City of Tigard requested a buildable lands inventory (BLI) for employment lands to identify those parcels available for and suitable for development by commercial and industrial users. Mackenzie has compiled information on buildable lands to further the City's economic development objectives and to satisfy provisions of Oregon Statewide Land Use Planning Goal 9, Economic Development, as codified at Oregon Administrative Rules (OAR) 660, Division 9 to implement Oregon Revised Statutes (ORS) 197.712(2).

To determine the City's buildable lands, Mackenzie utilized geographic information systems (GIS) data from the City, Metro<sup>1</sup>, the Federal Emergency Management Agency (FEMA), and Bing Maps to review information on parcels, zoning, assessed value, and topographic conditions to:

- Categorize land zoned or planned for employment;
- Screen out properties which are already developed;
- Determine which properties are vacant, infill opportunities, or redevelopable;
- Deduct areas with site constraints that preclude development; and
- Identify the remaining buildable area of vacant, infill, and redevelopable sites after deducting for constraints.

Following the GIS data processing, the resulting data were refined based on feedback from City of Tigard staff. The results of this analysis, which was based on OAR 660-009-0015(3), are described below.

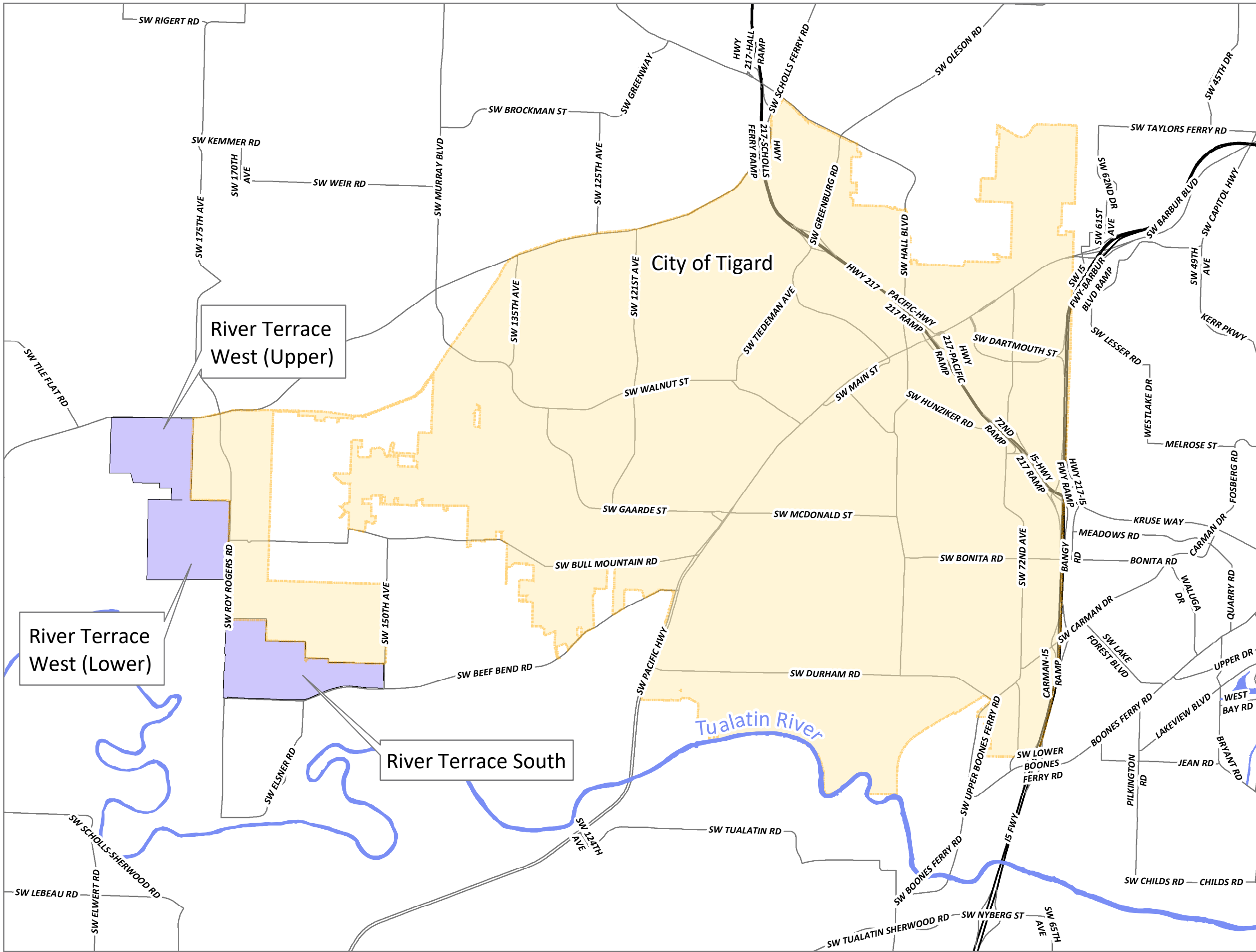
### Study Area

The City requested that the analysis include not only the City Limits but also Tigard's Urban Reserves located west of the City, as depicted in Figure 1. Areas in the Urban Reserves are outside Metro's urban growth boundary (UGB) and thus not currently available for development; however, as the City has identified portions of the urban reserves for future employment use, those areas have been included in this analysis on a speculative basis.

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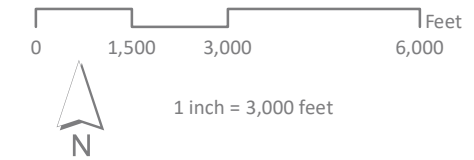
<sup>1</sup> Metro compiles data from multiple sources, e.g., Washington County Assessor data.

Exhibit B  
**Figure 1.**  
**City of Tigard**  
**City Limits &**  
**Urban Reserves**  
**Tigard, Oregon**



**LEGEND**

- Tigard City Limits
- Tigard Urban Reserves



SOURCE DATA: City of Tigard 2021 Metro 2021  
 GEOGRAPHIC PROJECTION: NAD 83 HARN, Oregon North Lambert Conformal Conic  
 Date: 10/5/2021 Map Created By: SH  
 File: City Limits and Urban Reserves Project No: 2210073.00



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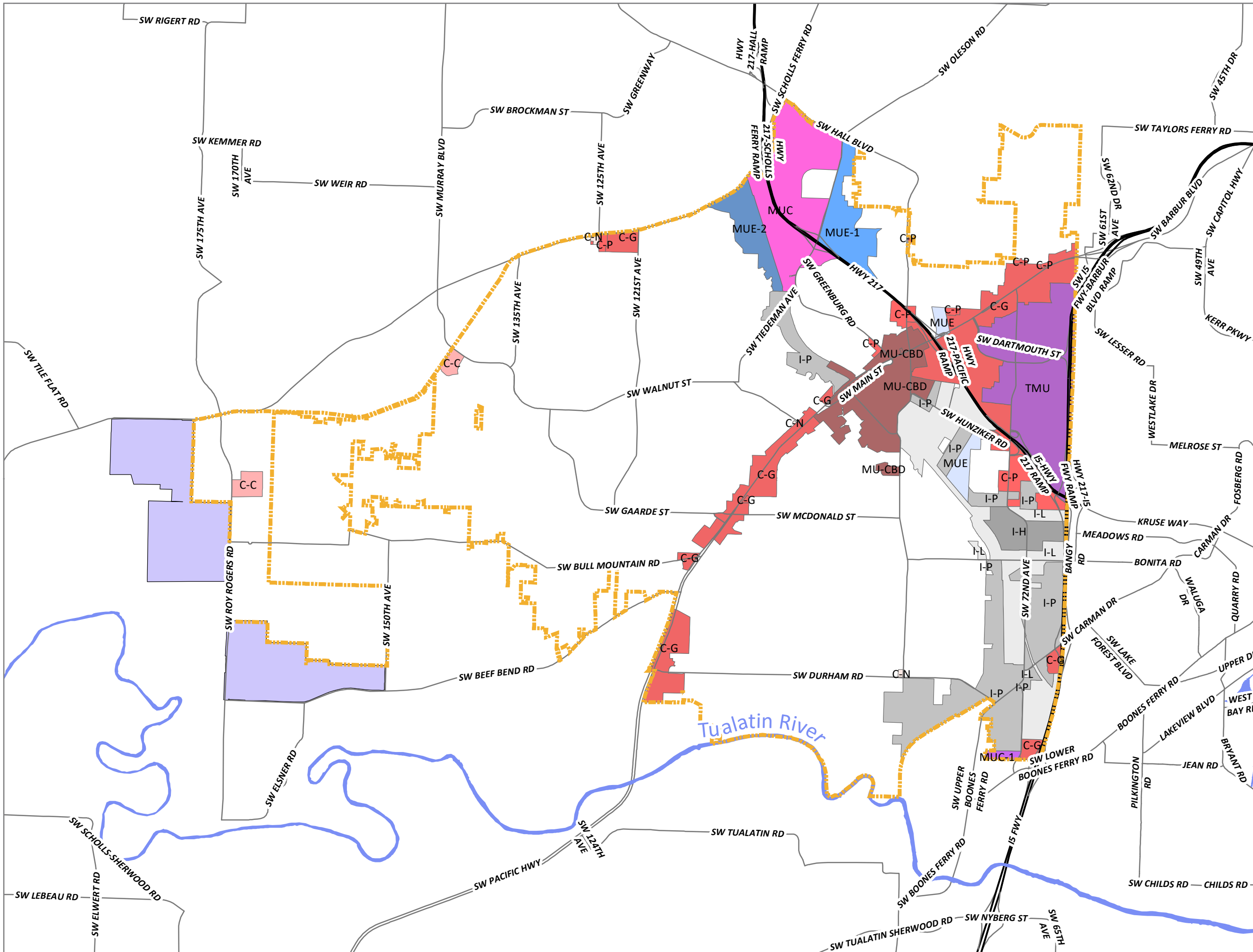
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The areas noted in Table 1 were analyzed as part of this employment land BLI. The commercial and industrial zoning classifications were based on their categories identified in Chapters 18.120 (Commercial Zones) and 18.130 (Industrial Zones) of the Tigard Community Development Code.

TABLE 1: TIGARD BLI EMPLOYMENT AREAS	
<i>Areas in City Limits</i>	
<i>Zone Abbreviation</i>	<i>Zone Name</i>
<b>Commercial Zones</b>	
C-C	Community Commercial
C-G	General Commercial
C-N	Neighborhood Commercial
C-P	Professional/Administrative Commercial
MU-CBD	Mixed-Use Central Business District
MUC	Mixed-Use Commercial
MUC-1	Mixed-Use Commercial
MUE	Mixed-Use Employment
MUE-1	Mixed-Use Employment
MUE-2	Mixed-Use Employment
MUR-1*	Mixed-Use Residential
MUR-2*	Mixed-Use Residential
TMU	Triangle Mixed Use
<b>Industrial Zones</b>	
I-H	Heavy Industrial
I-L	Light Industrial
I-P	Industrial Park
<i>Urban Reserve Areas</i>	
River Terrace West†	
River Terrace South†	
<b>Notes</b>	
* Only those specific tax lots identified in footnote 12 of Tigard Community Development Code Table 18.120.1.	
† Only those areas identified for employment in the City’s April 2021 River Terrace 2.0 Concept Plan.	

Those employment areas listed in Table 1 are graphically depicted in Figure 2.

Exhibit B  
**Figure 2:**  
**City of Tigard**  
**Employment Land**  
**Zoning Map**  
**Tigard, Oregon**



**LEGEND**

- Tigard City Limits
- Tigard Urban Reserves

**ZONING**

- C-C Community Commercial
- C-G General Commercial
- C-N Neighborhood Commercial
- C-P Professional/ Administrative Commercial
- MU-CBD Mixed-Use Central Business District
- MUC Mixed-Use Commercial
- MUC-1 Mixed-Use Commercial
- MUE Mixed- Use Employment
- MUE-1 Mixed- Use Employment
- MUE-2 Mixed- Use Employment
- TMU Triangle Mixed Use
- I-H Heavy Industrial
- I-L Light Industrial
- I-P Industrial Park

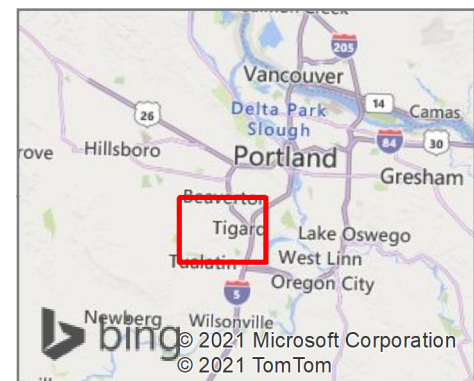
0 1,500 3,000 6,000 Feet

1 inch = 3,000 feet

SOURCE DATA: City of Tigard 2021 Metro 2021

GEOGRAPHIC PROJECTION: NAD 83 HARN, Oregon North Lambert Conformal Conic

Date: 10/5/2021 File: Zoning Map Map Created By: SH Project No: 2210073.00



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## Vacant, Infill, and Redevelopable Parcels

To identify parcels which may be available for economic development, Mackenzie utilized GIS software to determine which parcels with commercial or industrial zoning were vacant, infill, or redevelopable, as follows:

- The vacant employment parcels were identified as being those parcels in the zones identified in Table 1 that Washington County Assessor data identify as having a building valuation of 0 and which had no visually identifiable development based on aerial photography. Parcels were reviewed on an individual basis without regard to ownership or proximity that could allow for aggregation by developers.
- The redevelopable employment parcels were identified based on coordination with Johnson Economics staff's knowledge of the local economy and their assessment of conditions which would likely increase attractiveness for site redevelopment. Three distinct methodologies were used, depending on use category and location. For industrial employment areas, this included parcels over two acres with building values less than 30% of the total land value. For the Central Business District (CBD), this included parcels over 0.5 acres with building values less than 30% of the total land value. For all other Commercial employment areas, this included parcels larger than one acre with building values less than 30% of the total land value.
- The infill employment parcels were identified as being those parcels in the zones identified in Table 1 with less than 2,000 SF developed and the developed area is under 10% of the tax lot area. This approach mirrors the methodology used by Metro in its 2018 Buildable Lands Inventory.

Following GIS analysis to identify parcels in each of the three categories, Mackenzie refined the results as follows:

- To incorporate direction provided by City of Tigard staff for specific parcels where staff had institutional knowledge of the employment land inventory;
- To remove GIS irregularities such as small slivers of land that are likely a result of misaligned data sets provided by multiple sources;
- To graphically display Washington Square as infill, in light of the operator's intentions to alter usage in the future. This acreage is not included in the tables below as the potential buildout is being addressed by Johnson Economics in its analysis of future employment rather than based on acreage in the BLI.

A map of the vacant, infill, and redevelopable parcels is included as Figure 3.



## Development Constraints

OAR 660, Division 9 allows for reduction of buildable area in a BLI based on site development constraints, as defined in OAR 660-009-0005(2):

*'Development Constraints' means factors that temporarily or permanently limit or prevent the use of land for economic development. Development constraints include, but are not limited to, wetlands, environmentally sensitive areas such as habitat, environmental contamination, slope, topography, cultural and archeological resources, infrastructure deficiencies, parcel fragmentation, or natural hazard areas.*

Based on this definition, for the Tigard BLI, development constraints that render land undevelopable for employment uses were identified as land with any of the following characteristics:<sup>2</sup>

- Property within the 1% annual chance floodplain or floodway or 1996 flood inundation area;
- Significant Wetlands identified in the Tigard Local Wetland Inventory, together with associated Vegetated Corridors as identified by Clean Water Services;<sup>3</sup>
- Areas with slopes of 10% or greater in areas with industrial zoning; or
- Areas with slopes of 25% or greater in areas with commercial zoning (since commercial users generally don't need the large, flat sites that industrial users need).

No deductions were made for areas in the National Wetland Inventory but not in the Local Wetland Inventory; for wetlands not identified as significant in the Local Wetland Inventory; for Significant Tree groves; or for Goal 5 significant Habitat Areas as the Tigard Community Development Code provides paths to development approval in those areas.

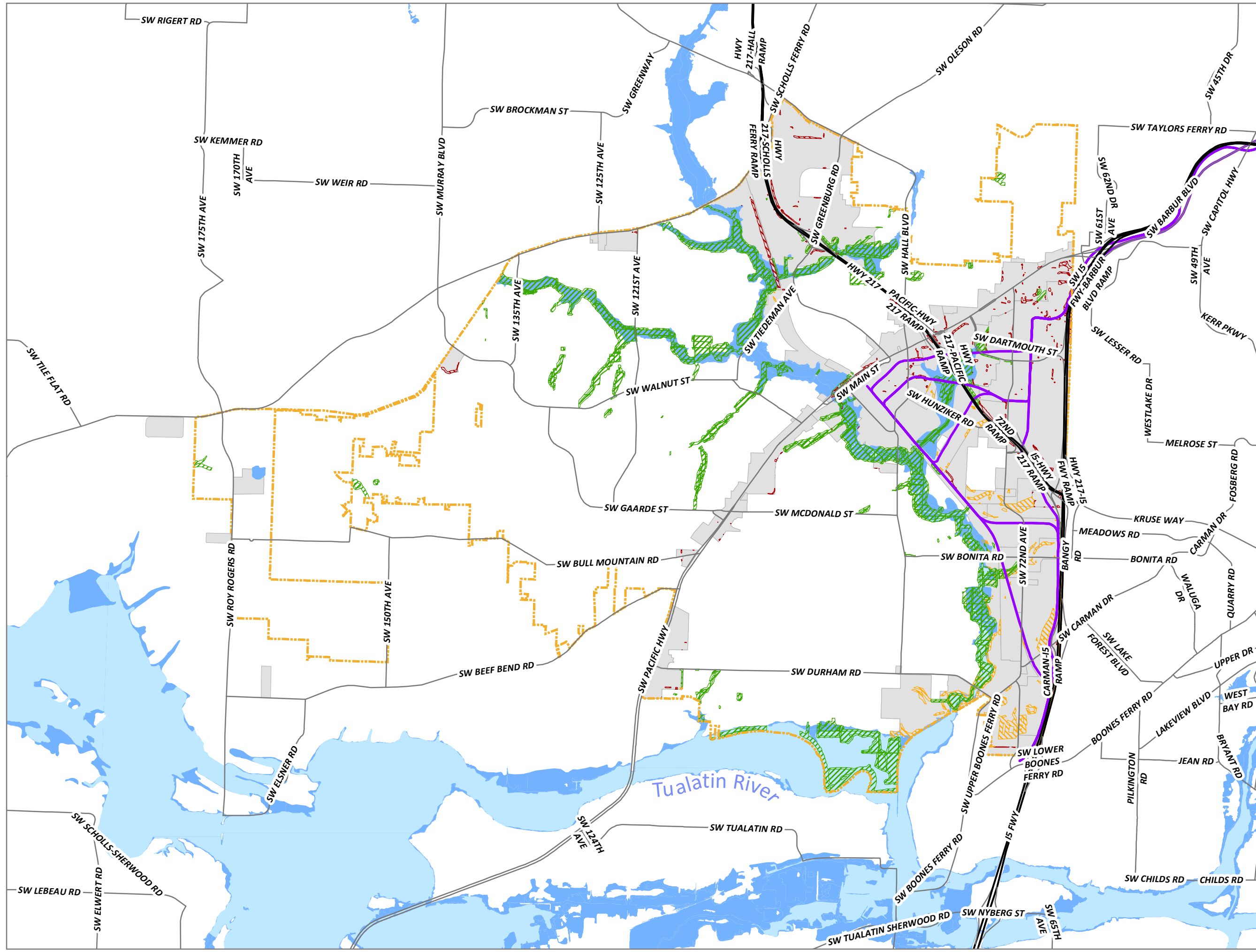
The resulting site constraints on employment land are depicted in Figure 4.

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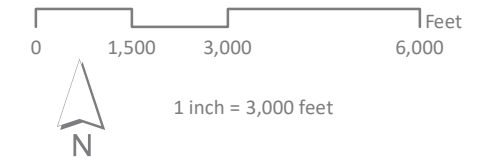
<sup>2</sup> The Conceptual Southwest Corridor Light Rail Alignment and associated service yard was graphically depicted as a constraint but not applied in this analysis due to its conceptual nature.

<sup>3</sup> Vegetated Corridors not associated with significant wetlands have not been identified as constraints.

Exhibit B  
**Figure 4.**  
**City of Tigard**  
**Employment Land**  
**Development Constraints**  
**Tigard, Oregon**

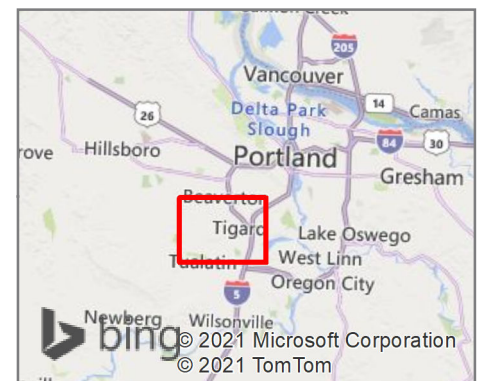


- LEGEND**
- Tigard City Limits
  - Employment Areas
  - FEMA Floodway and 1% Floodplain
  - 1996 Flood Inundation
  - Significant Wetlands and CWS Vegetative Buffer
  - Slope of 25% or greater (Commercial & Industrial Land)
  - Slope of 10% or greater (Industrial Land)
  - Potential Light Rail Alignments



SOURCE DATA: City of Tigard 2021, Metro 2021, FEMA 2021  
 GEOGRAPHIC PROJECTION: NAD 83 HARN, Oregon North Lambert Conformal Conic

Date: 10/8/2021  
 File: Constraints Map  
 Map Created By: SH  
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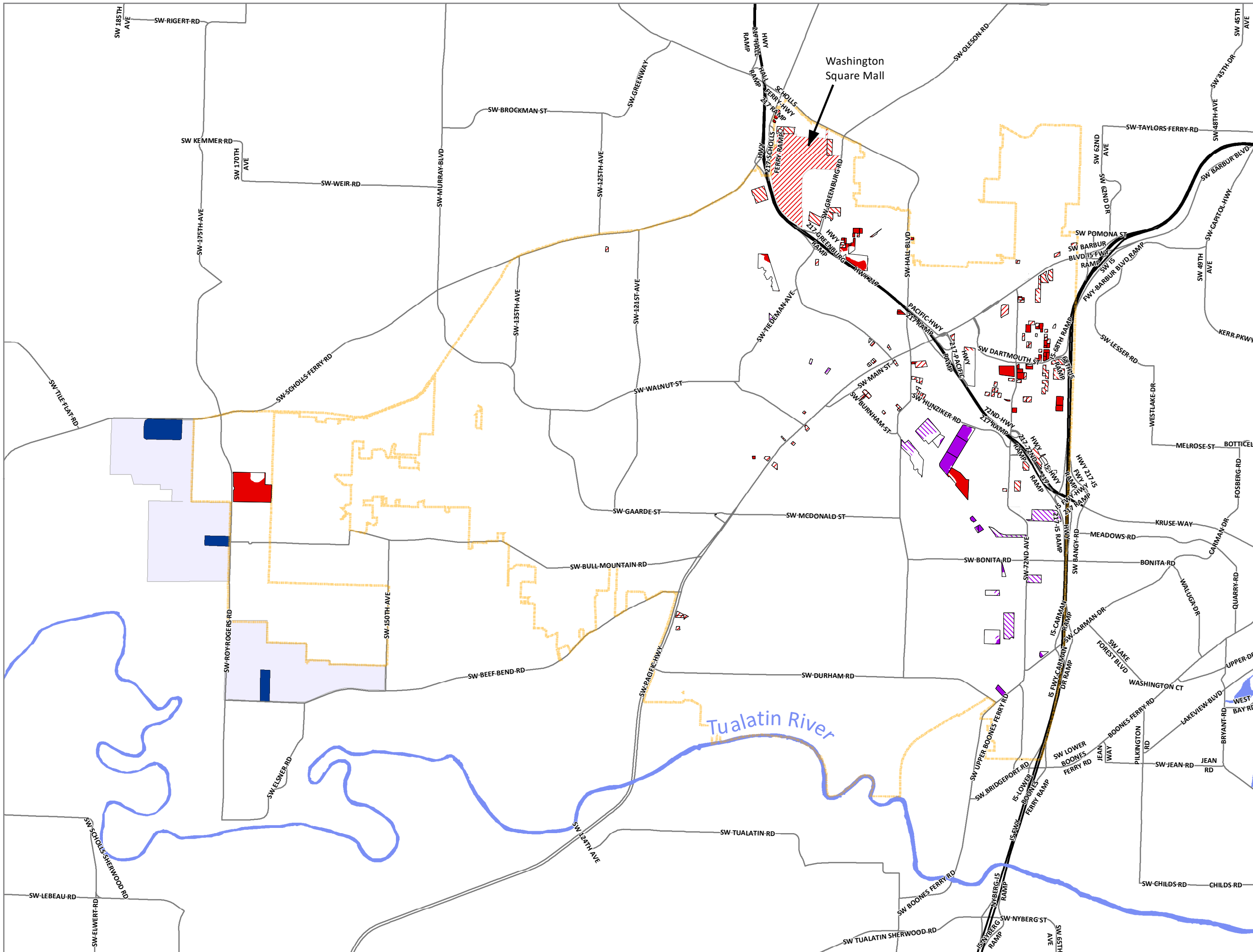
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## Buildable Employment Lands

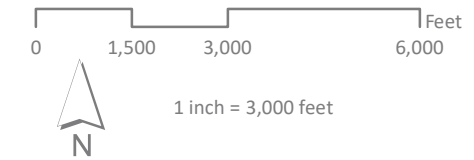
The areas with constraints (Figure 4) were then deducted from the vacant, infill, and redevelopable parcels (Figure 3) to determine the net buildable portions of vacant, infill, and redevelopable parcels. Parcels resulting in less than 0.10 acres of net buildable land were removed since development of the small parcel less than 0.10 acres is not feasible. The results of this analysis for Tigard City Limits are summarized in Table 2 and shown graphically in Figure 5.

TABLE 2: TIGARD EMPLOYMENT BUILDABLE LANDS INVENTORY								
<i>Areas in City Limits</i>								
	<i>Vacant</i>		<i>Infill</i>		<i>Redevelopable</i>		<i>Total</i>	
<i>Zone Abbreviation</i>	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>	<i>Number of Parcels</i>	<i>Potential Acreage</i>	<i>Number of Parcels</i>	<i>Potential Acreage</i>
<b>Commercial Zones</b>								
C-C	1	23.09	0	0	0	0	1	23.09
C-G	3	0.47	17	9.27	6	10.39	26	20.13
C-N	0	0	0	0	0	0	0	0
C-P	3	0.99	5	1.01	3	3.85	11	5.85
MU-CBD	1	0.21	18	5.89	2	1.13	21	7.23
MUC	3	2.39	2	1.3	4	11.29	9	14.98
MUC-1	0	0	0	0	1	1.12	1	1.12
MUE	1	7.64	0	0	0	0	1	7.64
MUE-1	10	11.84	4	1.5	2	2.76	16	16.1
MUE-2	1	1.11	0	0	0	0	1	1.11
MUR-1*	0	0	0	0	0	0	0	0
MUR-2*	0	0	0	0	0	0	0	0
TMU	23	14.68	25	8.36	6	10.89	54	33.93
<i>Commercial subtotal</i>	<b>46</b>	<b>62.42</b>	<b>71</b>	<b>27.33</b>	<b>24</b>	<b>41.43</b>	<b>141</b>	<b>131.18</b>
<b>Industrial Zones</b>								
I-H	0	0	0	0	1	2.85	1	2.85
I-L	7	2.64	0	0	4	30.97	11	33.61
I-P	6	16.96	5	2.12	1	2.83	12	21.91
<i>Industrial subtotal</i>	<b>13</b>	<b>19.6</b>	<b>5</b>	<b>2.12</b>	<b>6</b>	<b>36.65</b>	<b>24</b>	<b>58.37</b>
<b>City Summary</b>								
Commercial Zones	46	62.42	71	27.33	24	41.43	141	131.18
Industrial Zones	13	19.6	5	2.12	6	36.65	24	58.37
<b>Total</b>	<b>59</b>	<b>82.02</b>	<b>76</b>	<b>29.45</b>	<b>30</b>	<b>78.08</b>	<b>165</b>	<b>189.55</b>
<b>Note</b>								
* Only those specific tax lots identified in footnote 12 of Tigard Community Development Code Table 18.120.1.								

Exhibit B  
**Figure 5:**  
**City of Tigard**  
**Buildable**  
**Employment Land**  
**Tigard, Oregon**

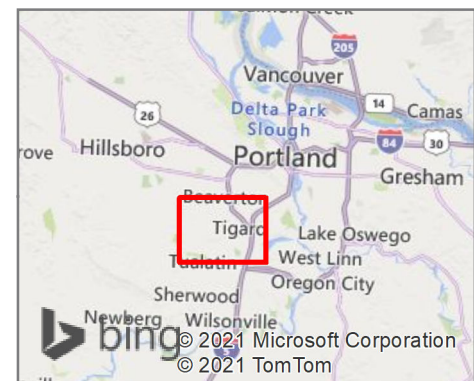


- LEGEND**
- Tigard City Limits
  - Commercial - Fully Vacant
  - Commercial - Infill
  - Commercial - Redevelopable
  - Industrial - Fully Vacant
  - Industrial - Infill
  - Industrial - Redevelopable
  - Tigard Urban Reserves
  - RT 2.0 Potential Employment Areas



SOURCE DATA: City of Tigard 2021 Metro 2021  
 GEOGRAPHIC PROJECTION: NAD 83 HARN, Oregon North Lambert Conformal Conic

Date: 12/13/2021  
 File: Tigard Net Buildable  
 Map Created By: SH  
 Project No: 2210073.00



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Analysis of the data in Table 2 reveals the following:

- The commercial zones have 62.42 acres (76%) of vacant buildable land and the industrial zones have 19.6 acres (24%) of vacant buildable land, for a total of approximately 82.02 net acres of vacant buildable land.
- The commercial zones have 27.33 acres (93%) of infill land and the industrial zones have 2.12 acres (7%) of infill land, for a total of approximately 29.45 net acres of infill buildable land.
- The commercial zones have 41.43 acres (53%) of redevelopable buildable land and the industrial zones have 36.65 acres (47%) of redevelopable buildable land, for a total of approximately 78.08 net acres of redevelopable buildable land.
- In total, the commercial zones have 131.18 acres (69%) of buildable land and the industrial zones have 58.37 acres (31%) of buildable land, for a total of approximately 189.55 net acres of buildable land.

For those sites identified as redevelopable, Mackenzie prepared a high-level estimate of the cost to prepare the site for further development (e.g., building demolition, limited site grading, paving, landscaping, and on-site utilities), utilizing an average cost of \$15 to \$20 per square foot, excluding costs of a building itself since those costs vary greatly depending on usage, construction type, etc. Based on an assumption that buildings occupy an average of 40% of the buildable land, the resulting site preparation cost estimates are denoted in Table 3.

<b>TABLE 3: REDEVELOPABLE LAND COST ESTIMATES</b>			
<i>Areas in City Limits</i>			
<i>Zone Abbreviation</i>	<i>Number of Parcels</i>	<i>Potential Acreage</i>	<i>Redevelopment Site Preparation Cost Estimate</i>
<b>Commercial Zones</b>			
C-C	0	0	0
C-G	6	10.39	\$4.1-5.4 million
C-N	0	0	0
C-P	3	3.85	\$1.5-2.0 million
MU-CBD	2	1.13	\$0.4-0.6 million
MUC	4	11.29	\$4.4-5.9 million
MUC-1	1	1.12	\$0.4-0.6 million
MUE	0	0	0
MUE-1	2	2.76	\$1.1-1.4 million
MUE-2	0	0	0
MUR-1*	0	0	0
MUR-2*	0	0	0
TMU	6	10.89	\$4.3-5.7 million
<i>Commercial subtotal</i>	<i>24</i>	<i>41.43</i>	<i>\$16.2-21.7 million</i>

<b>Industrial Zones</b>			
I-H	1	2.85	\$1.1-1.5 million
I-L	4	30.97	\$12.1-16.2 million
I-P	1	2.83	\$1.1-1.5 million
<i>Industrial subtotal</i>	<i>6</i>	<i>36.65</i>	<i>\$14.4-19.2 million</i>
<b>City Summary</b>			
Commercial Zones	24	41.43	\$16.2-21.7 million
Industrial Zones	6	36.65	\$14.4-19.2 million
<b>Total</b>	<b>30</b>	<b>78.08</b>	<b>\$30.6-40.8 million</b>
<b>Note</b>			
* Only those specific tax lots identified in footnote 12 of Tigard Community Development Code Table 18.120.1.			

Table 4 identifies the potential employment area within the Tigard Urban Reserves, as projected in the City’s April 2021 River Terrace 2.0 Concept Plan. These areas are also depicted in Figure 5.

<b>TABLE 4: TIGARD URBAN RESERVES POTENTIAL BUILDABLE LANDS</b>								
<i>Urban Reserve Areas</i>								
	<i>Vacant</i>		<i>Infill</i>		<i>Redevelopable</i>		<i>Total</i>	
	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>	<i>Number of Parcels</i>	<i>Net Buildable Acreage</i>	<i>Number of Parcels</i>	<i>Potential Acreage</i>
River Terrace West†	7	30	0	0	0	0	7	30
River Terrace South†	2	5	0	0	0	0	2	5
<i>Urban Reserve subtotal</i>	<i>9</i>	<i>35</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>9</i>	<i>35</i>
<b>Note</b>								
† Only those areas identified for employment in the City’s April 2021 River Terrace 2.0 Concept Plan								

As the urban reserves are not within the Metro UGB, the City cannot rely upon these lands to satisfy its employment land needs at this time.

## Buildable Employment Lands Parcel Sizes

Based on the buildable parcels in City Limits shown in Figure 5 and tabulated in Table 2, Mackenzie has sorted the net buildable land supply by parcel size for each zone, the results of which are in Table 5. As noted in the table, available commercial sites largely fall into the 0 to 0.99 acre category, while available industrial sites largely fall into a mix of the 0 to 0.99 acre and 1 to 4.99 acre categories.

TABLE 5: TIGARD EMPLOYMENT NET BUILDABLE LANDS INVENTORY PARCEL SIZES									
<i>Areas in City Limits</i>									
<i>Zone Abbreviation</i>	<i>0 to 0.99 acres</i>	<i>1 to 4.99 acres</i>	<i>5 to 9.99 acres</i>	<i>10 to 19.99 acres</i>	<i>20 to 29.99 acres</i>	<i>30 to 49.99 acres</i>	<i>50 to 99.99 acres</i>	<i>100+ acres</i>	<i>TOTAL</i>
<b>Commercial Zones</b>									
C-C	-	-	-	-	1	-	-	-	1
C-G	18	8	-	-	-	-	-	-	26
C-N	-	-	-	-	-	-	-	-	-
C-P	8	3	-	-	-	-	-	-	11
MU-CBD	20	1	-	-	-	-	-	-	21
MUC	4	5	-	-	-	-	-	-	9
MUC-1	-	1	-	-	-	-	-	-	1
MUE	-	-	1	-	-	-	-	-	1
MUE-1	11	5	-	-	-	-	-	-	16
MUE-2	-	1	-	-	-	-	-	-	1
MUR-1*	-	-	-	-	-	-	-	-	-
MUR-2*	-	-	-	-	-	-	-	-	-
TMU	45	9	-	-	-	-	-	-	54
<i>Commercial subtotal</i>	<i>106</i>	<i>33</i>	<i>1</i>	<i>-</i>	<i>1</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>141</i>
<b>Industrial Zones</b>									
I-H	-	1	-	-	-	-	-	-	1
I-L	7	-	4	-	-	-	-	-	11
I-P	6	5	1	-	-	-	-	-	12
<i>Industrial subtotal</i>	<i>13</i>	<i>6</i>	<i>5</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>24</i>
<b>City Total</b>	<b>119</b>	<b>39</b>	<b>6</b>	<b>-</b>	<b>1</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>165</b>
<b>Notes</b>									
* Only those specific tax lots identified in footnote 12 of Tigard Community Development Code Table 18.120.1.									

### III. SITE SUITABILITY ANALYSIS

To supplement Section II, which analyzed the quantity of building employment lands in the City and in its urban reserves, this section provides information on the types of sites that are most likely to be attractive for development. The relative attractiveness of sites varies by user type, so information is provided for three broad user categories identified by Johnson Economics: retail, office park, and industrial.

Based on the preferred site characteristics for each of the three categories, Mackenzie performed a qualitative assessment of the City's available vacant, infill, and redevelopable land using available data to evaluate whether the available land supply satisfies some or all of the preferred factors. Some factors are not able to be analyzed as part of this project due to data limitations (e.g., neither the City nor Mackenzie have access to geographic data sets regarding locations or capacity of franchise utilities such as power, gas, or telecommunications). Other factors were examined on a qualitative level (e.g., utility sizes for industrial users) but are not mapped as such analysis and display is beyond the scope of the project.

In the tables below, some of the factors utilize the word "competitive." This term does not denote an absolute standard which cannot be disregarded, but rather suggests that given the choice between two equal sites, if one of them meets the competitive factor and one does not, a developer will likely select the site that satisfies the competitive factor.

#### Site Characteristics

##### *Retail*

##### *Retail Preferred Site Characteristics*

Retail users fall into multiple subcategories, including the following:

- Regional malls
- Lifestyle centers
- Power centers
- Neighborhood centers
- Downtown areas

Table 6 identifies preferred site characteristics for each of these subcategories. However, it should be noted that retailers' site selection is also based on factors outside the site itself, such as the area population, income levels of nearby residents, and the location of competitors.

TABLE 6: RETAIL PREFERRED SITE CHARACTERISTICS					
Factor	Regional Malls	Lifestyle Centers	Power Centers	Neighborhood Centers	Downtown Areas
Example or description	Washington Square	Old Mill District in Bend	Clusters of large well-known retailers such as electronics stores, arts and craft stores, office supply stores, or home goods stores	Convenience-oriented, typically consisting of a grocer or pharmacy and associated smaller retailers	Walkable areas with a variety of retailers
Competitive site acreage	40 - 100	10 - 40	25 - 80	3 - 5	Varies
Proximity to Arterial/Collector	Required	Required	Required	Preferred	Not Required
Access to signalized intersection	Required	Preferred	Preferred	Preferred	Not Required
Visibility/street presence	Required	Required	Required	Required	Preferred
On-site parking	Required	Required	Required	Required	Not Required

Source: Mackenzie, International Council of Shopping Centers

Mackenzie utilized these characteristics to evaluate the available retail commercial sites identified in Section II.

#### *Retail Suitability Assessment*

- Roughly 22% of the buildable commercial land is between 1 and 5 acres, while only about 4% of buildable commercial area is above 5 acres.
- In the CBD, there are a few redevelopable areas which may have competitive site acreage. The advantage with redevelopable land in the CBD is that on-site parking may not be necessary.

#### **Office**

##### *Office Park Preferred Site Characteristics*

Two subcategories of office parks include the following:

- Business/Administrative Services
- Speculative Office Park

Table 7 identifies preferred characteristics for each of these subcategories, based on Business Oregon’s Industrial Development Competitiveness Matrix included in Appendix A. In general terms, the requirements for a speculative development are stricter than for a known user since the developer of a speculative project needs to ensure that the site can accommodate a variety of users with varying demands.

<b>TABLE 7: OFFICE PARK PREFERRED SITE CHARACTERISTICS</b>		
<i>Factor</i>	<i>Business/ Administrative Services</i>	<i>Speculative Office Park</i>
Competitive site acreage	5 - 15+	5 - 20
Competitive maximum slope	0 - 12%	0 - 7%
Minimum water service diameter	4" - 6"	8" - 10"
Minimum sanitary sewer service diameter	6" - 8"	8" - 10"
Preferred natural gas service diameter	2"	4"
Minimum electrical service demand (megawatts)	0.5 MW	0.5-1 MW
Fiber optic communications	Required	Required

Source: Mackenzie, Business Oregon Industrial Development Competitive Matrix

*Office Park Suitability Assessment*

- There are few contiguous parcels under common ownership, which could hamper the opportunity for developers to assemble multiple smaller parcels into larger development sites.
- There are a handful parcels in commercially or Industrial Park (I-P) zoned areas which have acreage between 5 and 15 acres. Most of these parcels have adequate access to suitable water and sewer connections while not exceeding a maximum 10% slope.

**Industrial**

*Industrial Preferred Site Characteristics*

The following industrial subcategories are representative of user types which may be attracted to the City of Tigard given its location in the Metro region:

- Heavy Industrial/Manufacturing
- Food Processing
- Advanced Manufacturing and Assembly
- General Manufacturing
- Industrial Business Park and Research & Development Campus
- Local Warehouse/Distribution

Table 8 identifies preferred characteristics for each of these subcategories, based on Business Oregon’s Industrial Development Competitiveness Matrix included in Appendix A.

TABLE 8: INDUSTRIAL PREFERRED SITE CHARACTERISTICS						
Factor	Heavy Industrial/ Manufacturing	Food Processing	Advanced Manufacturing and Assembly	General Manufacturing	Industrial Business Park and R&D Campus	Local Warehouse/ Distribution
Competitive site acreage	10 - 100+	5 - 25+	5 - 25+	5 - 15+	20 - 100+	10 - 25+
Competitive maximum slope	0 - 5%	0 - 5%	0 - 7%	0 - 5%	0 - 7%	0 - 5%
Railroad Access	Preferred	Preferred	Not Required	Preferred	Preferred	Preferred
Minimum water service diameter	8" - 12"	12"-16"	8" - 12"	6" - 10"	8" - 12"	4" - 6"
Minimum sanitary sewer service diameter	6" - 8"	10"-12"	10"-12"	6" - 8"	10"-12"	4"
Preferred natural gas service diameter	4" - 6"	4"	6"	4"	6"	2"
Minimum electrical service demand (megawatts)	2 MW	2-6 MW	1 MW	0.5 MW	0.5 MW	1 MW
Fiber optic communications	Preferred	Preferred	Required	Preferred	Required	Preferred

Source: Mackenzie, Business Oregon Industrial Development Competitive Matrix

### Industrial Suitability Assessment

- Some of the buildable industrial land has slopes between 10 and 25%, which could limit the types of development that occur on those sites (e.g., these sites could accommodate a multi-story office building but not typical industrial users that need large, flat sites for single-level floor plates).
- Water, sanitary sewer, and storm drainage pipes generally appear adequate for additional industrial development (note that there may be a need for system-wide improvements identified in utility master plans, but analysis of those plans is beyond the scope of this project).
- In the industrial zones (I-P, I-L, and I-H) there are no sites exceeding 10 acres, but there are four sites between five and ten acres which is the lower end of competitive acreage for Food Processing, Advanced Manufacturing and Assembly, and General Manufacturing as noted in Table 8.

### Site Suitability Observations

While the above analysis compares Tigard’s buildable employment lands to preferred site characteristics for retail, office park, and industrial uses, Mackenzie has also performed a more qualitative assessment of allowable uses and standards specified in the Community Development Code. Commentary from this evaluation is outlined below.

## ***Commercial***

Based on the range of allowable commercial use categories, the C-G and MU-CBD zones would be most attractive to commercial developers, while C-N, C-C, MUR-1, and MUR-2 would be least attractive to traditional commercial developers (though MUR-1 and MUR-2 would retain some attractiveness for mixed use developers). The other commercial zones (C-P, MUE, MUC-1, MUC, MUE-1, MUE-2, TMU) are roughly equivalent in the number of uses they allow, and fall within the middle of the range.<sup>4</sup>

## ***Industrial***

The I-H zone is the most permissive for industrial uses, while the I-P zone is the most restrictive. As a result, the I-H zone may be the most attractive to speculative industrial developers, while the I-P zone would be the least attractive, particularly due to its prohibition on General Industrial and Warehouse/Freight Movement uses. By contrast, for industrial users that may not wish to be located near heavy industrial uses, then the I-P and I-L zones may be more attractive. The I-P zone would also be attractive to commercial users since it allows office, entertainment, and some retail uses.

## ***Developer Comments***

The following comments represent feedback typical of commercial and industrial clients as provided to Mackenzie in the course of work throughout the region.

- *Parking standards*

Developers would prefer more flexibility on setting parking ratios based on their understanding of market dynamics, rather than tied to strict standards detailed in the Community Development Code. Some users may wish to provide fewer spaces than the minimum allowable ratio and other users may wish to provide more spaces than the maximum allowable ratio. While the maximum ratios have been established pursuant to Metro's Regional Transportation Functional Plan, they have the side effect of making sites within Metro boundaries less attractive to some users compared to sites outside Metro.
- *Minimum landscape percentage*

Metro area jurisdictions typically specify minimum landscape areas of 15% of the site for commercial and industrial zones. Tigard largely aligns with that trend, with a few exceptions, namely the I-P zone which requires 25% landscaping (with the option for 20% if certain conditions are met) and the MUE, MUE-2, MUR-1, and MUR-2 zones which require 20% landscaping.<sup>5</sup> Some developers may choose to locate elsewhere rather than purchase and develop sites requiring over 15% landscaping.
- *Urban forestry and canopy requirements*

Tigard's urban forestry standards demonstrate a level of commitment to providing and maintaining the urban forest, as recognized by the Arbor Day Foundation for 20 years with the designation of Tigard as a Tree City USA community. However, as a result of stricter canopy standards (e.g., 30% parking lot coverage, 33% site coverage for most employment zones, and

---

<sup>4</sup> Given the size of the community, having thirteen separate commercial zones may be more than needed and would certainly complicate site selectors' ability to narrow in on specific zones to target for development.

<sup>5</sup> For the purposes of discussion, this report does not detail those plan districts which may allow lower landscape percentages.

25% site coverage for MU-CBD, MUC-1, I-L, and I-H zones) some industrial developers may avoid Tigard sites due to concerns about the cost of installing trees or concerns that the required tree canopy will interfere with vehicle movement (especially for large trucks).

### ***Sites Most Likely to Advance the Economic Development Objectives***

Finally, in general terms, the types of sites most likely to advance the study's Economic Development Objectives are those that fall within several general categories:

- Sites with flexible development standards with respect to allowable uses, parking ratios, and landscape minimum area;
- Sites located in areas with fully-improved transportation facilities and public utilities that do not require significant investments by the developer;
- Sites with proximity to transit and existing public amenities that can draw employees; or
- Sites within reasonable distance of housing to increase transportation options for employees.

Furthermore, to the extent that the City can provide incentives rather than additional development regulations, those approaches are more likely to be well-received by developers and job creators.

APPENDIX A

**BUSINESS OREGON  
INDUSTRIAL  
DEVELOPMENT  
COMPETITIVENESS  
MATRIX**

*Source: Mackenzie,  
Business Oregon*

PROFILE		Production Manufacturing		Value-Added Manufacturing and Assembly		Light / Flex Industrial			Warehousing & Distribution		Specialized				
		A	B	C	D	E	F	G	I	H	J	K	L		
		Heavy Industrial / Manufacturing	High-Tech / Clean-Tech Manufacturing	Food Processing	Advanced Manufacturing & Assembly	General Manufacturing	Industrial Business Park and R&D Campus	Business / Admin Services	Regional Warehouse / Distribution	Local Warehouse / Distribution	UVA Manufacturing / Research	Data Center	Rural Industrial		
CRITERIA															
1	<b>GENERAL REQUIREMENTS</b>		Use is permitted outright, located in UGB or equivalent and outside flood plain; and site (NCDA) does not contain contaminants, wetlands, protected species, or cultural resources or has mitigation plan(s) that can be implemented in 180 days or less.												
PHYSICAL SITE															
2	TOTAL SITE SIZE**	Competitive Acreage*	10 - 100+	5 - 100+	5 - 25+	5 - 25+	5 - 15+	20 - 100+	5 - 15+	20 - 100+	10 - 25+	10 - 25+	10 - 25+	5 - 25+	
3	COMPETITIVE SLOPE:	Maximum Slope	0 to 5%	0 to 5%	0 to 5%	0 to 7%	0 to 5%	0 to 7%	0 to 12%	0 to 5%	0 to 5%	0 to 7%	0 to 7%	0 to 5%	
TRANSPORTATION															
5	TRIP GENERATION:	Average Daily Trips per Acre	40 to 60 (ADT / acre)	40 to 60 (ADT / acre)	50 to 60 (ADT / acre)	40 to 60 (ADT / acre)	40 to 50 (ADT / acre)	60 to 150 (ADT / acre)	170 to 180 (ADT / acre)	40 to 80 (ADT / acre)	40 to 80 (ADT / acre)	40 to 80 (ADT / acre)	20 to 30 (ADT / acre)	40 to 50 (ADT / acre)	
6	MILES TO INTERSTATE OR OTHER PRINCIPAL ARTERIAL:	Miles	w/ in 10	w/ in 10	w/ in 30	w/ in 15	w/ in 20	N/A	N/A	w/ in 5 (only interstate or equivalent)	w/ in 5 (only interstate or equivalent)	N/A	w/ in 30	N/A	
7	RAILROAD ACCESS:	Dependency	Preferred	Preferred	Preferred	Not Required	Preferred	Preferred	Not Required	Preferred	Preferred	Not Required	Avoid	N/A	
8	PROXIMITY TO MARINE PORT:	Dependency	Preferred	Preferred	Preferred	Not Required	Preferred	Preferred	Not Required	Preferred	Preferred	Not Required	Not Required	N/A	
9	PROXIMITY TO REGIONAL COMMERCIAL AIRPORT:	Dependency	Preferred	Competitive	Preferred	Competitive	Preferred	Required	Preferred	Preferred	Preferred	Preferred	Competitive	N/A	
		Distance (Miles)	w/ in 60	w/ in 60	w/ in 60	w/ in 30	w/ in 60	w/ in 30	w/ in 60	w/ in 60	w/ in 60	w/ in 60	w/ in 30	w/ in 60	N/A
10	PROXIMITY TO INTERNATIONAL AIRPORT:	Dependency	Preferred	Competitive	Preferred	Competitive	Preferred	Competitive	Preferred	Preferred	Preferred	Competitive	Preferred	N/A	
		Distance (Miles)	w/ in 300	w/ in 300	w/ in 300	w/ in 100	w/ in 300	w/ in 100	w/ in 300	w/ in 300	w/ in 300	w/ in 300	w/ in 100	w/ in 300	N/A
UTILITIES															
11	WATER:	Min. Line Size (Inches/Dmtr)	8" - 12"	12" - 16"	12" - 16"	8" - 12"	6" - 10"	8" - 12"	4" - 6"	4" - 8"	4" - 6"	4" - 8"	16"	4" - 8"	
		Min. Fire Line Size (Inches/Dmtr)	10" - 12"	12" - 18"	10" - 12"	10" - 12"	8" - 10"	8" - 12"	6" - 10"	10" - 12"	6" - 8"	6" - 10"	10"-12"	6" (or alternate source)	
		High Pressure Water Dependency	Preferred	Required	Required	Preferred	Not Required	Preferred	Not Required	Not Required	Not Required	Not Required	Not Required	Required	Not Required
		Flow Gallons per Day per Acre	1600 (GPD / Acre)	5200 (GPD / Acre)	3150 (GPD / Acre)	2700 (GPD / Acre)	1850 (GPD / Acre)	2450 (GPD / Acre)	1600 (GPD / Acre)	500 (GPD / Acre)	500 (GPD / Acre)	1600 (GPD / Acre)	50-200 (Gallons per MWh) †	1200 (GPD / Acre)	
12	SEWER:	Min. Service Line Size (Inches/Dmtr)	6" - 8"	12" - 18"	10" - 12"	10" - 12"	6" - 8"	10" - 12"	6" - 8"	4"	4"	6"	8"-10"	4" - 6" (or on-site source)	
		Flow (Gallons per Day per Acre)	1500 (GPD / Acre)	4700 (GPD / Acre)	2600 (GPD / Acre)	2500 (GPD / Acre)	1700 (GPD / Acre)	2000 (GPD / Acre)	1600 (GPD / Acre)	500 (GPD / Acre)	500 (GPD / Acre)	1300 (GPD / Acre)	1000 (GPD / Acre) ‡	1000 (GPD / Acre)	
13	NATURAL GAS:	Preferred Min. Service Line Size (Inches/Dmtr)	4" - 6"	6"	4"	6"	4"	6"	2"	2"	2"	2"	4"	N/A	
		On Site	Competitive	Competitive	Preferred	Competitive	Competitive	Competitive	Preferred	Preferred	Preferred	Preferred	Preferred	Preferred	
14	ELECTRICITY:	Minimum Service Demand	2 MW	4-6 MW	2-6 MW	1 MW	0.5 MW	0.5 MW	0.5 MW	1 MW	1 MW	0.5 MW	5-25 MW	1 MW	
		Close Proximity to Substation	Competitive	Competitive	Not Required	Competitive	Preferred	Competitive	Preferred	Not Required	Not Required	Not Required	Not Required	Required, could be on site	Not Required
		Redundancy Dependency	Required	Preferred	Not Required	Required	Not Required	Competitive	Required	Not Required	Not Required	Not Required	Not Required	Required	Not Required
15	TELECOMMUNICATIONS:	Major Communications Dependency	Preferred	Required	Preferred	Required	Required	Required	Required	Preferred	Preferred	Required	Required	Preferred	
		Route Diversity Dependency	Not Required	Required	Not Required	Required	Not Required	Preferred	Required	Not Required	Not Required	Not Required	Required	Not Required	
		Fiber Optic Dependency	Preferred	Required	Preferred	Required	Preferred	Required	Required	Preferred	Preferred	Required	Required	Not Required	
16	SPECIAL CONSIDERATIONS:	Adequate distance from sensitive land uses (residential, parks, large retail centers) necessary. High throughput of materials. Large yard spaces and/or buffering required. Often transportation related requiring marine/rail links.	Acreage allotment includes expansion space (often an exercisable option). Very high utility demands in one or more areas common. Sensitive to vibration from nearby uses.	May require high volume/supply of water and sanitary sewer treatment. Often needs substantial storage/yard space for input storage. Onsite water pre-treatment needed in many instances.	Surrounding environment of great concern (vibration, noise, air quality, etc.). Increased setbacks may be required. Onsite utility service areas. Avoid sites close to wastewater treatment plants, landfills, sewage lagoons, and similar land uses. Lower demands for water and sewer treatment than Production High-Tech Manufacturing.	Adequate distance from sensitive land uses (residential, parks) necessary. Moderate demand for water and sewer. Higher demand for electricity, gas, and telecom.	High diversity of facilities within business parks. R&D facilities benefit from close proximity to higher education facilities. Moderate demand on all infrastructure systems.	Relatively higher parking ratios may be necessary. Will be very sensitive to labor force and the location of other similar centers in the region. High reliance on telecom infrastructure.	Transportation routing and proximity to/from major highways is crucial. Expansion options required. Truck staging requirements mandatory. Minimal route obstructions between the site and interstate highway such as rail crossings, drawbridges, school zones, or similar obstacles.	Transportation infrastructure such as roads and bridges to/from major highways is most competitive factor.	Must be located within or near FAA-regulated UAV testing sites. Moderate utility demands. Low reliance on transportation infrastructure.	Larger sites may be needed. The 25 acre site requirement represents the more typical site. Power delivery, water supply, and security are critical. Surrounding environment (vibration, air quality, etc.) is crucial. May require high volume/supply of water and sanitary sewer treatment.	Located in more remote locations in the state. Usually without direct access (within 50 miles) of Interstate or City of more than 50,000 people.		

Mackenzie; Business Oregon

Terms:

<p>More Critical</p> <p>↑</p> <p>Less Critical</p>	'Required' factors are seen as mandatory in a vast majority of cases and have become industry standards
	'Competitive' significantly increases marketability and is <i>highly recommended by Business Oregon</i> . May also be linked to financing in order to enhance the potential reuse of the asset in case of default.
	'Preferred' increases the feasibility of the subject property and its future reuse. Other factors may, however, prove more critical.
* Competitive Acreage: Acreage that would meet the site selection requirements of the majority of industries in this sector.	
**Total Site: Building footprint, including buffers, setbacks, parking, mitigation, and expansion space	
† Data Center Water Requirements: Water requirement is reported as gallons per MWh to more closely align with the Data Center industry standard reporting of Water Usage Effectiveness (WUE).	
‡ Data Center Sewer Requirements: Sewer requirement is reported as 200% of the domestic usage at the Data Center facility. Water and sewer requirements for Data Centers are highly variable based on new technologies and should be reviewed on a case-by-case basis for specific development requirements.	



**MEMORANDUM**

**Tigard Economic Opportunities Analysis**

**Land Use Feasibility Analysis**

Date: 4/18/2022  
 To: Hope Pollard, City of Tigard  
 From: Jerry Johnson & Brendan Buckley, Johnson Economics  
 CC: Lloyd Purdy, City of Tigard

**TIGARD MADE: PHASE II RECOMMENDATIONS**

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**I. INTRODUCTION**

As part of the Tigard MADE project, the City is considering a range of potential revisions to the development code and zoning map to reflect the findings of the analysis and a new vision for how the City’s main employment zones will function. Phase II of this project has involved analysis of proposed code language and standards, as well as development feasibility analysis to determine how these potential changes might impact future development in these zones.

This memo is intended to address several specific remaining topic areas that will assist the City in finalizing its proposed code standards. This memo offers some recommendations arising from the Phase II analysis on these topics, which include:

- Development incentive program and structure



- Standards for secondary uses and mixed uses
- Location and standards for warehouse and distribution
- Suggested zone boundary changes

## **II. INCENTIVE PROGRAM**

Draft code language for a program has been drafted by the City that lays out a number of incentives for development, that they can earn in return for providing a wide variety of community benefits with their project.

In general, the incentives are designed to offer the developer greater flexibility in how they design their project, by adjusting the normal code standards to allow greater density, height, less parking, and other enticements. To earn these incentives, the developer would choose from a number of community benefits to provide, each with a point value that allows the developer to earn a certain level of incentive, from low to high. The following discussion addresses the proposed development incentives, and then the public benefits.

### **A. Development Incentives**

The following table presents the draft code language for incentives in a newly designed section 18.460.040 of the Tigard development code. This language is preliminary and in very rough draft but is an indicator of the types of incentive structure being considered. This section discusses these preliminary options and provides feedback on how effective they are likely to be, given the analysis of this project.

The proposed incentives take a unique approach towards incentives in two main ways:

- 1) The code sets up a set of development standards that might be considered tight or restrictive to what the developer might want to propose as the most profitable use and building form they would like to build. Then the code proposes an incentive structure that provides flexibility to build a product more reflective of the market, in return for providing some community benefits.
- 2) The community benefits provided by the development project are given a score, which are applied to different levels of incentive.

The following table summarizes the draft incentive options and provides notes. This is followed by additional discussion and recommendations for a revised incentive structure.



Code Chapter 18.060.040 Language	Strength of Incentive	Notes/ Recommendation
<b>Tier 1: Low Threshold (5 points)</b>		
<p>1. A reduction of the minimum street side setback by five feet.</p> <p>a. If lot coverage also needs to be increased, that will require additional points.</p> <p>2. An increase in the maximum street side setback by five feet.</p> <p>a. Must provide a <b>landscaping- or pedestrian- focused incentive</b>.</p> <p>3. A reduction in upper-story floor plate coverage by 15 percent.</p> <p>a. May be repeated only up to 50 percent for one floor.</p> <p>b. Additional floors reduced by up to 50 percent require additional points.</p>	<p>Low</p> <p>Low</p> <p>No</p>	<p>Setback flexibility is not expected to be a strong incentive for developers in general. However, in cases where it solves a specific site planning issue, the trade-off with a lower-cost community benefit should be worth it.</p> <p>A reduction in setback would apply to industrial use, as commercial has no minimum in CG or MUE zone. Increase could apply to either.</p> <p>Once a second floor plate is included, there will be little or no incentive to reduce it to less than the ground floor, as this will not save development cost and may well increase it. Eliminating the second floor altogether is a much stronger incentive. Recommend removing this incentive.</p>
<b>Tier 2: Med Threshold (10 points)</b>		
<p>1. An increase in the maximum allowed height by 1 story.</p> <p>2. A decrease in the minimum required height by 1 story.</p>	<p>High (eventually)</p> <p>High</p>	<p>A change in height (measured in stories) is expected to be a strong incentive. In the current market, analysis points to little incentive to <i>*increase*</i> the number of stories, however in some locations over a planning period of 20-years, this should become an incentive as development gets denser. Recommend keeping this as a forward-looking incentive.</p> <p>A <i>*decrease*</i> in story height (from two stories where required, to a single story) is expected to be a strong incentive currently for many commercial uses (see further discussion after this table).</p>



<p>3. A decrease in the required window coverage of 5 percent. Allowed only above the first story.</p> <p>4. A reduction in required parking by 5 percent.</p> <p>a. Must provide an <b>alternative-transportation</b>-focused incentive.</p>	<p>No</p> <p>Med</p>	<p>This is expected to be a very weak incentive. A 5% change in glazing will not be seen as significant enough to induce community benefits. Recommend removing this incentive or considering a more significant reduction of at least 10%.</p> <p>A reduction in parking requirements can be a strong incentive when the required minimum is higher than what the market would typically provide. This is often the case for multi-family development, where developers can often achieve greater density in units by reducing their parking ratio. They will still resist reducing to a level that makes their units unmarketable. Commercial users, such as office, and especially retail, want ample parking for their users, and reduction is a weak incentive for them, unless the minimum required is very high, which isn't the case in Tigard's employment zones. A dual structure that allows reduction for residential/mixed use but increase for commercial might be most effective. Furthermore, an increase from 5% alteration to 10% will likely be more effective (see further discussion after this table).</p>
<p><b>Tier 3: High Threshold (15 points)</b></p>		
<p><b>For ped and bike improvements</b></p>		
<p>1. Expansion beyond the allowed square footage of a use listed as Restricted in Table 18.X.</p> <p>2. Allowance of a use listed as Restricted in Table 18.X, which is not allowed unless a benefit is provided.</p>	<p>Med</p> <p>High</p>	<p>This might be a strong incentive depending on the restricted use. The danger is incentivizing uses that the City actually does want to limit in those zones. Unclear why this is in return for ped and bike improvements. Is there a nexus? How to prioritize the types of community benefits to emphasize is ultimately a policy choice.</p>
<p><b>For eco-roof improvement</b></p>		
<p>1. An increase in lot coverage by 5 percent (allowed only with the provision of an eco-roof).</p> <p>a. If setback also needs to be adjusted, that will require additional points.</p> <p>b. Lot coverage can only be increased with the provision of an eco-roof.</p> <p>c. For every percentage the lot coverage is expanded beyond the gross square footage, the associated square footage must translate</p>	<p>Med</p>	<p>This is a good incentive with a strong nexus between the community benefit and incentive. As discussed in the following section the eco-roof is a high-cost addition, so the incentive needs to be commensurately high.</p> <p>The increase in lot coverage could be a strong incentive, except that Tigard currently has very generous lot coverage standards in its employment zones, typically greater than 80%. Outside of the</p>



<p>to eco-roof (i.e. 7 percent increase in lot coverage on a one-acre lot: reduces impermeable ground surface by 3049.2 square feet. Therefore, 3049.2 square feet of eco-roof must be provided).</p> <p>i. OR should it be lot coverage can be increased to 100% only with the provision of an eco-roof.</p>		<p>central urban core, there will be little incentive to exceed this lot coverage, even with multi-story buildings. To create an incentive out of increased site coverage, the current standards in employment zones would likely have to be reduced dramatically.</p>
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Findings on Proposed Incentives

- The Phase II feasibility analysis found that currently the strongest incentive for employment uses (retail, office, industrial) will be to allow for building of single-story structures in most cases/locations in the employment zones. There will likely be many multi-story structures as well, particularly professional office space as examples already exist through the Tigard Triangle and south of Triangle areas. However, retail and many types of industrial uses are almost exclusively single story. Multi-story retail is very rare outside of intentionally designed mall atmosphere, and upper floor retail can struggle even there due to lower foot-traffic and visibility. Many industrial uses are single-story due to the functioning and operations of the space; manufacturing products, storage, distribution, and other functions work best on a single floorplate for mobility and order of operations.
- Multi-family residential uses would be the “highest and best use” in most of the study area, where they are allowed, according to the feasibility analysis. This land use and development type would provide the greatest economic return and support the highest land value (i.e. residential developers would be willing to pay more for available sites than commercial or industrial developers.) Therefore, the feasibility analysis estimates that, all else being equal, residential use would “outcompete” other uses in the current market conditions. (For this reason, it is recommended that residential be limited to secondary uses, as discussed more in a following section.)
- The greatest incentives for residential will be different from most employment uses in the current market environment. The ability to build over two stories will be an incentive for residential development, as well as increasing allowed FAR, and reducing parking requirements. This will allow more units to be built in a given project. Currently, employment zones have no maximum FAR, and generous site coverage, so increasing these will not be an impactful incentive.



## Recommended Incentives

Based on the analysis conducted over the course of this project, the most effective incentives for employment uses will be those connected to providing flexibility in number of stories, and maximum parking. Residential, as a secondary use in mixed use buildings, would benefit from additional stories, and reduced parking.

An additional powerful incentive would be SDC waivers for employment uses. Based on the feasibility analysis, a reduction of the City's portion of SDC's can reduce overall construction costs by 2.5% to 5%. This reduction in costs increases the economic performance of the building, and makes the employment uses more competitive with residential uses in the employment zones.

We recommend incentives with the following basic structure, though parameters are flexible:

### **Tier 1: Low-Threshold Incentive (5 points)**

*[Our analysis is that the reduction of setbacks will not be a particularly strong incentive, though for some particular site design challenges it may be utilized. Our analysis does not point to any mild incentives that would be well suited for the low threshold, and few number of points. The incentives identified are likely to be commensurate with more points and greater community benefit. This section has been left here because it may provide an additional option that is utilized occasionally.]*

For every five points, the applicant may request...

1. A reduction of the minimum street side setback by five feet.
  - a. If lot coverage also needs to be increased, that will require additional points.
2. An increase in the maximum street side setback by five feet.
  - a. Must provide a **landscaping- or pedestrian- focused incentive**.
- ~~3. A reduction in upper story floor plate coverage by 15 percent.~~
  - ~~a. May be repeated only up to 50 percent for one floor.~~
  - ~~b. Additional floors reduced by up to 50 percent require additional points.~~

### **Tier 2: Medium-Threshold Incentive (20 points)**

*[We recommend medium threshold incentives tied to number of stories and parking requirements. We recommend increasing the point total needed to qualify for these incentives, as they have the potential to substantially improve the feasibility or profitability of a development. We recommend keeping the 2-story minimum but allowing a maximum of three stories. This will allow greater density in office and mixed-use buildings. As noted, the reduction in stories and increase in parking are likely to appeal to employment users, while an increase in stories and reduction in parking is likely to appeal to development that includes residential.]*

For every ten points, the applicant may request...

1. An increase in the maximum allowed height ~~by 1 story~~ (measured by stories).
2. A decrease in the minimum required height by 1 story.
- ~~3. A decrease in the required window coverage by 5 percent. Allowed only above the first story.~~
4. An increase in the maximum allowed parking by 10 percent.
  - a. Must provide an **alternative-transportation**-focused incentive.



5. A reduction in required parking by 10 percent.
  - a. Must provide an **alternative-transportation**-focused incentive.

### **Tier 3: High-Threshold Incentive (30 points)**

*[We recommend using SDC waivers as a high-threshold incentive. This would be for the City portion of SDC's (transportation, parks, water), but for a large commercial development this can be a substantial incentive. We recommend setting an upward bound for waiver amount of \$300,000 so that the incentive doesn't far outstrip the cost of providing the community benefit. We also include some recommendations on what types of benefits might qualify for this incentive, but City will discuss.]*

1. A reduction of City portion of System Development Charges, up to a maximum of \$300,000.
  - a. Project must include **a solar roof, eco-roof, energy co-generation, LEED certification, or vertical mixed uses of at least 3 stories.**
  - b. Project must *also* provide at least one **alternative-transportation**-focused incentive and one **pedestrian-focused incentive** to offset waived transportation and parks SDCs.

## **B. Community Benefits**

The following table presents the list of community benefits included in the draft code with the draft point system for earning incentives. The list has been resorted by estimated cost to provide those benefits, and the point system has been adjusted to reflect those costs such that the community benefits that are least costly for the developer to provide are awarded the fewest points, and the most expensive benefits are awarded the most points. The cost of benefits is estimated as rough order of magnitude, and not based on detailed costing of each.

Definitions of these benefits are provided in the draft code language which has been reviewed and edited in a separate document. This table simply presents a reordering of the benefits, and edited point system, meant to better correspond with the recommended incentive structure presented above.

- The community benefits are grouped into several categories reflecting community priorities. Other than ranking by the anticipated costs, the emphasis placed on these categories in their own right, and relative to each other is a public policy decision.
- The number of options offered will provide flexibility to developers which will be appreciated. Experience with other incentive programs is that over time, applicants may coalesce around a few of these options that provide the greatest return for lowest additional cost. This project has made an attempt to identify scale of cost beforehand, but the program should be monitored over time to track which options developers are choosing, if they are focused on a few to the inclusion of others, and whether or not that is meeting public objectives.



**Draft Code Chapter 18.460.050 Community Benefits: Points Awarded**

Sorted Order	Original Order (Draft)	Category	Developer Supplied Benefit	Est. Cost		Points (Draft)	Points (Recommended)
1	1	1) Sustainability	5% EV parking/charging spaces	\$	low	5	5
2	2	1) Sustainability	3% SEV parking/charging spaces	\$	low	5	5
3	3	1) Sustainability	Shared parking agreement resulting in fewer physical parking spaces	\$	low	5	5
4	7	1) Sustainability	Existing tree protection	\$	low	10	5
5	8	1) Sustainability	Enhanced site tree canopy coverage	\$	low	10	5
6	9	1) Sustainability	Enhanced parking lot tree canopy coverage	\$	low	20	5
7	1.5	1) Sustainability	<i>5% EV parking/charging spaces + 1 shared EV vehicle</i>	\$\$	med	10	10
8	2.5	1) Sustainability	<i>3% SEV parking/charging spaces + 1 shared SEV vehicle</i>	\$\$	med	10	10
9	5	1) Sustainability	Solar-covered parking	\$\$\$	high	5	15
10	4	1) Sustainability	Solar roof	\$\$\$\$	highest	5	30
11	6	1) Sustainability	Eco-roof	\$\$\$\$	highest	10	30
12	10	2) Green Building	Energy Trust: Early Design Assistance Meeting	\$	low	10	5
13	11	2) Green Building	Energy Trust: Energy Use Intensity (EUI) number and/or zero tool	\$\$\$	high	30	20
14	12	2) Green Building	LEED Gold or equivalent	\$\$\$	high	25	20
15	13	2) Green Building	LEED Platinum or equivalent	\$\$\$\$	highest	45	30
16	14	3) Resilience	Air conditioning in all residential units	\$\$\$	high	10	10
17	15	3) Resilience	Co-generation and storage of renewable power	\$\$\$\$	highest	15	30
18	16	4) Enhanced Ped. Experience	%1 Contribution to Public art Fund	\$	low	5	5
19	17	4) Enhanced Ped. Experience	Benches	\$	low	0.5	5
20	21	4) Enhanced Ped. Experience	Fill in trail gaps	\$	low	15	10
21	22	4) Enhanced Ped. Experience	Open space	\$	low	15	10
22	18	4) Enhanced Ped. Experience	Enhanced transit stops	\$\$	med	5	10
23	19	4) Enhanced Ped. Experience	Fill in sidewalk gaps	\$\$	med	15	15
24	20	4) Enhanced Ped. Experience	Fill in bike lane gaps	\$\$	med	15	15
25	23	5) Affordability	Mixed-income housing	\$\$	med	15	10
26	25	6) Emp. & Community Amenities	Mobility hub	\$\$	med	15	15



27	24	6) Emp. & Community Amenities	Community Services <a href="#">(?)</a>		???	10	
28	28	7) Density and Mixed Use	Residential above ground floor in C-G zone	\$\$	med	10	20
29	29	7) Density and Mixed Use	Redevelopment of existing parking lots	\$\$	med	10	10
30	30	7) Density and Mixed Use	Building in X part of the City <a href="#">(?)</a>	\$\$	???	10	
31	27	7) Density and Mixed Use	Vertical vs horizontal density <a href="#">(?)</a>	\$\$\$	high	10	
32	31	7) Density and Mixed Use	Building height in X part of the City	\$\$\$	high	10	
33	26	7) Density and Mixed Use	Structured parking	\$\$\$\$	highest	5	50



### III. STANDARDS FOR SECONDARY USES AND MIXED USES

The draft code language (revised Chapter 18.120, and 18.130) allows for some secondary uses in the employment zones, including secondary residential use in the CG and MUE zone, and secondary residential or commercial sales use in the light industrial (I-L) zone.

This project has considered how to define secondary uses and what standards to apply based on code review, site-needs and feasibility analysis. A key issue identified in the Phase I Tigard EOA is the dwindling supply of buildable employment land and need to use remaining sites wisely. The feasibility analysis found the following hierarchy of land use based on market returns to the developer:

- 1) Residential
- 2) Traditional retail
- 3) Office
- 4) Industrial

In a hypothetical zone where each of these uses is allowed outright, and all else being equal, one would expect a residential development to be the top bidder for land over the other uses, and retail over office, etc. (This is based on current market conditions and is subject to changing future real estate cycles.)

Therefore, in this situation, it makes sense to establish the primary uses in a zone and restrict other uses that are not envisioned as the primary use of the zone but may outcompete it if allowed outright. We recommend the following standards for secondary uses:

#### Definitions

**Vertical Mixed-Use:** A development containing two or more of the major categories of land use (Residential, Commercial Retail, Commercial Office, Industrial) located within the same building or at least two floors.

**Horizontal Mixed-Use:** A development containing two or more of the major categories of land use (Residential, Commercial Retail, Commercial Office, Industrial) all located on the same tax lot (or assembled adjacent lots being developed concurrently as part of a single planned development). May take the form of multiple single-use buildings, attached or detached from each other, and may be combined with some vertical mixed use in the same development.

**Secondary Use:** One or more of the major categories of land use (Residential, Commercial Retail, Commercial Office, Industrial) that is not the primary intended land use of the applicable zone. A secondary use may be conditionally permitted as part of a mixed-use development, if the development includes the primary intended land use of the zone, and the secondary use meets criteria specified in the code. A use identified as a secondary use may not be the sole use in a newly proposed development.

#### CG and MUE zone

1. Residential uses
  - a. CG:
    - i. A single detached house is allowed where it is located on the same site with an allowed, restricted, or conditional use and is occupied exclusively by a caretaker or superintendent of the allowed or



- conditional use.
- ii. Other residential uses are only allowed on or above the second story of a development where the first story is completely occupied by an allowed or restricted commercial, industrial, or civic primary use. Ground floor non-living space that primarily serves the residential uses, such as entryway, lobby, elevator, or any other common or mechanical space dedicated to the residential uses may not exceed 500 s.f. in area or 10% of the ground floor space whichever is less.
  - iii. Residential in the CG zone is allowed as a secondary use to an allowed or restricted commercial, industrial, or civic primary use as part of a horizontal mixed-use development. The primary use may be existing or developed concurrently with the secondary use. The total gross floor area of a secondary use in a horizontal mixed-use development, inclusive of any vertical mixed uses, is limited to 35% of the gross floor area of the total development.
- b. ~~Applicants may apply for an adjustment to allow residential on the first floor if employment already exists and will remain on site.~~ **MUE:**
- i. A single detached house is allowed where it is located on the same site with an allowed, restricted, or conditional use and is occupied exclusively by a caretaker or superintendent of the allowed or conditional use.
  - ii. Other residential uses are only allowed on or above the second story of a development where the first story is completely occupied by an allowed or restricted commercial, industrial, or civic primary use. Ground floor non-living space that primarily serves the residential uses, such as entryway, lobby, elevator, or any other common or mechanical space dedicated to the residential uses may not exceed 500 s.f. in area or 10% of the ground floor space whichever is less.
  - iii. Residential in the MUE zone is allowed as a secondary use to an allowed or restricted commercial, industrial, or civic primary use as part of a horizontal mixed-use development. The primary use may be existing or developed concurrently with the secondary use. The total gross floor area of a secondary use in a horizontal mixed-use development, inclusive of any vertical mixed uses, is limited to 35% of the gross floor area of the total development.
  - iv. ~~Residential in the MUE zone is allowed only as a secondary use to an allowed or restricted commercial, industrial, or civic primary use.~~

## I-L zone

1. Residential:
  - a. Residential is allowed only as a secondary use activity to an allowed or restricted industrial primary use as part of a vertical or horizontal mixed-use development. The primary use may be existing or developed concurrently with the secondary use. The total gross floor area of a residential secondary use in a mixed-use development is limited to 20% of the gross floor area of the total development.
  - b. A single detached house is allowed where it is located on the same site with an allowed or restricted industrial use and is occupied exclusively by a caretaker or superintendent of the industrial use.
  - c. ~~Other residential uses are only allowed on or above the second story of a development where the first story contains an allowed or restricted industrial use.~~
  - d. ~~Applicants may apply for an adjustment to allow residential on the first floor if employment already exists and will remain on site.~~
2. Commercial Sales and Services
  - a. Uses with drive-through services are prohibited.
  - b. Commercial Sales and Services is allowed only as a secondary or accessory use to an allowed or restricted industrial use.
  - c. The maximum allowed gross floor area for Commercial Sales and Services is 5,000 square feet per outlet. Additional outlets of Commercial Sales and Services may be authorized with the provision of community benefits totaling at least 30 points per Chapter 18.460, but the total area for all outlets shall not exceed



- 20,000 square feet within the same development project.
- d. The gross floor area for Commercial Sales and Services may not exceed 35% of the total gross floor area of the property.

#### **IV. STANDARDS FOR WAREHOUSE AND DISTRIBUTION**

The draft code language (revised Chapter 18.120, and 18.130) proposes changes to standards that are applied to warehouse and distribution uses in the commercial and industrial zones. Under current zoning, these uses are prohibited in commercial zones, and very restricted in the MUE zone. They are allowed in the I-L zone, and prohibited in the I-P zone.

Trends in the real estate market have led to the increasing development of increasingly large distribution and fulfillment facilities for the largest e-commerce retailers and big-box stores. Recently built facilities are feature hundreds of thousands or over one million square feet and consume tens or hundreds of acres of land. The findings of this project point to very limited remaining land in the industrial zones, while the City's identified economic development objectives call for emphasis on manufacturing, flex, and creative space that provides job density and living wages.

Because of this, the identified approach is to limit future development of distribution centers in the I-L and MUE zones, and instead allow them in the CG zone, limited to smaller facilities that serve a local need and growing "last mile" distribution sector, but will not accommodate the modern very large distribution facilities that Tigard no longer has the buildable sites to house near the major transportation corridors.

To achieve these goals, we recommend the following standards for warehouse and distribution facilities:

#### CG and MUE zone (18.120.030)

##### 11. Warehouse/Freight/Distribution

- a. Warehouse/freight/distribution is allowed as an accessory use to an allowed or restricted commercial or industrial use. The gross floor area of the accessory use may not exceed 50% of the total gross floor area of the property, or 10,000 square feet, whichever is smaller.
- b. As a non-accessory use, Warehouse/freight/distribution may not exceed 20,000 square feet in size and is allowed only with the provision of community benefits totaling at least 30 points per Chapter 18.460.
- c. A request to expand this use beyond 20,000 square feet will be considered through a discretionary Type II Site Development Review and will require provision of an additional 30-points worth of community benefits for every additional 20,000 square feet.

#### Industrial zones (18.130.030)

##### 6. Warehouse/Freight/Distribution

- a. Warehouse/freight/distribution is allowed as an accessory use to an allowed or restricted commercial or industrial use. The gross floor area of the accessory use may not exceed 50% of the total gross floor area of the property, or 20,000 square feet, whichever is smaller.



## V. SUGGESTIONS ON ZONE BOUNDARY CHANGES

One goal of this project is to consolidate the number of commercial and industrial zones into a smaller number of more flexible zones. This includes consideration of where the new zones might be located, as some zones are retired.

The City has produced a preliminary draft concept of how the zones might be simplified into a one main retail focused commercial zone (CG), two industrial zones (I-L and I-H), and one mixed employment zone (MUE) that would apply generally over most of the City. (The City also includes multiple special purpose zones in specific plan areas such as the Downtown and Triangle which will remain, and are outside the scope of this project.) In simplifying the zones, a number of other commercial and industrial zones would be consolidated into these newly revised zones.

The draft zoning concept (see next page) does a few main things:

- Maintains the CG zone along the retail-heavy Highway 99 corridor.
- Applies the MUE zone to areas that are currently zoned for industrial, in particular the replaced I-P zone, but also smaller areas that are currently zoned I-L or I-H, or with commercial zoning.

After reviewing the proposed draft zoning concept, the consulting team have few major recommendations.

- The notion to simplify and rezone areas is sound and should ease with administration and simplify the code for developers and employers. This project has revealed no strong reason to avoid this approach.
- The rezoning will likely have the effect of creating some non-conforming uses that no longer meet the standards of the new zone. As the rezoning plan is a long-term plan, the prospect of gradually transitioning from some existing land uses and development character to a new mix of uses and character may be desired, or at least an acceptable trade-off.
- One approach to limit non-conforming uses would be to apply the new generalized zones to areas where the existing uses and character seem to match the intention of the new zone (e.g. applying the revised CG zone to retail commercial areas, the revised I-L zone to manufacturing and light industrial areas, and the MUE zone to areas of mixed office and industrial employment.) The division of the current I-P zone may be the biggest challenge in that regard.
- Most of the area identified for rezoning, particularly to MUE, seems appropriate based on current uses and market considerations of location and adjacent uses. Exceptions are noted on the following map.
- We recommend that most of the highway corridor remain under C-G zone as it is largely built out, and highway retail will remain the strongest use along this corridor, based on market preferences.
- The two neighborhood centers in the western part of the city are proposed for MUE zoning. We recommend that they be considered for the CG zone instead. The CG zone already matches the shopping center at the corner of SW Barrows Road and SW Walnut Street. The parcel of employment land in River Terrace 1.0 was originally planned to be “commercial” and is currently zoned Community Commercial. Rezoning these areas to MUE may limit the size of commercial operations in these areas, including mid-sized grocery stores or other users that might be natural fit for these neighborhood-centric nodes.

The map on the following page notes a few comments to consider on the draft zoning concept. These comments mostly address the types of considerations listed above.



### Draft Zoning Concept with Comments

