GIG HARBOR

"THE MARITIME CITY"

COMMUNITY DEVELOPMENT

Agenda
Planning & Building Committee

Due to public health concerns, this meeting will be accessible to listen by using the information below:
Link: https://us06web.zoom.us/j/91881567826
Call-in: (253)215-8782
Meeting ID: 918 8156 7826

Monday, October 4, 2021
3:00 P.M. – 4:30 P.M.

3:00 p.m. - Call to order, roll call

Approval of Minutes: September 7, 2021

Agenda Items:

I. Downtown Waterfront Alliance Parking Study Results Discussion – Gary Glein DTWA
II. Pierce County 2044 "Population, Housing, and Employment Growth Targets" AHBL Working Document dated 9/1/21 – Councilmember Himes
III. Draft Pierce County Buildable Lands Report dated 8/31/21 – Councilmember Himes

Other Business

Next Meeting Monday, November 1, 2021

Adjournment

GIG HARBOR

"THE MARITIME CITY"

COMMUNITY DEVELOPMENT

DRAFT Minutes
Planning & Building Committee

Tuesday, September 7, 2021
3:00 P.M. – 4:30 P.M.

3:00 p.m. - Call to order, roll call Councilmember Himes; Councilmember Franich; Councilmember Markley; Mayor, Kit Kuhn; Principal Planner Carl deSimas; Building Official/Fire Marshal, Paul Rice; Community Development Director, Katrina Knutson & Planning Technician, Michelle Thomas

Approval of Minutes: Monday, August 2, 2021Motion Franich/Markley all in favor minutes approved as written

Agenda Items:

I. Short Term Rentals/VRBO – Committee Discussion
II. House Bill 1220 "Emergency Shelters and Housing- Local Planning and Development" – Director Katrina Knutson
III. Growth Discussion – Committee Discussion

Other Business

Next Meeting Monday, October 4, 2021

Adjournment Motion Franich/Markley all in favor meeting adjourned at 5:20

Pierce County 2044
Population, Housing, and Employment Growth Targets

Introduction

Washington's Growth Management Act (GMA) sets the framework for regional and local planning to achieve shared goals. The Act requires the four counties that make up the Puget Sound Region; Pierce King, Snohomish, and Kitsap County, to 'fully plan' under the GMA. Each of the Puget Sound counties and their individual jurisdictions must take action to review and, if needed, revise their comprehensive plans and development regulations on or before June 30, 2024. (RCW 36.70A.215.) To help guide the review and update of these comprehensive plans the Puget Sound Regional Council developed VISION 2050 – A Plan for the Central Puget Sound Region.

VISION 2050 was adopted by the Puget Sound Regional Council in October 2020. VISION 2050 is a long-term plan for growth in the Puget Sound region through to the year 2050 where the region's population is forecasted to reach 5.8 million people. The plan provides a framework for how and where development will occur and how the region supports efforts to manage this growth. Under the Growth Management Act each county, in consultation with its jurisdictions, is responsible for adopting 20-year growth targets. For Pierce County this includes each of the individual cities and towns, unincorporated urban, and rural Pierce County. VISION 2050's Regional Growth Strategy provides regional guidance for the allocation of the projected population and employment growth among each of the four counties in the Puget Sound region.

The formulation of the preliminary 20-year population, housing, and employment growth targets has been generated through countywide collaborations between Pierce County and each of its jurisdictions. Once the growth projections are adopted the County and cities are required to use them in their comprehensive planning process. The adopted growth targets are used by the jurisdictions to inform land use, transportation, and capital facilities in their comprehensive plans. Each jurisdiction must ensure there is sufficient capacity of land suitable for development within their jurisdiction to accommodate the allocated housing and employment growth. (RCW 36.70A.115).

This report provides details on the background and methodology of the growth target setting process that was used by the County to reach the recommended growth targets presented to the Pierce County Regional Council. The report also provides further detail and analysis on the growth targets in each of the Regional Geographies covered in VISION 2050. Attached in the appendix is a series of supporting documents from individual jurisdictions that were voluntarily submitted to support their proposed growth targets.

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Background

Pierce County and its cities and towns have allocated 20-year population, housing and employment growth targets on four previous planning cycles. These growth targets encompassed the 20-year time frames of 1992-2012, 1997-2017, 2002-2022, and most recently 2010-2030. The planning cycle for the next allocated 20-year growth targets will be 2024-2044. This cycle aligns with the June 30, 2024 deadline for Pierce County's cities and towns to update their comprehensive plans, and the 20-year planning horizon beyond this date.

For the next Growth Management Act periodic update Pierce County contracted the services of AHBL, Inc. to assist with the process of setting population, housing and employment growth targets for the year 2044. AHBL has been tasked with facilitating the collaborative process between the County and each of its jurisdictions. The process has involved a series of meetings and extensive discussions with the Pierce County Growth Management Coordinating Committee (GMCC) which has been divided into sub-committees based on the "Regional Geographies" identified in VISION 2050. When required, additional individual assistance and discussions has also been offered to representatives from jurisdictions within the County to develop the preliminary population, housing, and employment growth targets for their respective community.

Pierce County uses VISION 2050's Regional Growth Strategy for the distribution of population and employment growth to each of its jurisdictions. VISION 2050 directs the Puget Sound Regional Council (PSRC) to work with its counties and individual jurisdictions to provide guidance and support the countywide efforts to set growth targets. This is specified in Regional Growth Strategy Action 3 which states:

> ***Growth Targets:*** *PSRC, together with its member jurisdictions, will provide guidance and participate with countywide processes that set or modify local housing and employment targets. This effort will include consideration of the timing of Regional Growth Strategy implementation in relation to anticipated completion of regional transit investments and corresponding market responses. PSRC will also provide guidance on growth targets for designated regional centers and improving jobs-housing balance, and coordinate with member jurisdictions regarding buildable lands reporting.*

AHBL and Pierce County staff have coordinated with PSRC staff in the development of the population, housing and employment growth target setting process for the County. PSRC has provided guidance in the data assumptions and methodology used in the target setting process to ensure there is consistency in the implementation of the VISION 2050 Regional Growth Strategy in each of the region's four counties. The methodology used in the growth target setting process is described in the following section.

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Methodology

In VISION 2050's Regional Growth Strategy the region's landscape has been divided into nine types of geographies:

1) Metropolitan Cities
2) Core Cities
3) High Capacity Transit Communities
4) Cities and Towns
5) Urban Incorporated Areas
6) Rural Areas
7) Natural Resources Lands
8) Major Military Installations
9) Indian Reservation Lands

The Regional Growth Strategy distributes forecasted regional growth to these geographies but excludes Natural Resources Lands, Major Military Installations, and Indian Reserve Lands. To implement the Regional Growth Strategy AHBL staff have been coordinating discussions with sub-committees of the Pierce County Growth Management Coordinating Committee (GMCC) organized to align with the Regional Geographies as specified in VISION 2050. These subcommittees include representatives from the following communities in Pierce County:

Metropolitan Cities

- Tacoma – Shirley Shultz, Development Services

Core Cities

- Auburn – Jeff Dixon, Planning Services Manager
- Lakewood – David Bugher, Long Range & Strategic Planning Manager
- Puyallup – Katie Baker, Planning Manager
- University Place – David Swindale, Planning & Development Services Director; Kevin Briske, Principal Planner

High Capacity Transit Communities

- DuPont – Barb Kincaid, Community Development Director
- Fife – Chris Larson, Senior Planner
- Fircrest – Angelie Stahlnecker, Planning & Building Administrator
- Sumner – Ryan Windish, Community Development Director
- Mid-County Community Plan Area – Jessica Gwilt, Senior Planner
- Parkland-Spanaway-Midland Community Plan Area - Jessica Gwilt, Senior Planner
- South Hill Community Plan Area - Jessica Gwilt, Senior Planner

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Cities and Towns

- Bonney Lake – Jason Sullivan, Planning and Building Supervisor
- Buckley – Evan Lewis, Associate Planner
- Carbonado – Emily Terrell, Principal Planner
- Eatonville – Abbi Gribi, Town Administrator
- Edgewood – Darren Groth, Community and Economic Development Director
- Gig Harbor – Carl De Simas, Senior Planner
- Milton – Brittany Port, Contract Senior Planner
- Orting – Emily Adams, City Planner
- Pacific – Jack Dodge, Community Development Manager
- Roy – Elected not to participate
- Ruston – Elected not to participate
- South Prairie – Emily Terrell, Principal Planner
- Steilacoom- Doug Fortner, Town Planner
- Wilkeson – Emily Terrell, Principal Planner

Urban Unincorporated Areas

- Pierce County Urban Unincorporated Areas- Jessica Gwilt, Senior Planner

Rural

- Pierce County Rural- Jessica Gwilt, Senior Planner

AHBL has hosted several meetings with each regional geography to discuss their housing, population and employment growth targets and identify preliminary growth targets for each community that fit within each Regional Geography's population and employment allocation for 2044. The allocated population and employment growth targets for the County as a whole and for each of the Regional Geographies was calculated using data provided by PSRC and the Washington Office of Financial Management. A summary of each of the growth target methodologies is described below.

Population growth targets were calculated using the Office of Financial Management (OFM) for the base year of 2020 and comparing this to the Puget Sound Regional Council (PSRC) Regional Macroeconomic Forecast (RMF) for the year 2044. The total population growth for the four-county region is then distributed using the VISION 2050 growth share allocation percentages.

Table 1: VISION 2050 Regional Growth Strategy Population Growth Share of RMF 2020-2044

County	OFM 2020 Estimated Population (April 1, 2020)	Draft PSRC VISION 2050 Growth Share Percentage (Preferred Alternative)	2020-2044 Growth Share	2044 Population
King County	2,260,800	50%	630,437	2,891,237

Kitsap County	272,200	5%	63,044	335,244
Pierce County	**900,700**	**21%**	**264,784**	**1,165,484**
Snohomish County	830,500	24%	302,610	1,133,110
Total	**4,264,200**	**100%**	**1,260,874**	**5,525,074**

The RMF total population forecast for the four-county region for 2044 is 5,525,074. Subtracting out the base year population provided by the OFM the growth in population for the region is forecasted to be 1,260,874. VISION 2050 allocates Pierce County 21% of this growth (264,784) which is further disaggregated using the VISION 2050 growth share percentages for each of the Regional Geographies.

Table 2: 2044 Population Growth Allocation by PSRC VISION 2050 Regional Geographies

VISION 2050 Regional Geography Category	Draft PRSC Vision 2050 Growth Percentage (Preferred Alternative):	2020-2044 Pierce County Population Growth Share (Medium) by Draft PRSC VISION 2050 Growth Allocation Percentage
Metropolitan Cities	38%	100,618
Core Cities	23%	60,900
High Capacity Transit Communities	21%	55,605
Cities & Towns	7%	18,535
Urban Unincorporated Areas	8%	21,183
Rural	3%	7,944
Total	**100%**	**264,784**

Housing Units Growth Targets were calculated for each community one of two ways:

1. **Housing Unit Growth Targets Calculated From Population Growth Targets:** For the majority of jurisdictions, housing unit growth targets were **calculated** by dividing the draft population growth targets by each community's average persons per household (PPHH) for the year 2020 (as calculated using the OFM Small Area Estimates Program estimates for household population and occupied housing units). Household population is calculated in the Small Area Estimates Program by removing group quarters from the total population for a jurisdiction/area. Occupied housing units incorporated a vacancy rate for the jurisdiction. Average PPHH is calculated by dividing household population by occupied housing units. The population growth targets are then divided by their average PPHH to get housing unit growth targets. This methodology was applied to all of the regional geographies with the exception of the Cities and Towns regional geography.
2. **Housing Unit Growth Targets Provided to Staff by the Jurisdiction:** Housing unit growth targets for the Cities and Towns regional geography were dealt with differently as the group identified that they foresee their household sizes decreasing over the planning horizon, which is also affirmed by PSRC in VISION 2050 which projects that household sizes in Pierce County will

decline from 2.50 persons per household (PPHH) in 2017, to 2.38 PPHH in 2044. The Cities and Towns group wanted to use a reduced PPHH to adjust their existing population downwards, in order to accommodate additional population growth over the 24 year planning horizon. As such, each community **provided** to staff their projected housing unit growth and a reduced persons per household (or staff calculated this based on the reduction projected by PSRC), which was used to calculate their population growth targets. An example of how this methodology was used for the City of Bonney Lake illustrates how the City's provided housing unit growth targets and a reduced PPHH was used to calculate the City's population growth target:

City of Bonney Lake Housing Unit Growth Target to Population Growth Target Calculation	
2020 Population (OFM)	*21,390*
2020 Housing Units (OFM)	*7,581*
2020 Average Persons Per Household (OFM)	*2.94*
2044 Average Persons Per Household ***(Provided by City)***	*2.50*
2044 Existing Housing Unit Population	*7,581 x 2.50 = 18,953*
Difference between 2020 Population and 2044 Existing Housing Unit Population	*-2,438*
2020-2044 Additional Housing Units, i.e. Housing Unit Growth Target ***(Provided by City)***	*3,000*
2020-2044 Additional Housing Unit Population	*3,000 x 2.50 = 7,500*
2044 Total Population (Existing Housing Unit Population + Additional Housing Unit Population)	*18,953 + 7,500 = 26,453*
2020-2044 Population Growth (2044 Total Population – 2020 Population)	*26,453 – 21,390 = 5,063*
2044 Population Growth Target	*5,063*

Employment Growth Targets are calculated using PSRC's total employment estimate for each of the four counties in the region for the year 2019 and comparing this to the PSRC Regional Macroeconomic Forecast for 2044 estimated total employment for the region. The total employment growth for the four-county region is then distributed using the VISION 2050 growth share allocation percentages.

Table 3: VISION 2050 Regional Growth Strategy Employment Growth Share of RMF 2019-2044

County	PSRC 2019 Total Employment Estimates	2019-2044 Growth Share Percentage (VISION 2050 Preferred Alternative)	2019-2044 Growth Share of PSRC 2044 Regional Macroeconomic Total Employment Forecast	2044 Total Employment
King County	1,529,421	59%	521,827	2,051,248
Kitsap County	99,880	5%	44,223	144,103
Pierce County	**345,223**	**17%**	**150,357**	**495,580**
Snohomish County	321,084	19%	168,046	489,130
Total	**2,295,608**	**100%**	**1,260,874**	**3,180,060**

The RMF total employment forecast for the four-county region for 2044 is 3,180,060. Subtracting out the base year employment for each county, the targeted growth in employment is 1,260,874. VISION 2050 allocates Pierce County 17% of this growth (150,357) which is further disaggregated using the VISION 2050 growth share percentages for each of the Regional Geographies.

Table 4: 2044 Employment Growth Allocation by PSRC VISION 2050 Regional Geographies

VISION 2050 Regional Geography Category	**Draft PRSC Vision 2050 Growth Percentage (Preferred Alternative):**	**2019-2044 Pierce County Employment Growth Share by Draft PRSC VISION 2050 Growth Allocation Percentage**
Metropolitan Cities	48%	72,171
Core Cities	23%	34,582
High Capacity Transit Communities	15%	22,554
Cities & Towns	6%	9,021
Urban Unincorporated Areas	6%	9,021
Rural	2%	3,007
Total	**100%**	**150,357**

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2044 Population, Housing Unit, and Employment Allocation by Regional Geography

The formulation of the 20-year population and housing unit growth targets have been generated through a series of meetings with each Regional Geography group. Each group met between two and six times to discuss the population, housing and employment growth targets for the Regional Geography for the region as a whole as well as for each jurisdiction. Due to the COVID-19 pandemic all meetings were held virtually via Microsoft Teams. Individual jurisdictions were also invited to have one-on-one conversations with AHBL staff to discuss population, housing and employment growth targets specifically for their jurisdiction. A summary of the population, housing and employment growth allocation for each of the Regional Geographies in Pierce County is presented below.

Metropolitan Cities

In Pierce County there is only one city that falls under the Metropolitan Cities Regional Geography - the City of Tacoma. Tacoma is therefore allocated the entire growth share for both population and employment growth for Metropolitan Cities. Under VISION 2050, Metropolitan Cities are allocated 38% of the County's total population growth and 48% of the County's total employment growth. AHBL staff met with representatives for the City on two occasions to discuss these growth target allocations and the City was willing to accept these allocated growth targets and use them in their planning processes moving forward.

Table 5: Metropolitan Cities Population Growth Targets

Regional Geography Share: 100,618			
Jurisdiction	**Estimated 2020 Population**	**2020-2044 Population Growth**	**2044 Total Population**
Tacoma	213,300	100,618	313,918

Table 6: Metropolitan Cities Housing Growth Targets

Jurisdiction	**Estimated 2020 Housing Units**	**2020-2044 Housing Unit Growth**	**2044 Total Housing Units**
Tacoma	91,359	40,137	131,496

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Table 7: Metropolitan Cities Employment Growth Targets

Regional Geography Share: 72,171			
Jurisdiction	**Estimated 2019 Employment**	**2019-2044 Employment Growth**	**2044 Total Employment**
Tacoma	122,299	72,171	194,470

Core Cities

The Core Cities Regional Geography comprises of the cities of Auburn (part), Lakewood, Puyallup, and University Place. Under VISION 2050, Core Cities are allocated 23% of both the County's total population growth and employment growth. AHBL and Pierce County staff met virtually with representatives from the Core Cities on three occasions to discuss the growth target allocations for the group as a whole and the individual jurisdictions. At these meetings AHBL and Pierce County worked with the Core Cities group to develop growth targets that are both consistent with the Regional Growth Strategy as well as the local community's trends, pipeline projects, capacity, and production rates. During these discussions the group expressed concerns that the Regional Geographies total population and employment growth shares were too large and that the growth target totals would not be able to be fully allocated amongst the jurisdictions.

Table 8: Core Cities Population Growth Targets

Regional Geography Share: 60,900			
Jurisdiction	**Estimated 2020 Population**	**2020-2044 Population Growth**	**2044 Total Population**
Auburn	9,980	263	10,243
Lakewood	60,030	7,970	68,000
Puyallup	42,700	19,995	59,695
University Place	33,310	7,994	41,304
Total	**146,020**	**36,222**	**179,242**

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Table 9: Core Cities Housing Growth Targets

Jurisdiction	Estimated 2020 Housing Units	2020-2044 Housing Unit Growth	2044 Total Housing Units
Auburn	3,954	96	4,050
Lakewood	27,053	3,340	30,393
Puyallup	17,961	6,880	24,841
University Place	14,264	3,294	17,558
Total	**63,232**	**13,610**	**76,842**

Table 10: Core Cities Employment Growth Targets

Regional Geography Share: 34,582			
Jurisdiction	**Estimated 2019 Employment**	**2019-2044 Employment Growth**	**2044 Total Employment**
Auburn	1,109	0	1,109
Lakewood	30,982	10,054	41,036
Puyallup	30,377	15,000	57,500
University Place	7,260	3,000	10,260
Total	**69,728**	**28,054**	**97,728**

The Core Cities group have allocated a total population growth target of 36,222 for the Regional Geography. This falls short of the allocated population growth target of 60,900. The Core Cities 2044 employment growth target totals 28,054; this also falls short of the allocated target of 34,582. A brief summary of each community's development trends and factors that were considered in the development of their growth targets are summarized below (City of Lakewood and City of University Place full justification memorandums are provided in the appendix to this report):

- The City of Auburn is located in both Pierce and King County and has only a small portion of city limits within Pierce County. Most of the land capacity in Pierce County has already been developed with little room for further residential or commercial developments.
- The City of Lakewood's population has grown a total of 3% in the past 20 years for an average of 0.1% per year. The City has identified a number of limitations that will prevent significant growth in the next 20 years including limitations on utility services, little vacant land, land uses and geological forms limiting development capacity, military influence on residential development densities, and large portions of the City's acreage being zoned for public institutional uses. The City has a Regional Growth Center with an urban designation which is anticipated to accommodate a large share of employment growth.

- The City of Puyallup's population growth rate has fluctuated between 1 and 2% in the past five years. This is expected to continue into the future and the proposed population growth target reflects this. The base year population of Puyallup represents 29% of the Core Cities total and the population growth target represents 27.9% of the Regional Geography's population growth share. The base year employment estimate for Puyallup represents 44% of the Core Cities total and the employment growth target represents 43% of the Regional Geography's population growth share.
- The City of University Place's linear growth rate since the City's incorporation in 1995 is approximately 210 people additional persons per year. If this growth rate were to continue the City would grow by 4,187 persons between 2020 and 2044. Since 2015 the City's population has increased by approximately 318 persons per year and the adopted growth target reflects this increase in population growth.

High Capacity Transit (HCT) Communities

The High Capacity Transit (HCT) Communities Regional Geography comprises of the cities of DuPont, Fife, Fircrest and Sumner as well as the Pierce County unincorporated urban areas of Mid-County, Parkland-Spanaway-Midland, and South Hill. Under VISION 2050, High Capacity Transit Communities are allocated 21% of the County's total population growth and 15% of the County's total employment growth. AHBL and Pierce County staff met virtually with representatives from the HCT Communities on three occasions to discuss the growth target allocations for the group as a whole and the individual jurisdictions. At these meetings AHBL lead discussions with representatives from the Cities and the County develop growth targets that are both consistent with the Regional Growth Strategy as well as the local community's trends, pipeline projects, capacity, and production rates. During these discussions the group was successfully able to allocate both the population and employment growth targets for the HCT Communities Regional Geography amongst the jurisdictions.

Table 11: HCT Communities Population Growth Targets

Regional Geography Share: 55,605			
Jurisdiction	**Estimated 2020 Population**	**2020-2044 Population Growth**	**2044 Total Population**
DuPont	9,525	5,184	14,709
Fife	10,200	2,160	12,360
Fircrest	6,790	1,910	8,700
Sumner	10,360	4,904	15,264
Mid-County, Parkland-Spanaway-Midland, South Hill	153,805	41,447	195,252
Total	**190,680**	**55,605**	**246,285**

Table 12: HCT Communities Housing Growth Targets

Jurisdiction	Estimated 2020 Housing Units	2020-2044 Housing Unit Growth	2044 Total Housing Units
DuPont	3,798	1,960	5,758
Fife	4,147	840	4,987
Fircrest	2,907	788	3,695
Sumner	4,560	2,035	6,595
Mid-County, Parkland-Spanaway-Midland, South Hill	56,393	14,453	70,846
Total	**71,805**	**20,076**	**91,881**

Table 13: HCT Communities Employment Growth Targets

Regional Geography Share: 22,554			
Jurisdiction	**Estimated 2019 Employment**	**2019-2044 Employment Growth**	**2044 Total Employment**
DuPont	4,650	1,200	5,850
Fife	17,190	2,100	19,300
Fircrest	1,429	115	1,544
Sumner	17,559	5,416	22,975
Mid-County, Parkland-Spanaway-Midland, South Hill	16,322	13,713	30,035
Total	**57,150**	**22,554**	**79,704**

The HCT Communities are able to meet both the population and employment growth targets allocated by the VISION 2050 growth share percentages. A brief summary of each community's development trends and factors that were considered in the development of their growth targets are as follows:

- The City of DuPont has land capacity to develop approximately 2,900 new housing units within a gravel mine within the City however it is difficult to estimate when this land will become available for development.
- The City of Fife has capacity for approximately 700 residential dwelling units to be developed as identified in the City Center Planned Action EIS (ST3 Station TOD). Further population growth may be possible to occur following review of buildable lands capacity.
- The City of Fircrest determined through its buildable lands analysis and subsequent examinations that in 2016 the residential land capacity for the entire city was 593 units. Proposed code amendments that would accommodate increased height, eliminate density

maximum and reduce parking requirements would substantially increase residential capacity within the City beyond 593 units.

- The City of Sumner has increased housing capacity after significant upzoning around the downtown and Sound Transit rail station. The City shares a Manufacturing Industrial Center – Employment with the City of Pacific and 90% of the land in this Regional Center is within the Sumner city limits.

Cities and Towns

The Cities and Towns Regional Geography comprises of the cities of Bonney Lake, Buckley, Carbonado, Eatonville, Edgewood, Gig Harbor, Milton, Orting, Pacific, Roy, Ruston, South Pacific, Steilacoom, and Wilkeson. Under VISION 2050 Cities and Towns are allocated 7% of the County's total population growth and 6% of the County's total employment. AHBL and Pierce County staff met virtually with representatives from the Cities and Towns on six occasions to discuss the growth target allocations for the group as a whole and for the individual jurisdictions. During these meetings there was concerns from the group that the Regional Geography's allocated population would be exceeded by the groups projected population growth due to growth trends, pipeline projects and production rates.

Table 14: Cities and Towns Population Growth Targets

Regional Geography Share: 18,535			
Jurisdiction	**Estimated 2020 Population**	**2020-2044 Population Growth**	**2044 Total Population**
Bonney Lake	21,390	5,063	26,453
Buckley	5,080	3,121	8,201
Carbonado	685	64	749
Eatonville	3,010	794	3,804
Edgewood	12,070	5,931	18,001
Gig Harbor	11,240	*	*
Milton	6,805	600	7,405
Orting	8,635	549	9,184
Pacific	30	-	-
Roy	820	253	1,073
Ruston	1,040	453	1,493
South Prairie	500	39	539
Steilacoom	6,505	464	6,969
Wilkeson	495	187	682
Total	**78,305**		

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*Appropriate Growth Target under consideration by City

Table 15: Cities and Towns Housing Growth Targets

Jurisdiction	Estimated 2020 Housing Units	2020-2044 Housing Unit Growth	2044 Total Housing Units
Bonney Lake	7,581	3,000	10,581
Buckley	1,974	1,374	3,348
Carbonado	244	17	261
Eatonville	1,130	277	1,407
Edgewood	4,858	2,432	7,290
Gig Harbor	5,302	*	*
Milton	2,942	259	3,201
Orting	2,925	168	3,093
Pacific	15	-	15
Roy	331	95	426
Ruston	477	169	646
South Prairie	198	13	211
Steilacoom	2,917	176	3,093
Wilkeson	182	69	251
Total	**31,076**		

*Appropriate Growth Target under consideration by City

Table 16: Cities and Towns Employment Growth Targets

Regional Geography Share: 9,021			
Jurisdiction	**Estimated 2019 Employment**	**2019-2044 Employment Growth**	**2044 Total Employment**
Bonney Lake	6,002	1,750	7,752
Buckley	2,599	1,101	3,700
Carbonado	62	6	68
Eatonville	898	155	1,053
Edgewood	1,988	2000	3988
Gig Harbor	12,422	*	*
Milton	2,197	450	2,647
Orting	1,337	200	1,537
Pacific	2,028	650	2,678

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Roy	248	94	342
Ruston	422	72	494
South Prairie	76	10	86
Steilacoom	701	10	711
Wilkeson	74	11	85
Total	**31,054**		

* Appropriate Growth Target under consideration by City

The Cities and Towns Regional Geography has an allocated population growth target of XXX between the years 2020 and 2044. The groups total population growth target for the same time period (XXXX) exceeds this by XXXX persons. The 2044 population growth total for the group does however fall below the VISION 2050 population growth share for Cities and Towns in Pierce County which is 22,917 for the year 2050. As a result the Cities and Towns will be partially front-loading population growth population growth targets for the year 2044. The Cities and Towns Regional Geography employment growth target total is XXX, this also exceeds the allocated employment growth by XXX jobs.

A brief summary of each community's development trends and factors that were considered in the development of their growth targets are as follows:

- The City of Bonney Lake is the fifth largest city in Pierce County and has water and sewer capacity to allow for a population of 37,000.
- The City of Buckley has had wastewater upgrades that has led to significant residential growth in recent years. The City anticipates a 3% annual growth rate from 2010-2030 followed by a 1% annual growth rate thereafter.
- The City of Carbonado is a very small city. It does have some land available for residential single-family development but is unlikely to attract commercial development due to water availability.
- The City of Eatonville has chosen not to participate in this process however as of 2020 the City is 110 persons short of the adopted total 2030 population target and 1,437 jobs short of the adopted 2030 total employment target.
- The City of Edgewood is the second largest city in this Regional Geography and has based its growth targets on pipeline projects and growth projections.
- The City of Gig Harbor has grown more rapidly in recent years both in population and employment. As of 2019 the City has exceeded its 2030 employment growth target by 2,233 jobs and as of 2020 exceeded its 2030 population growth target by 740.
- The City of Milton has already exceeded its 2030 population growth target by 1,055 persons. The remaining areas for development in the City are largely going to see infill development with short plats or smaller subdivisions. There are some multifamily zoned properties in the Town Center, however, the City has seen limited interest in development. The City will likely see growth trail off in the next planning cycle. The City's growth target has been developed based on anticipated development and housing capacity.

- The City of Orting is largely built out with limited room to grow and has based its growth targets on pipeline projects, anticipated development and code amendments.
- The City of Pacific does not have any residentially zoned land in the small portion of its City limits within Pierce County. The City shares a Manufacturing Industrial Center – Employment, with the City of Sumner however only 10% of the Center is within the City of Pacific.
- The City of Roy chose not to participate in the growth target setting process.
- The City of Ruston chose not to participate in the growth target setting process.
- The City of South Prairie is restricted in growth due to sewer moratoriums.
- The City of Steilacoom does not anticipate employment growth in the next planning horizon; population growth is anticipated to continue existing trends.
- The City of Wilkeson is able to accommodate population growth through up-zoning and comprehensive plan changes.

Urban Unincorporated Areas

The Urban Unincorporated areas includes urban areas in Pierce County, usually adjacent to incorporated areas, that are outside incorporated city boundaries. Under VISION 2050 Urban Unincorporated Areas are allocated 8% of the County's total population growth and 6% of the County's total employment. As these areas are outside incorporated jurisdictions, they are represented by Pierce County who is responsible for managing the allocated population and employment growth targets. Housing unit growth was calculated by dividing the population growth allocation for Urban Unincorporated Areas by the average persons per household for the year 2020 (as calculated using the Office of Financial Management's Small Area Estimates Program estimates for occupied housing units).

Table 17: Urban Unincorporated Areas Population Growth Targets

Regional Geography Share: 21,183			
Jurisdiction	**Estimated 2020 Population**	**2020-2044 Population Growth**	**2044 Total Population**
Urban Unincorporated Areas	90,723	21,183	111,906

Table 18: Urban Unincorporated Areas Housing Growth Targets

Jurisdiction	**Estimated 2020 Housing Units**	**2020-2044 Housing Unit Growth**	**2044 Total Housing Units**
Urban Unincorporated Areas	29,147	6,945	36,092

Table 19: Urban Unincorporated Areas Employment Growth Targets

Regional Geography Share: 9,021			
Jurisdiction	**Estimated 2019 Employment**	**2019-2044 Employment Growth**	**2044 Total Employment**
Urban Unincorporated Areas	40,332	9,021	51,353

As all unincorporated urban areas are grouped together in this Regional Geography the group is allocated the total Regional Geography's share for population and employment growth targets.

Rural Areas

Rural areas are unincorporated areas in Pierce County outside of Urban Growth Areas and include very low-density housing, working landscapes, and open space. Under VISION 2050 Rural Areas are allocated 3% of the County's total population growth and 2% of the County's total employment. Rural areas are located outside incorporated jurisdictions and are represented by Pierce County who is responsible for managing the allocated population and employment growth targets. Housing unit growth was calculated by dividing the population growth allocation for Rural Areas by the average persons per household for the year 2020 (as calculated using the Office of Financial Management's Small Area Estimates Program estimates for occupied housing units).

Table 20: Rural Areas Population Growth Targets

Regional Geography Share: 7,944			
Jurisdiction	**Estimated 2020 Population**	**2020-2044 Population Growth**	**2044 Total Population**
Rural Areas	181,672	7,994	189,616

Table 21: Rural Areas Housing Growth Targets

Jurisdiction	**Estimated 2020 Housing Units**	**2020-2044 Housing Units Growth**	**2044 Total Housing Units**
Rural Areas	181,672	7,994	189,616

Table 22: Rural Areas Employment Growth Targets

Regional Geography Share: 3,007

Jurisdiction	Estimated 2019 Employment	2019-2044 Employment Growth	2044 Total Employment
Rural Areas	22,660	3,007	25,667

The Rural Areas Regional Geography groups all unincorporated rural lands in Pierce County together and is therefore allocated the full share of the allocated population and employment growth.

Conclusion

{Insert conclusions based on recommended growth target surplus/deficits }

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Appendix

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Draft Pierce County Buildable Lands Report

A Monitoring and Evaluation Analysis of Urban Growth and Development Capacity for Pierce County and its Cities and Towns

Pierce County Planning & Public Works **Fourth Edition** September 16, 2021

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EXECUTIVE SUMMARY

The Washington State Growth Management Act (RCW 36.70A), enacted in 1990, requires all counties with a population of 50,000 or more with a high rate of population growth to designate urban growth areas (UGAs). The Act requires that these UGAs be of sufficient size to accommodate the anticipated population growth during the 20-year period following the adoption of the UGA. In accordance with the Growth Management Act (GMA), the Pierce County Council has adopted UGAs for Pierce County and its incorporated cities and towns.

In designating the UGA, the Pierce County Council worked closely with the individual cities and towns to ensure that the UGA was consistent with local comprehensive plans, urban population forecasts, and population capacity analyses. As a policy choice, each jurisdiction conducted its own independent residential capacity analysis through their GMA comprehensive plan. The County's analysis encompassed the unincorporated lands associated with the UGA and the cities' and towns' analyses encompassed the lands within their respective municipal boundaries. At this time, satellite cities' and towns' analyses also included the unincorporated lands within their respective urban growth areas. The methods, definitions, and assumptions incorporated in the analyses differed by jurisdiction and were not uniform or coordinated.

The jurisdictional variations in the capacity analyses and the lack of specificity in the GMA led to state-wide debate. Much of this debate focused on determining whether there were errors in the assumptions used by local governments in sizing their UGAs. This debate resulted in the Washington State legislature amending the GMA in 1997 to require that certain counties and their cities and towns develop local programs aimed at improving confidence and coordination in their capacity analyses. Pierce County was one of the counties required to develop such a program.

Since 1997, Pierce County and its 23 cities and towns have worked collaboratively in a program to collect annual development permitting data, inventory developable land, and enhance information relating to wetlands and steep slopes. Commonly referred to as the Buildable Lands Program, this collaborative program is aimed at satisfying the GMA requirements and improving accuracy in the information used to determine the capacity of Pierce County's UGA. Pierce County published its first consolidated residential/employment capacity analysis in August 2002, second in September 2007, and third in June 2014. This 2021 Report represents the fourth published documentation of Pierce County and its cities' and towns' ability to accommodate future growth and is intended for use in the 2024 GMA Comprehensive Plan periodic update.

The Buildable Lands Report details the methodology, assumptions, and calculations for identifying the housing and employment capacity within the UGA. An important piece of the Buildable Lands Program is using the information in the Report to compare observed densities to the planned densities and growth assumptions, capacity to the growth targets, and housing production rates to the growth targets. This work is completed in a Consistency Evaluation, discussed in Section V of this Report. Due to the timing of the growth target allocation process, the Consistency Evaluation portion of the program will be completed within one year of publication of this Report, as permitted through the Pierce County Countywide Planning Policies.

I. Overview

- General description and historical perspective of State and County legislation addressing development of the program

II. Methodology

- Information and data collected through the monitoring procedures.
- Inventory categories and process
- Methodology applied to calculate a residential and employment capacity.
- Factors and assumptions used in the calculations

III. Summary of Observations

- Countywide data summaries and capacity results
- Individual chapters for each of the 23 cities and towns in Pierce County and urban unincorporated Pierce County
  - Summary of development trends
  - Summary of assumptions used in analysis
  - Capacity results

IV. Appendices

- Detailed development trend summaries by zone, capacity calculations by zone, and inventory maps for each jurisidiction
- Technical description of inventory model/process
- Employment density survey

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SECTION I: OVERVIEW

INTRODUCTION

Pierce County and its 23 cities and towns began developing the Buildable Lands Program in 1997 in response to amendments to the Washington State Growth Management Act (GMA) enacted that same year. The program seeks to establish a coordinated system for collecting and monitoring data regarding growth and development occurring in Pierce County and its cities and towns.

The program primarily focuses on evaluating two aspects of growth management – accommodation of population growth targets during the 20-year planning period and the availability of commercial and industrial land for employment purposes. The program is aimed at ensuring greater consistency between local planning efforts under GMA and the growth and development patterns actually occurring in the urban growth area (UGA).

The Washington State Legislature enacted the GMA in 1990. The GMA required local governments to develop rational policies to manage growth in the State and all urban counties and their cities and towns were required to plan under the GMA. This planning must address issues in land use, transportation, housing, capital facilities, utilities, and rural lands, and must ensure that the forecasted growth in population for the next 20 years can be accommodated in an efficient manner. An essential component of planning under the GMA is the designation of UGAs.

Each county required to plan under the GMA must designate a UGA within which urban growth shall be encouraged and outside of which urban growth shall be prohibited. These UGAs are to be based upon the projected 20-year population growth forecast for the county and its cities and towns as generated by the Washington State Office of Financial Management. To properly size UGAs such that this population could be accommodated, each jurisdiction planning under the GMA conducted a population capacity analysis. These capacity analyses sought to determine how much population could be accommodated in each area based upon availability of developable land.

The jurisdictional variations in capacity analyses and the lack of specificity in the GMA led to statewide debate on the subject, with much of the debate focused on determining whether there were errors in the assumptions used by local governments in sizing their UGAs. In 1997, this debate resulted in the GMA being amended through Senate Bill 6094, commonly referred to as the "Buildable Lands" amendment. The amendment requires certain counties and their cities and towns to monitor development activities and conduct a coordinated housing unit and employment capacity analysis for each of the jurisdictions. Pierce County and its cities and towns are required by state law to participate in this "Buildable Lands" monitoring program.

In July of 2001, the Pierce County Regional Council responded to Senate Bill 6094 by recommending the adoption of proposed amendments to Pierce County's Countywide Planning Policies (CPPs) that incorporated monitoring and evaluation policies related to Buildable Lands. The Buildable Lands legislation was most recently amended in 2017 to include an amended timeframe, a requirement to consider regulations affecting the achieved densities, and a requirement to monitor housing production rates in comparison to adopted growth targets or projections. Pierce County and its cities and towns are

currently in the process of updating the CPPs to align with the updated guidelines and 2017 Buildable Lands legislation.

LOCAL AND REGIONAL FRAMEWORK

While the Growth Management Act (GMA) was silent on the details of urban density, sizing, and analyzing the sufficiency of urban growth areas, local planning policies and decisions by the Central Puget Sound Growth Management Hearings Board (GMHB) have established specific guidance on some of these issues. Additional guidance is provided through a document entitled "Buildable Lands Program Guidelines (2018)," published by the Washington State Department of Commerce. The Pierce County Comprehensive Plan also provides supporting policies specific to Buildable Lands.

Pierce County Countywide Planning Policies

The Pierce County Countywide Planning Policies are written statements that establish a countywide framework for the development of growth management guidelines adopted by the County and its cities and towns. The framework is intended to create consistency among all jurisdictions in addressing certain growth management issues. Pierce County adopted its CPPs on June 30, 1992.

The CPPs are currently being updated and include a section on Buildable Lands based on the original policies currently located in the “Urban Growth Areas, Promotion of Contiguous and Orderly Development and Provision of Urban Services to Such Development” chapter. Other related policies in the draft updated Urban Growth Area and Growth Targets sections address the sizing of the urban growth area, the allocation of targets, and appropriate average density within the UGA.

Per the CPPs and consistent with GMA, urban growth areas must be of sufficient size to accommodate the urban growth projected to occur over the succeeding 20-year planning period. In determining the appropriate size of the urban growth area, various components must be taken into account, such as critical areas, open space, and a market factor (i.e., maintaining a supply of developable land sufficient to allow market forces to operate).

The CPPs direct the County and cities and towns to plan for efficient land use patterns while conserving natural resources. The policies further define efficient land use as development with at least an average net density of four units per acre. Associated policies support the need for infill and compact development in achieving an efficient land use pattern. The CPPs direct the County and cities and towns to adopt plans that encourage concentrated development within the urban growth area which will accommodate the 20-year projected population and employment growth.

Housing and Employment Targets

Evaluating whether sufficient capacity exists in Pierce County's UGAs to accommodate the 20-year population target is one of the central components of the Buildable Lands Program. Adopted housing and employment targets are used in evaluating the success of growth management efforts. It is anticipated that the Pierce County Council will adopt-the 2044 housing and employment targets by 2022 and a consistency evaluation will be completed within one year of this Report, per the Pierce County Countywide Planning Policies, once the targets are available. This report provides the 2030 targets as an initial comparison.

SECTION II: METHODOLOGY

DEVELOPMENT DATA

The development data provides information in three key areas:

1. Reveals if the urban growth area is developing at urban densities.
2. Assesses the integrity of assumptions incorporated in the capacity analysis.
3. Guides refinement of the build-out assumptions in the capacity analysis.

While in theory the use of development trend information in future capacity analyses is a valid measure and required by the "Buildable Lands" legislation, there could be some potential problems with doing this. Many jurisdictions have not experienced an amount or range of development necessary to establish a statistically valid trend. Accordingly, use of such data may not truly represent how development will occur in future years. In addition, a certain amount of "new" development being tracked in each jurisdiction is vested under pre-GMA regulations or previous zoning that is no longer in effect. This vested development may be built to standards different than that occurring under the current regulations and may skew the trend information. These, among other potential problems, should be considered in reviewing the development trend information.

Annual Reporting

Jurisdictions are required to submit residential building permits, non-residential building permits, and platting activity. They must submit details of the permit data, including the parcel number, plan designation, zoning district, parcel size, and site address. For residential development they must also include the permitted units or lots, area used to calculate permitted number of units, and, if applicable to density calculations, the number of acres with environmental constraints, roads, other land uses. For commercial development they must also include the total building size. Data on 100 percent of development activity occurring in each jurisdiction is sought. However, if a jurisdiction does not submit complete information for an individual project, that project is not incorporated in the reported information. It should be noted that the density information should not be compared among different jurisdictions since density calculations from the developments reflect locally adopted regulations.

Residential Building Permits	Residential Platting Activity	Commercial Building Permits
• Multifamily permits show the observed multifamily project density for each zone. • Single-family permit reporting is optional and not used to determine observed density. • Multifamily permits are used in conjunction with the residential platting activity to determine how much land is used for residential development in each zone.	• Used to determine the observed gross and net single family project density for each zone. • Indicates how much land is used for non-residential purposes, (critical areas, roads, and other uses). • Used in conjunction with the multifamily building permits to determine how much land is used for residential development in each zone.	• Used to determine the amount of land consumed by commercial and industrial activity in each zone. • Indicates how much land is used for non-residential uses in residential zones. • Limitations: disconnect between commercial permits and available employment statistics.

BUILDABLE LANDS INVENTORY

Conducting an inventory of buildable lands, while not a complete representation of the "buildable land" in the county, is essential in the housing and employment capacity analyses and determining how much land is available and suitable for development. Accordingly, the Buildable Lands Program establishes a standard methodology to be used by all jurisdictions, including standard definitions and procedures to ensure reasonable accuracy and consistency. The inventory in this report represents the status of property as of January 2020 to align with Census data. There are six categories of land identified in the Buildable Lands inventory:

- Vacant
- Vacant (Single Unit)
- Underutilized
- Pipeline
- Built Out
- Undevelopable

Vacant and underutilized lands are identified through a Geographic Information System (GIS) model using the assumptions and existing conditions as inputs. The GIS model process is outlined in Appendix B: Buildable Lands Inventory Process and the initial categorization of Assessor-Treasurer (ATR) land use descriptions is shown in Appendix Table 1 in Appendix B: Buildable Lands Inventory Process.

While the model is used to initially sort and categorize the parcels, the results are reviewed and refined by the applicable local jurisdictions to further improve the accuracy of the inventory by taking advantage of local knowledge, field visits, and the review of digital orthographic photography. The inventory provides the underlying basis for the housing and employment capacity analyses but is not a representation of the "buildable land" with capacity for development at a parcel level.

Four of the six inventory categories are identified as having additional employment or housing capacity: Vacant, Vacant (Single Unit), Underutilized, and Pipeline.

Vacant Land

Vacant lands include parcels without an established structure or land use activity, excluding those enrolled in a current use tax program. Vacant properties that are identified as being enrolled in a current use tax program are included in the Underutilized inventory because of the extra difficulties that are associated with developing those lands. Vacant parcels are categorized as either Vacant or Vacant Single Unit. Vacant parcels owned by a government entity or special district are flagged for local review.

- Vacant represents parcels that are assumed can be further subdivided and can accommodate more than one housing unit. These parcels are included in the capacity calculations where further assumptions are applied.

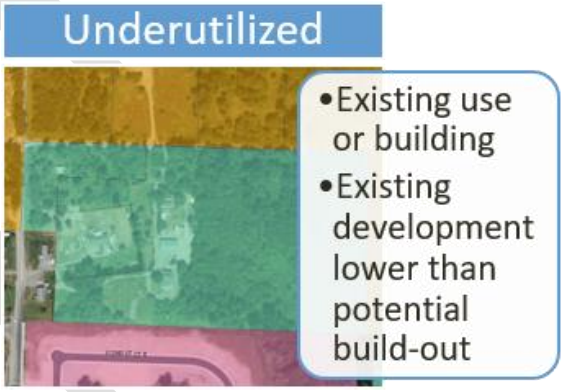


- Vacant Single Unit represents an individual building lot that is assumed to accommodate only one housing unit. These parcels are separated from the "acreage" capacity calculations and added in as one unit per parcel to the final capacity.



Underutilized Land

Underutilized lands include parcels that have an existing structure(s) or land use activity and can accommodate additional housing units or jobs. These lands include parcels in which excess space is available to build a new structure(s), or it is assumed that an existing structure(s) will be demolished and replaced with a larger structure or more structures.



Not all parcels that can theoretically accommodate additional growth are categorized as Underutilized. A specific ratio between the existing housing units or estimated jobs to the calculated assumed future build-out must be met. The ratio is different between housing units and jobs.

Existing Residential Use

Parcels with an existing residential use may be categorized as Underutilized if it meets one of the following:

1. **Residential or mixed-use zoning classification:**
   - The ATR use code is single-family, mobile home, multifamily, or mobile home park.
     - For existing single-family or mobile home units, the improvement value is less than $500,000.
     - For multifamily and mobile home parks, the improvement value is less than $1,500,000.
   - The ratio of assumed housing build-out to existing housing units is greater than or equal to 2.5.
2. **Commercial/industrial zoning classifications that prohibit residential units:**
   - An existing single-family housing unit, excluding parcels that are within platted subdivisions.

Calculation of Existing-to-Build-Out Housing Density Ratio

1. Determine the existing net housing units per acre for each parcel using ATR data for existing buildings/units.
2. Calculate the assumed housing units per acre using the established density assumptions (listed in the assumptions section for each jurisdiction).
3. Divide the assumed build-out density by the existing density (this is the existing density to build-out ratio).
4. If the existing housing unit to build-out ratio is 2.5 or greater, the property is categorized as Underutilized. If the build-out ratio is less than 2.5, the property is assumed not to have additional housing capacity and is identified as Built Out.

Existing Commercial or Industrial Use

Parcels with an existing commercial or industrial use may be categorized as Underutilized if it meets the following:

Parcels within commercial, industrial, or mixed-use zoning classifications:

- The ATR use code is non-residential.
- The parcel has an improvement value less than $1,500,000.
- The ratio of assumed future job build-out to estimated existing jobs is greater than or equal to 5.

Calculation of Existing-to-Build-Out Employment Density Ratio

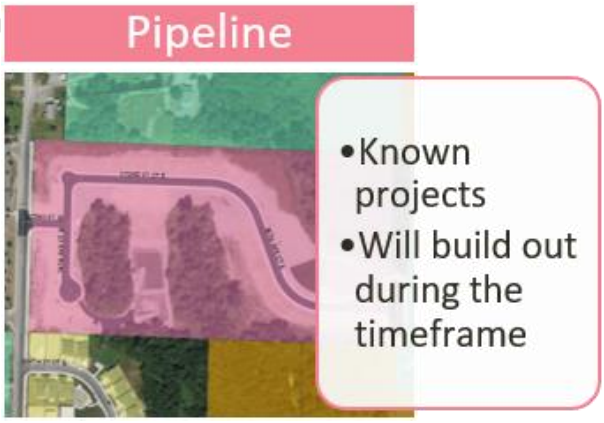
1. Determine the existing employment density for each parcel by dividing the square footage of the existing building(s) by the industry standard square footage assumption to estimate the existing number of employees using ATR data for existing building square footage.
2. Calculate the assumed future employment build-out for the parcel by multiplying the gross acreage of the parcel by the assumed employment density.
3. The assumed future employment build-out figure is divided by the estimated existing number of jobs (this is the existing employment to build-out ratio).
4. If the existing employment to assumed build-out ratio is 5 or greater, the property is categorized as Underutilized. If the build-out ratio is less than 5, the property is assumed not to have additional employment capacity and is counted as Built Out in the inventory.

Pipeline

For ease of use, the inventory categorizes pipeline projects and known development as Pipeline. Single family residences that have been built or are planned to be built within the timeframe are captured in Vacant Single Unit category, not the Pipeline category.

Pipeline Projects

Projects that are currently in the "pipeline" may be counted separately from the vacant and underutilized land. Pipeline projects are those with an active development application and a known number of units or job estimate. The applicable parcels are identified as Pipeline in the inventory and the number of units applied for are counted toward the capacity to represent a more realistic representation of build-out and units or jobs available during the planning period.



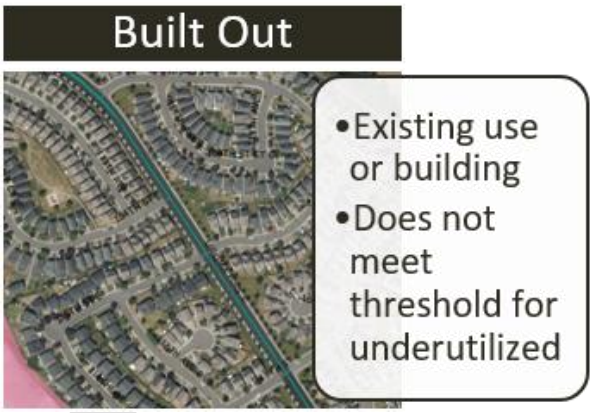
Known Development

The next 20-year period for Growth Management Act periodic updates will span from 2024 to 2044. Since we do not have the ability to know the land available for development in 2024, 2020 is used as the initial baseline for both the Buildable Lands Report and the growth target setting for internal consistency. Using the same baseline data helps jurisdictions accurately track growth targets, and 2020 aligns with a U.S. Census data year, which helps with demographic data comparison in comprehensive planning.

Recognizing that parcels will be developed between 2020 and 2024, the analysis categorizes the parcels associated with these projects as Pipeline since it is known that they will be part of the housing inventory available during this timeframe.

Built Out

Parcels with existing uses that are categorized as Built Out are removed from the capacity calculations outright. Built Out parcels are those that did not meet the definition of Vacant or Underutilized but are not necessarily undevelopable.



Undevelopable

Parcels with existing uses that are categorized as Undevelopable are removed from the capacity calculations outright. It is assumed that certain uses (e.g., utilities, cemeteries, drain fields, landfills, and other protected uses) will not develop further or contribute to housing or employment capacity.



CAPACITY CALCULATION METHOD

The methodology used to calculate the residential and employment capacity in this report is similar to the methodology that was utilized in the 2014 analysis.

The methodology employed for the analysis includes various factors and assumptions. Each component directly influences the estimated capacity and needs' statistics. The assumptions reflect a conservative approach; therefore, the reported estimates are not maximum capacity or full build-out estimates. The analysis is based on the total gross acreage associated with each of the buildable land categories (Vacant and Underutilized) by zoning district. The estimated residential capacity is generated through acreage deductions to account for factors identified below and the application of an average residential density.

An explanation of the calculation table process is found in Appendix A: Full Data, Calculation Tables, and Maps with the full capacity calculations.

General Factors and Assumptions

Mixed-Use Zoning

Mixed-use zoning allows residential and commercial activity on the same parcel or on separate parcels within the same zoning classification. To account for this mixture of activity in both the housing and employment capacity analyses, a percentage of zoning classification's acreage is split between the housing and employment capacity calculations. This assumption is referred to as the "residential acreage" and "non-residential acreage" in the calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

In some instances where a vertical mixed-use is anticipated, 100 percent of the land area is assumed as both residential and non-residential. This recognizes buildings where the first floor is commercial and the additional stories are residential. In other cases, it is assumed that a specific mixed-use zone will produce 100 percent commercial on the first floor, but only a percentage of the land in that zone will produce residential on the second and above floors. A 100 percent non-residential and smaller percent residential assumption, depending on the jurisdiction and zone, is applied to accommodate this trend. Conversely, if it is assumed that a zone will develop as 100 percent residential uses, but only a portion will include commercial on the ground or other floor(s), a 100 percent residential and smaller percent non-residential assumption is used.

Future Capital Facilities

The employment capacity for Buildable Lands per RCW 36.70A.215 is limited to land available for commercial or industrial use. While some capital facilities generate jobs, the acreage associated with anticipated/planned public capital facilities is deducted from the total gross residential and commercial/industrial acreage. Any parcels documented as future capital facilities are considered Undevelopable or Built Out in the inventory and are excluded from the capacity calculations. In some instances, local jurisdictions choose to incorporate a specific percentage of future land to deduct from the gross acreage in each zone or specific zones for future public capital facilities if the specific sites are not yet known.

Market Factor

Although individual properties may meet the criteria for Vacant and Underutilized lands, not all properties are assumed available for development during the 20-year planning period. Property owners may not pursue development due to personal use, economic/investment, constraints associated with properties on private roads, or sentimental relationship with their surrounding environment. To account for the market availability and other factors, a percent of the net acreage is deducted from the inventory. A higher percentage is typically deducted for properties categorized as Underutilized to recognize the constraints of additional development or redevelopment of those properties. In previous reports, this market factor was identified as “land unavailable for development.”

Pipeline

Parcels with associated pipeline projects or known development (referred to as Pipeline in the inventory) are not included in the gross acreage shown in the capacity calculations. The associated housing unit or employment build-out total is added to the total capacity at the end of the process.

Residential-Specific Factors and Assumptions

Residential Density

The net buildable acreage is converted to housing unit capacity through the application of assumed density in the form of dwelling units per acre. The assumptions section for each jurisdiction identifies the density for each zoning district. Individual jurisdictions established the density assumptions while considering past trends and recent regulation changes. The assumptions are based on previous reports and refined using the observed development trends.

Plat Deductions

Individual jurisdictions apply different methods to calculate the maximum number of residential lots permitted within a plat. While some calculate units with a project's gross acreage, others employ a net acreage. The plat deductions reflect the type of approach the respective jurisdiction implements. These deductions may include land reserved for roads, critical areas, parks, recreation, open space, or stormwater facilities.

Non-Residential Uses

Zoning codes permit various types of non-residential development within residential districts, such as churches and day-care centers. To account for future non-residential development, a percentage of the net residential acreage is deducted from the residential capacity and moved to the non-residential capacity. The specific percentage differs between each jurisdiction and is only applied to residential-only zones. This process differs from the mixed-use zoning assumption to recognize that it is not truly a mixed-use zone.

Vacant Single Unit

If a parcel is categorized Vacant Single Unit, the parcel acreage is not included in the gross acreage and is incorporated in the analysis as one dwelling unit, which is added to the total capacity at the end of the process.

Displaced Units

In the analysis, existing housing units located on Underutilized parcels are categorized as displaced units. The existing number of units is derived from ATR data. Not all the gross acreage is considered to be developable; accordingly, the total number of displaced units per zone is adjusted down to reflect the same percent of deductions that was applied to the gross acreage. The adjusted displaced units are deducted from the total capacity to avoid double-counting. It is important to note that this calculation process differs from previous reports that added the displaced units back into the housing need, and instead reduces those units and jobs from the capacity itself.

Commercial and Industrial-Specific Factors and Assumptions

Employment Density

The net buildable acreage totals in the calculation tables are converted to employment capacity through the application of assumed employees per gross acre. An assumption for employment density (employees per acre) is necessary to calculate the capacity of the commercial and industrial lands.

Although the Buildable Lands legislation directs the County to use the average employment densities generated through the trending period, this approach is problematic because employment statistics are not readily available and many commercial/industrial buildings/complexes may not be 100 percent occupied within the first year of completion.

The 2014 report set an assumption of 19.37 employees per acre for commercial and services and 8.25 employees per acre for industrial warehousing and manufacturing. The County contracted with ABHL and ECONorthwest using grant funding through the Washington State Department of Commerce to evaluate the employment density assumptions used in the Buildable Lands Report. The findings of their study confirmed that the assumptions were still valid for this report (see Appendix C: Employment

Density Survey). The assumptions have been adjusted to whole numbers for this report and ease of use, updating them to 20 employees per acre for commercial/mixed use zones and 9 employees per acre for industrial zones. Jurisdictions with further analysis and applicable market studies have adjusted their employment assumptions on a case-by-case basis to reflect the market conditions in those areas.

Displaced Employees

The Underutilized land category may include existing businesses that, if redeveloped as another business, are assumed to be displaced. Accordingly, the employment capacity figure is increased to account for the assumed displaced employees. To calculate the displaced employees, the locally observed density of 500 square feet per employee for commercial and 900 square feet per employee for industrial/warehousing is applied to the existing building square footage. Since not all the gross acreage is considered developable, the total number of displaced employees per zone is adjusted down to reflect the same percent of deductions that was applied to the gross acreage. The adjusted displaced job estimates are deducted from the total capacity to avoid double-counting. It is important to note that this calculation process differs from previous reports that added the displaced jobs back into the employment need, and instead reduces those units and jobs from the capacity itself.

DRAFT

SECTION III: SUMMARY OF OBSERVATIONS

DRAFT NOTE: SEE EXCEL CALCULATION TABLES FOR MOST UP-TO-DATE DATA. TABLES IN THE REPORT WILL BE FILLED OUT ONCE THE DATA IS FINALIZED.

GENERAL OVERVIEW

The Pierce County Buildable Lands Report is a milestone project in an on-going monitoring and evaluation program. This section represents a summary of the data and calculations shown in Appendix A: Full Data, Calculation Tables, and Maps, as well as supplemental data.

The development data represents urban development trends between 2013-2020. The development activity generally indicates that urban density housing is being constructed within the urban growth area. As with previous reports, it is impossible to conclude whether there is a trend that indicates an increase or decrease in observed density due to a low number of projects in various zoning districts within the cities, towns, and unincorporated urban areas. The Buildable Lands Report does not calculate capacity for the rural area, but development data is collected to compare to the rate of growth within the urban growth area. The development data summaries are not representative of all development and permitting activity that occurred during the timeframe, rather it is a summary of data that is used to determine or support the assumptions established in the capacity analysis.

The adopted 2030 housing and employment targets and assumptions applied in the housing and employment capacity analyses reflect a redirection of growth through redevelopment and achieving higher density residential projects in cities and towns. When the upcoming 2044 growth targets are available, a supplemental report will be provided to reflect the full conditions for comprehensive plans undergoing the Growth Management Act periodic update due in 2024.

There are 3 factors that the Buildable Lands analysis must analyze for consistency:

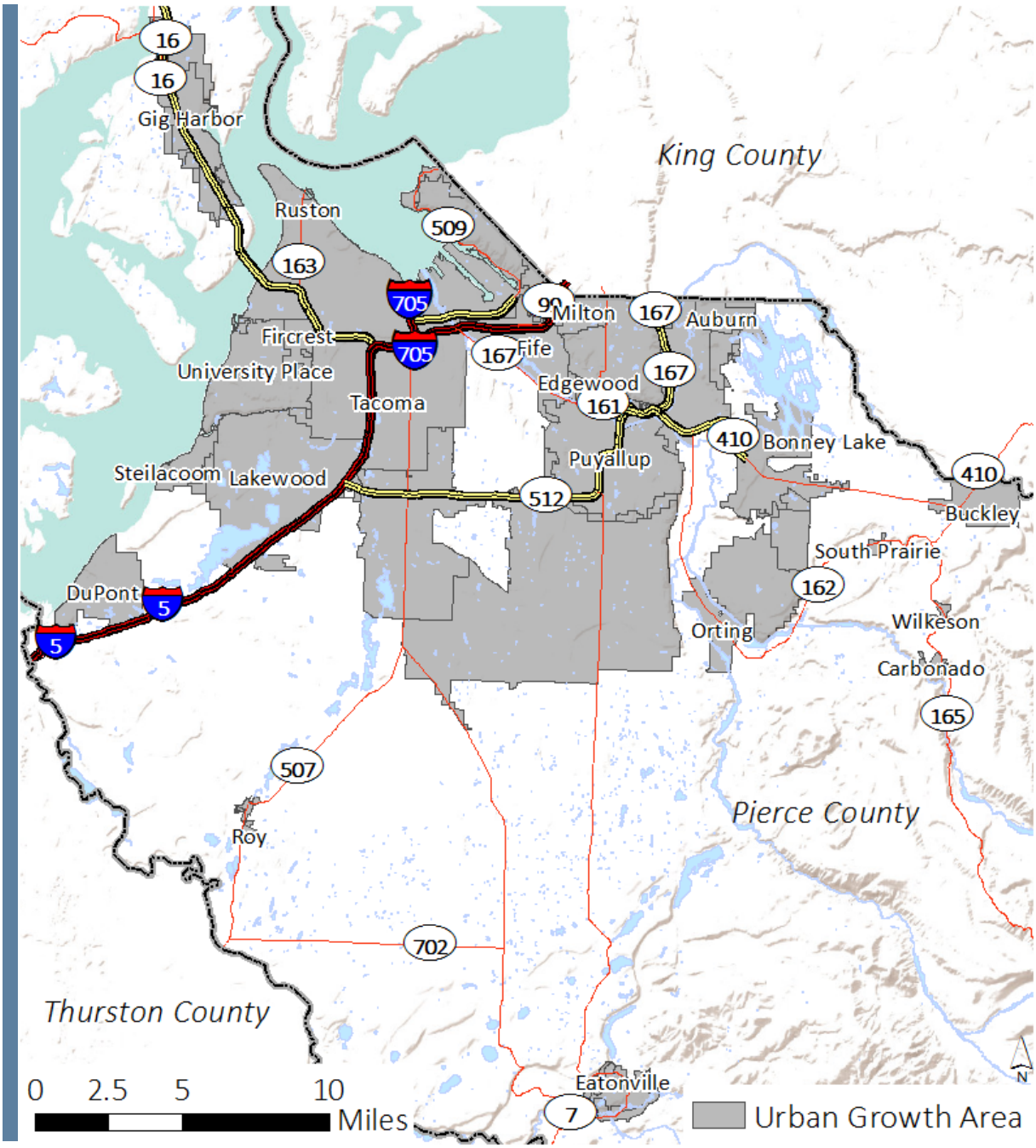
1. If the allowed and assumed densities are consistent with the observed densities.
2. If the housing and employment capacity is consistent with the adopted growth targets.
3. If the housing production rates are consistent with the adopted housing growth target (new requirement as of 2017).

The consistency analysis is important to confirm that the assumptions are valid, the allowed zoning is building out within the range allowed, and if there is enough capacity and development occurring to meet the growth targets. If there is an indication that there is an inconsistency between these datapoints, there should be further review into the extent and cause of the inconsistency. A full consistency analysis will be completed in a subsequent report per Countywide Planning Policies UGA-6.1 and UGA-6.2. This section of the report provides the data necessary to complete that analysis.

NEXT STEPS

Since the 2044 growth targets have not been formally adopted, this Report does not contain the full consistency evaluation and findings. Per the Countywide Planning Policies, the County has one year after the Buildable Lands Report is complete to complete and publish the consistency evaluation.

1 COUNTYWIDE



DEVELOPMENT TRENDS

The Buildable Lands Report also tracks the distribution of development between the urban and rural areas. Over time, the platting trend has been shifting toward creating the majority of new lots within the urban growth area, as shown in Table 1-4. However, there are still undeveloped lots within the rural area that can accommodate a housing unit, as shown in Table 1-1 below. The trends for platting and housing production in the rural area do not always match up due to the amount of existing lots of record in the rural area. As those lots develop, it is expected that they will more closely align.

Housing Production

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report.

While capacity is a large factor in determining the ability to accommodate growth in the urban growth area, housing production rates are integral to achieving the housing growth target. Some jurisdictions have already met or exceeded their 20-year growth. Growth targets for 2044 are expected to be set by 2022, and this information should be updated with the 2024 periodic update of comprehensive plans.

Table 1-1: Housing Production in Urban Growth Area vs. Rural and Resource Lands (Includes Incorporated)

		2013	2014	2015	2016	2017	2018	2019	2020	2013-2020
Urban	Units	2,479	3,016	2,801	2,681	3,697	3,233	3,255	4,105	**25,267**
	Percent	92%	91%	89%	86%	86%	86%	89%	91%	**89%**
Rural/ Resource	Units	224	285	342	419	580	510	415	404	**3,179**
	Percent	8%	9%	11%	14%	14%	14%	11%	9%	**11%**
Total Units		**2,703**	**3,301**	**3,143**	**3,100**	**4,277**	**3,743**	**3,661**	**4,499**	**28,427**

Source: Washington State Office of Financial Management Housing Unit Data (2020).

The following two tables compare the 2010 Census baseline and 2020 OFM estimate for housing units to the adopted 2030 housing unit growth targets for Pierce County in Ordinance Number 2017-84s. The most recent data is used, so it may not align with the data shown in the 2014 Buildable Lands Report.

Table 1-2 shows the number and percent of housing units developed between 2010-2020 in comparison to the 2030 targets, and the remainder of growth needed between 2020-2030 to achieve the target. Table 1-3 shows the observed housing production, average annual rate, average annual rate that was needed to achieve the target, and remainder of the target.

Table 1-2: Countywide Housing Units, Growth, Target, and Remaining Need by Jurisdiction

Jurisdiction	2010 Housing Units[1]	2030 Housing Unit Target[2]	2010-2030 Housing Unit Need[3]	2020 Housing Unit Estimate[4]	Total Housing Production 2010-2020[5]	2020-2030 Housing Unit Need[6]	Percent of 2010-2030 Housing Unit Need Developed Between 2010-2020[7]
Auburn (part)	3,146	3,634	488	3,954	808	-320	166%
Bonney Lake	6,394	8,604	2,210	7,581	1,187	1,023	54%
Buckley	1,669	2,930	1,261	1,974	305	956	24%
Carbonado	218	298	80	244	26	54	33%
DuPont	3,241	5,291	2,050	3,798	557	1,493	27%
Eatonville	1,059	1,353	294	1,130	71	223	24%
Edgewood	3,801	6,003	2,202	4,858	1,057	1,145	48%
Fife	3,895	4,457	562	4,147	252	310	45%
Fircrest	2,847	3,351	504	2,907	60	444	12%
Gig Harbor	3,560	5,431	1,871	5,302	1,742	129	93%
Lakewood	26,548	34,284	7,736	27,053	505	7,231	7%
Milton (part)	2,724	2,779	55	2,942	218	-163	396%
Orting	2,361	3,121	760	2,925	564	196	74%
Pacific (part)	45	0	-45	15	-30	-15	67%
Puyallup	16,171	22,611	6,440	17,961	1,790	4,650	28%
Roy	326	487	161	331	5	156	3%
Ruston	430	775	345	477	47	298	14%
South Prairie	174	215	41	198	24	17	59%
Steilacoom	2,793	3,385	592	2,917	124	468	21%
Sumner	4,279	5,743	1,464	4,560	281	1,183	19%
Tacoma	85,786	129,030	43,244	91,359	5,573	37,671	13%
University Place	13,573	18,698	5,125	14,264	691	4,434	13%
Wilkeson	175	198	23	182	7	16	30%
Unincorporated Urban Pierce County	70,942	99,563	28,621	83,710	12,768	15,853	45%
Urban Total	**256,157**	**362,241**	**106,084**	**284,789**	**28,632**	**77,452**	**27%**

[1]2010 Census baseline, Source: OFM April 1, 2021 Housing Unit Estimate.
[2]2030 housing target, Source: Ord. No. 2017-24s.
[3]2030 housing target minus 2010 Census housing unit baseline.
[4]2020 OFM Estimate, Source: OFM April 1, 2021 Housing Unit Estimate.
[5]2020 OFM Estimate minus 2010 Census baseline
[6]2030 housing target minus 2010-2020 housing production total.
[7]2010-2020 housing production total divided by 2010-2030 housing unit need.

Table 1-3: Countywide Housing Unit Production, Targets, and Remaining Need by Jurisdiction

Jurisdiction	Total Housing Production 2010-2020[1]	Average Annual Housing Production Rate Observed 2010-2020[2]	Average Annual Housing Production Rate Needed 2010-2030[3]	Average Annual Housing Production Rate Needed 2020-2030[4]	Increase in Average Annual Housing Production Rate Needed to Achieve 2030 Target[5]	
Auburn (part)	808	81	24	-	-	-
Bonney Lake	1,187	119	111	102	-	-
Buckley	305	31	63	96	65	210%
Carbonado	26	3	4	5	2	67%
DuPont	557	56	103	149	93	166%
Eatonville	71	7	15	22	15	214%
Edgewood	1,057	106	110	115	9	8%
Fife	252	25	28	31	6	24%
Fircrest	60	6	25	44	38	633%
Gig Harbor	1,742	174	94	13	-	-
Lakewood	505	51	387	723	672	1,318%
Milton (part)	218	22	3	-	-	-
Orting	564	56	38	20	-	-
Pacific (part)	-30	-	-	-	-	-
Puyallup	1,790	179	322	465	286	160%
Roy	5	1	8	16	15	1,500%
Ruston	47	5	17	30	25	500%
South Prairie	24	2	2	2	0	0%
Steilacoom	124	12	30	47	35	292%
Sumner	281	28	73	118	90	321%
Tacoma	5,573	557	2,162	3,767	3,210	576%
University Place	691	69	256	443	374	542%
Wilkeson	7	1	1	2	1	100%
Unincorporated Urban Pierce County	12,768	1,277	1,431	1,585	308	24%
Urban Total	**28,632**	**2,863**	**5,304**	**7,745**	**4,882**	**171%**

[1]2020 OFM Estimate minus 2010 Census Baseline, Source: OFM April 1, 2021 Housing Unit Estimate.
[2]2010-2020 Housing Production divided by 10 (years).
[3]2030 Target minus 2010 Census Baseline divided by 20 (years), Sources: Ord. No. 2017-24s, OFM April 1, 2021 Housing Unit Estimate.
[4]2030 Target minus 2020 OFM Estimate divided by 10 (years).
[5]2020-2030 needed production rate minus / divided by 2010-2020 observed production rate.

Plat Activity

Table 1-4: Platted Lots in Urban Growth Area vs. Rural and Resource Lands (Includes Incorporated)

		2006-2012[1]	2013	2014	2015	2016	2017	2018	2019	2020	2013-2020
Urban	Lots	7,313	666	880	835	1,043	1,172	768	1,193	622	**7,179**
	Percent	84%	88%	96%	88%	96%	94%	89%	94%	88%	**92%**
Rural/ Resource	Lots	1,435	87	36	112	47	73	96	76	85	**612**
	Percent	16%	12%	4%	12%	4%	6%	11%	6%	12%	**8%**
Total Lots		**8,748**	**753**	**916**	**947**	**1,090**	**1,245**	**864**	**1,269**	**707**	**7,791**

[1]2014 Pierce County Buildable Lands Report

Sources: County/City/Town Permit Data, Pierce County Auditor Recorded Plats.

Table 1-5: Countywide Plat Activity by Jurisdiction

Jurisdiction	Gross Acres	Net Acres	Lots	Gross Density	Net Density	Percent of Total Lots
Auburn (part)	20.17	19.01	104	5.16	5.47	1.1%
Bonney Lake	149.50	53.91	275	1.84	5.10	2.9%
Buckley	108.66	65.37	321	2.95	4.91	3.3%
Carbonado	16.15	16.15	18	1.11	1.11	0.2%
DuPont	14.98	14.98	67	4.47	4.47	0.7%
Eatonville	14.84	14.84	23	1.55	1.55	0.2%
Edgewood	212.16	152.21	464	2.19	3.05	4.8%
Fife	7.65	4.64	38	4.96	8.18	0.4%
Fircrest	3.03	3.03	22	7.26	7.26	0.2%
Gig Harbor	323.68	213.52	1,043	3.22	4.88	10.8%
Lakewood	93.08	93.08	182	1.96	1.96	1.9%
Milton (part)	13.35	12.06	43	3.22	3.57	0.4%
Orting	106.10	106.10	417	3.93	3.93	4.3%
Pacific (part)	-	-	-	-	-	-
Puyallup	170.64	159.03	639	3.74	4.02	6.6%
Roy	1.60	1.60	5	3.13	3.13	0.1%
Ruston	-	-	-	-	-	-
South Prairie	-	-	-	-	-	-
Steilacoom	31.10	31.10	85	2.73	2.73	0.9%
Sumner	47.74	31.78	157	3.29	4.94	1.6%
Tacoma	97.01	97.01	444	4.58	4.58	4.6%
University Place	76.78	59.63	299	3.89	5.01	3.1%
Wilkeson	-	-	-	-	-	-
Unincorporated Urban Pierce County	1,847.14	1,468.55	4,981	2.70	3.39	51.7%
Urban Total	**3,355.35**	**2,617.59**	**9,627**	**2.87**	**3.68**	**100.0%**

Multifamily Development

Table 1-6: Countywide Multifamily Development by Jurisdiction

Jurisdiction	Gross Acres	Units	Gross Density	Percent of Total Multifamily Units
Auburn (part)	-	-	-	0.0%
Bonney Lake	27.81	615	22.12	6.2%
Buckley	-	-	-	0.0%
Carbonado	-	-	-	0.0%
DuPont	12.29	175	14.24	1.8%
Eatonville	0.28	4	14.37	0.0%
Edgewood	22.21	475	21.38	4.8%
Fife	9.91	150	15.14	1.5%
Fircrest	0.30	2	6.67	0.0%
Gig Harbor	51.68	649	12.56	6.5%
Lakewood	6.93	92	13.28	0.9%
Milton (part)	-	-	-	0.0%
Orting	0.47	3	6.38	0.0%
Pacific (part)	-	-	-	0.0%
Puyallup	27.63	374	13.53	3.8%
Roy	-	-	-	0.0%
Ruston	-	-	-	0.0%
South Prairie	-	-	-	0.0%
Steilacoom	-	-	-	0.0%
Sumner	9.67	188	19.44	1.9%
Tacoma	83.36	4,065	48.76	41.0%
University Place	1.39	270	193.83	2.7%
Wilkeson	-	-	-	0.0%
Unincorporated Urban Pierce County	173.26	2,854	16.47	28.8%
Urban Total	**427.19**	9,916	**23.21**	**100.0%**

Non-Residential Development

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Table 1-7: Countywide Non-Residential Development by Jurisdiction				
Jurisdiction	**Gross Acres**	**Building Square Feet (SF)**	**Floor-to-Area Ratio**	**Percent of Total Non-Residential Building SF Developed**
Auburn (part)	7.07	154,075	0.50	0.7%
Bonney Lake	41.85	546,742	0.30	2.4%
Buckley	7.22	39,577	0.13	0.2%
Carbonado	-	-	-	-
DuPont	214.96	3,955,958	0.42	17.3%
Eatonville	10.10	2,100	0.00	0.0%
Edgewood	9.25	138,010	0.34	0.6%
Fife	200.18	2,369,015	0.27	10.4%
Fircrest	-	-	-	-
Gig Harbor	37.27	317,602	0.20	1.4%
Lakewood	169.58	2,071,492	0.28	9.1%
Milton (part)	1.23	4,888	0.09	0.0%
Orting	-	-	-	-
Pacific (part)	22.62	332,093	0.34	1.5%
Puyallup	77.08	1,142,862	0.34	5.0%
Roy	0.19	168	0.02	0.0%
Ruston	11.37	215,096	0.43	0.9%
South Prairie	1.67	5,640	0.08	0.0%
Steilacoom	-	-	-	-
Sumner	355.59	5,068,779	0.33	22.2%
Tacoma	177.02	1,374,509	0.18	6.0%
University Place	7.97	321,233	0.93	1.4%
Wilkeson	-	-	-	-
Unincorporated Urban Pierce County	560.30	4,757,799	0.19	20.9%
Urban Total	**1,912.52**	**22,817,638**	**0.27**	**100.0%**

Employment Estimates

Table 1-8: Countywide Employment, Growth, Target, and Remaining Need by Jurisdiction

Jurisdiction	2010 Jobs	2030 Employment Target	2010-2030 Employment Need	2019 Jobs	2010-2019 Employment Growth	2019-2030 Employment Remaining Need
Auburn (part)	590	834	244	1,109	519	0
Bonney Lake	4,505	5,448	943	6,002	1,497	0
Buckley	2,089	3,033	944	2,599	510	434
Carbonado	52	68	16	62	10	6
DuPont	2,937	9,078	6,141	4,650	1,713	4,428
Eatonville	905	2,335	1,430	898	-7	1,437
Edgewood	1,352	3,094	1,742	1,988	636	1,106
Fife	12,504	19,300	6,796	17,190	4,686	2,110
Fircrest	1,369	1,544	175	1,429	60	115
Gig Harbor	9,155	10,189	1,034	12,422	3,267	0
Lakewood	25,259	38,336	13,077	30,982	5,723	7,354
Milton (part)	1,855	2,337	482	2,197	342	140
Orting	1,134	2,370	1,236	1,337	203	1,033
Pacific (part)	2,071	5,156	3,085	2,028	-43	3,128
Puyallup	22,208	34,267	12,059	30,377	8,169	3,890
Roy	158	342	184	248	90	94
Ruston	141	494	353	422	281	72
South Prairie	66	140	74	76	10	64
Steilacoom	659	788	129	701	42	87
Sumner	9,825	21,484	11,659	17,559	7,734	3,925
Tacoma	104,399	176,930	72,531	122,299	17,900	54,631
University Place	6,074	9,593	3,519	7,260	1,186	2,333
Wilkeson	63	85	22	74	11	11
Unincorporated Urban Pierce County	36,336	65,893	29,557	44,760	8,424	21,133
Urban Total	**245,706**	**413,138**	**167,432**	**308,669**	**62,963**	**107,531**

Sources: PSRC Employment Estimates (2019 Estimate), Ord. No. 2017-24s (2030 Targets), 2014 Buildable Lands Report (2010 Estimate).

CAPACITY ANALYSIS

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in each jurisdiction's sub-section. Table 1-9 shows the characteristics of the initial inventory and Table 1-10 shows the amount of land that was reduced from that initial inventory to be included in the

capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 1-9: Countywide Summary of Developable Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross)	8,824.89	22,338.83	1,868.99	6,651.23
Average Lot Size (Gross)	2.37	1.12	0.29	9.04
Total Acreage (Net)	6,499.26	18,935.52	1,119.63	5,308.38
Average Lot Size (Net)	1.74	0.95	0.17	7.21
Percent Critical Areas	26%	15%	40%	20%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 1-10 shows the overall percentage of land assumed available vs. not available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 1-10: Countywide Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	2,325.63	3,403.31
Infrastructure Gaps	1,663.38	5,342.78
Plat Deductions	470.29	1,553.40
Capital Facilities	29.85	45.57
Market Factor	795.97	5,118.28
Total Percent Reduction in Inventory Land	35%	45%
Percent of Vacant or Underutilized Land Available for Capacity	65%	55%

Housing and Employment Capacity

The housing and employment capacity totals in Table 1-11 and Table 1-12: Countywide Employment Capacity and Need by Jurisdiction are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. To meet the Buildable Lands requirements, the 2020-2044 housing and employment capacities have been compared to the 2030 housing and employment growth targets to determine if they are still within those growth expectations.

The data will be updated in a subsequent report to compare with and further analyze consistency with the 2044 growth targets currently under development. Table 1-13 provides preliminary estimate countywide, comparing the draft 2020-2044 housing and employment needs with the capacity results.

Table 1-11: Countywide Housing Capacity and Need by Jurisdiction

Jurisdiction	2020-2044 Housing Capacity (Dwelling Units)	2020-2030 Housing Need (Dwelling Units)[1]	Difference
Auburn (part)	117	0	117
Bonney Lake	2,920	1,023	1,897
Buckley	1,536	956	580
Carbonado	241	54	187
DuPont	1,155	1,493	-338
Eatonville	1,251	223	1,028
Edgewood	3,878	1,145	2,733
Fife	1,173	310	863
Fircrest	124	444	-320
Gig Harbor	2,046	129	1,917
Lakewood	11,371	7,231	4,140
Milton (part)	504	0	504
Orting	280	196	84
Pacific (part)	0	0	0
Puyallup	7,925	4,650	3,275
Roy	185	156	29
Ruston	664	298	366
South Prairie	78	17	61
Steilacoom	655	468	187
Sumner	2,563	1,183	1,380
Tacoma	76,106	37,671	38,435
University Place	9,327	4,434	4,893
Wilkeson	48	16	32
Unincorporated Urban Pierce County	39,530	15,853	23,677
Urban Total	**163,677**	**77,452**	**86,225**

[1]Calculations for housing need are shown in Table 1-2.

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Table 1-12: Countywide Employment Capacity and Need by Jurisdiction

Jurisdiction	2020-2044 Employment Capacity (Jobs)	2019-2030 Employment Need (Jobs)[2]	Difference
Auburn (part)	656	0	656
Bonney Lake	3,945	0	3,945
Buckley	1,412	434	978
Carbonado	192	6	186
DuPont[1]	4,104	4,428	-324
Eatonville	2,315	1,437	878
Edgewood	3,003	1,106	1,897
Fife	5,077	2,110	2,967
Fircrest	270	115	155
Gig Harbor	3,943	0	3,943
Lakewood	12,647	7,354	5,293
Milton (part)	1,506	140	1,366
Orting	790	1,033	-243
Pacific (part)	2,382	3,128	-746
Puyallup	11,119	3,890	7,229
Roy	169	94	75
Ruston	782	72	710
South Prairie	228	64	164
Steilacoom	372	87	285
Sumner	4,439	3,925	514
Tacoma	94,116	54,631	39,485
University Place	1,840	2,333	-494
Wilkeson	37	11	26
Unincorporated Urban Pierce County	28,768	21,133	7,635
Urban Total	**184,111**	**107,531**	**76,580**

[1]The City of DuPont recently rezoned a large portion of commercial/industrial land for future mixed use development. The change will be reflected in the 2044 growth targets.

[2]Calculations for employment need are shown in Table 1-8.

DRAFT

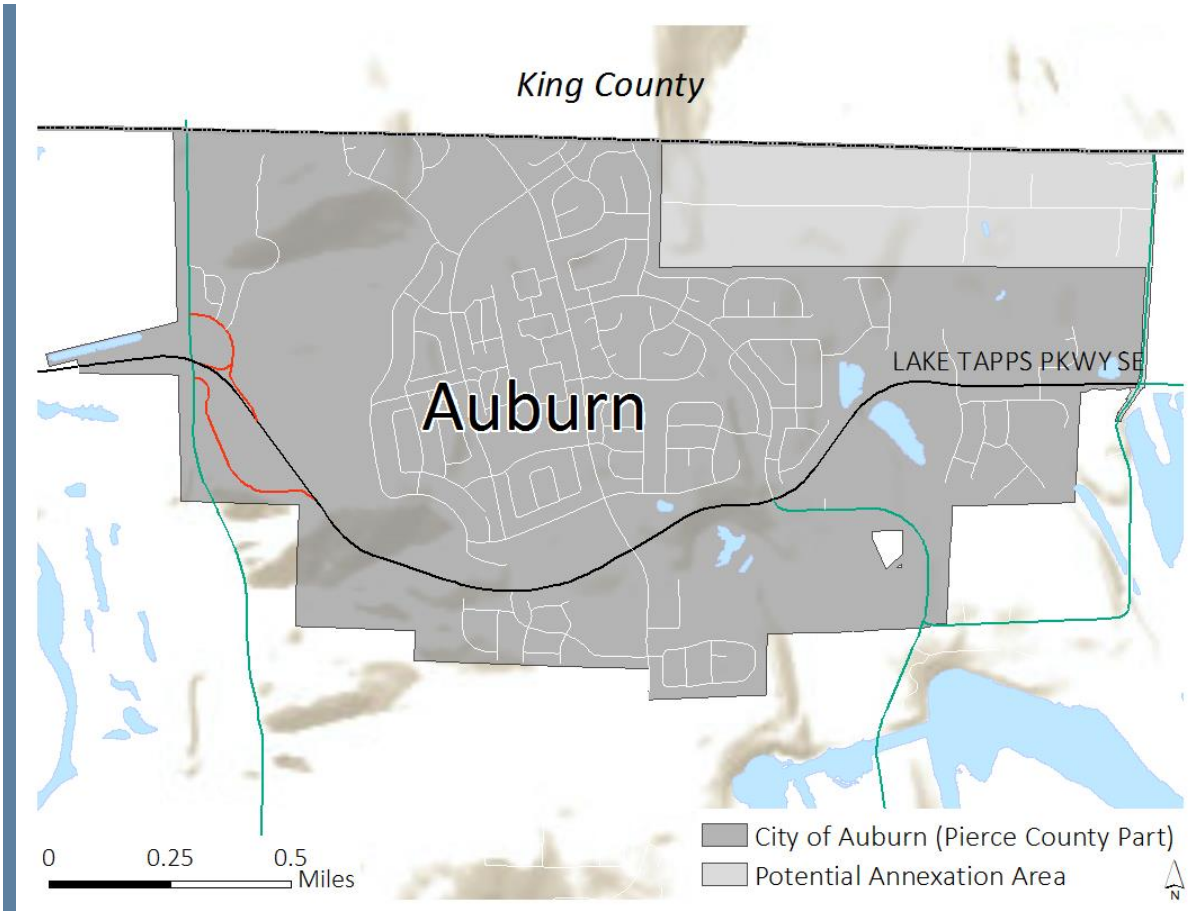
Table 1-13: Countywide Capacity and DRAFT 2020-2044 Need

Jurisdiction	Housing Capacity	2020-2044 DRAFT Housing Need	Difference	Employment Capacity	2020-2044 DRAFT Employment Need	Difference
Auburn (part)	117	96	21	656	0	656
Bonney Lake	2,920	3,000	-80	3,945	1,750	2,195
Buckley	1,536	1,374	162	1,412	1,101	311
Carbonado	241	17	224	192	6	186
DuPont	1,155	1,960	-805	4,104	1,200	2,904
Eatonville	1,251	*	*	2,315	*	*
Edgewood	3,878	2,432	1,446	3,003	2,000	1,003
Fife	1,173	840	333	5,077	2,110	2,967
Fircrest	124	788	-664	270	115	155
Gig Harbor	2,046	**	**	3,943	**	**
Lakewood	11,371	3,340	8,031	12,647	10,054	2,593
Milton (part)	504	259	245	1,506	450	1,056
Orting	280	168	112	790	200	590
Pacific (part)	0	0	0	2,382	**	**
Puyallup	7,925	6,880	1,045	11,119	15,000	-3,881
Roy	185	*	*	169	*	*
Ruston	664	*	*	782	*	*
South Prairie	78	13	65	228	10	218
Steilacoom	655	176	479	372	10	362
Sumner	2,563	2,035	528	4,439	5,416	-977
Tacoma	76,106	40,317	35,789	94,116	72,171	21,945
University Place	9,327	3,294	6,033	1,840	3,000	-1,161
Wilkeson	48	69	-21	37	11	26
Unincorporated Urban Pierce County	39,530	21,398	18,132	28,768	22,734	6,034
Urban Total	**163,677**	**88,456**	**75,221**	**184,111**	**137,338**	**46,773**

*Community has elected not to participate in the employment growth target setting process

**Community has participated in the employment growth target setting process however has not finalized a draft growth target at this time.

2 CITY OF AUBURN (PIERCE COUNTY PART)



The City of Auburn is primarily located within King County; however, a portion of the City is located within Pierce County. This section focuses solely on the Pierce County portion. In 2018, the City changed from a net density to gross density calculation. Most of the area within the City limits in Pierce County is associated with the Lakeland Hills South Planned Unit Development (PUD). Vested projects in the Lakeland Hills South PUD would continue to be based on the original regulations.

Table 2-1: City of Auburn Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
C1	Commercial	Commercial	20.8
I	Industrial	Industrial	11.9
PUD	Lakeland Hills Planned Unit District	Planned Development	665.8
OS	Open Space	N/A	20.4
R-5	Residential 5	Residential	111.2
R-7	Residential 7	Residential	0.0
TV	Terrace View District	Mixed Use	48.7

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2018 and plat activity through December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 2-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 2-3 shows the average floor-to-area (FAR) ratio by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 2-2: City of Auburn 2013-2020 Residential Trends by Zone[1]

Zone	Acres	Lots/Units	Density
PUD	12.17	88	7.23
R-5	8.00	16	2.00
Total/Avg.	**20.17**	**104**	**5.16**

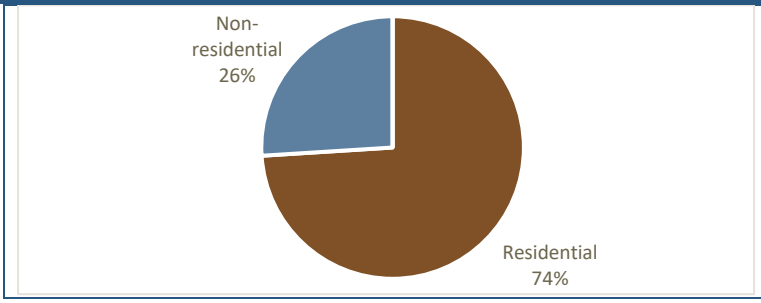
Table 2-3: City of Auburn 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
PUD	3.90	24,377	0.14
TV	3.17	129,698	0.94
Total/Avg.	**7.07**	**154,075**	**0.50**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 2-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 2-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 2-A: City of Auburn Residential vs. Non-residential Development Split



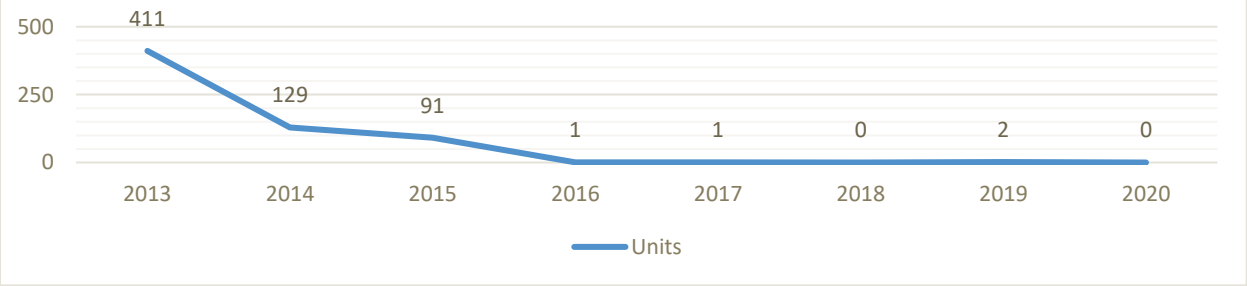
Zone	Use Type Split (Percent)[1]	
	Residential	Non-residential
PUD	76%	24%
R-5	100%	0%
TV	0%	100%
Avg.	**74%**	**26%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-3 (Countywide).

Figure 2-B: City of Auburn Housing Production Rates (OFM)

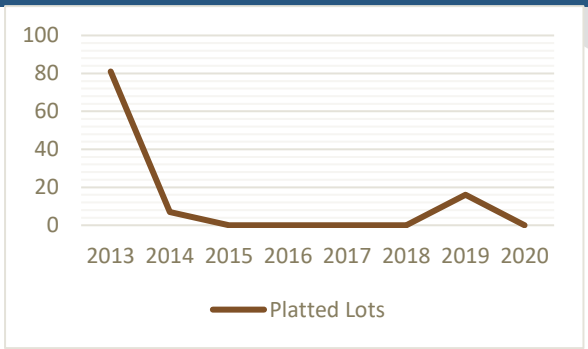


Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

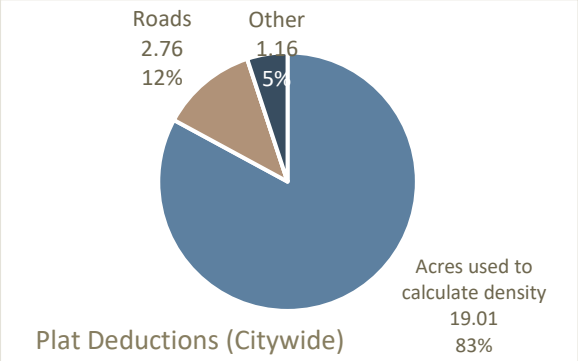
Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 2-2).

Figure 2-C: City of Auburn Platting Trends



Plat Activity by Year

Year	Lots	Acres	Density (Net)
2013	81	10.80	7.50
2014	7	1.37	5.11
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	16	8.00	2.00
2020	-	-	-
Total	**104**	**20.17**	**5.16**



Plat Deductions by Zone (Percent)

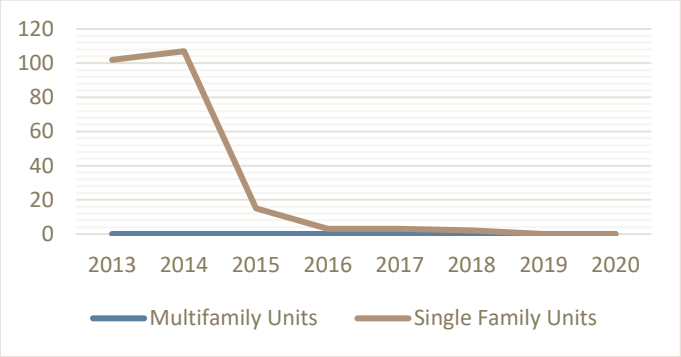
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
PUD	22.7%	0.0%	9.5%	0.0%
R-5	0.0%	0.0%	0.0%	0.0%
Avg.	**13.7%**	**0.0%**	**5.8%**	**0.0%**

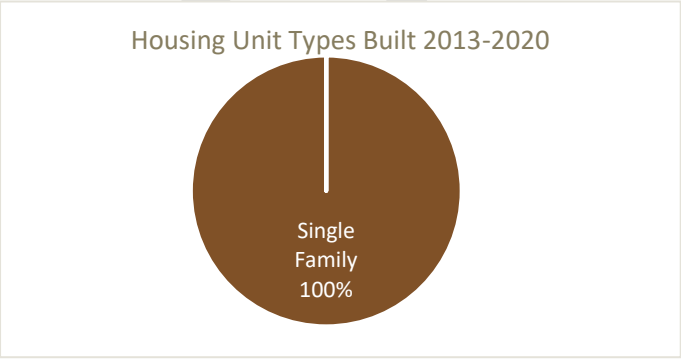
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 2-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 2-D: City of Auburn Residential Building Permit Trends





Multifamily Permits by Year

No multifamily permits were observed in the timeframe.

Single Family Permits by Year (Optional)

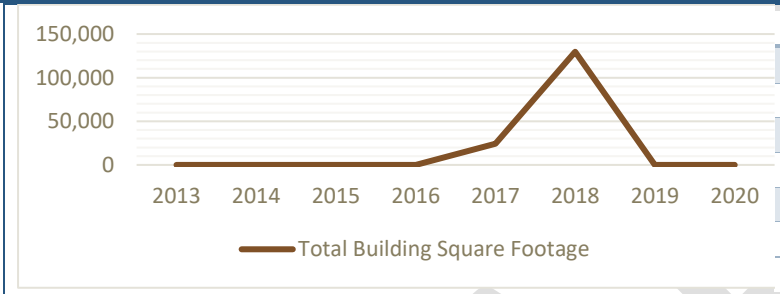
Year	Units	Acres	Avg. Lot Size
2013	102	12.47	0.12
2014	107	13.30	0.12
2015	15	2.93	0.20
2016	3	0.65	0.22
2017	3	0.55	0.55
2018	2	0.74	0.37
Total	**232**	**30.63**	**0.13**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 2-E: City of Auburn Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	3.90	24,377	0.25
2018	3.17	129,698	0.94
Total	**7.07**	**154,075**	**0.50**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 2-4 and Table 2-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 2-4: City of Auburn Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
C1	0%	0	100%	20	0%	0%	1%	1%	1%
I	0%	0	100%	20	0%	0%	1%	1%	1%
PUD	0%	0	100%	20	0%	0%	1%	0%	1%
R-5	100%	5	0%	0	1%	1%	0%	0%	0%
R-7	100%	7	0%	0	1%	1%	0%	0%	0%
TV	Zone is Built Out – No Further Capacity								

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 2-5: City of Auburn Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
R-5	7%	GIS	2%	0%	0%	<0.46 acres
R-7	7%	GIS	2%	0%	0%	<0.23 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 2-6 shows the characteristics of the initial inventory and Table 2-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 2-6: City of Auburn Summary of Inventory Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	27.66	28.36	4.08	0.00
Average Lot Size (Gross)	2.13	3.55	0.26	0.00
Total Acreage (Net)	21.94	17.22	3.35	0.00
Average Lot Size (Net)	1.69	2.15	0.21	0.00
Percent Critical Areas	21%	39%	18%	0%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 2-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 2-7: City of Auburn Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	5.72	11.15
Plat Deductions	0.26	1.77
Capital Facilities	0.28	0.27
Market Factor	0.28	0.27
Total Percent Reduction in Inventory Land	3%	8%
Percent of Vacant or Underutilized Land Available for Capacity	97%	92%

Capacity Results

The housing and employment capacity totals in Table 2-8 and Table 2-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 2-8: City of Auburn 2020-2044 Housing Capacity (Dwelling Units)

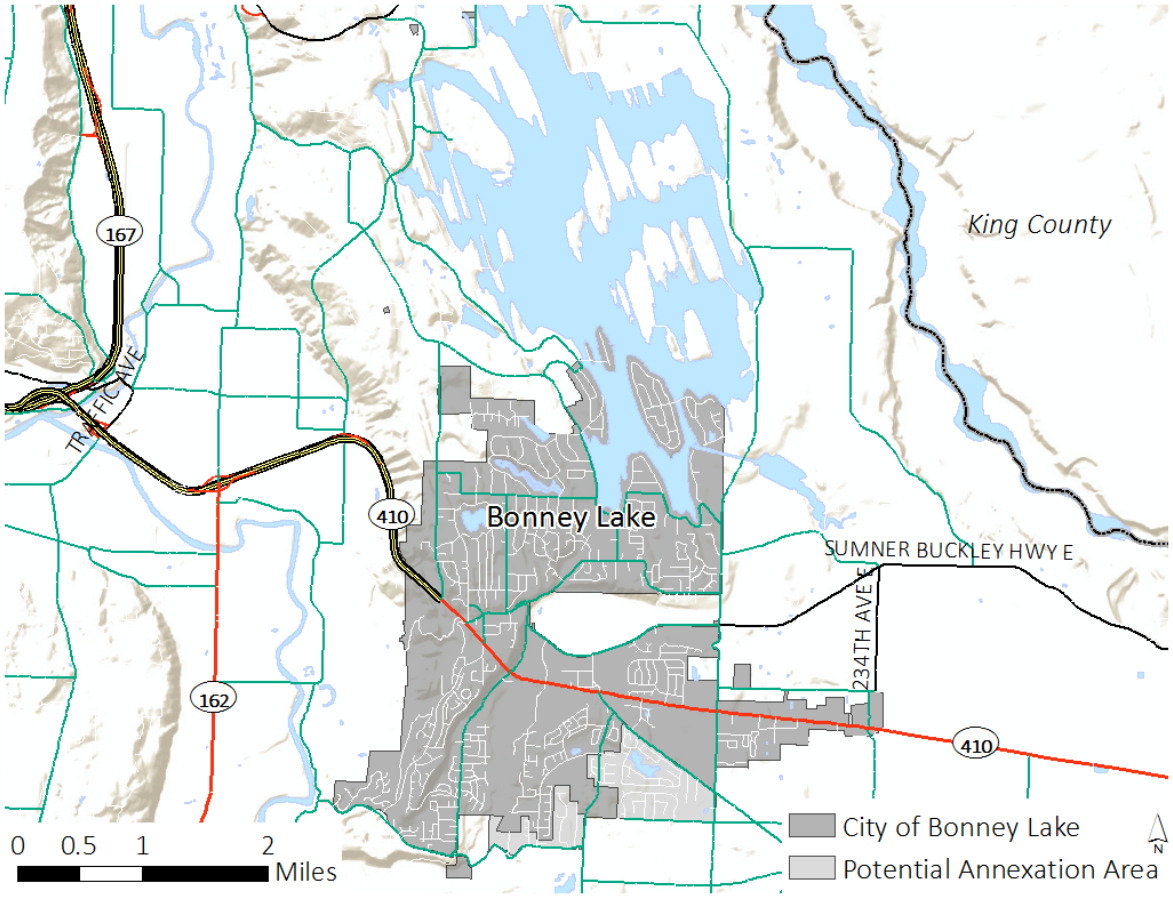
Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
C1	0	0	0	0	0
I	0	0	0	0	0
PUD	0	0	0	0	0
R-5	13	88	16	0	117
R-7	0	0	0	0	0
TV	0	0	0	0	0
Total	13	88	16	0	117

Table 2-9: City of Auburn 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
C1	200	170	0	370
I	177	0	0	177
PUD	109	0	0	109
R-5	0	0	0	0
R-7	0	0	0	0
TV	0	0	0	0
Total	486	170	0	656

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3 CITY OF BONNEY LAKE



The City implements densities using a net acreage, deducting critical areas and buffers.

Table 3-1: City of Bonney Lake Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
C1	Neighborhood Commercial District	Mixed Use	0.3
C2	Commercial District	Commercial	51.8
DC	Downtown Core District	Mixed Use	8.8
DM	Downtown Mixed Use District	Mixed Use	22.5
E	Eastown District	Mixed Use	247.2
MC	Midtown Core District	Commercial	265.6
PF	Public Facility District	Public Use	477.7
R1	Low Density Residential	Residential	2,460.2
R2	Medium Density Residential	Residential	283.4
R3	High Density Residential	Residential	157.0
RC5	Residential/Conservation District	Residential	301.8

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.

[2]Represents parcel acreage, not zoning coverage.

Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 3-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 3-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 3-2: City of Bonney Lake 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
C2	18.05	408	22.61
R1	149.50	275	1.84
R3	9.76	207	21.21
Total/Avg.	**177.31**	**890**	**5.02**

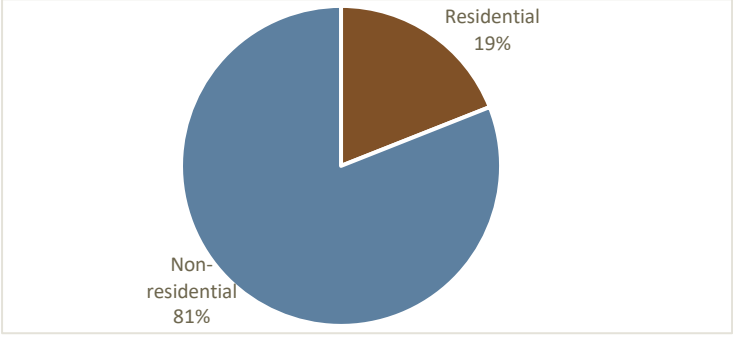
Table 3-3: City of Bonney Lake 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
C2	3.67	34,776	0.22
DC	0.77	20,915	0.62
DM	3.12	73,455	0.54
E	13.53	227,290	0.39
MC	20.76	190,306	0.21
Total/Avg.	**41.85**	**546,742**	**0.30**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 3-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 3-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 3-A: City of Bonney Lake Residential vs. Non-residential Development Split



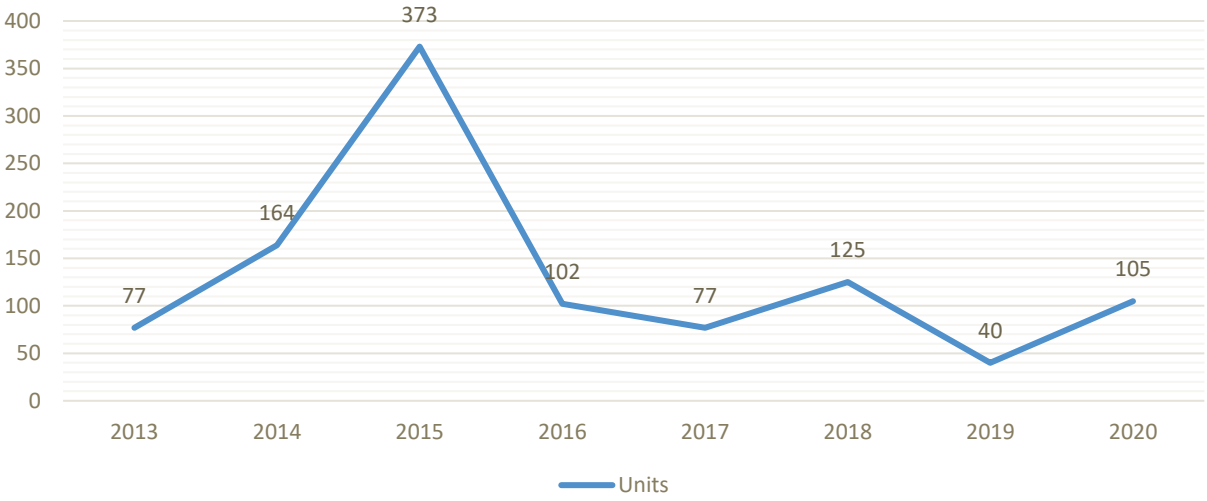
Zone	Use Type Split (Percent)[1]	
	Residential	Non-residential
C2	83%	17%
DC	0%	100%
DM	0%	100%
E	0%	100%
MC	0%	100%
R1	100%	0%
R3	100%	0%
Avg.	**81%**	**19%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 3-B: City of Bonney Lake Housing Production Rates (OFM)

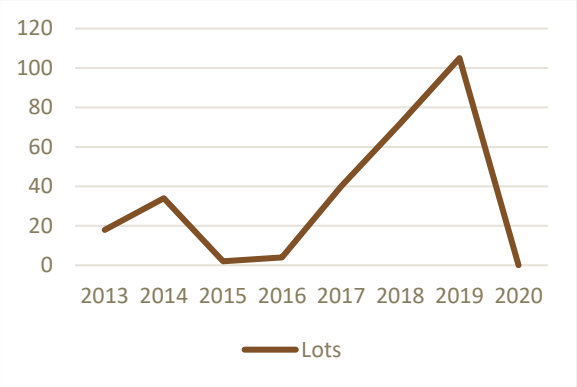


Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

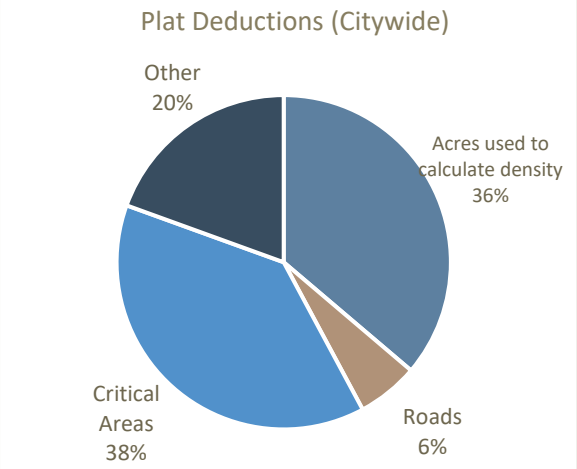
Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 3-2).

Figure 3-C: City of Bonney Lake Platting Trends



Plat Activity by Year

Year	Lots	Acres	Density
2013	18	3.18	5.67
2014	34	4.37	7.79
2015	2	0.40	5.03
2016	4	0.91	4.41
2017	40	10.83	3.69
2018	72	14.86	4.85
2019	105	19.37	5.42
2020	-	-	-
Total	**275**	**53.91**	**5.10**



Plat Deductions by Zone (Percent)

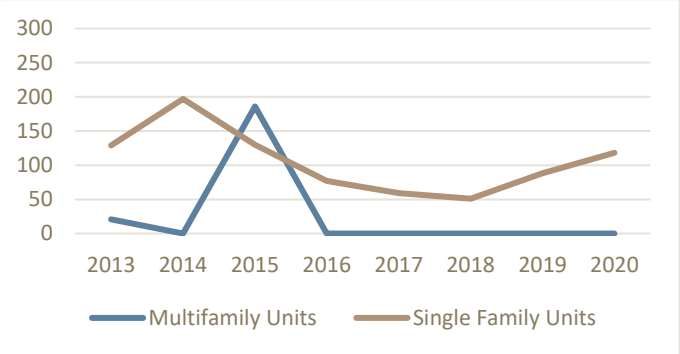
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
R1	5.9%	38.2%	16.3%	3.1%
R2	-	-	-	-
Average	**5.9%**	**38.2%**	**16.3%**	**3.1%**

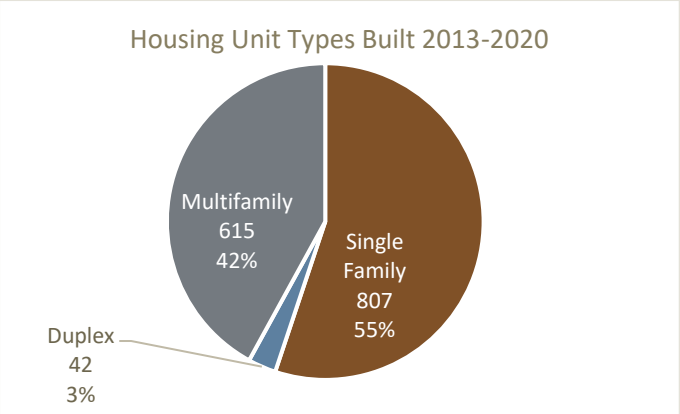
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 3-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 3-D: City of Bonney Lake Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Net Acres	Net Density
2013	21	1.08	19.44
2014	-	-	-
2015	186	8.68	21.43
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	-		-
2020	408	18.05	22.61
Total	**615**	**27.81**	**22.12**

Single Family Permits by Year (Optional)

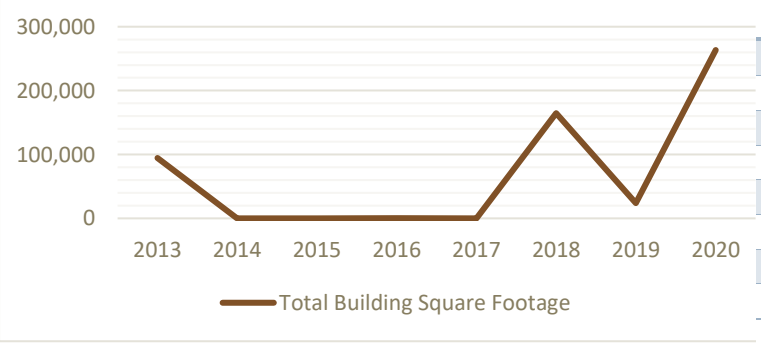
Year	Units	Acres	Avg. Lot Size
2013	129	32.83	0.28
2014	197	46.86	0.24
2015	130	25.29	0.20
2016	77	22.11	0.29
2017	59	15.17	0.26
2018	51	11.35	0.22
2019	88	24.33	0.29
2020	118	30.13	0.26
Total	**849**	**208.06**	**0.25**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 3-E: City of Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	3.89	94,370	0.56
2014	-	-	-
2015	-	-	-
2016	0.66	260	0.01
2017	-	-	-
2018	15.40	164,534	0.25
2019	2.54	24,113	0.22
2020	19.36	263,465	0.31
Total	**41.85**	**546,742**	**0.30**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 3-4 and Table 3-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 3-4: City of Bonney Lake Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
C1	50%	6	50%	20	15%	35%	15%	35%	0%
C2	0%	0	100%	20	15%	35%	15%	35%	0%
DC	20%	15	80%	20	15%	35%	15%	35%	0%
DM	50%	15	50%	20	15%	35%	15%	35%	0%
E	0%	20	100%	20	15%	35%	15%	35%	0%
MC	0%	0	100%	20	15%	35%	15%	35%	0%
PF	0%	0	100%	20	15%	35%	15%	35%	0%
R1	100%	4	0%	20	15%	30%	0%	0%	0%
R2	100%	6	0%	20	15%	30%	0%	0%	0%
R3	100%	15	0%	20	15%	30%	0%	0%	0%
RC5	100%	0.15	0%	20	15%	30%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 3-5: City of Bonney Lake Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
R-1	15%	GIS	0%	5%	5%	<0.50 acres
R-2	15%	GIS	0%	5%	5%	<0.49 acres
R-3	15%	GIS	0%	5%	5%	<0.30 acres
RC-5	15%	GIS	0%	5%	5%	<12.50 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 3-6 shows the characteristics of the initial inventory and Table 3-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 3-6: City of Bonney Lake Summary of Inventory Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	182.83	621.47	209.95	181.83
Average Lot Size (Gross)	2.13	1.46	0.66	4.23
Total Acreage (Net)	127.93	495.33	63.90	153.03
Average Lot Size (Net)	1.49	1.17	0.20	3.56
Percent Critical Areas	30%	20%	70%	16%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 3-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 3-7: City of Bonney Lake Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	54.90	126.14
Infrastructure Gaps	13.63	40.84
Plat Deductions	13.37	76.54
Capital Facilities	0.00	0.00
Market Factor	21.87	137.94
Total Percent Reduction in Inventory Land	32%	52%
Percent of Vacant or Underutilized Land Available for Capacity	68%	48%

Capacity Results

The housing and employment capacity totals in Table 3-8 and Table 3-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 3-8: City of Bonney Lake 2020-2044 Housing Capacity (Dwelling Units)

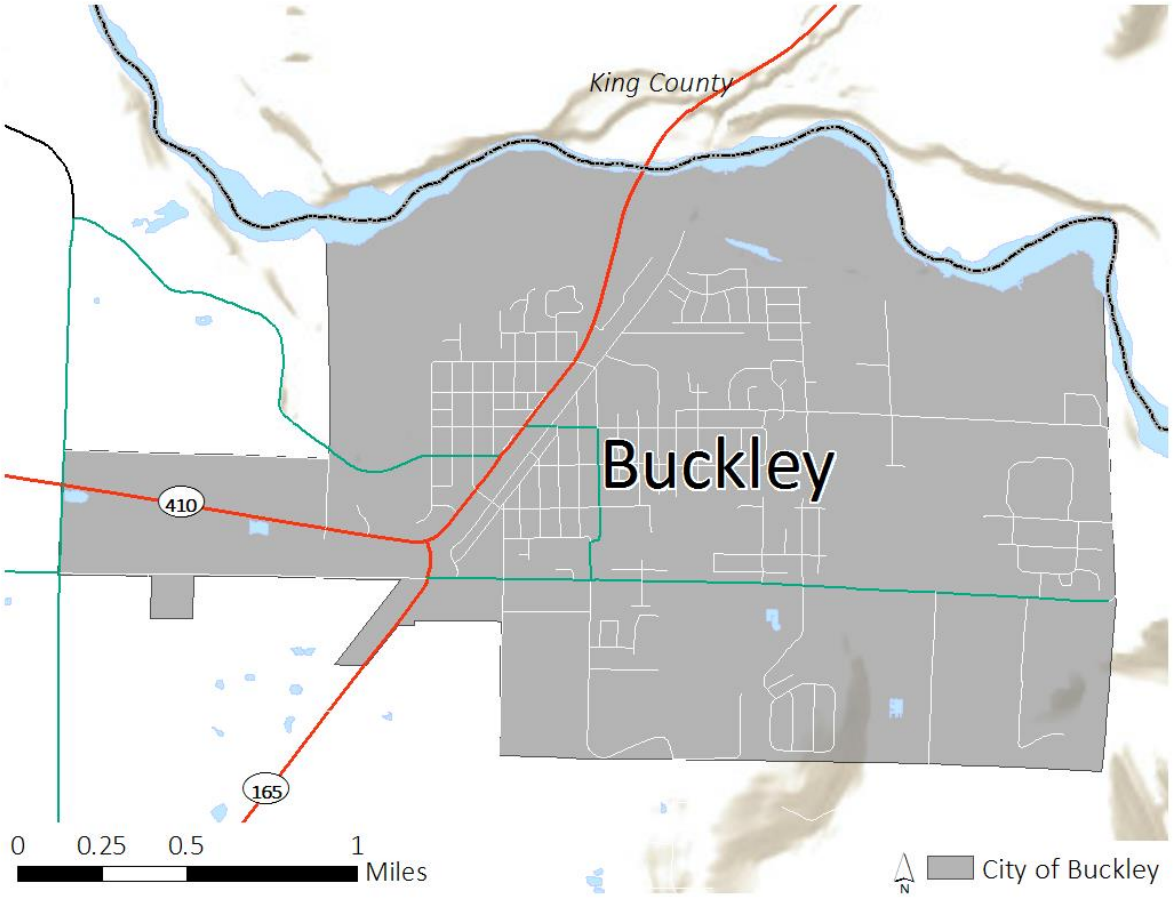
Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
C1	0	0	0	0	**0**
C2	0	0	0	408	**408**
DC	1	7	0	0	**8**
DM	16	14	0	0	**30**
E	0	0	0	52	**52**
MC	0	0	0	165	**165**
PF	0	0	1	0	**1**
R1	123	625	270	47	**1,065**
R2	14	164	32	8	**218**
R3	147	217	0	594	**958**
RC5	0	0	15	0	**15**
Total	**301**	**1,027**	**318**	**1,274**	**2,920**

Table 3-9: City of Bonney Lake 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
C1	0	0	0	0
C2	174	84	70	328
DC	4	36	0	40
DM	40	19	79	138
E	822	1,229	194	2,245
MC	338	236	74	648
PF	0	240	0	240
R1	0	240	0	240
R2	0	42	0	42
R3	0	22	0	22
RC5	0	2	0	2
Total	1,378	2,150	417	3,945

DRAFT

4 CITY OF BUCKLEY



The City of Buckley's Comprehensive Plan and regulations implement densities based on minimum lot size.

Table 4-1: City of Buckley Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
CC	Central Commercial	Mixed Use	61.0
GC	General Commercial	Commercial	100.7
HC	Historical Commercial	Mixed Use	2.7
HDR	High Density Residential	Residential	63.0
LI	Light Industrial	Industrial	44.1
NMU	Neighborhood Mixed-Use	Mixed Use	128.8
P	Public	Public Use	438.7
R-20,000	R-20,000 Residential	Residential	185.9
R-6,000	R-6,000 Residential	Residential	276.1
R-8,000	R-8,000 Residential	Residential	521.6
S	Environmentally Sensitive	N/A	413.7

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.

[2]Represents parcel acreage, not zoning coverage.

Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 4-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 4-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 4-2: City of Buckley 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
HDR	0.93	4	4.30
R-6,000	81.96	245	2.99
R-8,000	25.78	72	2.79
Total/Avg.	**108.66**	**321**	**2.95**

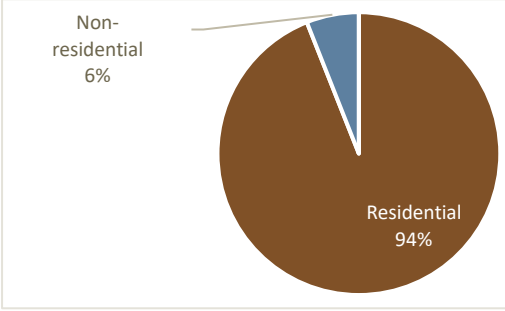
Table 4-3: City of Buckley 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
CC	0.84	4,388	0.12
GC	4.17	32,012	0.18
LI	2.21	3,177	0.03
Total/Avg.	**7.22**	**39,577**	**0.13**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 4-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 4-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 4-A: City of Buckley Residential vs. Non-residential Development Split



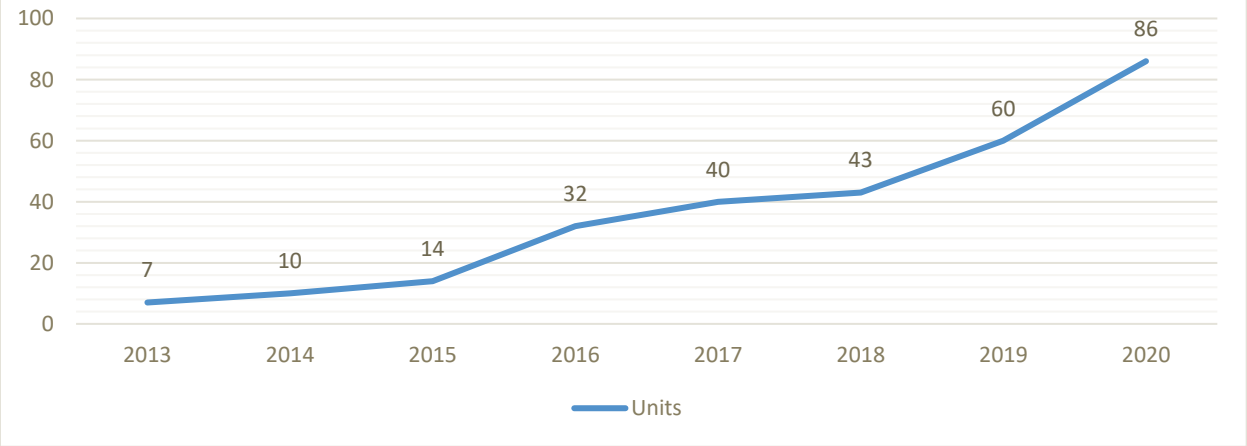
Zone	Use Type Split (Percent)[1] Residential	Non-residential
CC	0%	100%
GC	0%	100%
HDR	100%	0%
LI	0%	100%
R-6,000	100%	0%
R-8,000	100%	0%
Total	**94%**	**6%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 4-B: City of Buckley Housing Production Rates (OFM)

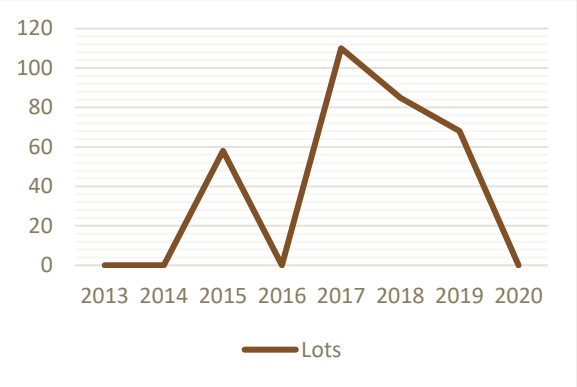


Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

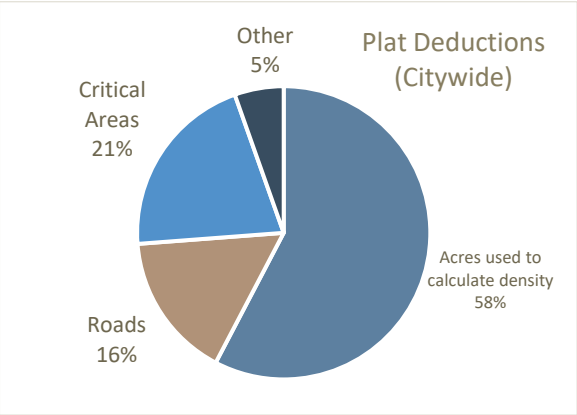
Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 4-2).

Figure 4-C: City of Buckley Platting Trends



Plat Activity by Year

Year	Lots	Acres	Density
2013	-	-	-
2014	-	-	-
2015	58	9.75	5.95
2016	-	-	-
2017	110	18.49	5.95
2018	85	18.62	4.56
2019	68	18.51	3.67
2020	-	-	-
Total	**321**	**65.37**	**4.91**



Plat Deductions by Zone (Percent)

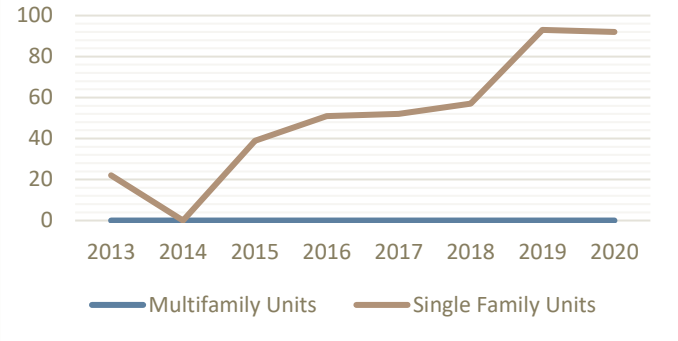
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
HDR	19.6%	-	8.7%	0.0%
R-6,000	16.0%	30.8%	0.4%	4.6%
R-8,000	20.9%	-	0.6%	6.2%
Average	**17.2%**	**23.3%**	**0.5%**	**5.0%**

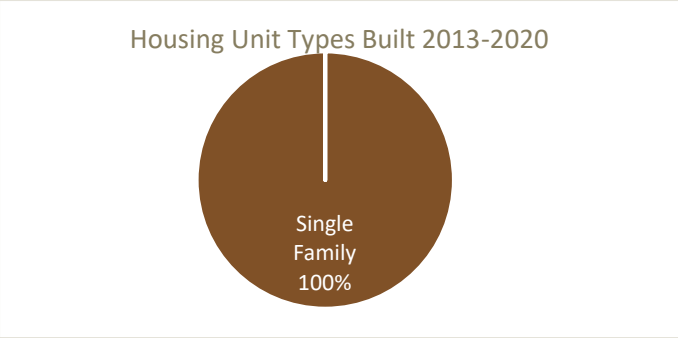
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 4-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 4-D: City of Buckley Residential Building Permit Trends





Multifamily Permits by Year

No multifamily permits were observed in the timeframe.

Single Family Permits by Year (Optional)

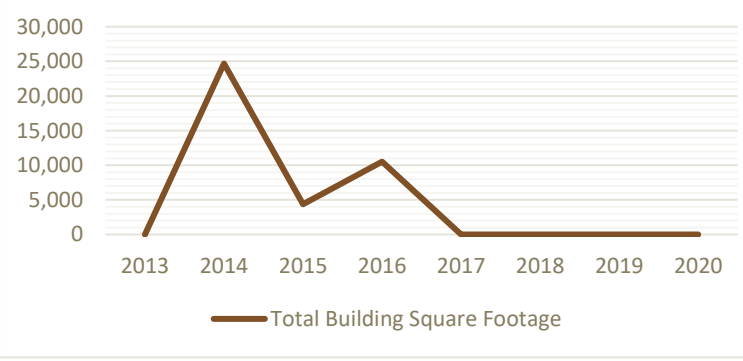
Year	Units	Acres	Avg. Lot Size
2013	22	7.89	0.36
2014	-	-	-
2015	39	14.08	0.36
2016	51	16.23	0.32
2017	52	14.33	0.28
2018	57	11.18	0.20
2019	93	26.30	0.28
2020	92	26.34	0.29
Total	**406**	**116.35**	**0.29**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 4-E: City of Buckley Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	-	-	-
2014	4.09	24,677	0.14
2015	0.84	4,388	0.12
2016	2.29	10,512	0.11
2017	-	-	-
2018	-	-	-
2019	-	-	-
2020	-	-	-
Total	**7.22**	**39,577**	**0.13**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 4-4 and Table 4-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 4-4: City of Buckley Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
CC	0%	5	100%	20	0%	0%	50%	50%	0%
GC	0%	0	100%	20	0%	0%	50%	50%	0%
HC	0%	5	100%	20	0%	0%	50%	50%	0%
HDR	100%	5	0%	0	0%	0%	50%	50%	0%
LI	0%	0	100%	9	0%	0%	50%	50%	0%
NMU	80%	6	20%	20	50%	50%	50%	50%	0%
P	0%	0	100%	20	0%	0%	50%	50%	0%
R-20,000	100%	2	0%	20	30%	50%	0%	0%	0%
R-6,000	100%	5	0%	20	30%	50%	0%	0%	0%
R-8,000	100%	4	0%	20	30%	50%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 4-5: City of Buckley Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
R-20,000	10%	GIS	3%	0%	1%	<1.15 acres
R-6,000	10%	GIS	3%	0%	1%	<0.34 acres
R-8,000	10%	GIS	3%	0%	1%	<0.46 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 4-6 shows the characteristics of the initial inventory and Table 4-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 4-6: City of Buckley Summary of Vacant and Underutilized Land Characteristics				
Characteristics/Category	**Vacant**	**Underutilized**	**Vacant Single Unit**	**Pipeline**
Total Acreage (Gross	211.84	560.73	52.25	120.72
Average Lot Size (Gross)	3.07	2.28	0.33	4.31
Total Acreage (Net)	166.99	462.64	33.95	71.62
Average Lot Size (Net)	2.42	1.88	0.21	2.56
Percent Critical Areas	21%	17%	35%	41%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 4-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 4-7: City of Buckley Summary of Deductions		
Deductions/Category	**Vacant**	**Underutilized**
Critical Areas	44.86	98.10
Plat Deductions	12.52	39.23
Capital Facilities	0.00	0.00
Market Factor	62.98	208.97
Total Percent Reduction in Inventory Land	51%	61%
Percent of Vacant or Underutilized Land Available for Capacity	49%	39%

Capacity Results

The housing and employment capacity totals in Table 4-8 and Table 4-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

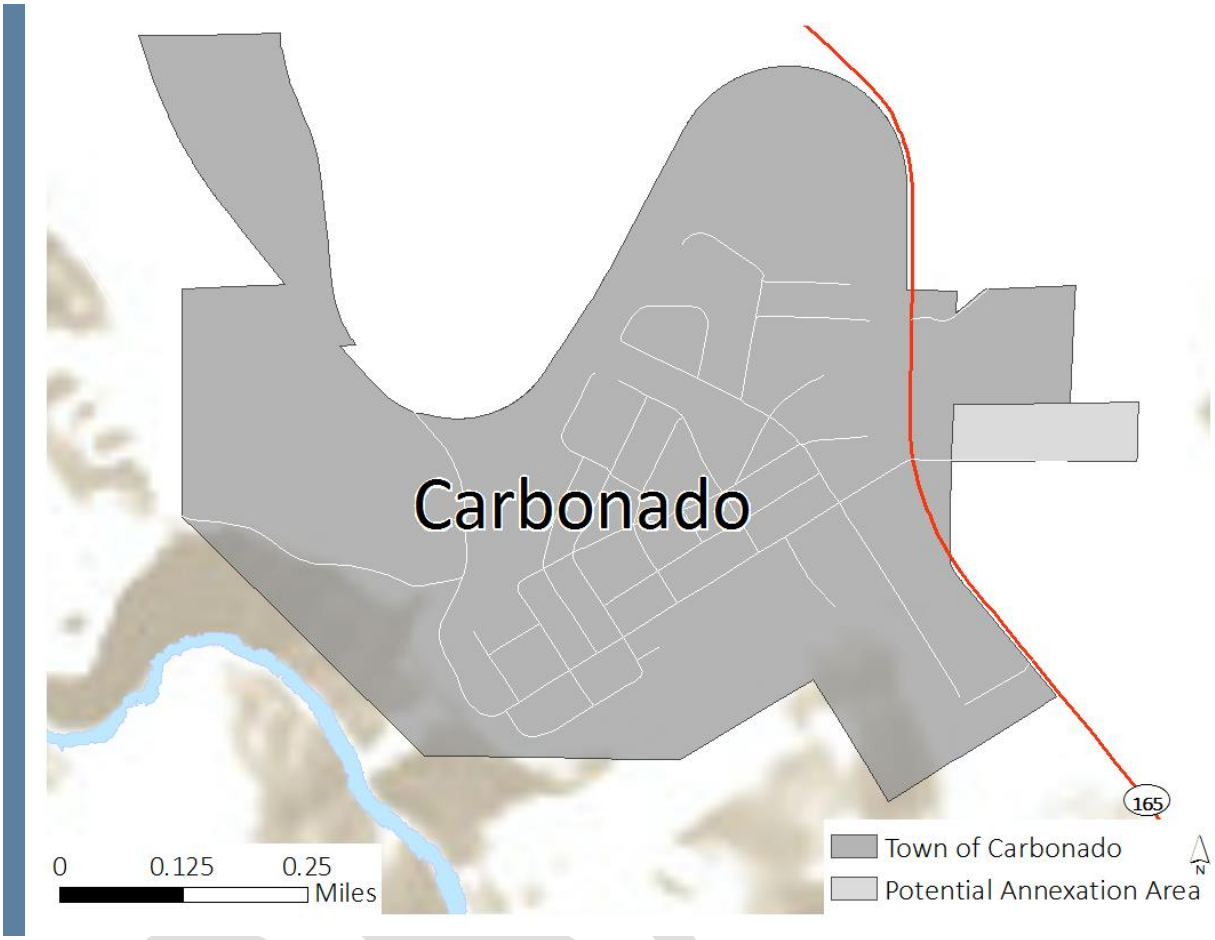
Table 4-8: City of Buckley 2020-2044 Housing Capacity (Dwelling Units)					
one	**Vacant**	**Underutilized**	**Vacant Single Unit**	**Pipeline**	**Total**
CC	0	0	0	0	**0**
GC	0	0	0	0	**0**
HC	0	0	0	0	**0**
HDR	32	39	0	20	**91**
LI	0	0	0	0	**0**
NMU	39	198	0	40	**277**
P	0	0	0	0	**0**
R-20,000	22	52	31	1	**106**
R-6,000	7	69	84	232	**392**
R-8,000	182	356	43	89	**670**
Total	**282**	**714**	**158**	**382**	**1,536**

Table 4-9: City of Buckley 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
CC	190	72	13	275
GC	204	485	80	769
HC	0	1	0	1
HDR	0	0	0	0
LI	12	74	18	104
NMU	32	167	0	199
P	0	11	0	11
R-20,000	0	11	0	11
R-6,000	0	6	0	6
R-8,000	0	36	0	36
Total	438	863	111	1,412

DRAFT

5 TOWN OF CARBONADO



The Town of Carbonado's Comprehensive Plan and regulations implement densities using gross acreage.

Table 5-1: Town of Carbonado Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
CF	Community Facilities District	Public Use	39.5
CMU	Commercial/Mixed-Use District	Mixed Use	4.5
POS	Parks & Open Space District	N/A	2.8
RLD	Residential Low Density District	Residential	173.2
RMD	Residential Moderate Density District	Residential	37.4

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the Town zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: Town Zoning Code.

DEVELOPMENT TRENDS

This section summarizes building and plat data obtained through the Pierce County Assessor-Treasurer and Auditor Departments observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this

section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 5-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 5-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 5-2: Town of Carbonado 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
RLD	7.06	16	2.27
RMD	9.09	2	0.22
Total/Avg.	**16.15**	**18**	**1.11**

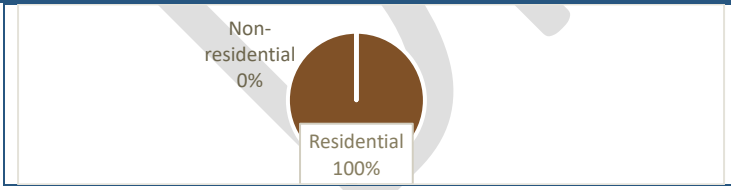
[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Table 5-3: Town of Carbonado 2013-2020 Non-residential Trends by Zone

No non-residential permits were observed in the timeframe.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 5-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 5-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 5-A: Town of Carbonado Residential vs. Non-residential Development Split



Zone	Use Type Split (Percent)[1] Residential	Non-residential
RLD	100%	0%
RMD	100%	0%
Average	**100%**	**0%**

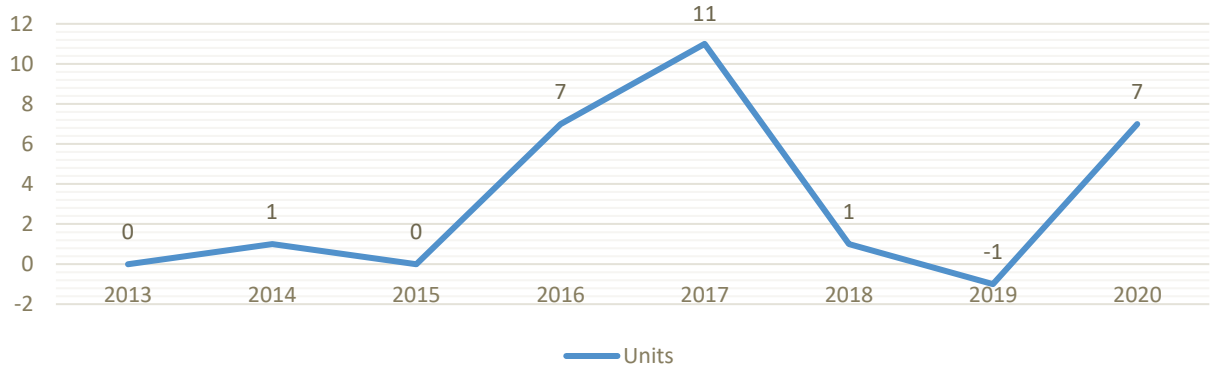
[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number

of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 5-B: Town of Carbonado Housing Production Rates (OFM)

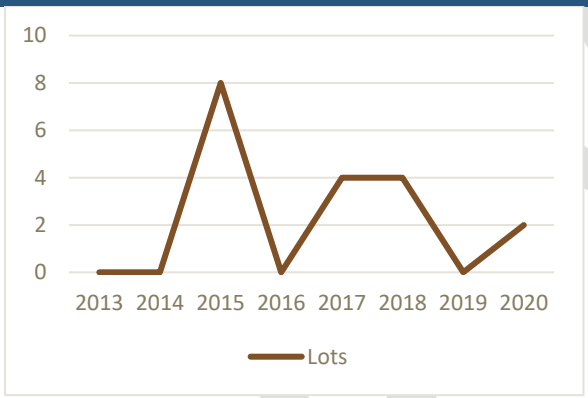


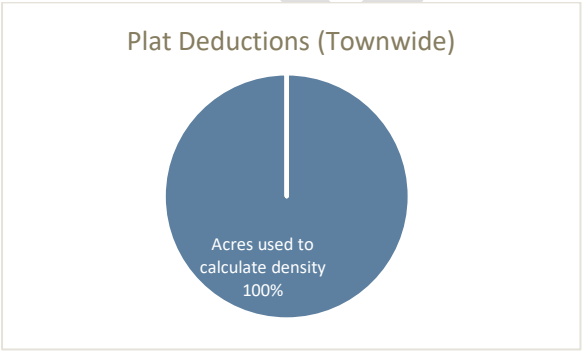
Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 5-2).

Figure 5-C: Town of Carbonado Platting Trends





Plat Activity by Year

Year	Lots	Acres	Density
2013	-	-	-
2014	-	-	-
2015	8	12.66	0.63
2016	-	-	-
2017	4	1.01	3.97
2018	4	0.97	4.14
2019	-	-	-
2020	2	1.51	1.32
Total	**18**	**16.15**	**1.11**

Plat Deductions by Zone (Percent)

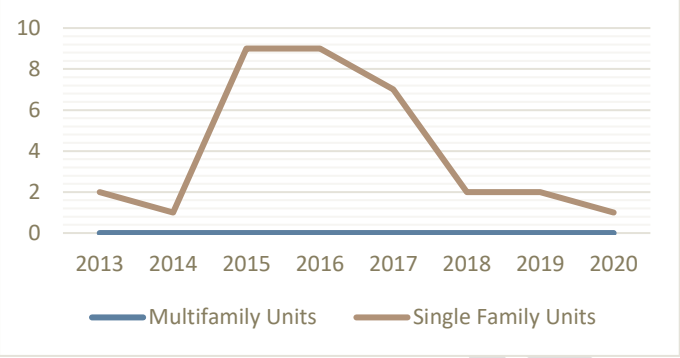
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
RLD	0.0%	0.0%	0.0%	0.0%
RMD	0.0%	0.0%	0.0%	0.0%
Average	**0.0%**	**0.0%**	**0.0%**	**0.0%**

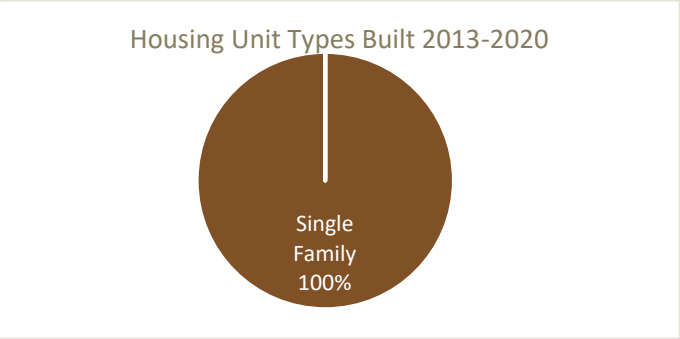
Sources: Town Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 5-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 5-D: Town of Carbonado Residential Building Permit Trends





Multifamily Permits by Year

No multifamily permits were observed in the timeframe.

Single Family Permits by Year (Optional)

Year	Units	Acres	Avg. Lot Size
2013	2	1.30	0.65
2014	1	0.44	0.44
2015	9	7.04	0.78
2016	9	8.22	0.91
2017	7	3.35	0.48
2018	2	1.27	0.64
2019	2	0.71	0.36
2020	1	0.23	0.23
Total	**33**	**22.56**	**0.68**

Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 5-E: Town of Carbonado Non-residential Permit Trends

No non-residential permits were observed in the timeframe.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 5-4 and Table 5-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 5-4: Town of Carbonado Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
CF	0%	0	100%	20	0%	0%	10%	50%	0%
CMU	80%	3	20%	20	25%	25%	10%	50%	0%
RLD	100%	3	0%	20	25%	25%	0%	0%	0%
RMD	100%	2	0%	20	25%	25%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 5-5: Town of Carbonado Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
RLD	0%	0%	0%	0%	3%	<0.48 acres
RMD	0%	0%	0%	0%	3%	<0.48 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 5-6 shows the characteristics of the initial inventory and Table 5-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 5-6: Town of Carbonado Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	29.03	107.75	12.01	1.51
Average Lot Size (Gross)	5.81	1.86	0.50	1.51
Total Acreage (Net)	19.38	91.10	4.57	1.23
Average Lot Size (Net)	3.88	1.57	0.19	1.23
Percent Critical Areas	33%	15%	62%	19%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the “buildable land” per the Buildable Lands requirements. Table 5-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 5-7: Town of Carbonado Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	9.65	16.65
Plat Deductions	0.00	0.00
Capital Facilities	0.00	0.00
Market Factor	4.85	28.58
Total Percent Reduction in Inventory Land	50%	32%
Percent of Vacant or Underutilized Land Available for Capacity	50%	68%

Capacity Results

The housing and employment capacity totals in Table 5-8 and Table 5-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

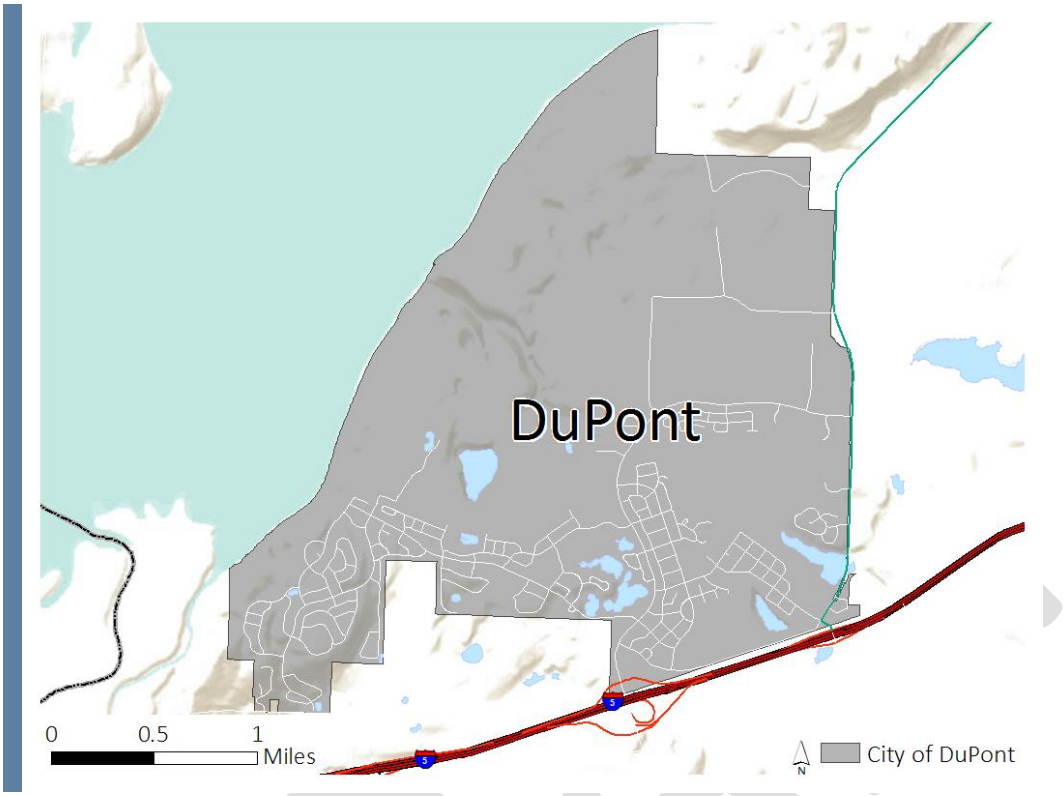
Table 5-8: Town of Carbonado 2020-2044 Housing Capacity (Dwelling Units)

Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
CF	0	0	0	0	**0**
CMU	0	6	2	0	**8**
RLD	35	139	18	2	**194**
RMD	4	31	2	0	**37**
Total	**39**	**176**	**22**	**2**	**239**

Table 5-9: Town of Carbonado 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
CF	0	122	0	122
CMU	0	6	0	6
RLD	10	39	0	49
RMD	2	13	0	15
Total	**12**	**180**	**0**	192

6 CITY OF DUPONT



The City of DuPont's Comprehensive Plan and regulations implement densities using gross acreage.

Table 6-1: City of DuPont Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
CB	Community Business	Commercial	58.1
COM	Commercial	Commercial	18.2
CP	Community Park	N/A	59.1
IND	Industrial	Industrial	138.1
MRP	Manufacturing Research Park	Industrial	478.1
MUV	Mixed Use Village	Mixed Use	519.7
MXD	Mixed Use	Commercial	58.8
NP	Neighborhood Park	N/A	26.1
OFF	Office	Commercial	52.1
OS	Open Space	N/A	705.7
R-12	Residential-12	Residential	72.2
R-3	Residential-3	Residential	54.5
R-4	Residential-4	Residential	463.6
R-5	Residential-5	Residential	284.8
RR	Residential Reserve	Residential	207.2

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.

[2]Represents parcel acreage, not zoning coverage.

Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes building and plat data obtained through the Pierce County Assessor-Treasurer and Auditor Departments observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 6-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 6-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 6-2: City of DuPont 2013-2020 Residential Trends by Zone[1]

Zone	Acres	Lots/Units	Density
R-12	10.04	240	11.95
R-5	7.18	2	0.28
Total/Avg.	**27.27**	**242**	**8.87**

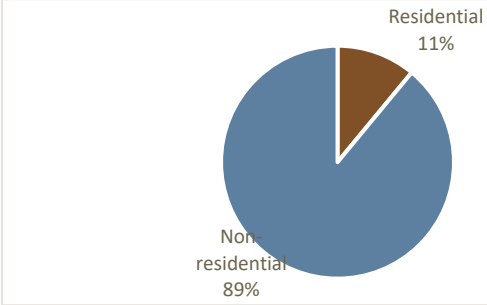
Table 6-3: City of DuPont 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
CB	40.91	735,839	0.41
COM	3.33	93,611	0.64
MRP	165.92	2,979,789	0.41
MXD	4.80	146,719	0.70
Total/Avg.	**214.96**	**3,955,958**	**0.42**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 6-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 6-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 6-A: City of DuPont Residential vs. Non-residential Development Split



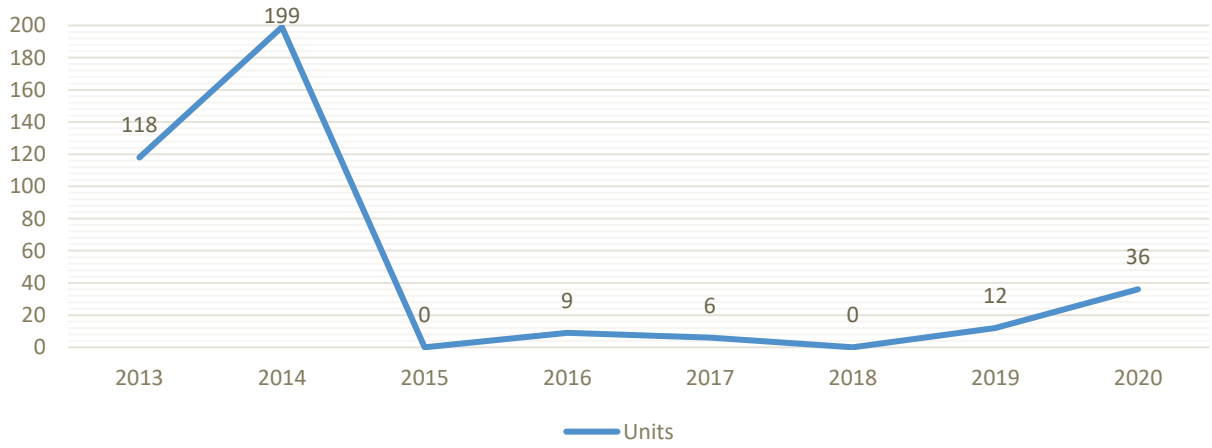
Zone	Use Type Split (Percent)[1] Residential	Non-residential
CB	0%	100%
COM	0%	100%
MRP	0%	100%
MXD	0%	100%
R-12	100%	0%
R-5	100%	0%
Average	**11%**	**89%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 6-B: City of DuPont Housing Production Rates (OFM)

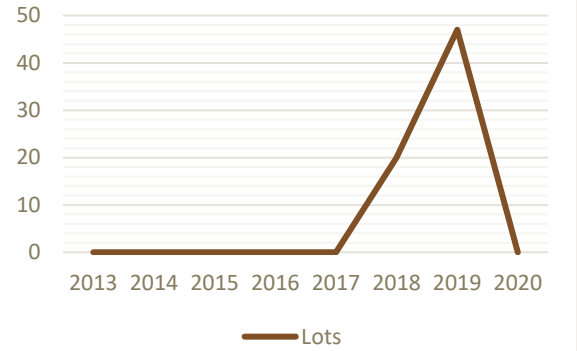


Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

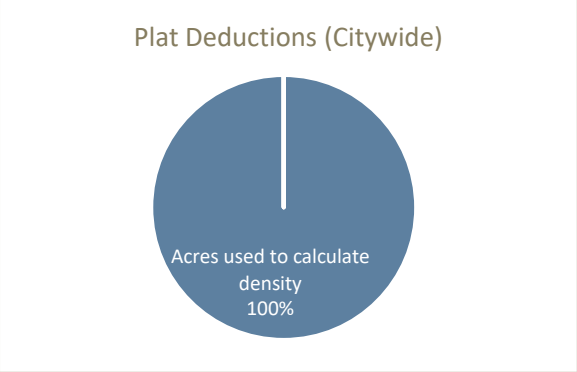
Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily to determine the overall achieved density (as shown in Table 6-2).

Figure 6-C: City of DuPont Platting Trends



Plat Activity by Year

Year	Lots	Acres	Density
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	20	9.30	2.15
2019	47	5.68	8.28
2020	-	-	-
Total	**67**	**14.98**	**4.47**



Plat Deductions by Zone (Percent)

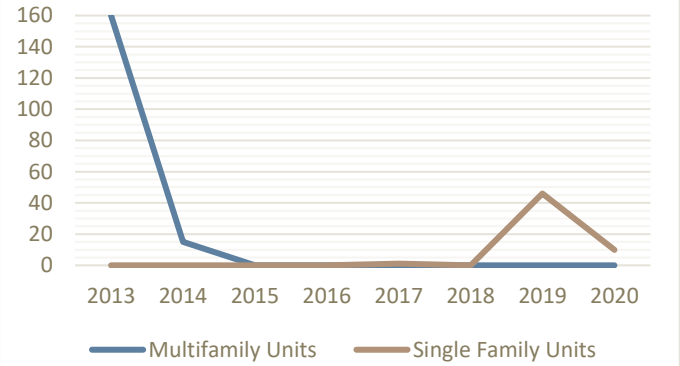
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
R-12	0.0%	0.0%	0.0%	0.0%
R-5	0.0%	0.0%	0.0%	0.0%
Average	**0.0%**	**0.0%**	**0.0%**	**0.0%**

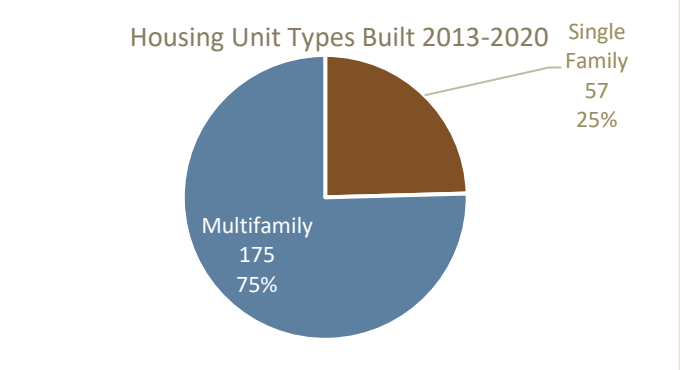
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 6-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 6-D: City of DuPont Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Net Acres	Net Density
2013	160	10.95	14.61
2014	15	1.34	11.21
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	-	-	-
2020	-	-	-
Total	**175**	**12.29**	**14.24**

Single Family Permits by Year (Optional)

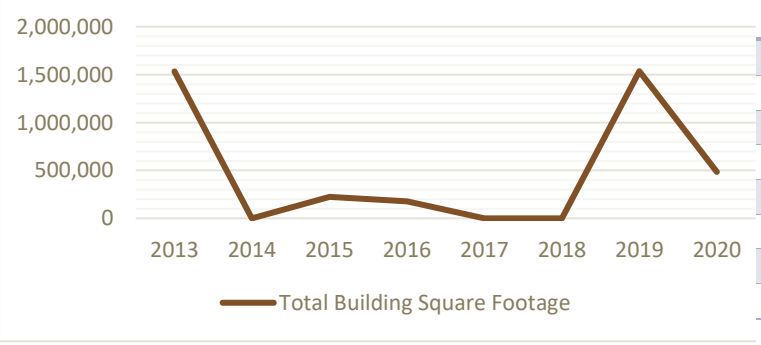
Year	Units	Acres	Avg. Lot Size
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	1	0.10	0.10
2018	-	-	-
2019	46	3.62	0.08
2020	10	1.15	0.11
Total	**57**	**11.71**	**0.09**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 6-E: City of DuPont Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	85.39	1,532,855	0.41
2014	-	-	-
2015	13.51	225,300	0.38
2016	7.79	176,210	0.52
2017	-	-	-
2018	-	-	-
2019	81.35	1,535,173	0.43
2020	26.91	486,420	0.41
Total	**214.96**	**3,955,958**	**0.42**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 6-4 and Table 6-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 6-4: City of DuPont Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
CB	0%	0	100%	20	0%	0%	10%	20%	1%
COM	0%	0	100%	20	0%	0%	10%	20%	1%
IND	0%	0	100%	9	0%	0%	10%	20%	1%
MRP	0%	0	100%	9	0%	0%	10%	20%	1%
MUV 1-8	30%	14	70%	9	10%	25%	10%	50%	1%
MUV 9	0%	0	100%	20	10%	25%	10%	50%	1%
MXD	0%	0	100%	20	0%	0%	10%	20%	1%
OFF	0%	0	100%	20	0%	0%	10%	20%	1%
R-12	100%	12	0%	0	5%	15%	0%	0%	0%
R-3	100%	3	0%	0	5%	15%	0%	0%	0%
R-4	100%	4	0%	0	5%	15%	0%	0%	0%
R-5	100%	5	0%	0	5%	15%	0%	0%	0%
RR	100%	0.2	0%	0	10%	20%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 6-5: City of DuPont Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
R-12	0%	0%	0%	0%	0%	<0.20 acres
R-3	0%	0%	0%	0%	0%	<0.56 acres
R-4	0%	0%	0%	0%	0%	<0.48 acres
R-5	0%	0%	0%	0%	0%	<0.45 acres
RR	0%	0%	0%	0%	0%	<10.50 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 6-6 shows the characteristics of the initial inventory and Table 6-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 6-6: City of DuPont Summary of Vacant and Underutilized Land Characteristics				
Characteristics/Category	**Vacant**	**Underutilized**	**Vacant Single Unit**	**Pipeline**
Total Acreage (Gross	81.05	532.94	3.15	28.92
Average Lot Size (Gross)	4.50	23.17	0.17	9.64
Total Acreage (Net)	75.97	509.77	2.79	28.79
Average Lot Size (Net)	4.22	22.16	0.15	9.60
Percent Critical Areas	6%	4%	11%	0%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 6-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 6-7: City of DuPont Summary of Deductions		
Deductions/Category	**Vacant**	**Underutilized**
Critical Areas	5.08	23.17
Plat Deductions	0.00	0.00
Capital Facilities	0.80	5.33
Market Factor	6.65	238.94
Total Percent Reduction in Inventory Land	9%	46%
Percent of Vacant or Underutilized Land Available for Capacity	91%	54%

Capacity Results

The housing and employment capacity totals in Table 6-8 and Table 6-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

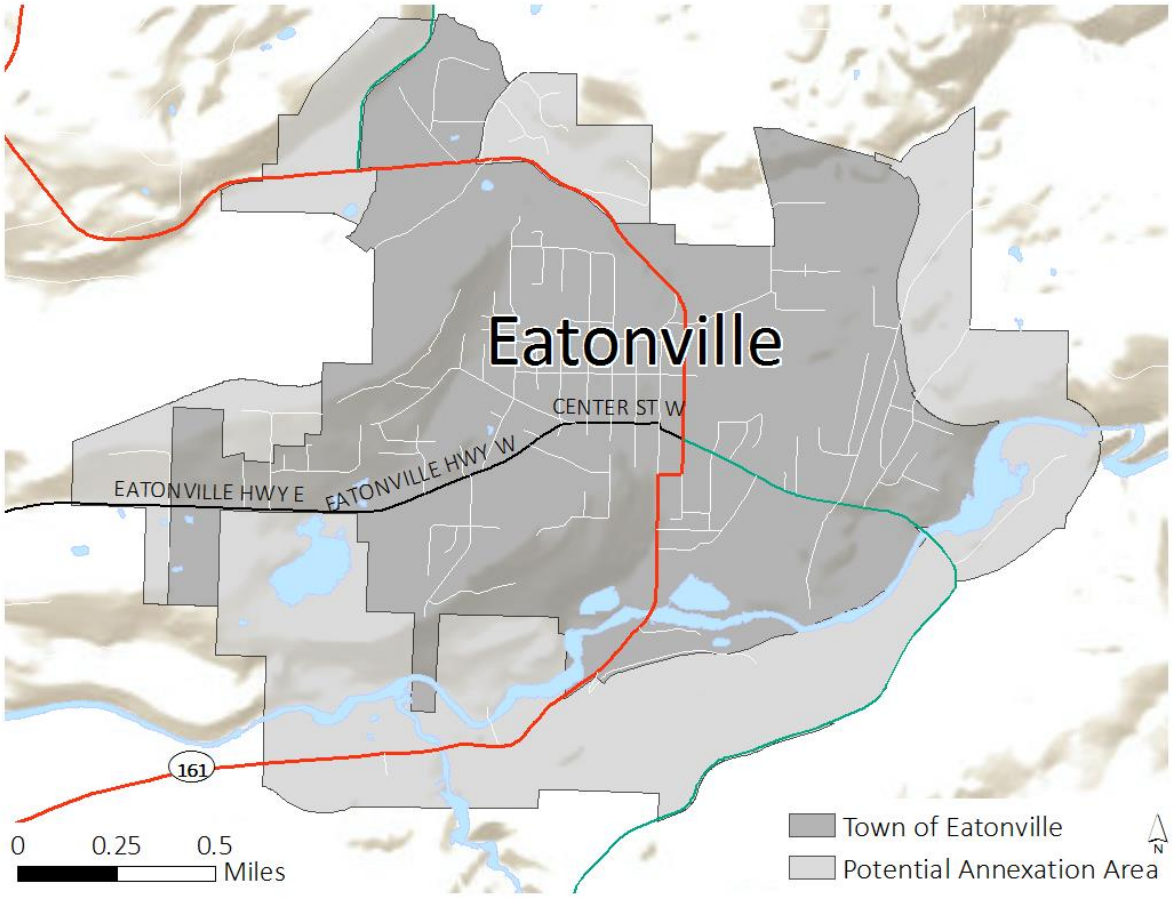
Table 6-8: City of DuPont 2020-2044 Housing Capacity (Dwelling Units)					
Zone	**Vacant**	**Underutilized**	**Vacant Single Unit**	**Pipeline**	**Total**
CB	0	0	0	0	**0**
COM	0	0	0	0	**0**
IND	0	0	0	0	**0**
MRP	0	0	0	0	**0**
MUV 1-8	0	961	0	0	**961**
MUV 9	0	0	0	0	**0**
MXD	0	0	0	0	**0**
OFF	0	0	0	0	**0**
R-12	0	0	12	19	**31**
R-3	0	10	7	0	**17**
R-4	5	0	0	0	**5**
R-5	131	10	0	0	**141**
RR	0	0	0	0	**0**
Total	**136**	**981**	**19**	**19**	**1,155**

Table 6-9: City of DuPont 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
CB	95	0	0	95
COM	40	58	4	102
IND	0	0	0	0
MRP	308	0	538	846
MUV 1-8	0	954	0	954
MUV 9	0	2,062	0	2,062
MXD	0	8	0	8
OFF	0	8	0	8
R-12	0	0	0	0
R-3	0	0	0	0
R-4	1	0	0	1
R-5	28	0	0	28
RR	0	0	0	0
Total	472	3,090	542	4,104

DRAFT

7 TOWN OF EATONVILLE



The Town of Eatonville's Comprehensive Plan and regulations implement density based on gross acreage netting out only roads. However, Planned Unit Developments (PUDs) are based on gross acreage.

Table 7-1: Town of Eatonville Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
AP	Aerospace District	Mixed Use	139.8
C-1	Downtown Commercial District	Mixed Use	35.9
C-2	General Commercia District	Commercial	102.7
MF-1	Multifamily Residential District – Medium Density	Residential	64.7
MF-2	Multifamily Residential District – High Density	Residential	13.8
MU	Mixed Use District	Mixed Use	45.7
SF-1	Single-Family Residential District – Low Density	Residential	317.6
SF-2	Single-Family Residential District – Medium Density	Residential	239.4
SF-3	Single-Family Residential District – High Density	Residential	76.5

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the Town zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: Town Zoning Code.

DEVELOPMENT TRENDS

This section summarizes building and plat data obtained through the Pierce County Assessor-Treasurer and Auditor Departments observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 7-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 7-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 7-2: Town of Eatonville 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
AP	14.54	21	1.44
MF-2	0.28	4	14.37
SF-3	0.30	2	6.75
Total/Avg.	**15.11**	**27**	**1.79**

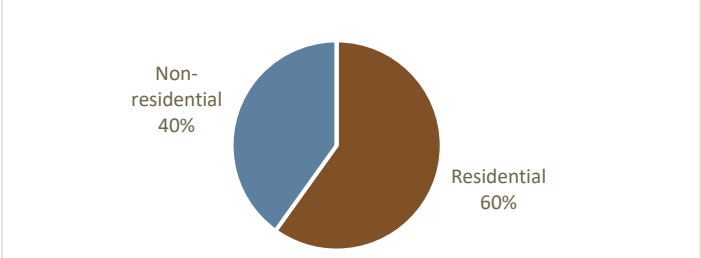
Table 7-3: Town of Eatonville 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
MU	10.10	2,100	0

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 7-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 7-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 7-A: Town of Eatonville Residential vs. Non-residential Development Split



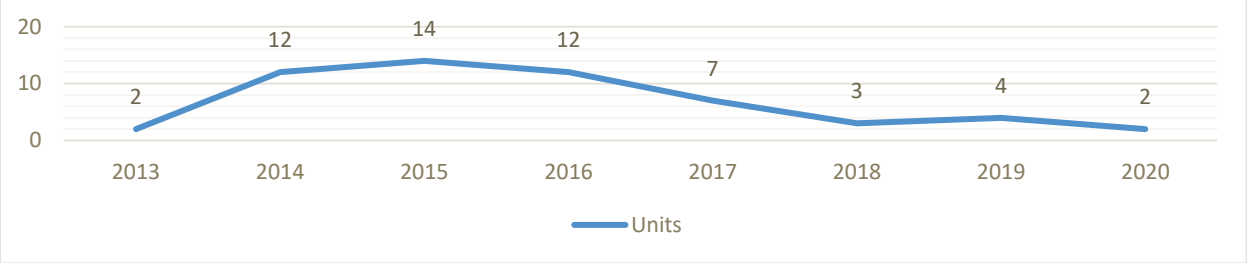
Zone	Use Type Split (Percent)[1] Residential	Non-residential
AP	100%	0%
MF-2	100%	0%
MU	0	100%
SF-3	100%	0%
Average	**60%**	**40%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 7-B: Town of Eatonville Housing Production Rates (OFM)

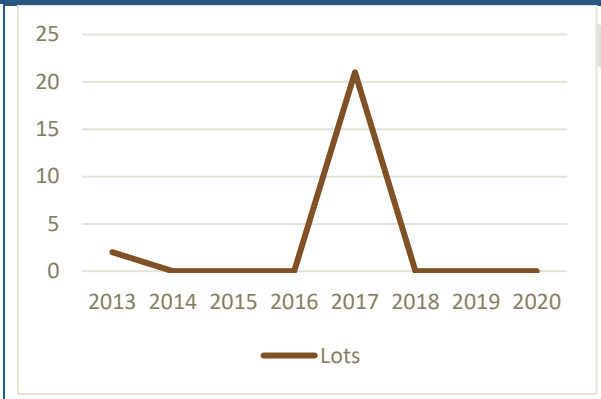


Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

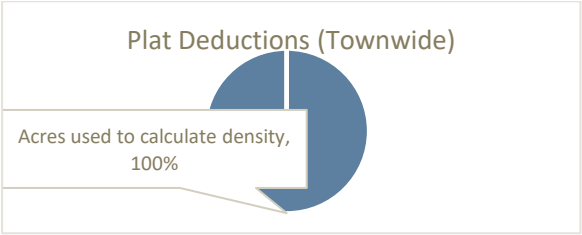
Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 7-2).

Figure 7-C: Town of Eatonville Platting Trends



Plat Activity by Year

Year	Lots	Acres	Density
2013	2	0.30	6.75
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	21	14.54	1.44
2018	-	-	-
2019	-	-	-
2020	-	-	-
Total	**23**	**14.84**	**1.55**



Plat Deductions by Zone (Percent)

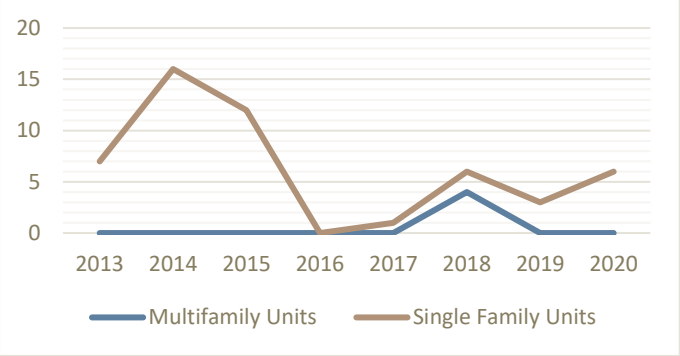
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
AP	0.0%	0.0%	0.0%	0.0%
SF-3	0.0%	0.0%	0.0%	0.0%
Average	**0.0%**	**0.0%**	**0.0%**	**0.0%**

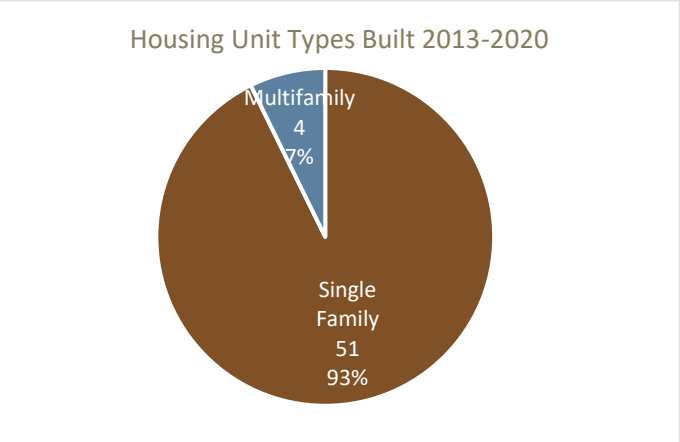
Sources: Town Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 7-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 7-D: Town of Eatonville Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Net Acres	Net Density
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	4	0.28	14.37
2019	-	-	-
2020	-	-	-
Total	**4**	**0.28**	**14.37**

Single Family Permits by Year (Optional)

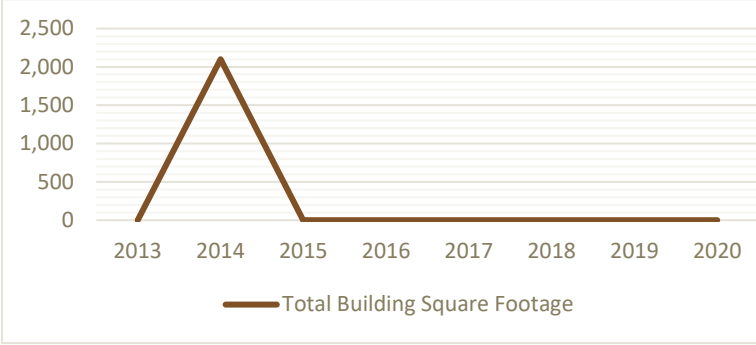
Year	Lots	Acres	Avg. Lot Size
2013	7	1.94	0.28
2014	16	3.90	0.24
2015	12	4.12	0.34
2016	-	-	-
2017	1	0.49	0.49
2018	6	2.45	0.41
2019	3	1.22	0.41
2020	6	3.86	0.64
Total	**51**	**17.99**	**0.35**

Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 7-E: City of Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	-	-	-
2014	10.10	2,100	0.00
2015	-	-	
2016	-	-	
2017	-	-	
2018	-	-	
2019	-	-	
2020	-	-	
Total	**10.10**	**2,100**	**0.00**

Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 7-4 and Table 7-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 7-4: Town of Eatonville Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
AP	25%	2	75%	20	25%	25%	10%	50%	0%
C-1	25%	8	75%	20	25%	25%	10%	50%	0%
C-2	0%	0	100%	20	0%	0%	10%	50%	0%
MF-1	100%	16	0%	20	25%	25%	0%	0%	0%
MF-2	100%	23	0%	20	25%	25%	0%	0%	0%
MU	65%	9	0%	20	25%	25%	10%	50%	0%
SF-1	100%	4	0%	20	25%	25%	0%	0%	0%
SF-2	100%	5	0%	20	25%	25%	0%	0%	0%
SF-3	100%	6	0%	20	25%	25%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 7-5: Town of Eatonville Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
MF-1	N/A	N/A	N/A	N/A	5%	N/A
MF-2	N/A	N/A	N/A	N/A	5%	N/A
SF-1	15%	GIS	0%	0%	5%	<0.55 acres
SF-2	15%	GIS	0%	0%	5%	<0.48 acres
SF-3	15%	GIS	0%	0%	5%	<0.34 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 7-6 shows the characteristics of the initial inventory and Table 7-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 7-6: Town of Eatonville Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	199.30	367.53	50.68	0.65
Average Lot Size (Gross)	2.69	1.97	0.51	0.33
Total Acreage (Net)	133.56	276.80	21.35	0.65
Average Lot Size (Net)	1.80	1.48	0.21	0.33
Percent Critical Areas	33%	25%	58%	0%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 7-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 7-7: Town of Eatonville Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	65.74	90.73
Plat Deductions	6.87	20.57
Capital Facilities	0.00	0.00
Market Factor	23.62	89.80
Total Percent Reduction in Inventory Land	44%	52%
Percent of Vacant or Underutilized Land Available for Capacity	56%	48%

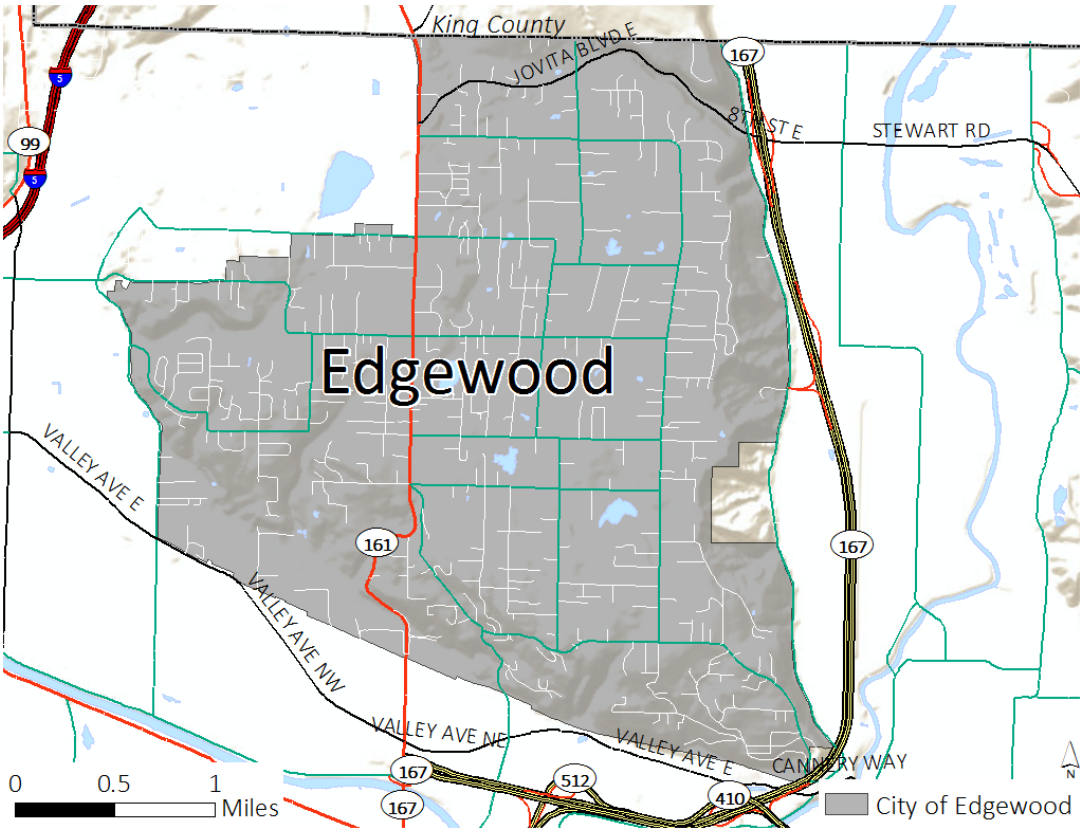
Capacity Results

The housing and employment capacity totals in Table 7-8 and Table 7-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 7-8: Town of Eatonville 2020-2044 Housing Capacity (Dwelling Units)					
Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
AP	11	19	6	0	36
C-1	8	16	0	0	24
C-2	0	0	0	0	0
MF-1	190	256	2	0	448
MF-2	36	52	2	0	90
MU	3	89	0	0	92
SF-1	100	208	24	0	332
SF-2	12	131	27	0	170
SF-3	0	20	17	0	37
Total	360	791	78	0	1,229

Table 7-9: Town of Eatonville 2020-2044 Employment Capacity (Jobs)				
Zone	Vacant	Underutilized	Pipeline	Total
AP	425	508	0	933
C-1	80	82	0	162
C-2	728	343	3	1,074
MF-1	17	23	0	40
MF-2	2	3	0	5
MU	1	14	0	15
SF-1	6	37	0	43
SF-2	1	37	0	38
SF-3	0	5	0	5
Total	1,260	1,052	3	2,315

8 CITY OF EDGEWOOD



The City of Edgewood's Comprehensive Plan and regulations implement densities based on acreage, subtracting critical areas and their associated buffers, including wetlands, streams, landslide hazard areas, and flood areas.

Table 8-1: City of Edgewood Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
BP	Business Park	Mixed Use	34.1
C	Commercial	Mixed Use	87.2
I	Industrial	Industrial	18.0
MR-1	Mixed Residential – Low	Residential	90.0
MR-2	Mixed Residential – Moderate	Residential	45.7
MUR	Mixed Use Residential	Mixed Use	110.6
P	Public	Public Use	186.7
SF-2	Single-Family – Low	Residential	1,938.7
SF-3	Single-Family – Moderate	Residential	2,241.8
SF-5	Single-Family – High	Residential	61.3
TC	Town Center	Mixed Use	76.9

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2019 and plat activity through December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 8-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 8-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 8-2: City of Edgewood 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
MR-1	54.55	90	1.65
MR-2	23.37	205	8.77
SF-2	53.70	77	1.43
SF-3	64.47	118	1.83
SF-5	20.45	80	3.91
TC	15.26	345	22.60
C	2.56	24	9.39
Total/Avg.	**234.37**	**939**	**4.01**

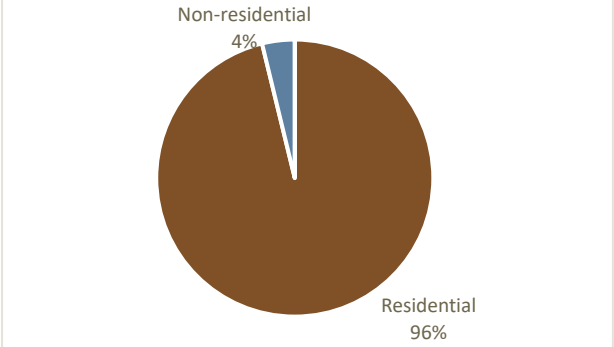
Table 8-3: City of Edgewood 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
C	7.36	97,090	0.30
TC	1.89	40,920	0.50
Total/Avg.	**9.25**	**138,010**	**0.34**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 8-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 8-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 8-A: City of Edgewood Residential vs. Non-residential Development Split



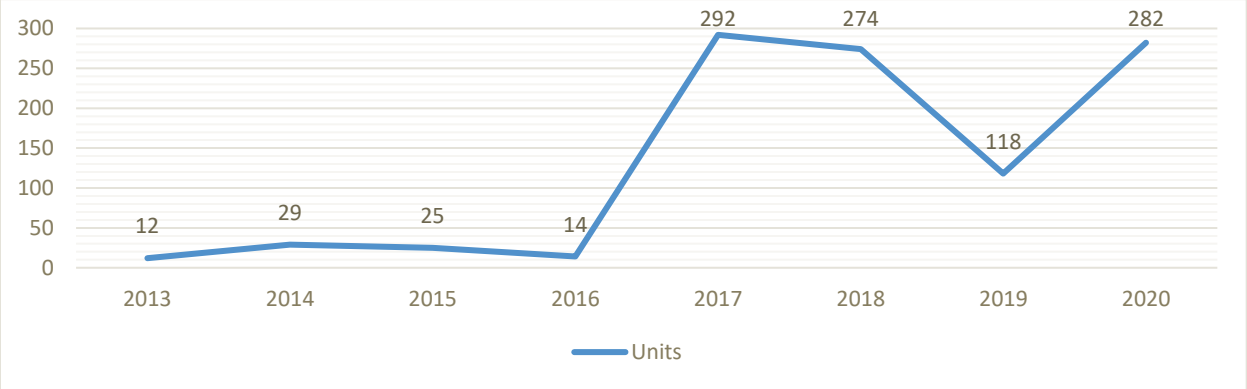
Zone	Use Type Split (Percent)[1] Residential	Non-residential
C	26%	74%
MR-1	100%	0%
MR-2	100%	0%
SF-2	100%	0%
SF-3	100%	0%
SF-5	100%	0%
TC	89%	11%
Average	**96%**	**4%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 8-B: City of Edgewood Housing Production Rates (OFM)

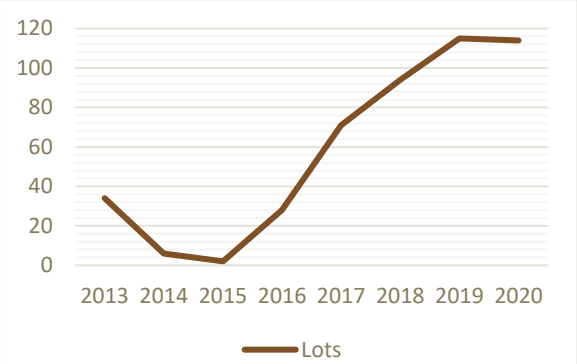


Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

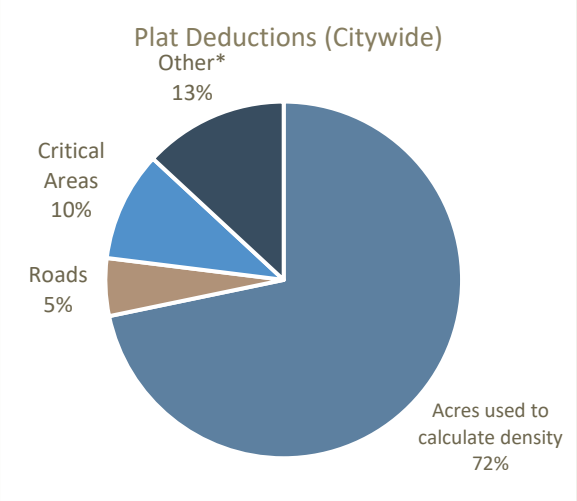
Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 8-2).

Figure 8-C: City of Edgewood Platting Trends



Plat Activity by Year

Year	Lots	Acres	Density
2013	34	26.08	1.30
2014	6	7.23	0.83
2015	2	1.01	1.98
2016	28	8.03	3.48
2017	71	17.67	4.02
2018	94	18.92	4.97
2019	115	35.98	3.20
2020	114	37.29	3.06
Total	**464**	**152.21**	**3.05**



Plat Deductions by Zone (Percent)

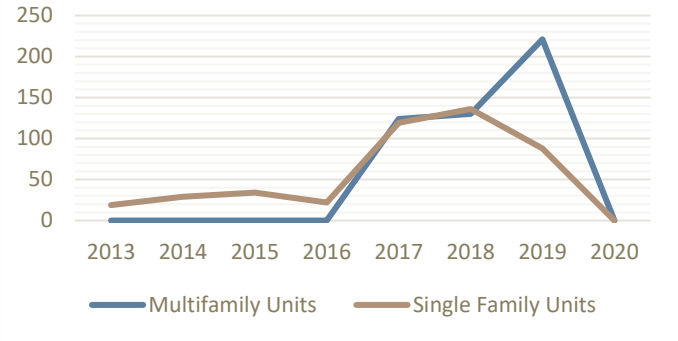
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
C	21.5%	6.7%	17.1%	0.0%
MR-1	1.8%	29.8%	1.3%	2.8%
MR-2	18.5%	19.5%	8.1%	7.1%
SF-2	4.8%	0.2%	1.7%	4.5%
SF-3	2.5%	2.1%	1.3%	1.6%
SF-5	11.0%	0.0%	0.0%	5.2%
Average	**5.2%**	**9.9%**	**2.0%**	**3.4%**

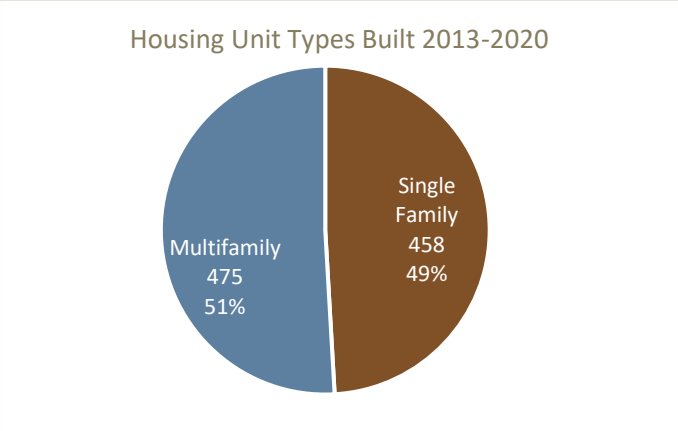
*Includes "other category" not shown in the plat deductions summary. See development data summaries for full data.
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 8-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 8-D: City of Edgewood Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Net Acres	Net Density
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	124	6.63	18.70
2018	130	6.95	18.70
2019	221	8.63	25.59
Total	**475**	**22.21**	**21.38**

Single Family Permits by Year (Optional)

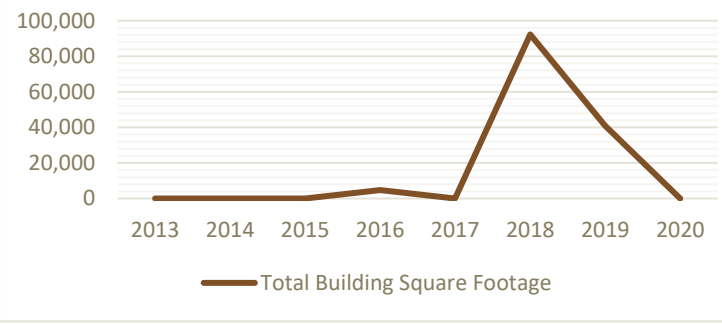
Year	Lots	Acres	Avg. Lot Size
2013	19	10.43	0.55
2014	29	16.57	0.57
2015	34	34.86	1.03
2016	22	26.73	1.21
2017	119	24.46	0.21
2018	136	38.88	0.29
2019	99	30.29	0.31
Total	**458**	**182.21**	**0.40**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 8-E: City of Edgewood Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	1.29	4,823	0.09
2017	-	-	-
2018	6.07	92,267	0.35
2019	1.89	40,920	0.50
Total	**9.25**	**138,010**	**0.34**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 8-4 and Table 8-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 8-4: City of Edgewood Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
BP	30%	8	70%	20	0%	10%	0%	0%	2%
C	40%	12	60%	20	0%	10%	0%	0%	2%
I	0%	0	100%	9	25%	25%	0%	0%	2%
MR-1	100%	4	0%	20	25%	25%	0%	0%	2%
MR-2	100%	8	0%	20	0%	10%	0%	0%	2%
MUR	60%	12	40%	20	0%	10%	0%	0%	2%
P	0%	0	100%	20	25%	25%	0%	0%	2%
SF-2	100%	2	0%	20	25%	25%	0%	0%	2%
SF-3	100%	3	0%	20	25%	25%	0%	0%	2%
SF-5	100%	5	0%	20	0%	10%	0%	0%	2%
TC	70%	24	30%	20	0%	10%	0%	0%	2%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 8-5: City of Edgewood Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
MR-1	N/A	N/A	N/A	N/A	5%	N/A
MR-2	N/A	N/A	N/A	N/A	5%	N/A
SF-2	9.80%	GIS	5%	0%	5%	<1.50 acres
SF-3	9.80%	GIS	5%	0%	5%	<0.83 acres
SF-5	9.80%	GIS	5%	0%	5%	<0.50 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 8-6 shows the characteristics of the initial inventory and Table 8-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 8-6: City of Edgewood Summary of Vacant and Underutilized Land Characteristics				
Characteristics/Category	**Vacant**	**Underutilized**	**Vacant Single Unit**	**Pipeline**
Total Acreage (Gross	374.35	1,647.73	232.25	67.97
Average Lot Size (Gross)	3.34	2.52	0.52	3.78
Total Acreage (Net)	229.10	1,261.88	95.52	62.08
Average Lot Size (Net)	2.05	1.93	0.21	3.45
Percent Critical Areas	39%	23%	59%	9%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 8-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 8-7: City of Edgewood Summary of Deductions		
Deductions/Category	**Vacant**	**Underutilized**
Critical Areas	145.25	385.86
Infrastructure Gaps	164.87	1,039.63
Plat Deductions	26.42	167.73
Capital Facilities	4.32	21.32
Market Factor	34.36	243.69
Total Percent Reduction in Inventory Land	49%	48%
Percent of Vacant or Underutilized Land Available for Capacity	51%	52%

Capacity Results

The housing and employment capacity totals in Table 8-8 and Table 8-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

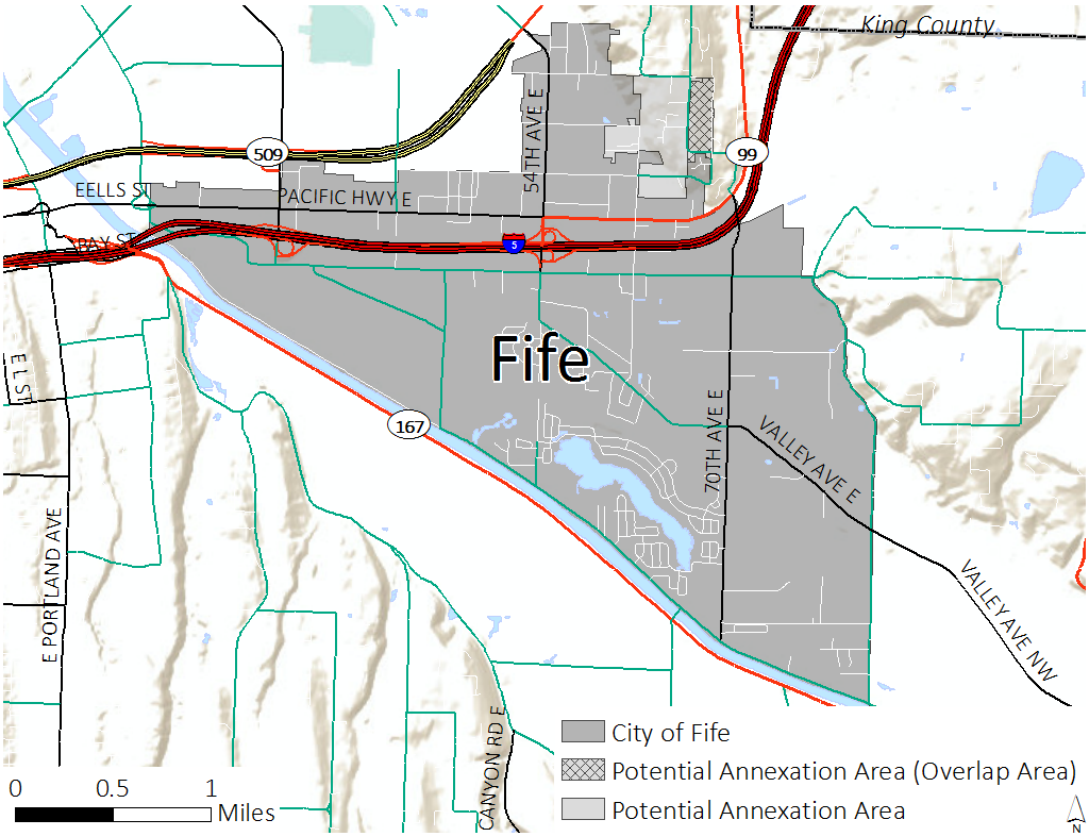
Table 8-8: City of Edgewood 2020-2044 Housing Capacity (Dwelling Units)					
Zone	**Vacant**	**Underutilized**	**Vacant Single Unit**	**Pipeline**	**Total**
BP	11	17	0	288	**316**
C	39	136	14	0	**189**
I	0	0	0	0	**0**
MR-1	16	21	23	66	**126**
MR-2	83	13	33	0	**129**
MUR	68	203	90	0	**361**
P	0	0	0	0	**0**
SF-2	95	707	94	39	**935**
SF-3	126	851	160	20	**1,157**
SF-5	16	84	33	3	**136**
TC	65	464	0	0	**529**
Total	**519**	**2,496**	**447**	**416**	**3,878**

Table 8-9: City of Edgewood 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
BP	86	152	0	238
C	103	491	0	594
I	3	120	0	123
MR-1	6	8	0	14
MR-2	11	2	0	13
MUR	75	270	0	345
P	0	519	0	519
SF-2	4	519	0	523
SF-3	4	417	0	421
SF-5	0	20	0	20
TC	0	193	0	193
Total	292	2,711	0	3,003

DRAFT

9 CITY OF FIFE



The City of Fife's Comprehensive Plan and regulations implement densities using net acreage, deducting critical areas and buffers, roads, and public use space.

Table 9-1: City of Fife Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
BP	Business Park	Commercial	23.1
CC	Community Commercial	Mixed Use	194.1
CMU	Community Mixed Use	Mixed Use	193.6
HDR	High Density Residential	Residential	76.5
I	Industrial	Industrial	1,485.4
MDR	Medium Density Residential	Residential	154.4
NC	Neighborhood Commercial	Mixed Use	57.1
NR	Neighborhood Residential	Mixed Use	144.0
POS	Public Use/Open Space	N/A	153.6
RC	Regional Commercial	Mixed Use	379.3
SFR	Single Family Residential	Residential	173.3
SLR	Small Lot Residential	Residential	11.3

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2019 and plat activity through December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 9-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 9-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 9-2: City of Fife 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
HDR	9.91	150	15.14
MDR	6.05	34	5.62
SFR	1.61	4	2.49
Total/Avg.	**17.56**	**188**	**23.25**

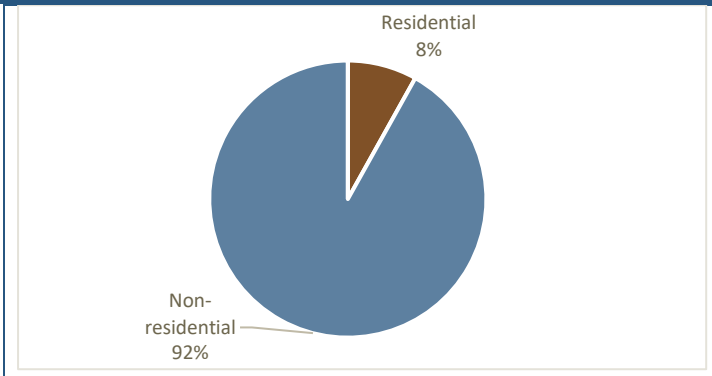
Table 9-3: City of Fife 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
CC	0.80	2,142	0.06
CMU	14.25	234,100	0.38
I	163.33	2,127,873	0.30
POS	15.67	3,480	0.01
RC	6.14	1,420	0.01
Total/Avg.	**200.18**	**2,369,015**	**0.27**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 9-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 9-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 9-A: City of Fife Residential vs. Non-residential Development Split



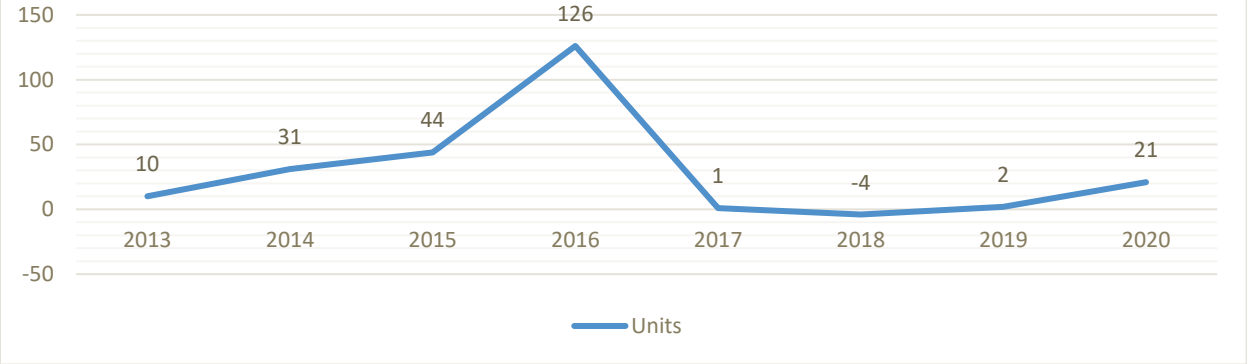
Zone	Use Type Split (Percent)[1] Residential	Non-residential
CC	0%	100%
CMU	0%	100%
HDR	100%	0%
I	0%	100%
MDR	0%	100%
POS	0%	100%
RC	0%	100%
SFR	100%	0%
Average	**8%**	**92%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 9-B: City of Fife Housing Production Rates (OFM)



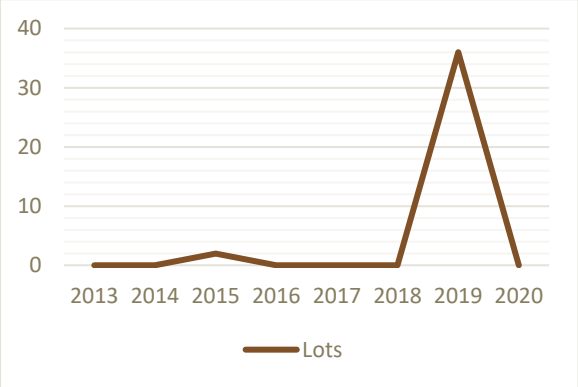
Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 9-2).

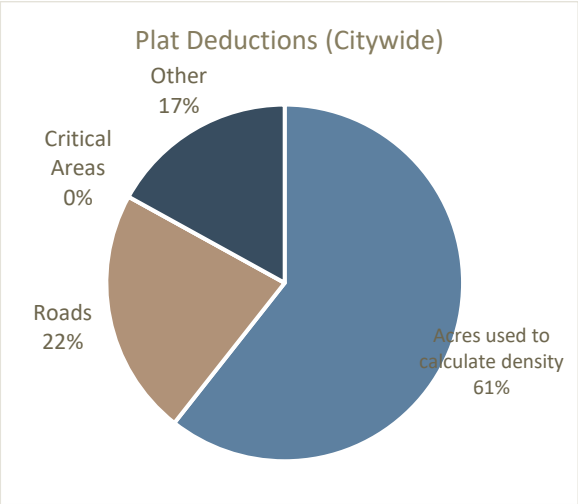
The permit data shown in Figure 9-C for Plat Deductions by Zone for the MDR zone represents an anomaly and should not be used to establish the assumptions. The percentage represents a dedication of Levee Road which also included space for the levee and is not a typical occurrence.

Figure 9-C: City of Fife Platting Trends



Plat Activity by Year

Year	Lots	Acres	Density
2013	-	-	-
2014	-	-	-
2015	2	0.68	2.93
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	36	3.96	9.09
2020	-	-	-
Total	**38**	**4.64**	**8.18**



Plat Deductions by Zone (Percent)

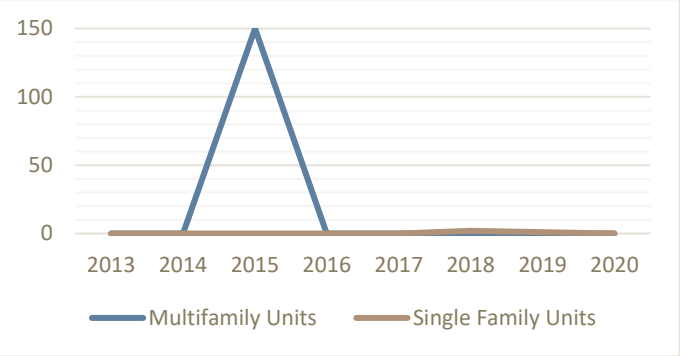
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
MDR	28.4%	0.0%	13.8%	7.6%
SFR	0.0%	0.0%	0.0%	0.0%
Average	**22.4%**	**0.0%**	**10.9%**	**6.0%**

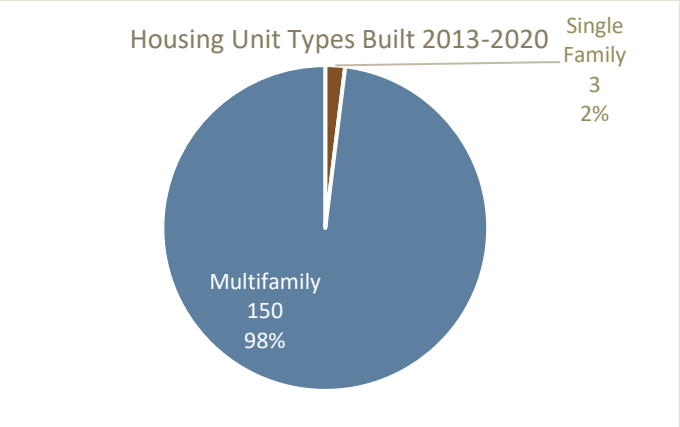
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 9-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 9-D: City of Fife Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Net Acres	Net Density
2013	-	-	-
2014	-	-	-
2015	150	9.91	15.14
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	-	-	-
Total	**150**	**9.91**	**15.14**

Single Family Permits by Year (Optional)

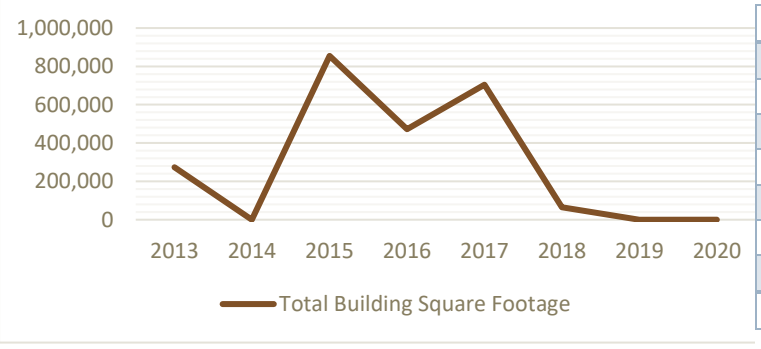
Year	Lots	Acres	Avg. Lot Size
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	2	0.30	0.30
2019	1	0.09	0.09
Total	**3**	**0.38**	**0.19**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 9-E: City of Fife Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	19.73	272,914	0.32
2014	-	-	-
2015	68.45	854,774	0.29
2016	33.83	471,417	0.32
2017	47.48	703,802	0.34
2018	26.13	65,628	0.06
2019	4.56	480	0.00
Total	**200.18**	**2,369,015**	**0.27**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 9-4 and Table 9-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 9-4: City of Fife Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
BP	0%	0	100%	20	0%	0%	30%	30%	5%
CC	15%	10	85%	20	30%	30%	30%	30%	5%
CMU	15%	10	85%	20	30%	30%	30%	30%	5%
HDR	100%	14	0%	20	30%	30%	30%	30%	5%
I	0%	0	100%	9	0%	0%	30%	30%	5%
MDR	100%	10	0%	20	30%	30%	30%	30%	5%
NC	80%	8	20%	20	30%	30%	30%	30%	5%
NR	90%	10	10%	20	30%	30%	30%	30%	5%
RC	80%	10	20%	20	30%	30%	30%	30%	5%
SFR	100%	4	0%	20	30%	30%	30%	30%	5%
SLR	100%	7	0%	20	30%	30%	30%	30%	5%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 9-5: City of Fife Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
HDR	N/A	N/A	N/A	N/A	5%	N/A
MDR	N/A	N/A	N/A	N/A	5%	N/A
SFR	20%	16%	10%	5%	5%	<0.625 acres
SLR	20%	16%	10%	5%	5%	<0.350 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 9-6 shows the characteristics of the initial inventory and Table 9-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 9-6: City of Fife Summary of Vacant and Underutilized Land Characteristics				
Characteristics/Category	**Vacant**	**Underutilized**	**Vacant Single Unit**	**Pipeline**
Total Acreage (Gross	514.66	424.48	4.07	7.63
Average Lot Size (Gross)	4.32	1.24	0.11	1.27
Total Acreage (Net)	479.30	367.10	3.84	7.63
Average Lot Size (Net)	4.03	1.08	0.10	1.27
Percent Critical Areas	7%	14%	6%	0%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 9-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 9-7: City of Fife Summary of Deductions		
Deductions/Category	**Vacant**	**Underutilized**
Critical Areas	35.36	57.38
Infrastructure Gaps	469.77	316.85
Plat Deductions	19.00	35.78
Capital Facilities	24.45	18.65
Market Factor	146.65	111.90
Total Percent Reduction in Inventory Land	38%	43%
Percent of Vacant or Underutilized Land Available for Capacity	62%	57%

Capacity Results

The housing and employment capacity totals in Table 9-8 and Table 9-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 9-8: City of Fife 2020-2044 Housing Capacity (Dwelling Units)					
Zone	**Vacant**	**Underutilized**	**Vacant Single Unit**	**Pipeline**	**Total**
BP	0	0	0	0	**0**
CC	27	81	0	0	**108**
CMU	11	20	0	34	**65**
HDR	0	0	0	0	**0**
I	0	0	0	0	**0**
MDR	43	160	34	0	**237**
NC	18	138	0	0	**156**
NR	165	60	0	0	**225**
RC	91	240	0	0	**331**
SFR	26	17	4	0	**47**
SLR	1	3	0	0	**4**
Total	**382**	**719**	**38**	**34**	**1,173**

Table 9-9: City of Fife 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
BP	0	0	0	0
CC	378	1,069	0	1,447
CMU	128	230	92	450
HDR	0	0	0	0
I	2,196	768	0	2,964
MDR	7	27	0	34
NC	0	13	0	13
NR	0	13	0	13
RC	0	122	24	146
SFR	2	7	0	9
SLR	0	1	0	1
Total	2,711	2,250	116	5,077

DRAFT

10 CITY OF FIRCREST



The City of Fircrest's Comprehensive Plan and regulations implement densities using gross acreage.

Table 10-1: City of Fircrest Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
CMU	Commercial Mixed Use	Mixed Use	33.4
GC	Golf Course District	N/A	152.0
NC	Neighborhood Commercial District	Commercial	6.1
NO	Neighborhood Office District	Commercial	1.3
PROS	Park, Recreation and Open Space District	N/A	26.7
R10TCD	Residential-10 – Traditional Community Design District	Residential	30.2
R20	Residential-20 District	Residential	38.3
R4	Residential-4 District	Residential	261.8
R4C	Residential-4 – Conservation District	Residential	32.1
R6	Residential-6 District	Residential	186.1
R8	Residential-8 District	Residential	25.2

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2019 and plat activity through December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 10-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 10-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 10-2: City of Fircrest 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
CMU	0.30	2	6.67
GC	3.03	22	7.26
Total/Avg.	**3.33**	**24**	**7.21**

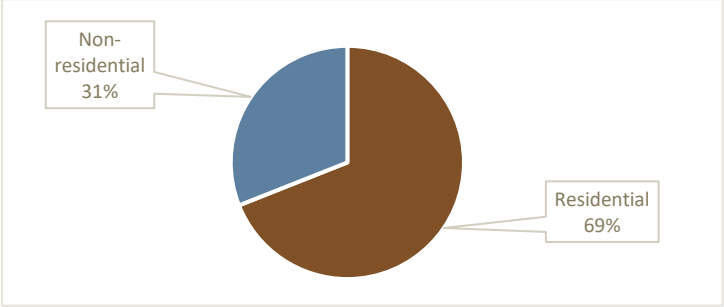
[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Table 10-3: City of Fircrest 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
CMU	1.49	8,334	0.13

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 10-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 10-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 10-A: City of Fircrest Residential vs. Non-residential Development Split



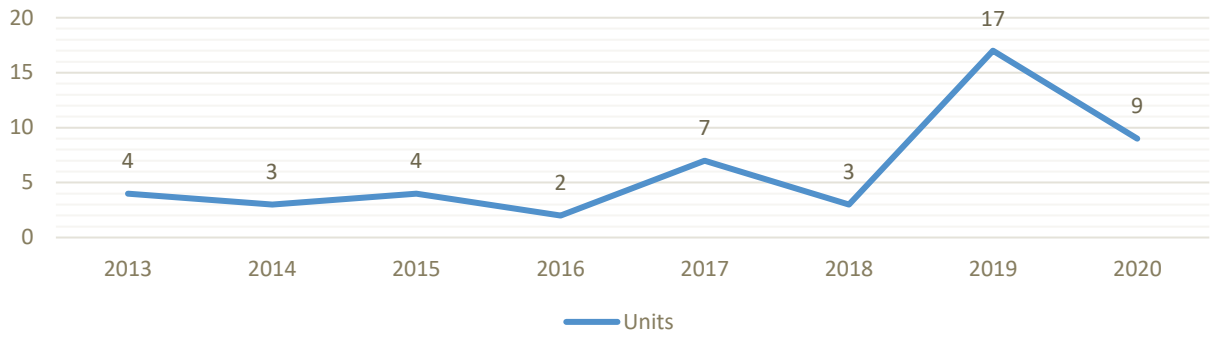
Zone	Use Type Split (Percent)1	
	Residential	Non-residential
CMU	17%	83%
GC	100%	0%
Average	**69%**	**31%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 10-B: City of Fircrest Housing Production Rates (OFM)

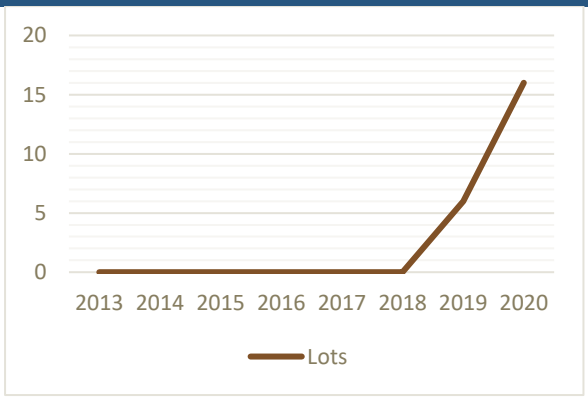


Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

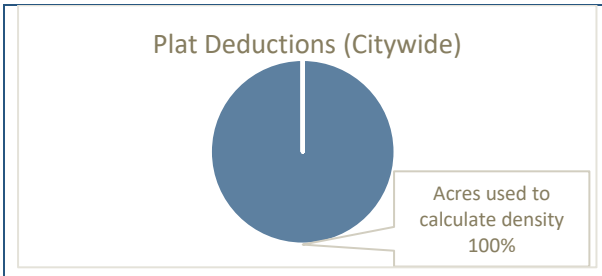
Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 10-2).

Figure 10-C: City of Fircrest Platting Trends



Plat Activity by Year

Year	Lots	Acres	Density
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	6	0.83	7.26
2020	16	2.20	7.26
Total	**22**	**3.03**	**7.26**



Plat Deductions by Zone (Percent)

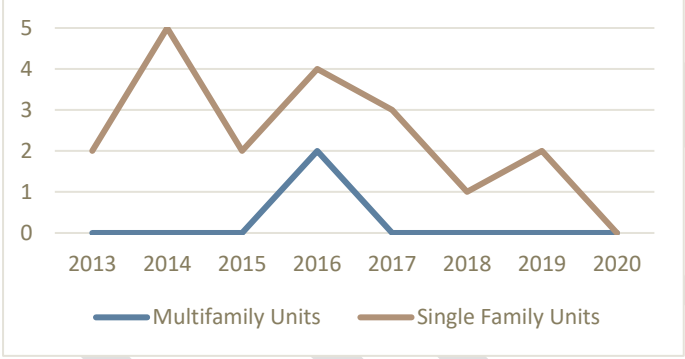
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
GC	0.0%	0.0%	0.0%	0.0%

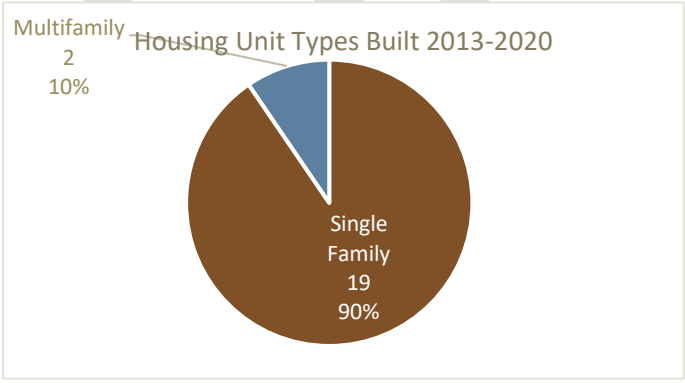
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 10-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 10-D: City of Fircrest Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Net Acres	Net Density
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	2	0.30	6.67
2017	-	-	-
2018	-	-	-
2019	-	-	-
Total	**2**	**0.30**	**6.67**

Single Family Permits by Year (Optional)

Year	Lots	Acres	Avg. Lot Size
2013	2	0.40	0.20
2014	5	0.72	0.14
2015	2	0.40	0.20
2016	4	0.55	0.14
2017	3	0.53	0.18
2018	1	0.12	0.12
2019	2	0.35	0.18
Total	**19**	**3.07**	**0.16**

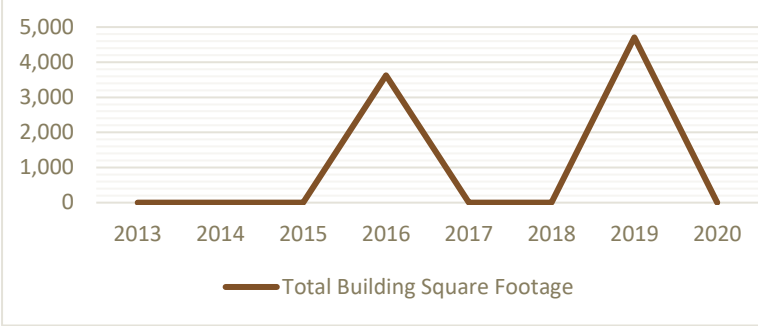
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the

project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 10-E: City of Fircrest Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	0.30	3,628	0.28
2017	-	-	-
2018	-	-	-
2019	1.19	4,706	0.09
Total	**1.49**	**8,334**	**0.13**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 10-4 and Table 10-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 10-4: City of Fircrest Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
CMU	0%	10	100%	20	0%	0%	5%	20%	0%
NC	0%	6	100%	20	0%	0%	5%	20%	0%
NO	0%	6	100%	20	0%	0%	5%	20%	0%
R10TCD	100%	10	0%	20	5%	5%	0%	0%	0%
R20	100%	20	0%	20	5%	5%	0%	0%	0%
R4	100%	4	0%	20	5%	5%	0%	0%	0%
R4C	100%	4	0%	20	5%	5%	0%	0%	0%
R6	100%	6	0%	20	5%	5%	0%	0%	0%
R8	100%	8	0%	20	5%	5%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 10-5: City of Fircrest Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
R10TCD	0%	0%	0%	0%	1%	N/A
R20	0%	0%	0%	0%	1%	N/A
R4	0%	0%	0%	0%	1%	<0.46 acres
R4C	0%	GIS	0%	0%	1%	<0.46 acres
R6	0%	0%	0%	0%	1%	<0.29 acres
R8	0%	0%	0%	0%	1%	N/A

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 10-6 shows the characteristics of the initial inventory and **Error! Reference source not found.** shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 10-6: City of Fircrest Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	32.18	22.80	2.75	5.27
Average Lot Size (Gross)	1.61	1.14	0.16	1.76
Total Acreage (Net)	19.55	20.25	1.76	5.27
Average Lot Size (Net)	0.98	1.01	0.10	1.76
Percent Critical Areas	39%	11%	36%	0%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. **Error! Reference source not found.** shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 10-7: City of Fircrest Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	12.62	2.55
Plat Deductions	0.00	0.00
Capital Facilities	0.00	0.00
Market Factor	1.03	3.19
Total Percent Reduction in Inventory Land	40%	15%
Percent of Vacant or Underutilized Land Available for Capacity	60%	85%

HOUSING AND EMPLOYMENT CAPACITY

Capacity Results

The housing and employment capacity totals in Table 10-8 and Table 10-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 10-8: City of Fircrest 2020-2044 Housing Capacity (Dwelling Units)

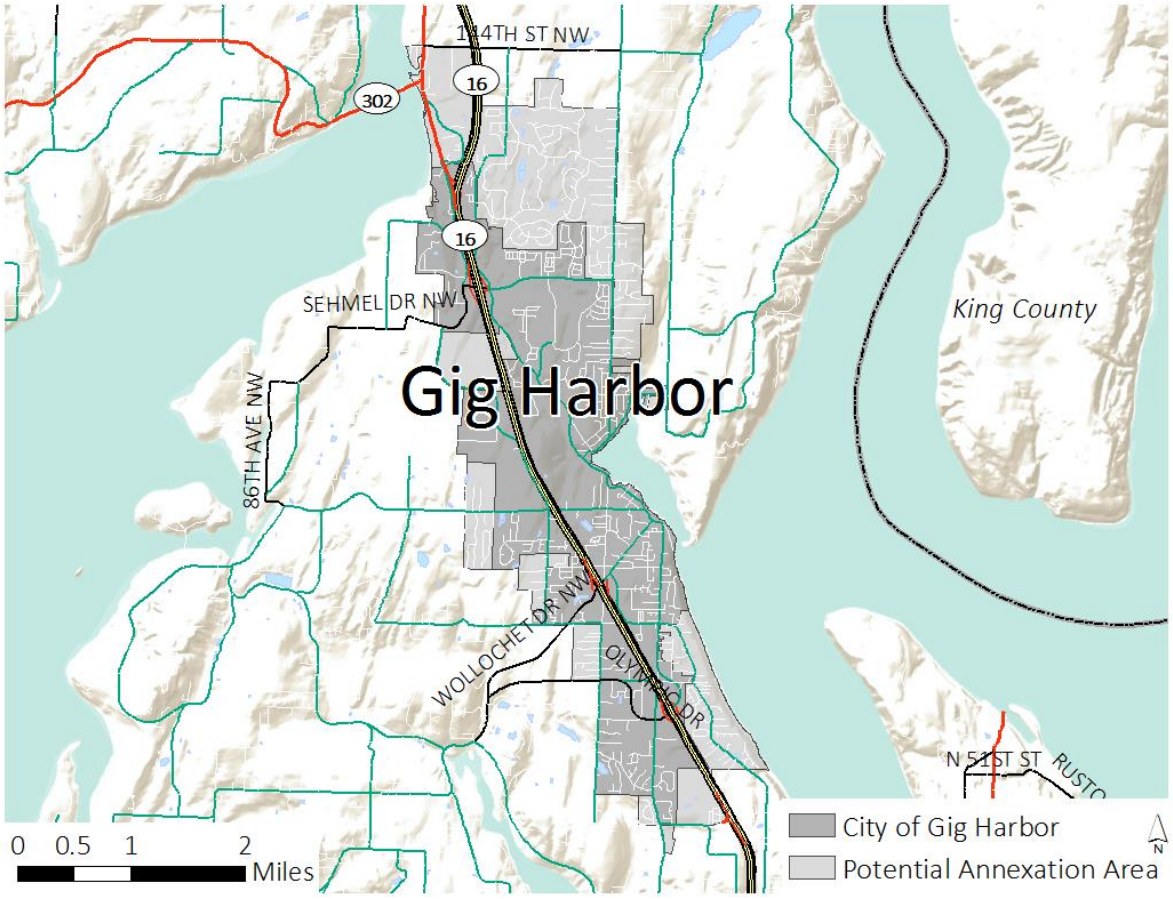
Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
CMU	0	0	0	2	2
NC	0	0	0	0	0
NO	0	0	0	0	0
R10TCD	0	0	0	0	0
R20	0	0	0	0	0
R4	5	12	8	1	26
R4C	61	0	0	0	61
R6	3	23	9	0	35
R8	0	0	0	0	0
Total	69	35	17	3	124

Table 10-9: City of Fircrest 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
CMU	40	227	0	267
NC	0	0	0	0
NO	0	0	0	0
R10TCD	0	0	0	0
R20	0	0	0	0
R4	0	1	0	1
R4C	0	1	0	1
R6	0	1	0	1
R8	0	0	0	0
Total	40	230	0	270

DRAFT

11 CITY OF GIG HARBOR



The City of Gig Harbor's Comprehensive Plan and regulations implement densities using net acreage, subtracting out streets, roads, access easements, wetlands, ravine sidewalls, bluffs, and tideland.

Table 11-1: City of Gig Harbor Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
B-1	Neighborhood Commercial District	Commercial	0.6
B-2	General Business District	Commercial	223.6
C-1	Commercial District	Commercial	52.3
DB	Downtown Business District	Commercial	30.2
ED	Employment District	Industrial	241.0
PCD-BP	Planned Community Development Business Park District	Planned	152.0
PCD-C	Planned Community Development Commercial	Planned	75.1
PCD-NB	Planned Community Development Neighborhood Business District	Planned	
PCD-RLD	Planned Community Development Low Density Residential	Planned	
PCD-RMD	Planned Community Development Medium Density Residential	Planned	39.3
PI	Public-Institutional District	Commercial	142.9
PRD	Planned Residential Development	Planned	205.3

Zone Classification		Zone Type[1]	Total Acres[2]
R-1	Single-Family Residential	Residential	1,173.0
R-2	Medium-Density Residential	Residential	372.8
R-3	Multiple-Family Residential	Residential	53.7
RB-1	Residential and Business District	Mixed Use	39.1
RB-2	Residential and Business District	Mixed Use	201.3
WC	Waterfront Commercial	Mixed Use	22.5
WM	Waterfront Millville	Mixed Use	12.2
WR	Waterfront Residential	Residential	16.4

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 11-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 11-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 11-2: City of Gig Harbor 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
B-2	2.51	66	26.29
PCD-RMD	14.58	63	4.32
PRD	235.04	1,007	4.28
R-1	43.31	141	3.26
R-2	51.13	174	3.40
R-3	2.15	10	4.65
RB-1	3.25	11	3.38
RB-2	23.39	220	9.41
Total/Avg.	**375.36**	**1,692**	**4.51**

Table 11-3: City of Gig Harbor 2013-2020 Non-residential Trends by Zone

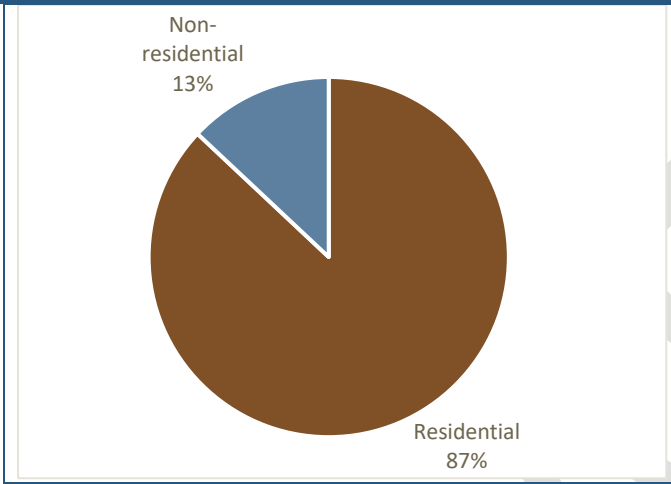
Zone	Acres	Sq. Ft.	FAR
B-2	9.38	95,187	0.23
C-1	14.00	175,497	0.29
PCD-BP	11.00	10,679	0.02
PRD	17.97	409,491	0.52
R-1	0.09	1,155	0.29
RB-1	1.00	8,952	0.21
RB-2	1.14	20,532	0.41
WM	0.66	5,600	0.19
Total/Avg.	**55.24**	**727,093**	**0.30**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 11-A), the employment densities used in the capacity

assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 11-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 11-A: City of Gig Harbor Residential vs. Non-residential Development Split



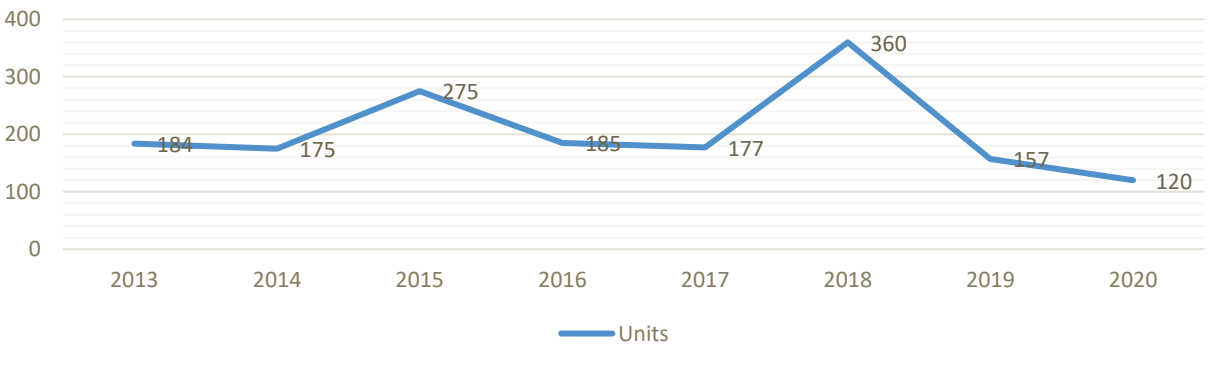
Zone	Use Type Split (Percent)[1] Residential	Non-residential
B-2	21%	79%
C-1	0%	100%
PCD-BP	0%	100%
PCD-RMD	100%	0%
PRD	93%	7%
R-1	100%	0%
R-2	100%	0%
R-3	100%	0%
RB-1	76%	24%
RB-2	95%	5%
WM	0%	100%
Average	**91%**	**9%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 11-B: City of Gig Harbor Housing Production Rates (OFM)

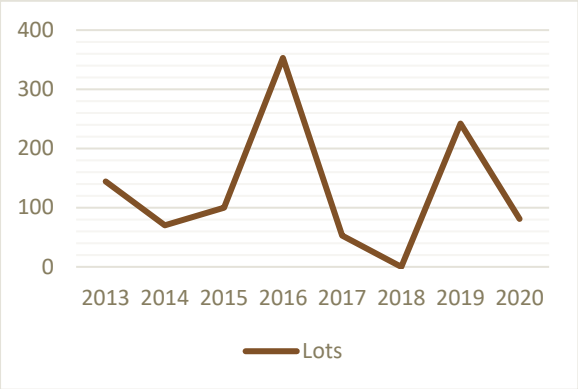


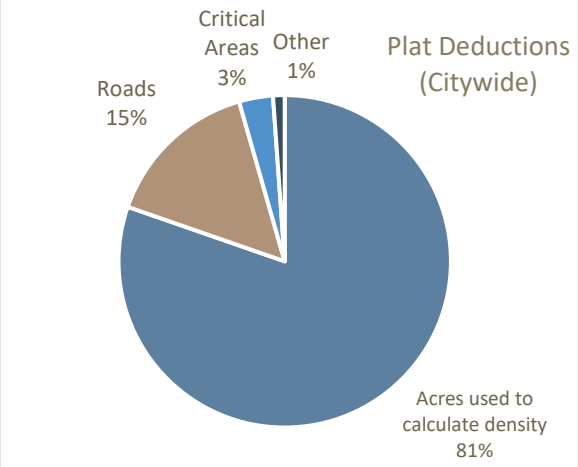
Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 11-2).

Figure 11-C: City of Gig Harbor Platting Trends





Plat Activity by Year

Year	Lots	Net Acres	Net Density
2013	144	28.33	5.08
2014	70	15.03	4.66
2015	100	33.07	3.02
2016	353	72.32	4.88
2017	53	13.37	3.96
2018	-	-	-
2019	242	27.40	8.83
2020	81	23.99	3.38
Total	**1,043**	**213.52**	**4.88**

Plat Deductions by Zone (Percent)

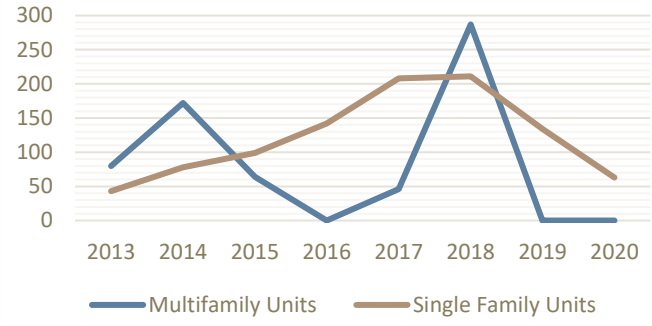
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
B-2	0.0%	0.0%	0.0%	0.0%
PCD	0.0%	0.0%	0.0%	0.0%
PCD-RMD	0.0%	0.0%	0.0%	0.0%
PRD	16.9%	1.8%	0.0%	0.0%
R-1	10.2%	1.1%	5.8%	0.6%
R-2	0.0%	0.0%	0.7%	0.0%
R-3	0.0%	0.0%	0.0%	0.0%
RB-1	0.0%	0.0%	0.0%	0.0%
RB-2	8.0%	24.1%	0.0%	0.0%
WM	0.0%	0.0%	0.0%	0.0%
Average	**12.5%**	**2.7%**	**0.8%**	**0.1%**

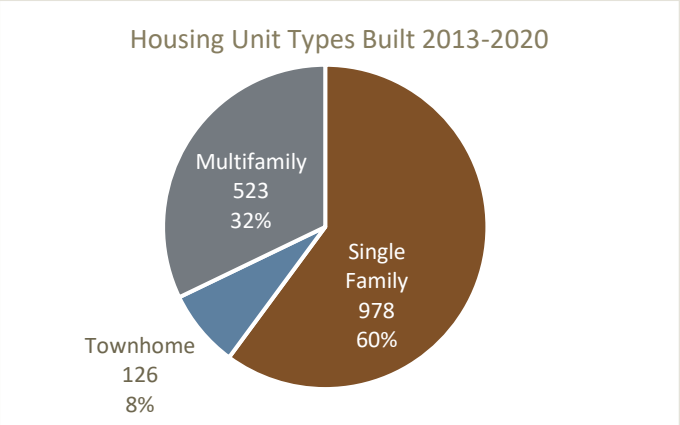
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 11-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 11-D: City of Gig Harbor Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Net Acres	Net Density
2013	80	15.50	5.16
2014	172	11.52	14.93
2015	64	1.92	33.33
2016	0	0.00	-
2017	46	9.64	9.64
2018	287	17.97	15.97
2019	0	0.00	-
2020	0	0.00	-
Total	**649**	**51.68**	**12.56**

Single Family Permits by Year (Optional)

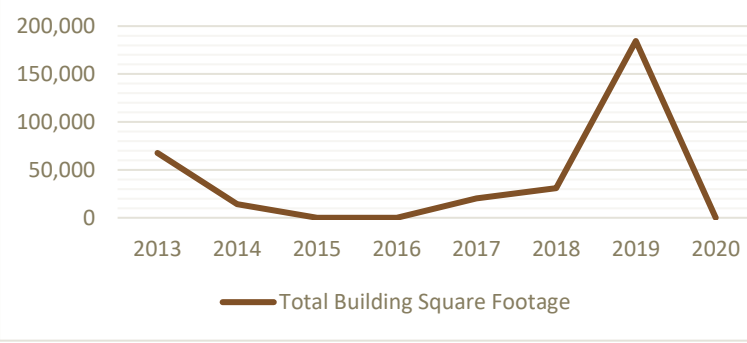
Year	Lots	Acres	Avg. Lot Size
2013	43	4.82	0.11
2014	78	9.13	0.12
2015	99	13.88	0.14
2016	142	19.79	0.14
2017	208	29.36	0.14
2018	211	29.11	0.14
2019	134	20.80	0.16
2020	63	11.62	0.18
Total	**978**	**138.51**	**0.14**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 11-E: City of Gig Harbor Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	6.95	67,585	0.22
2014	11.37	14,240	0.03
2015	-	-	-
2016	-	-	-
2017	1.76	20,319	0.27
2018	20.16	440,500	0.50
2019	15.00	184,449	0.28
2020	-	-	-
Total	55.24	727,093	0.30

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 11-4 and Table 11-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

The PCD and PRD zones have planned development assumptions represented as pipeline development in the capacity calculations, so they are not shown here.

Table 11-4: City of Gig Harbor Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
B-1	0%	0	100%	20	0%	0%	10%	50%	0%
B-2	20%	6	80%	20	10%	50%	10%	50%	0%
C-1	0%	0	100%	20	0%	0%	10%	50%	0%
DB	20%	8	80%	20	10%	50%	10%	50%	0%
ED	0%	0	100%	9	0%	0%	10%	50%	0%
PCD-BP	0%	0	100%	20	0%	0%	0%	0%	0%
PCD-C	0%	0	100%	20	0%	0%	0%	0%	0%
PCD-RMD	0%	0	0%	0	0%	0%	0%	0%	0%
PI	0%	0	100%	20	0%	0%	10%	50%	0%
PRD	0%	0	0%	0	0%	0%	0%	0%	0%
R-1	100%	4	0%	20	10%	50%	0%	0%	0%
R-2	100%	6	0%	20	10%	50%	0%	0%	0%
R-3	100%	8	0%	20	10%	50%	0%	0%	0%
RB-1	30%	4	70%	20	10%	50%	10%	50%	0%
RB-2	30%	8	70%	20	10%	50%	10%	50%	0%
WC	20%	4	80%	20	10%	0%	0%	50%	0%
WM	20%	4	80%	0	10%	0%	0%	50%	0%
WR	100%	4	0%	0	10%	50%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 11-5: City of Gig Harbor Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
R-1	15%	GIS	0%	0%	2%	<0.625 acres
R-2	15%	GIS	0%	0%	2%	<0.420 acres
R-3	15%	GIS	0%	0%	2%	N/A

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 11-6 shows the characteristics of the initial inventory and Table 11-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 11-6: City of Gig Harbor Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	411.92	351.37	50.85	174.18
Average Lot Size (Gross)	2.56	1.36	0.13	7.26
Total Acreage (Net)	397.81	343.88	48.17	171.26
Average Lot Size (Net)	2.47	1.33	0.13	7.14
Percent Critical Areas	3%	2%	5%	2%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 11-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 11-7: City of Gig Harbor Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	14.11	7.49
Plat Deductions	33.93	32.94
Capital Facilities	0.00	0.00
Market Factor	35.46	156.15
Total Percent Reduction in Inventory Land	19%	56%
Percent of Vacant or Underutilized Land Available for Capacity	81%	44%

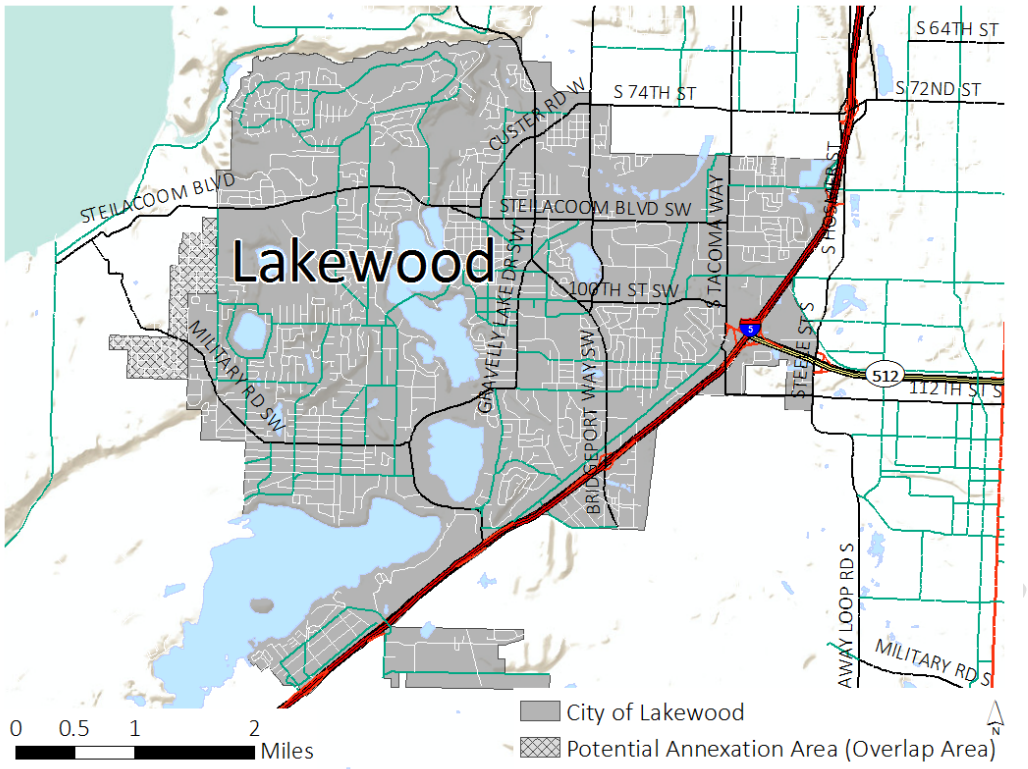
Capacity Results

The housing and employment capacity totals in Table 11-8 and Table 11-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 11-8: City of Gig Harbor 2020-2044 Housing Capacity (Dwelling Units)					
Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
B-1	0	0	0	0	0
B-2	25	19	0	0	44
C-1	0	0	0	0	0
DB	1	10	0	0	11
ED	0	0	0	0	0
PCD-BP	0	0	0	20	20
PCD-C	0	0	0	0	0
PCD-RMD	0	0	0	0	0
PI	0	0	0	0	0
PRD	0	0	94	6	100
R-1	373	291	93	89	846
R-2	456	99	16	143	714
R-3	0	3	0	0	3
RB-1	3	6	0	8	17
RB-2	76	38	174	0	288
WC	1	0	0	0	1
WM	0	0	0	0	0
WR	0	0	2	0	2
Total	935	466	379	266	2,046

Table 11-9: City of Gig Harbor 2020-2044 Employment Capacity (Jobs)				
Zone	Vacant	Underutilized	Pipeline	Total
B-1	12	0	0	12
B-2	333	261	0	594
C-1	171	62	7	240
DB	13	95	0	108
ED	727	142	206	1,075
PCD-BP	242	0	371	613
PCD-C	0	0	0	0
PCD-RMD	0	0	0	0
PI	0	0	0	0
PRD	0	0	0	0
R-1	373	61	0	434
R-2	456	14	0	470
R-3	0	0	0	0
RB-1	3	73	0	76
RB-2	76	231	10	317
WC	1	3	0	4
WM	0	0	0	0
WR	0	0	0	0
Total	2,407	942	594	3,943

12 CITY OF LAKEWOOD



The City of Lakewood's Comprehensive Plan and regulations implement densities using gross acreage.

Table 12-1: City of Lakewood Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
AC1	Air Corridor 1	Commercial	243.8
AC2	Air Corridor 2	N/A	196.6
ARC	Arterial Residential/Commercial	Residential	17.8
C1	Commercial One	Commercial	58.7
C2	Commercial Two	Commercial	236.4
C3	Commercial Three	Commercial	25.0
CBD	Central Business District	Mixed Use	267.6
CZ	Clear Zone	N/A	28.6
I1	Industrial One	Industrial	238.6
I2	Industrial Two	Industrial	37.6
IBP	Industrial Business Park	Industrial	335.2
MF1	Multi Family One	Residential	239.2
MF2	Multi Family Two	Residential	218.2
MF3	Multi Family Three	Residential	146.0
MR1	Mixed Residential One	Residential	108.5
MR2	Mixed Residential Two	Residential	151.6

Zone Classification		Zone Type[1]	Total Acres[2]
NC1	Neighborhood Commercial One	Mixed Use	13.9
NC2	Neighborhood Commercial Two	Mixed Use	216.1
OSR1	Open Space & Recreation One	N/A	923.4
OSR2	Open Space & Recreation Two	N/A	474.2
PI	Public/Institutional	Public Use	729.6
R1	Residential One	Residential	366.5
R2	Residential Two	Residential	514.6
R3	Residential Three	Residential	2,326.3
R4	Residential Four	Residential	878.1
TOC	Transit Oriented Commercial	Mixed Use	117.1

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 12-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 12-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 12-2: City of Lakewood 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
ARC	0.78	15	19.23
CBD	1.45	15	10.34
MF1	3.13	30	9.60
MR1	0.33	2	6.02
MR2	10.06	34	3.38
NC2	3.19	34	10.65
OSR2	41.29	6	0.15
R1	5.83	8	1.37
R2	3.66	6	1.64
R3	24.17	92	3.81
R4	6.13	32	5.22
Total/Avg.	**100.01**	**274**	**2.74**

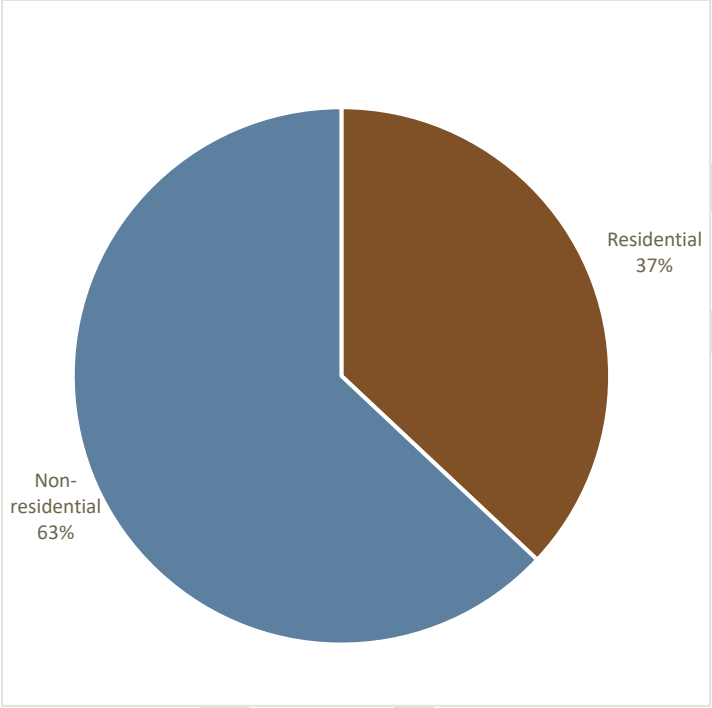
Table 12-3: City of Lakewood 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
AC1	18.80	265,808	0.32
C1	3.16	26,464	0.19
C2	19.93	305,722	0.35
CBD	47.35	31,095	0.02
IBP	54.43	1,114,882	0.47
NC1	0.43	858	0.05
NC2	6.65	25,829	0.09
PI	9.93	162,000	0.37
TOC	8.90	138,834	0.36
Total/Avg.	**169.58**	**2,071,492**	**0.28**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 12-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 12-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 12-A: City of Lakewood Residential vs. Non-residential Development Split



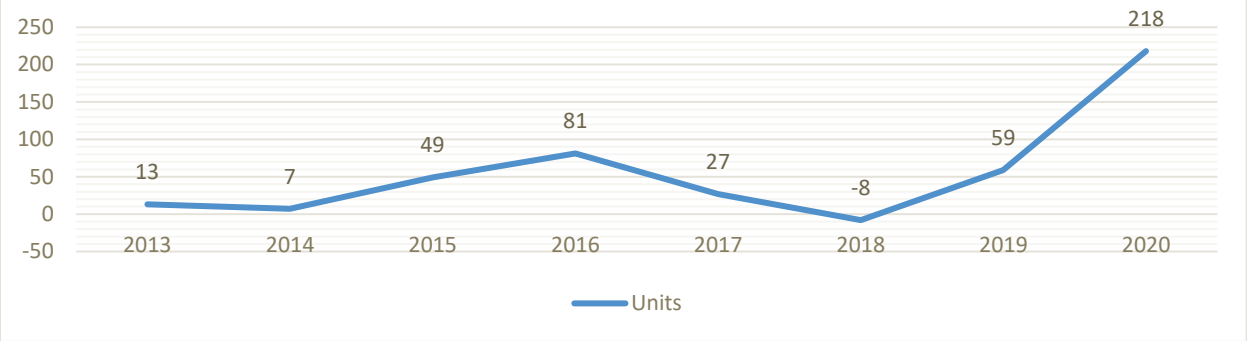
Zone	Use Type Split (Percent)[1] Residential	Non-residential
AC1	0%	100%
ARC	100%	0%
C1	0%	100%
C2	0%	100%
CBD	3%	97%
IBP	0%	100%
MF1	100%	0%
MR1	100%	0%
MR2	100%	0%
NC1	0%	100%
NC2	32%	68%
OSR2	100%	0%
PI	0%	100%
R1	100%	0%
R2	100%	0%
R3	100%	0%
R4	100%	0%
TOC	0%	100%
Average	**37%**	**63%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 12-B: City of Lakewood Housing Production Rates (OFM)

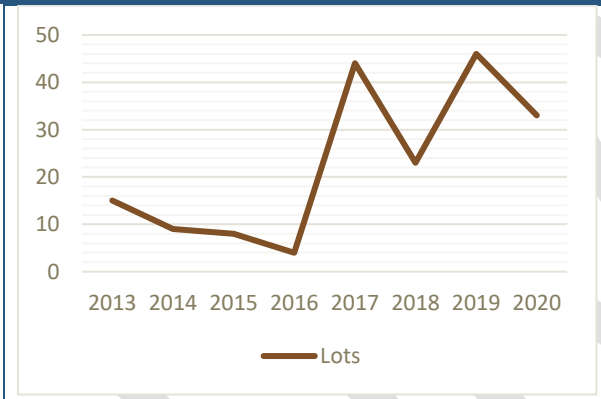


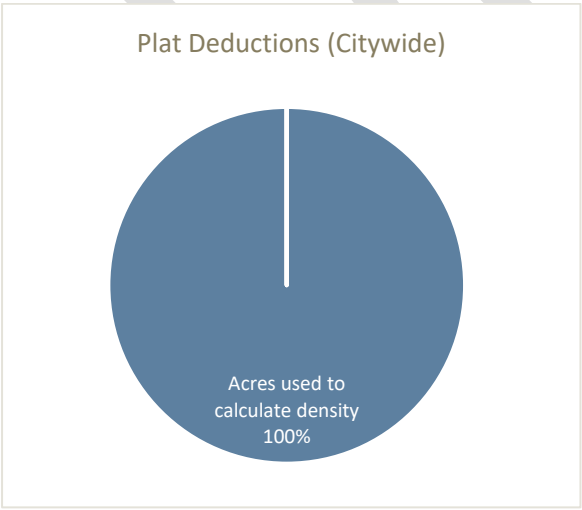
Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 12-2).

Figure 12-C: City of Lakewood Platting Trends





Plat Activity by Year

Year	Lots	Acres	Density
2013	15	43.01	0.35
2014	9	2.83	1.12
2015	8	2.57	3.11
2016	4	0.94	4.26
2017	44	10.43	4.22
2018	23	9.28	2.48
2019	46	17.51	2.63
2020	33	6.52	5.06
Total	**182**	**93.08**	**1.96**

Plat Deductions by Zone (Percent)

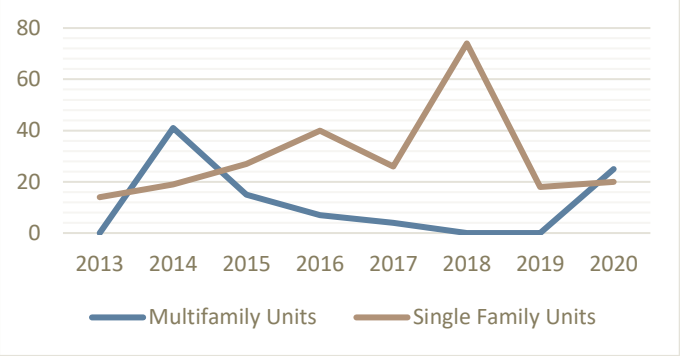
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
MF1	0.0%	0.0%	0.0%	0.0%
MR1	0.0%	0.0%	0.0%	0.0%
MR2	0.0%	0.0%	0.0%	0.0%
NC2	0.0%	0.0%	0.0%	0.0%
OSR2	0.0%	0.0%	0.0%	0.0%
R1	0.0%	0.0%	0.0%	0.0%
R2	0.0%	0.0%	0.0%	0.0%
R3	0.0%	0.0%	0.0%	0.0%
R4	0.0%	0.0%	0.0%	0.0%
Average	**0.0%**	**0.0%**	**0.0%**	**0.0%**

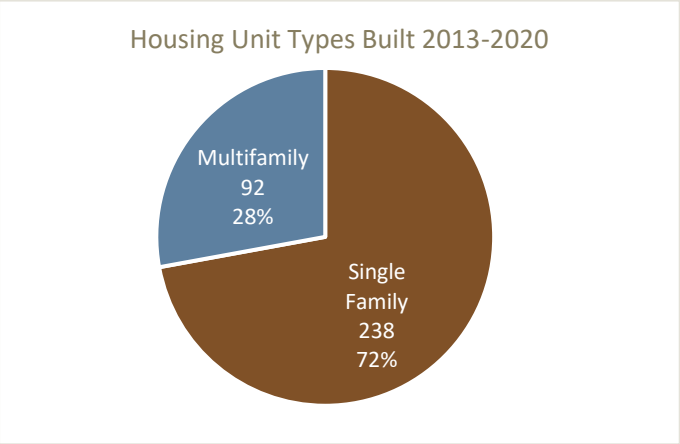
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 12-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 12-D: City of Lakewood Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Net Acres	Net Density
2013	-	-	-
2014	41	3.13	13.1
2015	15	0.78	19.23
2016	7	0.52	13.46
2017	4	0.21	19.05
2018	-	-	-
2019	-	-	-
2020	25	2.29	10.92
Total	**92**	**6.93**	**13.28**

Single Family Permits by Year (Optional)

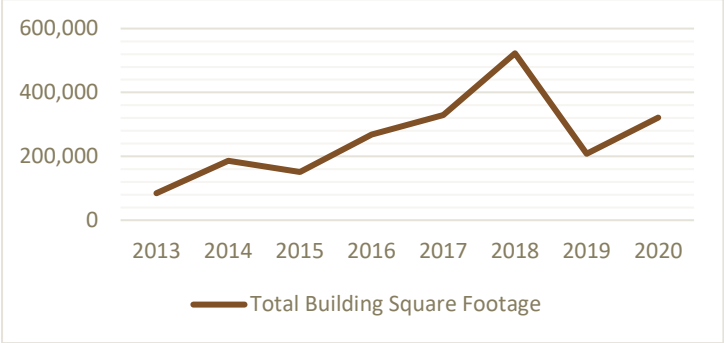
Year	Lots	Acres	Avg. Lot Size
2013	14	3.60	0.26
2014	19	6.43	0.34
2015	27	6.14	0.25
2016	40	9.73	0.28
2017	26	5.29	0.21
2018	74	13.80	0.23
2019	18	4.15	0.24
2020	20	8.94	0.47
Total	**238**	**58.96**	**0.27**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 12-E: City of Lakewood Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	13.76	84,530	0.14
2014	14.05	186,454	0.30
2015	9.64	151,420	0.36
2016	12.72	268,014	0.48
2017	41.70	329,529	0.18
2018	49.33	522,499	0.24
2019	11.82	208,212	0.40
2020	16.56	320,834	0.44
Total	**169.58**	**2,071,492**	**0.28**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 12-4 and Table 12-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 12-4: City of Lakewood Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
AC1	No Vacant or Underutilized Land								
ARC	100%	15	0%	25	10%	20%	0%	0%	0%
C1	0%	0	100%	25	0%	0%	10%	35%	0%
C2	0%	0	100%	25	0%	0%	10%	35%	0%
C3	0%	0	100%	25	0%	0%	10%	35%	0%
CBD	50%	80	50%	196	10%	20%	10%	35%	0%
I1	0%	0	100%	15	0%	0%	10%	35%	0%
I2	0%	0	100%	15	0%	0%	10%	35%	0%
IBP	0%	0	100%	15	0%	0%	10%	35%	0%
MF1	100%	22	0%	25	10%	20%	0%	0%	0%
MF2	100%	35	0%	25	10%	20%	0%	0%	0%
MF3	100%	54	0%	25	10%	20%	0%	0%	0%
MR1	100%	8	0%	25	10%	20%	0%	0%	0%
MR2	100%	14	0%	25	10%	20%	0%	0%	0%
NC1	15%	22	85%	25	10%	20%	10%	35%	0%
NC2	15%	35	85%	25	10%	20%	10%	35%	0%
PI	0%	0	100%	20	0%	0%	10%	35%	0%
R1	100%	2	0%	25	10%	20%	0%	0%	0%
R2	100%	2	0%	25	10%	20%	0%	0%	0%
R3	100%	5	0%	25	10%	20%	0%	0%	0%
R4	100%	6	0%	25	10%	20%	0%	0%	0%
TOC	25%	54	75%	45	10%	20%	10%	35%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 12-5: City of Lakewood Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
MF1	N/A	N/A	N/A	N/A	5%	N/A
MF2	N/A	N/A	N/A	N/A	5%	N/A
MF3	N/A	N/A	N/A	N/A	5%	N/A
MR1	N/A	N/A	N/A	N/A	5%	N/A
MR2	N/A	N/A	N/A	N/A	5%	N/A
R1	0%	0%	0%	0%	5%	<1.440 acres
R2	0%	0%	0%	0%	5%	<0.975 acres
R3	0%	0%	0%	0%	5%	<0.430 acres
R4	0%	0%	0%	0%	5%	<0.330 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 12-6 shows the characteristics of the initial inventory and Table 12-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 12-6: City of Lakewood Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	178.28	981.47	59.47	101.73
Average Lot Size (Gross)	0.88	0.57	0.26	1.88
Total Acreage (Net)	129.83	919.05	49.95	95.66
Average Lot Size (Net)	0.64	0.53	0.22	1.77
Percent Critical Areas	27%	6%	16%	6%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 12-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 12-7: City of Lakewood Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	48.45	62.42
Plat Deductions	0.00	0.00
Capital Facilities	0.00	0.00
Market Factor	17.83	248.94
Total Percent Reduction in Inventory Land	10%	25%
Percent of Vacant or Underutilized Land Available for Capacity	90%	75%

Capacity Results

The housing and employment capacity totals in Table 12-8 and Table 12-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 12-8: City of Lakewood 2020-2044 Housing Capacity (Dwelling Units)

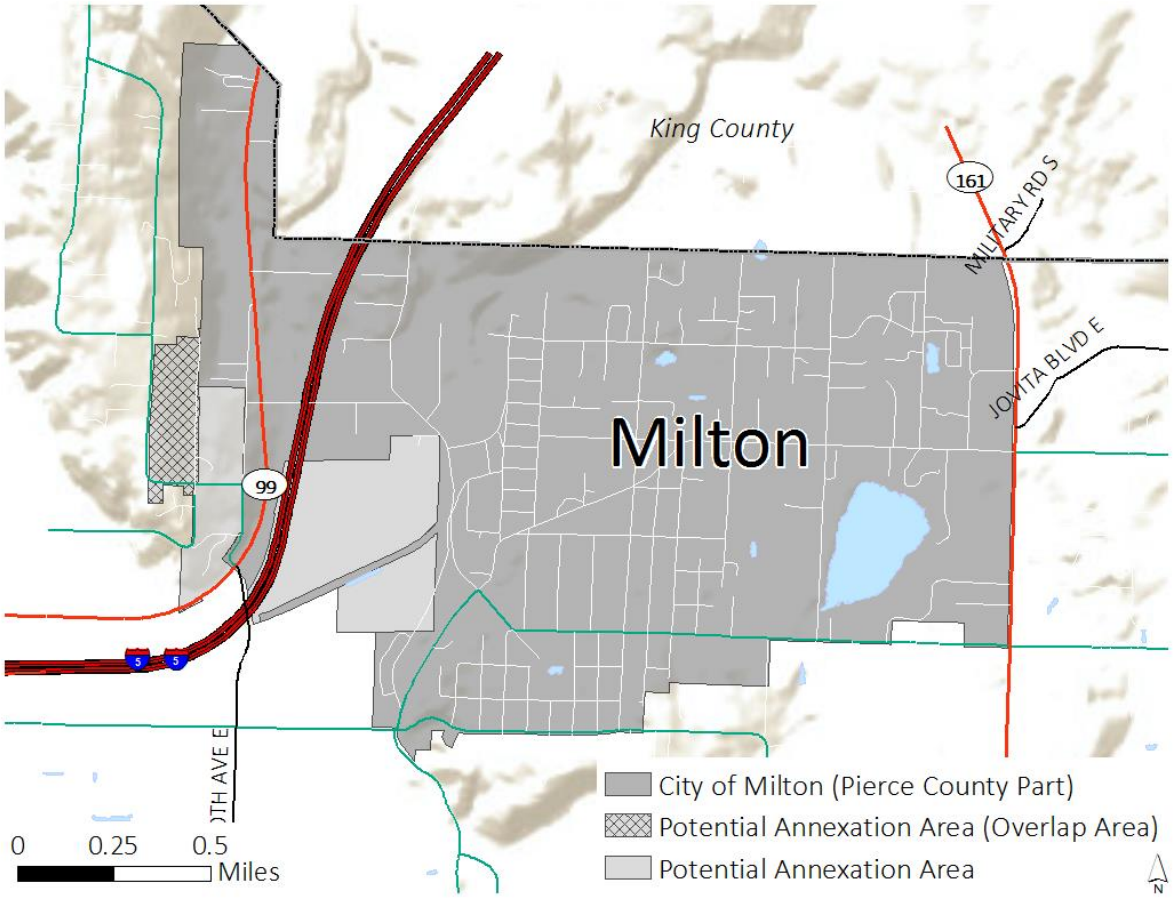
Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
AC1	0	0	0	0	0
ARC	0	0	0	0	0
C1	0	0	0	0	0
C2	0	0	0	0	0
C3	0	0	0	0	0
CBD	181	2,405	0	67	2,653
I1	0	0	0	0	0
I2	0	0	0	0	0
IBP	0	0	0	0	0
MF1	132	1,251	16	5	1,404
MF2	304	1,240	0	80	1,624
MF3	152	1,164	0	1	1,317
MR1	0	147	0	1	148
MR2	42	636	5	5	688
NC1	2	17	0	42	61
NC2	49	458	0	2	509
PI	0	0	0	0	0
R1	7	26	17	1	51
R2	15	91	39	20	165
R3	172	739	91	34	1,036
R4	23	237	58	24	342
TOC	124	478	0	771	1,373
Total	**1,203**	**8,889**	**226**	**1,053**	**11,371**

Table 12-9: City of Lakewood 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
AC1	0	0	50	50
ARC	0	0	0	0
C1	6	211	0	217
C2	60	362	11	433
C3	333	1,354	282	1,969
CBD	443	4,786	0	5,229
I1	0	0	0	0
I2	0	0	0	0
IBP	0	152	822	974
MF1	0	95	72	167
MF2	0	59	0	59
MF3	0	36	0	36
MR1	0	31	0	31
MR2	0	76	0	76
NC1	0	90	2	92
NC2	0	1,506	0	1,506
PI	0	121	0	121
R1	0	22	0	22
R2	0	76	0	76
R3	0	246	0	246
R4	0	66	0	66
TOC	0	970	307	1,277
Total	842	10,259	1,546	12,647

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13 CITY OF MILTON (PIERCE COUNTY PART)



A portion of the City of Milton is in King County; this section represents only the portion within Pierce County. The City of Milton's Comprehensive Plan and regulations implement densities using net acreage.

Table 13-1: City of Milton Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
B	Business District	Commercial	150.7
CF	Community Facilities District	Public Use	38.8
M-1	Light Manufacturing District	Industrial	114.7
MX	Mixed-Use Town Center District	Mixed Use	10.8
OS	Open Space District	N/A	36.2
RM	Residential Multi-Family District	Residential	171.1
RMD	Residential Moderate-Density District	Residential	40.3
RS	Residential Single Family District	Residential	607.2

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2019 and plat activity through December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 13-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 13-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 13-2: City of Milton 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
RM	0.57	4	10.81
RS	12.78	39	3.34
Total/Avg.	**13.35**	**43**	**3.22**

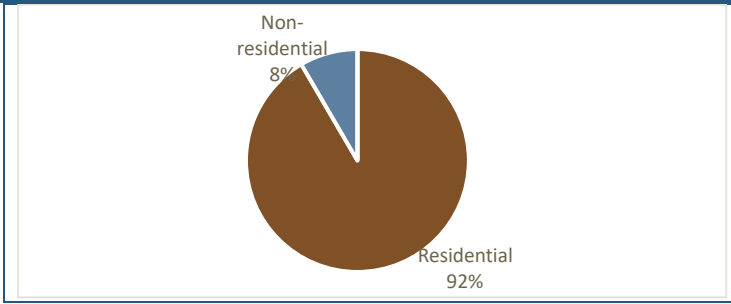
Table 13-3: City of Milton 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
B	1.01	4,483	0.10
TC	0.22	405	0.04
Total/Avg.	**1.23**	**4,888**	**0.09**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 13-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 13-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 13-A: City of Milton Residential vs. Non-residential Development Split



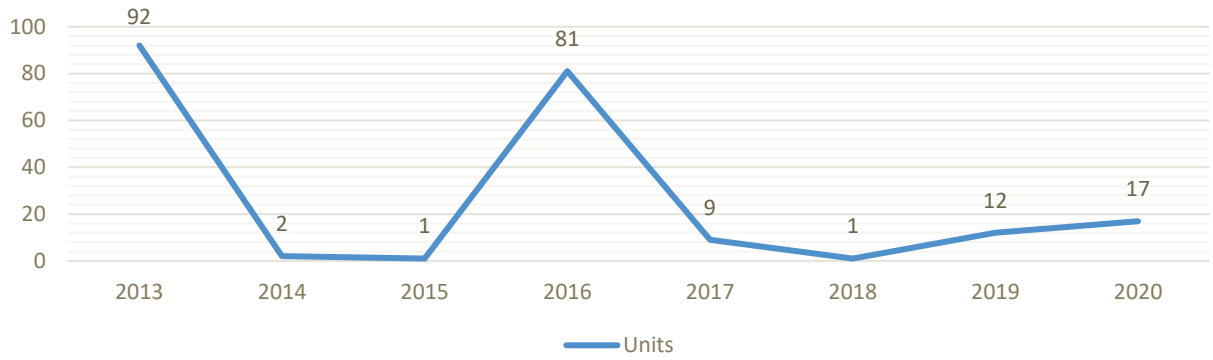
Zone	Use Type Split (Percent)[1] Residential	Non-residential
B	0%	100%
RM	100%	0%
RS	100%	0%
TC	0%	100%
Average	**92%**	**8%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 13-B: City of Milton Housing Production Rates (OFM)

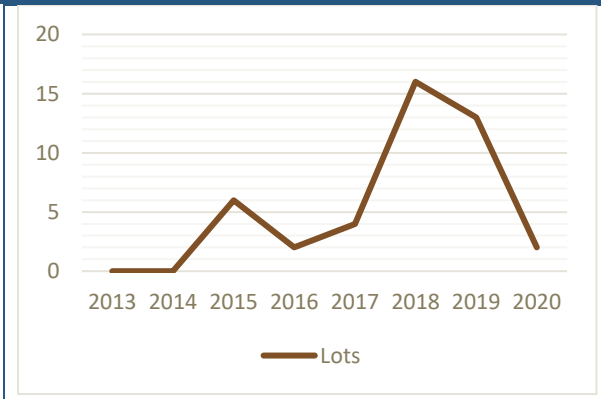


Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

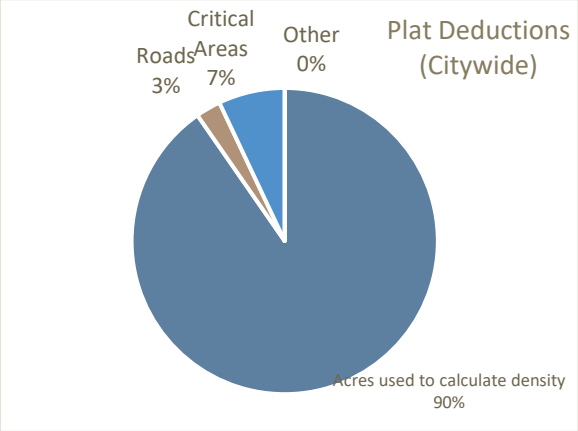
Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 13-2).

Figure 13-C: City of Milton Platting Trends



Plat Activity by Year

Year	Lots	Acres	Density
2013	-	-	-
2014	-	-	-
2015	6	1.25	4.80
2016	2	0.54	3.68
2017	4	0.80	5.01
2018	16	3.42	4.68
2019	13	3.70	3.51
2020	2	2.35	0.85
Total	**43**	**12.06**	**3.57**



Plat Deductions by Zone (Percent)

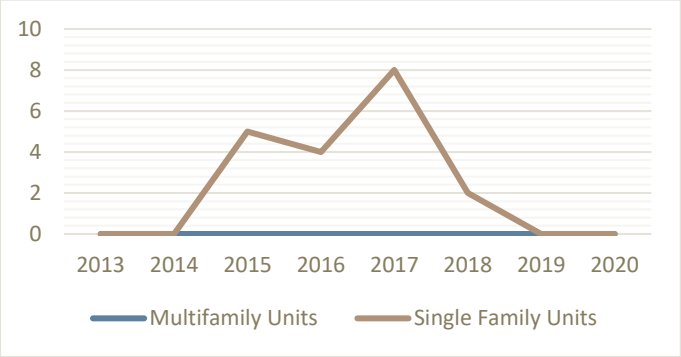
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
RM	35.1%	0.0%	0.0%	0.0%
RS	1.2%	7.3%	0.0%	0.0%
Average	**2.6%**	**7.0%**	**0.0%**	**0.0%**

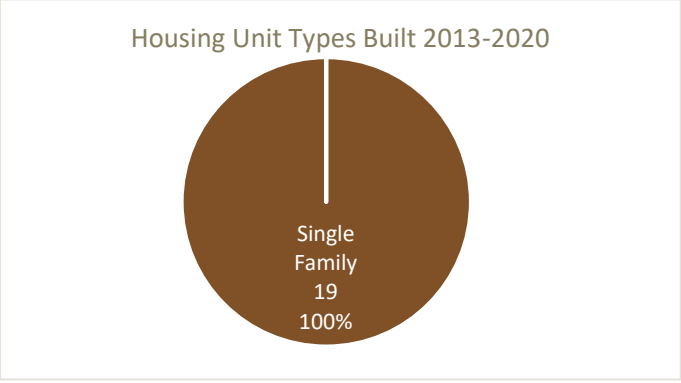
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 13-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 13-D: City of Milton Residential Building Permit Trends





Multifamily Permits by Year

No multifamily residential development was observed in the timeframe

Single Family Permits by Year (Optional)

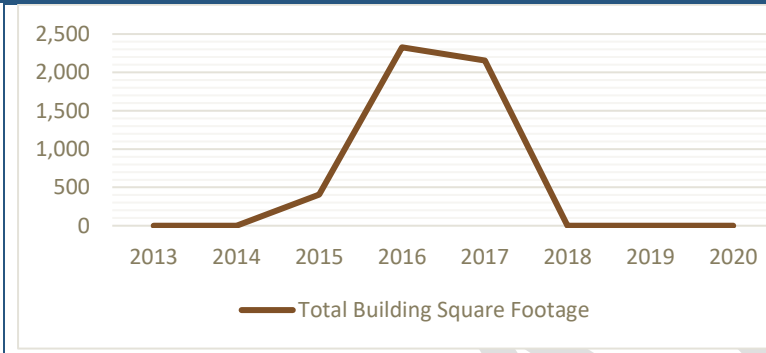
Year	Lots	Acres	Avg. Lot Size
2013	-	-	-
2014	-	-	-
2015	7	1.59	0.26
2016	4	0.96	0.32
2017	8	1.79	0.22
2018	2	0.61	0.31
2019	-	-	-
Total	**21**	**4.95**	**0.26**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 13-E: City of Milton Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	-	-	-
2014	-	-	-
2015	0.22	405	0.04
2016	0.31	2,327	0.17
2017	0.70	2,156	0.07
2018	-	-	-
2019	-	-	-
Total	**1.23**	**4,888**	**0.09**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 13-4 and Table 13-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 13-4: City of Milton Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
B	0%	0	100%	20	0%	0%	5%	35%	0%
CF	0%	0	100%	20	0%	0%	5%	35%	0%
M-1	0%	0	100%	9	0%	0%	5%	35%	0%
MX	60%	8	40%	20	5%	35%	5%	35%	0%
RM	100%	8	0%	20	5%	35%	0%	0%	0%
RMD	100%	8	0%	20	5%	35%	0%	0%	0%
RS	100%	3	0%	20	5%	35%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 13-5: City of Milton Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
RM	15%	GIS	0%	0%	2%	<0.39 acres
RMD	15%	GIS	0%	0%	2%	<0.23 acres
RS	15%	GIS	0%	0%	2%	<0.39 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 13-6 shows the characteristics of the initial inventory and Table 13-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 13-6: City of Milton Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	178.28	981.47	59.70	101.73
Average Lot Size (Gross)	0.88	0.57	0.26	1.88
Total Acreage (Net)	129.83	919.05	50.18	95.66
Average Lot Size (Net)	0.64	0.53	0.22	1.77
Percent Critical Areas	27%	6%	16%	6%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 13-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 13-7: City of Milton Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	48.45	62.42
Plat Deductions	4.50	17.76
Capital Facilities	0.00	0.00
Market Factor	3.49	66.97
Total Percent Reduction in Inventory Land	24%	44%
Percent of Vacant or Underutilized Land Available for Capacity	76%	56%

Capacity Results

The housing and employment capacity totals in Table 13-8 and Table 13-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 13-8: City of Milton 2020-2044 Housing Capacity (Dwelling Units)

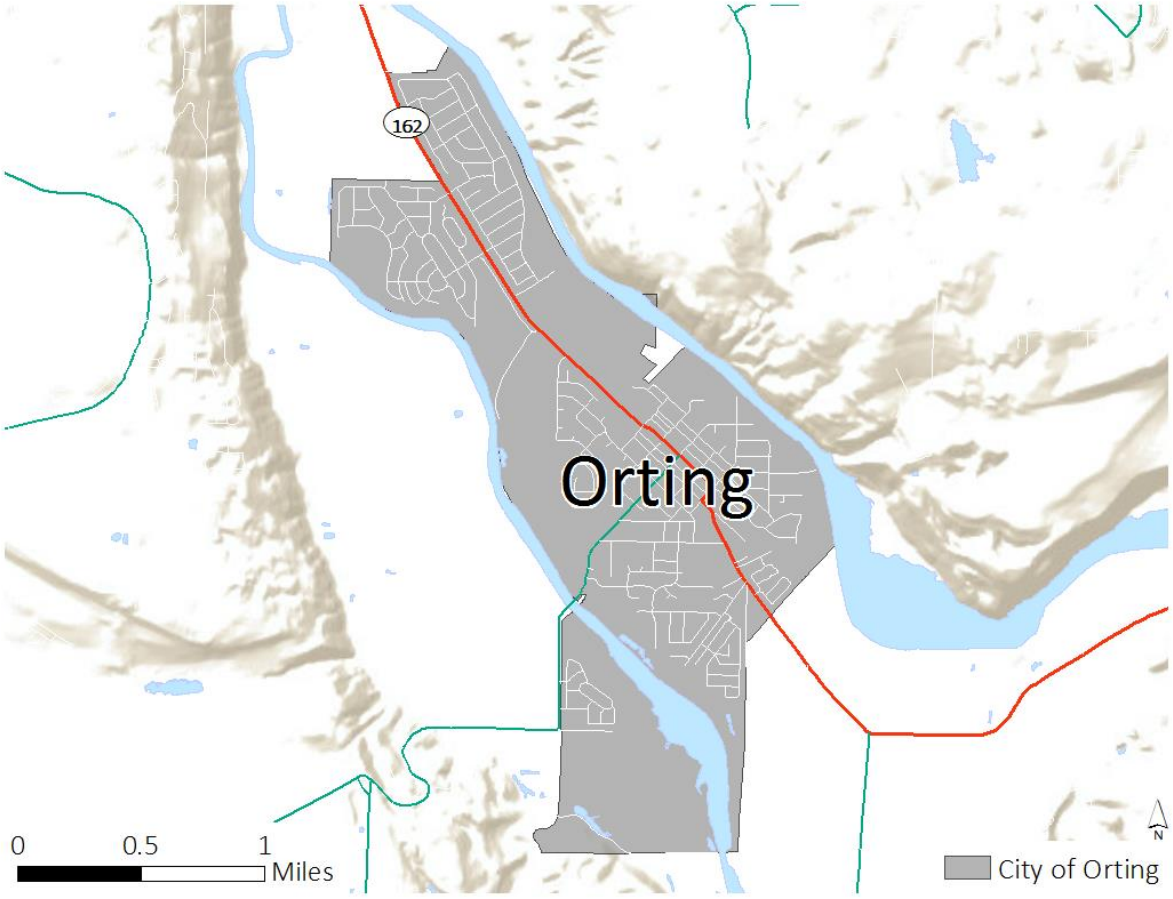
Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
B	0	0	0	0	0
CF	0	0	0	0	0
M-1	0	0	0	0	0
MX	13	15	0	0	28
RM	39	138	2	0	179
RMD	10	32	4	0	46
RS	53	126	70	2	251
Total	115	311	76	2	504

Table 13-9: City of Milton 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
B	495	499	20	1,014
CF	0	36	0	36
M-1	130	261	0	391
MX	22	26	0	48
RM	2	11	0	13
RMD	1	3	0	4
RS	0	0	0	0
Total	650	836	20	1,506

DRAFT

14 CITY OF ORTING



The City of Orting's Comprehensive Plan and regulations implement densities using net acreage, subtracting out roads, critical areas, and parks.

Table 14-1: City of Orting Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
LM	Light Manufacturing	Industrial	0.9
MUTC	Mixed Use – Town Center	Mixed Use	48.7
MUTCN	Mixed Use – Town Center North	Mixed Use	65.3
OS	Open Space & Recreation	N/A	87.3
PF	Public Facilities	Public Use	381.5
RC	Residential – Conservation	Residential	166.3
RMF	Residential – Multi-family	Residential	38.0
RU	Residential – Urban	Residential	729.0

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2019 and plat activity through December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 14-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 14-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 14-2: City of Orting 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
MUTC	0.23	2	8.70
RU	106.34	418	3.93
Total/Avg.	**106.57**	**420**	**3.94**

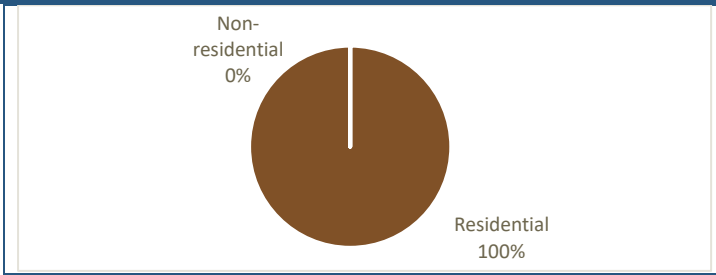
[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Table 14-3: City of Orting 2013-2020 Non-residential Trends by Zone

No non-residential development has been observed in the timeframe.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 14-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 14-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 14-A: City of Orting Residential vs. Non-residential Development Split



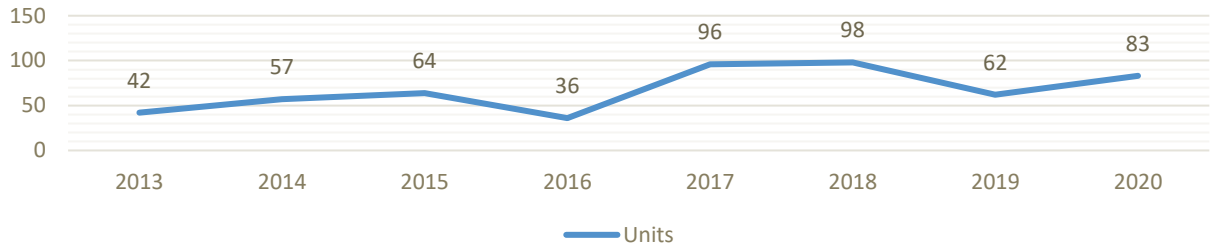
Zone	Use Type Split (Percent)[1]	
	Residential	Non-residential
MUTC	100%	0%
RU	100%	0%
Average	**100%**	**0%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 14-B: City of Orting Housing Production Rates (OFM)

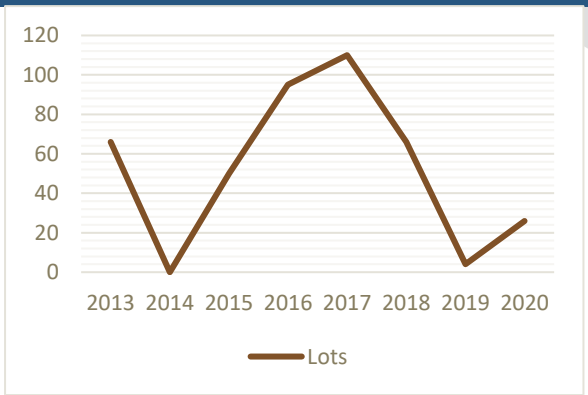


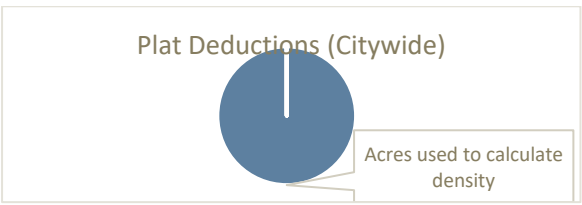
Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 14-2).

Figure 14-C: City of Orting Platting Trends





Plat Activity by Year

Year	Lots	Acres	Density
2013	66	15.37	4.29
2014	-	-	-
2015	50	11.30	4.42
2016	95	19.56	4.86
2017	110	30.52	3.60
2018	66	16.40	4.02
2019	4	1.20	3.33
2020	26	11.75	2.21
Total	**417**	**106.10**	**3.93**

Plat Deductions by Zone (Percent)

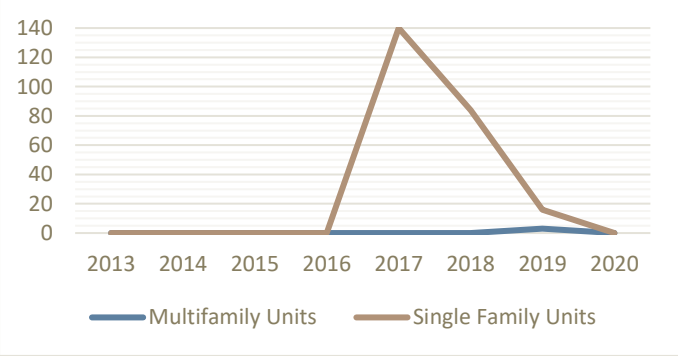
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
MUTC	0.0%	0.0%	0.0%	0.0%
RU	0.0%	0.0%	0.0%	0.0%
Average	**0.0%**	**0.0%**	**0.0%**	**0.0%**

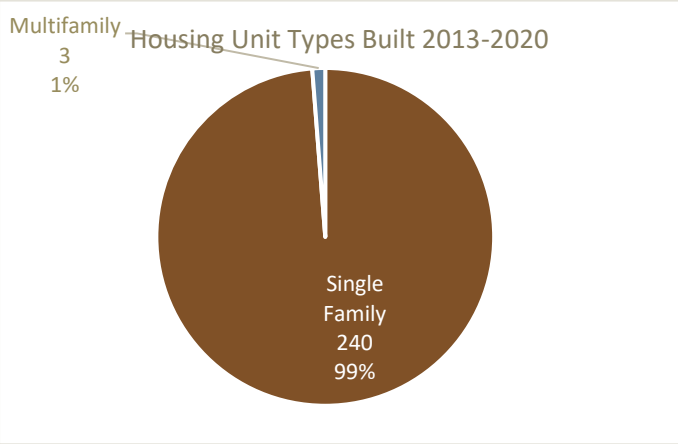
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 14-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 14-D: City of Orting Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Net Acres	Net Density
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	3	0.47	6.38
Total	**3**	**0.47**	**6.38**

Single Family Permits by Year (Optional)

Year	Lots	Acres	Avg. Lot Size
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	140	23.58	0.17
2018	84	20.22	0.24
2019	16	3.77	0.23
Total/Avg.	**240**	**47.58**	**0.20**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 14-E: City of Orting Non-residential Permit Trends

No non-residential development has been observed in the timeframe.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 14-4 and Table 14-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps

Table 14-4: City of Orting Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
LM	0%	0	100%	9	0%	0%	4%	50%	0%
MUTC	50%	8	50%	20	1%	50%	4%	50%	0%
MUTCN	50%	10	50%	20	1%	50%	4%	50%	0%
PF	0%	0	100%	20	0%	0%	4%	50%	0%
RC	100%	0.5	0%	20	1%	50%	0%	0%	0%
RMF	100%	6	0%	20	1%	50%	0%	0%	0%
RU	100%	4	0%	20	1%	50%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 14-5: City of Orting Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
RC	10%	7.50%	6.20%	0%	0%	<4.50 acres
RMF	10%	7.50%	6.20%	0%	0%	<0.31 acres
RU	10%	7.50%	6.20%	0%	0%	<0.42 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 14-6 shows the characteristics of the initial inventory and Table 14-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 14-6: City of Orting Summary of Vacant and Underutilized Land Characteristics				
Characteristics/Category	**Vacant**	**Underutilized**	**Vacant Single Unit**	**Pipeline**
Total Acreage (Gross	156.55	70.99	9.75	20.92
Average Lot Size (Gross)	10.44	1.13	0.30	4.18
Total Acreage (Net)	106.77	31.70	2.48	4.96
Average Lot Size (Net)	7.12	0.50	0.08	0.99
Percent Critical Areas	32%	55%	75%	76%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 14-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 14-7: City of Orting Summary of Deductions		
Deductions/Category	**Vacant**	**Underutilized**
Critical Areas	49.79	39.29
Plat Deductions	2.74	3.79
Capital Facilities	0.00	0.00
Market Factor	1.78	13.99
Total Percent Reduction in Inventory Land	28%	80%
Percent of Vacant or Underutilized Land Available for Capacity	72%	20%

Capacity Results

The housing and employment capacity totals in Table 14-8 and Table 14-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

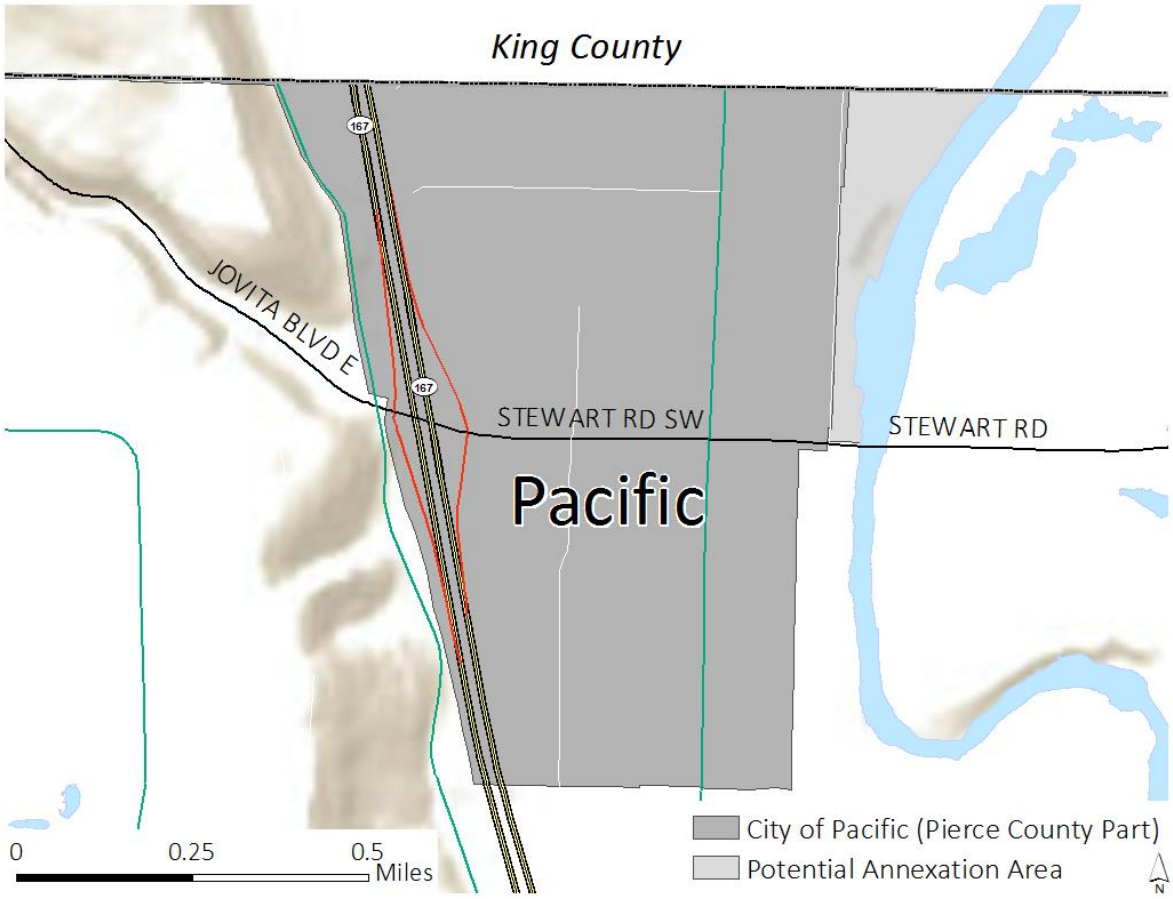
Table 14-8: City of Orting 2020-2044 Housing Capacity (Dwelling Units)					
Zone	**Vacant**	**Underutilized**	**Vacant Single Unit**	**Pipeline**	**Total**
LM	0	0	0	0	**0**
MUTC	26	31	0	0	**57**
MUTCN	166	0	0	0	**166**
PF	0	0	0	0	**0**
RC	0	1	0	0	**1**
RMF	10	6	0	0	**16**
RU	28	12	0	0	**40**
Total	230	50	0	0	**280**

Table 14-9: City of Orting 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
LM	0	0	0	0
MUTC	65	79	0	144
MUTCN	646	0	0	646
PF	0	0	0	0
RC	0	0	0	0
RMF	0	0	0	0
RU	0	0	0	0
Total	711	79	0	790

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15 CITY OF PACIFIC (PIERCE COUNTY PART)



A portion of the City of Pacific is in King County; this section represents only the portion within Pierce County. The City does not have any residential-zoned land in Pierce County.

Table 15-1: City of Pacific Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
C	Commercial	Commercial	73.5
LI	Light Industrial	Industrial	191.0
OP	Office Park	Commercial	24.0
PL	Public Land	Public Use	1.6

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes building and plat data obtained through the Pierce County Assessor-Treasurer and Auditor Departments observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this

section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 15-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 15-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 15-2: City of Pacific 2013-2020 Residential Trends by Zone[1]

The portion of City of Pacific within Pierce County does not contain residential land, and no residential development has been observed in the timeframe.

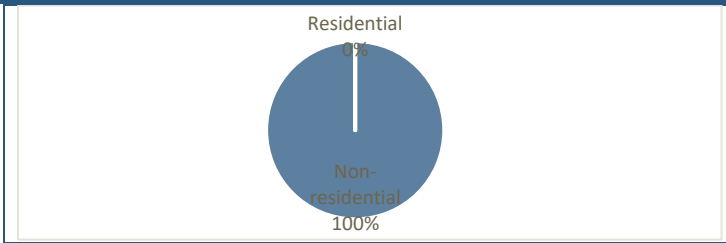
Table 15-3: City of Pacific 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
C	4.24	21,313	0.12
LI	16.11	293,492	0.42
OP	1.68	7,500	0.10
Total/Avg.	**22.03**	**322,305**	**0.34**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 15-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 15-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 15-A: City of Pacific Residential vs. Non-residential Development Split



Zone	Use Type Split (Percent)[1] Residential	Non-residential
OP	0%	100%
LI	0%	100%
C	0%	100%
Average	**0%**	**100%**

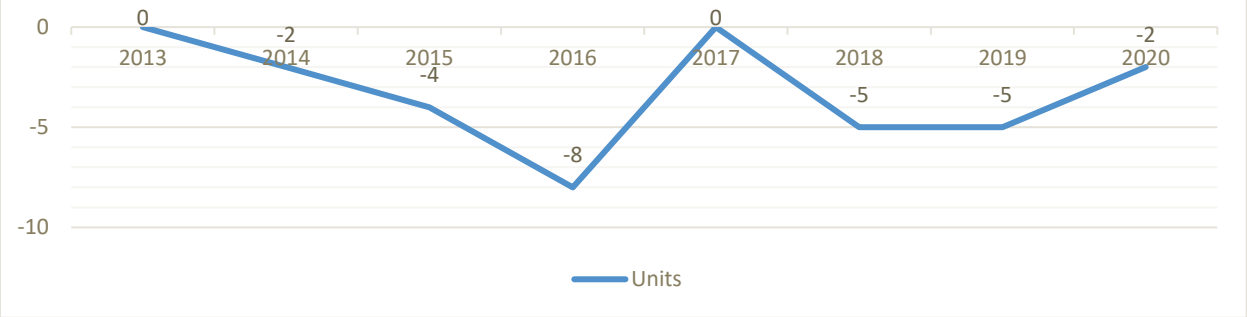
[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the

housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 15-B: City of Pacific Housing Production Rates (OFM)



Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 15-2).

Figure 15-C: City of Pacific County Platting Trends

The portion of City of Pacific within Pierce County does not contain residential land, and no residential platting activity has been observed in the timeframe.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 15-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 15-D: City of Pacific Residential Building Permit Trends

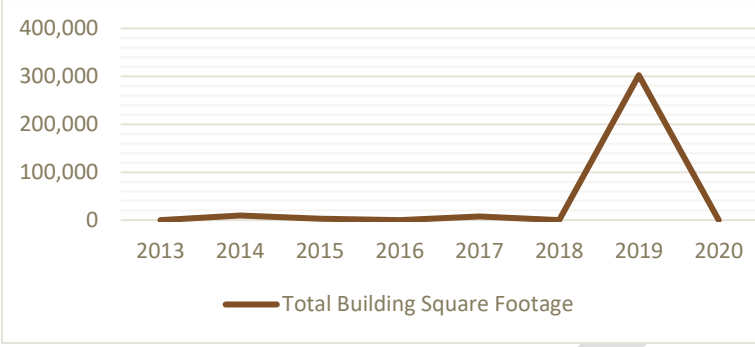
The portion of City of Pacific within Pierce County does not contain residential land, and no residential development has been observed in the timeframe.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and

summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 15-E: City of Pacific Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	-	-	-
2014	2.45	9,540	0.09
2015	2.58	2,880	0.03
2016	-	-	-
2017	1.68	7,500	0.10
2018	-	-	-
2019	15.90	312,173	0.45
2020	-	-	-
Total	**22.62**	**332,093**	**0.34**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 15-4 and Table 15-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 15-4: City of Pacific Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
C	0%	0	100%	20	0%	0%	0%	25%	0%
LI	0%	0	100%	16	0%	0%	0%	25%	0%
OP	0%	0	100%	20	0%	0%	0%	25%	0%
PL	0%	0	100%	20	0%	0%	0%	25%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 15-5: City of Pacific Plat Deductions for Single-Family Residential Zones

The portion of City of Pacific within Pierce County does not contain any residential-zoned land.

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 15-6 shows the characteristics of the initial inventory and Table 15-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 15-6: City of Pacific Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	6.96	173.17	0.00	3.46
Average Lot Size (Gross)	0.70	1.59	0.00	1.73
Total Acreage (Net)	6.96	162.50	0.00	3.46
Average Lot Size (Net)	0.70	1.49	0.00	1.73
Percent Critical Areas	0%	6%	0%	0%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 15-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 15-7: City of Pacific Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	0.00	10.68
Plat Deductions	0.00	0.00
Capital Facilities	0.00	0.00
Market Factor	0.00	43.30
Total Percent Reduction in Inventory Land	0%	25%
Percent of Vacant or Underutilized Land Available for Capacity	100%	75%

Capacity Results

The housing and employment capacity totals in Table 15-8 and Table 15-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 15-8: City of Pacific 2020-2044 Housing Capacity (Dwelling Units)

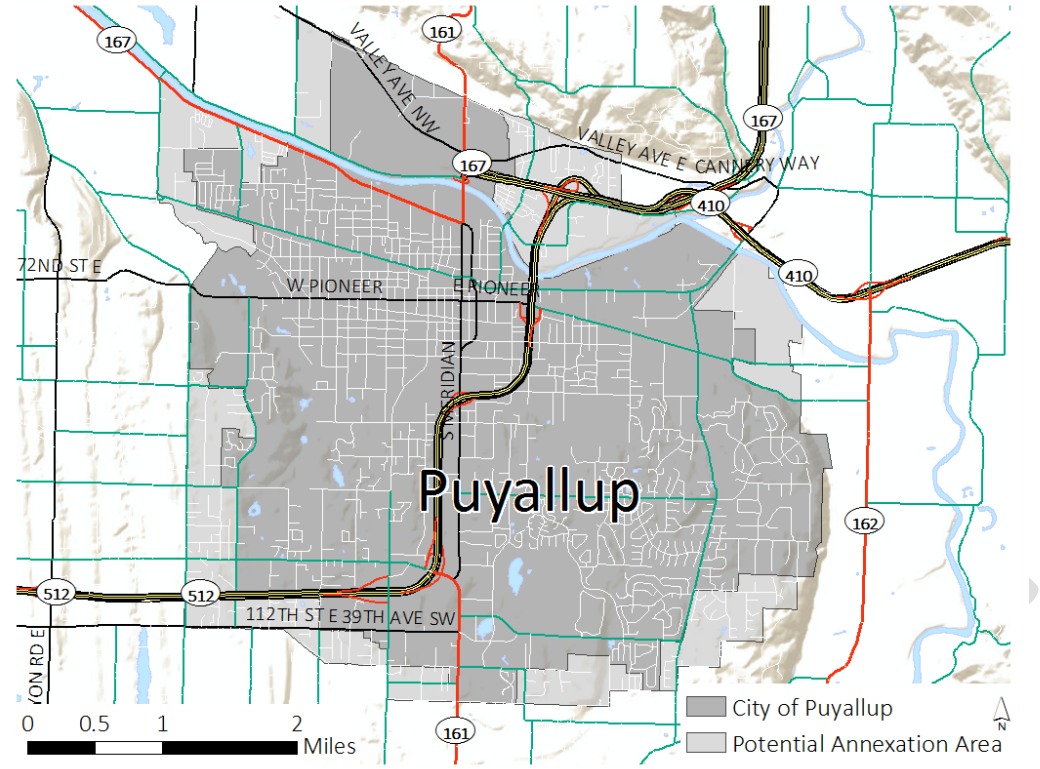
The portion of City of Pacific within Pierce County does not contain any residential-zoned land.

Table 15-9: City of Pacific 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
C	44	457	0	501
LI	67	1,519	42	1,628
OP	12	241	0	253
PL	0	0	0	0
Total	123	2,217	42	2,382

DRAFT

16 CITY OF PUYALLUP



The City of Puyallup's Comprehensive Plan and regulations implement densities using net calculations for plats only, subtracting out roads, critical areas, and associated buffers.

Table 16-1: City of Puyallup Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
ARO	Agriculture, Recreation and Open Space	N/A	18.5
CB	Community Business	Mixed Use	83.3
CBD	Central Business District	Mixed Use	43.1
CBD-CORE	Central Business District Core	Mixed Use	32.4
CCX	Community Commercial Mixed Use	Mixed Use	86.8
CG	General Commercial	Mixed Use	289.3
CL	Limited Commercial	Mixed Use	12.1
CMX	Shaw-Pioneer Community Mixed Use	Mixed Use	31.6
FAIR	Fair	Commercial	97.9
LMX	Limited Mixed Use	Mixed Use	31.2
MED	Medical	Commercial	56.5
ML	Limited Manufacturing	Industrial	585.0
MP	Business Park	Industrial	95.1
OP	Professional Office	Commercial	17.6
PF	Public Facilities	Public Use	1,094.9
RM-10	Medium Density Multiple-Family Residential	Residential	68.4

Zone Classification		Zone Type[1]	Total Acres[2]
RM-20	High Density Multiple-Family Residential	Residential	504.2
RM-CORE	Regional Growth Center Oriented Multi-Family Residential	Residential	163.6
RMX	River Road Mixed Use	Mixed Use	54.3
RS-04	High Urban Density Single-Family Residential	Residential	77.3
RS-06	Urban Density Single-Family	Residential	397.6
RS-08	Medium Density Single-Family	Residential	870.2
RS-10	Low Urban Density Single-Family Residential	Residential	2,283.6
RS-35	Very Low Density Single-Family Residential	Residential	386.3
UCX	Urban Center Mixed Use	Mixed Use	206.2

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 16-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 16-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 16-2: City of Puyallup 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
PDC	37.37	239	6.39
RM-10	9.82	85	8.66
RM-20	3.75	52	13.85
RS-04	3.04	5	1.64
RS-06	3.67	19	5.18
RS-08	35.89	163	4.54
RS-10	88.01	210	2.39
RS-35	1.48	2	1.36
UCX	15.24	238	15.62
Total/Avg.	**198.27**	**1,013**	**5.11**

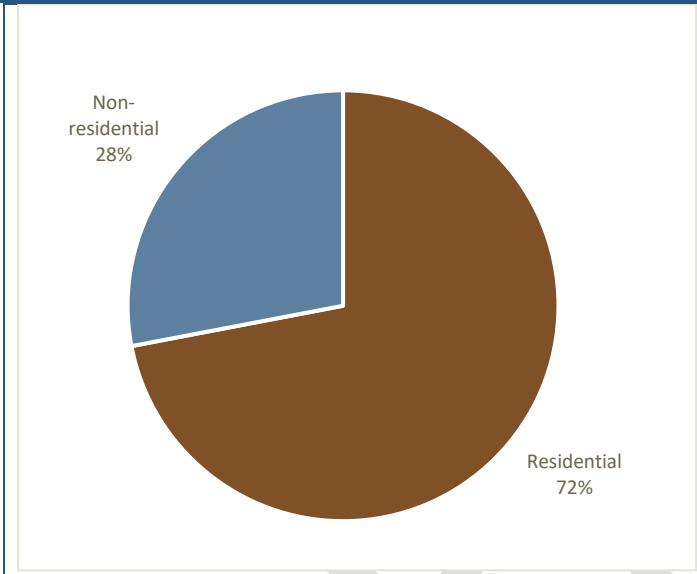
Table 16-3: City of Puyallup 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
CB	10.9	85,499	0.18
CCX*	0.5	810	0.04
CG	16.4	190,904	0.27
LMX*	1.99	16,449	0.19
ML	31.46	653,116	0.48
RM-20	0.92	45,093	1.13
UCX*	14.9	150,991	0.23
Total/Avg.	**77.08**	**1,142,862**	**0.34**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.
*Non-residential data includes development that occurred prior to the establishment of the zone, since the allowed uses that were developed are permitted within the new zone.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 16-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 16-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 16-A: City of Puyallup Residential vs. Non-residential Development Split



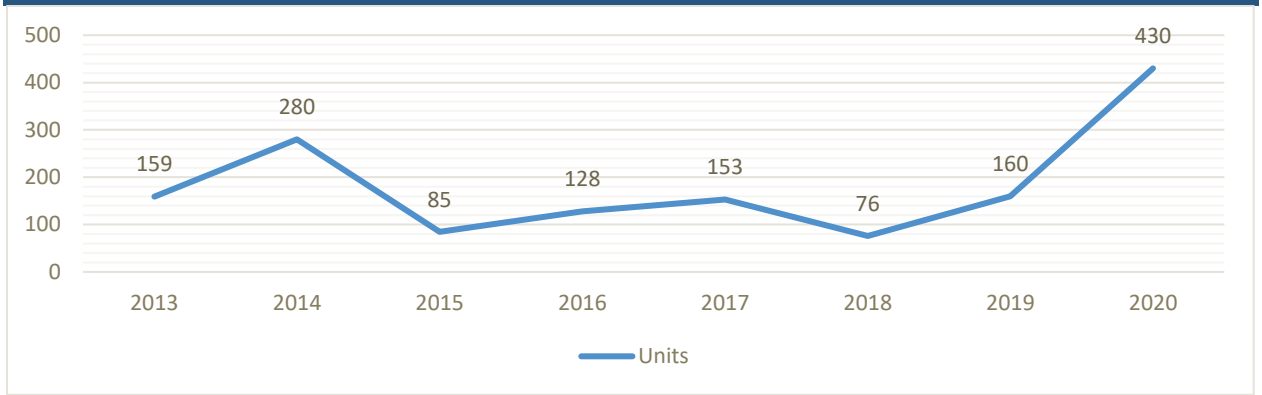
Zone	Use Type Split (Percent)[1] Residential	Non-residential
CB	0%	100%
CCX*	0%	100%
CG	0%	100%
LMX*	0%	100%
ML	0%	100%
PDC	100%	0%
RM-10	100%	0%
RM-20	80%	20%
RS-04	100%	0%
RS-06	100%	0%
RS-08	100%	0%
RS-10	100%	0%
RS-35	100%	0%
UCX*	51%	49%
Average	**72%**	**28%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.
*Non-residential data includes development that occurred prior to the establishment of the zone, since the allowed uses that were developed are permitted within the new zone.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 16-B: City of Puyallup Housing Production Rates (OFM)

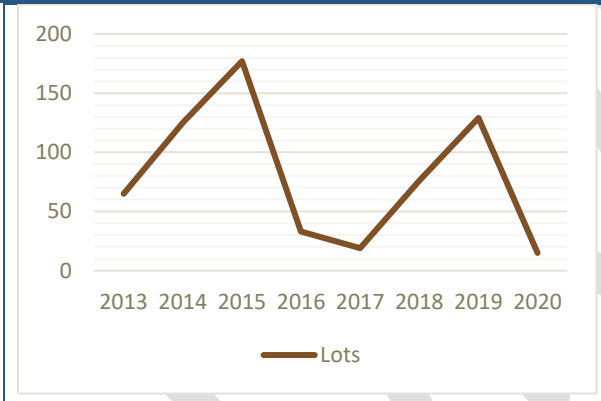


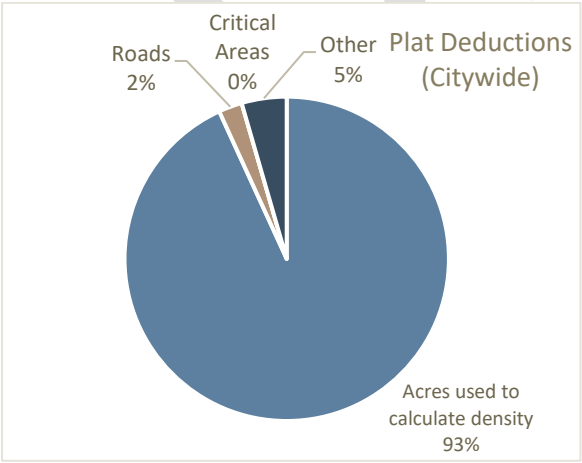
Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 16-2).

Figure 16-C: City of Puyallup Platting Trends





Plat Activity by Year

Year	Lots	Net Acres	Density
2013	65	26.70	2.43
2014	125	16.72	7.48
2015	177	34.89	5.07
2016	33	9.74	3.39
2017	19	9.30	2.04
2018	76	28.37	2.68
2019	129	27.85	4.63
2020	15	5.47	2.74
Total	**639**	**159.03**	**4.02**

Plat Deductions by Zone (Percent)

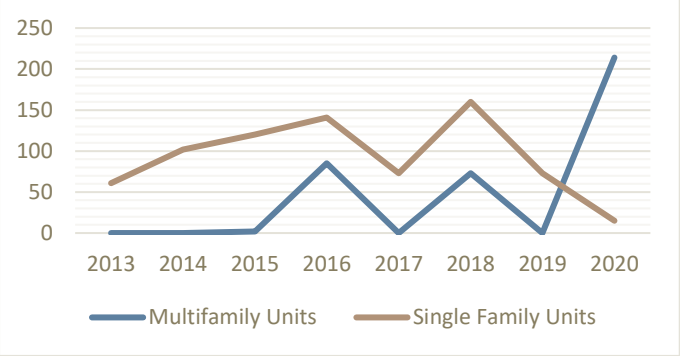
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
PDC	3.7%	0.0%	8.1%	0.0%
RM-20	0.0%	0.0%	0.0%	0.0%
RS-04	0.0%	0.0%	0.0%	0.0%
RS-06	0.0%	0.0%	0.0%	0.0%
RS-08	7.0%	0.0%	7.9%	2.3%
RS-10	0.1%	0.0%	1.1%	0.0%
RS-35	0.0%	0.0%	0.0%	0.0%
Average	**2.3%**	**0.0%**	**4.0%**	**0.5%**

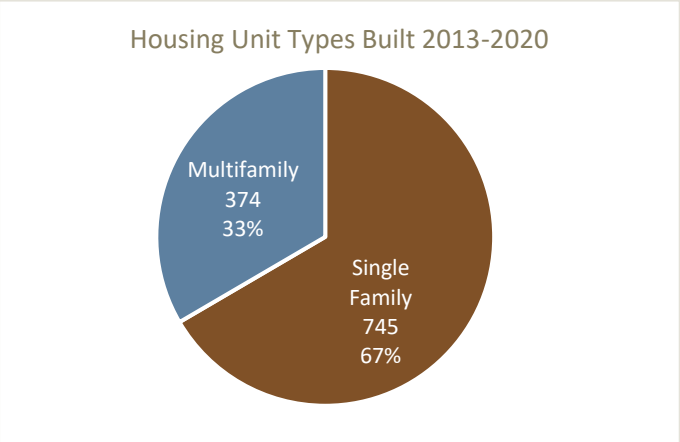
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 16-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 16-D: City of Puyallup Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Net Acres	Net Density
2013	-	-	-
2014	-	-	-
2015	2	0.09	21.51
2016	85	9.82	8.66
2017	-	-	-
2018	73	7.46	9.79
2019	-	-	-
2020	214	10.26	20.86
Total	**374**	**27.63**	**13.53**

Single Family Permits by Year (Optional)

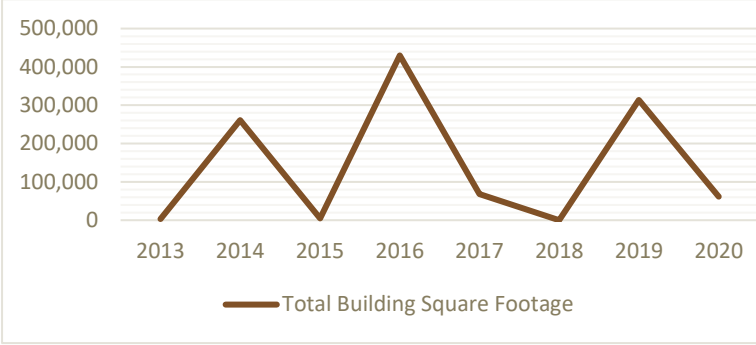
Year	Lots	Acres	Avg. Lot Size
2013	61	7.85	0.13
2014	102	17.90	0.18
2015	120	16.50	0.14
2016	141	25.72	0.18
2017	73	15.50	0.21
2018	160	29.25	0.18
2019	73	21.23	0.29
2020	15	4.46	0.32
Total	**745**	**138.52**	**0.19**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 16-E: City of Puyallup Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	0.69	3,410	0.11
2014	14.63	261,046	0.41
2015	1.01	4,480	0.10
2016	20.99	429,845	0.47
2017	8.62	68,541	0.18
2018	-	-	-
2019	28.22	313,998	0.26
2020	2.91	61,542	0.49
Total	**77.08**	**1,142,862**	**0.34**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 16-4 and Table 16-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

The CCX, LMX, and UCX zones were established in 2017 as part of adoption of the South Hill Neighborhood Plan. They primarily replaced existing commercial zones (usually CG or CL zoning) and resulted in increased building heights, reduced parking requirements, and allowances for mixed-use development. In the previous zones, residential was allowed on a very limited basis and the City generally assumed only 5% of future development would include residential. The new zones allow for horizontal or vertical mixed-use development. It is assumed that an increased percentage of each zone will result in residential development.

Table 16-4: City of Puyallup Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
CB	10%	4	90%	20	0%	50%	10%	50%	0%
CBD	100%	30	100%	50	0%	0%	0%	0%	0%
CBD-CORE	100%	35	100%	50	0%	0%	0%	0%	0%
CCX	50%	60	100%	50	0%	50%	10%	50%	0%
CG	5%	2	95%	20	0%	50%	10%	50%	0%
CL	5%	2	95%	20	0%	50%	10%	50%	0%
CMX	40%	7	60%	20	0%	50%	10%	50%	0%
FAIR	0%	0	100%	20	0%	0%	10%	50%	0%
LMX	15%	12	100%	30	0%	50%	10%	50%	0%
MED	0%	0	100%	50	0%	0%	10%	50%	0%
ML	0%	0	100%	9	0%	0%	10%	50%	0%
MP	0%	0	100%	9	0%	0%	10%	50%	0%
OP	0%	0	100%	20	0%	0%	10%	50%	0%
PF	0%	0	100%	20	0%	0%	10%	50%	0%

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
RM-10	100%	8	0%	20	0%	70%	0%	0%	0%
RM-20	100%	20	0%	20	0%	70%	0%	0%	0%
RM-CORE	100%	30	0%	0	0%	0%	0%	0%	0%
RMX	50%	11	100%	30	0%	50%	0%	0%	0%
RS-04	100%	8	0%	20	25%	40%	0%	0%	0%
RS-06	100%	6	0%	20	25%	40%	0%	0%	0%
RS-08	100%	5	0%	20	25%	40%	0%	0%	0%
RS-10	100%	4	0%	20	25%	40%	0%	0%	0%
RS-35	100%	1	0%	20	25%	40%	0%	0%	0%
UCX	50%	22	100%	30	0%	50%	10%	50%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 16-5: City of Puyallup Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
RM-10	N/A	N/A	N/A	N/A	2.50%	N/A
RM-20	N/A	N/A	N/A	N/A	2.50%	N/A
RS-04	10%	GIS	0%	0%	2.50%	<0.23 acres
RS-06	10%	GIS	0%	0%	2.50%	<0.34 acres
RS-08	10%	GIS	0%	0%	2.50%	<0.46 acres
RS-10	10%	GIS	0%	0%	2.50%	<0.57 acres
RS-35	10%	GIS	0%	0%	2.50%	<2.00 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 16-6 shows the characteristics of the initial inventory and Table 16-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 16-6: City of Puyallup Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	400.09	1,681.19	140.65	18.90
Average Lot Size (Gross)	1.98	1.15	0.36	1.35
Total Acreage (Net)	283.02	1,270.63	85.60	15.28
Average Lot Size (Net)	1.40	0.87	0.22	1.09
Percent Critical Areas	29%	24%	39%	19%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 16-7 shows the overall percentage of land assumed

available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 16-7: City of Puyallup Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	117.06	410.56
Infrastructure Gaps	21.75	114.32
Plat Deductions	9.68	52.79
Capital Facilities	0.00	0.00
Market Factor	40.08	626.84
Total Percent Reduction in Inventory Land	32%	52%
Percent of Vacant or Underutilized Land Available for Capacity	68%	48%

Capacity Results

The housing and employment capacity totals in Table 16-8 and Table 16-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 16-8: City of Puyallup 2020-2044 Housing Capacity (Dwelling Units)

Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
CB	4	0	0	0	**4**
CBD	69	669	0	0	**738**
CBD-CORE	0	663	0	0	**663**
CCX[1]	0	1,122	0	0	**1,122**
CG	1	5	0	0	**6**
CL	0	0	0	0	**0**
CMX	44	22	0	0	**66**
FAIR	0	0	0	0	**0**
LMX	4	8	0	0	**12**
MED	0	0	0	0	**0**
ML	0	0	0	2	**2**
MP	0	0	0	0	**0**
OP	0	0	0	0	**0**
PF	0	0	0	0	**0**
RM-10	37	31	0	0	**68**
RM-20	225	627	1	62	**915**
RM-CORE	289	1,123	1	0	**1,413**
RMX	0	43	0	0	**43**
RS-04	9	67	7	0	**83**
RS-06	2	72	26	0	**100**
RS-08	132	247	179	11	**569**
RS-10	141	795	148	12	**1,096**
RS-35	0	4	24	1	**29**
UCX	78	750	0	168	**996**
Total	**1,035**	**6,248**	**386**	**256**	**7,925**

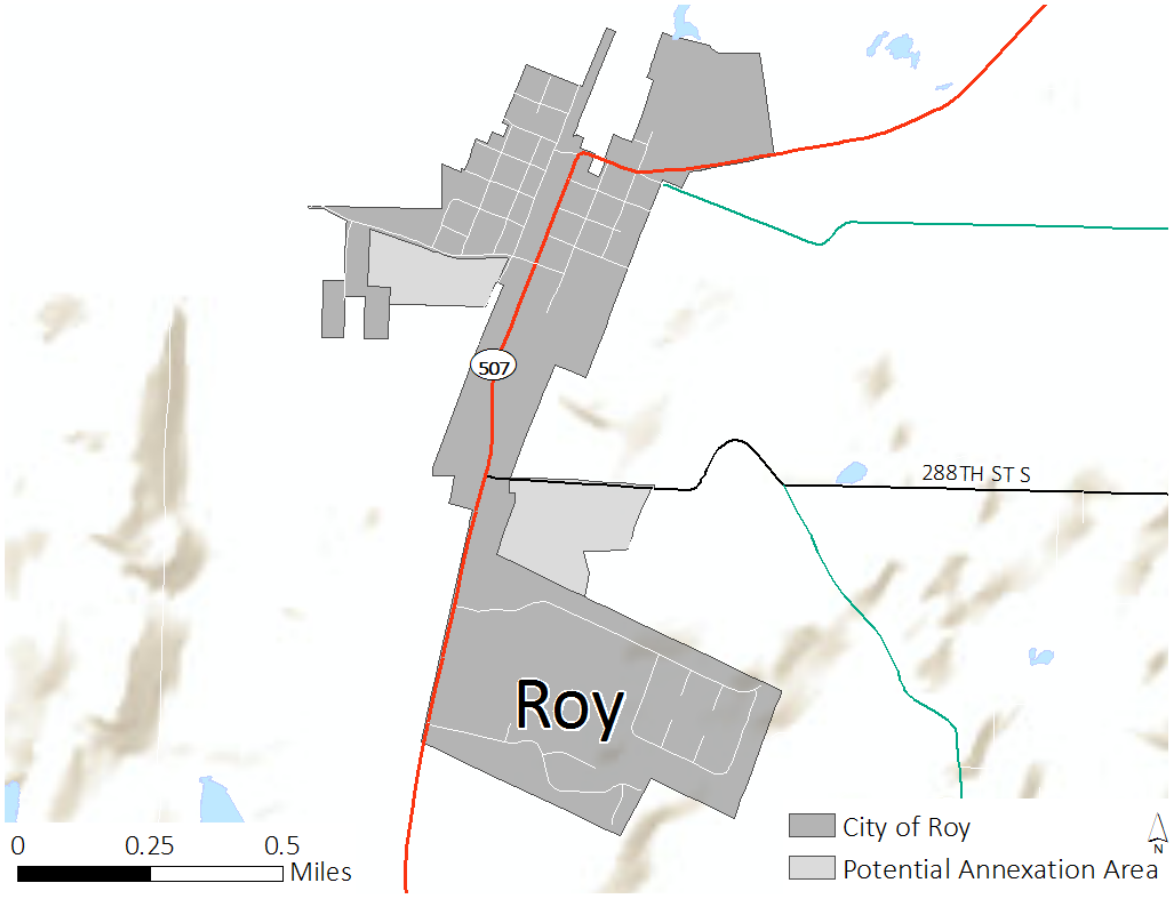
[1]Underutilized land in the CCX zone occupied by a building has been netted out of the gross acreage assuming that the rest of the property could redevelop outside the existing building footprint.

Table 16-9: City of Puyallup 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
CB	204	32	2	238
CBD	118	1,120	0	1,238
CBD-CORE	0	947	0	947
CCX[1]	0	1,871	0	1,871
CG	202	1,066	5	1,273
CL	0	51	0	51
CMX	10	0	0	10
FAIR	0	0	0	0
LMX	3	163	0	166
MED	2	738	0	740
ML	93	311	0	404
MP	0	275	0	275
OP	5	38	0	43
PF	35	491	0	526
RM-10	0	7	0	7
RM-20	0	57	90	147
RM-CORE	0	0	0	0
RMX	0	682	0	682
RS-04	0	7	0	7
RS-06	0	10	0	10
RS-08	0	43	0	43
RS-10	0	173	0	173
RS-35	0	4	0	4
UCX	13	2,168	83	2,264
Total	685	10,254	180	11,119

[1]Underutilized land in the CCX zone occupied by a building has been netted out of the gross acreage assuming that the rest of the property could redevelop outside the existing building footprint.

17 CITY OF ROY



The City of Roy's Comprehensive Plan and regulations implement densities based on minimum lot size.

Table b-17-1: City of Roy Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
C	Commercial	Commercial	9.3
LI	Light Industrial	Industrial	5.2
MFR	Multi-Family Residential	Residential	28.4
MU	Mixed Use	Mixed Use	30.3
SFR	Single-Family Residential	Residential	180.7

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes building and plat data obtained through the Pierce County Assessor-Treasurer and Auditor Departments observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this

section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 17-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 17-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 17-2: City of Roy 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
SFR	1.60	5	3.13

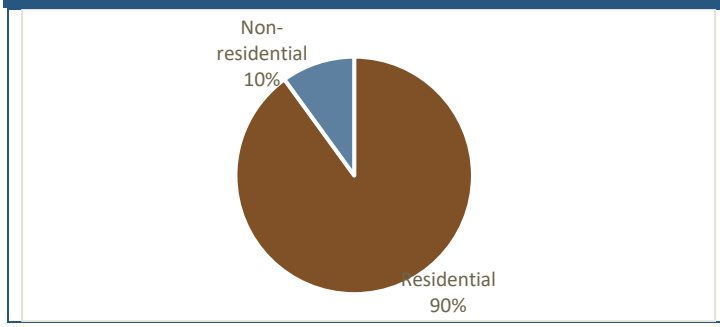
Table 17-3: City of Roy 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
C	0.19	168	0.02

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 17-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 17-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 17-A: City of Roy Residential vs. Non-residential Development Split



Zone	Use Type Split (Percent)[1]	
	Residential	Non-residential
C	0%	100%
SFR	100%	0%
Average	**90%**	**10%**

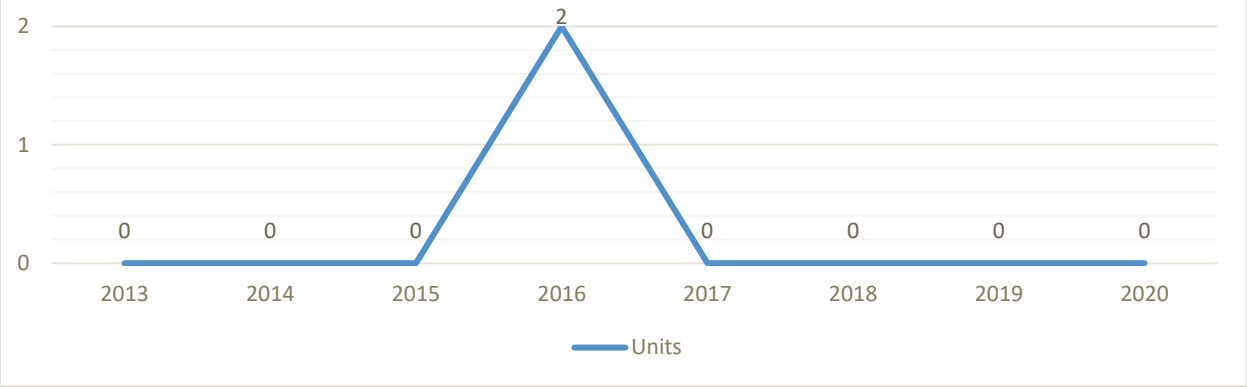
[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce

County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 17-B: City of Roy Housing Production Rates (OFM)

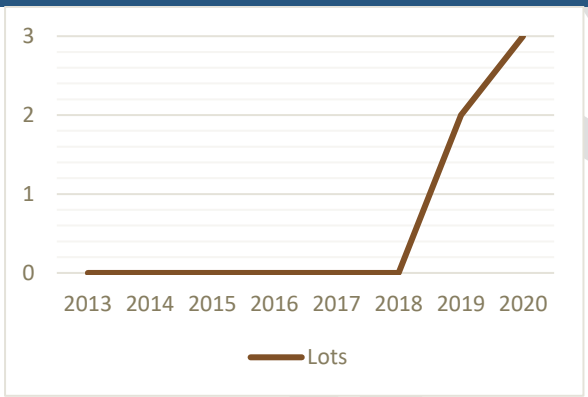


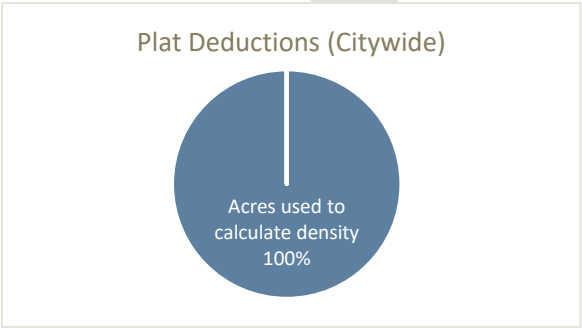
Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 17-2).

Figure 17-C: City of Roy Platting Trends





Plat Activity by Year

Year	Lots	Acres	Density
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	2	0.63	3.15
2020	3	0.96	3.12
Total	**5**	**1.60**	**3.13**

Plat Deductions by Zone (Percent)

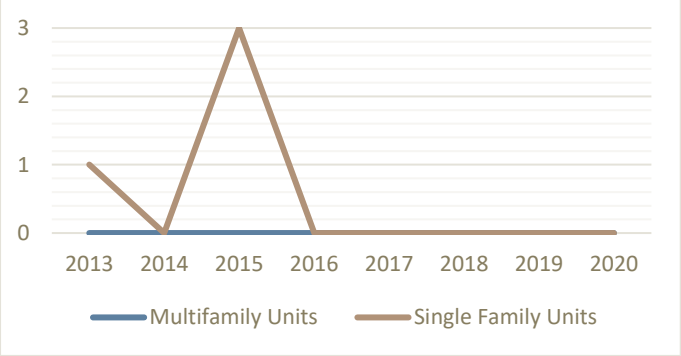
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
SFR	0.0%	0.0%	0.0%	0.0%

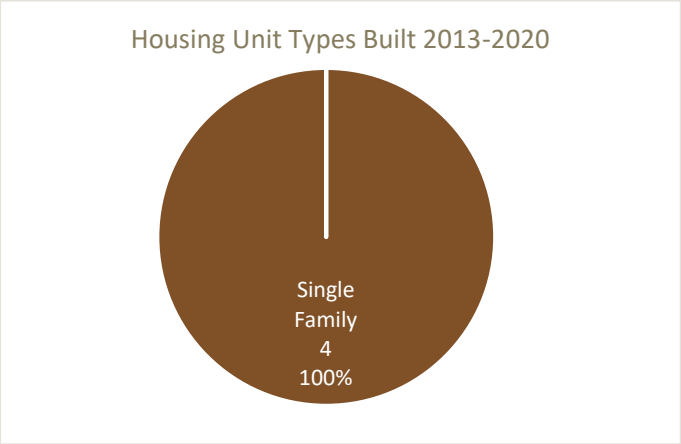
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 17-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 17-D: City of Roy Residential Building Permit Trends





Multifamily Permits by Year

No multifamily residential development has been observed in the timeframe.

Single Family Permits by Year (Optional)

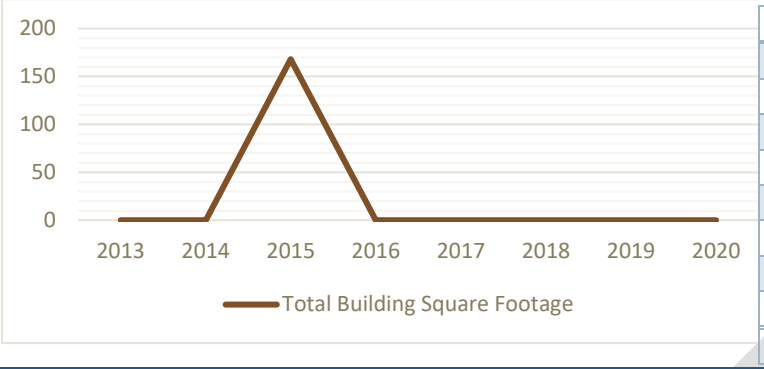
Year	Lots	Acres	Avg. Lot Size
2013	1	0.53	0.53
2014	-	-	-
2015	3	3.77	1.26
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	-	-	-
2020	-	-	-
Total	**4**	**4.30**	**1.08**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 17-E: City of Roy Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	-	-	-
2014	-	-	-
2015	0.19	168	0.02
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	-	-	-
2020	-	-	-
Total	**0.19**	**168**	**0.02**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 17-4 and Table 17-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 17-4: City of Roy Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
C	0%	0	100%	20	0%	0%	10%	50%	0%
LI	0%	0	100%	9	0%	0%	10%	50%	0%
MFR	100%	3.5	0%	0	10%	50%	0%	0%	0%
MU	75%	3.5	25%	20	10%	50%	10%	50%	0%
SFR	100%	3.5	0%	0	10%	50%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 17-5: City of Roy Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
SFR	15%	GIS	5%	0%	0%	<0.25 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 17-6 shows the characteristics of the initial inventory and Table 17-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 17-6: City of Roy Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	36.42	90.00	3.28	0.96
Average Lot Size (Gross)	4.05	3.10	0.25	0.96
Total Acreage (Net)	24.68	79.30	3.28	0.96
Average Lot Size (Net)	2.74	2.73	0.25	0.96
Percent Critical Areas	32%	12%	0%	0%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 17-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 17-7: City of Roy Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	11.74	10.70
Plat Deductions	1.31	11.64
Capital Facilities	0.00	0.00
Market Factor	2.63	33.93
Total Percent Reduction in Inventory Land	35%	62%
Percent of Vacant or Underutilized Land Available for Capacity	65%	38%

Capacity Results

The housing and employment capacity totals in Table 17-8 and Table 17-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 17-8: City of Roy 2020-2044 Housing Capacity (Dwelling Units)

Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
C	0	0	0	0	**0**
LI	0	0	0	0	**0**
MFR	0	28	0	0	**28**
MU	43	0	0	0	**43**
SFR	17	82	13	2	**114**
Total	**60**	**110**	**13**	**2**	**185**

Table 17-9: City of Roy 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
C	2	19	0	**21**
LI	0	14	0	**14**
MFR	0	0	0	**0**
MU	134	0	0	**134**
SFR	0	0	0	**0**
Total	**136**	**33**	**0**	**169**

18 CITY OF RUSTON



The City of Ruston's Comprehensive Plan and regulations implement densities based on net calculations, subtracting out roads, and critical areas.

Table 18-1: City of Ruston Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
COM	Commercial	Commercial	2.9
COM-P	Commercial – Pearl	Commercial	4.5
MPD	Master Planned Development	Planned Development	1.0
MPD-PR	Master Planned Development-Point Ruston	Planned Development	41.2
MPD-RL	Master Planned Development	Planned Development	1.2
MPD-SH	Master Planned Development-Stack Hill	Planned Development	6.8
RES	Residential	Residential	64.1

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes building and plat data obtained through the Pierce County Assessor-Treasurer and Auditor Departments observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this

section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 18-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 18-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 18-2: City of Ruston 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
RES	0.49	4	8.24

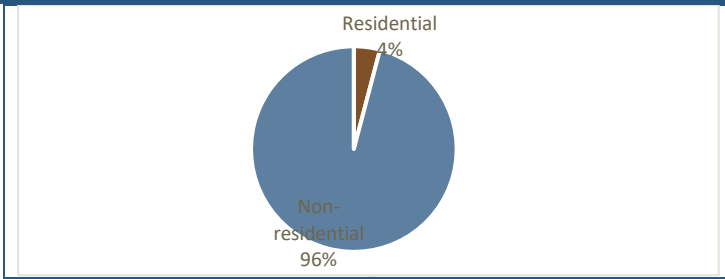
Table 18-3: City of Ruston 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
MPD-PR	11.37	215,096	0.43

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 18-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 18-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 18-A: City of Ruston Residential vs. Non-residential Development Split



Zone	Use Type Split (Percent)[1]	
	Residential	Non-residential
MPD-PR	0%	100%
RES	100%	0%
Average	**4%**	**96%**

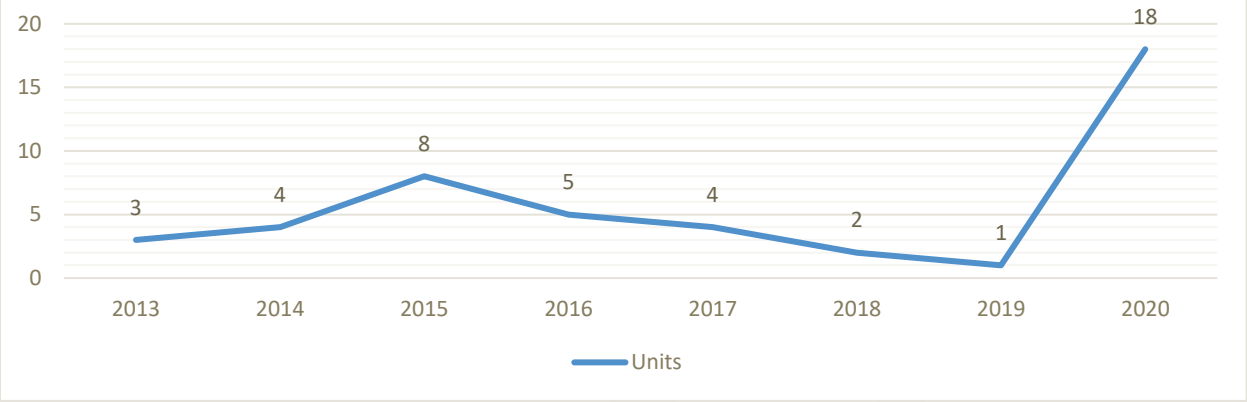
[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number

of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 18-B: City of Ruston Housing Production Rates (OFM)

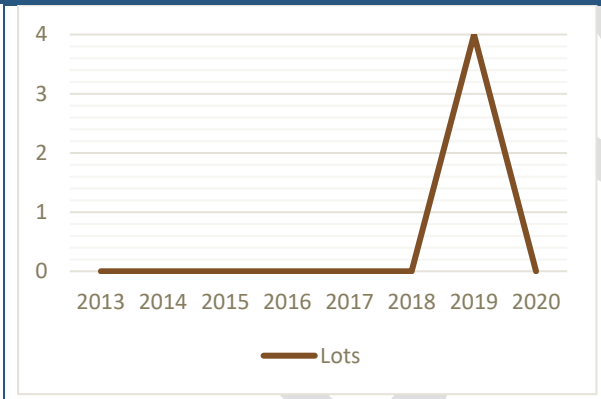


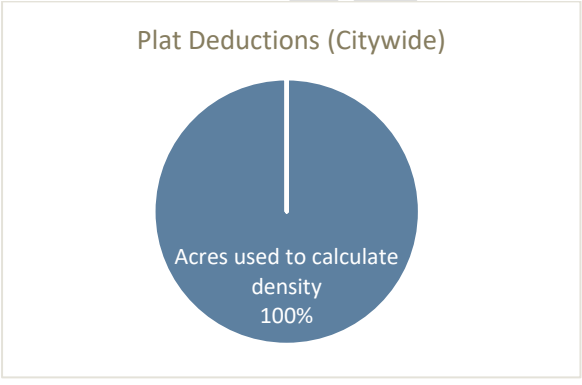
Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 18-2).

Figure 18-C: City of Ruston Platting Trends





Plat Activity by Year

Year	Lots	Acres	Density
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	4	0.49	8.24
2020	-	-	-
Total	4	0.49	8.24

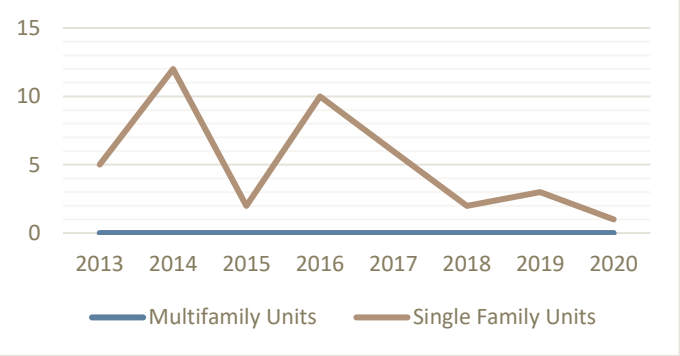
Plat Deductions by Zone (Percent)

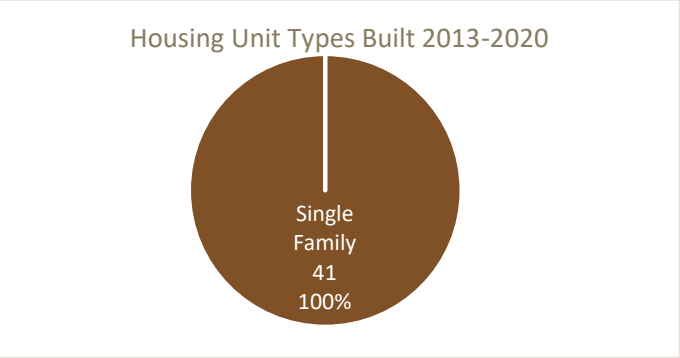
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
RES	0.0%	0.0%	0.0%	0.0%

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 18-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 18-D: City of Ruston Residential Building Permit Trends





Multifamily Permits by Year

No multifamily residential development has been observed in the timeframe.

Single Family Permits by Year (Optional)

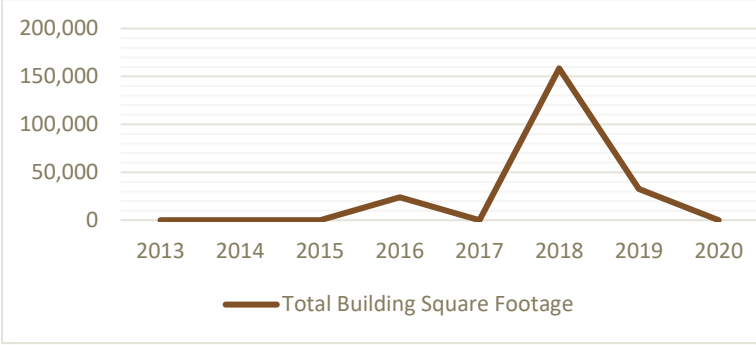
Year	Lots	Acres	Avg. Lot Size
2013	5	1.32	0.26
2014	12	2.19	0.18
2015	2	0.34	0.17
2016	10	1.96	0.20
2017	6	1.06	0.18
2018	2	0.32	0.16
2019	3	1.25	0.42
2020	1	0.14	0.14
Total	**41**	**8.59**	**0.21**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 18-E: City of Ruston Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	1.73	23,962	0.32
2017	-	-	-
2018	2.14	158,408	1.70
2019	7.50	32,726	0.10
2020	-	-	-
Total	**11.37**	**215,096**	**0.43**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 18-4 and Table 18-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 18-4: City of Ruston Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
COM	0%	0	100%	20	0%	0%	10%	50%	0%
COM-P	0%	0	100%	20	0%	0%	10%	50%	0%
MPD	Single Parcel – Considered Built Out								
MPD-PR	Master Planned Development – Included as Pipeline								
MPD-RL	0%	0	0%	0	0%	0%	0%	0%	0%
MPD-SH	Master Planned Development – Included as Pipeline or Vacant Single Unit								
RES	100%	6	0%	0	0%	0%	10%	20%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 18-5: City of Ruston Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
RES	0%	GIS	0%	0%	0%	<0.275 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 18-6 shows the characteristics of the initial inventory and Table 18-7 shows

the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 18-6: City of Roy Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	3.75	4.88	3.10	22.12
Average Lot Size (Gross)	0.27	0.22	0.15	2.76
Total Acreage (Net)	1.48	4.62	2.64	19.54
Average Lot Size (Net)	0.11	0.21	0.13	2.44
Percent Critical Areas	61%	5%	15%	12%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 18-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 18-7: City of Ruston Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	2.27	0.26
Plat Deductions	0.00	0.00
Capital Facilities	0.00	0.00
Market Factor	0.08	0.97
Total Percent Reduction in Inventory Land	55%	23%
Percent of Vacant or Underutilized Land Available for Capacity	45%	77%

Capacity Results

The housing and employment capacity totals in Table 18-8 and Table 18-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 18-8: City of Ruston 2020-2044 Housing Capacity (Dwelling Units)

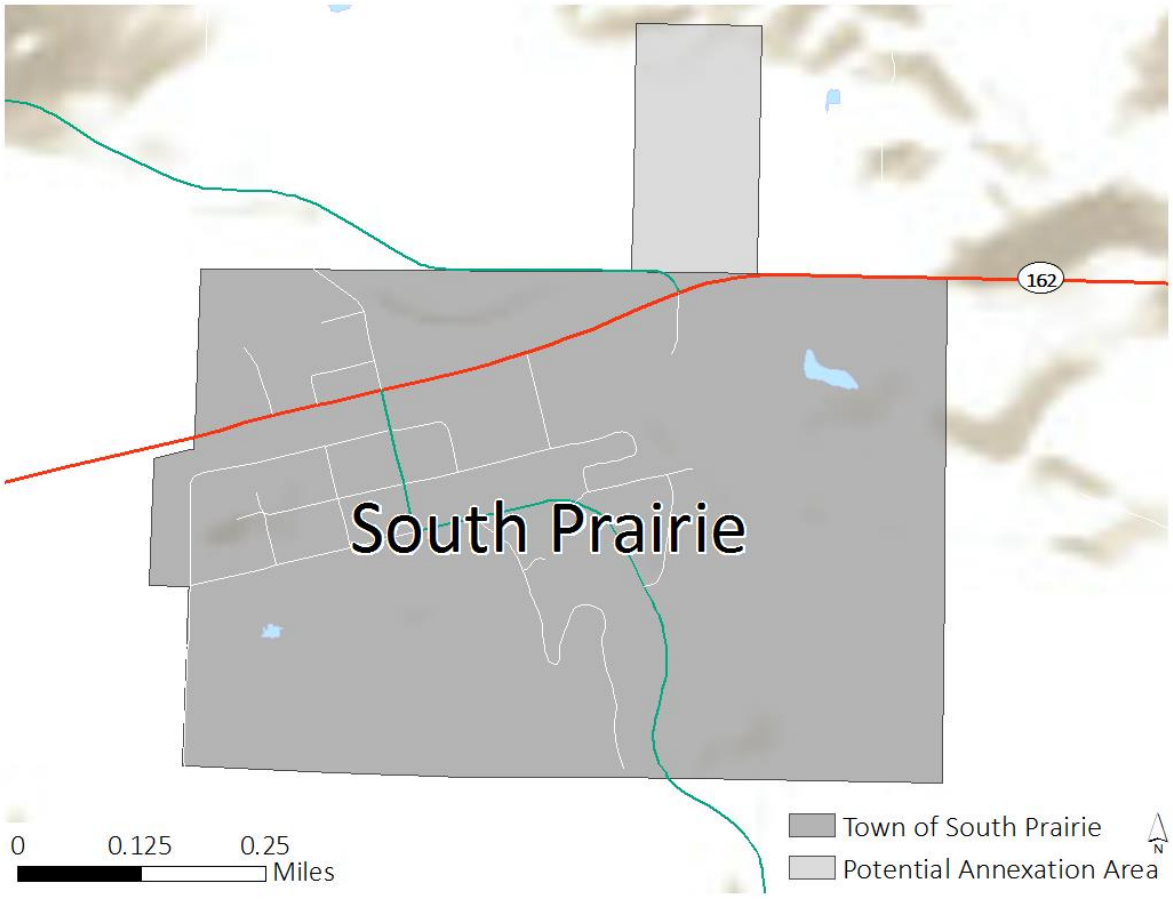
Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
COM	0	0	0	0	0
COM-P	0	0	0	0	0
MPD	0	0	0	0	0
MPD-PR	0	0	0	620	620
MPD-RL	0	0	0	0	0
MPD-SH	0	0	2	0	2
RES	6	17	19	0	42
Total	**6**	**17**	**21**	**620**	**664**

Table 18-9: City of Ruston 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
COM	9	6	0	15
COM-P	5	13	0	18
MPD	0	0	0	0
MPD-PR	0	0	749	749
MPD-RL	0	0	0	0
MPD-SH	0	0	0	0
RES	0	0	0	0
Total	14	19	749	782

DRAFT

19 TOWN OF SOUTH PRAIRIE



The Town of South Prairie's Comprehensive Plan and regulations implement densities based on net acreage.

Table 19-1: Town of South Prairie Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
AGB	Agricultural Business	Commercial	10.0
C	Commercial	Commercial	12.0
GOV	Government/Utilities	Public Use	7.1
IND	Industrial	Industrial	0.6
PTOS	Parks/Trails/Open Space	N/A	19.4
R	Residential	Residential	138.9
R/CUP	Residential CUP	Residential	34.2

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the Town zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: Town Zoning Code.

DEVELOPMENT TRENDS

This section summarizes building and plat data obtained through the Pierce County Assessor-Treasurer and Auditor Departments observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 19-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 19-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 19-2: Town of South Prairie 2013-2020 Residential Trends by Zone[1]

No multifamily residential development or plat activity has been observed in the timeframe.

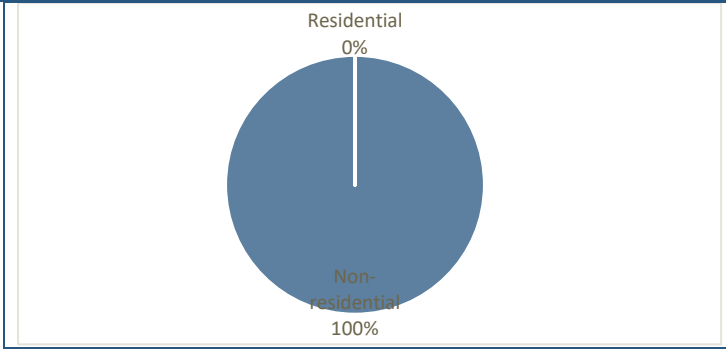
Table 19-3: Town of South Prairie 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
C	1.67	5,640	0.08

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 19-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 19-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 19-A: Town of South Prairie Residential vs. Non-residential Development Split



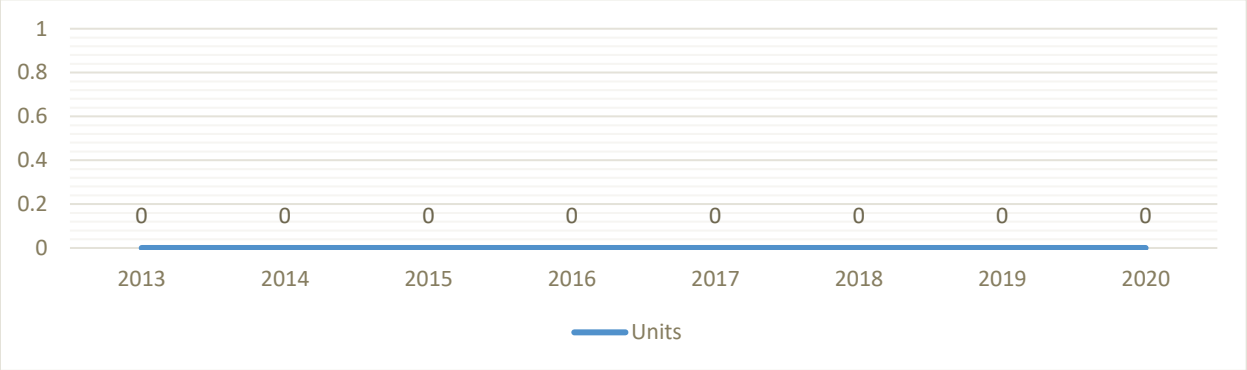
Zone	Use Type Split (Percent)[1]	
	Residential	Non-residential
C	0%	100%

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 19-B: Town of South Prairie Housing Production Rates (OFM)



Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 19-2).

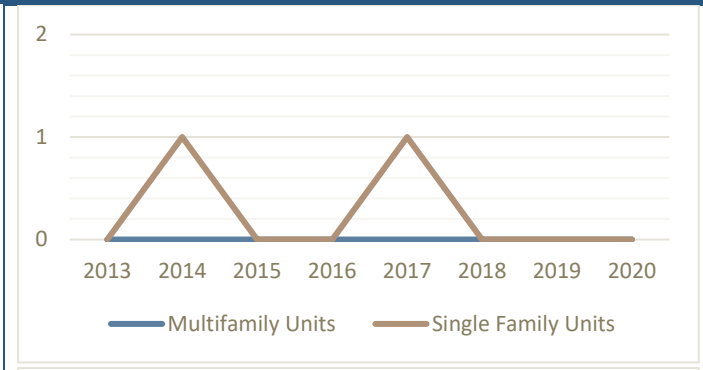
Figure 19-C: Town of South Prairie Platting Trends

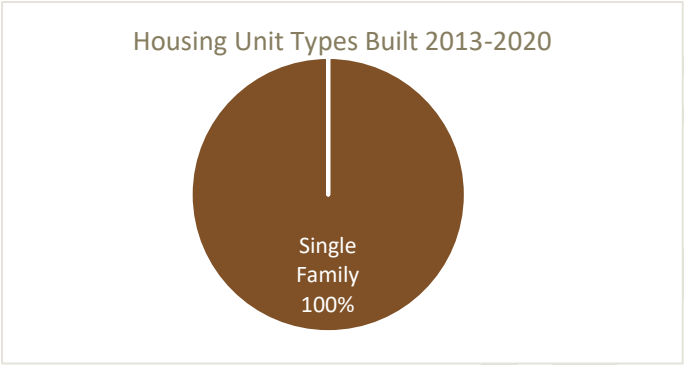
No plat activity has been observed in the timeframe.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 19-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 19-D: Town of South Prairie Residential Building Permit Trends





Multifamily Permits by Year

No multifamily residential development has been observed in the timeframe.

Single Family Permits by Year (Optional)

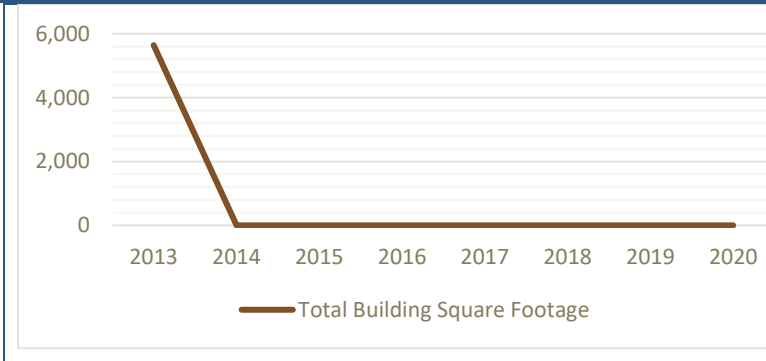
Year	Lots	Acres	Avg. Lot Size
2013	-		-
2014	1	0.66	0.66
2015	1	0.11	0.11
2016	-	-	-
2017	1	0.18	0.18
2018	-	-	-
2019	-	-	-
2020	-	-	-
Total	**3**	**0.96**	**0.32**

Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 19-E: Town of South Prairie Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	1.67	5,640	0.08
2014	-	-	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	-	-	-
2020	-	-	-
Total	**1.67**	**5,640**	**0.08**

Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 19-4 and Table 19-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 19-4: Town of South Prairie Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
AGB	0%	0	100%	20	0%	0%	10%	50%	0%
C	0%	0	100%	20	0%	0%	10%	50%	0%
GOV	0%	0	100%	20	0%	0%	10%	50%	0%
IND	0%	0	100%	9	0%	0%	10%	50%	0%
R	100%	4	0%	20	25%	25%	0%	0%	0%
R/CUP	100%	4	0%	20	25%	25%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 19-5: Town of South Prairie Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
R	30%	35%	10%	0%	3%	<1 acre
R/CUP	30%	35%	10%	0%	3%	<1 acre

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 19-6 shows the characteristics of the initial inventory and Table 19-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 19-6: Town of South Prairie Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	35.78	111.19	4.67	0.00
Average Lot Size (Gross)	1.56	3.27	0.23	0.00
Total Acreage (Net)	26.58	70.87	3.65	0.00
Average Lot Size (Net)	1.16	2.08	0.18	0.00
Percent Critical Areas	26%	36%	22%	0%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 19-7 shows the overall percentage of land assumed

available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 19-7: Town of South Prairie Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	9.20	40.32
Plat Deductions	18.02	43.35
Capital Facilities	0.00	0.00
Market Factor	1.76	12.02
Total Percent Reduction in Inventory Land	81%	83%
Percent of Vacant or Underutilized Land Available for Capacity	19%	17%

Capacity Results

The housing and employment capacity totals in Table 19-8 and Table 19-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

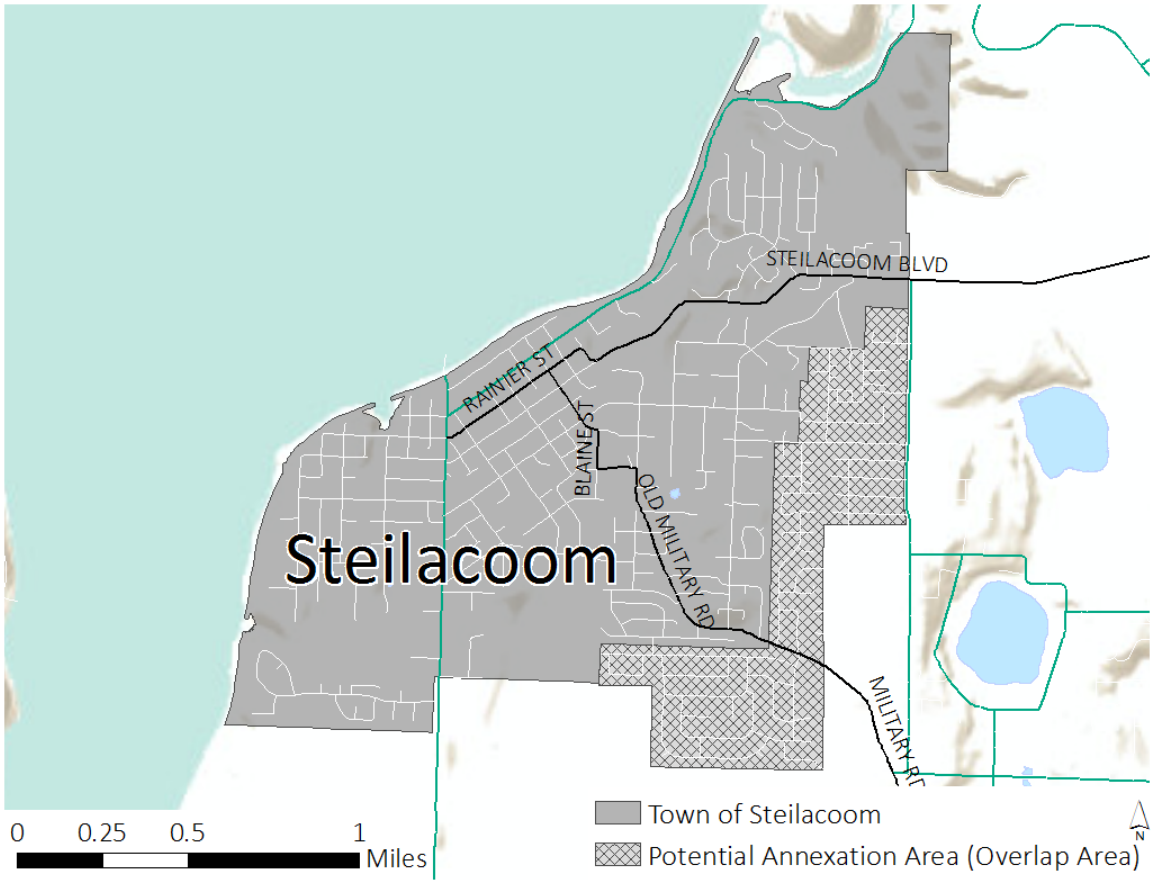
Table 19-8: Town of South Prairie 2020-2044 Housing Capacity (Dwelling Units)

Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
AGB	0	0	0	0	**0**
C	0	0	0	0	**0**
GOV	0	0	0	0	**0**
IND	0	0	0	0	**0**
R	17	37	20	0	**74**
R/CUP	0	4	0	0	**4**
Total	17	41	20	0	**78**

Table 19-9: Town of South Prairie 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
AGB	0	100	0	**100**
C	45	68	0	**113**
GOV	2	0	0	**2**
IND	0	0	0	**0**
R	4	8	0	**12**
R/CUP	0	1	0	**1**
Total	**51**	**177**	**0**	**228**

20 TOWN OF STEILACOOM



The Town of Steilacoom's Comprehensive Plan and regulations implement densities using net acreage, subtracting out critical areas and their buffers, roads, and parks.

Table 20-1: Town of Steilacoom Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
CG	Commercial – General	Mixed Use	8.7
CS	Commercial – Shoreline	Mixed Use	22.3
IND	Industrial	Industrial	14.1
MF	Multi-Family	Residential	48.9
MPD	Master Planned Development	Planned Development	71.3
P/QP	Public/Quasi-Public	Public Use	72.1
POS	Parks & Open Space	N/A	100.5
R-7.2	Residential – 7.2	Residential	178.7
R-9.6	Residential – 9.6	Residential	512.0

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the Town zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: Town Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 20-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 20-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 20-2: Town of Steilacoom 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
R-9.6	31.10	85	2.73

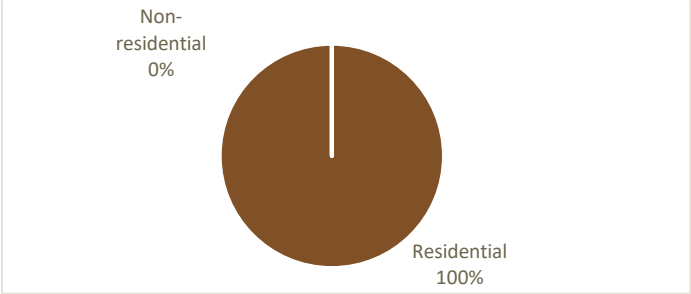
Table 20-3: Town of Steilacoom 2013-2020 Non-residential Trends by Zone

No non-residential development has been observed in the timeframe.

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 20-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 20-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 20-A: Town of Steilacoom Residential vs. Non-residential Development Split



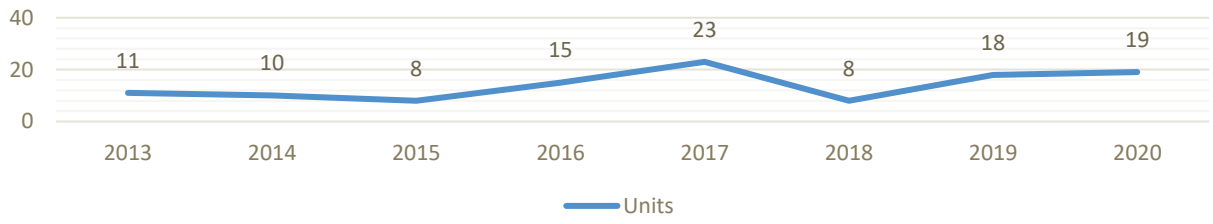
Zone	Use Type Split (Percent)[1]	
	Residential	Non-residential
R-9.6	100%	0%

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 20-B: Town of Steilacoom Housing Production Rates (OFM)

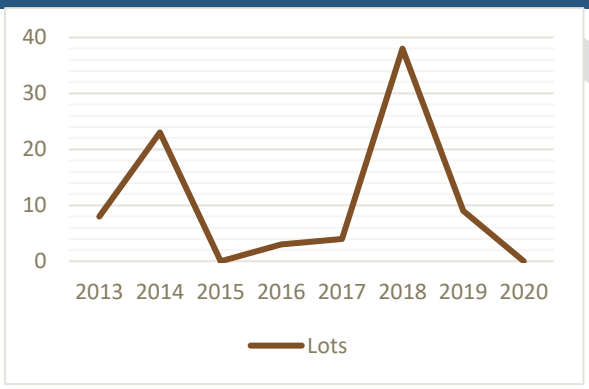


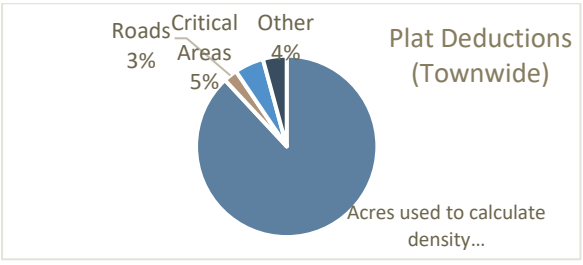
Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 20-2).

Figure 20-C: Town of Steilacoom Platting Trends





Plat Activity by Year

Year	Lots	Acres	Density
2013	8	2.14	3.74
2014	23	8.61	2.67
2015	-	-	-
2016	3	0.71	4.23
2017	4	1.30	3.08
2018	38	13.65	2.78
2019	9	4.69	1.92
2020	-	-	-
Total	**85**	**31.10**	**2.73**

Plat Deductions by Zone (Percent)

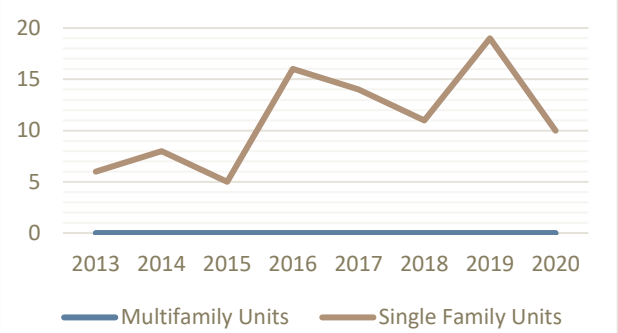
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
R-9.6	2.5%	5.2%	0.3%	3.9%

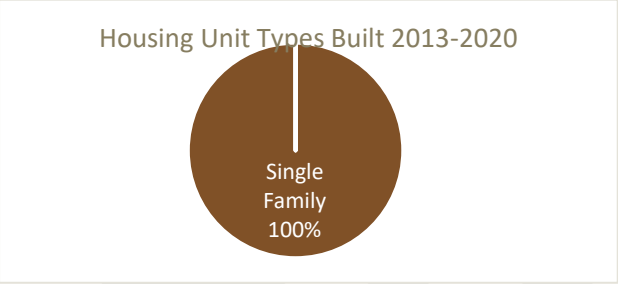
Sources: Town Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 20-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 20-D: Town of Steilacoom Residential Building Permit Trends





Multifamily Permits by Year

No multifamily residential development has been observed in the timeframe.

Single Family Permits by Year (Optional)

Year	Lots	Acres	Avg. Lot Size
2013	6	1.57	0.26
2014	8	1.99	0.25
2015	5	1.06	0.21
2016	16	3.87	0.24
2017	14	3.40	0.24
2018	11	3.06	0.27
2019	19	6.48	0.34
2020	10	2.62	0.26
Total	**89**	**24.05**	**0.27**

Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 20-E: Town of Steilacoom Non-residential Permit Trends

No non-residential development has been observed in the timeframe.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 20-4 and Table 20-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 20-4: Town of Steilacoom Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
CG	15%	12	85%	20	0%	50%	10%	50%	0%
CS	15%	12	85%	20	0%	50%	10%	50%	0%
IND	0%	0	100%	9	0%	0%	10%	50%	0%
MF	100%	12	0%	20	0%	50%	0%	0%	0%
P/QP	0%	0	100%	20	0%	0%	10%	50%	0%
R-7.2	100%	6	0%	20	10%	20%	0%	0%	0%
R-9.6	100%	4	0%	20	10%	20%	0%	0%	0%
MPD	100%	6	0%	0	10%	20%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 20-5: Town of Steilacoom Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
R-7.2	12%	10%	2%	3%	0%	<0.41 acres
R-9.6	12%	10%	2%	3%	0%	<0.55 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 20-6 shows the characteristics of the initial inventory and Table 20-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 20-6: Town of Steilacoom Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	62.91	120.48	41.00	8.55
Average Lot Size (Gross)	1.53	2.04	0.25	2.14
Total Acreage (Net)	43.70	75.71	33.37	6.89
Average Lot Size (Net)	1.07	1.28	0.20	1.72
Percent Critical Areas	31%	37%	19%	19%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable

land" per the Buildable Lands requirements. Table 20-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 20-7: Town of Steilacoom Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	19.21	44.77
Plat Deductions	10.56	12.65
Capital Facilities	0.00	0.00
Market Factor	5.22	11.41
Total Percent Reduction in Inventory Land	25%	43%
Percent of Vacant or Underutilized Land Available for Capacity	75%	57%

Capacity Results

The housing and employment capacity totals in Table 20-8 and Table 20-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

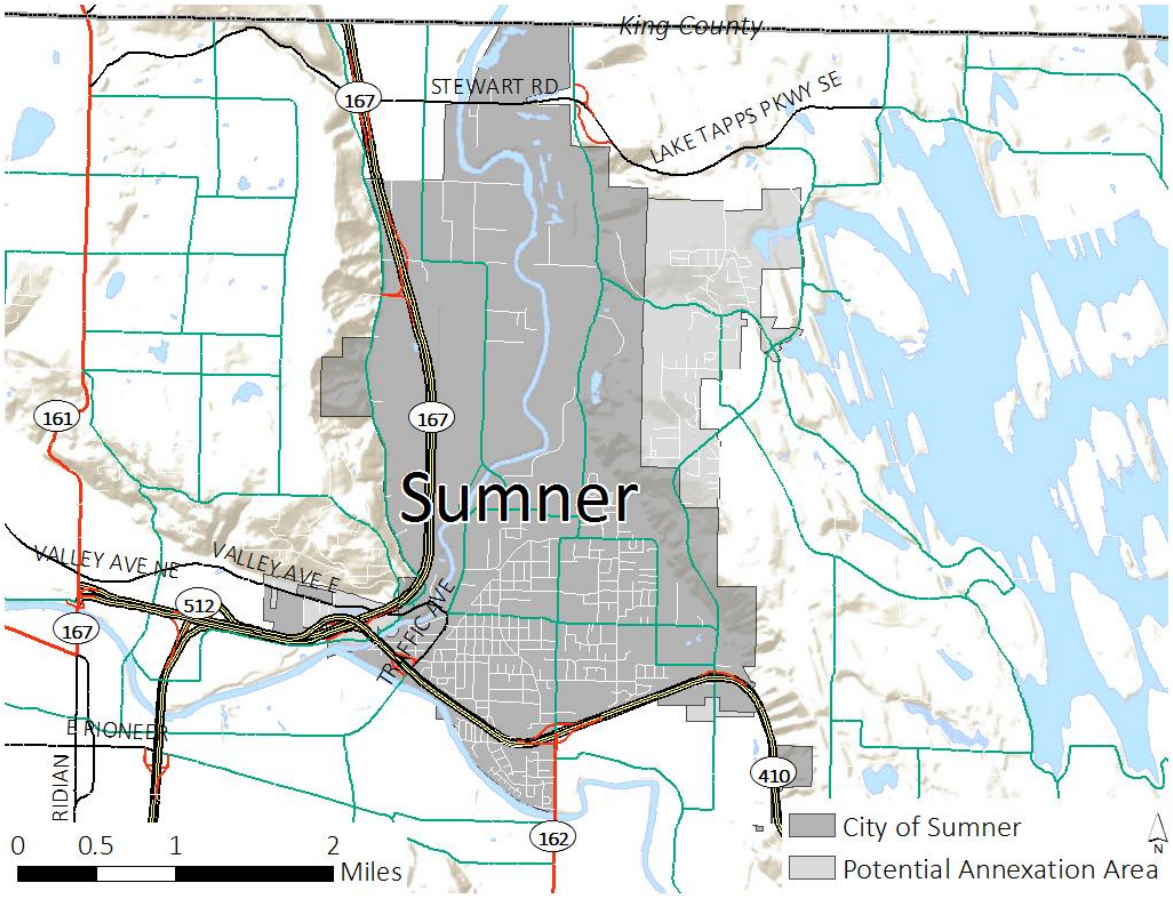
Table 20-8: Town of Steilacoom 2020-2044 Housing Capacity (Dwelling Units)

Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
CG	2	3	0	0	5
CS	0	1	0	0	1
IND	0	0	0	0	0
MF	0	0	0	0	0
P/QP	0	0	0	0	0
R-7.2	29	36	71	0	136
R-9.6	84	85	79	26	274
MPD	0	226	0	0	226
Total	**115**	**125**	**150**	**26**	642

Table 20-9: Town of Steilacoom 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
CG	17	29	0	46
CS	0	14	0	14
IND	107	0	0	107
MF	0	0	0	0
P/QP	171	41	0	212
R-7.2	0	0	0	0
R-9.6	0	0	0	0
MPD	0	-7	0	-7
Total	**295**	**84**	**0**	372

21 CITY OF SUMNER



The City of Sumner's Comprehensive Plan and regulations implement densities based on net acreage, subtracting out critical areas and buffers.

Table 21-1: City of Sumner Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
CBD	Central Business District	Mixed Use	1.8
GC	General Commercial	Mixed Use	128.8
HDR	High Density Multi-Family Residential	Residential	100.9
IC	Interchange Commercial	Commercial	139.7
LDR-12	Low Density Residential 12,000	Residential	705.6
LDR-4	Low Density Residential 4,000	Residential	4.4
LDR-6	Low Density Residential 6,000	Residential	250.7
LDR-7.2	Low Density Residential 7,200	Residential	60.1
LDR-8.5	Low Density Residential 8,500	Residential	388.9
M1	Light Manufacturing	Industrial	1,808.1
M2	Heavy Manufacturing	Industrial	140.9
MDR	Medium Density Residential	Residential	114.1

Zone Classification		Zone Type[1]	Total Acres[2]
NC	Neighborhood Commercial	Mixed Use	28.8
RES	Resource Protection	N/A	96.2
TC-3	Town Center	Mixed Use	1.7
TC-4	Town Center	Mixed Use	34.3
TC-5	Town Center	Mixed Use	12.8
TC-6	Town Center	Mixed Use	89.2

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 21-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 21-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 21-2: City of Sumner 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Net Density
GC	4.41	120	27.21
HDR	0.92	4	4.35
LDR-12	0.79	2	2.53
LDR-6	20.17	62	3.07
LDR-7.2	20.46	79	3.86
LDR-8.5	4.35	5	1.15
MDR	6.31	73	11.57
Total/Avg.	**57.41**	**345**	**6.01**

Table 21-3: City of Sumner 2013-2020 Non-residential Trends by Zone

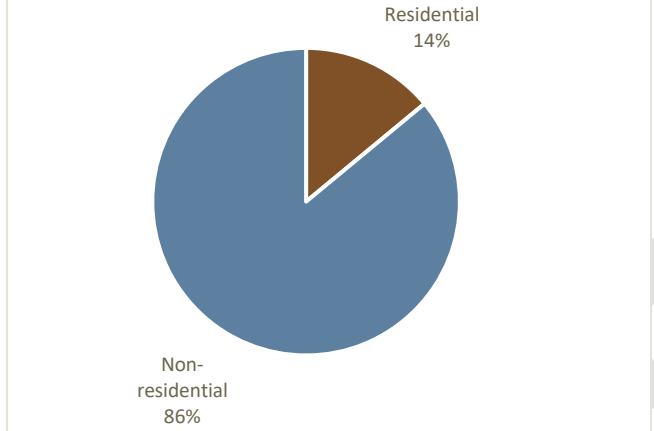
Zone	Acres	Sq. Ft.	FAR
GC	15.55	127,458	0.19
HDR	1.23	21,210	0.40
IC	22.83	219,408	0.22
M-1	305.91	4,483,426	0.34
M-2	9.96	212,628	0.49
TCP	0.12	4,649	0.91
Total/Avg.	**355.6**	**5,068,779**	**0.33**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 21-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 21-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on

the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 21-A: City of Sumner Residential vs. Non-residential Development Split



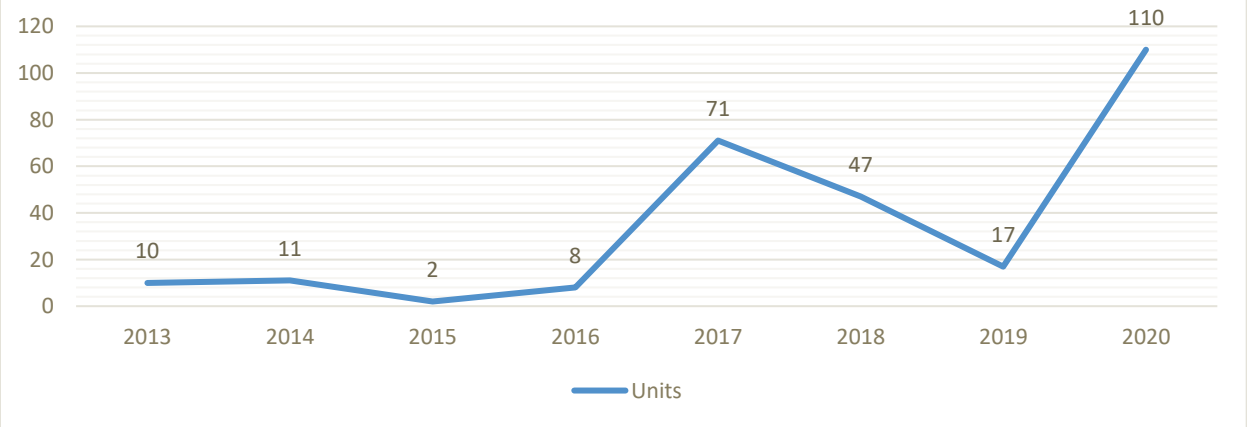
Zone	Use Type Split (Percent)[1] Residential	Non-residential
GC	22%	78%
HDR	43%	57%
IC	0%	100%
LDR-12	100%	0%
LDR-6	100%	0%
LDR-7.2	100%	0%
LDR-8.5	100%	0%
M-1	0%	100%
M-2	0%	100%
MDR	100%	0%
TCP	0%	100%
Average	**14%**	**86%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 21-B: City of Sumner Housing Production Rates (OFM)

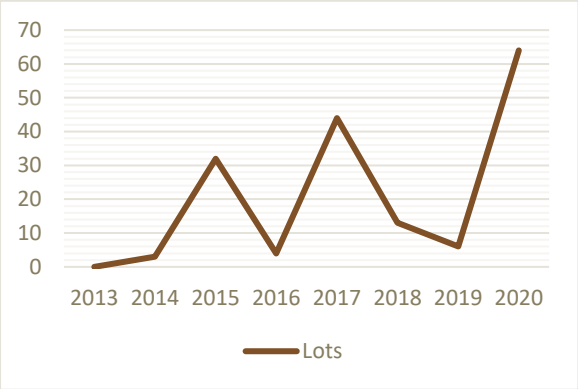


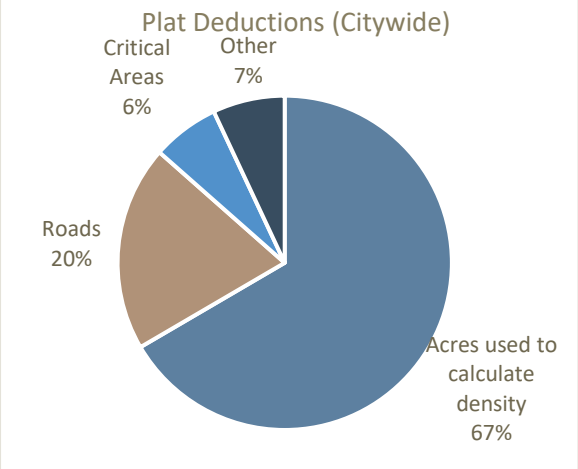
Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 21-2).

Figure 21-C: City of Sumner Platting Trends





Plat Activity by Year

Year	Lots	Net Acres	Net Density
2013	-	-	-
2014	3	0.74	4.05
2015	32	5.71	5.60
2016	4	0.92	4.35
2017	44	7.80	5.64
2018	4	0.59	6.78
2019	6	1.17	5.13
2020	64	14.85	4.31
Total	**157**	**31.78**	**4.94**

Plat Deductions by Zone (Percent)

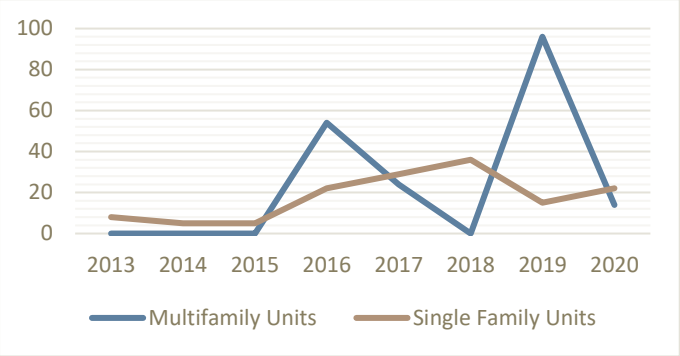
Zone	Roads	Critical Areas	Storm-water	Other
LDR-6	22.9%	5.3%	7.6%	7.6%
LDR-7.2	23.9%	0.0%	5.3%	3.2%
LDR-8.5	0.0%	46.9%	0.0%	0.0%
Average	**19.9%**	**6.5%**	**5.5%**	**1.5%**

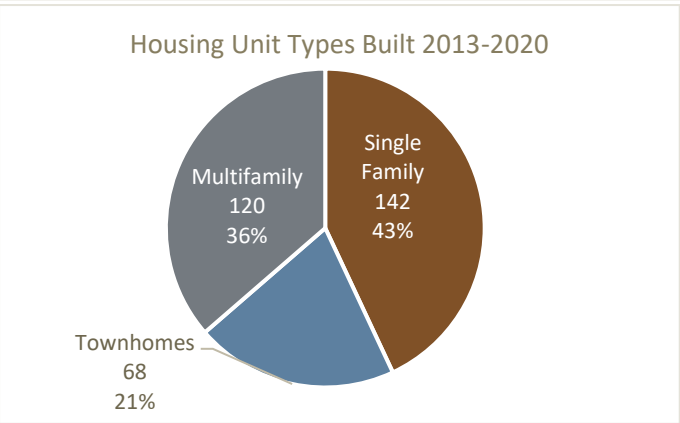
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 21-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 21-D: City of Sumner Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Acres	Density
2013	-	-	-
2014	-	-	-
2015	-	-	-
2016	54	4.26	12.68
2017	24	1.08	22.22
2018	-	-	-
2019	96	3.33	28.83
2020	14	1.00	14.00
Total	**188**	**9.67**	**19.44**

Single Family Permits by Year (Optional)

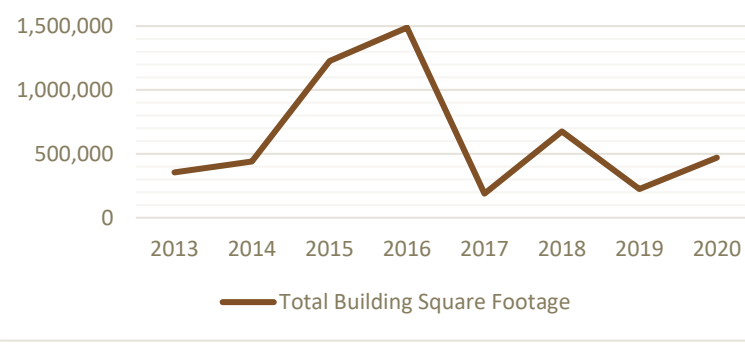
Year	Units	Acres	Avg. Lot Size
2013	8	1.88	0.23
2014	5	1.27	0.25
2015	5	0.90	0.18
2016	22	8.02	0.36
2017	29	5.54	0.19
2018	36	6.70	0.19
2019	15	6.48	0.43
2020	22	4.55	0.21
Total	**142**	**35.35**	**0.25**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 21-E: City of Sumner Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	17.88	354,838	0.46
2014	21.89	441,326	0.46
2015	57.48	1,225,785	0.49
2016	88.54	1,487,971	0.39
2017	18.47	188,741	0.23
2018	107.69	675,411	0.14
2019	16.30	223,741	0.32
2020	27.34	470,966	0.40
Total	**355.59**	**5,068,779**	**0.33**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 21-4 and Table 21-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 21-4: City of Sumner Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
CBD	100%	25	100%	20	10%	50%	10%	50%	0%
GC	10%	25	90%	20	10%	50%	10%	50%	0%
HDR	100%	12	0%	20	20%	40%	0%	0%	0%
IC	0%	0	100%	20	0%	0%	10%	50%	0%
LDR-12	100%	4	0%	20	10%	20%	0%	0%	0%
LDR-4	100%	5	0%	20	10%	20%	0%	0%	0%
LDR-6	100%	5	0%	20	10%	20%	0%	0%	0%
LDR-7.2	100%	5	0%	20	10%	20%	0%	0%	0%
LDR-8.5	100%	5	0%	20	10%	20%	0%	0%	0%
M1	0%	0	100%	16	0%	0%	10%	50%	0%
M2	0%	0	100%	16	0%	0%	10%	50%	0%
MDR	100%	12	0%	20	20%	40%	0%	0%	0%
NC	10%	25	90%	20	10%	50%	10%	50%	0%
TC-3	100%	76	0%	0	10%	50%	0%	0%	0%
TC-4	20%	76	80%	20	10%	50%	10%	50%	0%
TC-5	100%	76	0%	0	10%	50%	0%	0%	0%
TC-6	60%	76	40%	20	10%	50%	10%	50%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 21-5: City of Sumner Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
HDR	N/A	GIS	N/A	N/A	2%	N/A
LDR-12	0%	GIS	0%	0%	2%	<0.69 acres
LDR-4	0%	GIS	0%	0%	2%	<0.23 acres
LDR-6	0%	GIS	0%	0%	2%	<0.34 acres
LDR-72	0%	GIS	0%	0%	2%	<0.41 acres
LDR-85	0%	GIS	0%	0%	2%	<0.49 acres
MDR	N/A	GIS	N/A	N/A	2%	N/A

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 21-6 shows the characteristics of the initial inventory and Table 21-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 21-6: City of Sumner Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	296.21	610.72	53.37	66.72
Average Lot Size (Gross)	2.55	1.07	1.07	3.71
Total Acreage (Net)	142.95	433.76	7.41	36.89
Average Lot Size (Net)	1.23	0.76	0.15	2.05
Percent Critical Areas	52%	29%	86%	45%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 21-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 21-7: City of Sumner Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	153.26	176.95
Plat Deductions	0.00	0.00
Capital Facilities	0.00	0.00
Market Factor	27.52	213.77
Total Percent Reduction in Inventory Land	21%	51%
Percent of Vacant or Underutilized Land Available for Capacity	79%	49%

Capacity Results

The housing and employment capacity totals in Table 21-8 and Table 21-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

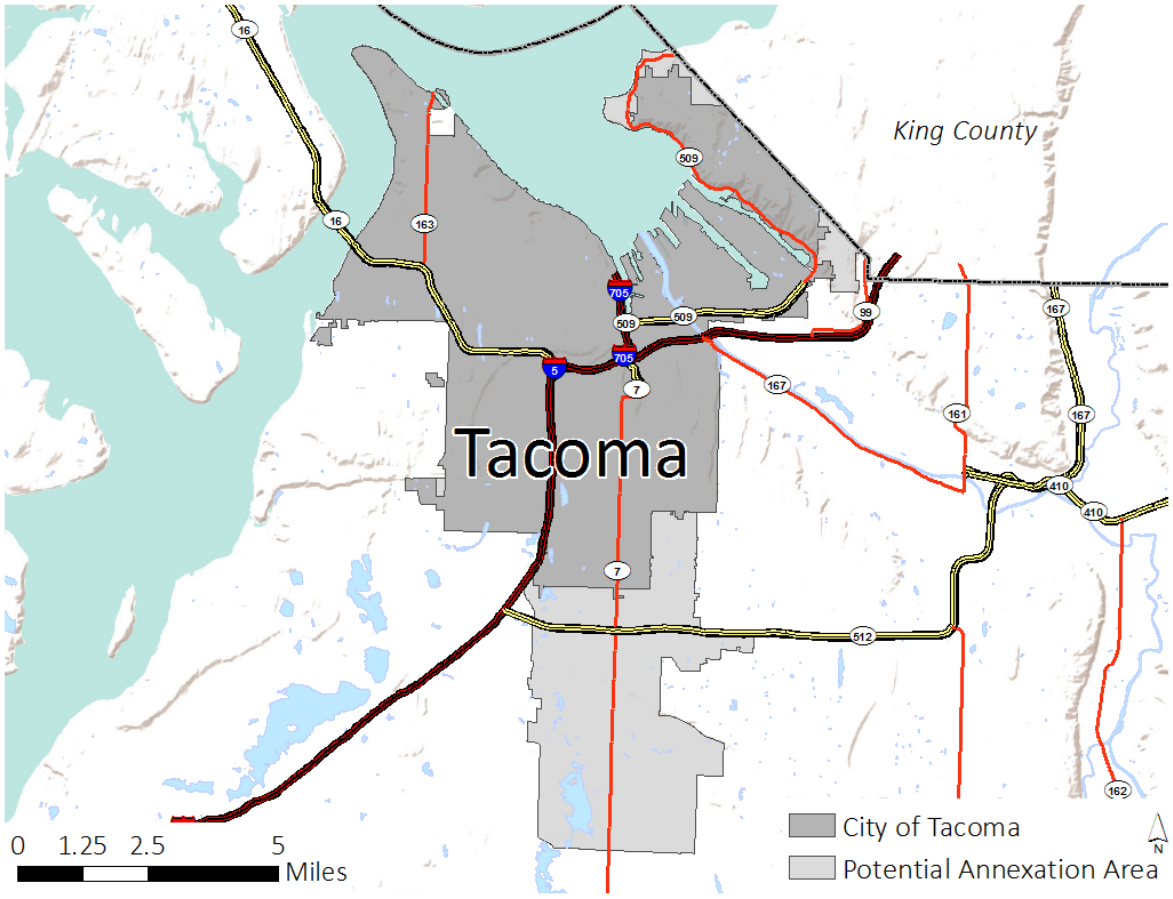
Table 21-8: City of Sumner 2020-2044 Housing Capacity (Dwelling Units)

Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
CBD	0	9	0	0	9
GC	21	59	0	0	80
HDR	27	57	2	0	86
IC	0	0	0	0	0
LDR-12	86	153	10	2	251
LDR-4	0	0	0	0	0
LDR-6	3	87	23	69	182
LDR-7.2	0	47	5	3	55
LDR-8.5	20	205	5	2	232
M1	0	0	0	0	0
M2	0	0	0	0	0
MDR	96	155	4	49	304
NC	16	10	0	0	26
TC-3	0	42	0	0	42
TC-4	14	111	0	0	125
TC-5	27	242	1	0	270
TC-6	230	671	0	0	901
Total	540	1,848	50	125	2,563

Table 21-9: City of Sumner 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
CBD	0	7	0	7
GC	176	448	0	624
HDR	1	3	0	4
IC	598	277	474	1,349
LDR-12	10	20	0	30
LDR-4	0	0	0	0
LDR-6	1	5	0	6
LDR-7.2	0	5	0	5
LDR-8.5	4	21	0	25
M1	0	1,447	361	1,808
M2	0	202	0	202
MDR	8	9	0	17
NC	1	71	0	72
TC-3	0	0	0	0
TC-4	0	117	0	117
TC-5	0	0	9	9
TC-6	3	161	0	164
Total	802	2,793	844	4,439

22 CITY OF TACOMA



The City of Tacoma's Comprehensive Plan and regulations implement densities using gross acreage.

Table 22-1: City of Tacoma Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
C1	Commercial	Mixed Use	141.8
C2	Commercial	Mixed Use	535.5
CCX	Community Commercial Mixed-Use	Mixed Use	505.0
CIX	Commercial Industrial Mixed-Use	Mixed Use	61.5
DCC	Downtown Commercial Core	Mixed Use	96.8
DMU	Downtown Mixed-Use	Mixed Use	144.2
DR	Downtown Residential	Mixed Use	128.0
HMR-SRD	Historic Mixed Residential – Special Review	Mixed Use	122.0
HMX	Hospital-Medical Mixed-Use	Mixed Use	83.7
M1	Light Industrial	Industrial	384.7
M2	Heavy Industrial	Industrial	1,000.3
NCX	Neighborhood Commercial Mixed-Use	Mixed Use	161.7
NRX	Neighborhood Residential Mixed-Use	Mixed Use	6.4

Zone Classification		Zone Type[1]	Total Acres[2]
PDB	Planned Business Development	Commercial	25.2
PMI	Port Maritime and Industrial	Industrial	2,636.4
R1	One Family Dwelling	Residential	2,050.6
R2	One Family Dwelling	Residential	11,202.2
R2-SRD	One Family Dwelling – Special Review	Residential	560.8
R3	Two Family Dwelling	Residential	1,105.7
R4	Multiple Family Dwelling	Residential	274.7
R4L	Low Density Multiple Family Dwelling	Residential	541.3
R5	Multiple Family Dwelling	Residential	5.3
RCX	Residential Commercial Mixed-Use	Mixed Use	318.1
S10	Shoreline	N/A	440.2
S11	Shoreline	N/A	39.7
S12	Shoreline	N/A	6.3
S13	Shoreline	N/A	488.9
S14	Shoreline	N/A	95.8
S15	Shoreline	Mixed Use	62.7
S1a	Shoreline	Mixed Use	6.8
S1b	Shoreline	N/A	3.2
S2	Shoreline	N/A	8.2
S3	Shoreline	N/A	38.7
S6	Shoreline	N/A	34.4
S6/7	Shoreline	N/A	1.1
S7	Shoreline	N/A	21.5
S8	Shoreline	Industrial	391.8
S9	Shoreline	Commercial	89.3
T	Transitional	Mixed Use	119.2
UCX	Urban Center Mixed-Use	Mixed Use	385.1
URX	Urban Residential Mixed-Use	Mixed Use	177.3
WR	Warehouse/Residential	Mixed Use	72.0

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 22-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 22-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 22-2: City of Tacoma 2013-2020 Residential Trends by Zone[1]

Zone	Acres	Lots/Units	Density
C1	2.69	77	28.67
C2	1.30	48	36.87
CCX	1.91	60	31.41
DCC	0.18	104	581.01
DMU	0.87	287	331.18
DR	2.68	229	110.7
HMR-SRD	0.06	4	67.02
NCX	2.58	509	197.51
R1	13.63	24	1.76
R2	77.64	375	4.83
R2-SRD	0.38	4	10.45
R3	2.74	39	14.24
R4	21.90	528	24.11
R4L	19.24	458	23.80
RCX	3.45	141	40.90
S15	10.90	766	70.25
S8	1.19	161	135.78
T	5.35	130	24.29
UCX	5.00	305	60.98
URX	6.69	213	31.82
Total/Avg.	**180.37**	**4,509**	**25.00**

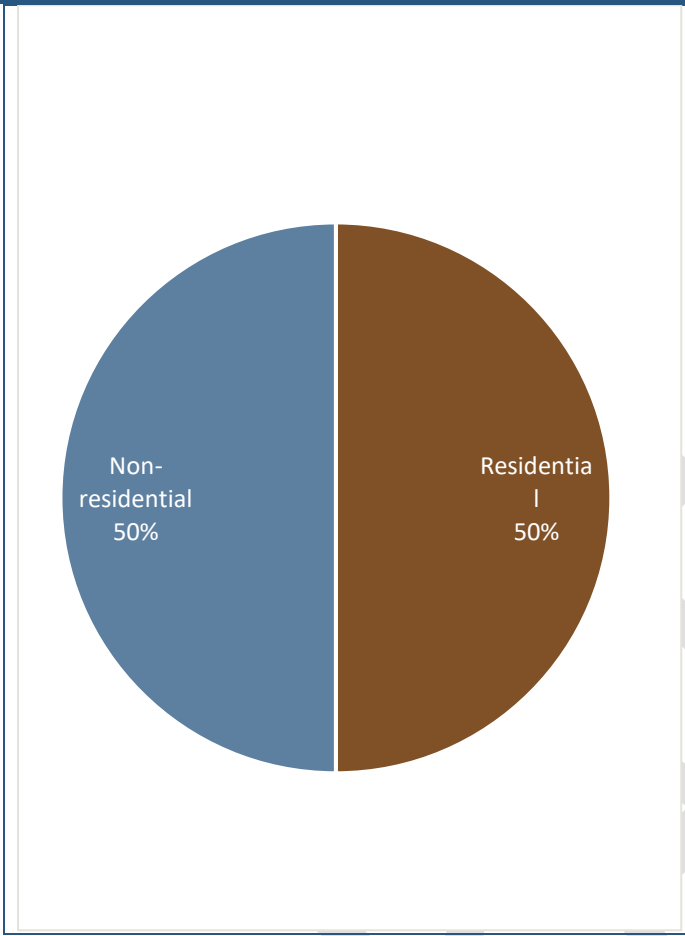
Table 22-3: City of Tacoma 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
C2	5.78	152,961	0.61
CCX	0.88	8,548	0.22
HMX	2.93	67,612	0.53
M1	0.16	1,480	0.21
M2	33.79	309,156	0.21
NCX	2.92	32,477	0.26
PMI	59.50	533,368	0.21
R2	1.90	3,834	0.05
R2-SRD	3.38	50,401	0.34
R3	8.27	99,100	0.28
S15	6.73	93,241	0.32
S8	1.19	4,979	0.10
UCX	49.60	17,352	0.01
Total/Avg.	**177.02**	**1,374,509**	**0.18**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 22-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 22-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 22-A: City of Tacoma Residential vs. Non-residential Development Split



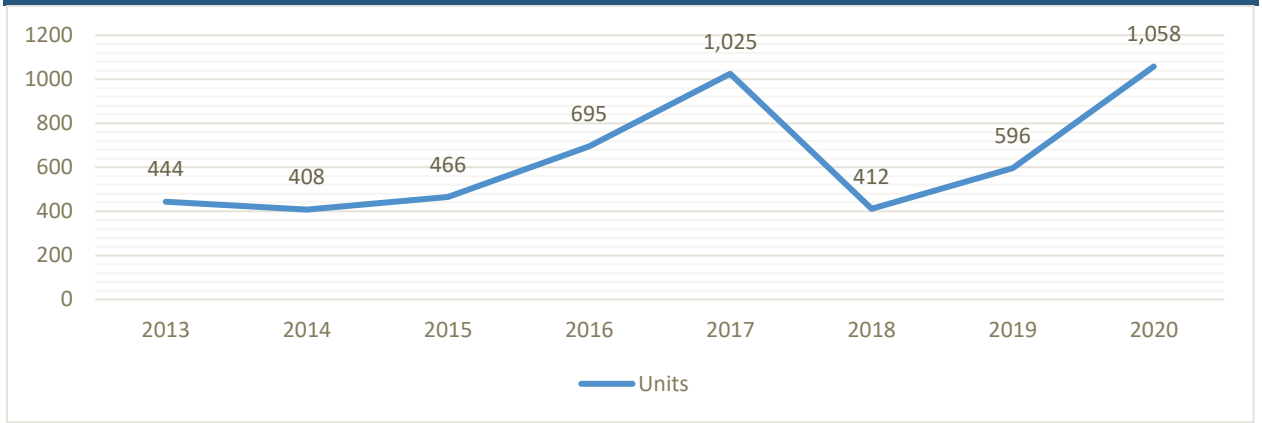
Zone	Use Type Split (Percent)[1]	
	Residential	Non-residential
C1	100%	0%
C2	18%	82%
CCX	69%	31%
DCC	100%	0%
DMU	100%	0%
DR	100%	0%
HMR-SRD	100%	0%
HMX	0%	100%
M1	0%	100%
M2	0%	100%
NCX	47%	53%
PMI	0%	100%
R1	100%	0%
R2	98%	2%
R2-SRD	10%	90%
R3	25%	75%
R4	100%	0%
R4L	100%	0%
RCX	100%	0%
S15	62%	38%
S8	50%	50%
T	100%	0%
UCX	9%	91%
URX	100%	0%
Total	**50%**	**50%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 22-B: City of Tacoma Housing Production Rates (OFM)

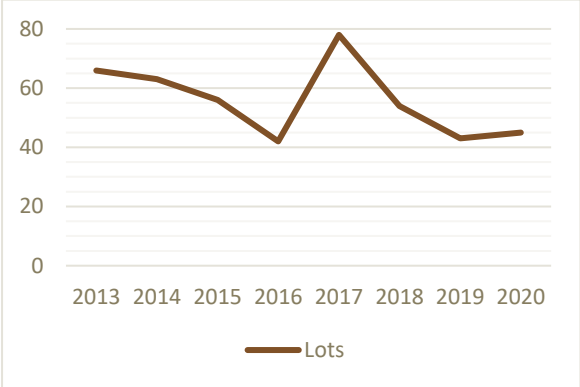


Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones, and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits for zones that permit both, to determine the overall achieved density (as shown in Table 22-2).

Figure 22-C: City of Tacoma Platting Trends



Plat Activity by Year

Year	Lots	Acres	Density
2013	66	12.07	5.47
2014	63	11.59	5.43
2015	56	8.49	6.60
2016	42	6.89	6.09
2017	78	27.87	2.80
2018	54	16.99	3.18
2019	43	6.59	6.53
2020	45	6.52	6.91
Total	**447**	**97.01**	**4.61**

Plat Deductions by Zone (Percent)

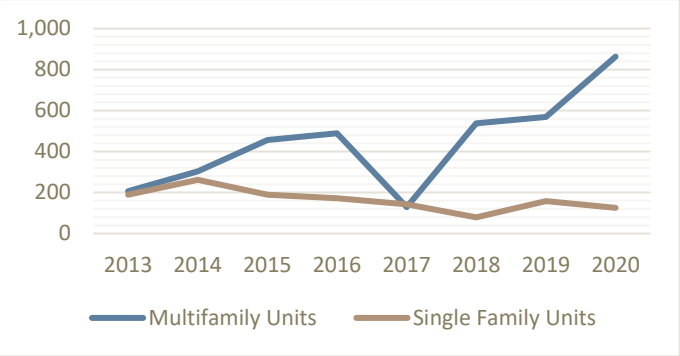
Not provided – Tacoma uses a gross calculation.

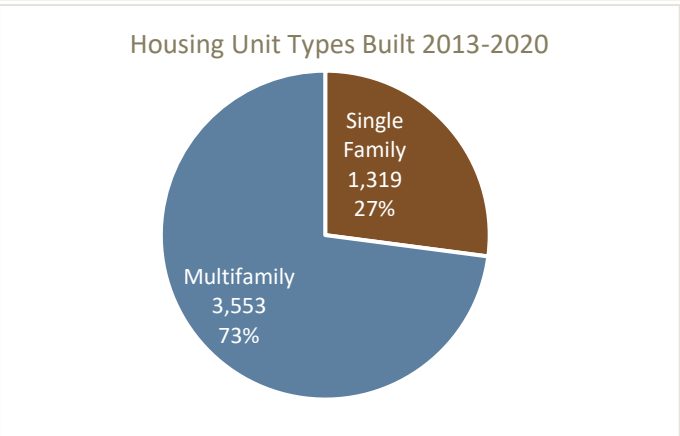
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 22-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 22-D: City of Tacoma Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Acres	Net Density
2013	207	4.32	47.88
2014	303	5.42	55.89
2015	456	13.07	34.89
2016	489	6.78	72.15
2017	129	4.11	31.37
2018	538	5.74	93.79
2019	568	9.04	62.87
2020	863	14.77	58.44
Total	**3,553**	**63.25**	**56.18**

Single Family Permits by Year (Optional)

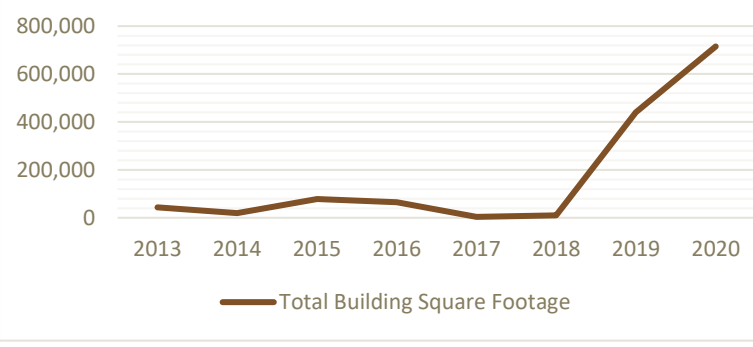
Year	Lots	Acres	Avg. Lot Size
2013	190	24.70	0.13
2014	262	29.62	0.11
2015	190	25.04	0.13
2016	172	23.42	0.14
2017	143	22.57	0.16
2018	79	12.17	0.15
2019	158	21.49	0.14
2020	125	16.45	0.14
Total	**1,319**	**175.47**	**0.13**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 22-E: City of Tacoma Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	53.21	42,911	0.02
2014	2.05	19,402	0.22
2015	7.60	78,454	0.24
2016	2.69	65,007	0.55
2017	1.90	3,834	0.05
2018	1.41	9,601	0.16
2019	28.81	440,128	0.35
2020	79.25	715,172	0.21
Total	**177.02**	**1,374,509**	**0.18**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 22-4 and Table 22-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 22-4: City of Tacoma Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
C1	0%	25	100%	25	5%	25%	5%	25%	0%
C2	10%	40	90%	25	5%	25%	5%	25%	0%
CCX	50%	76	50%	203	5%	15%	5%	15%	0%
CIX	5%	8	90%	386	5%	15%	5%	15%	0%
DCC	50%	261	50%	697	5%	15%	5%	15%	0%
DMU	70%	192	30%	220	5%	15%	5%	15%	0%
DR	80%	194	20%	129	5%	15%	5%	15%	0%
HMR-SRD	100%	8	0%	20	5%	15%	5%	15%	0%
HMX	0%	0	100%	813	0%	0%	5%	25%	0%
M1	0%	0	100%	25	0%	0%	5%	25%	0%
M2	0%	0	100%	50	0%	0%	5%	25%	0%
NCX	75%	91	25%	81	5%	15%	5%	15%	0%
NRX	95%	87	5%	12	5%	15%	5%	15%	0%
PDB	0%	0	100%	20	0%	0%	5%	25%	0%
PMI	0%	0	100%	25	0%	0%	5%	25%	0%
R1	100%	6	0%	20	5%	25%	5%	25%	0%
R2	100%	6	0%	20	5%	25%	5%	25%	0%
R2-SRD	100%	15	0%	20	5%	25%	5%	25%	0%
R3	100%	14	0%	20	5%	25%	5%	25%	0%
R4	100%	46	0%	20	5%	25%	5%	25%	0%
R4L	100%	17	0%	20	5%	25%	5%	25%	0%
R5	100%	55	0%	20	5%	25%	5%	25%	0%
RCX	90%	137	10%	41	5%	15%	5%	15%	0%
S15	70%	40	30%	25	5%	15%	5%	15%	0%
S1a	30%	40	70%	9	5%	15%	5%	15%	0%
S8	50%	90	50%	240	5%	15%	5%	15%	0%
S9	0%	0	100%	18.75	0%	0%	5%	25%	0%
T	25%	36	75%	25	5%	15%	5%	15%	0%
UCX	50%	91	50%	244	5%	15%	5%	15%	0%
URX	90%	116	10%	16	5%	15%	5%	15%	0%
WR	70%	192	30%	220	5%	15%	5%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size

listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 22-5: City of Tacoma Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
R1	0%	0%	0%	0%	3%	<0.310 acres
R2	0%	15%	0%	0%	3%	<0.210 acres
R2-SRD	0%	15%	0%	0%	3%	<0.138 acres
R3	0%	15%	0%	0%	3%	<0.138 acres
R4	0%	15%	0%	0%	3%	<0.045 acres
R4L	0%	15%	0%	0%	3%	<0.068 acres
R5	0%	15%	0%	0%	3%	<0.210 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 22-6 shows the characteristics of the initial inventory and Table 22-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 22-6: City of Tacoma Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	1,053.29	2,836.84	187.48	183.75
Average Lot Size (Gross)	0.89	0.42	0.15	2.70
Total Acreage (Net)	548.36	2,541.46	143.37	162.85
Average Lot Size (Net)	0.46	0.38	0.12	2.39
Percent Critical Areas	48%	10%	24%	11%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 22-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 22-7: City of Tacoma Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	504.92	295.38
Infrastructure Gaps	4.65	14.97
Plat Deductions	106.09	59.69
Capital Facilities	0.00	0.00
Market Factor	48.17	638.33
Total Percent Reduction in Inventory Land	14%	24%
Percent of Vacant or Underutilized Land Available for Capacity	86%	76%

Capacity Results

The housing and employment capacity totals in Table 22-8 and Table 22-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

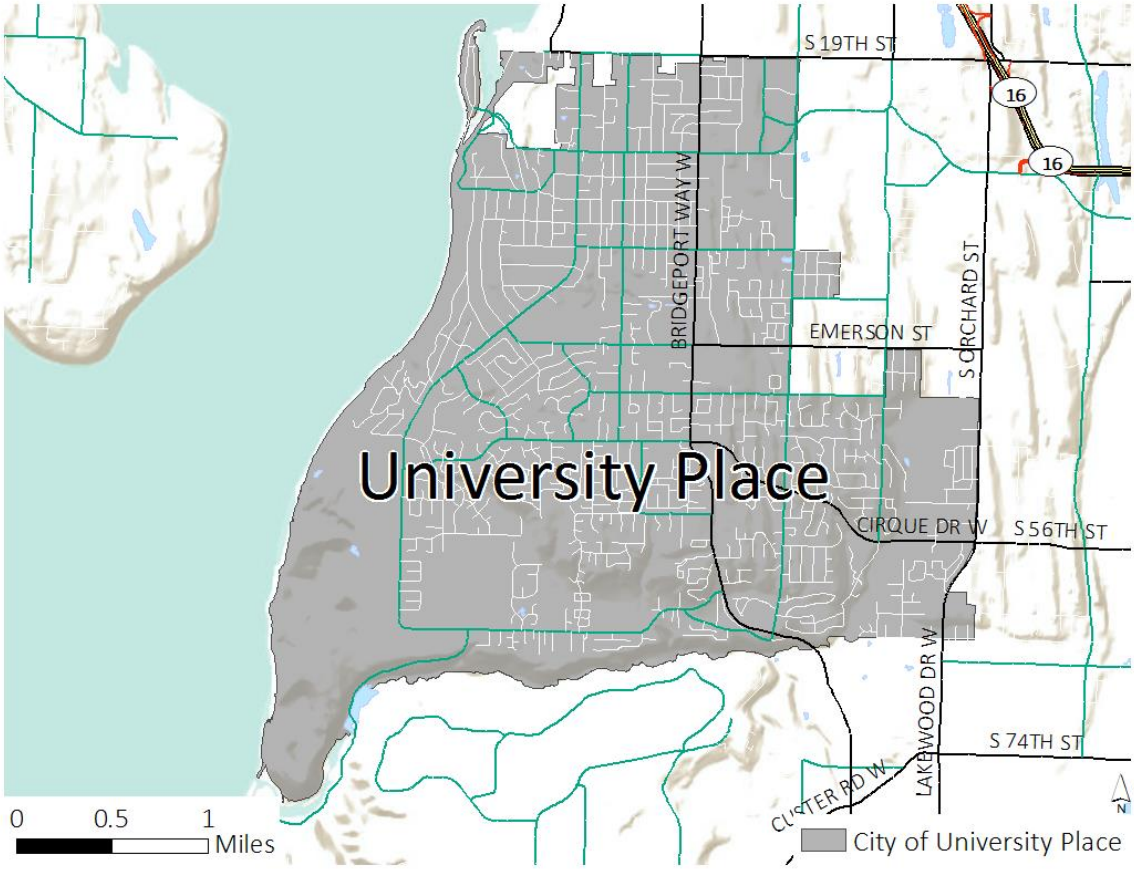
Table 22-8: City of Tacoma 2020-2044 Housing Capacity (Dwelling Units)

Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
C1	0	0	0	0	0
C2	53	552	0	17	622
CCX	733	3,325	0	0	4,058
CIX	0	12	1	0	13
DCC	164	3,359	0	0	3,523
DMU	1,782	5,082	0	0	6,864
DR	2,668	7,756	0	78	10,502
HMR-SRD	0	0	7	0	7
HMX	0	0	0	0	0
M1	0	0	0	0	0
M2	0	0	0	0	0
NCX	470	5,787	0	0	6,257
NRX	8	214	0	0	222
PDB	0	0	0	0	0
PMI	0	0	0	0	0
R1	395	654	84	0	1,133
R2	2,601	3,005	1,031	74	6,711
R2-SRD	84	763	40	0	887
R3	224	637	24	16	901
R4	879	3,028	13	58	3,978
R4L	220	756	13	0	989
R5	0	6	0	0	6
RCX	1,226	6,686	0	15	7,927
S15	13	0	0	561	574
S1a	0	0	0	0	0
S8	145	648	0	0	793
S9	0	0	0	0	0
T	71	226	25	4	326
UCX	302	3,141	0	0	3,443
URX	500	10,580	0	10	11,090
WR	1,409	3,871	0	0	5,280
Total	**13,947**	**60,088**	**1,238**	**833**	**76,106**

Table 22-9: City of Tacoma 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
C1	219	776	16	1,011
C2	300	3,109	367	3,776
CCX	1,957	8,881	27	10,865
CIX	282	10,542	0	10,824
DCC	439	8,970	0	9,409
DMU	876	2,495	0	3,371
DR	444	0	5	449
HMR-SRD	0	0	0	0
HMX	57	9,886	149	10,092
M1	461	2,167	11	2,639
M2	3,551	6,987	503	11,041
NCX	139	1,717	0	1,856
NRX	0	2	0	2
PDB	13	127	0	140
PMI	3,220	8,113	918	12,251
R1	43	91	0	134
R2	283	417	176	876
R2-SRD	4	42	0	46
R3	10	38	0	48
R4	12	55	8	75
R4L	8	37	0	45
R5	0	0	0	0
RCX	41	222	0	263
S15	4	0	70	74
S1a	0	0	0	0
S8	386	1,728	0	2,114
S9	22	49	0	71
T	148	471	15	634
UCX	810	8,423	5	9,238
URX	8	162	0	170
WR	691	1,901	10	2,602
Total	14,428	77,408	2,280	94,116

23 CITY OF UNIVERSITY PLACE



The City's Comprehensive Plan and regulations implement densities using net acreage, subtracting roads and critical areas and buffers.

Table 23-1: City of University Place Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
MF-L	Multifamily Low	Residential	97.43
MF-H	Multifamily High	Residential	54.94
MU	Mixed Use	Mixed Use	8.29
MU-C	Mixed Use Center	Mixed Use	37.57
MU-M	Mixed Use Maritime	Mixed Use	122.99
MU-N45	Mixed Use Neighborhood	Mixed Use	205.12
MU-O	Mixed Use Office	Mixed Use	2.50
MU-U/I	Mixed Use Urban/Industrial	Mixed Use	205.12
MU-U75	Mixed Use Urban	Mixed Use	122.99
NC	Neighborhood Commercial	Commercial	17.72
POS	Parks and Open Space	N/A	127.51
R1	Residential 1	Residential	3,649.14
R2	Residential 2	Residential	374.00

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the City zoning code.

[2]Represents parcel acreage, not zoning coverage.

Sources: City Zoning Code.

DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2019 and plat activity through December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 23-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 23-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 23-2: City of University Place 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[1]	Lots/Units	Net Density
MF-L	2.25	9	4.00
R1	36.79	102	2.77
R2	37.74	188	4.98
TC	1.39	270	193.83
Total/Avg.	**61.02**	**569**	**9.32**

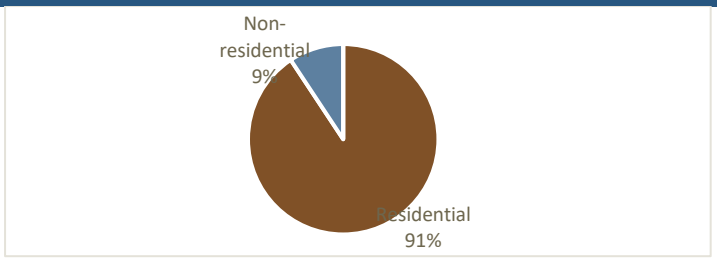
Table 23-3: City of University Place 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
MU	0.92	596	0.01
R2	1.50	18,222	0.28
TC	5.55	302,415	1.25
Total/Avg.	**7.97**	**321,233**	**0.93**

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 23-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 23-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential compared to non-residential permits. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 23-A: City of University Place Residential vs. Non-residential Development Split



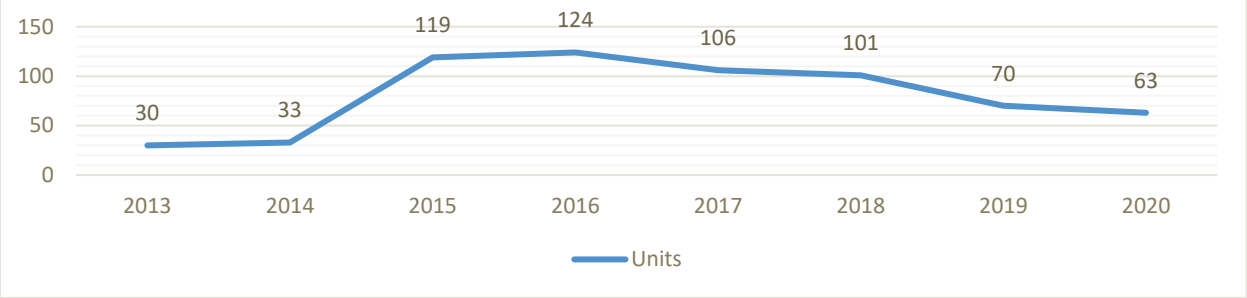
Zone	Use Type Split (Percent)[1]	
	Residential	Non-residential
MF-L	100%	0%
MU	0%	100%
R1	100%	0%
R2	96%	4%
TC	20%	80%
Average	**91%**	**9%**

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 23-B: City of University Place Housing Production Rates (OFM)

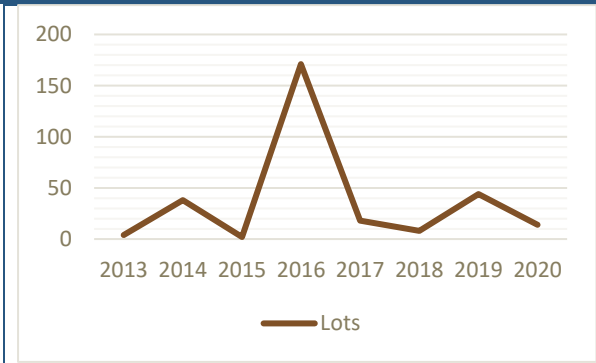


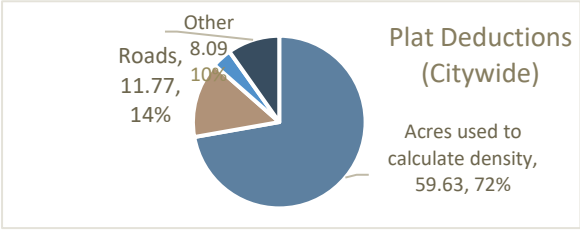
Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 23-2).

Figure 23-C: City of University Place Platting Trends





Plat Activity by Year

Year	Lots	Acres	Density (Net)
2013	4	0.98	4.09
2014	38	8.88	4.28
2015	2	0.70	2.86
2016	171	27.03	6.33
2017	18	8.06	2.23
2018	8	3.07	2.60
2019	44	6.15	7.15
2020	14	4.75	2.95
Total	**299**	**59.63**	**5.01**

Plat Deductions by Zone (Percent)

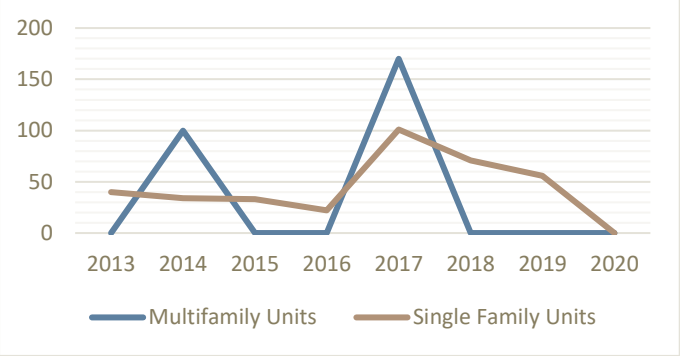
Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
MF-L	20.9%	0.0%	6.1%	17.0%
R1	9.6%	8.3%	3.5%	1.8%
R2	20.6%	0.0%	13.1%	1.7%
Average	**15.3%**	**4.0%**	**8.3%**	**2.2%**

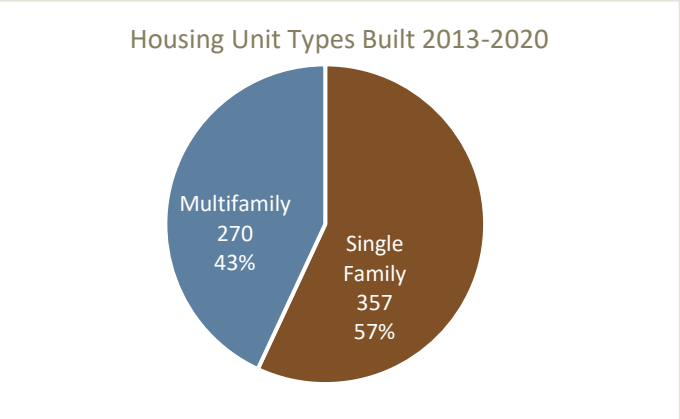
Sources: City Permit Data, Pierce County Auditor Recorded Plats.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 23-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 23-D: City of University Place Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Acres	Density
2013	-	-	-
2014	100	0.36	274.88
2015	-	-	-
2016	-	-	-
2017	170	1.03	165.18
2018	-	-	-
2019	-	-	-
Total	**270**	**1.39**	**193.83**

Single Family Permits by Year (Optional)

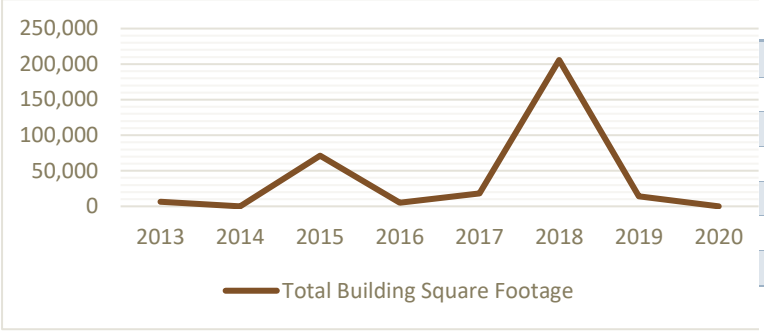
Year	Lots	Acres	Avg Lot Size
2013	40	9.42	0.24
2014	34	7.29	0.22
2015	33	7.99	0.24
2016	22	3.48	0.17
2017	101	13.40	0.13
2018	71	10.84	0.15
2019	56	10.57	0.19
Total	**357**	**63.00**	**0.18**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 23-E: City of University Place Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	0.65	6,599	0.23
2014	-	-	-
2015	3.36	71,049	0.49
2016	0.34	5,301	0.35
2017	1.50	18,222	0.28
2018	1.62	205,734	2.92
2019	0.50	14,328	0.66
Total	**7.97**	**321,233**	**0.93**

Sources: City Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 23-4 and Table 23-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 23-4: City of University Place Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
MF-H	100%	40	0%	20	10%	20%	0%	0%	0%
MF-L	100%	30	0%	20	10%	20%	0%	0%	0%
MU	50%	35	50%	25	10%	20%	10%	20%	0%
MU-C	70%	100	30%	25	10%	20%	10%	20%	0%
MU-C-S[1]	100%	100	100%	25	10%	20%	20%	25%	0%
MU-M	25%	30	75%	20	10%	20%	10%	20%	0%
MU-N45	70%	40	30%	25	10%	20%	10%	20%	0%
MU-O	10%	35	90%	20	10%	20%	10%	20%	0%
MU-U/I	25%	80	75%	30	10%	20%	10%	20%	0%
MU-U75	40%	80	60%	25	10%	20%	10%	20%	0%
MU-U75-S[1]	100%	80	100%	25	10%	20%	20%	25%	0%
NC	0%	0	100%	20	0%	0%	10%	50%	0%
R1	100%	4	0%	20	10%	10%	0%	0%	0%
R2	100%	6	0%	20	10%	10%	0%	0%	0%

[1]S=Streetfront Overlay. The Storefront Overlay for these zones has separate assumptions due to requirements for ground-floor retail compatibility and the expectation that a portion of future development will incorporate a commercial use.

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 23-5: City of University Place Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
MF-H	N/A	N/A	N/A	N/A	2%	N/A
MF-L	N/A	N/A	N/A	N/A	2%	N/A
R1	15%	GIS	7%	2%	2%	<0.41 acres
R2	15%	GIS	7%	2%	2%	<0.28 acres

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 23-6 shows the characteristics of the initial inventory and Table 23-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 23-6: City of University Place Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	90.88	340.61	45.94	17.85
Average Lot Size (Gross)	1.32	0.72	0.23	1.28
Total Acreage (Net)	64.46	289.57	32.25	16.87
Average Lot Size (Net)	0.93	0.62	0.16	1.20
Percent Critical Areas	29%	15%	30%	6%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 23-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 23-7: City of University Place Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	26.42	51.04
Plat Deductions	7.99	29.20
Capital Facilities	0.00	0.00
Market Factor	6.76	59.61
Total Percent Reduction in Inventory Land	38%	23%
Percent of Vacant or Underutilized Land Available for Capacity	62%	77%

Capacity Results

The housing and employment capacity totals in Table 23-8 and Table 23-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Table 23-8: City of University Place 2020-2044 Housing Capacity (Dwelling Units)

Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
MF-H	308	20	0	0	328
MF-L	112	48	7	0	167
MU	0	33	0	0	33
MU-C	0	173	0	0	173
MU-C (Storefront Overlay)	0	1,674	0	272	1,946
MU-M	0	0	0	0	0
MU-N45	185	1,528	0	26	1,739
MU-O	1	0	0	0	1
MU-U/I	22	328	0	0	350
MU-U75	102	260	0	184	546
MU-U75 (Storefront Overlay)	320	2,323	0	689	3,332
NC	0	0	0	0	0
R1	61	169	142	14	386
R2	43	234	49	0	326
Total	1,154	6,790	198	1,185	9,327

Table 23-9: City of University Place 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
MF-H	4	0	0	4
MF-L	2	1	0	3
MU	0	27	0	27
MU-C	0	19	0	19
MU-C (Storefront Overlay)	0	393	0	393
MU-M	0	0	0	0
MU-N45	0	0	0	0
MU-O	0	0	0	0
MU-U/I	0	389	0	389
MU-U75	0	168	0	168
MU-U75 (Storefront Overlay)	0	719	40	759
NC	0	40	0	40
R1	0	19	0	19
R2	0	18	0	18
Total	7	1,793	40	1,840

24 TOWN OF WILKESON



The Town of Wilkeson's Comprehensive Plan and regulations implement densities using gross acreage.

Table 24-1: Town of Wilkeson Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
C	Commercial	Commercial	5.2
P	Public Use	Public Use	170.2
R-1	Residential Single Family	Residential	21.6
R-2	Residential Single Family	Residential	75.8
R-3	Residential Multifamily	Residential	4.5

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the Town zoning code.
[2]Represents parcel acreage, not zoning coverage.
Sources: Town Zoning Code.

DEVELOPMENT TRENDS

This section summarizes building and plat data obtained through the Pierce County Assessor-Treasurer and Auditor Departments observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 24-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 24-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 24-2: Town of Wilkeson 2013-2020 Residential Trends by Zone[1]

No multifamily residential development or platting activity has been observed in the timeframe.

Table 24-3: City of 2013-2020 Non-residential Trends by Zone

No non-residential development has been observed in the timeframe.

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 24-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 24-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

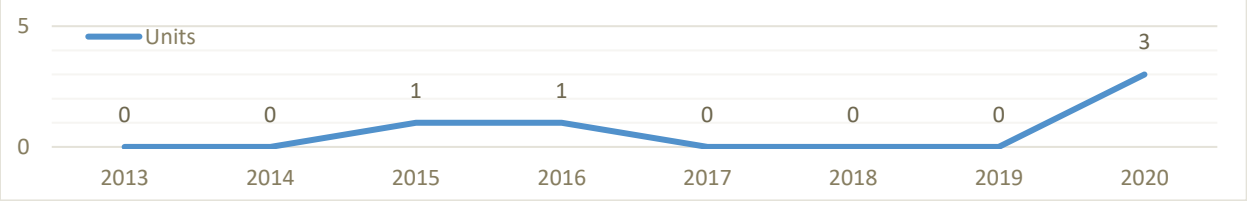
Figure 24-A: Town of Wilkeson Residential vs. Non-residential Development Split

No multifamily residential development, platting activity, or non-residential development has been observed in the timeframe.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 24-B: Town of Wilkeson Housing Production Rates (OFM)



Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 24-2).

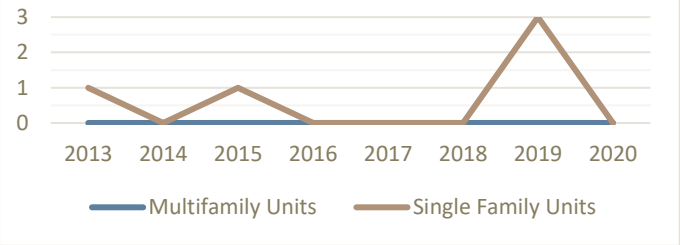
Figure 24-C: Town of Wilkeson Platting Trends

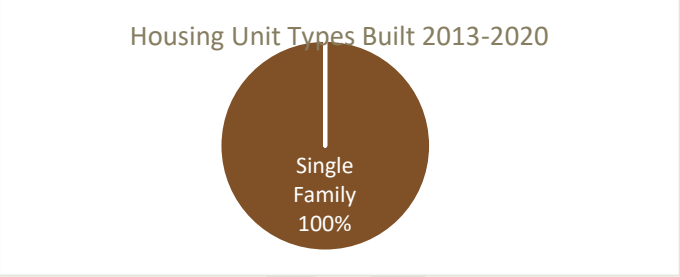
No platting activity has been observed in the timeframe.

Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is useful for identifying the total number of units built and the average lot size per zone and is provided as supplemental information. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 24-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

Figure 24-D: Town of Wilkeson Residential Building Permit Trends





Multifamily Permits by Year

No multifamily residential development or has been observed in the timeframe.

Single Family Permits by Year (Optional)

Year	Lots	Acres	Avg. Lot Size
2013	1	0.27	0.27
2014	-	-	-
2015	1	0.17	0.17
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	3	0.90	0.30
2020	-	-	-
Total	**5**	**1.34**	**0.27**

Sources: Town Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 24-E: Town of Wilkeson Non-residential Permit Trends

No non-residential development has been observed in the timeframe.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 24-4 and Table 24-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 24-4: Town of Wilkeson Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized	
C	0%	0	100%	20	0%	0%	10%	50%	0%
P	0%	0	100%	20	10%	0%	10%	50%	0%
R-1	100%	5	0%	20	25%	25%	0%	0%	0%
R-2	100%	6	0%	20	25%	25%	0%	0%	0%
R-3	100%	6	0%	20	25%	25%	0%	0%	0%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 24-5: Town of Wilkeson Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
R-1	20%	35%	20%	0%	3%	<1 acre
R-2	20%	35%	20%	0%	3%	<1 acre
R-3	20%	35%	20%	0%	3%	<1 acre

HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 24-6 shows the characteristics of the initial inventory and Table 24-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 24-6: Town of Wilkeson Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	19.86	37.97	1.85	0.00
Average Lot Size (Gross)	1.10	0.95	0.12	0.00
Total Acreage (Net)	7.74	28.58	1.72	0.00
Average Lot Size (Net)	0.43	0.71	0.11	0.00
Percent Critical Areas	61%	25%	7%	0%

The parcel inventory is used to categorize land and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 24-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and the deductions made to account for constraints to the inventory and overall market conditions.

Table 24-7: Town of Wilkeson Place Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	12.12	9.39
Plat Deductions	5.64	19.50
Capital Facilities	0.00	0.00
Market Factor	0.50	3.02
Total Percent Reduction in Inventory Land	92%	84%
Percent of Vacant or Underutilized Land Available for Capacity	8%	16%

Capacity Results

The housing and employment capacity totals in Table 24-8 and Table 24-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

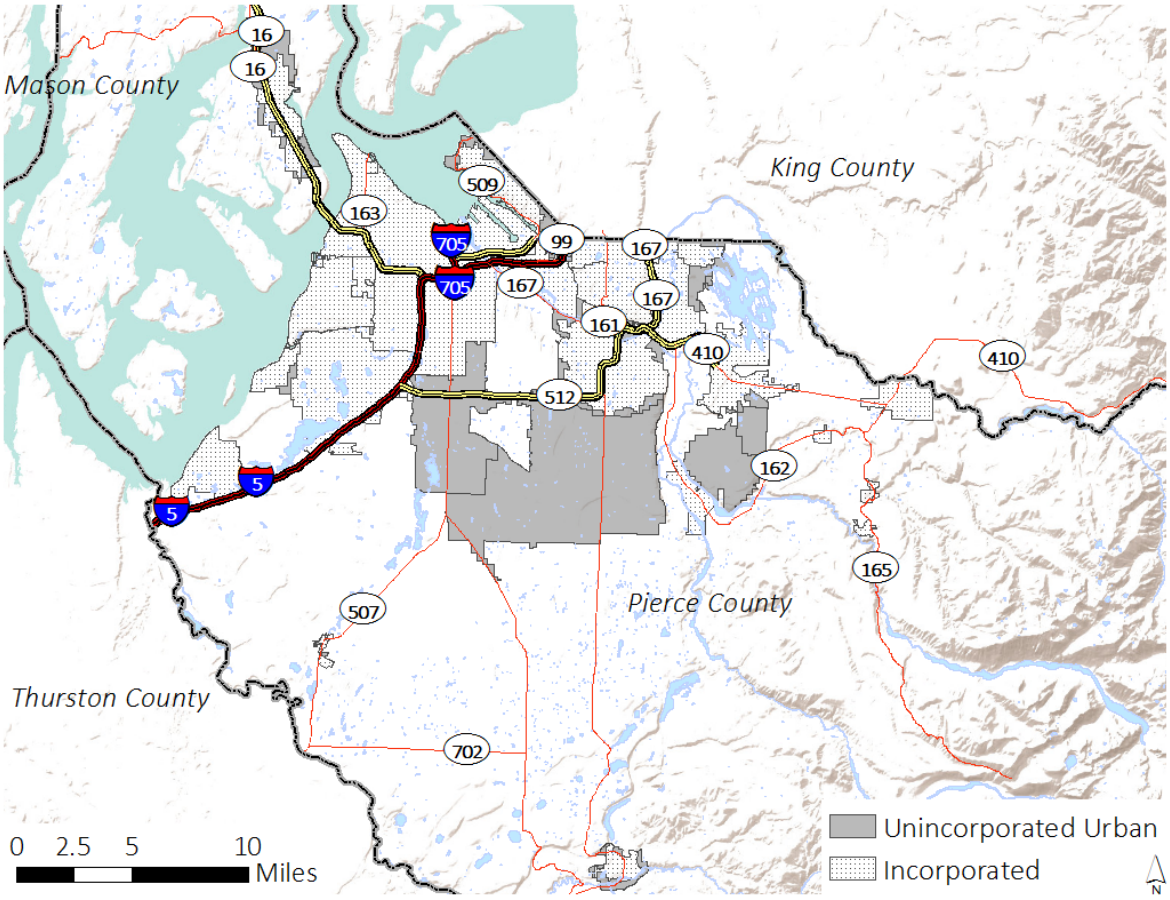
Table 24-8: Town of Wilkeson 2020-2044 Housing Capacity (Dwelling Units)

Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
C	0	0	0	0	**0**
P	0	0	0	0	**0**
R-1	4	11	0	0	**15**
R-2	2	13	14	0	**29**
R-3	1	2	1	0	**4**
Total	**7**	**26**	**15**	**0**	**48**

Table 24-9: Town of Wilkeson 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
C	4	26	0	**30**
P	0	2	0	**2**
R-1	1	2	0	**3**
R-2	0	2	0	**2**
R-3	0	0	0	**0**
Total	**5**	**32**	**0**	**37**

25 UNINCORPORATED PIERCE COUNTY



Pierce County's Comprehensive Plan and regulations implement densities using net acreage, subtracting out critical areas and roads.

Table 25-1: Unincorporated Pierce County Zone Classifications

Zone Classification		Zone Type[1]	Total Acres[2]
Urban Zones			
AC	Activity Center	Mixed Use	267.9
CC	Community Center	Mixed Use	731.3
CE	Community Employment	Industrial	1,432.5
CMUD	Commercial Mixed Use District	Mixed Use	312.5
EBPC	Employment Based Planned Communities	Planned Development	4,459.7
EC	Employment Center	Industrial	3,580.9
ES	Employment Service	Commercial	86.1
HRD	High Density Residential Districts	Residential	40.7
HSF	High Density Single-Family	Residential	667.3
MHR	Moderate-High Density Residential	Residential	1,391.5

Zone Classification		Zone Type[1]	Total Acres[2]
MPC	Master Planned Communities	Planned Development	1,052.7
MSF	Moderate Density Single-Family	Residential	18,440.2
MUC	Major Urban Center	Mixed Use	14.3
MUD	Mixed Use District	Mixed Use	749.2
NC	Neighborhood Center	Mixed Use	333.0
OMUD	Office-Residential Mixed Use District	Mixed Use	78.4
PI	Public Institution	Public Use	230.5
RO	Research-Office	Industrial	7.7
ROC	Residential/Office-Civic	Mixed Use	288.1
RR	Residential Resource	Residential	4,911.7
SF	Single-Family	Residential	6,733.1
UV	Urban Village	Mixed Use	335.2
Rural/Resource Zones			
ARL	Agricultural Resource Lands	Resource	22,077.2
EFRAN	Rural Airport North	Essential Public Facility	209.2
EFRAS	Rural Airport South	Essential Public Facility	359.1
FL	Forest Lands	Resource	272,153.3
GC	Gateway Communities	LAMIRD	34.6
MPR	Master Planned Resorts	Planned Development	21.6
PR	Park and Recreation	N/A	8,160.8
R10	Rural 10	Residential	157,917.1
R20	Rural 20	Residential	17,681.2
R40	Rural 40	Residential	2,256.1
R5	Rural 5	Residential	9,127.8
RAC	Rural Activity Center	LAMIRD	367.1
RF	Rural Farm	Residential	9,678.7
RIC	Rural Industrial Center	LAMIRD	97.1
RNC	Rural Neighborhood Center	LAMIRD	268.7
RSep	Rural Separator	Residential	9,679.9
RSR	Rural Sensitive Resource	Residential	34,529.3
TC	Tourist Commercial	LAMIRD	125.9
VC	Village Center	LAMIRD	217.8
VR	Village Residential	Residential	139.1

[1]For purposes of the Buildable Lands inventory and analysis; not a representation of the County zoning code.

[2]Represents parcel acreage, not zoning coverage.

Sources: County Zoning Code.

LAMIRD=Limited Areas of More Intensive Rural Development per RCW 36.70A.070(5)(d).

URBAN DEVELOPMENT TRENDS

This section summarizes permit data observed between January 1, 2013 and December 31, 2020 that is used to monitor observed densities and update the assumptions for future development. The summaries in this section are designed to show the average statistics used to inform the report. Only data pertinent to the Buildable Lands requirements are collected, and incomplete or not-applicable data

is omitted; therefore, this Report does not provide a full summary of all development within the jurisdiction. For more detailed summaries by zone/year, see Appendix A: Full Data, Calculation Tables, and Maps.

Table 25-2 shows the average residential density per zone and jurisdiction-wide and is not intended to show the total units/lots created or overall acres consumed. The results reflect the density calculation used by the jurisdiction, and only include a summary of plats and multifamily (3+ attached units) projects. Table 25-3 shows the average floor-to-area ratio (FAR) by zone and the amount of non-residential building square footage developed. The non-residential projects summarized only include new development and omit additions to existing businesses and non-building type improvements.

Table 25-2: Unincorporated Urban Pierce County 2013-2020 Residential Trends by Zone[1]

Zone	Net Acres[2]	Lots/Units	Density
AC	9.19	278	30.25
CC	45.01	949	21.08
HRD	9.55	69	7.23
HSF	29.28	163	5.57
MHR	97.64	679	6.95
MSF	404.52	1,480	3.66
MUC	1.10	3	2.73
MUD	32.59	476	14.60
NC	13.51	182	13.47
ROC	28.35	396	13.97
RR	31.08	104	3.35
SF	121.01	255	2.11
UV	0.71	22	31.17
Total/Avg.	**823.54**	**5,056**	**6.14**

Master Planned Developments

MPD	Acres	Sq. Ft.	FAR
Canterwood	4.59	13	2.83
Sunrise	114.13	537	4.71
Tehaleh	797.42	1,941	2.43

Table 25-3: Unincorporated Urban Pierce County 2013-2020 Non-residential Trends by Zone

Zone	Acres	Sq. Ft.	FAR
AC	3.70	26,072	0.16
CC	4.29	22,487	0.12
CE	31.87	446,887	0.32
CMUD	15.77	189,749	0.28
EC	330.98	2,273,971	0.16
ES	6.60	38,026	0.13
HSF	27.62	105,013	0.09
MSF	11.33	82,102	0.17
MUD	36.30	614,629	0.39
NC	1.53	8,276	0.12
ROC	0.38	575	0.03
SF	21.38	35,387	0.04
UV	9.88	155,475	0.36
Total/Avg.	**501.63**	**3,998,649**	**0.18**

Master Planned Developments

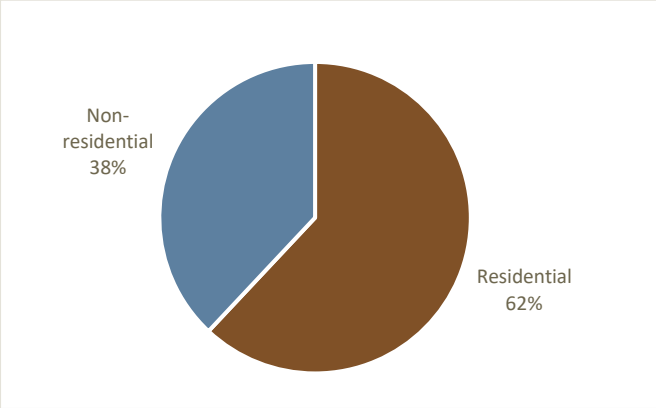
MPD	Acres	Sq. Ft.	FAR
Sunrise	25.83	546,010	0.49
Tehaleh	32.84	213,140	0.15

[1]Includes multifamily and plat data to represent the overall observed density by zone. Does not include single-family permits in order to accurately represent permitted densities; therefore, does not represent the total number of units developed in the timeframe.
Sources: County Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

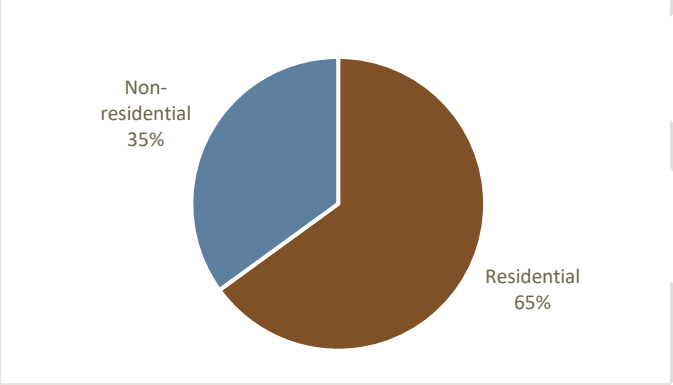
While the non-residential development trends are informative to show the percent of land consumed for non-residential purposes (as shown in Figure 25-A), the employment densities used in the capacity assumptions are derived through employment density surveys, as documented in Appendix C: Employment Density Survey. Figure 25-A summarizes the split between residential and non-residential development between 2013-2020 by zone and the jurisdiction average. The percent split is based on the gross acres developed between 2013-2020 using the plat activity and multifamily permits for residential and non-residential permits for non-residential. The information is used to inform the percent split for mixed-use zones, as well as the percent of non-residential uses in residential-only zones.

Figure 25-A: Unincorporated Urban Pierce County Residential vs. Non-residential Development Split

All Zones Outside of Master Planned Communities



Mixed Use Zones Outside of Master Planned Communities



Zone	Use Type Split (Percent)[1] Residential	Non-residential
AC	71%	29%
CC	91%	9%
CE	0%	100%
CMUD	0%	100%
EC	0%	100%
ES	0%	100%
HRD	100%	0%
HSF	51%	49%
MHR	100%	0%
MSF	97%	3%
MUC	100%	0%
MUD	47%	53%
NC	90%	10%
ROC	99%	1%
RR	100%	0%
SF	85%	15%
UV	7%	93%
Average	**62%**	**38%**

Master Planned Developments

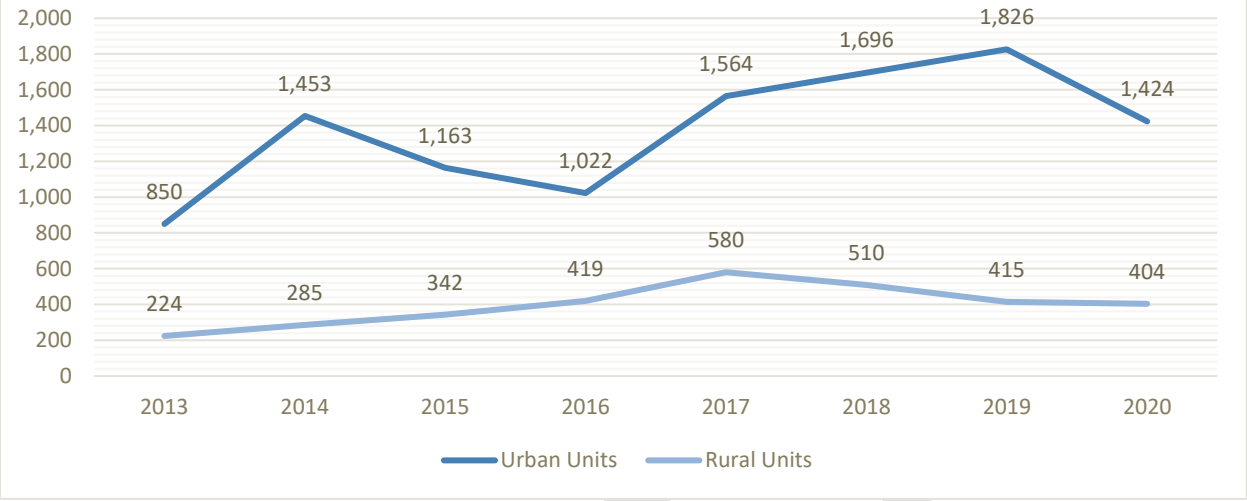
Zone	Use Type Split (Percent)[1] Residential	Non-residential
Canterwood	100%	0%
Sunrise	90%	10%
Tehaleh	97%	3%

[1]Does not include single-family permits in order to avoid double-counting acreage.
Sources: County Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Housing Production Rate

The residential data collected for the Buildable Lands Program tracks the density and other assumptions related to the capacity analysis. The Buildable Lands requirements that were amended in 2017 now require the tracking of housing production to compare to the necessary growth rates to achieve the housing targets. Due to the limitations of the permit data and lack of demolition permit data, Pierce County relies upon the Washington State Office of Financial Management estimates to track the number of housing units built per year in each jurisdiction for the purposes of this Report. The comparison of housing production and housing needs is shown in Table 1-2 and Table 1-3 (Countywide).

Figure 25-B: Unincorporated Urban Pierce County Housing Production Rates (OFM)

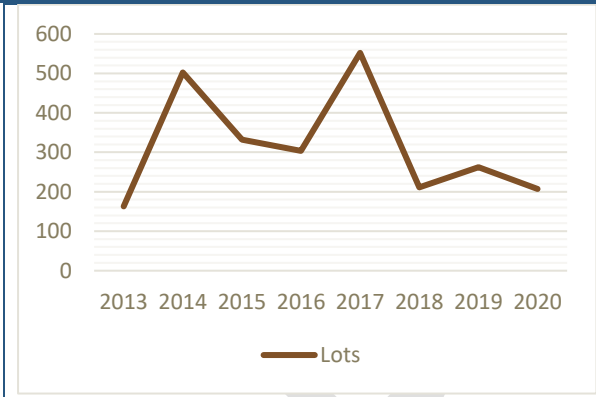


Source: Washington State Office of Financial Management Housing Unit Data (2020).

Platting Activity

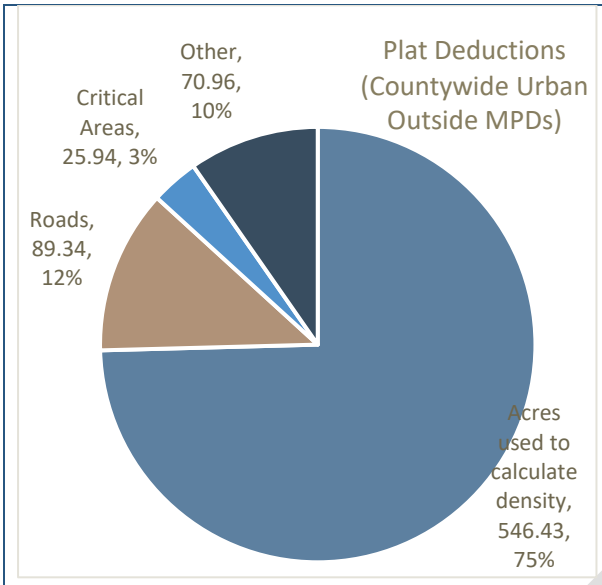
Platting activity is used to determine the achieved density for single-family residential zones and to identify the amount of land used for other purposes (whether netted out for density or applied by a regulation and affecting the achieved density). Plat data is used in conjunction with multifamily permits to determine the overall achieved density (as shown in Table 25-2).

Figure 25-C: Unincorporated Urban Pierce County Platting Trends



Plat Activity by Year

Year	Lots	Acres	Density
2013	277	76.82	3.61
2014	1,001	235.59	4.25
2015	637	165.23	3.86
2016	723	254.92	2.84
2017	972	310.63	3.13
2018	651	186.89	3.48
2019	513	202.30	2.54
2020	207	36.16	5.72
Total	**4,981**	**1,468.55**	**3.39**



Plat Deductions by Zone (Percent)[1]

Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
HRD	34.7%	-	6.2%	3.7%
HSF	18.3%	-	4.9%	1.6%
MHR	16.2%	-	3.6%	-
MSF	12.3%	0.7%	6.5%	1.0%
MUC	-	-	-	-
MUD	16.0%	7.1%	33.0%	9.7%
RR	17.6%	5.3%	-	-
SF	10.5%	17.5%	19.6%	7.3%
Average	**13.2%**	**3.8%**	**8.4%**	**2.1%**

Master Planned Developments

Zone	Roads	Critical Areas	Parks/Open Space	Storm -water
Canter-wood	-	-	-	-
Sunrise	10.7%	-	35.8%	0.4%
Tehaleh	4.1%	1.5%	13.7%	2.3%

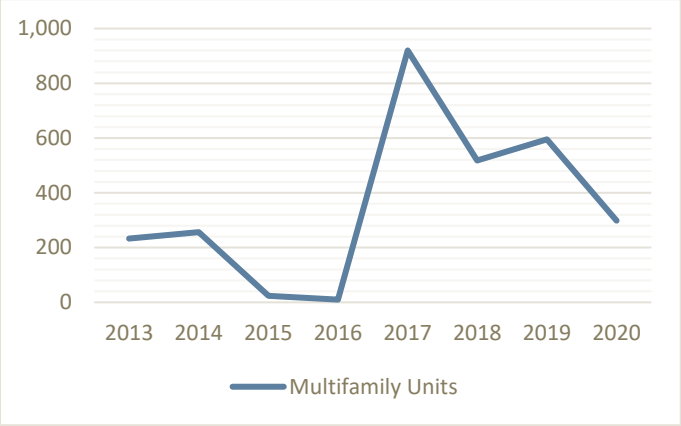
[1]Does not include master planned developments that have development agreements that may differ from traditional zoning.
Sources: County Permit Data, Pierce County Auditor Recorded Plats.

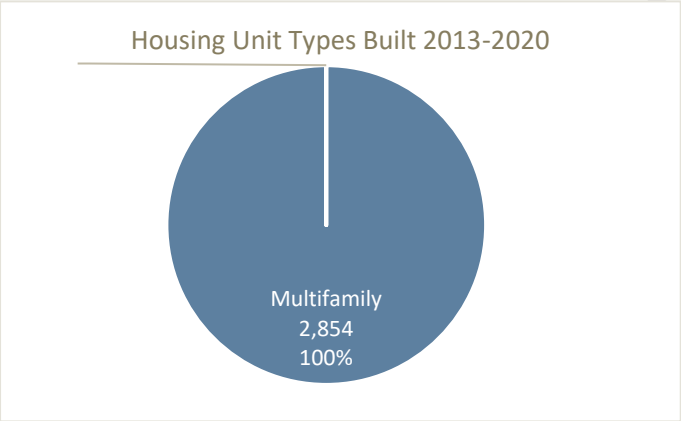
Residential Building Trends

Both multifamily and single-family building permits are collected and summarized; however, single-family permit reporting is optional per the Pierce County Countywide Planning Policies and are limited in use for tracking factors affecting development. The single-family permit data is provided as supplemental information but is not used for establishing assumptions. The multifamily permit data is used to identify the observed density and amount of land used for residential purposes. Please note that this data differs from the data provided in Figure 25-B due to collection limitations and should not be used to represent housing production in the jurisdiction.

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Figure 25-D: Unincorporated Urban Pierce County Residential Building Permit Trends





Multifamily Permits by Year

Year	Units	Net Acres	Net Density
2013	233	18.32	12.72
2014	256	11.51	22.23
2015	24	2.25	10.69
2016	10	1.07	9.37
2017	920	51.86	17.74
2018	518	33.20	15.60
2019	595	36.85	16.14
2020	298	18.20	16.38
Total	**2,854**	**173.26**	**16.47**

Single Family Permits by Year (Optional)

Year	Lots	Acres	Avg. Lot Size
2013			
2014			
2015			
2016			
2017			
2018			
2019			
2020			
Total/Avg.			

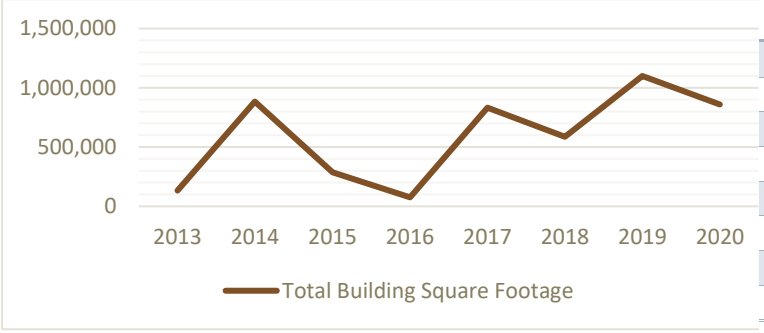
*Single family permits are still under review and will be available in a future version of the report.

Sources: County Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Non-residential building permits typically include commercial and industrial development; however, public use is often collected and summarized as well when the use type produces jobs. While the project acreage, building square footage, and floor-to-area ratio information is collected and summarized for the report in order to track non-residential development, the employment density is analyzed in a separate report using data other than building permits. The most recent employment density study to support the assumptions in this Report is provided in Appendix C: Employment Density Survey.

Figure 25-E: Unincorporated Urban Pierce County Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	37.53	132,333	0.08
2014	86.92	882,836	0.23
2015	45.49	287,108	0.14
2016	32.83	75,957	0.05
2017	80.94	833,370	0.24
2018	24.31	586,467	0.55
2019	65.09	1,099,796	0.39
2020	187.19	859,932	0.11
Total	**560.30**	**4,757,799**	**0.19**

Sources: County Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

ASSUMPTIONS

Assumptions vary by jurisdiction and zone. Table 25-4 and Table 25-5 provide a snapshot of the densities, mixed-use split, and deductions used in the inventory development and capacity calculation tables. The assumptions for each zone are shown in the assumptions column of the capacity calculation tables shown in Appendix A: Full Data, Calculation Tables, and Maps.

Table 25-4: Unincorporated Urban Pierce County Assumptions Summary

Zone	Residential		Employment		Residential Market Factor		Non-Residential Market Factor		Land for Capital Facilities	Infra-structure Gap Deduction
	Percent	Density	Percent	Density	Vacant	Underutilized	Vacant	Underutilized		
AC	35%	15	65%	20	20%	40%	10%	40%	0%	50%
CC	35%	20	65%	20	20%	40%	10%	40%	0%	50%
CE	0%	0	100%	9	0%	0%	10%	50%	0%	0%
CMUD	35%	8	65%	20	20%	40%	10%	40%	0%	50%
EBPC	0%	0	0%	0	0%	0%	0%	0%	0%	0%
EC	0%	0	100%	9	0%	0%	10%	50%	0%	0%
ES	0%	0	100%	9	0%	0%	10%	50%	0%	0%
HRD	100%	6	0%	20	20%	40%	0%	0%	0%	30%
HSF	100%	6	0%	20	10%	20%	0%	0%	0%	30%
MHR	100%	8	0%	20	20%	40%	0%	0%	0%	30%
MPC	0%	0	0%	0	0%	0%	0%	0%	0%	0%
MSF	100%	4	0%	20	10%	20%	0%	0%	0%	30%
MUC	35%	8	65%	20	20%	40%	10%	40%	0%	50%
MUD	35%	16	65%	20	20%	40%	10%	40%	0%	50%
NC	35%	10	65%	20	20%	40%	10%	40%	0%	50%
OMUD	35%	8	65%	20	20%	40%	10%	40%	0%	50%
PI	0%	0	100%	20	0%	0%	10%	50%	0%	0%
RO	0%	0	100%	9	0%	0%	10%	50%	0%	0%
ROC	35%	10	65%	20	20%	40%	10%	40%	0%	50%
RR	100%	2	0%	20	10%	20%	0%	0%	0%	30%
SF	100%	4	0%	20	10%	20%	0%	0%	0%	30%
UV	35%	16	65%	20	20%	40%	10%	40%	0%	50%

The Vacant Single Unit size threshold listed below represents the parcel size used to determine if a vacant property is subdividable or only able to accommodate one unit. Parcels smaller than the size listed are considered Vacant Single Units unless otherwise determined by the jurisdiction during the parcel-specific review.

Table 25-5: Unincorporated Urban Pierce County Plat Deductions for Single-Family Residential Zones

Zone	Roads	Critical Areas	Parks/Open Space	Stormwater	Non-residential	Vacant Single Unit
HRD	N/A	GIS	N/A	N/A	2%	<0.500 acres
HSF	15%	GIS	0%	0%	2%	<0.625 acres
MHR	N/A	GIS	N/A	N/A	2%	<0.500 acres
MSF	15%	GIS	0%	0%	2%	<0.625 acres
RR	15%	GIS	0%	0%	2%	<2.500 acres
SF	15%	GIS	0%	0%	2%	<1.000 acres

URBAN HOUSING AND EMPLOYMENT CAPACITY

Inventory and Capacity Calculation Characteristics

A portion of the inventory is deducted from the gross acreage based on the assumptions identified in the previous section. Table 25-6 shows the characteristics of the initial inventory and Table 25-7 shows the amount of land that was reduced from that initial inventory to be included in the capacity analysis, as documented in the tables and maps in Appendix A: Full Data, Calculation Tables, and Maps.

Table 25-6: Unincorporated Urban Pierce County Summary of Vacant and Underutilized Land Characteristics

Characteristics/Category	Vacant	Underutilized	Vacant Single Unit	Pipeline
Total Acreage (Gross	4,332.09	10,390.55	667.26	5,614.37
Average Lot Size (Gross)	4.00	1.69	0.27	13.43
Total Acreage (Net)	3,382.63	8,995.26	453.41	4,440.75
Average Lot Size (Net)	3.13	1.46	0.18	10.62
Percent Critical Areas	22%	13%	32%	21%

The parcel inventory is used to categorize land, and the capacity calculations are intended to represent the land available for development; thus, the inventory maps alone do not represent the "buildable land" per the Buildable Lands requirements. Table 25-7 shows the overall percentage of land assumed available as capacity in the 20-year planning period and deductions made to account for constraints to the inventory and overall market conditions.

Table 25-7: Unincorporated Urban Pierce County Place Summary of Deductions

Deductions/Category	Vacant	Underutilized
Critical Areas	949.45	1,395.29
Infrastructure Gaps	988.70	3,816.18
Plat Deductions	191.39	928.47
Capital Facilities	0.00	0.00
Market Factor	302.40	1,925.75
Total Percent Reduction in Inventory Land	41%	49%
Percent of Vacant or Underutilized Land Available for Capacity	59%	51%

Capacity Results

The housing and employment capacity totals in Table 25-8 and Table 25-9 are derived from the calculations shown in Appendix A: Full Data, Calculation Tables, and Maps. A summary of the countywide capacity results compared to need is shown in Table 1-11 (2030 Housing Target), Table 1-12 (2030 Employment Target), and Table 1-13 (DRAFT 2044 Targets).

Note: The capacity is subject to the zoning at the time the report is published, not pending zoning changes. A large zoning update becomes effective after the publish date of this report, and the capacity for the updated zoning will be provided in an addendum to this report prior to the 2024 Comprehensive Plan periodic update.

Table 25-8: Unincorporated Urban Pierce County 2020-2044 Housing Capacity (Dwelling Units)

Zone	Vacant	Underutilized	Vacant Single Unit	Pipeline	Total
AC	65	225	0	38	328
CC	211	524	0	0	735
CE	0	0	0	3	3
CMUD	63	122	0	0	185
EBPC	0	0	560	6,688	7,248
EC	0	0	0	6	6
ES	0	0	0	0	0
HRD	8	65	0	0	73
HSF	293	479	169	6	947
MHR	387	627	137	2,091	3,242
MPC	0	0	2	0	2
MSF	2,109	10,347	864	1,375	14,695
MUC	2	9	2	0	13
MUD	400	484	1	4	889
NC	87	224	0	2	313
OMUD	19	18	0	0	37
PI	0	0	0	0	0
RO	0	0	0	0	0
ROC	141	130	0	128	399
RR	406	790	196	2,412	3,804
SF	700	4,169	552	827	6,248
UV	55	284	2	22	363
Total	**4,946**	**18,497**	**2,485**	**13,602**	**39,530**

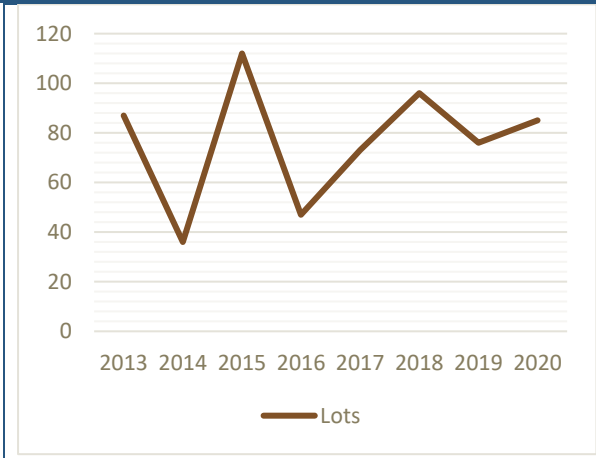
Table 25-9: Unincorporated Urban Pierce County 2020-2044 Employment Capacity (Jobs)

Zone	Vacant	Underutilized	Pipeline	Total
AC	184	580	0	764
CC	517	1,107	0	1,624
CE	1,724	2,279	129	4,132
CMUD	451	624	0	1,075
EBPC	0	0	2,347	2,347
EC	8,911	2,300	1,176	12,387
ES	0	8	0	8
HRD	0	8	0	8
HSF	0	41	0	41
MHR	0	54	33	87
MPC	0	0	0	0
MSF	0	1,327	1	1,328
MUC	0	64	0	64
MUD	0	1,471	340	1,811
NC	0	997	0	997
OMUD	0	101	0	101
PI	0	0	0	0
RO	0	0	0	0
ROC	0	519	7	526
RR	0	202	0	202
SF	0	535	0	535
UV	0	672	59	731
Total	11,787	12,889	4,092	28,768

DEVELOPMENT TRENDS OUTSIDE THE URBAN GROWTH AREA

Platting Activity

Figure 25-F: Unincorporated Rural/Resource Lands Platting Trends



Plat Activity by Year

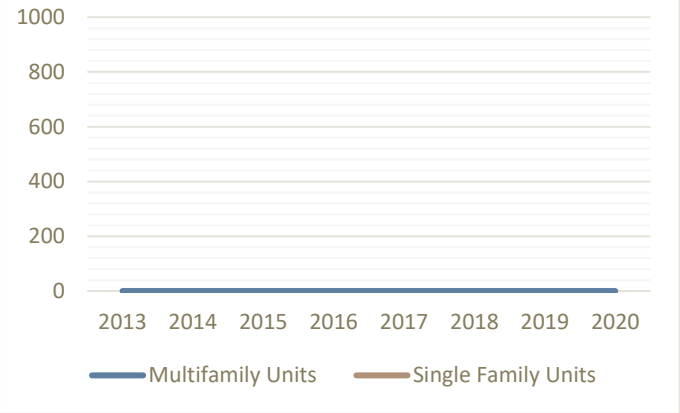
Year	Lots	Acres	Density
2013	87	226.95	0.38
2014	36	78.68	0.46
2015	112	29.66	3.78
2016	47	227.79	0.21
2017	73	322.34	0.23
2018	96	323.82	0.30
2019	76	392.19	0.19
2020	85	100.04	0.85
Total	**612**	**1,701.47**	**0.36**

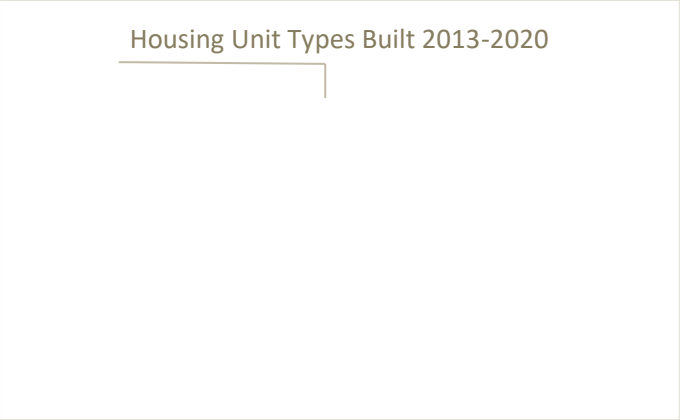
No plat deduction data: density in the rural area is calculated using gross acreage.

Sources: County Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Residential Building Trends

Figure 25-G: Unincorporated Rural/Resource Lands Residential Building Permit Trends





Multifamily Permits by Year

No multifamily development observed in the rural area.

Single Family Permits by Year (Optional)

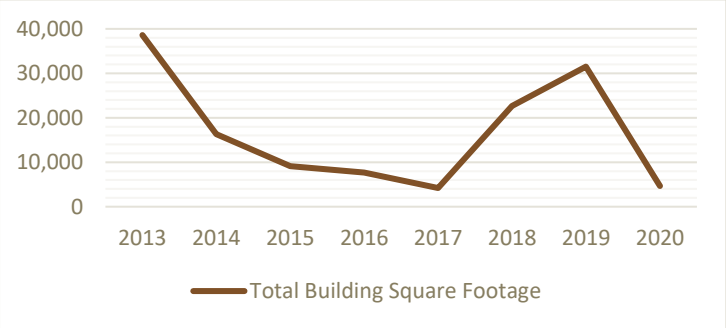
Year	Lots	Acres	Avg. Lot Size
2013			
2014			
2015			
2016			
2017			
2018			
2019			
2020			
Total			

*Single family permits are still under review and will be available in a future version of the report.

Sources: County Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

Non-residential Building Trends

Figure 25-H: Unincorporated Rural/Resource Lands Non-residential Permit Trends



Year	Acres	Bldg. SF	FAR
2013	33.56	38,605	0.03
2014	5.54	16,306	0.07
2015	21.27	9,148	0.01
2016	0.90	7,700	0.20
2017	4.75	4,200	0.02
2018	414.07	22,668	0.00
2019	6.08	31,511	0.12
2020	1.02	4,652	0.10
Total	487.19	134,790	0.01

Sources: County Permit Data, Pierce County Assessor-Treasurer Tax Parcels, Puget Sound Regional Council Housing Unit Permit Database.

SECTION IV: APPENDICES

Appendix A: Full Data, Calculation Tables, and Maps

Appendix B: Buildable Lands Inventory Process

Appendix C: Employment Density Survey

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Appendix A: Full Data, Calculation Tables, and Maps

The following sections document the base inventory for the capacity calculations and the calculation tables used to determine the capacity of land suitable for development. The calculations are performed within an excel spreadsheet using the formula base shown in Appendix Figure 1 on the following page. Each zone's assumptions are documented in the "Assumption" columns on the table. The resulting acreage or unit/job deductions/additions based on the assumptions are documented in the "Calculation" columns on the table.

It is important to note that this calculation process differs from previous reports that added the displaced units and jobs back into the housing and employment needs, and instead reduces those units and jobs from the capacity itself. The calculation tables were also provided separately in previous reports and have been combined in this report to consolidate the information.

An interactive version of the hard-copy maps displayed in this section is available at https://piercecowa.maps.arcgis.com/apps/webappviewer/index.html?id=f662a8103cd3441bb169e013c03c4fef.

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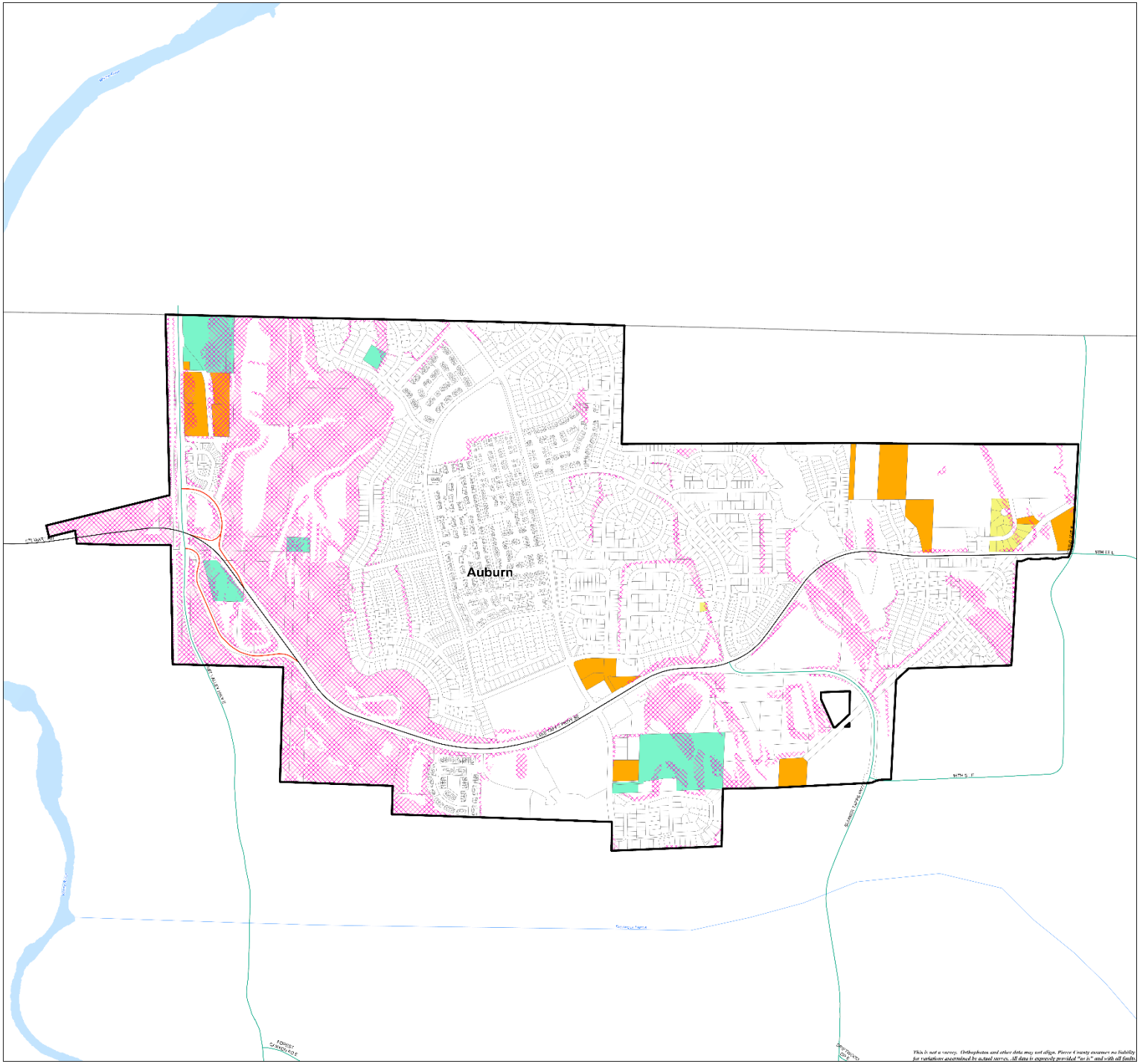
Appendix Figure 1: Capacity Calculation Spreadsheet Formulas

	A	B	C	D	E
1	Assumptions and Capacity Calculations		Zone (ZN)		
2			Vacant		Underutilized
3	Gross Acres		INPUT ACRES FROM INVENTORY		INPUT ACRES FROM INVENTORY
4	Net Acres (minus critical areas)		INPUT ACRES FROM INVENTORY		INPUT ACRES FROM INVENTORY
5	Net Acres with Infrastructure Gaps		INPUT ACRES FROM INVENTORY		INPUT ACRES FROM INVENTORY
6	Displaced Housing Units				INPUT EXISTING UNITS FROM INVENTORY
7	Displaced Estimated Jobs				INPUT EXISTING JOBS FROM INVENTORY
8	Housing Capacity Calculations	Assumption	Calculation	Assumption	Calculation
9	Residential Acreage	INPUT % ASSUMPTION	=ROUND(C4*B9,2)	INPUT % ASSUMPTION	=ROUND(E4*D9,2)
10	Infrastructure Gap Residential Deduction	INPUT % ASSUMPTION	=ROUND(C5*B10,2)	INPUT % ASSUMPTION	=ROUND(E5*D10,2)
11	Adjusted Residential Acreage		=C9-C10		=E9-E10
12	Roads Deduction	INPUT % ASSUMPTION	=ROUND(C$11*B12,2)	INPUT % ASSUMPTION	=ROUND(E$11*D12,2)
13	Critical Area Deduction (only if %)	INPUT % ASSUMPTION	=ROUND(C$11*B13,2)	INPUT % ASSUMPTION	=ROUND(E$11*D13,2)
14	Parks/Open Space Deduction	INPUT % ASSUMPTION	=ROUND(C$11*B14,2)	INPUT % ASSUMPTION	=ROUND(E$11*D14,2)
15	Stormwater Deduction	INPUT % ASSUMPTION	=ROUND(C$11*B15,2)	INPUT % ASSUMPTION	=ROUND(E$11*D15,2)
16	Adjusted Residential Net Acres		=C11-C12-C14-C15-C13		=E11-E12-E14-E15-E13
17	Non-Residential Deduction	INPUT % ASSUMPTION	=ROUND(C$16*B17,2)	INPUT % ASSUMPTION	=ROUND(E$16*D17,2)
18	Public Facilities Deduction	INPUT % ASSUMPTION	=ROUND(C$16*B18,2)	INPUT % ASSUMPTION	=ROUND(E$16*D18,2)
19	Residential Market Factor Deduction	INPUT % ASSUMPTION	=ROUND(C$16*B19,2)	INPUT % ASSUMPTION	=ROUND(E$16*D19,2)
20	Final Residential Net Acres		=C16-C17-C18-C19		=E16-E17-E18-E19
21	Vacant/Underutilized Housing Unit Capacity	INPUT UNIT/ACRE ASSUMPTION	=ROUND(C20*B21,0)	INPUT UNIT/ACRE ASSUMPTION	=ROUND(E20*D21,0)
22	Vacant Single Unit Addition		0		
23	Pipeline Unit Addition		0		0
24	Adjusted Displaced Unit Deduction	=ROUND(SUM(C33,C20)/C3,2)		=ROUND(SUM(E33,E20)/E3,2)	=ROUND(E6*D24,0)
25	Total Housing Capacity	=C21+C22+C23		=E21+E23-E24	
26	Employment Capacity Calcuations				
27	Non-residential Acreage	INPUT % ASSUMPTION	=ROUND(C3*B27,2)	INPUT % ASSUMPTION	=ROUND(E3*D27,2)
28	Infrastructure Gap Non-residential Deduction	INPUT % ASSUMPTION	=ROUND(C5*B28,2)	INPUT % ASSUMPTION	=ROUND(E5*D28,2)
29	Adjusted Non-residential Acreage		=C27-C28		=E27-E28
30	Public Facilities Deduction	INPUT % ASSUMPTION	=ROUND(C$29*B30,2)	INPUT % ASSUMPTION	=ROUND(E$29*D30,2)
31	Non-residential Market Factor Deduction	INPUT % ASSUMPTION	=ROUND(C$29*B31,2)	INPUT % ASSUMPTION	=ROUND(E$29*D31,2)
32	Non-Residential in Residential Addition		=C17		=E17
33	Final Non-residential Net Acres		=C29-C30-C31+C32		=E29-E30-E31+E32
34	Vacant/Underutilized Job Capacity	INPUT JOB/ACRE ASSUMPTION	=ROUND(C33*B34,0)	INPUT JOB/ACRE ASSUMPTION	=ROUND(E33*D34,0)
35	Pipeline Job Addition				0
36	Adjusted Displaced Jobs Deduction	=ROUND(SUM(C33,C20)/C3,2)		=ROUND(SUM(E33,E20)/E3,2)	=ROUND(E7*D36,0)
37	Total Employment Capacity	=C34+C35		=E34+E35-E36	

Note: If a jurisdiction uses a gross calculation for density, the gross and net acres will show as equal.

DRAFT NOTE: SEE EXCEL CALCULATION TABLES FOR MOST UP-TO-DATE DATA. TABLES IN THE REPORT WILL BE FILLED OUT ONCE THE DATA IS FINALIZED.

DRAFT



Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.15 0.3 0.45 0.6 Miles

CITY OF AUBURN (PIERCE COUNTY AREA)

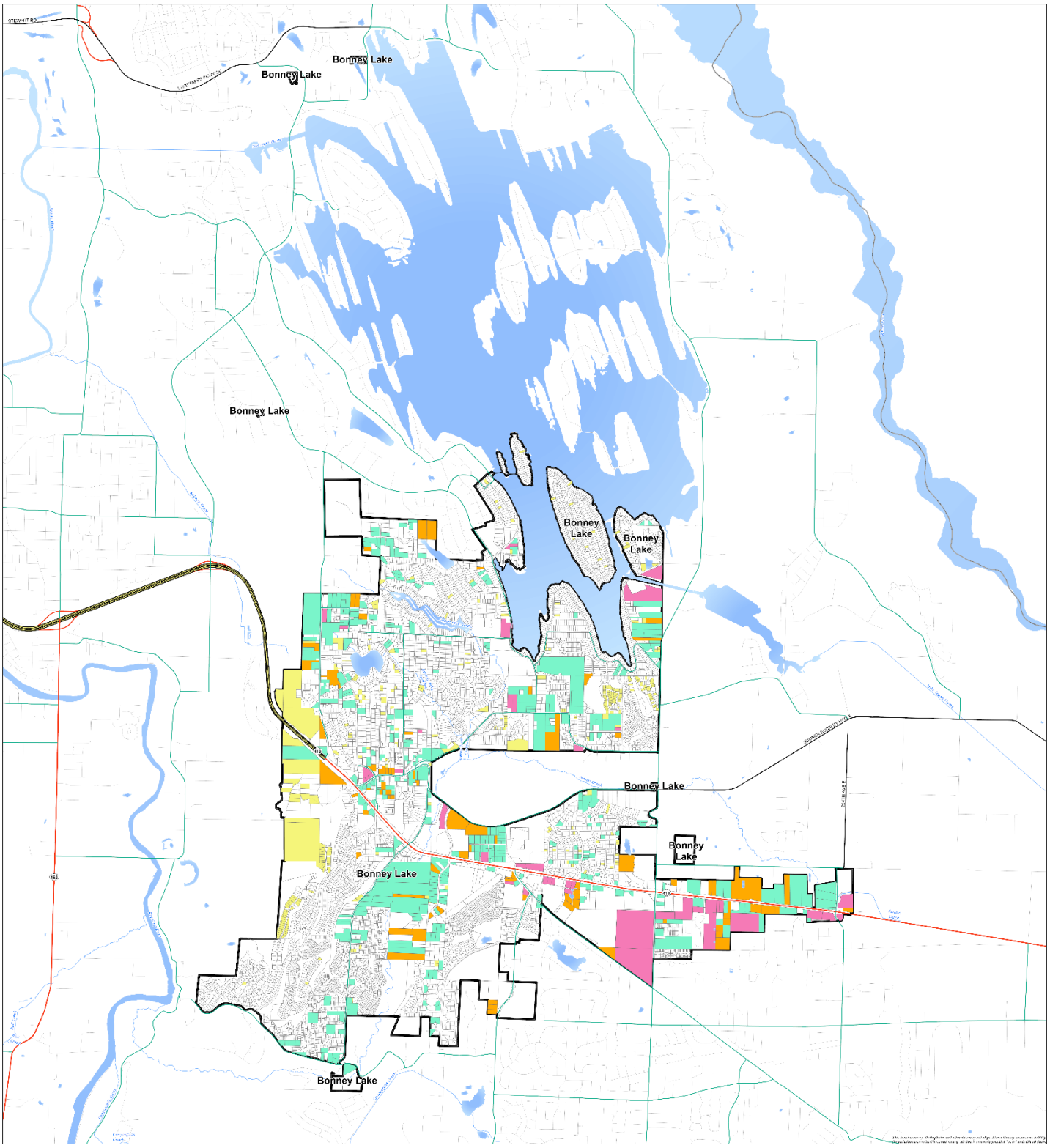
Pierce County

N W E S

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.55 1.1 1.65 2.2 Miles

CITY OF BONNEY LAKE

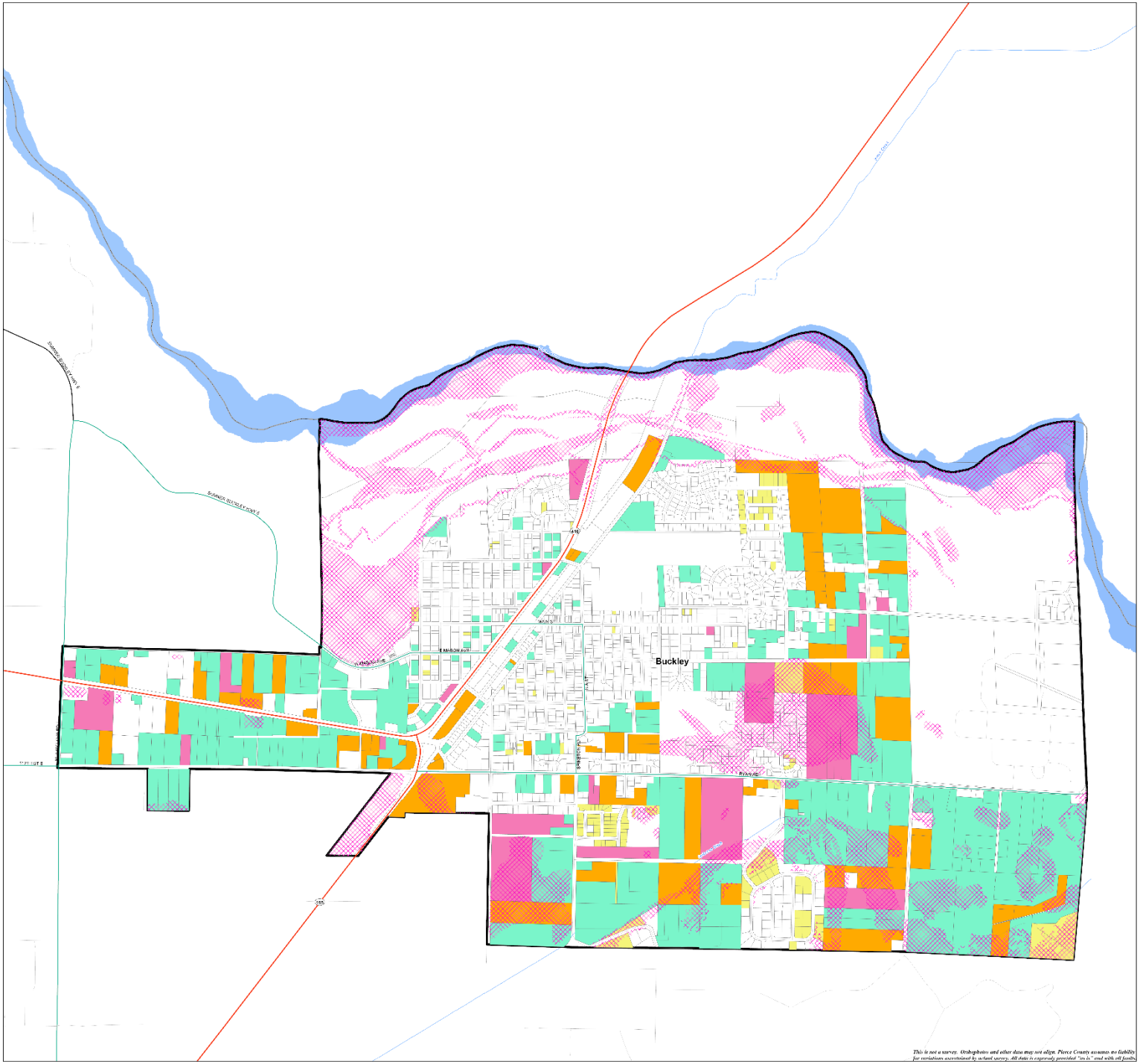
Pierce County

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.2 0.4 0.6 0.8 Miles

CITY OF BUCKLEY

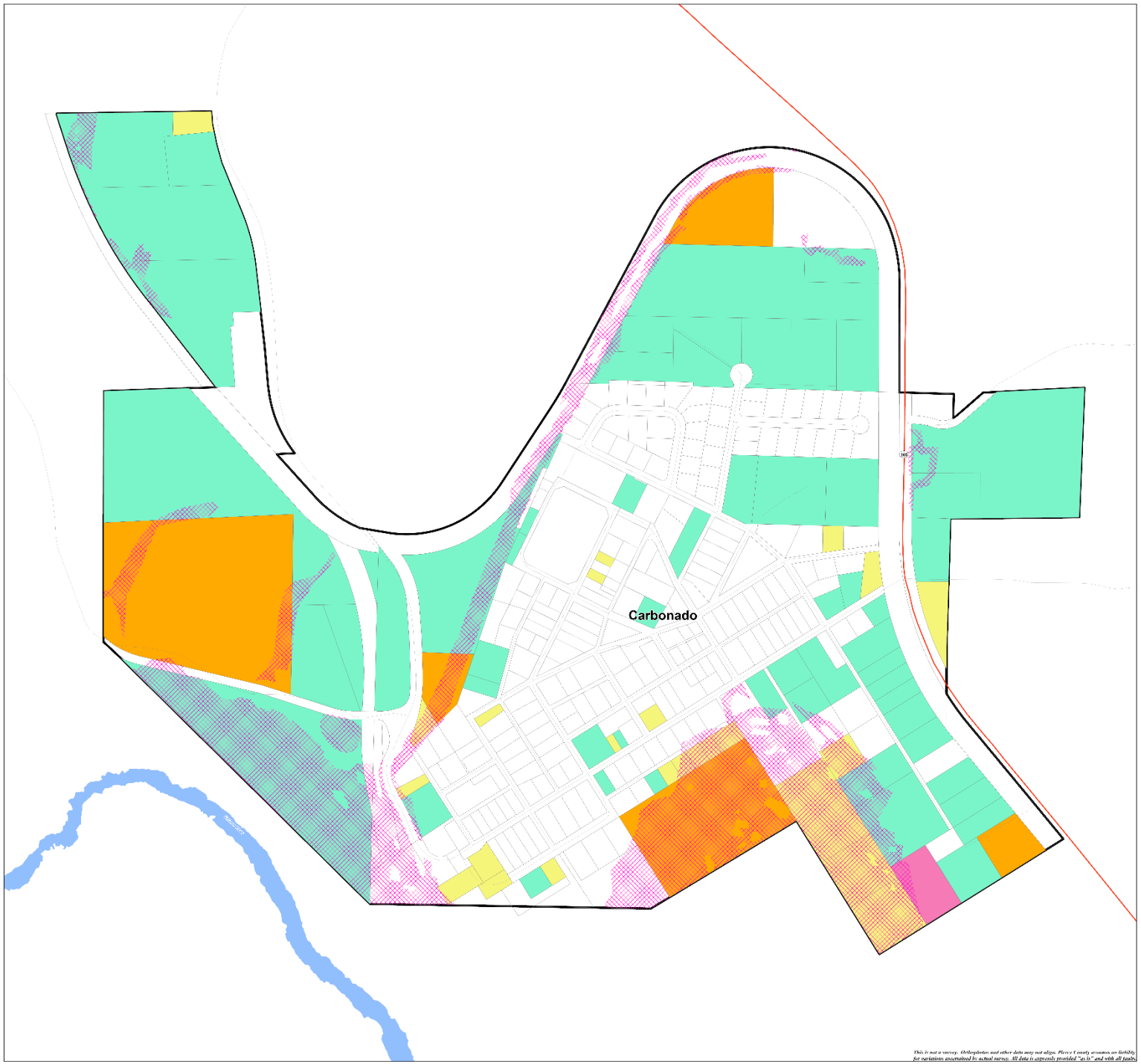
Pierce County

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.07 0.13 0.2 0.26 Miles

TOWN OF CARBONADO

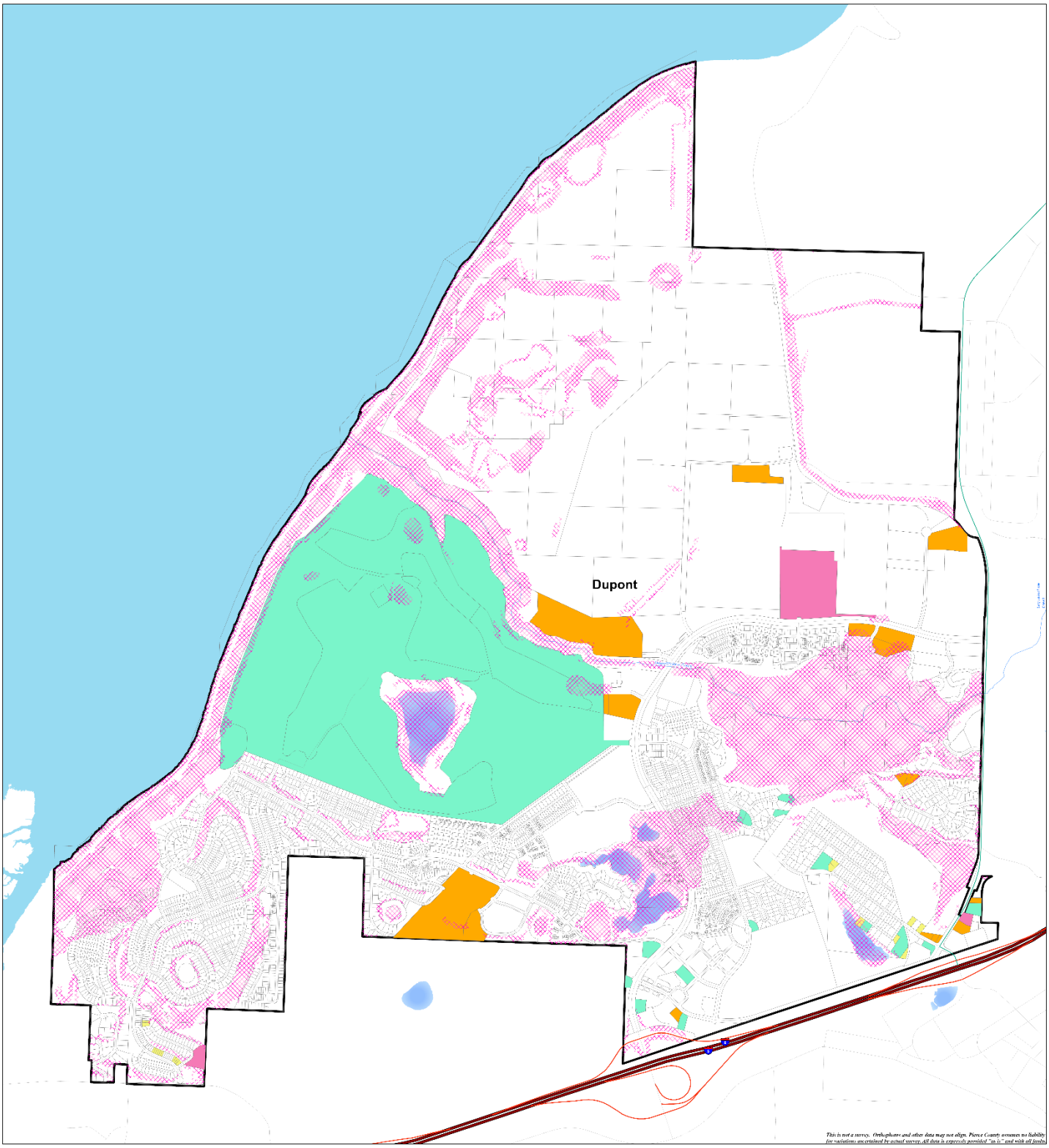
Pierce County

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.25 0.5 0.75 1 Miles

CITY OF DUPONT

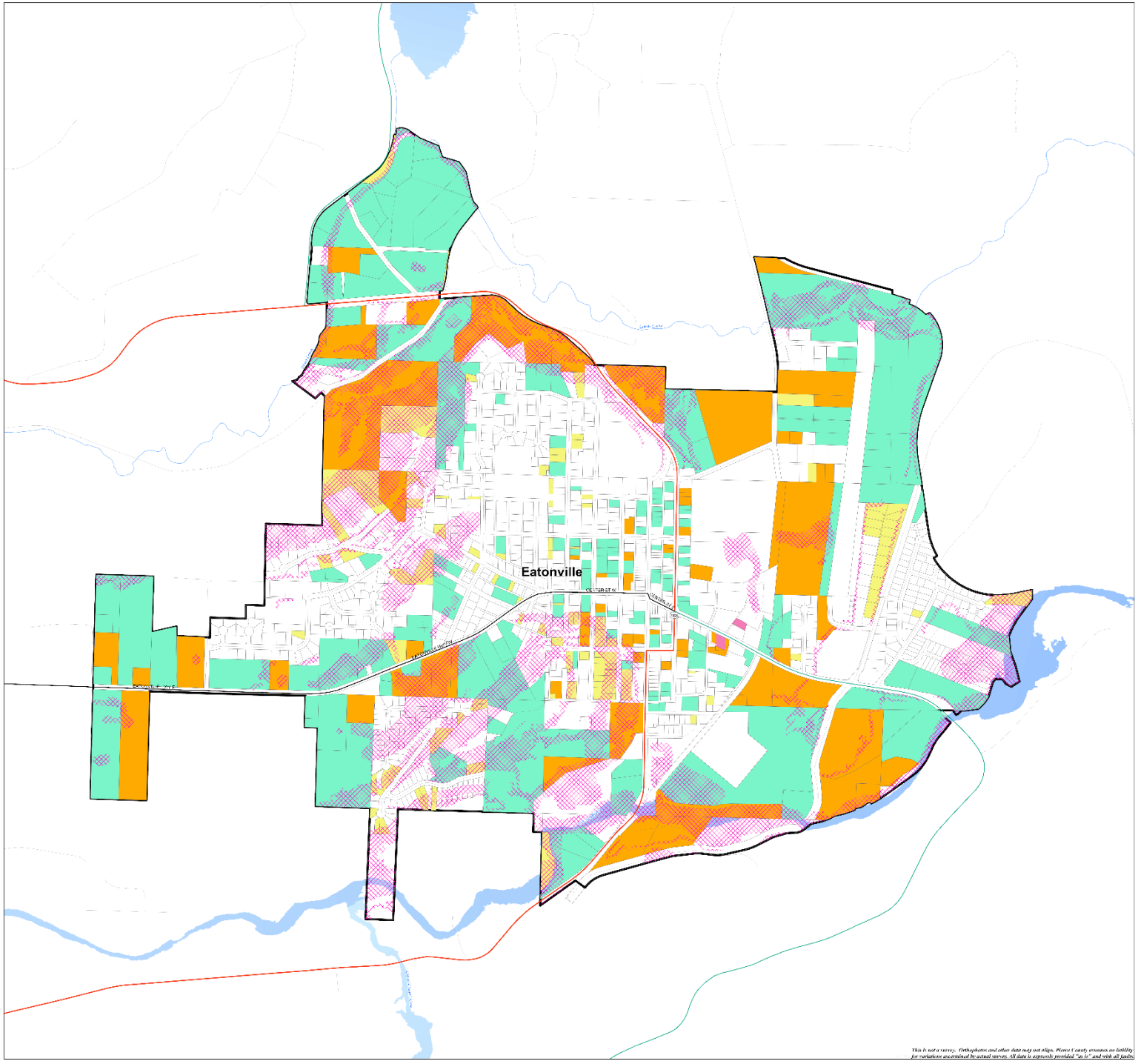
Pierce County

Buildable Lands Report

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Buildable Lands Inventory - Parcels 2020

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

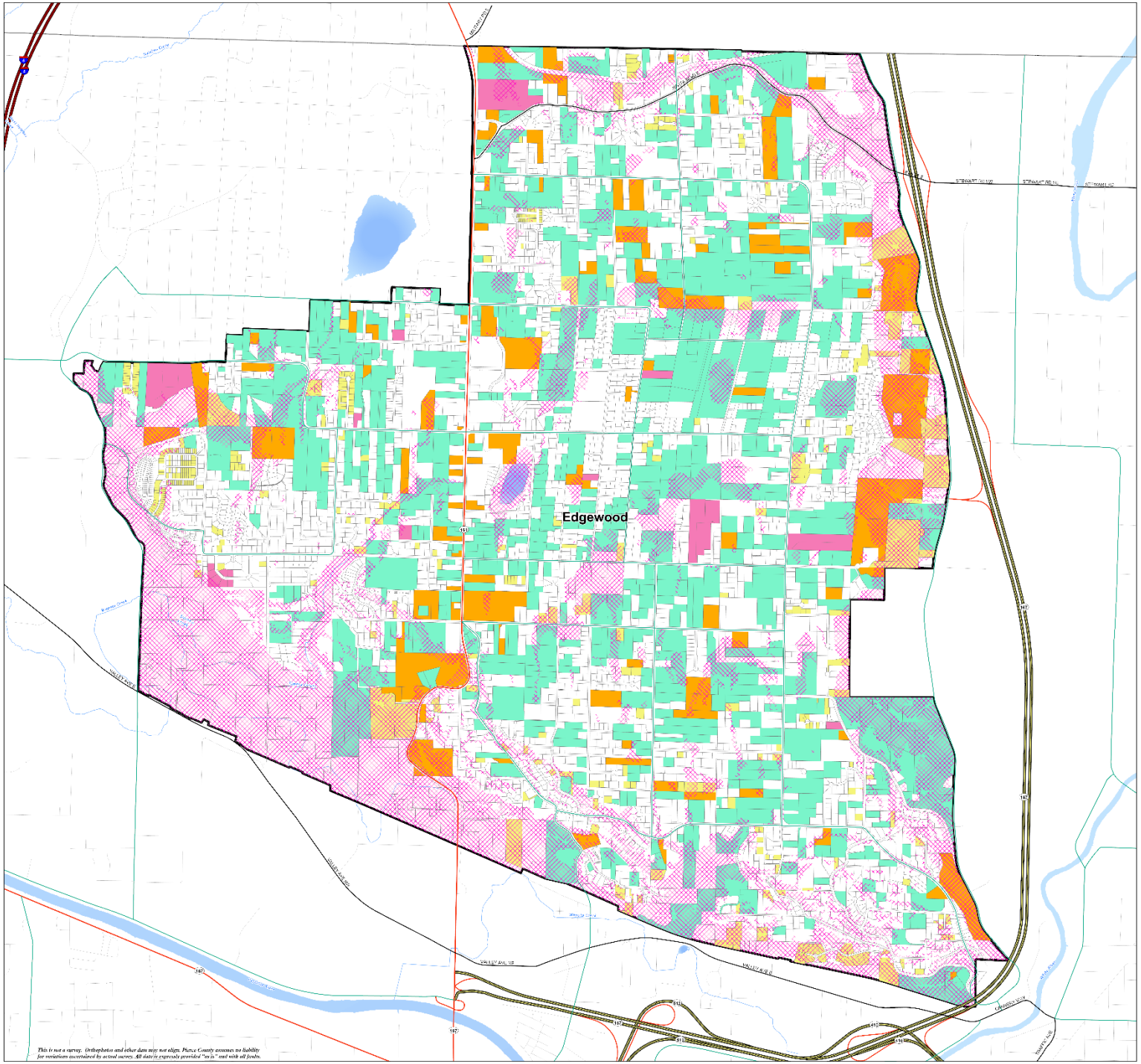
0 0.15 0.3 0.45 0.6 Miles

TOWN OF EATONVILLE

Pierce County

N W E S

Buildable Lands Report



Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.25 0.5 0.75 1 Miles

CITY OF EDGEWOOD

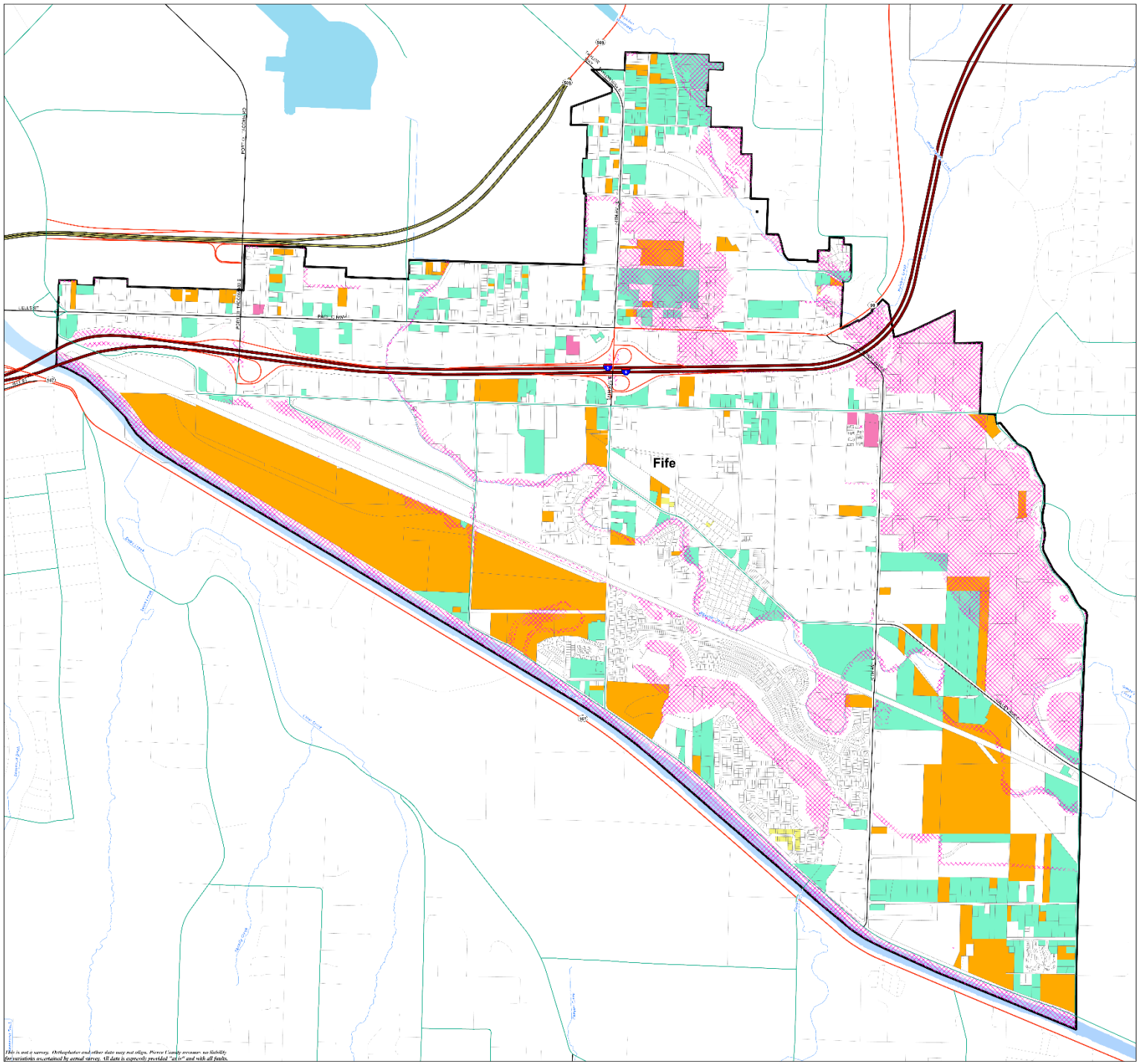
Pierce County

N W E S

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.13 0.25 0.5 0.75 1 Miles

CITY OF FIFE

Pierce County

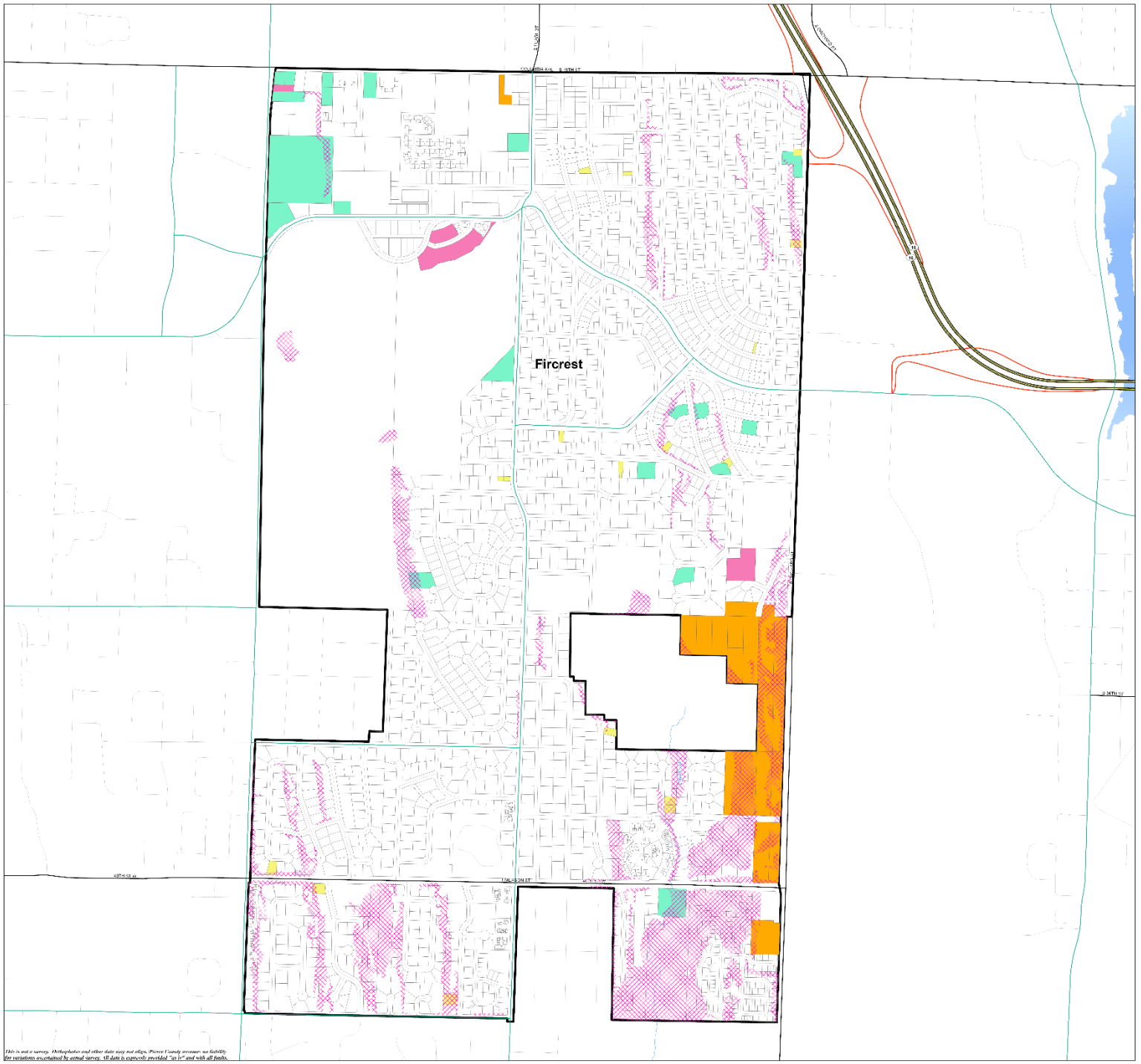
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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.1 0.2 0.3 0.4 Miles

CITY OF FIRCREST

Pierce County

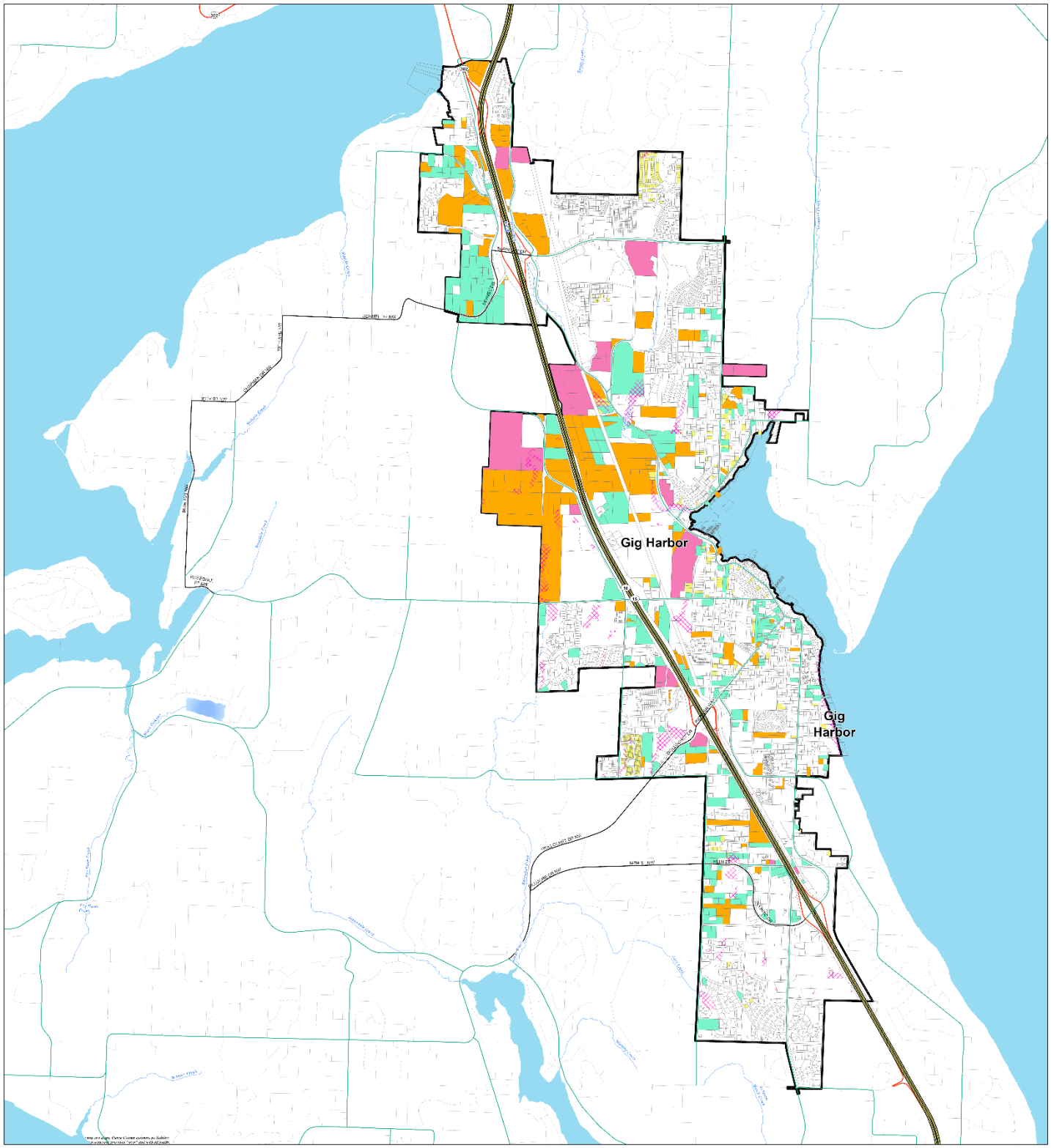
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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.5 1 1.5 2 Miles

CITY OF GIG HARBOR

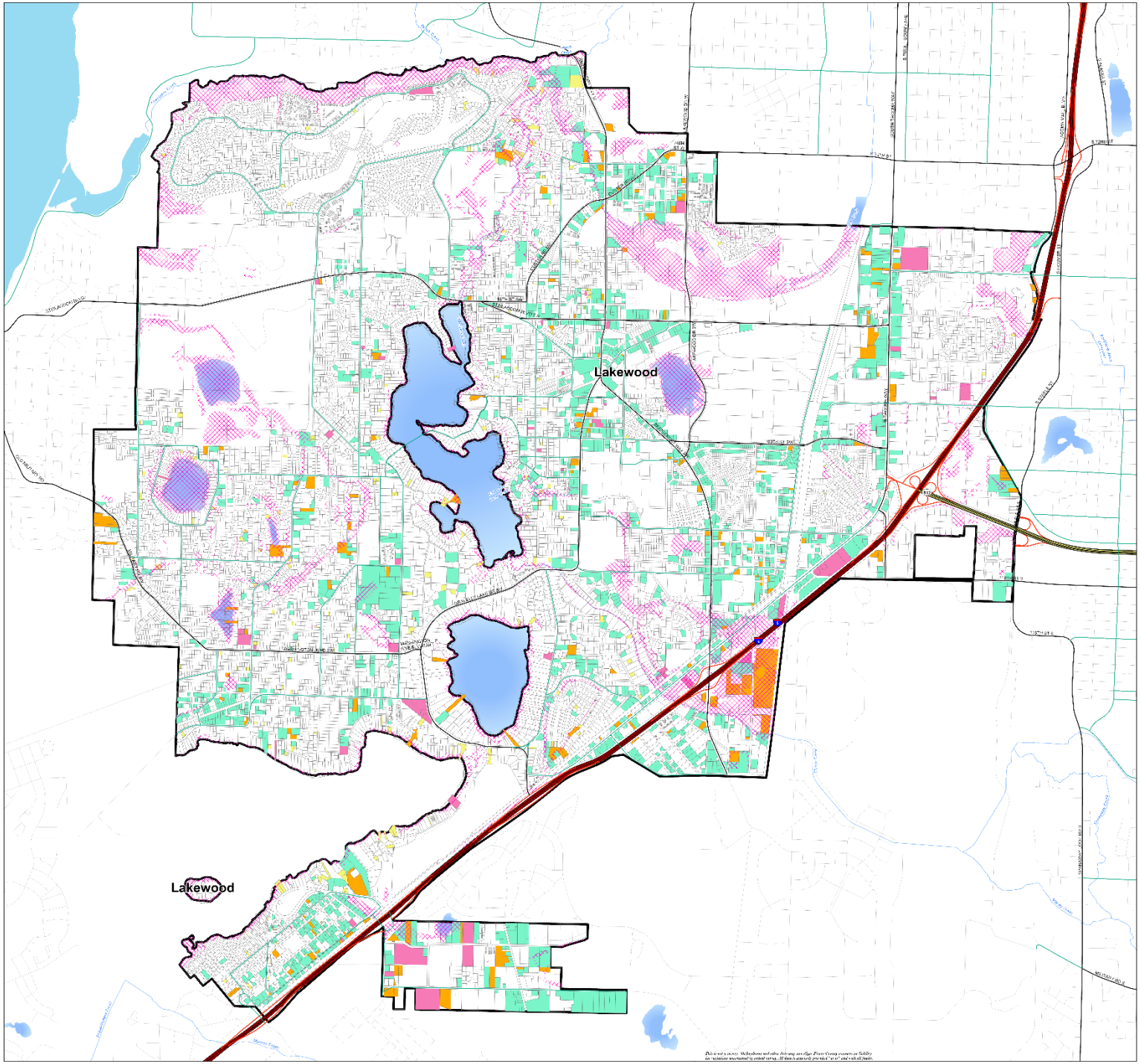
Pierce County

Buildable Lands Report

N W E S

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.2 0.4 0.8 1.2 1.6 Miles

CITY OF LAKEWOOD

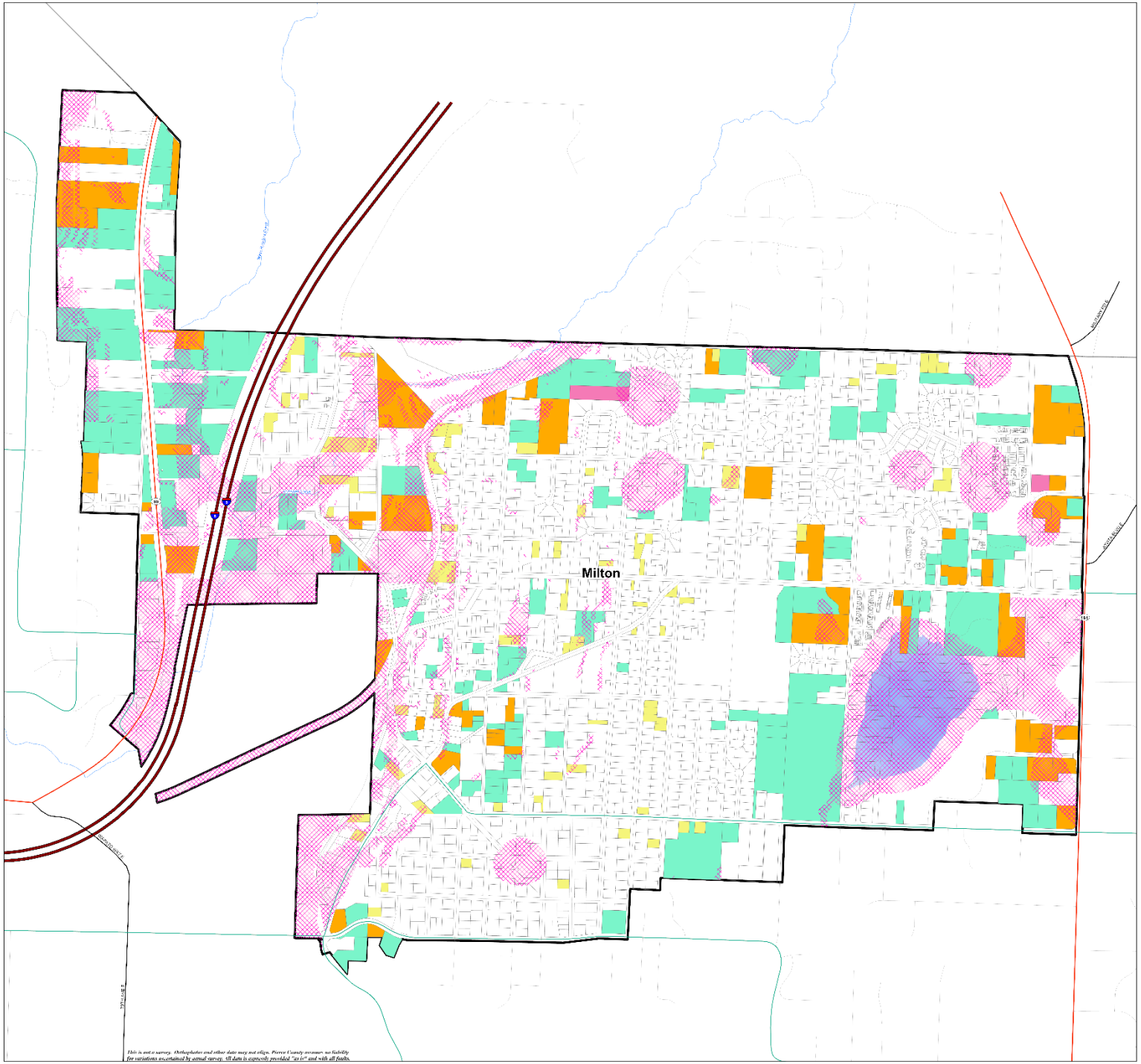
Pierce County

N W E S

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.15 0.3 0.45 0.6 Miles

CITY OF MILTON (PIERCE COUNTY AREA)

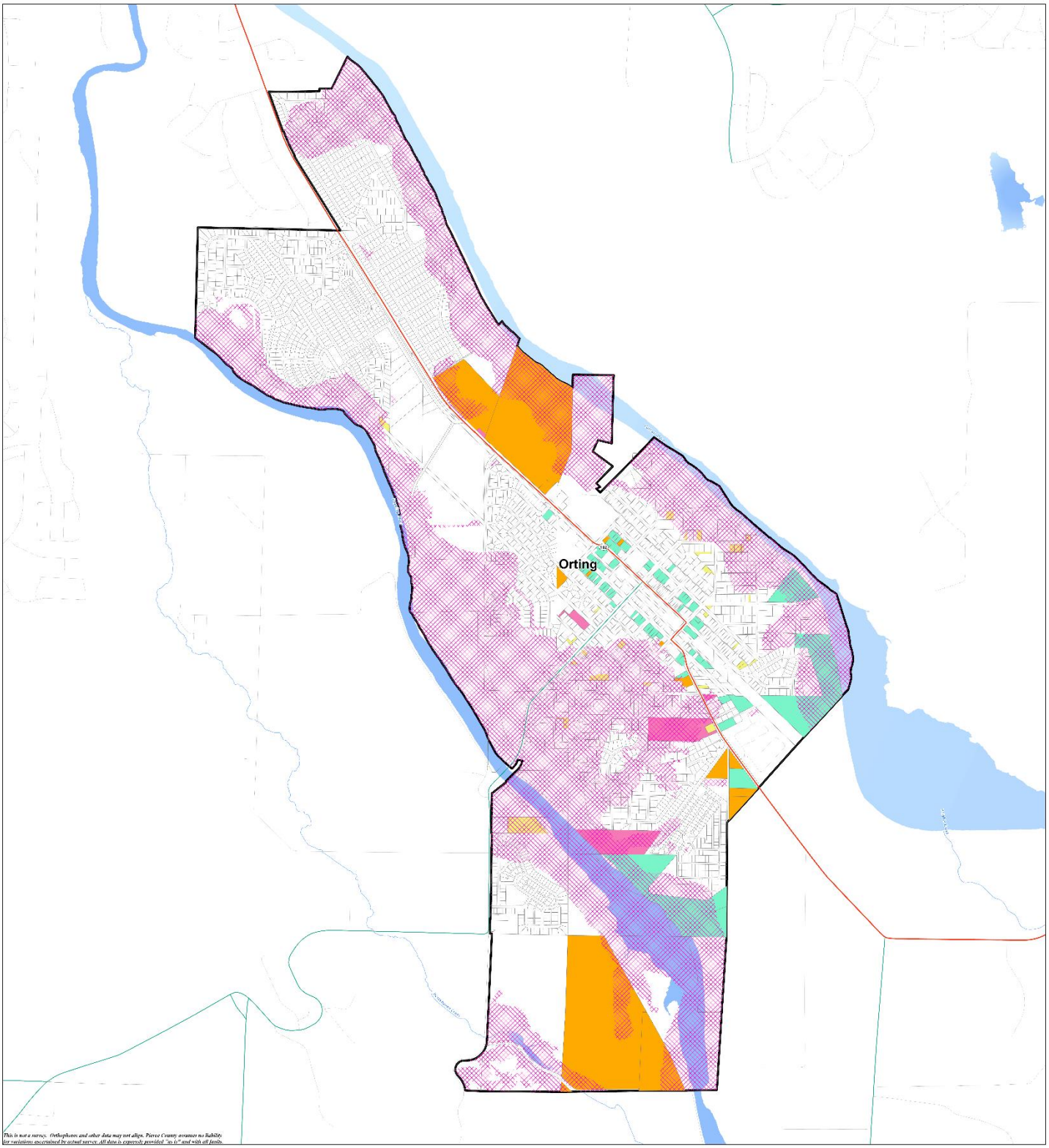
Pierce County

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.25 0.5 0.75 1 Miles

CITY OF ORTING

Pierce County

Buildable Lands Report

N W E S

Date exported: 8/1/2021 1:53 PM

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.1 0.19 0.29 0.38 Miles

CITY OF PACIFIC (PIERCE COUNTY AREA)

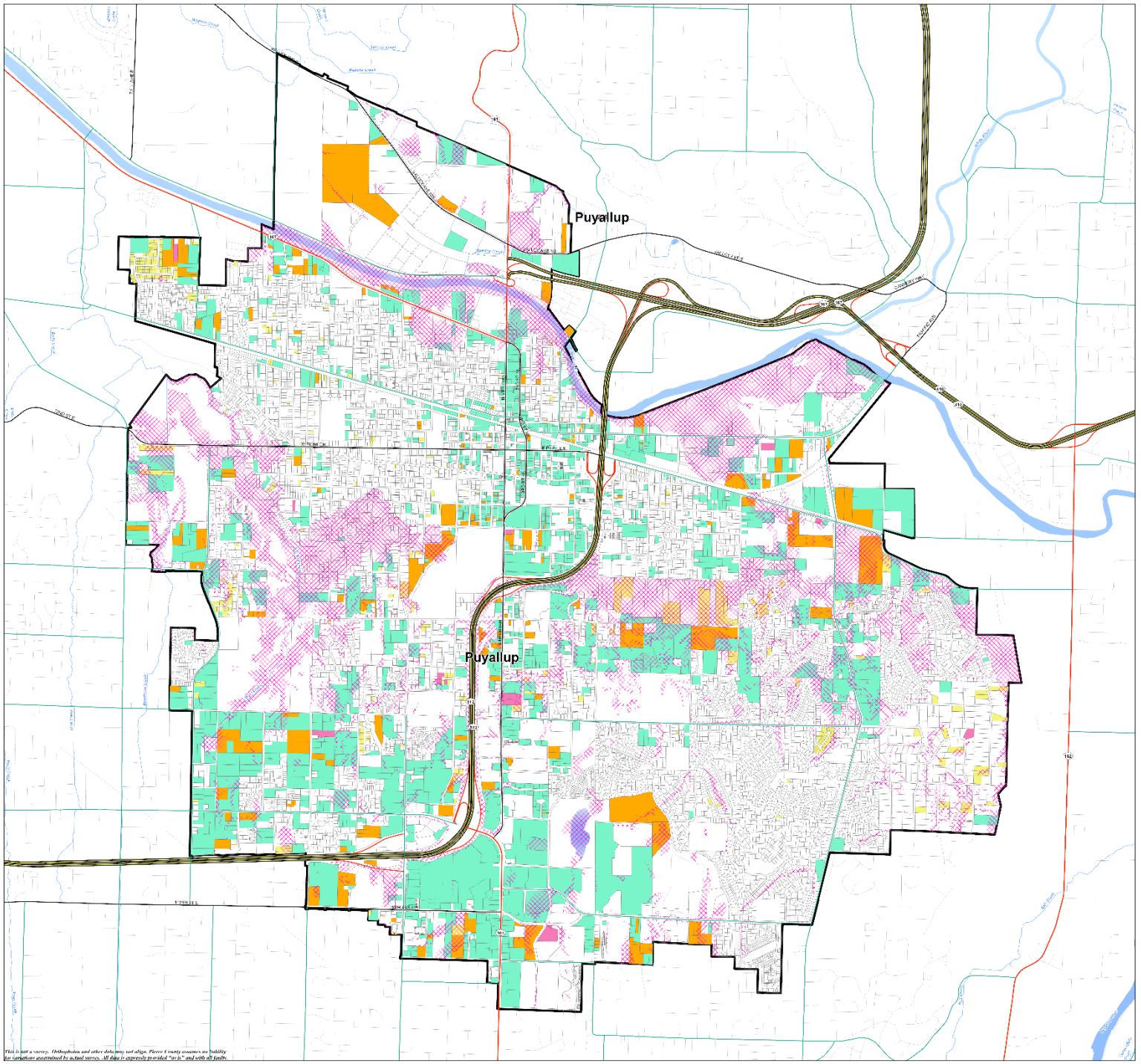
Pierce County

N W E S

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.4 0.8 1.2 1.6 Miles

CITY OF PUYALLUP

Pierce County

N W E S

Buildable Lands Report

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.1 0.2 0.3 0.4 Miles

CITY OF ROY

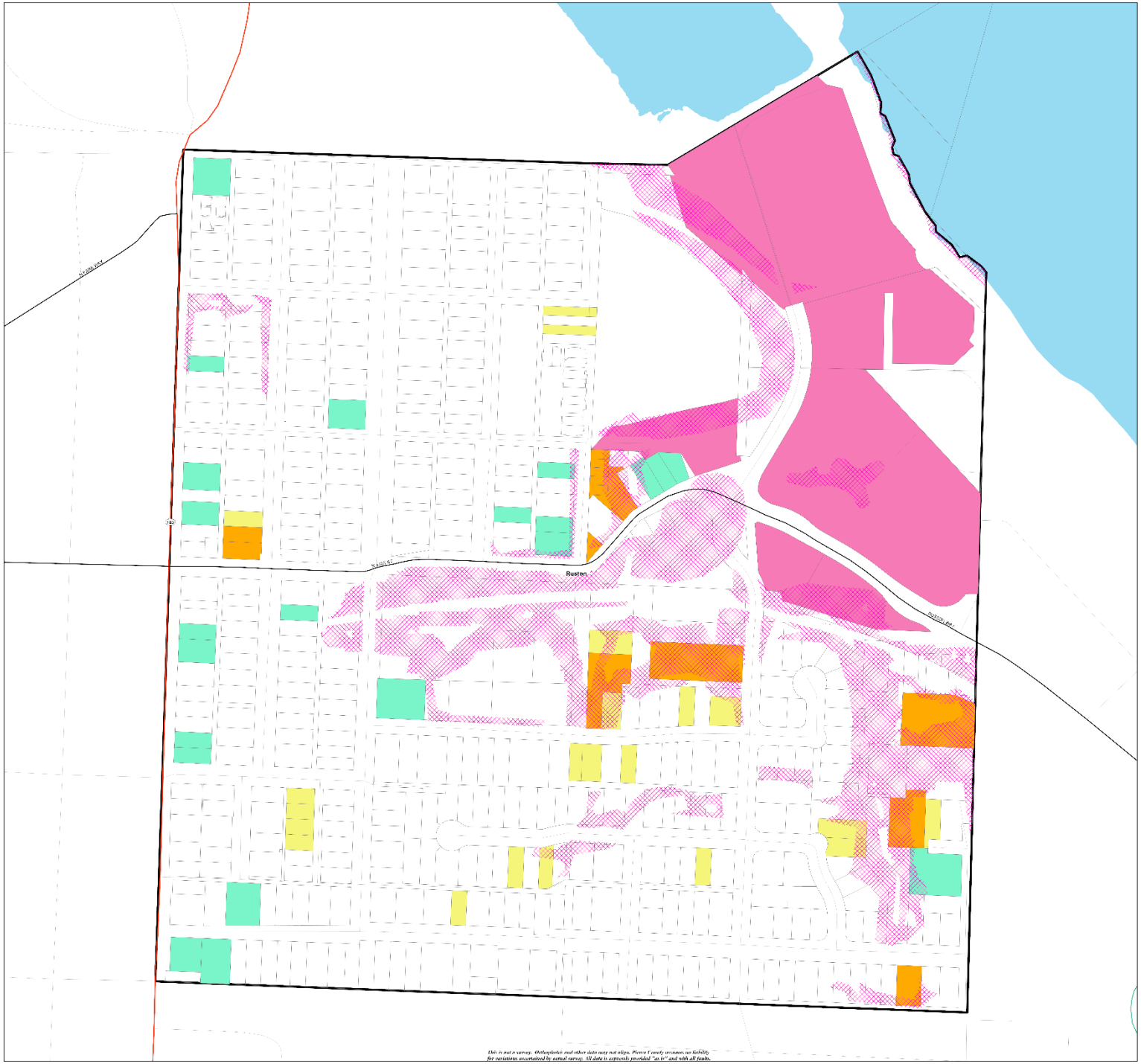
Pierce County

N W E S

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Cities in Pierce County



Pierce County, Washington

0 0.04 0.08 0.12 0.16 Miles

CITY OF RUSTON

Pierce County

N W E S

Buildable Lands Report

Date Exported: 8/17/2021 3:45 PM

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.06 0.12 0.18 0.24 Miles

TOWN OF SOUTH PRAIRIE

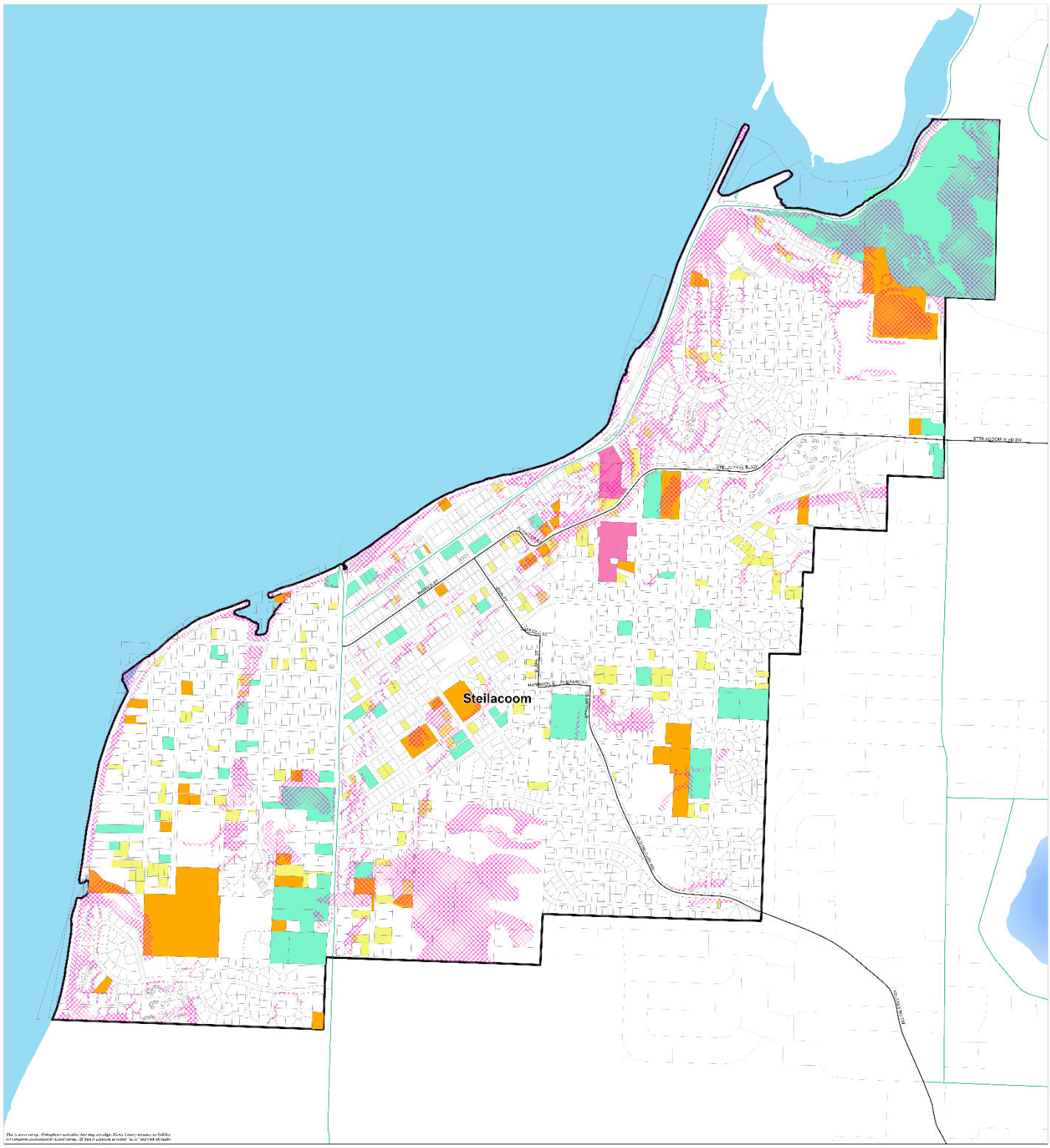
Pierce County

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.15 0.3 0.45 0.6 Miles

CITY OF STEILACOOM

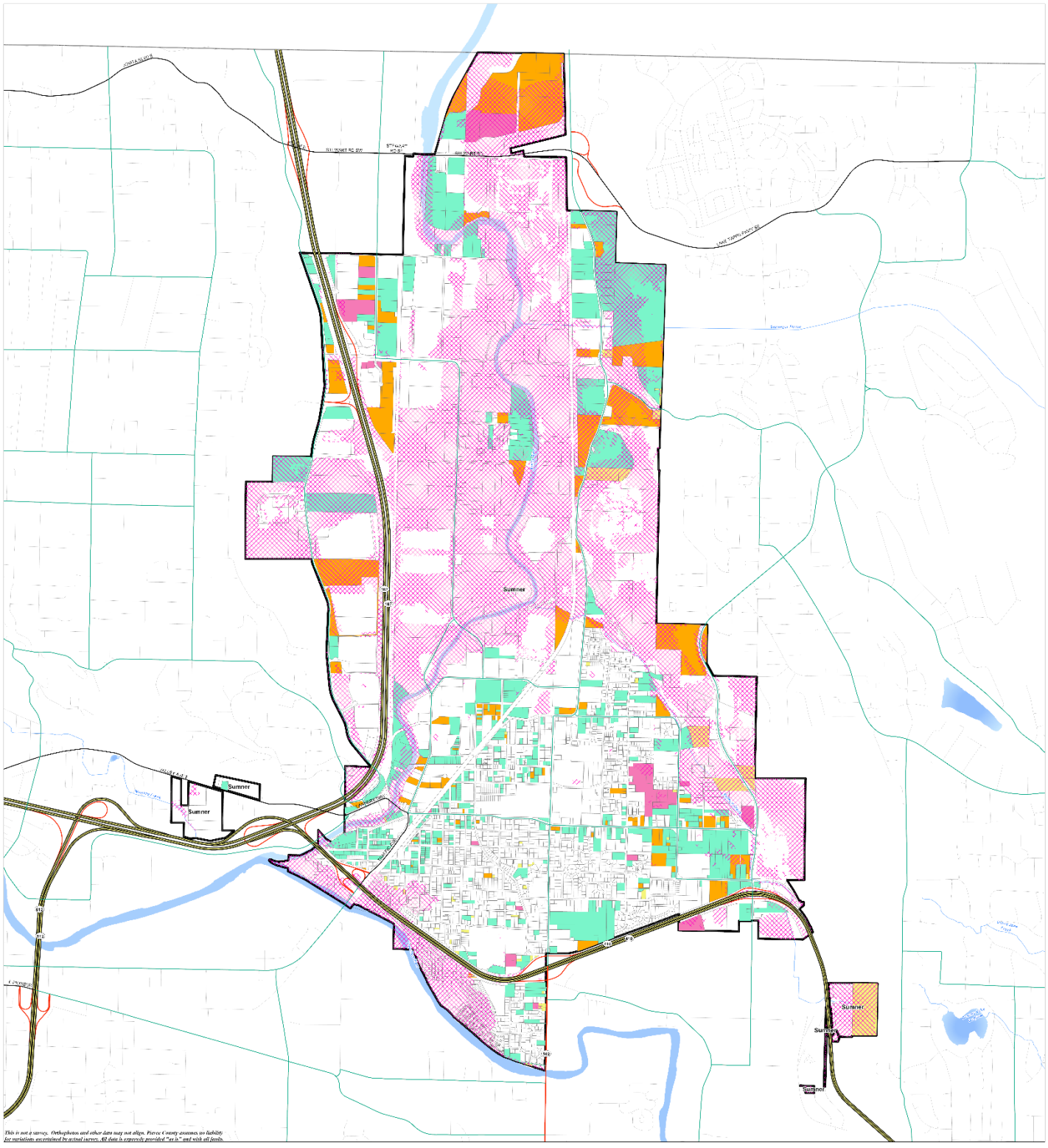
Pierce County

N W E S

Buildable Lands Report

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.2 0.4 0.8 1.2 1.6 Miles

CITY OF SUMNER

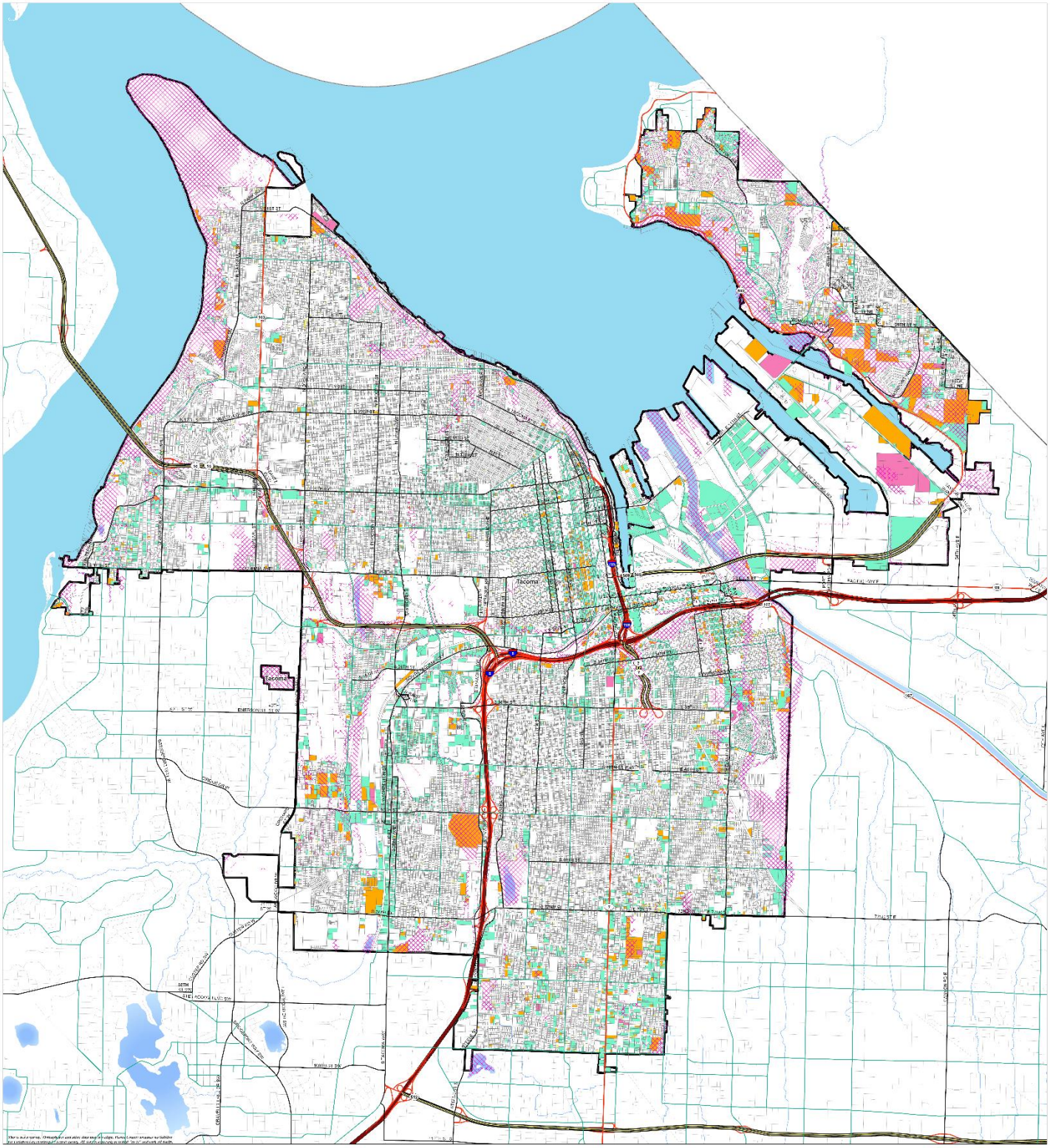
Pierce County

Buildable Lands Report

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Buildable Lands Inventory - 2020 Parcels

Built Out/Undevelopable

- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.45 0.9 1.8 2.7 3.6 Miles

CITY OF TACOMA

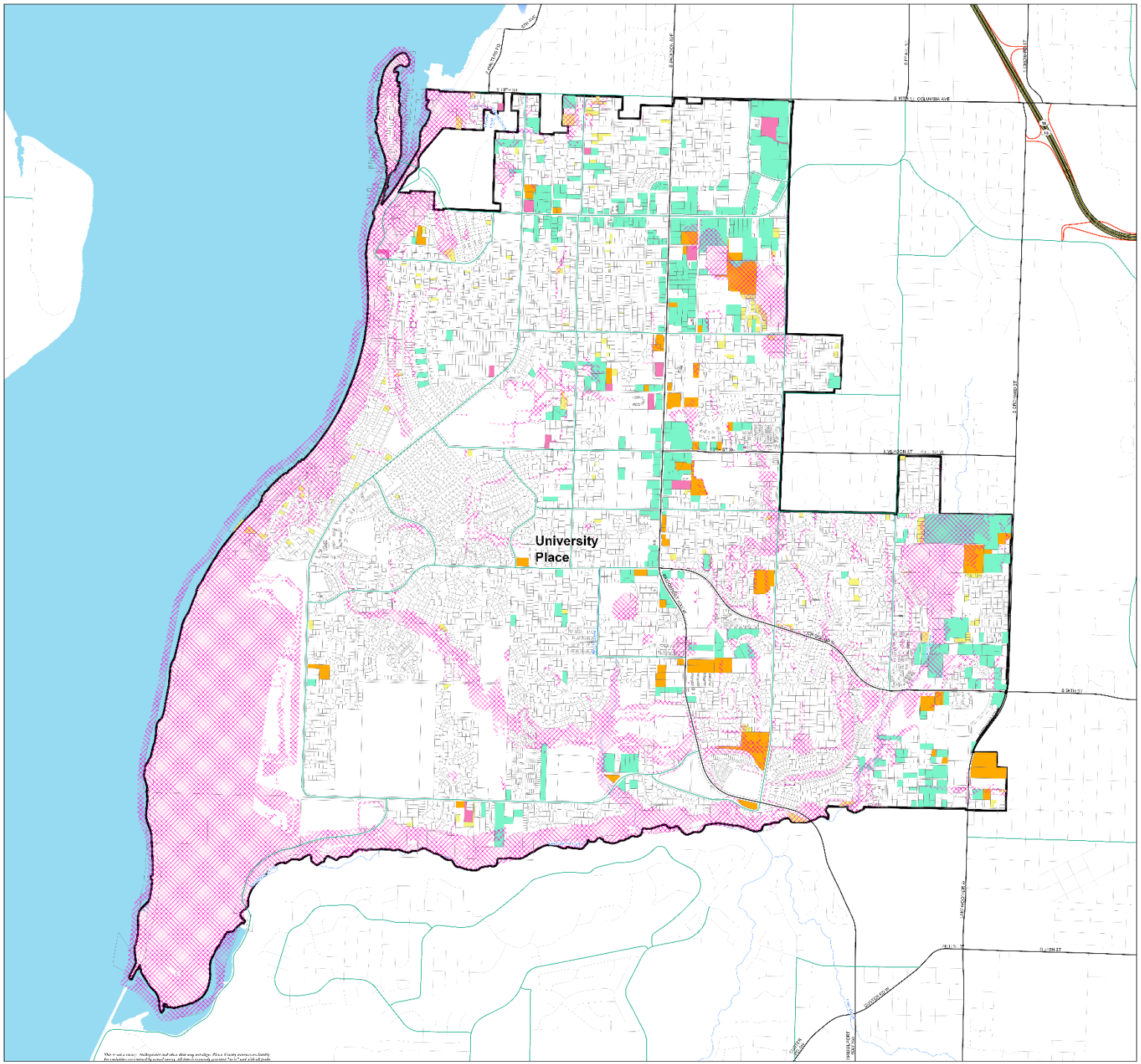
Pierce County

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.15 0.3 0.6 0.9 1.2 Miles

CITY OF UNIVERSITY PLACE

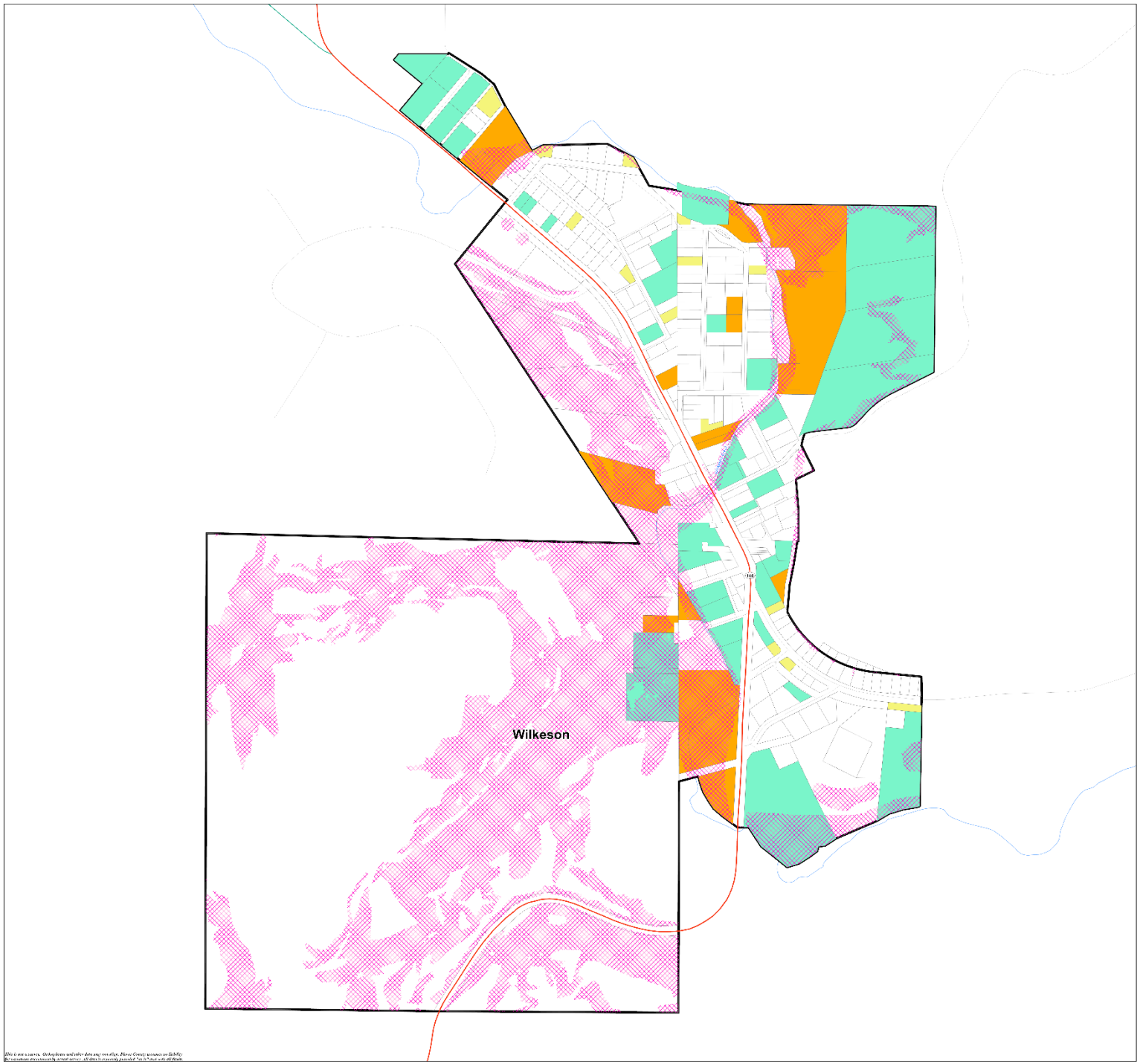
Pierce County

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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Municipal Boundary



Pierce County, Washington

0 0.08 0.16 0.24 0.32 Miles

TOWN OF WILKESON

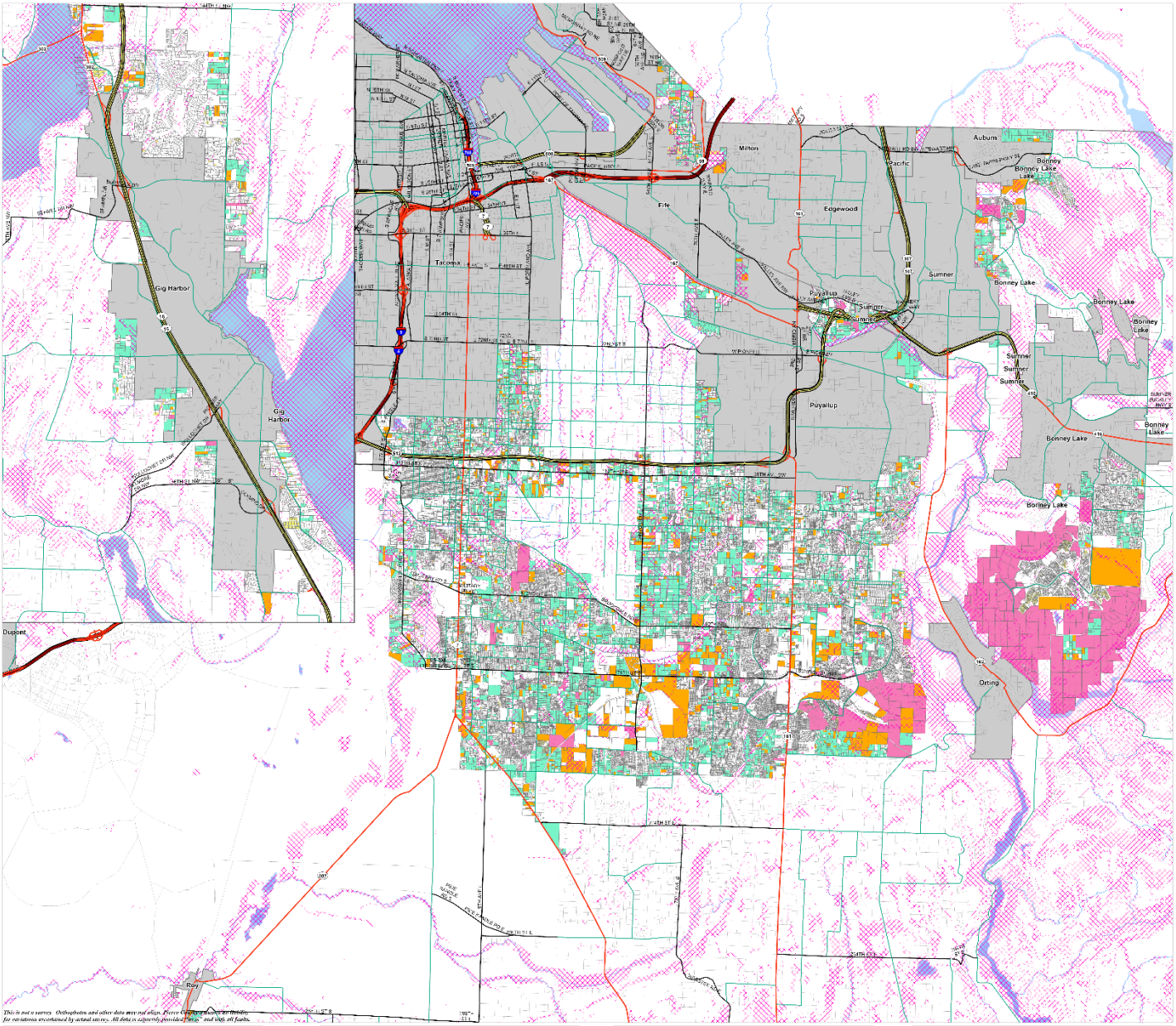
Pierce County

N W E S

Buildable Lands Report

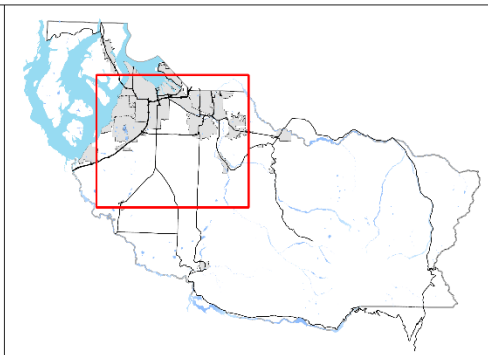
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Buildable Lands Inventory - 2020 Parcels

- Built Out/Undevelopable
- Pipeline
- Underutilized
- Vacant
- Vacant Single Unit
- Critical Areas
- Cities in Pierce County



Pierce County, Washington

0 1.5 3 4.5 6 Miles

UNINCORPORATED PIERCE COUNTY

Pierce County

Buildable Lands Report

N W E S

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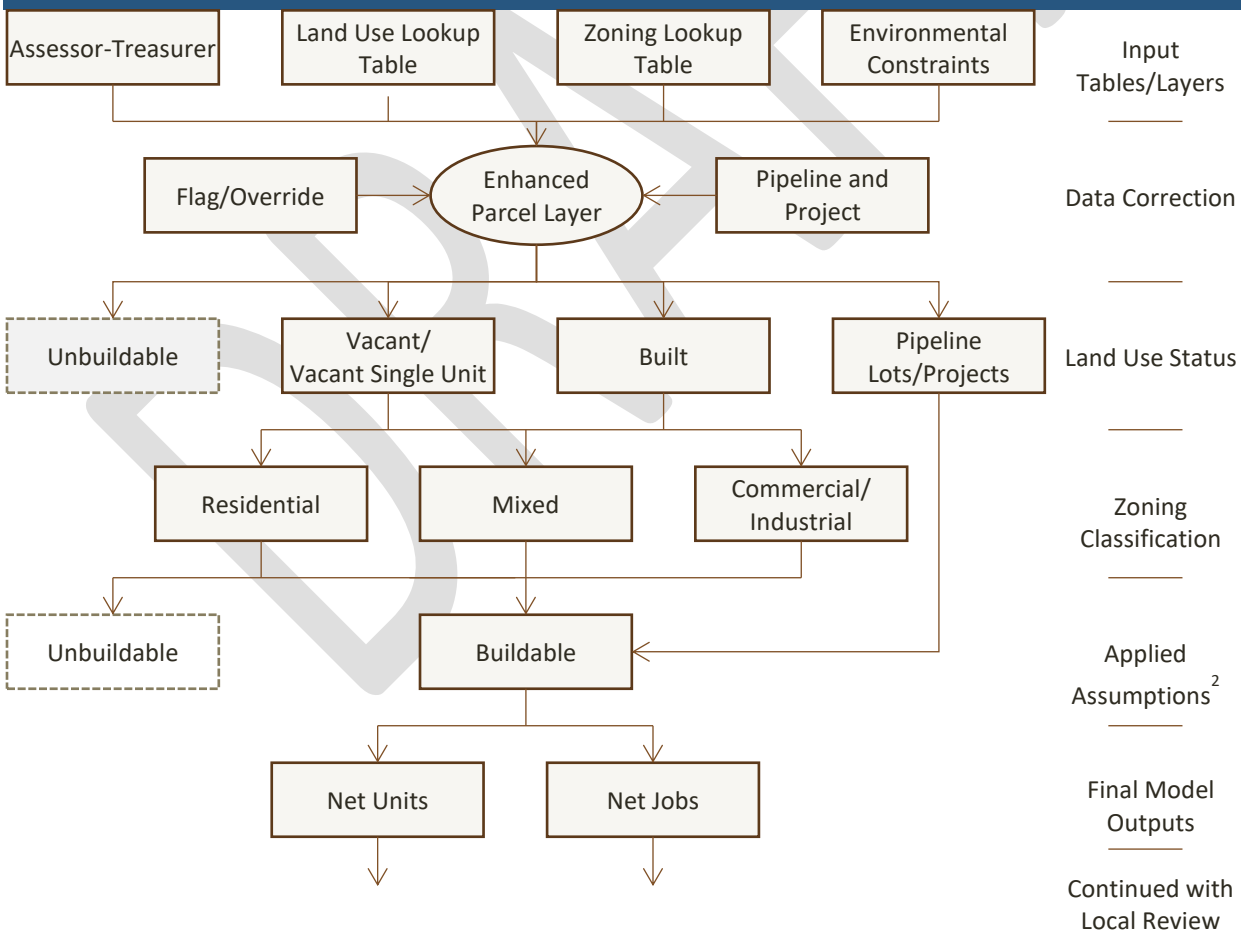
Appendix B: Buildable Lands Inventory Process

DATA INVENTORY

The process of buildable lands begins with assigning designations to parcels based on land use description. Parcels will be coded as vacant, potentially underutilized, unbuildable, or a special code for specific circumstance based on land use description. Certain land use codes that could be vacant will be marked for review by digital orthophoto to determine if they are vacant or not. This process is known as Stage 1A.

While vacant, vacant – single unit, and unbuildable are easily recognizable, underutilized lands require some definition and context. The underutilized category encompasses all parcels that could be further developed given market conditions. Thus, underutilized will capture parcels that have low densities for housing units or jobs that are assumed to have more capacity to accommodate population or employment growth. The following sections outline this process; text bodies contain the contextual information while the technical sequencing is displayed in bullets.

Appendix Figure 2: Buildable Lands Inventory Script Process



ESTIMATED NET UNITS AND JOBS

Net units and jobs are derived from the difference between the future estimated number of units and jobs respectively and the current baseline figures. These estimations are based on observed densities.

- For residential classifications future units equal the housing unit per acre assumption multiplied by the net acreage.
- For commercial and industrial classifications future jobs equal net acreage multiplied by the employees per acre density assumption.
- Residential net units equal the future residential units minus the 2020 inventoried units on the parcel.
- Commercial and industrial present jobs are calculated by parcel square feet divided by 500 for commercial and 900 for industrial.
- The net is then calculated by the present value subtracted from the future value.

INCLUSIONS AND EXCLUSIONS

Utilizing the classifications created in the first stage of this process, it was possible to manually search through selected fields and insert user overrides and special cases that need to be handled by the model separately. All of these classifications will be marked for inclusion or exclusion based on whether or not one could build upon them; hence those included are underutilized or vacant. Some parcels are locked at this stage so that the model ignores their land use type when calculating units and jobs. The model instead relies solely on the inventoried value supplied with the parcel itself. As an example, this occurs with pipeline projects which have a set number of future units.

- Query locks all pipeline parcels.
- Exclude all lots less than 3,000 net square feet, unless otherwise indicated by the jurisdiction.
- Exclude right of ways, narrow polygons, playgrounds, condos, some forms of government-owned lands, and marine areas.
- School sites are identified [this includes universities and colleges] and excluded.
- Vacant government parcels are included.
- Single-family residences on commercial, industrial, or mixed-use lands are included as underutilized.
- Exclude Joint Base Lewis-McChord parcels.
- Include/exclude manually corrected parcels.

REDEVELOPABLE EXCLUSIONS

Redevelopable exclusions provide another parameter which would exclude otherwise included parcels.

- If a single-family residence has an improvement value that is greater than or equal to $500,000 it is excluded.
- If a mobile home park, multifamily development, or commercial development has a value greater than or equal to $1,500,000 it is excluded.
- If a residential use has a future unit to base unit ratio less than 2.5 it is excluded.
- If a commercial use has a future job to existing estimated jobs ratio less than 5 it is excluded.

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UNIT AND JOB REVISIONS

This section determines the final net units and jobs based on certain market assumptions, presumably that for underutilized units and jobs there must be sufficient additional units or jobs respectively, in order for development to likely occur.

- Housing units are first tested to determine if their acreage meets the minimum size for single-family zones. Those that do not meet this minimum are given a final unit of 1.
- School sites are marked at zero units and jobs while school parcels outside of the school boundary are treated as the parcel provided units and jobs indicate.
- Pipeline projects are marked with recorded units and jobs.
- Pipeline single-family residences are marked as vacant single units.
- Test redevelopable parcels for jobs and units and if they are below the minimum size. The ratio between future and base must be at least 2.5 for units and 5.0 for jobs.

CATEGORIZING POTENTIALLY VACANT, UNDERUTILIZED, AND UNBUILDABLE LAND

Appendix Table 1 shows the Assessor-Treasurer's (ATR) land use descriptions used to categorize land within the Buildable Lands Model.

Appendix Table 1: Inventory Categories for Assessor-Treasurer Tax Parcel Use Codes

	Landuse Description	Use Type	Category	Use Code
1	AG NOT CURRENT USE	OTHERS	REDEVELOPABLE	8100
2	AG RELATED ACTIVITIES	FIRES	REDEVELOPABLE	8200
3	AIRCRAFT TRANSPORTATION	WTCU	AIRCRAFT LAND	4300
4	AMUSEMENTS	FIRES	REDEVELOPABLE	7300
5	APPAREL & FINISH MFG	MANU	REDEVELOPABLE	2300
6	APPAREL ACCSSRS RETAIL	RETAIL	REDEVELOPABLE	5600
7	APT CONDO HIGH RISE	RES CON	REDEVELOPABLE	1410
8	APT/CONDO 3 STOR OR LESS	RES CON	REDEVELOPABLE	1405
9	AUTO ACCESSORIES RETAIL	RETAIL	REDEVELOPABLE	5525
10	AUTO DLR NEW AND USED RETAIL	RETAIL	REDEVELOPABLE	5515
11	AUTO PARKING	OTHERS	REDEVELOPABLE	4600
12	AUTO REPAIR SERVICES	FIRES	REDEVELOPABLE	6410
13	AUTO WRECKING RETAIL	RETAIL	REDEVELOPABLE	5500
14	BANKS	FIRES	REDEVELOPABLE	6110
15	BAYS OR LAGOONS	NA	UNBUILDABLE	9330
16	BIG BOX POWER CTR	WTCU	REDEVELOPABLE	5350
17	BLDG MTRL FARM EQUIP RETAIL	RETAIL	REDEVELOPABLE	5200
18	BUSINESS SERVICES	FIRES	REDEVELOPABLE	6300
19	CAR WASH	FIRES	REDEVELOPABLE	6412
20	CEMETERIES	FIRES	UNBUILDABLE	6242

	Landuse Description	Use Type	Category	Use Code
21	CHEMICAL MFG	MANU	REDEVELOPABLE	2800
22	COMM LND WITH IMPROV LAND VAL ONLY	OTHERS	REDEVELOPABLE	9178
23	COMM LND WITH SFR	MIXED USE	REDEVELOPABLE	1197
24	COMM VAC LAND	VACANT COM	VACANT	9170
25	COMM VAC LND SP ENVIR APPR FILED	VACANT COM	VACANT	9174
26	COMMUNICATION	WTCU	REDEVELOPABLE	4700
27	CONTRACTOR SERVICES	FIRES	REDEVELOPABLE	6600
28	CONVEN STORE MAY HAVE GAS	RETAIL	REDEVELOPABLE	5410
29	CREDIT UNIONS	FIRES	REDEVELOPABLE	6120
30	CU FARM & AGRI RCW 84.34 CURRENT USE	RCW LANDS	UNBUILDABLE	8300
31	CU OPEN SPACE RCW 84.34 CURRENT USE	RCW LANDS	REDEVELOPABLE	9400
32	CU TIMBERLAND RCW 84.34 CURRENT USE	RCW LANDS	REDEVELOPABLE	9500
33	CULTIVATED TIDELANDS	NA	UNBUILDABLE	8491
34	CULTURAL ACTIVITIES	FIRES	REDEVELOPABLE	7100
35	DENTAL SERVICES	FIRES	REDEVELOPABLE	6512
36	DESIG FOREST LND RCW 84.33	RCW LANDS	REDEVELOPABLE	8800
37	DET GARAGE CONDO	RES CON	REDEVELOPABLE	5030
38	DISCOUNT STORES	RETAIL	REDEVELOPABLE	5320
39	DRAINFLDS CATCH BASINS	NA	UNBUILDABLE	4830
40	DUPLEX 2 UNITS	RES MF	REDEVELOPABLE	1202
41	DUPLEX CONDO	RES CON	REDEVELOPABLE	1402
42	EDUCATIONAL SERVICES	EDUC	REDEVELOPABLE	6800
43	ELEM SCHOOLS 1 TO 6	EDUC	SCHOOL LAND	6810
44	ENTERTAINMENT BARS	FIRES	REDEVELOPABLE	5822
45	ESPRESSO SHOP	RETAIL	REDEVELOPABLE	5815
46	FAB METAL PRODUCTS	MANU	REDEVELOPABLE	3400
47	FARMS NOT CURRENT USE	OTHERS	REDEVELOPABLE	8140
48	FAST FOOD	RETAIL	REDEVELOPABLE	5805
49	FIRE STATIONS	GOV	GOV LAND	6720
50	FISHING ACTIVITIES AND SERVICES	FIRES	REDEVELOPABLE	8400
51	FLOOD PLAIN	NA	UNBUILDABLE	9108
52	FLOODWAY	NA	UNBUILDABLE	9109
53	FOOD MFG	MANU	REDEVELOPABLE	2100
54	FOOD RETAIL TRADE	RETAIL	REDEVELOPABLE	5400
55	FOURPLEX 4 UNITS	RES MF	REDEVELOPABLE	1204
56	FOURPLEX OR MORE CONDO	RES CON	REDEVELOPABLE	1404
57	FUELING STATIONS	RETAIL	REDEVELOPABLE	5550
58	FUNERAL CREMATORY SERV	FIRES	REDEVELOPABLE	6241
59	FURNITURE MFG	MANU	REDEVELOPABLE	2500

	Landuse Description	Use Type	Category	Use Code
60	GAS STATION CASHIER BOOTH	RETAIL	REDEVELOPABLE	5560
61	GAS STATION MINI MART	RETAIL	REDEVELOPABLE	5540
62	GAS STATION SERV GAR	RETAIL	REDEVELOPABLE	5530
63	GAS STATION VAC NO PUMPS	RETAIL	REDEVELOPABLE	5570
64	GEN MERCHANDISE RETAIL TRADE	RETAIL	REDEVELOPABLE	5300
65	GEN WAREHOUSING STORAGE	WTCU	REDEVELOPABLE	6310
66	GOLF COURSES	FIRES	GOLF COURSE	7410
67	GOVERNMENTAL SERVICES	GOV	GOV LAND	6700
68	GRNBELT COMMON AREAS	NA	UNBUILDABLE	7630
69	HORTICULTURAL SPECIALTIES	FIRES	REDEVELOPABLE	8150
70	HOSPITAL	FIRES	REDEVELOPABLE	6510
71	HOTELS/MOTELS	FIRES	REDEVELOPABLE	1600
72	IND INDIAN RESERV LND	VACANT IND	VACANT	9186
73	IND LND WITH IMPROV LAND VAL ONLY	VACANT IND	VACANT	9188
74	IND VAC LND SP ENVIR APPR FILED	VACANT IND	VACANT	9184
75	INSTITUTIONAL LODGING	FIRES	REDEVELOPABLE	1700
76	JR COLLEGES	EDUC	SCHOOL LAND	6840
77	LIBRARIES	FIRES	GOV LAND	7110
78	LNDRY & DRY CLEANING SERV	FIRES	REDEVELOPABLE	6210
79	LUMBER & WOOD MFG	MANU	REDEVELOPABLE	2400
80	MARINA SLIP CONDOS	NA	UNBUILDABLE	5050
81	MARINAS	WTCU	UNBUILDABLE	7420
82	MARINE CRAFT TRANSPORTATION	WTCU	REDEVELOPABLE	4400
83	MEDICAL OFFICES SERVICES	FIRES	REDEVELOPABLE	6511
84	MH PARK	RES MH	UNBUILDABLE	1500
85	MH PARK CONDO	RES CON	UNBUILDABLE	1440
86	MH SALES RETAIL	RETAIL	REDEVELOPABLE	5505
87	MH SR/DISABLED EXEMPT ADMIN COMBO	RES MH	REDEVELOPABLE	1154
88	MH TITLE ELIM	RES SFR	REDEVELOPABLE	1155
89	MILITARY BASES	GOV	GOV LAND	6750
90	MINI LUBE SERVICE	RETAIL	REDEVELOPABLE	6420
91	MINI WAREHOUSING	WTCU	REDEVELOPABLE	6380
92	MINING ACTIVITIES	MANU	UNBUILDABLE	8500
93	MISC MFG	MANU	REDEVELOPABLE	3900
94	MISC OFFICE SPACE	FIRES	REDEVELOPABLE	6199
95	MISC SERVICES	FIRES	REDEVELOPABLE	6900
96	MOBILE/MFG HOME	RES MH	REDEVELOPABLE	1152
97	MOTION PICTURE THEATERS	FIRES	REDEVELOPABLE	7210
98	MULTI FAM APTS 5 UNITS OR MORE	RES APT	REDEVELOPABLE	1305
99	MULTI FAM HIGH RISE 5 UNITS OR MORE	RES APT	REDEVELOPABLE	1306

	Landuse Description	Use Type	Category	Use Code
100	NGB COMMUNITY SC	RETAIL	REDEVELOPABLE	5360
101	NON COMM FOREST	VACANT	VACANT	9200
102	NURSERY SCHOOLS	EDUC	REDEVELOPABLE	6860
103	NURSING CONVALESCENT HOSPITALS	FIRES	REDEVELOPABLE	6516
104	OFF INSURANCE REAL ESTATE FINANCE	FIRES	REDEVELOPABLE	6100
105	OFFICE CONDO	FIRES	REDEVELOPABLE	5020
106	OLDER BUSINESS DIST	FIRES	REDEVELOPABLE	5390
107	OP PROP RR RIGHT OF WAY	NA	UNBUILDABLE	4111
108	OTHER CULTURAL ACTIVITIES	FIRES	REDEVELOPABLE	7900
109	OTHER GROUP QTRS	RES GQ	REDEVELOPABLE	1860
110	OTHER PUB ASSEMBLY	FIRES	REDEVELOPABLE	7200
111	OTHER RESIDENTIAL	RES OTHER	REDEVELOPABLE	1800
112	OTHER RESOURCE PROD	FIRES	REDEVELOPABLE	8900
113	OTHER RETAIL TRADE	RETAIL	REDEVELOPABLE	5900
114	OTHER TRANS UTILITIES	WTCU	UNBUILDABLE	4900
115	OTHER UNDEVEL LAND	VACANT	VACANT	9900
116	OTHER WATER AREAS	NA	UNBUILDABLE	9390
117	PAPER PROD MFG	MANU	REDEVELOPABLE	2600
118	PARKS	NA	UNBUILDABLE	7600
119	PERSONAL SERVICES	FIRES	REDEVELOPABLE	6200
120	PETRO INDUSTRIES	MANU	REDEVELOPABLE	2900
121	POSTAL SERVICES	GOV	GOV LAND	6730
122	PRIM METAL INDUSTRIES	MANU	REDEVELOPABLE	3300
123	PRINTING PUBLISHING	FIRES	REDEVELOPABLE	2700
124	PRISONS	GOV	GOV LAND	6740
125	PROFESSIONAL SERVICES	FIRES	REDEVELOPABLE	6500
126	QUARRY SAND ROCK	MANU	UNBUILDABLE	8505
127	REC ACTIVITIES	FIRES	UNBUILDABLE	7400
128	REFRIG WAREHOUSE	WTCU	REDEVELOPABLE	6373
129	REGIONAL SC	RETAIL	REDEVELOPABLE	5380
130	RELIGIOUS SERVICES	FIRES	UNBUILDABLE	6910
131	RENTAL EQUIP AUTO TRUCK	FIRES	REDEVELOPABLE	6390
132	REPAIR SERVICES	FIRES	REDEVELOPABLE	6400
133	RES INDIAN RESERV LND	OTHERS	REDEVELOPABLE	9160
134	RES LND WITH COMM BUILDING	MIXED USE	REDEVELOPABLE	9145
135	RES LND WITH IMPROV LAND VAL ONLY	RES OTHER	REDEVELOPABLE	9140
136	RES NO PERK VAC LND REQ DOC	VACANT	VACANT	9101
137	RESORTS CAMPS	FIRES	UNBUILDABLE	7500
138	RESTAURANT	RETAIL	REDEVELOPABLE	5800
139	RETAIL HOME FURNISHINGS	RETAIL	REDEVELOPABLE	5700

	Landuse Description	Use Type	Category	Use Code
140	RETAIL STAND ALONE	RETAIL	REDEVELOPABLE	5999
141	RETIREMENT HOME	RES GQ	REDEVELOPABLE	1840
142	RM BOARDING HOUSE	RES GQ	REDEVELOPABLE	1300
143	RR EQUIP MAINT	WTCU	UNBUILDABLE	4112
144	RR PASSENGER TERMINALS	WTCU	UNBUILDABLE	4113
145	RV SALES RETAIL	RETAIL	REDEVELOPABLE	5510
146	SALONS SPAS BARBER SHOPS	FIRES	REDEVELOPABLE	6231
147	SALTWATER TIDELANDS	NA	UNBUILDABLE	9391
148	SCI INSTR PHOTO OPTICAL WATCH MFG	MANU	REDEVELOPABLE	3500
149	SEC SCHOOLS 7 TO 12	EDUC	SCHOOL LAND	6820
150	SFR CONDO	RES CON	REDEVELOPABLE	1401
151	SINGLE FAMILY DWELLING	RES SFR	REDEVELOPABLE	1101
152	SPECIAL TRAINING SCHOOLS	EDUC	REDEVELOPABLE	6870
153	SPECIALTY FOOD MKTS	RETAIL	REDEVELOPABLE	5430
154	SPORTS BAR REST LARGER TAV	RETAIL	REDEVELOPABLE	5825
155	STONE/CLAY/GLASS MFG	MANU	REDEVELOPABLE	3200
156	STREET RIGHT OF WAY	NA	UNBUILDABLE	4500
157	SUBSIDIZED HIGH RISE 5 OR MORE	RES APT	REDEVELOPABLE	1308
158	SUBSIDIZED UNITS 5 OR MORE	RES APT	REDEVELOPABLE	1307
159	TAVERNS	RETAIL	REDEVELOPABLE	5820
160	TEXTILE MILL MFG	MANU	REDEVELOPABLE	2200
161	TRANSFERRED DEVELOPMENT RIGHTS	NA	UNBUILDABLE	9190
162	TRANSIT RR RIGHT OF WAY	NA	UNBUILDABLE	4100
163	TRIPLEX 3 UNITS	RES MF	REDEVELOPABLE	1203
164	TRIPLEX CONDO	RES CON	REDEVELOPABLE	1403
165	UNIVERSITY/COLLEGES	EDUC	SCHOOL LAND	6830
166	UNKNOWN	NA	UNBUILDABLE	0
167	USED CAR LOTS ONLY RETAIL	RETAIL	REDEVELOPABLE	5520
168	UTILITIES	WTCU	UNBUILDABLE	4800
169	VAC INDUSTRIAL LAND	VACANT IND	VACANT	9180
170	VAC LND BLDG RESTRICT DOC REQ	VACANT	VACANT	9110
171	VAC LND MAJOR PROBLEM	NA	UNBUILDABLE	9166
172	VACANT LAND UNDEVELOPED	VACANT	VACANT	9100
173	VEHICLE TRANSPORTATION	WTCU	REDEVELOPABLE	4200
174	VETERINARIAN SERVICES	FIRES	REDEVELOPABLE	6520
175	VOC TRADE SCHOOLS	EDUC	REDEVELOPABLE	6850
176	WAREHOUSE CONDO	WTCU	REDEVELOPABLE	5060
177	WATER AREAS	NA	UNBUILDABLE	9300
178	WELL SITES	NA	UNBUILDABLE	4836
179	WETLANDS RECORDED	NA	UNBUILDABLE	9112

	Landuse Description	Use Type	Category	Use Code
180	WHOLESALE TRADE	WTCU	REDEVELOPABLE	5100
181	RV PARK	RES MH	REDEVELOPABLE	1501
182	MARIJUANA GROW OPERATIONS	WTCU	REDEVELOPABLE	
183	VAC LND NOT A BLDG SITE	NA	UNBUILDABLE	

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Appendix C: Employment Density Survey

Pierce County contracted with AHBL and ECONorthwest to analyze available employment data and determine if an update to the employment assumptions used in the Buildable Lands analysis is necessary. ECONorthwest provided the following memorandum with findings on the employment density assumptions.

DRAFT

ECONorthwest
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DATE: July 1, 2019
TO: Dan Cardwell and Jessica Gwilt, Pierce County
CC: Wayne Carlson and Brittany Port, AHBL
FROM: Bob Parker, Denise Chin, Sadie DiNatale, Ryan Ulsberger
SUBJECT: PIERCE COUNTY EMPLOYMENT DENSITY SURVEY TECHNICAL MEMORANDUM

1 Summary

An initial step in updating the methodology for Pierce County's buildable lands program is to review the methodology used to complete the 2014 Buildable Lands Report (BLR) and identify methodological changes based on amended state legislation, data availability, and best practices. Task 1.2 of the Buildable Lands Program Support work program includes an evaluation of the past employment density survey methodology, proposed refinements the approach, and conducting a new employment density survey for Pierce County. This memorandum summarizes ECONorthwest's initial research and analysis related to this task.

Several refinements to the 2014 methodology could improve the capacity and land need estimates. Given the amount of variability that exists in broad employment categories, and PSRCs regional plans, we recommend that any methodology employ the principles of simplicity and transparency. More complicated methods do not necessarily improve the results. We recommend the County consider adjustments for employment in residential areas and using the PSRC center framework.

Pierce County's challenge is developing an acceptable methodology that can be applied across many jurisdictions that range from urban centers to suburbs, to rural communities, to rural areas. After a thorough investigation of the methodological options, we make the offer the following recommendations:

- **Continue to use an EPA based method**. Given the countywide scope and the diversity of cities, EPAs are the most accurate and practical method for estimating employment capacity of vacant and under-utilitized land as well as land demand.
- **Consider refinements to the methods used in the 2014 BLR.** The County could make refinements to both the capacity and land demand estimates.
    - **Consider allocating some employment to non-employment lands**. Our review of the 2014 BLR suggests that all of the employment growth increment is allocated to employment lands. We suggest considering allocating some employment to non-employment lands.
    - **Consider disaggregating employment forecasts to three or more categories.** A review of the 2014 BLR only identified single value employment figures. The PSRC data ECO used for the employment density analysis in section 3 is available by city disaggregated by sectors or 2-digit NAICS codes. At the

simplest, the models could differentiate between retail, office, and warehouse employment densities.

- **Consider developing a land use typology based on PSRC's Regional Centers Strategy. Typology by PSRC regional centers.**[1] PSRC's VISION 2040 calls for the creation of central places with a mix of uses and activities connected by efficient transportation. PSRC designated 29 regional growth centers which are locations of the region's most significant business, governmental, and cultural facilities and are planning for growth. PSRC also identified nine regional manufacturing/industrial centers, which are locations for more intensive industrial activity. According to PSRC, both regional growth centers and regional manufacturing/industrial centers are focal points for planned growth, economic development and transportation infrastructure investments.

  Moreover, the framework identifies three primary geographies: Metropolitan Cities (16 centers), Core Cities (17), and Unincorporated Urban Areas (3). Five regional growth centers and two industrial/manufacturing centers are located in Pierce County.

  PSRC's 2013 Monitoring Report presents employment densities for each of the areas based on 2010 data. Exhibit X shows employment densities for Pierce County Centers. The observed densities are lower than the commercial assumptions in all instances, and considerably lower than the 2014 industrial assumptions for the industrial/manufacturing centers.

  Given that much of the county's employment is located outside these centers, any method will require assumptions for capacity of those lands. The County could use the 2014 assumptions, or use an approach based on city type.

[1] https://www.psrc.org/sites/default/files/centers_monitoring.pdf

2 Background

An initial step in updating the methodology for Pierce County's buildable lands program is to review the methodology used to complete the 2014 Buildable Lands Report (BLR) and identify methodological changes based on amended state legislation, data availability, and best practices. Task 1.2 of the Buildable Lands Program Support work program includes an evaluation of the past employment density survey methodology, proposed refinements the approach, and conducting a new employment density survey for Pierce County. This memorandum summarizes ECONorthwest's initial research and analysis related to this task.

Pierce County last completed an employment density in 2007. The County is interested in whether the methods and assumptions used in the 2010 Survey are still reasonable, and if there are ways to improve them. AHBL subcontracted to ECONorthwest to provide this analysis. This document details the process of confirming employment density assumptions in Pierce County. The key questions considered in this task are:

- How accurate were the previous methods used?
- How does employment density vary by and within employment sectors?
- How does employment density vary by geography (e.g., cities)?

The 2010 analysis used Employment Security data that allowed matching of specific employers to tax lots. ESD no longer releases parcel-specific employment data. Thus, the updated employment density survey will require a different method to update the employment density assumptions. In addition, the County desires to understand how employment densities may have changed over time based on changing work configuration and technologies. ECONorthwest conducted the analysis presented in this memorandum using the following approaches:

(1) Spatial analysis in GIS using PSRC employment data by city and census tract

(2) A review of studies surrounding buildable land inventories, employment surveys, and other relevant research to observe new employment density methods or consider changing assumptions

(3) Informational interviews with real estate professionals to gain insight on recent trends in commercial and industrial employment in Pierce County

The 2014 BLR used a relatively simple method that applied standardized average employee per acre assumptions for commercial and industrial uses. The memo concludes with a discussion of the merits of the method used in the 2014 BLR as well as alternative methodological options for estimating demand for employment land.

The following sections provide legal context to buildable land inventories in Pierce County under Washington state's Growth Management Act; and a discussion of past methods and assumptions used in Pierce County's Employment Density Surveys.

2.1 Legal Context

The employment density survey provides data that support assumptions used to determine land needed for employment uses. The statutory guidance from the program is codified in RCW 3670A.215. Specifically, the following two subsections address density of employment:

- Based on the actual density of development, review commercial, industrial, and housing needs by type and density range to determine the amount of land needed for these uses for the remaining portion of the current 20-year planning period (RCW 36.70A.215(3)(e));
- Determine if there is sufficient employment capacity for the remainder of the planning period based upon planned and achieved densities (RCW 36.70A.215(3)(e));

Section 3 provides further guidance on how the data are used:

(a) Determine whether there is sufficient suitable land to accommodate the countywide population projection established for the county pursuant to RCW 43.62.035 and the subsequent population allocations within the county and between the county and its cities and the requirements of RCW 36.70A.110;

(b) Determine the actual density of housing that has been constructed and the actual amount of land developed for commercial and industrial uses within the urban growth area since the adoption of a comprehensive plan under this chapter or since the last periodic evaluation as required by subsection (1) of this section; and

(c) Based on the actual density of development as determined under (b) of this subsection, review commercial, industrial, and housing needs by type and density range to determine the amount of land needed for commercial, industrial, and housing for the remaining portion of the twenty-year planning period used in the most recently adopted comprehensive plan.

The 2018 *Buildable Lands Guidelines* document provide concise direction on the process and distill the requirements into two questions: How much land was actually developed for commercial and industrial uses within the UGA since the last comprehensive plan was adopted or the last evaluation completed? Based on this and other relevant information, how much land would be needed for commercial and industrial development during the remainder of the 20-year comprehensive planning period?

Thus, while the guidelines provide direction on how to address commercial and industrial development, they are not proscriptive and provide considerable local discretion with respect to methods. Because the focus of this research is on employment density, we do not address other aspects of the methods related to commercial and industrial land.

2.2 Methods and Assumptions Used in Previous Studies

In this section, we discuss past methods and assumptions from Pierce County's 2007 Employment Density Survey and 2014 Buildable Lands Report. As a general observation, the methods used for employment density surveys have not changed much throughout the years.

Definitions: Floor Area Ratios, Employees Per Square Foot, and Employees Per Acre

The Buildable Lands Guidelines and BLR reports use the terms Floor Area Ratio (FAR), Employees Per Square Foot (Emp/sf), and Employees Per Acre (EPA). We start by establishing definitions and the relationship between each of these metrics.

By definition, employment density is the ratio of labor to land. Several measures of employment density exist: FARs, EPAs, and sq. ft. per employee. To understand the relationship between Floor Area Ratios, square feet per employee, and employee per acre ratios, we start with definitions.

- Floor Area Ratio (FAR). The Floor Area Ratio is the total building square footage (building area) divided by the site size square footage (site area)
- Square Feet Per Employee (SFE). The total square feet required for employees. This includes shared spaces such as lobbies, hallways, elevators and stairwells, restrooms, and other built space.
- Employee per acre ratio (EPA). The total number of employees divided by the size of the site. Implicitly, this is a net density figure; it does not include land needed for streets and other public uses.

Given these definitions, there is a simple mathematical relationship between the three measures as expressed below.

FAR can be derived from EPA and SFE as follows:
(EPA*43560)/SF per Emp

SFE can be derived from EPA and FAR:
(FAR*43560)/EPA

EPA can be derived from SFE and FAR:
(FAR*43560)/SFE

A key issue in estimating EPA ratios is what values are used in the numerator and denominator. The numerator is typically straightforward—reported employment figures. Most analysis we have reviewed do not make distinctions about shifts, or whether employees are full or part time. This is consistent with the way employment data are typically presented.

The issue of the denominator is considerably trickier. The nature of commercial and industrial development is such that it often spans several tax lots. In these instances, calculating density on a tax lot basis can be misleading. Shopping centers, industrial parks, or any employment use

that includes multiple tax lots should be analyzed as combined sites. Parking can also be an issue—is parking part of an employment use or not? If it is in the same ownership and directly related to the use, it should be.

Mixing of employment further complicates matters. In a detailed analysis in Bend, Oregon, we found considerable mixing of employment that would be considered commercial or industrial. The data showed considerable employment in industrial zones that would typically be considered commercial, and the opposite. Zoning codes typically are not proscriptive by NAICS categories.

A final issue is employment that is on lands not zoned for employment. In Oregon cities, we have observed that between 10% and 25% of employment in a city can be on lands that are not zoned for employment. These include typical uses that sometimes locate in residential zones such as schools and churches, as well as home occupations, construction firms, and certain types of retail or service firms that are permitted by zoning.

One of the issues that complicates estimating land capacity is variability. As pointed out in previous Pierce County employment density surveys, employment density in commercial zones can range from more than 100 per acre for restaurants to a few per acre for certain retail uses. Employee per acre ratios implicitly assume…

Pierce County 2007 Employment Density Survey

Pierce County conducted employment density surveys in 2004 and 2007. In those surveys, the method was based on location-specific employment data from the Washington State Employment Security Department (ESD)[2] and parcel data from the Pierce County Assessor-Treasurer. Businesses included in the survey were randomly selected and categorized based on the sector.

The 2007 Employment Density Survey utilized building permit data, ESD covered employment data, and Pierce County Assessor-Treasurer (ATR) parcel records. Data for Downtown Tacoma was segregated and reported separately due to its unique development intensity—downtown Tacoma reported much higher employment density than elsewhere in the County.

To arrive at the average employee per acre numbers, the sum of the total number of employees and parcel acreage under each category was divided by the total employees by total acreage.

The 2007 Survey identified several data limitations such as unavailable ESD employment data for the entire five-year trending period at the initiation of the project; a large number of commercial/industrial permits in 1999 and 2000 could not be associated with ESD employment data points.

[2] The ESD data includes firms that report covered employment. The data includes average employment, NAICS codes, and is geolocated. This makes calculating employment densities at the industry or zoning district level relatively straightforward: select a sample of employers, sum the average employment, and then divide it by the number of acres reported in the Assessor-Treasurer tax lot database.

Pierce County 2014 Buildable Lands Report

The 2014 BLR adopted the same methodology as the 2002 and 2007 analyses. The one exception in the 2014 BLR methodology is the consolidation of "underdeveloped" and "redevelopable" categories into one "underutilized" category, as well as the criteria used to identify parcels within this category. The authors note that this step was in effort to achieve inter-departmental consistency between the County's land use and transportation models.

Exhibit 1 provides a summary of resultant employment densities from past employment surveys and buildable lands reports in Pierce County. The report consistency applies the 8.25 EPA for commercial and the 19.37 EPA for industrial in all geographies but Tacoma.

Exhibit 1. Pierce County Employment Density Comparisons (employees per acre)

Employment sector	1999 Survey	2004 Survey Average	2004 Survey Median	2007 Survey	2014 BLR
Industrial	11.15	13.8	21.32	11.15	8.25
Commercial	34.3	21.92	19.37	19.37	19.37
Government	22.7	7.74	n/a	n/a	n/a
Downtown Tacoma	318	356.77	235.59	235.59	**

Source: ECONorthwest, with data from Pierce County 2007 Employment Density Survey and Pierce County 2014 Buildable Lands Report

** Table 11a of the 2014 Buildable Lands Report (page 225) shows that higher assumptions were used for Tacoma in many zones. The report does not provide an explanation of the source of the assumptions.

2018 Buildable Lands Guidebook

Chapter 3 of the 2018 *Buildable Lands Guidebook* provides guidance on approach and methodologies related to commercial and industrial land capacity. The guidebook indicates that data from the Institute of Transportation Engineers (ITE) presents employees per square footage of buildable area data their trip generation manuals to determine potential trip generation for development and redevelopment sites. Obtaining a copy of the ITE manual was cost prohibitive for this project.

The guidebook suggests that an alternative method that may be used is an employment density calculation based on a ratio of employees per net acre, if employee estimates are available. It suggests that Washington State Employment Sector data can supply jobs per acre estimates. ECO was unable to locate any analysis of employment density based on sector data. The next section presents an analysis of Census tract level. sector data compiled by PSRC.

The Guidebook also suggests that employment densities can be calculated using FAR for buildings constructed during the evaluation period. This approach can be refined by building type or type of employment if data are available. FAR data can then be combined with SF/Emp data from ITE or other sources to arrive at an estimate of employees and employment density in

EPA. This approach would allow for an estimate of achieved employment densities per land use category.

3 Pierce County 2019 Employment Density Analysis

The following sections detail analyses carried out by ECONorthwest to document achieved employment densities and inform methodological options.

3.1 Spatial Analysis of Employment Patterns and Densities

ECO explored alternative methods for estimating employment densities. This analysis intended to assess a methodology for estimating the density of employment throughout Pierce County, Washington using PSRC data at the census tract level combined with parcel data.

Our assessment of this approaches is that available data is not consistent enough to accurately predict employment densities with granularity to enable decision making. However, with directed effort, data maintained by Pierce County and other regional planning agencies could potentially be used for employment density analysis. We are unable to estimate the amount of effort it would take to make the data reasonably reliable for BLR purposes. Two factors are particularly problematic: (1) variability in employment densities within generalized categories; and (2) the quality of the underlying land use/parcel data.

Methodology

Assessors data is some of the most routinely maintained data by counties and represents the smallest geography available from tracking land use. Different properties have different appraisal types; for example, commercial properties are assessed differently than residential properties. Recognizing this advantage, the parcel database was used to identify the different types of land use occurring on properties throughout Pierce County.

As mentioned before, different types of appraisals occur for different types of land uses. Possible appraisal types are summarized in Exhibit 2.

Exhibit 2. Pierce County Appraisal Types

Land Use Categorization	Appraised Property Types
Residential Landuses	
	Residential
	Residential Leasehold
	Condominium
	Reference
Economic and Other Landuses	
	Commercial
	Commercial Condo
	Commercial Leasehold
	Commercial Multi Unit
	Industrial
	Trended Investment

Source: Pierce County Assessor

Appraisal types do not always correspond to the actual use of a parcel. Housing land uses can incorporate some economic uses which were not captured in this analysis. There is not an accurate way to predict where self-employed or work-from-home employees are based geographically from any available datasets. Furthermore, commercial and industrial appraisal types can also have residential land uses or community and cultural land uses which do not provide any employment. As a result, the Pierce County Assessor also identifies land use descriptions which attempts to clarify what the parcel's current use is. For non-housing appraisal types in Pierce County, there were 179 distinct land use descriptions. This analysis attempted to match land use descriptions to major sectors as designated by the North American Industry Classification System (NAICS). The land use NACIS describes the major sectors of employment as the following:

- Construction and Resources
- Finance, Insurance and Real Estate (FIRE)
- Manufacturing
- Retail
- Services
- Wholesale Trade, Transportation, and Utilities (WTU)
- Government
- Education

The minimum geographical unit available with employment coverage covering all of Pierce County is by census tract. Thus, each parcel was associated with the corresponding census tract.

Employment data was acquired from the Puget Sound Regional Council (PSRC) who has worked with the Washington State Employment Security Department (ESD) to conduct the

Quarterly Census of Employment and Wages (QCEW) and complied into the Covered Employment Estimate Dataset. This data collects the employment information for all employees covered by the Washington Unemployment Insurance Act and aggregates this data across census tracts. However, out of privacy concerns for employers, any employer who has more than 80% of the employment share for a given census tract has the value withheld.

Finally, the total land area for a given NACIS Major Sector was calculated by parcel area for each census tract. The PSRC employment data was joined to the parcel data using the census tract id, which revealed a total employee count per NACIS Major Sector land area where available. In areas where employment data was obscured, these parcels were removed from the analysis as

The result is an employment density covering the entirety of Pierce County.

Results

The results of the analysis, summarized in Exhibit 3, ranges of employment density range from 49 employees per acre for Finance, Insurance, and Real Estate uses to 2 employees per acre for both Construction and Resource, and Wholesale, Transportation, and Utility land uses in Pierce County. Unsurprisingly, land uses which are concentrated in office environments, or retail and service uses centered in Urban Centers have much higher employment densities that land uses which typically require larger footprints such as warehousing and industrial and manufacturing uses.

Exhibit 3.: Summary of Employment Density for NAICS Major Sectors

Economic Use Category	Total Census Tracts	Total Parcels	Total Acres	Total Employment	Employment Land Use Ratio (Employment/Acre)
CONSTRUCTION/RESOURCE	47	271	4,974	10,097	2
CONSTRUCTION/RESOURCE - EMPLOYMENT DATA REMOVED	3	32	569		
EDUCATION	132	746	5,206	20,494	4
FINANCE/INSURANCE/REAL ESTATE	76	350	241	11,716	49
FINANCE/INSURANCE/REALESTATE - EMPLOYMENT DATA REMOVED	11	14	12		
GOVERNMENT	96	369	2,318	19,013	8
MANUFACTURING	47	919	4,069	11,619	3
MANUFACTURING - EMPLOYMENT DATA REMOVED	28	89	1,034		
RETAIL	109	2,988	3,051	31,124	10
RETAIL - EMPLOYMENT DATA REMOVED	31	238	246		
SERVICES	147	7,566	15,151	113,820	8
SERVICES - EMPLOYMENT DATA REMOVED	2	9	22		
WHOLESALE/TRANSPORTATION/UTILITIES	86	2,054	7,868	16,389	2
WHOLESALE/TRANSPORTATION/UTILITIES - EMPLOYMENT DATA REMOVED	58	285	1,355		
UNCLASSIFIED	151	4,653	12,620		

Source: Pierce County, PSRC, Census, ECONorthwest

However, estimates of employment are likely to be lower than the actual employment because of the withheld employment estimates for those employers which had more than 80% of employment within a census tract. For example, employment in the Frederickson Manufacturing and Industrial Center is anchored by the Boeing Manufacturing Facility. The employment this facility was withheld because Boeing met the 80% threshold to obtain

anonymity in the PSRC employment dataset. Boeing is the 4th largest employer within Pierce County with an estimate employment of 1,550 employees as of 2018[3] and would represent an employment ratio of 2.7 employees per acre if all employees were working on the Fredrickson property.[4]

Review and Assessment

After reviewing the results from the employment density analysis for Pierce County, the results were not as conclusive as desired. In short, we do not conclude that this is a viable method that could be incorporated into the BLR.

In particular, two obstacles appeared while using the data available from the Pierce County Assessors Data and the PSRC Employment Dataset.

1. Assessors land use and appraisal types are not consistent across different land uses. Furthermore, land uses descriptions can describe a variety of potential uses that do not relate to economic activities cleanly; if they are classified at all.
2. Employment data is sensitive information and is often obscured to maintain the anonymity of an employer.

If these obstacles were mitigated, the feasibility of using the Pierce County Assessors Data and the PSRC Covered Employment Estimates could become a viable method. In particular, verifying the appraisal types and the land use descriptions of given parcels in Pierce County Assessors database would increase the resolution of the analysis. Furthermore, a partnership with the Washington State Employment Security Department to retrieve the employment data over the 80% employment threshold for a given census tract would allow for more refined results that could better estimate employment density in the county.

3.2 Literature review

EOC conducted an extensive literature review that included academic articles, planning reports conducted in cities and counties within and outside of Washington state, relevant findings from a similar ECONorthwest review conducted in 2015 that was focused on industrial employment densities. We also explored employment density themes throughout the region and the US. One observation we made is that there is little academic research on employment density—a fact we found surprising. Exhibit 4 displays a summary of studies reviewed from Washington state. A more detailed matrix can be found in Appendix 1.

3 Economic Development Board, https://www.edbtacomapierce.org/area-profile/2018-major-employers/, Accessed May, 2019

4 Manufacturing and industrial land uses exists on an estimated 571 acres for Census tract 731.08.

Exhibit 4. Summary of Methods, Assumptions, and Findings from Washington State Studies

Location	Methodology	Employment Density Assumptions (Emp./acre or SFE)		Findings
		Commercial	Industrial	
Counties				
Clark	• Building permits primary source of data from 2006-2016.	9.3	10.9	County has sufficient capacity to accommodate projected employment growth.
Island	• Suppressed data substituted with older available data. • For jobs missing in QCEW data, methodology from PSRC used to estimate total employment from covered employment. • City of Freeland excluded from calculation of employment density average due to lack of amenities (sewer). • Due to County's low industrial employment, rounded average from neighboring counties (Skagit, Clark, Pierce) used for industrial assumptions.	17.0	8.0	Sufficient capacity to accommodate anticipated employment growth.
King (BLR)	• Half of jurisdictions brought forward 2007 BLR density and capacity calculations; remainder cities required new capacity analysis • Location-specific densities reported in final analysis.	250 - 850 SFE*	250 - 851 SFE*	Sufficient capacity to accommodate residential, employment growth.
King (Emp. Capacity Analysis)	• Employment density assumptions from 2007 BLR. • Does not consider future fiscal impacts of redevelopment within Duwamish Industrial Manufacturing Center.	550 SFE	800 SFE	• Total assessed land value for the South Park LID area is $2,458,285,700. • Total assessed value for the MIC site is $193,751,000.
Kitsap	• Methods for Land Capacity Analysis adjusted following Remand Order: 1) Using trend-based density factors for each residential zone 2) Increase public facility deduction to 20% 3) Remove discount for environmental purposes in Urban Restricted Zone 4) Platted lots adjustment	969 SFE	500 SFE	Sufficient capacity to meet industrial and commercial development to 2025, 2016-2036.

Location	Methodology	Employment Density Assumptions (Emp./acre or SFE)		Findings
		Commercial	Industrial	
Snohomish	• Existing structures (as of April 2011) counted as population or employment base; proposed, built, or occupied structures after April 2011 counted as future capacity.	200 - 700 SFE	300 - 20,000 SFE	Adequate land capacity reported in the County for the 2025 adopted UGA population and employment growth targets.
Thurston		3.3	1.5	Sufficient land supply to support projected growth to 2035.
Whatcom	• Based on 2009 Land Capacity Analysis methodology	626 - 900 SFE	775 - 3,500 SFE	Surplus capacity to meet future employment needs
Region				
Puget Sound Regional Council	• Relevant mixed-use zones and land classification included into analysis if related to industrial land. E.g. "Business Park"; "Employment Center" • Parcels considered industrial land if significant industrial development present or permitted to occur. • Four categories of industrial lands: Core industrial; Industrial commercial; Military industrial; Aviation operations areas • Special consideration given to tribal land; natural resource lands; limited areas of more intense rural development; planned developments		0.25 - 14.7*	Employable land capacity variable to area: • Strong demand / limited capacity: Interbay-Ship Canal, Duwamish-North Tukwila, Kent-Renton, and SeaTac-Des Moines subareas • Strong demand/adequate capacity: Frederickson- Lakewood, Southwest Everett and Tacoma-Puyallup subareas • Adequate capacity: I-405 Corridor, Arlington-Marysville, and North-Central Everett subareas • Surplus capacity: DuPont-Gray Field, Puget Sound Industrial Center (PSIC)-Bremerton-Sinclair Inlet, and Auburn-Sumner subareas
City				
Lakewood	• Developed a consolidated employment capacity model • Error in Pierce Co. BLR--one residential zone moved to commercial	12 - 25	15 - 25	Sufficient capacity to meet 2030, 2035 employment targets

Notes: *Location specific numbers reported; ranges provided here. SFE = Square foot per employee.

3.3 Interview findings

ECONorthwest conducted phone interviews with real estate professionals familiar with recent commercial and industrial development in Pierce County (Task 1.2, subtask 4 - Real Estate Professional Interviews). The purpose of the interviews was to better understand local development conditions and emerging employment trends in Pierce County. To the extent possible, ECONorthwest vetted reasonableness of employment density assumptions from the 2014 Buildable Lands study.

ECONorthwest interviewed the following real estate professionals:

1. Rob Allen, Senior Economic Development Specialist with Pierce County, Economic Development Department
2. Kevin Clegg, Special Assistant to the Executive for Business Services with Pierce County, Economic Development Department
3. Patrick Gemma, SVP Investment Officer with Prologis

3.3.1 Interview Key Themes

The interviews consisted of a series of questions (see Appendix B). The following sections describe the key themes from the interviews.

Revisit the 2014 Employment Density Assumptions

Pierce County's 2014 Buildable Lands study used the following employment density assumptions: 19.37 employees per acre for commercial and services (1 employee per 500 sq. ft.) and 8.25 employees per acre for industrial warehousing and manufacturing (1 employee per 900 sq. ft).

Interviewees suggested that while the commercial employment density assumption seemed reasonable, they are more practical in areas with generally higher densities, such as downtown Tacoma (we note that the BLR indicates much higher EPA assumptions were used in downtown Tacoma). The assumption seemed less practical (too high) for the more suburban areas of the county.

Interviews indicated they thought the industrial employment density assumption seemed inflated (too high). Four to five employees per acre seemed more reasonable, if not a little high. Further, employment capacity needs in industrial / manufacturing facilities will fluctuate depending on the amount of office space that exists in the facility (e.g., a large office component in an industrial / manufacturing facility will accommodate more employees per acre). When taking that factor into consideration, the industrial employment density assumption seemed more reasonable. The following assumption was provided to illustrate typical employment capacity needs: four employees per 1,000 sq. ft. for the office component with one employee per 1,000 sq. ft. for the industrial / manufacturing component.

Vary Average Employment Density Assumptions

Interviewees suggested that varying average employment density assumptions by geographic area and industry sector seemed reasonable.

By geographic area: It is reasonable to assume that downtown or high-density areas will have a higher average employment density assumption. However, lower average employment density assumptions should be assumed in more suburban cities and towns. Accordingly, average density could vary for each incorporated area or between incorporated area versus unincorporated area. An appropriate threshold to help inform varied density assumptions by geographic location was unknown.

By industry sector: Breaking out employment assumptions by sector also seemed reasonable. Large differences in employment densities exist between sector types, such as warehousing versus manufacturing. While an average density works in a general sense, a fair number of anomalies result in observable differences between sites of different sector types. Managing these anomalies may make the study more precise. For example, the manufacturing sector will accommodate more jobs per acre than wholesale trade and transportation; wholesale trade and transportation will accommodate more jobs per acre than warehousing (and big-box warehousing will accommodate fewer jobs per acre than other warehousing types).

Different industrial /manufacturing facilities (with office components) will typically demand different employment capacity needs as well. For example, a distribution center will typically have an office component accounting for 3% - 5% of total building sq. ft. A manufacturing facility will typically have an office component accounting for 10% of total building sq. ft.[5]

Technology and Automation Will Affect Employment Capacity Needs

Looking forward, interviewees suggested that technology and automation will have the biggest impact on employment capacity needs. Other commercial / industrial trends are not expected to drastically affect change. For example, automation of the manufacturing process is a much more significant portion of economic activity than any movement *toward* creative offices or makerspaces or *away* from shopping malls and big box stores. An interviewee compared other trends to an "artsy" community in a downtown area – the trend may be cool (innovation-wise) but does not scale very well and affects only a specific area.

A range of opinions exist about how technology and automation are currently changing employment capacity needs:

[5] By using the previous example, four employees per 1,000 sq. ft. for an office component in an industrial / manufacturing facility: If both the distribution center and manufacturing facility were 100,000 sq. ft., the manufacturing facility would have about 40 office employees using 10% of the building while the distribution center would have about 12-20 office employees using 3-5% of the building.

- E-Commerce distribution centers (like Amazon) demand more employees per acre than traditional distribution centers because more people are needed to move goods in and around the center (and goods stay in the center for longer).
- Some distribution centers (like IKEA), are experiencing an interesting trend. Technology and automation reduce employment capacity needs, only for employment to increase soon after (although not to the same level). The hypothesis is that companies are "bouncing back" and can hire new employees to serve different roles than before.

Other Considerations

One interviewee provided a suggestion that may help inform employment density assumptions:

- Review the Institute of Transportation Engineers (ITE 10th addition) manual. ITE takes a deep dive into different land uses to determine traffic generation. It is possible that they determine traffic generation by using employment density assumptions. If this is true, the manual could offer a factual basis for Pierce County's assumptions. A caveat that small sample sizes may present limitations.

  We note that this approach is discussed in the 2018 *Buildable Lands Guidebook*.

4 Conclusions and Methodological Options

In general, most employment assumptions have remained the same since each county's previous employment density and/or buildable land study. This is likely because the relevant underlying data has not evolved much. Notable exceptions include Clark County, where lower employment densities were reported compared to its 2007 study. The City of Lakewood's study reported higher densities than what was found in Pierce County's 2014 study—the authors revised a zoning error that adjusted employment densities and showed that Lakewood has substantially more employment capacity than reported. An annotated literature review can be found in Appendix 2.

The following are methodological takeaways to note:

- **Employees per acre (EPA) vs. square feet per employee (SFE)**—some studies used employees per acre as a unit of measurement for employment densities, while others used square feet per employee. Because ESF requires an additional step to get to land estimates, we recommend using EPA as the measurement unit for employment density in Pierce County.
- **Densities seem to cluster around central figures**—while the results vary, employment densities (whether EPA or ESF) seem to cluster around some central figures (5-10 EPA for industrial uses; 15-25 EPA for commercial uses). These figures are not much different than those used in Pierce County's 2014 Buildable Lands Inventory and 2007 Employment Density Survey.

- **Location specific figures**—several studies developed location-specific employment densities (Chamberlain 2015; King County 2014; Gehrke and Srivastava 2012; Watson & Associates Economists Ltd. 2008). This could be an appropriate methodological approach for Pierce County to consider, which will be based on a taxonomy of development or place types. Considering the Cervero/Ewing method of defining place types could also be a useful methodological approach in determining location-specific figures.
- **Most studies relied on methods from their previous years**, with updates to employment data where possible. Lakewood, however, utilized a **hybrid method in calculating employment densities**, which combined a floor-to-area ratio method with acreage-based calculations using updated employment density factors identified by City staff. This method is worth consideration, given the time and resources available at Pierce County.

Notable Employment Trends in Washington State

- The Great Recession affected employment in the Puget Sound Region. Most studies noted, however, that the economy is bouncing back and recovering in their respective counties. Job growth in Washington is expected to rise over the next decade—several studies (e.g. Kitsap, Thurston) reported a projected increase in jobs, a majority of which will be in the commercial sector.
- There is an increasing number of remote workers/home businesses in the region. In Thurston County, for example, 20 percent of future jobs is projected to be in residential zones, which could be taken to mean remote, mobile employment and home-based businesses. The City of Lakewood reduced its total employment allocation by 12 percent to account for remote employees in its Employment Density Survey, consistent with a similar assumption in Pierce County's 2014 Buildable Lands Report.

Observations from Studies Outside of Washington State

- Accommodating future employment growth scenarios—the City of Reno, Nevada, made note of an impending Tesla factory that would increase employment in the city. The expansion of the University of Nevada in Reno was also a factor in future growth. The City utilized two growth scenarios, Baseline and Recent Trends to project future economic opportunities, where the latter doubled growth rate for manufacturing, wholesale trade, and transportation and warehousing to match Tesla's projected employment.
- Several studies (i.e. Reno, Minnesota, Placer County) used methods and assumptions informed by studies from other cities, such as Minneapolis, Washington state, Portland, Southern California, and Rhode Island.

4.1 Methodological Options

The primary objective of this research was to inform BLR methodologies around estimating land needed for employment. Several approaches exist for translating population/employment forecasts into land need. Exhibit 5 summarizes the approaches.

The first method is the easiest: jurisdictions should have current year population estimates as well as population forecasts. Estimates of the amount of developed commercial and industrial land should be developed during the supply analysis. The second method is similar to the first, but uses local employment estimates and forecasts.

The third method requires employee per acre assumptions. Employee-per-acre assumptions allow conversion of employment into acres. Employment density, however, varies considerably by industry—and even within industries. Thus, a small jurisdiction might use an assumption of 8 employees per acre, while a larger one might assume 15-20. Of importance here are whether the assumption is for *net* acres (i.e., land that is available for sale in parcels or lots after roads (right-of-way) has already been deducted, or gross acres (total land before those deductions): one should assume more employees on a net acre than on a gross acre, other things being equal.

Exhibit 5. Basic methods for estimating employment land demand

Method	Description
Population/developed land ratio	Uses the number of developed commercial and industrial acres per 1000 persons and extrapolates it to the planning horizon using the local population forecast.
Employment/developed land ratio	Uses the number of developed commercial and industrial acres per 1000 employees and extrapolates it to the planning horizon using the local population forecast. Requires both a current employment estimate and an employment forecast.
Employee per acre (EPA) ratio	Assumes a specific employment density, expressed in employees per acre. At the simplest level, the method uses an aggregate EPA ratio for all new employment. Requires both a current employment estimate and an employment forecast.
Floor area ratio (FAR) / Employees per sq. ft. (ESF)	Uses zoning to determine floor area ratios and allowable lot coverage. Lot coverage * FAR provides an estimate of built space in square feet. Built space * ESF provides an estimate of land capacity for employment.
Expert consultation	Relies on the expertise of local developers, business leaders and others to estimate land needs.

A variation of the third method is to build up to estimates of employees by using assumptions about floor-to-area ratios (FAR) and about square feet of built space per employee. For example, assumptions of 500 square feet of total (not usable or leasable) office space per employee and of a FAR of 0.3 (built space equals 30% of the buildable area) would yield about 26 employees per net acre, and about 21 employees per gross acre. This method tends to yield greater densities

than those typically assumed for employees per acre, perhaps because the FAR assumes for a single lot are hard to sustain over a larger area.

Each of these methods has limitations.

- **Population and Developed Land Ratio.** This method has two key limitations: (1) use of population forecasts to derive estimates of employment land; and (2) the quality of parcel data. The method is simple: divide developed acres by population to get a ratio of persons per acre (usually expressed as acres per 1,000 persons). A key issue is population is not a good proxy for employment and does not recognize variability of the amount of employment lands in a region. For example, a city that is an industrial center might have half its land in industrial uses; another may be a bedroom community with no industrial land. A second limitation is that assessor's parcel data typically requires considerable effort to identify lands in employment uses that are developed. As a result, this method provides very coarse estimates. We do not recommend considering this approach for the BLR.
- **Employment and Developed Land Ratio**. This is the same as the previous method, with the difference that it uses employment instead of population. ECO used the employment per developed land methodology to estimate EPAs (the analysis is summarized in Section 3 of this memo). The limitations of this method are the same for assessment data. A second limitation is the issue of how to address residential and other lands that might have employment but are not zoned for employment. Due to these limitations we do not recommend using this method for the BLR.
- **Employee Per Acre (EPA) Methods**. The advantage of EPA methods is that they distill the estimate into a very simple formula: net acres * EPA = capacity. EPA assumptions can be developed for broad employment types—the 2014 BLR used commercial (19.37 EPA) and industrial (8.25 EPA). These assumptions are in line with what we see in other studies (for example, Oregon advocates EPAs of 7-12 for heavy industrial uses; 10-15 for light industrial uses; and 12-20 for commercial uses). The limitations of this method are generally related to the source of the EPA assumptions as well as how the assumptions are applied. The EPAs used in the 2014 BLR were derived from a survey of properties using Employment Security data. In our view, this is the best method for developing assumptions using the best data sources.

  The biggest limitation of this approach is related to variability in employment densities. As we have discussed, considerable variation exists within zoning districts and within individual industries.
- **FAR/SFE Methods**. Like other methods, this method is limited by the quality of data. One of the biggest problems with this method is that it is difficult to generalize FARs across broad employment types. By definition, FARs are zoning specific. Moreover, variability exists in the amount of built space required by different industries. The amount of effort required to develop accurate estimates for the entire county is

significant given the countywide scope of the BLR. We do not recommend using this approach for future BLRs.

4.2 Recommendations

Pierce County's challenge is developing an acceptable methodology that can be applied across many jurisdictions that range from urban centers to suburbs, to rural communities, to rural areas. After a thorough investigation of the methodological options, we make the offer the following recommendations:

- **Continue to use an EPA based method**. Given the countywide scope and the diversity of cities, EPAs are the most accurate and practical method for estimating employment capacity of vacant and under-utilized land as well as land demand.
- **Consider refinements to the methods used in the 2014 BLR.** The County could make refinements to both the capacity and land demand estimates.
    - **Consider allocating some employment to non-employment lands**. Our review of the 2014 BLR suggests that all of the employment growth increment is allocated to employment lands. Analysis of employment patterns in every Oregon city ECO has worked in shows significant employment exists outside employment zones. Ideally, the amount of employment allocated to non-employment lands would be based on empirical analysis. We suggest exploring if an economist at the Washington Employment Security Department could conduct such an analysis based on zoning data provided by Pierce County.

      As an alternative, deductions could be made using ACS commute data. The 2013-17 ACS shows that 4.5% of worked at home. The assumption could be based on a countywide average, or on data for Census places. This refinement is a land demand refinement.
    - **Consider disaggregating employment forecasts to three or more categories.** A review of the 2014 BLR only identified single value employment figures. The PSRC data ECO used for the employment density analysis in section 3 is available by city disaggregated by sectors or 2-digit NAICS codes. At the simplest, the models could differentiate between retail, office, and warehouse employment densities. Typically, these would be grouped by NAICS codes. This method is only possible if the employment forecasts/allocations are disaggregated.
    - **Consider developing a land use typology based on geography and zoning.** One critique we heard of the 2014 method was that it does not adequately recognize geographic differences. Both ECO's previous work, as well as the literature we reviewed, suggest that geographic variations in employment density exist. In our view, the variations are both due to geography (e.g., one would expect higher

densities in urban cores than in rural areas—a fact that Tacoma's analysis for the 2014 BLR documents) and zoning. In short, a methodology that recognizes regional differences in land uses could be more robust. The question then is, what options are available?

Following are a few variations for consideration:

- **Typology by city size.** This would be a simple methodology that would develop a typology of city sizes and then associated those with EPA assumptions. The general idea would be that smaller cities and rural areas would be assigned lower EPA assumptions.
- **Typology by PSRC regional centers.**[6] PSRC's VISION 2040 calls for the creation of central places with a mix of uses and activities connected by efficient transportation. PSRC designated 29 regional growth centers which are locations of the region's most significant business, governmental, and cultural facilities and are planning for growth. PSRC also identified nine regional manufacturing/industrial centers, which are locations for more intensive industrial activity. According to PSRC, both regional growth centers and regional manufacturing/industrial centers are focal points for planned growth, economic development and transportation infrastructure investments.

  Moreover, the framework identifies three primary geographies: Metropolitan Cities (16 centers), Core Cities (17), and Unincorporated Urban Areas (3). Five regional growth centers and two industrial/manufacturing centers are located in Pierce County.

  PSRC's 2013 Monitoring Report presents employment densities for each of the areas based on 2010 data. Exhibit X shows employment densities for Pierce County Centers. The observed densities are lower than the commercial assumptions in all instances, and considerably lower than the 2014 industrial assumptions for the industrial/manufacturing centers.

  Given that much of the county's employment is located outside these centers, any method will require assumptions for capacity of those lands. The County could use the 2014 assumptions, or use an approach based on city type as described above.

[6] https://www.psrc.org/sites/default/files/centers_monitoring.pdf

Exhibit 6. Employment Densities in Pierce County Centers, 2010

Type/Center Name	Core Geography	EPA
Regional Growth Centers		
Lakewood	Core City	11.2
Puyallup Downtown	Core City	10.3
Puyallup South Hill	Core City	6.8
Tacoma Downtown	Metropolitan City	22.1
Tacoma Mall	Metropolitan City	14.8
Regional Manufacturing/Industrial Centers		
Fredrickson	Unincorporated UGA	1.2
Port of Tacoma MIC	Metropolitan City	1.8

Source: https://www.psrc.org/sites/default/files/centers_monitoring.pdf, pg 87-88

- **Typology by Zoning.** This is a variation on the previous approach and would be based on local zoning. Effectively, it would require developing a crosswalk between zoning districts and EPAs. This approach has some problems: (1) the number of zoning districts in the county, and (2) data limitations would make it difficult to assign EPAs to zoning districts with any certainty.

In summary, several refinements to the 2014 methodology could improve the capacity and land need estimates. Given the amount of variability that exists in broad employment categories, and PSRCs regional plans, we recommend that any methodology employ the principles of simplicity and transparency. More complicated methods do not necessarily improve the results. We recommend the County consider adjustments for employment in residential areas and using the PSRC center framework.

Appendix 1: Literature Review Matrix

Studies from Washington State

Location	Document Reviewed	Methodology	Employment Density Assumptions (Emp./acre)		Notable Trends	Findings
			Commercial	Industrial		
Counties						
Clark	BLI, 2015	• Building permits primary source of data from 2006-2014 • GIS to link parcels to building permits	9.3	10.9	County has experienced employment gains, however, observed net densities lower than 2007 planning assumptions--could be due to businesses adding employees without requiring new buildings.	County has sufficient capacity to accommodate projected employment growth.
Island	Comp. Plan, 2016	• Suppressed data substituted with older available data • For jobs missing in QCEW data, methodology from PSRC used to estimate total employment from covered employment • City of Freeland excluded from calculation of employment density average due to lack of amenities (sewer) • Due to County's low industrial employment--rounded average from neighboring counties (Skagit, Clark, Pierce) used for industrlal assumptions.	17	8	• UGAs resized to accommodate growth in 20 years. • Reduction in size of Freeland and Langley to result in more concentrated growth.	Sufficient capacity to accommodate anticipated employment growth

Location	Document Reviewed	Methodology	Employment Density Assumptions (Emp./acre)		Notable Trends	Findings
			Commercial	Industrial		
King	BLI, 2014	• Half of jurisdictions brought forward 2007 BLR density and capacity calculations; remainder cities required new capacity analysis • Location-specific densities reported in final analysis	250 - 850 SFE*	250 - 851 SFE*	Majority of capacity in Metro and Core cities	Sufficient capacity to accommodate residential, employment growth
King	Emp. Capacity Analysis, 2010	• Employment density assumptions from 2007 BLR • Does not consider future fiscal impacts of redevelopment within Duwamish Industrial Manufacturing Center	550 SFE	800 SFE	South Park has significant portion of employment land capacity	• Total assessed land value for the South Park LID area is $2,458,285,700. • Total assessed value for the MIC site is $193,751,000
Kitsap	BLI, 2014	• Methods for Land Capacity Analysis adjusted following Remand Order: 1) Using trend-based density factors for each residential zone 2) Increase public facility deduction to 20% 3) Remove discount for environmental purposes in Urban Restricted Zone 4) Platted lots adjustment	969 SFE	500 SFE	Majority commercial jobs expected to increase (over 70%) Industrial jobs expected to increase by 6%	Sufficient capacity to meet industrial and commercial development to 2025, 2016-2036
Snohomish	BLI, 2012	• Existing structures (as of April 2011) counted as population or employment base; proposed, built, or occupied structures after April 2011 counted as future capacity.	200 - 700 SFE	300 - 20,000 SFE		Adequate land capacity reported in the County for the 2025 adopted UGA population and employment growth targets.

Location	Document Reviewed	Methodology	Employment Density Assumptions (Emp./acre)		Notable Trends	Findings
			Commercial	Industrial		
Thurston	BLI, 2014		3.3	1.5	• Majority employment expected in commercial zones (over 70%) • Industrial jobs expected to increase by 8% • Employment in residential zones (remote jobs / home-based businesses) expected to increase by 20% • Federal endangered species listings anticipated to affect commercial, industrial land supply	Sufficient land supply to support projected growth to 2035.
Whatcom	BLI, 2016	Based on 2009 Land Capacity Analysis methodology	626 - 900 SFE	775 - 3,500 SFE	County-wide surplus employment capacity of almost 13%	Surplus capacity to meet future employment needs
Region						

Location	Document Reviewed	Methodology	Employment Density Assumptions (Emp./acre)		Notable Trends	Findings
			Commercial	Industrial		
PSRC	Industrial Land Analysis, 2015	• Relevant mixed-use zones and land classification included into analysis if related to industrial land. E.g. "Business Park", "Employment Center" • Parcels considered industrial land if significant industrial development present, permitted to occur. • Four categories of industrial lands: 1. Core industrial 2. Industrial commercial 3. Military industrial 4. Aviation operations areas • Special consideration given to: 1. Tribal lands 2. Natural resource lands 3. Limited Areas of more intense Rural Development 4. Planned Developments		0.25 - 14.7*	• Revival of manufacturing industry, comparable to the Gulf region, South Carolina, Colorado. • Industrial jobs occuring in non-industrial zoned land. • Non-industrial jobs on industrial lands projected to grow to 45% by 2040.	• Employable land capacity variable to area: Strong demand / limited capacity: Interbay-Ship Canal, Duwamish-North Tukwila, Kent-Renton, and SeaTac-Des Moines subareas. • Strong demand/adequate capacity: Frederickson- Lakewood, Southwest Everett and Tacoma-Puyallup subareas. • Adequate capacity: I-405 Corridor, Arlington-Marysville, and North-Central Everett subareas • Surplus capacity: DuPont-Gray Field, Puget Sound Industrial Center (PSIC)-Bremerton-Sinclair Inlet, and Auburn-Sumner subareas.
City						
Lakewood	Emp. Density Survey, 2017	• Developed a consolidated employment capacity model. • Error in Pierce Co. BLR--one residential zone moved to commercial	12 - 25	15 - 25	City has substantially greater employment capacity than reported in Pierce Co. BLR.	Sufficient capacity to meet 2030, 2035 employment targets

Notes: *Location specific numbers reported; ranges provided here. SFE = Square foot per employee.

Other Studies from Around the US

Location	Document Reviewed	Methodology	Employment Density Assumptions (Emp./acre)		Notable Trends	Findings
			Commercial	Industrial		
Counties						
Placer, CA	Dev. Estimates, 1994	Two development scenarios used to project growth--2010 and 2040. Assumes County caotures over 18% regional employment growth for both scenarios.	333 - 550 SFE	700 SFE	• Strong long-term growth rates expected in Sacramento region. • Placer Co. expected to be one of the fastest growing counties due to population and employment increasing from 1990-2010.	Sufficient capacity to meet employment growth needs.
Maricopa, AZ	Emp. Analysis, 2012	• Identified 32 significant regional employment clusters in relation to transit • Employment clusters are assigned sector mix values		5.6 - 14.2	Lowest employment densities in regions characterized by production, distribution, repair	Employment clusters within quarter mile of transit in central and south region have highest densities and employment concentrations--mostly not industrial
Scott, MN	Commercial / Industrial Analysis, 2012	Informed by previous employment density research in other cities		344 - 753 SFE	Buildings with more on-site amenities have higher densities	• Commercial and industrial land expected to expand, but at slower pace than 2006 study. • Sufficient capacity to meet demand but may require land designation changes to meet this change.
Cities						

Location	Document Reviewed	Methodology	Employment Density Assumptions (Emp./acre)		Notable Trends	Findings
			Commercial	Industrial		
Anchorage, AK	BLI, 2009	• Employment density assumptions based on previous studies and trends from other cities. • Employment projections do not account for major construction projects, i.e. Natural Gas Pipeline, the Knik Arm Bridge, the Pebble Mine, Kensington Mine. • Employment density assumptions based on current trend of low density and FARs.		500 - 2000 SFE**	• Major construction projections anticipated to affect industrial sector. • Natural gas pipeline expected to require infrastructure improvements. • Changes in federal spending, expansions in mining or tourism, major infrastructure projects, oil price fluctuations known to have significant impact on local and regional economy. • City is on the lower end of spectrum in regard to industrial employment density.	Sufficient capacity to meet employment growth needs.
Eugene, OR	Emp. Density Analysis, 2006	Employment densities broken down by plan designation and study area	36.3 - 53.9*	8.3 - 20.7*		Provides employment densities by land use designation and study area.
Eugene, OR	Emp. Land Assumptions, 2011	• Government employment growth excluded because typically occurs on public, semi-public lands. • Used "safe harbor" methodology--utilized growth rate for Lane County as calculated by the State.	20 - 90.3	5 - 20	• New employment on non-employment lands: Covered employment occuring in residential and other non-employment land designations. • Increasing number of employment in existing space, making it difficult to predict vacancy rate. Number used in study reflects recession.	Community Advisory Committee agreed that densities would be similar to past.

Location	Document Reviewed	Methodology	Employment Density Assumptions (Emp./acre)		Notable Trends	Findings
			Commercial	Industrial		
Guelph, Canada	Emp. Land Assumptions, 2008	Location-specific densities reported	5 - 106*	2 - 48*	• Competitive industrial land prices. • Employment in Industrial sector expected to increase, followed by commercial and institutional development. • Land-extensive employment trends in warehousing sector.	• Limited supply of employment land, especially for larger sites. • City has adequate land for employment needs to 2031.
Minneapolis, MN	Emp. Pol. Plan, 2006	Introduces Industrial Scorecard to indicate each industry's projected growth, employment demand, and land demand.	7 - 64	14 - 42	Industrial sector significant economic contributor to City.	• Industrial land supply depleting. • City should adopt Employment Districts. • Rezoning for residential use should be reconsidered. • Rezonings should consider job impacts, tax base impacts, viability, transition costs, and adjacency to viable industrial areas.
Reno, NV	Emp. Capacity Analysis, 2016	• Two growth scenarios, Baseline and Recent trends to forecast anticipated employment • Industrial / Commercial buildings categorized by high density and medium/low density	0.15 - 1.25	0.15 - 0.5	Forecasting upcoming employment centers, i.e. Tesla Gigafactory, U of Nevada-Reno	City has capacity to meet employment demands. Growth rate for manufacturing doubled in forecast model to accommodate anticipated employment
San Diego, CA	Industrial Element, n.d.			15.7	Limited industrial land to meet anticipated employment needs.	Rezonings recommended to encourage industrial development.
Region						

Location	Document Reviewed	Methodology	Employment Density Assumptions (Emp./acre)		Notable Trends	Findings
			Commercial	Industrial		
SCAG	Emp. Density Survey, 2001	Over 100 categories consolidated into 10 categories. Employment densities calculated using two methods, median, and weighted averages for employment per acre and FARs.	11.04 - 22.9**	10.63 - 17.05**	Density in Government Offices land use category unusually high--possibly due to small sample size.	Employment density factors derived to be used at region- and county-level.
State						
Oregon	Emp. Density Survey, n.d.	• Employment outside of Central Business District but within city limits referred as Peripheral Employment. • Effects of Great Recession and rise in e-commerce could be reflected in data but difficult to prove at this stage.			• Decreasing jobs in Wholesale, Retail, Transportation, and IT jobs. • Retail trade survived Great Recession.	• Employment densities of downtown central commercial areas have decreased. • Employment densities in city peripheries are more varied.

Notes: *Location specific numbers reported; ranges provided here. **Report also provides weighted averages and/or averages by industry for employee per square foot. SFE = Square foot per employee.

Appendix 2: Annotated Literature Review

Studies from Washington state

Carter, Stephen, and Susan Davis. 2010. South Park Bridge Tiger Grant II Employment Capacity Analysis. ECONorthwest.

This memo includes the technical analysis to be used as background to contribute to the economic competitiveness analysis portion of the Tiger II grant application.

Location: King County, Washington

Relevant Information (2):

- ECONorthwest identified 2007 employment densities from the King County Buildable Lands Report:
    - Commercial: 550 square feet/employee
    - Industrial/warehouse: 800 square feet/employee

Chamberlain, Elizabeth. 2015. Industrial Lands Analysis for the Central Puget Sound Region. Puget Sound Regional Council.

This report assesses economic activity on industrial land in the central Puget Sound region. It is intended to "serve a broad range of land use and economic development planning needs and interests" (E-1).

Location: Puget Sound Region, Washington

Relevant Information (3-8):

- Employment densities for individual Manufacturing/Industrial Centers:
    - Ballard-Interbay (core industrial and industrial commercial): 14.66 EPA
    - Duwamish (core industrial and industrial commercial): 11.61 EPA
    - Frederickson (core industrial and industrial commercial): 1.17 EPA
    - Kent MIC (core industrial): 7.64 EPA
    - North Tukwila (core industrial): 14.05 EPA
    - Paine field/Boeing Everett (core industrial): 10.00 EPA
    - Port of Tacoma (core industrial): 1.79 EPA
    - Puget Sound Industrial Center-Bremerton: 0.25 EPA

Clark County. 2015. Clark County Buildable Lands Plan Monitoring Report.

This report provides updates to the County's enactment of the Growth Management Act, specifically sprawl reduction and urban growth concentration.

Location: Clark County, WA

Relevant information (4, 20)

- 2007 planning assumptions:
    - Commercial: 20 employees/acre
    - Industrial: 9 employees/acre
- Observed densities are lower than the 2007 planning assumptions:
    - Commercial: 9.3 employees/acre
    - Industrial: 10.9 employees/acre
- "Clark County has seen employment gains from 2006 to 2014. It is likely that some businesses have added employees, which would not require new building permits and may account for the low employment density reported." (20)

Gifford, Kevin. 2017. City of Lakewood Employment Capacity Analysis. BERK Consulting.

This report found that employment densities in Lakewood diverge from Pierce County's 2014 Buildable Lands Report. BERK's analysis concludes that the City of Lakewood has substantially greater employment capacity available than is represented in the 2014 Pierce County Buildable Lands Report.

Location: City of Lakewood, Washington

Relevant information:

- BERK developed a consolidated employment capacity model
    - "This blended approach combines the FAR-based method described for the Central Business District with acreage-based calculations using updated employment density factors, as identified by City staff."
    - "Model assumes a reduction in the market factor for underutilized properties from 50% (assumed by the Pierce County BLR) to 35%, comparable to other commercial hubs in northern Pierce County."
    - Model provides sufficient employment capacity to meet Lakewood's 2030 and 2035 employment targets.
- "Per 2014 Pierce County BLR report, total employment allocation is reduced by 12.1% to account for mobile workers and employees working from home."
- Found error in Pierce Co. BLR
    - ARC zone in residential moved to commercial. This study accounted for ARC zone in employment density
- Lakewood adjusted densities
    - Commercial density: 12-25 employees/acre
    - Industrial density: 15-25 employees/acre

Island County. 2016. "Appendix B: Population Growth Analysis & Accommodations." Island County 2036: 2016 GMA Periodic Review.

This document provides detailed account of Island County's population projections, including buildable lands analysis and employment projections. This document is an appendix to Island County's periodic review of the Growth Management Act.

Location: Island County, WA

Relevant information

- "Suppressed data was substituted for three sectors (Mining, Utilities and Management of Companies and enterprises) using older available data." (16)
- "To compensate for these missing jobs in the QCEW data, a methodology developed by PSRC was used to estimate total employment from covered employment."
- Commercial: 17 employees/acre
- Industrial: 8 employees/acre
- County comparisons
    - Skagit County
        - Commercial: 20 employees/site acre
        - Industrial: 6.5 employees/site acre
    - Clark County (see Clark Co. review—same as 2007 assumptions)
    - Pierce Co. (Unincorporated Pierce County 2014 buildable lands report)
        - Manufacturing/Warehousing: 8.2 employees per acre
        - Commercial/Services: 19.37 employees per site acre

King County. 2014. King County Buildable Lands Report.

This report is an update to the 2007 BLR, in fulfillment of the GMA. The report spans the time period from January 2006 to January 2012, encompassing all 39 cities in King County. The BLR concludes that King County has sufficient capacity to accommodate residential and employment growth.

Location: King County, Washington

Relevant information:

- Employment growth still in transition out of Great Recession (2)
- Minor shortfall in job capacity in unincorporated areas, but majority of King County's capacity to accommodate growth is located in Metro and Core cities. (3)
- Used similar assumptions to 2007 BLR, updated housing and jobs data to 2012
    - "Achieved densities and – for some cities – land capacity data are brought forward from the 2007 BLR into this 2014 BLR. Half of King County's

jurisdictions reported sufficient housing and job capacity in 2007 to absorb even the higher numbers in the new 2006-31 targets. Those cities, including most of the Small Cities, carried forward their 2007 BLR density and capacity calculations into this 2014 BLR… The remaining cities required new analysis of land capacity to overcome a shortfall of capacity with respect to the new targets as part of their process of developing new comprehensive plans." (2)

  - Employment capacity in Table 5.5, 2007 BLR pg V-9

Kitsap County Department of Community Development. 2014. Kitsap County 2014 Buildable Lands Report.

This document provides information on Kitsap County's update to its growth projections and land capacity for housing and employment. The report found that the County had sufficient land supply to meet the demand for commercial and industrial development to 2025, and the 2016-2036 planning period.

Location: Kitsap County

Relevant information:

- "Kitsap County adopts employment targets to be consistent with the Puget Sound Regional Council's (PSRC) Regional Growth Strategy." (53)
- Over 45,000 additional jobs anticipated, majority commercial
  - Industrial jobs expected to increase by 6.4%
- From Appendix:
  - Commercial: 969 sq ft/employee
  - Industrial: 500 sq ft/employee

Snohomish County Council. 2012. Snohomish County Buildable Lands Report.

This report is in accordance with the Growth Management Act. The report evaluates land needs and capacity for residential, commercial, and industrial use anticipated in 20-year planning period, spanning to 2025.

Location: Snohomish County, Washington

Relevant information (3,23):

- Adequate land capacity reported in the County for the 2025 adopted UGA population and employment growth targets.
- No capacity shortfall anticipated in UGAs or cities within the UGAs
- Food Services = 200 sq ft/employee
- Other Services = 400 sq ft/employee
- Finance, Insurance and Real Estate (FIRE) - mini-storage warehouses only = 20,000 sq ft/employee

- Finance, Insurance and Real Estate (FIRE) - other = 350 sq ft/employee
- Retail = 700 sq ft/employee
- Manufacturing = 500 sq ft/employee
- Wholesale, Transportation and Utilities (WTU) = 1,000 sq ft/employee
- Government/Education = 300 sq ft/employee

Thurston Regional Planning Council. 2014. Buildable Lands Inventory for Thurston County.

Thurston County's BLR reports sufficient land supply to support projected growth to 2035. Varying by jurisdiction, Thurston County can sufficiently meet the demand for employment land needs.

Location: Thurston County, Washington

Relevant information:

- Majority of new employment expected to be in commercial zones (72%)
- 8% new jobs expected in industrial zones
- 20% jobs expected in residential zones, i.e. remote workers, home-based businesses
- Employment densities:
    - Commercial: 3.3 employees/1,000 sq ft.
    - Industrial: 1.5 employees/1,000 sq ft.
- "Questions remain as to how much of the commercial and industrial land supply will be available for development due to the pending federal endangered species listings." (65)

Whatcom County Planning and Development Services. 2016. Land Capacity Analysis Report.

This report provides a summary of the land capacity analysis for Whatcom County and its Urban Growth Areas as part of the County's Comprehensive Plan.

Location: Whatcom County, Washington

Relevant information:

- Employment density (found in Appendix C)
    - Commercial: 626-900 sq ft./employee
    - Industrial: 775-3500 sq ft./employee
- "Each UGA has a population growth capacity surplus or deficit within 6% of the allocation, with the exception of the Blaine UGA, which has considerable surplus capacity within its city limits. Figure 2 shows a countywide employment capacity surplus of 12.6%." (1)

Studies outside of Washington state

City of Minneapolis. 2006. Industrial Land Use Study and Employment Policy Plan.

The purpose of this study was to provide information and policy direction for industrial land use and employment in Minneapolis.

Location: Minneapolis, Minnesota

Relevant Information (52-53):

- Minneapolis Assessor/InfoUSA employment per acre:
    - Utilities: 42 EPA
    - Construction: 30 EPA
    - Manufacturing: 27 EPA
    - Wholesale Trade: 20 EPA
    - Transportation & Warehousing: 14 EPA
    - Information: 64 EPA
    - Real Estate, Rental, Leasing: 7 EPA
    - Professional and Technology Services: 64 EPA
    - Other Services: 50 EPA
    - All Industries: 34 EPA

Economic and Planning Systems, Inc. 2009. Anchorage Industrial Land Assessment Final Report. Prepared for the Anchorage Economic Development Corporation.

Chapter 4 of this report, "Industrial Land Demand," estimates the demand for future industrial land in Anchorage by analyzing the relationship between employment and industrial space.

Location: Municipality of Anchorage, Alaska

Relevant Information (29-38):

- Assumptions for employment density in Anchorage by land use category, based on "EPS experience and professional judgment and have been supplemented by significant research of employment density trends specific to the MOA" (31).
    - Industrial Services, Assembly, and Manufacturing: 1000 sq. ft./employee
    - Miscellaneous Industrial (Open storage, processing, heavy manufacturing, utilities, trades, and transportation): 1,800 sq. ft./employee
    - Warehouse/Distribution: 2,800 sq. ft./employee
    - Industrial Flex Space: 500 sq. ft./employee
- EPS conducted a national review of employment density studies with the following results:
    - Pierce County, WA (2006): 13.8 EPA for manufacturing/warehousing
    - Hillsboro, OR (n.d.): 9.0 EPA for industrial

- Silverton, OR (2006): 8.9 EPA for industrial
- Caledon, Ontario, Canada (2007): 17.0 EPA for manufacturing, 9.0 EPA for warehouse/distribution
- Peel Region, Ontario, Canada (2007): 15.8 EPA for industrial
- Grand Traverse County, MI (n.d.): 30.0 EPA for intensive industry, 14.0 EPA for intermediate intensive, 8.0 EPA for extensive
- Portland-Vancouver MSA (2001): 10.0 EPA for warehouse/distribution, 24.5 EPA for general industrial, 24.3 EPA for tech/flex
- Wilsonville, OR (2008): 16.3 EPA for efficient land need, 14.2 EPA for medium land need, 12.3 EPA for high land need
- Minneapolis, MN (2006): 27.0 EPA for manufacturing, 14.0 EPA for transportation and warehousing

Economic & Planning Systems, Inc. 2016. City of Reno: Employment Demand Forecast and Needs Analysis.

This report is a technical analysis to inform the policies and strategies of the City of Reno's Master Plan. It contains a summary of technical analysis, stakeholder feedback, and policy recommendations for the economic components of the Master Plan.

Location: Reno, NV

Relevant information (6-10)

- Used different building types to estimate employment density and land demand. Sub-categories within building types to reflect development density levels and square feet of building space.
- Assumptions based on existing conditions within the Region and national industry standards.
- Building types:
  - Office
    - Type A (Suburban or Campus Office): 300 sq ft./employee, 0.25 FAR
    - Type B (Mid-Rise / High-Rise Office): 250 sq ft./employee, 1.0 FAR
  - Industrial
    - Type A (Large Scale or Heavy Industrial): 1,500 sq ft./employee, 0.15 FAR
    - Type B (Small Scale or Light Industrial): 500 sq ft./employee, 0.50 FAR
  - Retail
    - Type A (Large Format Retail): 400 sq ft./employee, 0.15 FAR
    - Type B (Small Format Retail): 400 sq ft./employee, 0.60 FAR
  - Accommodation and Food Service
    - Type A (Accommodation): 750 sq ft./employee, 1.25 FAR

        - Type B (Food Service): 500 sq ft./employee, 0.30 FAR
    - Education
        - Type A (General Education): 1,000 sq ft./employee, 0.50 FAR
- Upcoming presence of Tesla's Gigafactory is noted to potentially have impact on employment trends.
- University of Nevada-Reno and its expansion is noted as another economic driver with impact on increased employment.
- Two growth scenarios used to project future economic opportunities, Baseline and Recent Trends. In Recent Trends scenario, growth rate is doubled for manufacturing, wholesale trade, and transportation and warehousing to match trends and include upcoming employment from Tesla.

ECONorthwest. 2006. "Eugene Employment Density Analysis."

This document provides a table of employment density by plan designation and study area in Eugene, Oregon.

Location: Eugene, Oregon.

Relevant information:

- Employment densities were broken down to be more location specific to study area
- Industrial:
    - Campus Industrial: 20.7 EPA
    - Heavy Industrial: 8.3
    - Light Medium Industrial: 15.8
    - Special Heavy Industrial: Not disclosable
- Commercial: 36.3 EPA
    - Commercial Mixed-use: 39.7
    - Major Retail Center: 53.9

Envision Eugene Technical Resource Group. 2011. City of Eugene Employment Land Assumptions Summary.

This document summarizes several assumptions that relate to Eugene's employment land needs. Employment density estimates were based on a 2006 employment density study of 22 areas of Eugene. The Community Advisory Committee agreed that densities would be similar to what they were in the past.

Location: Eugene, Oregon

Relevant Information (4-5)

- Industrial employment density: Ranged from 5 EPA (heavy industrial) to 20 EPA (light or campus industrial); Average industrial EPA: 13
- Commercial employment density: Ranged from 30 EPA (mixed retail and office) to 93 EPA (downtown); Average commercial EPA: 68
- Retail employment density: Ranged from 20 EPA to 37 EPA; Average retail EPA: 23

"Evaluating Employment Density and Land Needs: Floor Area Ratios, Employees Per Square Foot, and Employees Per Acre." N.d.

This document provides context to the units used when calculating employment densities.

Relevant information:

- Floor-to-Area ratio (FAR), Employees per acre (EPA), square feet per employee (SFA) are three different ways to express employment density
- The document provides the mathematical relationship between FAR, EPA, and SFA
    - "FAR can be derived from EPA and SF/Emp as follows:
      (EPA*43560)/SF per Emp
    - SF/Emp can be derived from EPA and FAR:
      (FAR*43560)/EPA
    - EPA can be derived from SF and FAR:
      (FAR*43560)/SF per Emp"
- The document also shows the relationship when other variables are held constant:
    - "FAR increasing: When sq. ft. per employee is held constant and FAR increases, EPA also increases (e.g., there is a linear relationship between EPA and FAR)
    - FAR constant/ sf per emp decreasing: When sq. ft. per employee decreases and FAR is held constant, EPA increases at an increasing rate (e.g., a compounding relationship)
    - FAR + SF/Emp Increasing. Under this scenario EPA remains constant.
    - FAR Increasing and SF/Emp decreasing. When both FAR and sf/emp are increased, EPA increases at an increasing rate (e.g., a compounding relationship)"
    - This information is provided in graph form as well

Gehrke, Amanda and Sujata Srivastava. 2012. Final Employment Analysis Memorandum for Maricopa Association of Governments Sustainable Land Use and Transportation Strategy. Strategic Economics.

This updated memo provides information and insight into the relationship between transit (both planned and existing) and employment patterns in Maricopa County. Strategic Economics identified 32 significant regional employment clusters. The Maricopa Association of Governments serves the Phoenix metro area.

Location: Maricopa County, Arizona

Relevant Information (7-15):

- Employment clusters within one-quarter mile of transit in the central and south MAG region have the highest densities and employment concentrations, mainly not industrial
- Regions characterized by PDR (Production, Distribution, and Repair) have lowest employment densities in the region
- Employment clusters are assigned sector mix values. Listed below are employment clusters with over 40% PDR classification, and each cluster's corresponding employment density (jobs per acre)
    - Falcon Field, 58% PDR, 5.6 EPA
    - I-10 West Corridor, 63% PDR, 2.8 EPA
    - West Chandler, 45% PDR, 10.3 EPA
    - West Temple Industrial, 40% PDR, 14.2 EPA

Karr, Peter. N.d. Employment and Density in Oregon 2004–2012. University of Oregon.

This study reports employment trends and density changes in Oregon's current downtown and city peripheries from 2004 to 2012. The author focuses on Wholesale and Retail Trade, Transportation, and Information Service Sectors (NAICS Codes 42, 44-45, 48-49, and 51-56), and how much employment from these sectors are in Residential and Mixed-use zones outside of downtown. The study reports findings from Albany, Bend, Corvallis, Eugene, Grants Pass, McMinnville, Medford, Salem, and Springfield.

Location: Oregon (Albany, Bend, Corvallis, Eugene, Grants Pass, McMinnville, Medford, Salem, and Springfield)

Relevant information (10, 23):

- Metrics for evaluation of density included:
    - Count of Businesses per 2-digit NAICS Designation
    - Average Minimum Number of Employees
    - Average Maximum Number of Employees
    - Average Total Number of Employees
    - Standard Deviation
    - Sum of Total Employees working in that Industry
    - Sum of Acreage Totals for Tax Lots Containing Businesses
- Employment in Wholesale and Retail Trade, Transportation, and Information Services has decreased.
- Retail Trade (NAICS Codes 44 and 45) showed increases.
- Employment densities of downtown central commercial areas have decreased, except Salem and Bend showing greater than 5% increase
- Employment densities in city peripheries are more varied

Mullins, Matt, and Amanda Janzen. 2012. "Commercial/Industrial Market Analysis for Scott County, Minnesota." Maxfield Research Inc. Prepared for the Scott County Community Development Agency.

This study analyzed commercial and industrial land supply for Scott County. It is estimated that commercial and industrial land would expand in the county from 2012-2020. To estimate employment density, Maxfield Research, Inc. used previous employment density research in Minneapolis, Washington (state), Portland, Southern California, and Rhode Island.

Location: Scott County, Minnesota

Relevant Information (97-99):

- Estimated EPA using previous studies: Utilities (40), Construction (30), Manufacturing (30), Wholesale Trade (20), Transportation and Warehousing (15), Information (60), Real Estate, Rental, Leasing (20), Professional and Technical Services (60), Other Services (50).
- Square feet per employee has increased in industrial sectors from 2001 to 2010:
  - Light Industrial: 365 sq ft/employee in 2001 to 387 sq ft/employee in 2010
  - General Industrial: 344 sq ft/employee in 2001 to 505 sq ft/employee in 2010
  - General Warehouse: 538 sq feet/employee in 2001 to 753 sq ft/employee in 2010
  - Large Scale/High Bay: 861 sq ft/employee in 2001 and 2010
- Industrial, warehouse, and distribution have experienced increases in EPA since 2001
- Buildings that have more on-site amenities have higher EPAs

Placer County. 1994. Assumptions and Development Estimates. Placer County Countywide General Plan Final EIR.

This chapter is a discussion of assumptions and development estimates in Placer County's Countywide General Plan Final EIR. The document reports estimates for the development scenarios for years 2010 and 2040, which provide the basis for the rest of the impact assessment.

Location: Placer County, CA

Relevant information (2-8)

- Employment density assumptions:
  - Commercial: 550 sq ft/worker
  - Office: 333 sq ft/worker
  - Industrial: 700 sq ft/worker
  - Assumptions based on 1991 County Assessor's database and projections of use over time

San Diego Industrial Element. N.d.

This portion of the general plan examines industrial parcels in Southeastern San Diego.

Location: San Diego County, California

Relevant Information (97):

- SANDAG identified 180 acres of industrial zoned land in Southeastern San Diego, with an employment density of 15.7 jobs per acre.

The Natelson Company. 2001. Employment Density Study Summary Report. Southern California Association of Governments.

This document produces employment density figures based on land use categories from six counties. The consultants consolidated over 100 categories into 10 categories and calculated employment densities using two methods, median and weighted averages for employment per acre and floor-to-area ratios.

Location: Six-county SCAG region (Imperial County, Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County)

Relevant information:

- Land use categories from six counties were aggregated to 10 primary land use categories:
    - Regional Retail
    - Other Retail/Svc.
    - Low-Rise Office
    - High-Rise Office
    - Hotel/Motel
    - R & D/Flex Space
    - Light Manufacturing
    - Heavy Manufacturing
    - Warehouse
    - Government Offices
- Employment density reported in two formats
    - Median employees per acre density and median FAR. Employees per acre:
        - Regional Retail: 14.99
        - Other Retail/Svc.: 13.49
        - Low-Rise Office: 22.91
        - High-Rise Office: 116.32
        - Hotel/Motel: 11.04
        - R & D/Flex Space: 18.13

        - Light Manufacturing: 11.63
        - Heavy Manufacturing: 17.05
        - Warehouse: 10.63
        - Government Offices: 16.23
    - Weighted average of employees per acre density and weighted average FAR. Employees per acre:
        - Regional Retail: 19.71
        - Other Retail/Svc.: 21.98
        - Low-Rise Office: 43.95
        - High-Rise Office: 175.49
        - Hotel/Motel: 33.07
        - R & D/Flex Space: 20.53
        - Light Manufacturing: 17.83
        - Heavy Manufacturing: 31.14
        - Warehouse: 11.40
        - Government Offices: 51.67

Watson & Associates Economists Ltd. 2008. City of Guelph Employment Lands Strategy Phase 1.

This Employment Lands Strategy created a vision and plan for future employment lands in the City of Guelph, while maintaining competitiveness in business retention and attraction. The first of two phases, Phase 1: Needs and Opportunities Analysis, identified future employment lands by forecasting demand and evaluating existing vacant and developable land supply.

Location: Guelph, Ontario, Canada

Relevant Information (4-14 – 4-18):

- 2006 Employees per net acre in Hanlon Business Park (287 net acres)
    - Manufacturing: 16 EPA
    - Warehousing & Distribution (including transportation, storage, and wholesale trade): 11 EPA
    - Utilities & Construction: 2 EPA
    - Office: 6 EPA
    - Retail: 5 EPA
    - Other: 24 EPA
- 2006 Employees per net acre in the York-Watson Industrial Area (110 net acres)
    - Manufacturing: 29 EPA
    - Warehousing & Distribution (including transportation, storage, and wholesale trade): 11 EPA

    - Utilities & Construction: 30 EPA
    - Office: 14 EPA
    - Retail: 24 EPA
    - Other: 1 EPA
- James Snow Parkway Area, Milton, Industrial EPA: 18
- Harry Walker Parkway Industrial Park, Newmarket, Light Industrial EPA: 23
- Beaver Creek/Commerce Valley Dr. Area, Richmond Hill, Business Commercial/Office EPA: 86; Prestige Industrial EPA: 48
- Brantford, General Industrial EPA: 8
- Mississuga, Limited Outside Storage Industrial EPA: 20, Outside Storage Industrial EPA: 9, Restricted Commercial EPA: 106