

Land Capacity Analysis

City of Pasco, Washington

Introduction

The purpose of the land capacity analysis (LCA) is to identify the City of Pasco's availability of land to accommodate the projected population for the next 20 years. The study analyzes existing vacant and under-utilized parcels within the existing City limits and Urban Growth Area, and identifies number of persons it can accommodate during the planning timeframe. The difference between the projected population and the existing land capacity will identify whether the City has adequate land, or will need additional land to meet the future growth needs.

This study finds that additional land is required for the City to accommodate the 20-year population growth. The study was conducted using the Franklin County Parcel GIS data (dated October 2018) and planning assumptions (existing zoning requirements, standards) that covers a time period coinciding with the 2038 Comprehensive Plan and population projections provided by the Washington State Office of Financial Management.

The results of the Land Capacity Analysis may vary over the duration of the twenty-year time period due to external influences including: fluctuating market factors and regional economy, land owner choice and infrastructure availability. The LCA provides a broad understanding for the City to plan and prepare for future growth.

This document will address the following:

- Methodology
- Projected Growth
- Residential Land Capacity
- Land Needed

Methodology

To estimate capacities, the LCA involved the following processes:

1. Identify developable land within existing Pasco City Limits and existing Pasco Urban Growth Area (UGA) for residential land use designations:
 - a. Identify vacant land
 - b. Identify under-utilized land
 - c. Address right of way (20%), market (20%) and environmental factors (5%) to identify the net developable land
2. Calculate housing units on developable land within the City limits and existing UGA
 - a. Developable land area is multiplied the maximum density in each zoning and land use category
3. Identify existing land capacity to accommodate future population

- a. Multiply housing units with OFM household sizes
4. Identify difference between the projected (OFM) population estimates and the existing land capacity to determine the City’s adequacy or insufficiency of land supply within the existing UGA boundary

Data Gaps:

The LCA does not take into consideration potential prohibiting and/or limiting factors of growth that can include the lack of infrastructure, utilities and access in areas of the City.

Projected Growth

The Washington State Office of Financial Management (OFM) produces a state population forecast for each county. Each forecast identifies a low, medium and high projection for each county. County population estimates are then assigned to the cities within the counties based on local processes.

The 2018 OFM population estimate for Pasco is approximately 73,590. Historic trends have indicated that the population of Pasco has represented 80 percent or more of the total Franklin County population. As a result, the County has always assigned 80 percent of the OFM County population projections to Pasco for Comprehensive Planning purposes. Historically the 80 percent assignment has been based on the OFM mid-range projection.

Within the planning horizon the City of Pasco will need to anticipate a growth scenario where the County population reaches an estimated 152,285 in the year 2038. With 80 percent of that population assigned to Pasco the City’s population is expected to reach about 121,828 by 2038. This represents an increase of 48,238 over the current City population.

Table 1 below provides the City’s population projection for the next 20 years.

Table 1: Population Estimates Franklin County and the City of Pasco

	Franklin County	Pasco ¹
2018	93,541	73,590
2028	121,792	97,434
2038	152,285	121,828
10 year increase	30,493	23,844
20 year increase	58,744	48,238
Residential units needed in Pasco in 10 years		7,522
Residential units needed in Pasco in 20 years		15,217
¹ OFM Medium Series. Historically, Pasco’s share has been 80 percent of the County population.		
² Based on OFM - household size: 3.17		

Residential Land Capacity

The following section describes the steps taken to identify residential land capacity.

Step 1: Identify vacant and underutilized land within City limits

The LCA is based on Franklin County GIS parcel data from October 2018. Parcels were aggregated into two categories: within City limits and within the UGA. Tax exempt parcels were excluded from the analysis. Excluding tax exempt parcels eliminated land that was not available for residential development due to its ownership. These parcels were selected using ownership field included within the attribute table of the parcel GIS.

In total, 665 parcels with an estimated sum of 6,500 acres were excluded. The following table identifies parcel excluded:

Table 2: Exempt Parcels

Owner	Parcels	Area (Acres)
City of Pasco	122	619
Port of Pasco	75	2,934
Pasco School District (Education)	52	463
BNSF Railway	40	290
Franklin County Housing Authority	36	38
USA / Army Corps of Engineers / Bonneville Power Administration	32	411
Franklin County Irrigation District	17	73
Franklin County – Other	47	121
Lourdes Hospital	14	3
State of Washington (WSDOT, Others)	16	93
Columbia Basin College	3	138
State of Washington (Department of Natural Resources)	19	1,052
All Others	192	260

Underutilized parcels were identified by comparing the Land Market Value and Improvement Value attributes from the parcel GIS. The following steps were followed to identify parcel types:

Step 1A) Select parcels where Land Market Value is greater than or equal to the Improvement Value

Step 1B) Select from remaining parcels, select parcels where the Improvement Value was equal to zero. These parcels were identified as vacant.

Step 1C) Underutilized parcel data was collected by selecting parcels where the Land Market Value was greater than and/or equal to the Improvement Value, where the Improvement Value was greater than zero.

The result of Step 1C were used to create two sets of data; underutilized parcels at 2x the zoning minimum and 3x the zoning minimum.

Table 3: Vacant and under-utilized¹ land in the City

Zone	Description	Vacant Land (Acres)	Underutilized Acres (2x-3x Zoning Minimum) ¹	Underutilized Acres (3x + Zoning Minimum) ¹
R-1	Low Density	283.02	0.31	5.39
R-1-A	Low Density Alternate	14.45	-	-
R-1-A2	Low Density Alternate	0.58	-	-
R-1/PUD	Low Density Planned Unit Development	-	-	-
R-2	Medium Density	17.31	0.19	-
R-3	Medium Density	12.19	0.20	10.68
R-4	High Density	0.82	-	-
R-S-1	Suburban	16.92	-	-
R-S-1/PUD	Suburban Planned Unit Development	27.19	-	-
RP	Residential Park	0.67	-	-
RS-12	Suburban	43.20	-	50.36
RS-20	Suburban	173.06	8.86	84.54
RT	Residential Transition	6.90	-	-
Total		596.30	9.56	150.96
Total Acres		596.30	160.52	

¹Includes lots twice or higher than minimum lot size required in the zoning

Step 2: Identify vacant and underutilized land within the existing Urban Growth Area

This step was used to identify vacant and underutilized lands within the existing Pasco Urban Growth Area. The results did not take into consideration potential limiting factors for redevelopment such as land not available in the near future. Therefore, not all of the identified vacant land may be available for development. An additional challenge within the UGA is the vacant land in west Pasco. This area, south of Interstate I-182 and west of Highway 395 consists of remnant parcels created with poor subdivision practices (not at urban densities). The transportation system is limited with housing placed in the path of logical connections, the creation of long and narrow lots and parcels delineated with odd shapes leaving difficulties for future subdivisions to occur. The result has created challenges for future home construction, providing services (sewer) and limiting transportation access for fire and emergency responders.

Table 4: Vacant and underutilized land in the existing UGA¹

Land Use	Vacant land	Underutilized
Residential - High Density		
Residential - Low Density	255.29	74.33
Residential - Mixed	13.45	20.02
Residential / Commercial - Mixed		
Total	268.74	94.35

Step 3: Identify developable land

To identify the developable land, the LCA subtracts 45% from all land. The 45% reduction includes the need for transportation right of ways (20%), market factor (20%) and environmental constraints (5%).

The transportation (roads) right of way (ROW) reduction of 20% is based on identifying future ROW of needs of the anticipated growth. Recent residential development has varied below 20% while central Pasco has higher ROW totals (up to 28%). This LCA uses the 20% ROW to incorporate a balanced approach for future development considerate of a more refined transportation (grid) pattern.

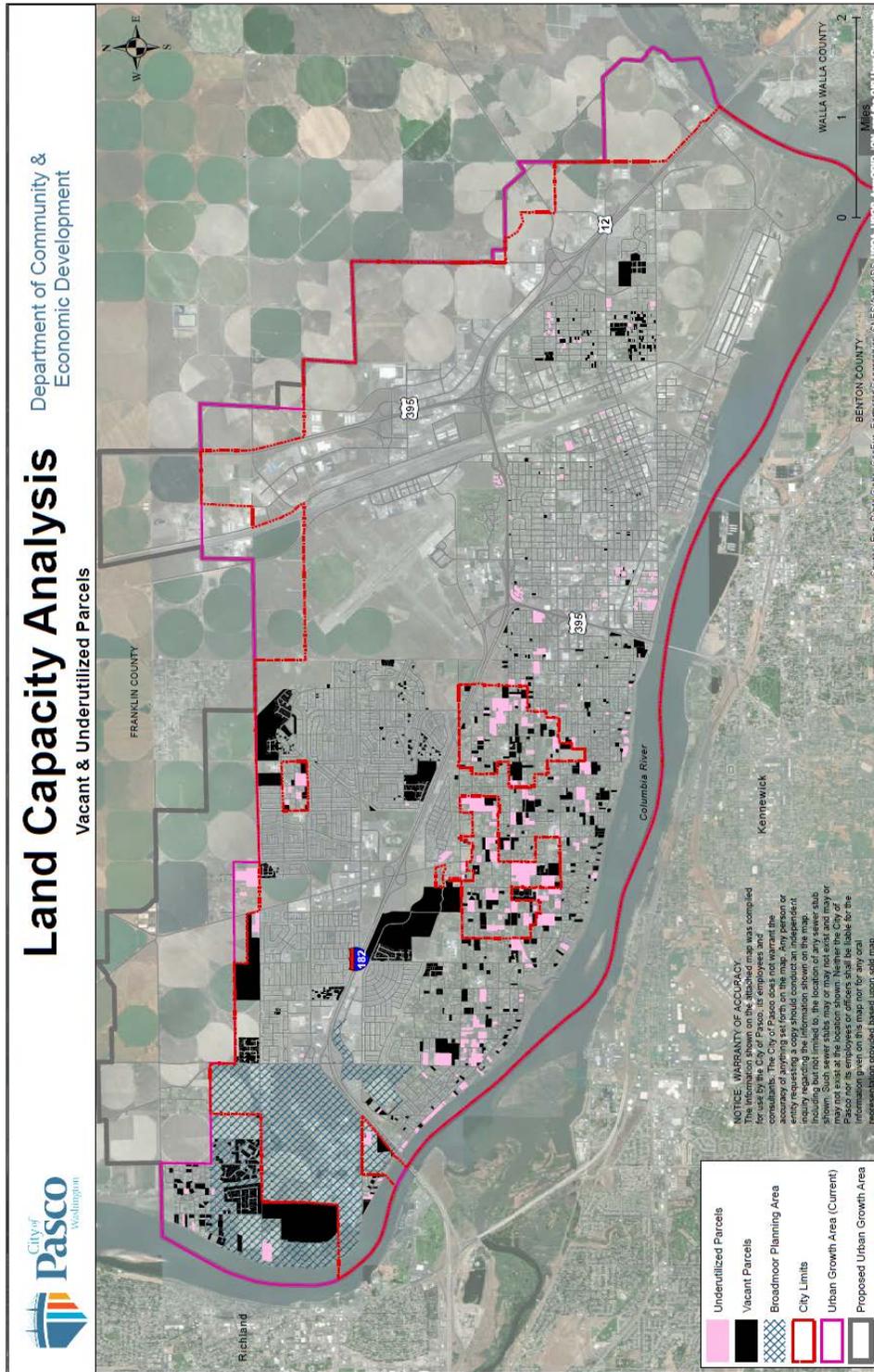
The Washington State Department of Commerce defines “market factor” as the “...final deduction from the net developable area to account for lands assumed not to be available for development during the planning period.” RCW 36.70A.110 (2) states that cities and counties have discretion by considering local circumstances to determine the appropriate market factor.

Table 5 and Figure 1 indicate developable residential lands within the City limits and UGA.

Table 5: Developable land in the existing UGA¹

	Acres (A)	20% ROW (B)	20% Market Factor (C)	5% Environment (D)	Developable Acres {A - (B+C+D)}
Vacant land in the City limits	596.30	119.26	119.26	29.82	327.97
Underutilized land in the City limits ¹	160.52	32.10	32.10	8.03	88.29
Vacant land in existing UGA ¹	268.74	53.75	53.75	13.44	147.81
Under-utilized land in existing UGA	94.35	18.87	18.87	4.72	51.89
¹ Doesn't include Broadmoor area					

Figure 1: Vacant and Under-utilized Residential Parcels



Step 4: Identify current residential capacity

This step identifies the developable land by each zoning district to determine the residential units that may be available in the future. Residential units are multiplied by the average household size (3.17) per OFM estimates. The amount of units referenced for the Broadmoor area is in line with the proposed mid-range development projects in the Broadmoor planning efforts.

Table 6: Number of Buildable Units in the Vacant and Under-utilized Parcels

Zone	Description	Density (DU/Acre)	City limits		UGA	
			Vacant	Underutilized	Vacant	Underutilized
R-1	Low Density	4	566	11	562	162
R-1-A	Low Density Alternate	4	29			
R-1-A2	Low Density Alternate	4	1			
R-1/PUD	Low Density Planned Unit Development	4				
R-2	Medium Density	15	142		148	219
R-3	Medium Density	18	120	85		
R-4	High Density	29	12			
R-S-1	Suburban	4	34			
R-S-1/PUD	Suburban Planned Unit Development	4	54			
RP	Residential Park	20	7			
RS-12	Suburban	3	65	80		
RS-20	Suburban	2	173	100		
RT	Residential Transition	3	10			
Total			1214	276	710	381
Total Units			1,490		1,091	
¹ Density used in calculating the units is a range, that includes maximum density, and in some cases the median of the range of density						

Table 7: Residential capacity

Type	Acres	Residential Unit Capacity	Population to be Accommodated
Developable land in the City limits	428.20	1,490	4,723
Developable land in existing UGA	199.70	1,091	3,459
Broadmoor ¹		7,000 ¹	22,190
Current Capacity (Includes Broadmoor Area)			30,372
¹ Broadmoor Planning Area (In Progress)			

Table 8: Gap in future land supply

20yr Population Projection (Growth)	Current Capacity (City Limits & Urban Growth Area)	Population Gap
48,238	30,372	17,866 (48,238 - 30,372)

The City of Pasco will need to accommodate an additional 17,866 residents outside of the existing Urban Growth Area boundary and City limits.

Land Needed

Step 5: Identify Land Use Needs

This section identifies other land categories needed to serve the additional 17,866 residents. The City had an adequate supply of land necessary to meet current commercial needs, however additional commercial land will be needed to support new residential neighborhoods in an effort to increase and promote efficiently planned walkable and sustainable communities.

Industrial Lands

Lands for industrial development were identified within the current Urban Growth Area. This included selecting all parcels within current industrial land use designations, and aggregating them into three different categories:

- Developed:
 - Parcels with existing structures; above \$10,000 in Improvement Value

- Underutilized:
 - Parcels with building footprints covering less than 5% of total area
- Vacant
 - Parcels with less than \$10,000 in Improvement Value

Publicly owned parcels were and tax-exempt within industrial land use areas were also identified for the following analysis.

In total, there are just under 6,000 acres of designated land use lands within the Urban Growth Area. It is important to note that this total includes all rights of ways, infrastructure and facilities. Of that total, almost 4,800 parcel acres remain.

The analysis then moved on to selecting publicly owned and tax-exempt parcels. Using Franklin County parcel and assessor data, a total of 1,262 acres were identified. The City of Pasco, the Franklin County Irrigation District, BNSF, the Port of Pasco and the United States Army Corps of Engineers are some of the largest landowners in this category. After removal of tax-exempt parcels, a total of 3,524 acres remained.

Using the definitions from above, parcels that met the criteria for developed, underutilized and/or vacant were selected. Table 9 (below) provides a summary of the results.

Table 9: Industrial Lands Analysis

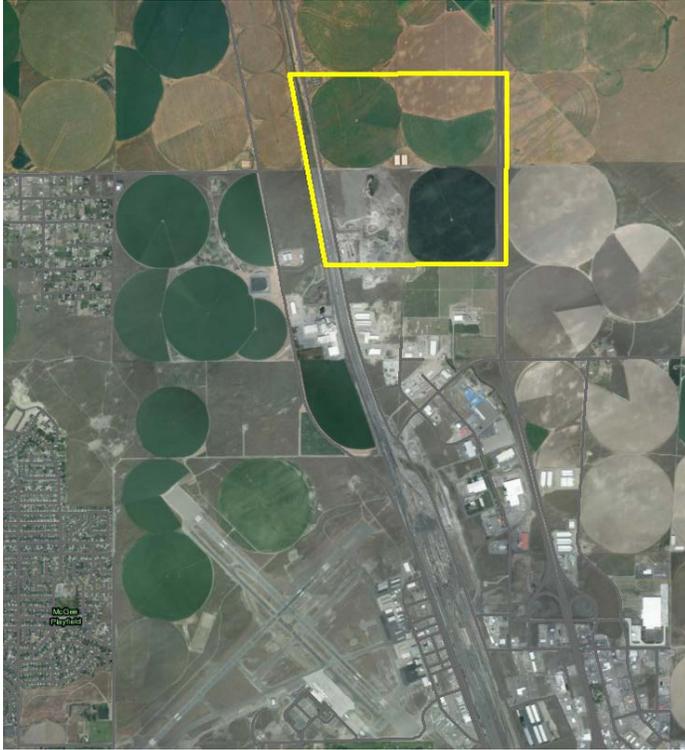
Parcel Type	Area (Acres)
Developed	907.79
Underutilized	412.81
Vacant	2,203.73
TOTAL	3,524.33

Recent large land purchases include over 181 acres from the Colville Indian Tribe along the Highway 395 corridor that may reduce total industrial development capacity. Additionally, the Port of Pasco owns 661 acres of land within the industrial land use.

Industrial Land Challenges

An estimated 4,800 acres of land are designated within the Pasco City Limits and the Urban Growth Area. The Heritage Industrial Park encompasses 810 acres located in the southeastern portion of the city. While the site consistent of predominantly large parcels best suited and historically planned for industrial development, access to the state transportation system is limited. Currently, Highway 12 is only accessible via the ‘A’ Street and Sacajawea Park Road intersection, both of which are at-grade. Limited vehicle capacity and safety challenges at these intersections have limited the prospects of this site.

Pasco’s rapid growth has also led to increased residential housing developments constructed in older neighborhoods east of Oregon Avenue, including adjacent to the



Heritage Industrial site. Impacts of traditional industrial developments on residential neighborhoods are an added concern for the marketability of the area, thus leading to a vacant and challenging industrial site.

Future Industrial Lands

There are 685 acres north of the existing City Limits, between Railroad Avenue and US HWY 395 that is zoned for industrial use by Franklin County and within a County Industrial LAMIRD. The addition of this land into the Urban Growth Area would allow the property to be served with adequate facilities and utilities that would promote its development potential.

The Franklin County Comprehensive Plan designates the area (Figure 2) as Rural Industrial. Discussions with the Franklin County Planning Department indicate that this area is intended for industrial development. Figure 2: Future Industrial Lands

A smaller, 40-acre parcel of land is also included within the expansion. This area east of US HWY 395 is located adjacent to existing city utilities (water and sewer) and includes access via Capital Avenue and E Foster Wells Road. Currently zoned for AP-20 (Agricultural Production) by Franklin County, the land is surrounded to the south and west by industrial uses.

A benefit of the locations identified for industrial expansion include access to rail and existing transportation facilities. Regional travel forecasts show that US HWY 395 (north of HWY 12) will experience less than a 70% volume to capacity ratio, this includes additional population and employment growth within the expanded Urban Growth Area. This may alleviate the traffic on current roadways facing higher than average congestion levels, such as Interstate 182.

The Census provides employment data that is reported via the Local Employment Dynamics partnership. Using this data, we find that that employment within the industrial land use in Pasco increased by 40% from 2010 – 2017.

Of the reported jobs within industrial lands, 68% are categorized as construction, manufacturing, transportation/warehousing or agriculture. Pasco has historically had a higher percentage of industrial employment within these sectors compared to the regional employment type. Recent employment data (2016) identified that these sectors make up 40%, more than ten percent higher than the entire Benton-Franklin County region.

Future Lands Summary

Table 10 below summarizes the land needed to accommodate the estimated population growth for the City of Pasco, a total of 3,573 acres. The per capita ratio is calculated by dividing the land use area by the population. The per capita ratio goal provides a guide for future land development to take place in more compact forms. The land needed columns is the estimated amount of land necessary per each land use category of the Comprehensive Plan. These totals are estimates, and subject to external market and economic factors.

Table 10: Land Needed for Additional People

Land Use	Per Capita Ratio (with street ROW)	Per Capita Ratio (Goal)	Land Needed (Acres)
Residential	0.123	0.110	1,965
Commercial	0.028	0.025	447
Public Lands	0.012	0.012	204
Open Space / Park Lands	0.013	0.013	232
Industrial ¹			725
Total			3,573

¹Includes an existing industrial land use in the county. This is added to the City's UGA in order to serve the area with municipal utilities.

END OF LAND CAPACITY ANALYSIS