

APPENDIX E

2007 Pierce County Buildable Lands Report

**Pierce County Buildable Lands Program
Employment Density Survey
November 2006**

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**Pierce County Planning & Land Services
Advance Planning**

Funds for this report were made available through the
Washington State Department of Community, Trade and Economic Development.



Background: The initial adoption of the Growth Management Act (GMA) in 1990 required Pierce County and its cities and towns to size their urban growth areas (UGAs) in consideration of an adopted 20-year urban population allocation. Originally silent on the incorporation of commercial or industrial land needs, GMA was amended in 1997 to include this as a component for UGA sizing. The ultimate goal is to determine the amount and ability of buildable land to accommodate future population and employment growth. With an initial submittal date of September 1, 2002, Pierce County is required to forward a “Buildable Lands” report to the Washington State Legislature every five years. It represents the documentation of the five year monitoring effort and a population/employment capacity analysis for the current twenty-year planning period. Pierce County and its cities and towns met this initial obligation through the publication of “The Pierce County Buildable Lands Report, A Monitoring and Evaluation Analysis of Urban Growth and Development Capacity for Pierce County and its Cities and Towns, September, 2002.”

The employment capacity analysis deducts various variables from inventoried vacant and redevelopable commercial/industrial zoned properties. An employee per acre assumption is applied to the resulting acreage to estimate the total number of new employees that could be accommodated, i.e. employment capacity.

Purpose: To document the methodology, data sources, and survey results as related to the commercial and industrial employment intensities. This report will be forwarded to the Pierce County Growth Management Coordinating Committee (GMCC) for their review and recommendation on the assumption(s) to be incorporated into the employment capacity analysis for the 2007 Pierce County Buildable Lands Report.

Methodology: Commercial building permit data collected between 1999 and 2000 for seven of the twenty-three jurisdictions were reviewed in conjunction with 2004 Washington State Employment Security Department (ESD) covered employment data and Pierce County Assessor-Treasurer (ATR) parcel records. Each parcel number(s) for individual commercial permits were queried against Pierce County’s GIS ATR parcel data layer. Geo-coded ESD employment point(s) within the parcel boundary were selected and reviewed to confirm a match between the business address and the queried parcel address. In instances where a geo-coded point was not within the parcel boundaries, a visual review of ESD data points outside the parcel boundaries was completed. If an ESD data point did not correlate to the parcel or if it was obvious through a visual review (ortho photos) that additional businesses exist within the parcel that are not represented by the ESD data points, the parcel was excluded from the survey. Parcels were also excluded if the initial parcel query against the ATR data layer failed to return a valid match.

Applicable information was derived and recorded from ATR and ESD records for successfully queried parcels with corresponding ESD data points. Parcel acreage and

existing use was extracted from ATR information. Total covered employment statistics were extracted from the ESD records. The average employee per acre is calculated by summing the total number of employees and parcel acreage under each category and then dividing the total employees by total acreage.

The parcels/employees are grouped into three categories: commercial, industrial and downtown Tacoma. The commercial category includes businesses classified as service, retail, finance, or real estate. The industrial category includes businesses classified as manufacturing, warehousing, and utilities. The downtown Tacoma area includes commercial building activity within the downtown core.

The downtown Tacoma area was segregated in the data due to its unique development intensity. Its development characteristics correspond to a much higher employment density than that observed elsewhere in the County. As a means to supplement a low number of permits, additional employment points were included which are associated with buildings constructed prior to 2000.

Additional employment/intensity information was also collected for existing publicly owned facilities. Such facilities include local administrative buildings, emergency services facilities, and schools.

Data Sources: 1999/2000 commercial permits for Fife, Orting, Puyallup, Bonney Lake, Sumner, Tacoma and Pierce County. 2004 Washington State Department of Employment Security covered employment records. Pierce County Assessor-Treasurer (ATR) parcel records.

Data Limitations: The procedure utilized to conduct the survey does not result in a statistical valid result. The ESD employment records/points only represent individuals covered by the Washington Unemployment Insurance Act. Covered employment excludes self-employed workers, proprietors, CEOs, and other non-insured workers. The Puget Sound Regional Council estimates that between 85 to 90 percent of total employees are included in the ESD data. While the ESD records provide a total covered employee statistic, other variables are not known. These include the number of shifts and total number of hours worked per week. For example, a retail store may employ two part-time employees which work a combined 40 hour week, while another store employs two full-time employees which work a combined 80 hour week.

The Buildable Lands legislation directs the County to utilize the average employment densities generated through the five-year trending period; however, the ESD employment data was not available for the entire five-year trending period at the initiation of this project.

A substantial number of commercial/industrial permits in 1999 and 2000 could not be associated with an ESD employment data point, i.e., total employees.

Results: The average employment density for commercial uses is estimated at 21.92 employees per gross acre. The average employment density for industrial uses is estimated at 13.8 employees per gross acre. The average employment density in downtown Tacoma is estimated at 356.77 employees per gross acre.

The range within each category varies dramatically. As an example various restaurants within the Retail/FIRES category generates an employment density between 90 and 100 employees per acre while various retail establishments generate a density between 10 and 20. This is observed through a lower median employment figure for Retail/FIRES of 19.37. While the Manufacturing/Warehousing median is slightly higher than its average, the downtown Tacoma area median density is significantly lower than its average.

Resulting Employment Density Per Employment Sector						
Employment Sector	Jurisdictions Surveyed	# of Parcels	Total Employees	Total Acreage	Average Employees*	Median Employees*
Manufacturing /Warehousing	Tacoma Fife Puyallup Bonney Lake	21	2,364	171	13.8	21.32
Retail/FIRES	Pierce County Bonney Lake University Place Fife Orting Puyallup Tacoma	97	4,206	192	21.92	19.37
Downtown Retail/FIRES	Tacoma	7	2,162	6.06	356.77	235.59

Source: 2004 ESD Employment Data, Pierce County ATR Parcel Records.

*Per gross acre.

The estimated average employment density for public administrative buildings is 27.56. Fire stations are estimated at an average employment density of 12.01. The average employment density for a school is estimated at 5.48.

Resulting Employment Density for Publicly Owned Facilities				
Type of Facility	# of Parcels	Total Employees	Total Acreage	Average Employees Per Gross Acre
Administrative Buildings	11	2,926	106	27.56
Fire Stations	11	264	21.98	12.01
Schools	45	5,329	972.19	5.48

Comparison with Previous Employment Survey: Data on individual businesses in Pierce County was obtained from the Washington State Employment Security Department to identify an average employment statistic to incorporate into the analysis for the 2002 Report. However, businesses included within the survey were randomly chosen in disregard to the time period in which a building was constructed. In essence, many of the commercial/industrial sites may have been constructed prior to the adoption and implementation of GMA policies and regulations.

Similar to the new survey, the employment information was grouped into three categories: commercial, industrial, and government. The downtown Tacoma area was also segregated as in the present survey. As seen on the table below, the average employment density for commercial uses was determined to be 34.3 employees per gross acre; the average employment density for industrial uses was determined to be 11.2 employees per gross acre; the average employment density for governmental uses was determined to be 22.7 employees per gross acre; and, the average employment density in downtown Tacoma was 318 employees per gross acre.

The commercial employment average was generated from the review of 131 businesses located on 56 separate properties. The industrial average was generated from the review of 50 businesses located on 35 separate properties. The downtown Tacoma average was derived from the review of 56 businesses on 6 separate properties. The average employee per acre for each category was calculated by summing the employees for all the businesses and dividing by the total acreage.

<p style="text-align: center;">Employment Density Comparison of 1999 and 2004 Surveys Pierce County Buildable Lands Program</p>			
Employment Sector	1999 Survey	2004 Survey Average	2004 Survey Median
Manufacturing/Warehousing	11.15	13.8	21.32
Retail/FIRES	34.3	21.92	19.37
Governmental	22.7	7.74	N/A
Downtown Tacoma	318	356.77	235.59

Source: 1999 ESD Employment Data, 2004 ESD Employment Data, Pierce County ATR Parcel Records.

Conclusion/Recommendation: UGAs associated with Pierce County and its cities and towns are required to include sufficient land to accommodate the housing and employment growth targets within a 20-year planning period. The publication of a Buildable Lands report every five years documents the UGAs housing/employment capacity analysis. This analysis incorporates various assumptions,

such as, housing density, persons per household, market availability, and employees per acre. The assumptions are reviewed every five years to determine if modifications should be implemented for the subsequent analysis/report.

The methodology applied to calculate the employment capacity relies upon two primary inputs: an inventory of developable land (vacant and redevelopable) and assumed number of employees per gross acre. This simplified approach results from the intricacies associated with employment capacity. While household sizes associated with residential development may minimally increase/decrease during any given point, employment intensities may deviate substantially.

Given the various intricacies of employment capacity, a more conservative approach in determining an employment capacity may be warranted. This approach may be implemented through the application of the lower employees per acre statistics, from the two surveys as depicted in the table below, to vacant and redevelopable lands within commercial and industrial zoning categories. If applicable, one of the three governmental employment statistics may be applied to documented capital facility projects that may be constructed within residentially zoned areas, such as new schools.

Employment Sector	Recommended Employment Density for Analysis Within 2007 Report
Manufacturing/Warehousing	11.15
Retail/FIRES	19.37
Downtown Tacoma	235.59