

APPENDIX 7: BASE YEAR EMPLOYMENT

Population and Employment Forecast 2005

Covered Employment

TRPC entered into a Memorandum of Understanding with the Washington State Employment Security Department (ESD) to utilize covered employment data as the base year data for the population and employment forecast. Covered employment includes all employed persons covered by the Washington Employment Security Act or by Title 5, U.S.C. 85. It excludes: casual labor; railroad employment; newspaper carriers; those people who are paid on a commission-only basis; enrolled students working for a school; religious organizations; employment at physical penal institutions; certain family employment; and certain construction, contractor, barber, hairdressing, and cosmetology services. Covered employment also excludes proprietors and the self-employed.

Records on number of employees by sector were provided to TRPC in a database format, with the firm name and address included for each record. TRPC matched the addresses to point locations using geo-coding software. This process involved “proofing” the addresses to ensure their accuracy. The point locations were then placed along the road network and assigned X-Y coordinates.

For the vast majority of private firms (non-government), each employment site was represented by one record in the database. There were, however, a few exceptions. For firms where the head office was reported as the primary location, employees were distributed to individual sites. For firms, such as employment agencies, where the employees were not necessarily present at the reported site, the employees were allocated to likely sites.

Covered employment at government sites is generally reported by the main address of the employer. TRPC worked with local jurisdictions and the State Department of General Administration to break down employment by site for each agency. Sites were located to individual tax-parcels for increased accuracy.

Location of ESD Private Sector Covered Employees

Zoning Districts

Employment sites are located throughout Thurston County in almost all of the zoning districts (Table 1). As expected, most employees are located in the public and institutional, commercial, mixed use, and industrial zoning districts, however approximately 17 percent of all private (non-government) employees are located in residential zoning districts.

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Table 1
The Relationship of 2003 Covered Private Site-based Employment
to Thurston County Generalized Zoning Districts

Employment Sector	Commercial, Mixed Use, or Public			Residential & Rural Residential		Resource & Industrial	Total
	Institutional	Resource	Resource	Resource	Industrial		
Agriculture, except agriculture services	242	28%	618	72%	4	0%	864
Forestry, fishing, & hunting	105	39%	95	35%	69	26%	269
Mining	3	5%	25	45%	27	49%	55
Construction	738	23%	1,641	50%	893	27%	3,272
Manufacturing - Durable Goods	176	9%	495	24%	1,352	67%	2,023
Manufacturing - Non-durable Goods	1,038	53%	46	2%	864	44%	1,948
Transportation, except transp services	434	29%	246	16%	837	55%	1,517
Communications	345	78%	48	11%	49	11%	442
Utilities	131	67%	49	25%	15	8%	195
Wholesale trade	714	33%	356	16%	1,121	51%	2,191
Retail trade - Auto dealers & service stations	1,384	96%	20	1%	38	3%	1,442
Retail trade - Eating & drinking places	5,053	96%	121	2%	72	1%	5,246
Retail trade - Retail, except restaurants & auto	7,575	89%	289	3%	649	8%	8,513
Finance	1,557	91%	120	7%	31	2%	1,708
Insurance	533	96%	23	4%	0	0%	556
Real estate	542	57%	389	41%	22	2%	953
Services - Consumer Services	5,714	64%	2,711	30%	516	6%	8,941
Services - Producer Services	2,412	73%	664	20%	215	7%	3,291
Services - Health Services	6,682	91%	651	9%	15	0%	7,348

The percentage varies greatly by employment sector and location as well as by the size of the employment site.

Most of the employment sites in residential zones tend to have relatively few employees. These are the typical home-based sites such as a home office, personal service provider, or start-up business. Almost 70 percent of the total employees found in residential zoning districts are found in employment sites of 9 or fewer employees.

Of the larger employment sites located in residential zoning districts, many of them are rural and resource or resource-industrial in nature. Agriculture, forestry, fishing, mining, construction, and lumber and wood products (durable goods – manufacturing) are examples of rural employment sites distributed throughout the rural county, most of which are found in the Rural Residential Resource 1/5 zoning district. Other agricultural sites such as nurseries are located in residential zones in the urban areas.

The real estate sector has over 40 percent of employees located in residential zoning districts. This sector includes apartment and property management employees, which tend to be located in residential zoning districts.

In the services sector, 50 percent of all employees located in residential zoning districts are at sites with 9 or fewer employees, representing 93 percent of the sites. Of the remaining sites, the largest are nursing homes in the health services industry, educational services such as day cares and private schools, and other similar services.

Jurisdictions

Seventy-nine percent of private ESD covered employees in Thurston County are located in the cities of Olympia, Lacey, and Tumwater and a further eight percent are located in the urban growth areas of these cities. Four percent of employees are located in the cities/towns of Yelm, Rainier, Tenino, and Bucoda, while an additional one percent is located in the south county urban growth areas, which includes Grand Mound. Less than one percent of private (non-government) employees are located on Tribal Reservations. Other Tribal Employment such as the casinos are considered public employment. The rural county holds the remaining eight percent of employees.

The location of employees varies by employment sector. As expected, the resource-based employment sites such as agriculture, forestry, fishing, hunting, mining, and lumber and wood products (durable goods) are not concentrated in the urban areas.

Table 2
Location of 2003 Covered Private Site-based Employment
in Cities, Towns, and Rural County

Employment Sector	South						Total
	North County Cities	North County UGA	South County Cities & Towns	South County UGA	Tribal Lands	Rural County	
Agriculture, except agriculture services	21%	26%	0%	7%	7%	38%	100%
Forestry, fishing, & hunting	54%	2%	11%	0%	0%	34%	100%
Mining	25%	9%	0%	29%	0%	36%	100%
Construction	40%	24%	5%	0%	0%	29%	100%
Manufacturing - Durable Goods	67%	10%	1%	2%	0%	21%	100%
Manufacturing - Nondurable Goods	66%	15%	17%	0%	0%	2%	100%
Transportation, except transp services	66%	19%	3%	0%	0%	12%	100%
Communications	80%	7%	12%	1%	0%	0%	100%
Utilities	67%	6%	2%	0%	0%	25%	100%
Wholesale trade	65%	24%	2%	2%	0%	8%	100%
Retail trade - Auto dealers & service stations	86%	4%	5%	1%	0%	4%	100%
Retail trade - Eating & drinking places	86%	3%	6%	3%	0%	2%	100%
Retail trade - Retail, except restaurants & auto	87%	4%	5%	1%	0%	3%	100%
Finance	94%	1%	4%	0%	0%	1%	100%
Insurance	97%	2%	1%	0%	0%	0%	100%
Real estate	86%	7%	1%	0%	0%	5%	100%
Services - Consumer Services	77%	9%	3%	1%	0%	10%	100%
Services - Producer Services	85%	5%	1%	1%	0%	8%	100%
Services - Health Services	95%	1%	1%	0%	0%	3%	100%
Total	79%	8%	4%	1%	0%	8%	100%

In the manufacturing sector more than 65 percent of employees in the durable and nondurable goods sector are located in the north county urban areas. Seventeen percent of employees in the nondurable goods sector are found in the south county cities, mainly Yelm. Twenty-one percent of the employees in the durable goods sector are found in the rural county, mainly in lumber and wood products.

In the retail trade and finance sectors, the concentration of employees in the cities and towns is high, over 86 percent in the north county, and a further 5 to 6 percent in the south county. Employees in the services sectors are likewise concentrated in the urban areas, with 95 percent of all employees in the health services located in the north county cities.

Some sectors of employment are further concentrated into activity zones. For instance, over 50 percent of all employees in the retail sales - auto dealers and service stations, are located within a half mile of the Automall on the west side of Olympia, and over 70 percent of employees in the health care sector are located within a half mile of the two regional hospitals.

In the retail sector, almost 65 percent of retail trade - except restaurants and auto employees are located within a half mile of an Interstate 5 or Highway 101 Interchange, or within a half mile of Capital Mall. This number jumps to almost 80 percent if the area within a mile of interchanges is considered. Of those businesses

located *more* than a mile from an interchange and *more* than a half mile from the regional malls (Capital Mall and South Sound Center), 87 percent employ 20 or fewer employees; only 8 sites report more than 50 employees, the majority of which are grocery stores.

Transportation Infrastructure

Transportation infrastructure plays a fundamental role to the location of employment sites (Table 3). Thirty-six percent of employees in Thurston County are located at sites that are within a half mile of Interstate 5 or Highway 101 interchanges, or within a half mile of the regional malls. This varies by employment sector, with approximately 60 percent of retail trade employees are located in the above areas.

When areas within a half mile of the two regional hospitals are considered, 78 percent of employees in the health services sector are described.

Major arterials such as old state highways are found throughout Thurston County. Sixty-six percent of all employees are found in locations near highway interchanges, malls or within an eighth of a mile of major arterials. Over 85 percent of the employees in the retail trade, finance, insurance, and health services sectors are found in these areas.

Table 3
The Location of 2003 Covered Private Site-based Employment
Compared to Select Features Such as Transportation Infrastructure

Employment Sector	1/2 mile to I-5 or Hwy. 101 interchanges, or 1/2 mile from Regional Malls		PLUS 1/2 mile of Hospitals (specified categories only)		PLUS 1/8 mile to Major Arterials		PLUS 1/8 mile to Minor Arterials		PLUS 1/2 mile to RR or 1 mile to interchanges (spec. cat. & industrial zoning only)		Remainder	
	Num.	%	Num.	%	Num.	%	Num.	%	Num.	%		
Total Empl.	864	3%	22	3%	269	31%	543	63%	1,694	89%	* rural sites	
Agriculture, except agriculture services	269	2%	6	2%	21	8%	95	35%			* rural sites	
Forestry, fishing, & hunting	55	3%	3	5%	3	5%	34	62%			* rural sites	
Mining	3,272	376	376	11%	779	24%	1,347	41%	1,694	52%	* mainly small businesses	
Construction	2,023	255	255	13%	362	18%	484	24%	1,462	72%	* 14% lumber and wood products	
Manufacturing - Durable Goods	1,951	248	248	13%	584	30%	1,137	58%	1,812	93%	* airport related or small businesses	
Manufacturing - Nondurable Goods	1,517	170	170	11%	264	17%	1,080	71%	1,265	83%		
Transportation, except transp services	443	155	155	35%	334	75%	416	94%	440	99%		
Communications	195	13	13	7%	125	64%	174	89%	184	94%		
Utilities	2,191	579	579	26%	910	42%	1,219	56%	1,960	89%		
Wholesale trade	1,442	1,026	1,026	71%	1,251	87%	1,375	95%				
Retail trade - Auto dealers & service st	5,295	2,979	2,979	56%	4,588	87%	5,215	98%				
Retail trade - Eating & drinking places	8,522	5,488	5,488	64%	7,345	86%	7,971	94%				
Retail trade - Retail, except restaurants	1,710	1,036	1,036	61%	1,479	86%	1,634	96%				
Finance	566	314	314	55%	530	94%	555	98%				
Insurance	953	346	346	36%	588	62%	696	73%			* property management	
Real estate	8,944	2,808	2,808	31%	5,527	62%	6,782	76%			* athletic clubs, day cares, landscaping	
Services - Consumer Services	3,300	1,116	1,116	34%	1,355	41%	2,239	68%	2,757	84%		
Services - Producer Services	7,348	1,158	1,158	16%	5,749	78%	6,478	88%	7,016	95%	* mainly small businesses	
Services - Health Services												
Total	50,860	18,098	18,098	36%	22,928	45%	33,676	66%	40,530	80%	43,490	86%

When those businesses that front or lie within an eighth of a mile of minor arterials are considered, some 95 percent of retail trade, finance, insurance, and health services employees are described.

The location of businesses in the construction, manufacturing, transportation, communications, utilities, and wholesale trade sectors are also influenced by transportation infrastructure. Due to the nature of these businesses, some of which are highly dependent on moving goods and services, they tend to be located near major transportation features such as interstate interchanges and railroads.

There are many businesses that locate in areas that are not serviced by major transportation infrastructure. These include home-based businesses which tend to have 5 employees or less. Other businesses in sectors such as agriculture, forestry (and lumber and wood products in the nondurable manufacturing sector), fishing, hunting, and mining are located in rural areas where the resource is available. The construction sector is comprised of many small businesses, many of which are home-based.

In the real-estate sector, many of the larger employment sites that are not located near transportation infrastructure are residential properties such as mobile home parks, apartment complexes, and assisted living. In the consumer services sector, employment sites such as athletic clubs, daycares, and landscapers are also located in residential areas farther from major transportation infrastructure. Finally, in the producer services sector, those employee sites not located near transportation infrastructure tend to be small businesses.

Total Employment

Covered employment represents approximately 76 percent of the total employment in Thurston County. Total employment is measured as the average annual number of jobs, both full-time and part-time, and is split into two major categories: wage and salary employment and proprietors' employment (self employment). In order to adjust 2003 covered employment (from ESD) to total employment, generalized ratios were established using 1998 to 2000 data sets. It should be noted that 2000 marks the final year that total employment information by U.S. Standard Industrial Code (SIC) was released by the U.S. Department of Commerce, Bureau of Economic Analysis. Starting in 2001 the North American Industry Classification System (NAICS) replaced the SIC system of classification.

The adjustment factor was applied to the 2003 covered employment, giving an estimate of total employment for 2003 (Table 4). The difference in employees between total and covered employment, as well as the covered employees that could not be matched to a specific site, were allocated to likely employment sites based on assumptions as to where the employees were likely located.

Allocations fell into three major categories (Table 5):

- Existing employment sites – using the assumption that the proprietors would tend to be located near their employees, some employees were located to existing sites of the same employment sector. The employees were allocated evenly to all sites – the base assumption being that those sites that tend to

report a small number of employees were likely to be owned by a local proprietor rather than a national chain.

- Home-based – Census 2000 provided some information on the number of people who reported a journey to work of less than 5 minutes. These employees were assumed, for the most part, to be home-based employees. Assuming that the majority of home-based employees tend to be self-employed or sole-proprietors, and that many of the part-time jobs are held by home-based employees, a proportion of the allocated employees were assigned to residential areas.
- Other – for some sectors employees were allocated to other likely sites. In the mining sector for instance, all the mines in the county were located and a few employees assigned to each site. For the agriculture sector, large farms were identified and each assigned a few employees. In the retail and services sectors, employees were assigned to small stores or offices (depending on the sector) where small businesses with sole proprietors are likely located.

**Table 4
Relationship Between Total Employment and Covered Employment by SIC Codes (1998-2000)**

INDUSTRY	Total Employment		Covered Employment		Adj. Factor		
	1998	1999	2000	1998		1999	2000
Agriculture	1,784	1,890	1,745	1,035	1,036	948	179%
Ag services	1,217	1,139	1,219	513	549	618	213%
Forestry, fishing, & hunting	718	508	514	427	246	241	190%
Mining	126	105	106	68	61	63	176%
Construction	5,744	6,061	5,983	3,449	3,738	3,690	164%
Manufacturing	4,834	5,028	4,843	4,136	4,257	4,073	118%
Food & kindred products	636	720	815	605	681	773	105%
Lumber & wood products	1,049	1,120	875	907	968	724	117%
Paper & allied	330	269	310	326	265	305	101%
Printing & publishing	536	545	559	430	436	449	125%
Oil, coal, rubber & misc plastic prod	603	592	600	598	587	595	101%
Fabricated metal products	386	453	318	331	392	258	118%
Machinery, computers, electronics, & instruments	275	245	252	195	159	170	147%
Other durable goods mfg plus transp eqt	788	844	889	586	611	653	136%
Other nondurables manufacturing	229	239	227	157	158	147	150%
Transportation, except transp svcs	1,519	1,593	1,715	1,024	1,069	1,134	150%
Freight transportation	1,252	1,344	1,450	832	907	965	150%
Local & Interurban passenger transit	267	249	265	192	162	169	149%
Transportation services	244	267	262	146	157	141	174%
Communications	781	815	851	709	741	762	111%
Utilities	213	201	196	198	185	179	109%
Wholesale trade	2,626	2,695	2,697	2,160	2,155	2,148	124%

Table 4, continued
Relationship Between Total Employment and Covered Employment by SIC Codes (1998-2000)

INDUSTRY	Total Employment		Covered Employment		Adj. Factor		
	1998	1999	2000	1998		1999	2000
Retail trade	17,962	18,203	18,196	14,031	14,520	14,532	126%
Retail, except restaurants & auto	10,827	10,829	10,948	7,657	7,887	8,031	138%
Automotive dealers & service stations	1,658	1,678	1,655	1,428	1,454	1,431	116%
Eating & drinking places	5,478	5,696	5,593	4,946	5,179	5,070	110%
Finance	2,427	2,533	2,628	1,454	1,524	1,482	170%
Insurance	1,156	1,110	976	727	689	541	166%
Real estate	3,022	3,133	3,417	800	858	883	377%
Services	28,457	29,017	30,386	18,311	18,732	19,603	155%
Consumer services	12,568	13,085	13,495	7,950	8,340	8,566	157%
Producer services	7,980	7,854	8,435	3,629	3,524	3,849	210%
Health services	7,908	8,078	8,456	6,732	6,868	7,188	118%
Federal government - civilian	974	990	1,104	979	1,008	1,112	99%
Post Office	500	494	495	503	503	499	99%
Federal government - other civilian	474	496	609	476	505	613	99%
State government, incl education	21,689	22,255	22,732	21,171	21,639	22,144	103%
State government, except education	20,291	20,834	21,287	19,806	20,257	20,736	103%
Evergreen State College	939	946	935	917	920	911	103%
South Puget Sound Community Coll	459	475	510	448	462	497	103%
Local government & Tribal government	10,572	10,672	10,933	9,682	9,726	9,937	110%

**Table 5
Distribution Patterns of Allocated Employees (Non-covered Employees and Non-site-based Covered Employees)**

Industry	Adj. Factor (1998-2000)	2003 Covered Employment		2003 Est. Total Employ.	Allocation Patterns			Notes
		Site-based	Allocated ¹		Existing Sites	Home-based	Other Sites	
Agriculture	179%	864	4	1,558	0%	0%	100%	FARMS
Ag services	213%	595	1	1,268	50%	50%	0%	dist. equal per site
Forestry, fishing, & hunting	190%	269	3	518	0%	50%	50%	combine sites with lumber
Mining	176%	55	0	97	100%	0%	0%	MINES
Construction	164%	3,272	278	5,806	50%	50%	0%	dist. equal per site
Manufacturing								
Food & kindred products	105%	694	0	732	100%	0%	0%	breweries; dist. equal per site
Lumber & wood products	117%	738	45	917	0%	50%	50%	combine sites with for, fish, and mining
Paper & allied	101%	334	0	339	100%	0%	0%	dist. equal per site
Printing & publishing	125%	361	0	450	100%	0%	0%	dist. equal per site
Oil, coal, rubber & misc plastic prod	101%	437	0	441	100%	0%	0%	dist. equal per site
Fabricated metal products	118%	274	0	323	0%	0%	100%	*dist. equal per site combined with *
Machinery, computers, electronics	147%	133	0	196	0%	10%	90%	*dist. equal per site combined with *
Other durable goods mfg plus transp eqt	136%	878	0	1,196	0%	25%	75%	*dist. equal per site combined with *
Other nondurables manufacturing	150%	125	0	188	75%	25%	0%	dist. equal per site
Transportation, except transp svcs								
Freight transportation	150%	1,328	4	1,993	25%	50%	25%	other - 20,000-80,000 sf retail and warehouses
Local & Interurban passenger transit	149%	189	0	282	0%	100%	0%	20 taxi drivers
Transportation services								
Transportation services	174%	91	0	158	100%	0%	0%	dist. equal per site; travel agencies
Communications	111%	443	0	490	100%	0%	0%	dist. equal per site
Utilities	109%	195	0	212	100%	0%	0%	dist. equal per site
Wholesale trade	124%	2,191	327	3,124	25%	0%	75%	other - 10,000-90,000 sf warehouse

**Table 5, continued
Distribution Patterns of Allocated Employees (Non-covered Employees and Non-site-based Covered Employees)**

Industry	Adj. Factor (1998-2000)	2003 Covered Employment		2003 Est. Total Employ.	Allocation Patterns			Notes
		Site-based	Allocated ¹		Existing Sites	Home-based	Other Sites	
Retail trade								
Retail, except restaurants & auto	138%	8,522	12	11,802	50%	0%	50% other - 500-5,000 sf retail/service buildings	
Automotive dealers & service stations	116%	1,442	0	1,669	100%	0%	0% dist. equal per site	
Eating & drinking places	110%	5,295	0	5,843	100%	0%	0% dist. equal per site	
Finance								
Finance	170%	1,710	0	2,909	50% ²	50%	0% invest. brokers -	
Insurance	166%	566	0	938	25%	50%	25% other - 500-5,000 sf office bldgs	
Real estate	377%	953	4	3,605	25%	50%	25% other - 500-5,000 sf office bldgs	
Services								
Consumer services	157%	8,178	672	13,939	40%	30%	30% dist. equal per site; dist to likely bldgs.	
Producer services	210%	3,455	624	8,557	25%	40%	35% other - 500-5,000 sf office bldgs	
Health services	118%	7,348	101	8,758	50%	50%	0% dist. equal per site	
Tribal								
Tribal Government	110%	254	0	279	100%	0%	0% dist. based on existing employees at site	
Tribal Enterprise	157%	795	0	1,252	100%	0%	0% dist. based on existing employees at site	
Federal government - civilian	100%	909	0	909	100%	0%	0% dist. based on existing employees at site	
State government, incl education								
State government, except education	103%	21,457	0	22,026	100%	0%	0% dist. based on existing employees at site	
Evergreen State College	103%	806	0	827	100%	0%	0% dist. based on existing employees at site	
South Puget Sound Community College	103%	564	0	579	100%	0%	0% dist. based on existing employees at site	
Local government	110%	10,184	0	11,167	100%	0%	0% dist. based on existing employees at site	