Region 5 – Seattle - King County WDA

King County has two very large clusters – software/computer services and aerospace – that also have quite high location quotients, about 15 times the national proportion of employment in these two clusters. However, another cluster has an even higher location quotient of nearly 19 – Overhead Cranes and Hoist Manufacturing. Fishing/Seafood also has a high location quotient, with cluster employment in this county about 10 times the national figure. King County is the center of the largest metro area in the state, and thus it is not surprising to see over a dozen other clusters in the region, most of them with modestly high location quotients in the range of 1.7 to 4.7.

Of the two large clusters, software/computer services has expanded steadily in this region since the founding of Microsoft and in the years shown in the table below, 2001-07. Aerospace, on the other hand, is known for its up and down employment cycles; from 2001-07, employment in this cluster contracted, but an expansion is projected from 2006-16. Fishing/seafood employment contracted modestly from 2001-07 and is expected to expand very slowly from 2006-16. Of the remaining clusters, a mix of expansions and contractions is shown in the historical data, but only one is expected to continue contracting from 2006-16 – electromedical apparatus.

The wage distribution in this region is distinctive, in that just 8 of the 19 clusters have a higher percentage of middle wage jobs, a lower percentage of clusters with a relatively high ratio of middle wage jobs than many other regions. However, there are also 8 clusters with a higher percentage of high wage jobs than the regional average, a higher ratio than many of the other regions.

Turning to the strategic matrix, software/computer services achieves the highest overall score, followed by aerospace, and nonstore retailers. The range of index scores is quite large for this region, including some negative numbers. A negative number does not indicate that the cluster has negative impacts on the economy; the proper interpretation of the index is just that there is a tremendous range between the scores for the top-ranked clusters and those receiving lower index scores. Water transportation, for example, with an index score of just 34, ranks first on exports and change in wages. The two lowest ranked clusters, sporting goods manufacturing and performing arts, received low rankings on many of the variables and are not near the top on any variable. These clusters, however, may be highly ranked on some other characteristic for which we did not have an available measure. Water transportation is part of the logistics and international trade cluster that has received priority ranking in the Puget Sound Regional Council's cluster strategy, and performing arts includes the music industry that has been strongly supported by the City of Seattle. The overall index is quite sensitive to which variables are included; some users of this study may find it useful to construct alternative indexing methods based on the supplied data.

The map for this region demonstrates that King County has a tremendous number of firms relative to other regions in the state. This region has a mature, diverse, and growing economy, with clusters of Aerospace, Fishing, Industrial Specialties, Computer

Services, and Service Specialties. The level of intensity and complexity of the accompanying map perhaps obscures readability but illustrates an important point of the geographic intensity of firms in WDA 5 versus all other regions of the state. As in other regions, however, there are some clustering effects that can be disentangled from the sheer mass of establishments in this region. Fishing is highly clustered in the western portion of King County, with large numbers of establishments in the Ballard/Ship Canal and Downtown areas of Seattle, as well as near the King County Airport. Computer Services firms are highly clustered in the Bellevue/Redmond and downtown Seattle areas, though many of these establishments are also dispersed throughout the region. Clusters of Industrial Specialties firms are especially pronounced in the SODO (south downtown) region of Seattle, nodes in Bellevue, Redmond, Factoria, and Issaquah on the Eastside, and Tukwila and the 167 corridor in the Southern area of the region. Aerospace firms are clustered in the King County Airport/Boeing Field area south of Seattle, Renton, and with a very strong presence in the Highway 167 corridor. Service Specialties are highly concentrated in the downtown Seattle area.

Figure 15: WDA5 Cluster Characteristics

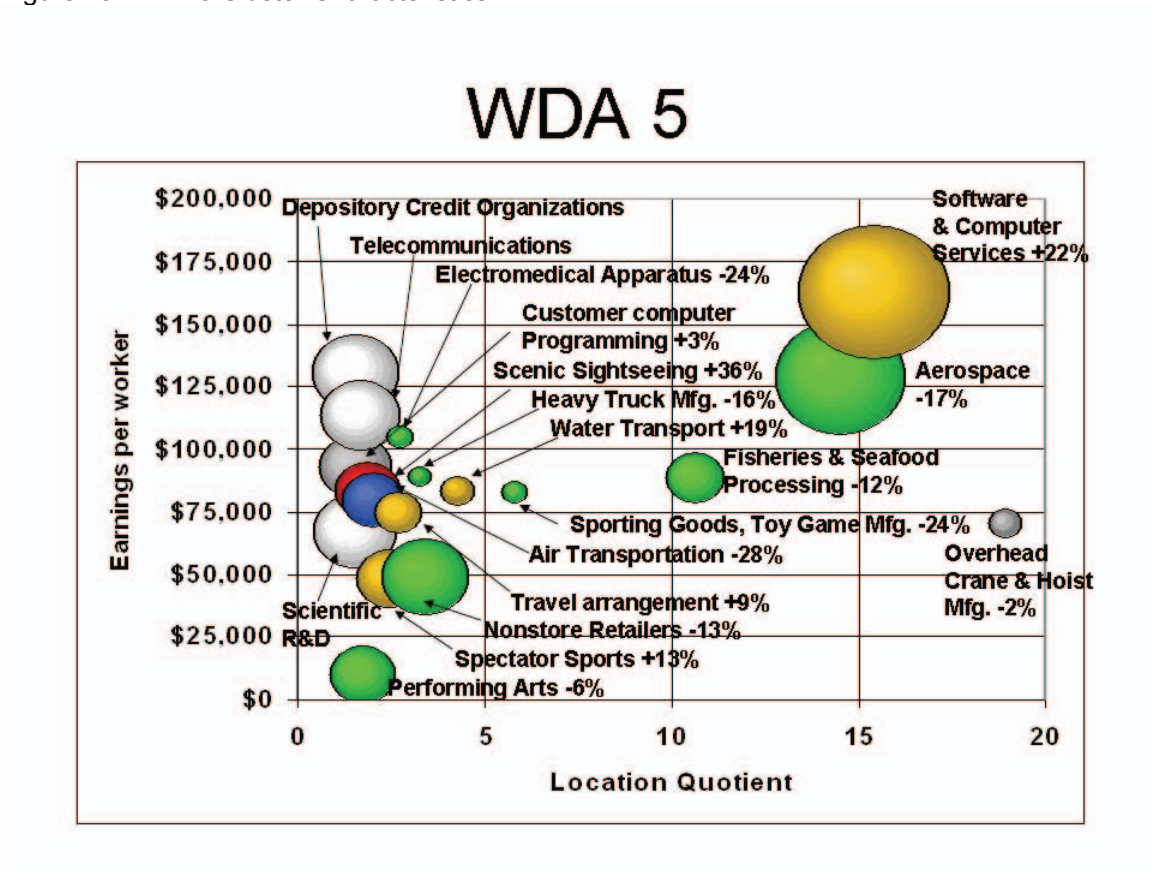

Figure 16: WDA5 Cluster Linkages

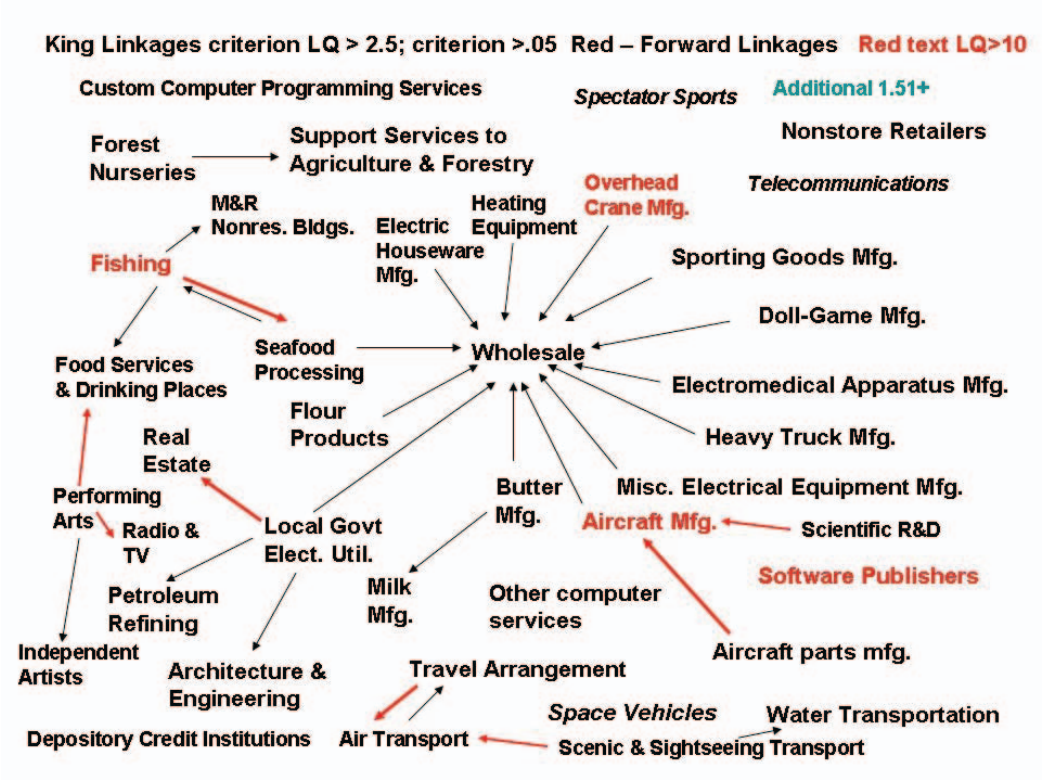

Table 13: Distribution of Occupational Median Wages in WDA 5

Wage Type	Annual Wages
Mean Wages	$ 51,557
Pct25 Wages	$ 27,803
Median Wages	$ 41,328
Pct75 Wages	$ 65,215

Table 14: Middle and High Wage Jobs by Cluster in WDA 5

Cluster	All Employment	Middle Wage Jobs	Percent Middle Wage Jobs	High Wage Jobs	Percent High Wage Jobs
Overhead Cranes & Hoist Mfg.	3,476	2,797	80%	478	14%
Software/Computer Services	45,526	7,866	17%	37,545	82%
Aerospace	44,398	18,130	41%	22,654	51%
Fisheries	4,544	1,644	36%	207	5%
Sporting Goods and Toy Mfg.	4,235	2,694	64%	789	19%
Water Transportation	3,006	1,496	50%	1,338	45%
Nonstore retailers	7,620	4,870	64%	664	9%
Heavy Truck Mfg.	84	60	71%	2	2%
Electromedical Apparatus	4,081	2,702	66%	1,181	29%
Travel Arrangement	4,636	3,642	79%	742	16%
Spectator Sports	2,557	1,077	42%	132	5%
Air Transportation	10,173	4,512	44%	976	10%
Performing Arts	2,241	724	32%	80	4%
Telecommunications	13,164	6,055	46%	6,848	52%
Scientific Research & Development	9,272	5,288	57%	3,747	40%
Custom Computer Programming	21,852	5,002	23%	16,730	77%
Depository Credit	15,789	7,556	48%	4,783	30%
Other Ambulatory Health Care	8,712	11,626	75%	2,293	20%
Other Construction	5,060	6,450	78%	1,007	16%
Cluster Total	196,654	76,115	39%	98,896	50%
All Industries	1,213,382	644,364	53%	260,770	21%
Clusters as % of All Industries	16%	12%			

Table 15: Strategic Evaluation of Clusters in Region 5

Cluster or Industry	LQ	Employment	Output ($ millions)	Earnings/ Worker	Percent of Occupations in Middle Wage Range	Percent of Occupations in High Wage Range	Chg Est 01-07	Chg Empl 01-07	Chg Wage 01-07	Projected Employment Increase 2006-16	R&D Occ'n. as % Empl.	Exports as % Output
Overhead Cranes & Hoist Mfg.	18.91	3,029	960	70,358	80%	14%	-28.2%	-1.8%	39.9%	16.94%	11.85%	42.49%
Software/Computer Services	15.41	58,938	29,353	140,922	17%	82%	2.9%	21.5%	-5.0%	46.77%	70.49%	74.27%
Aerospace	14.52	42,877	22,651	126,261	41%	51%	1.4%	-17.1%	15.1%	10.55%	39.18%	81.48%
Fisheries	10.60	9,119	1,729	64,062	36%	5%	-32.4%	-11.8%	26.3%	5.30%	0.47%	71.90%
Sporting Goods and Toy Mfg.	4.67	3,436	13	83,197	64%	19%	-12.2%	-24.4%	-5.4%	0.53%	0.91%	20.06%
Water Transportation	4.26	3,118	1,698	83,372	50%	45%	-2.8%	19.4%	41.8%	7.46%	1.63%	87.60%
Nonstore retailers	3.41	19,858	4,657	49,228	64%	9%	5.1%	-13.4%	42.9%	22.70%	3.95%	77.50%
Heavy Truck Mfg.	3.26	1,278	1,253	89,424	71%	2%	0.0%	-16.1%	19.8%	-4.36%	2.30%	41.46%
Electromedical Apparatus	2.72	1,681	710	105,183	66%	29%	-9.3%	-23.5%	0.0%	-14.41%	20.53%	54.75%
Travel Arrangement	2.69	5,708	1,108	74,917	79%	16%	-29.5%	8.5%	77.6%	9.36%	3.67%	67.05%
Spectator Sports	2.45	11,152	905	48,511	42%	5%	-13.9%	13.0%	56.8%	11.69%	0.70%	61.51%
Air Transportation	2.01	10,142	2,468	79,844	44%	10%	-11.2%	-27.9%	-9.7%	8.38%	3.97%	79.95%
Performing Arts	1.74	10,789	242	10,113	32%	4%	-13.1%	-6.0%	28.2%	6.87%	0.76%	62.43%
Telecommunications	1.69	16,936	8,613	113,709	46%	52%	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	32.1%
Scientific Research & Development	1.54	18,247	2,119	67,030	57%	40%	*n/a*	*n/a*	*n/a*	22.5%	50.2%	49.9%
Custom Computer Programming	1.51	13,870	1,380	92,870	23%	77%	-1.7%	2.5%	37.4%	30.2%	70.6%	40.1%
Depository Credit	1.51	18,817	8,028	103,827	48%	30%	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	38.0%
Other Ambulatory Health Care	1.45	14,940	2,542	53,067	75%	20%	22.1%	25.7%	69.1%	13.63%	4.22%	49.92%
Other Construction	1.08	2,463	19,261	49,699	78%	16%	-16.8%	12.1%	46.3%	1.01%	4.37%	48.89%

Note:
Projected employment change and R&D employment in Heavy Truck Mfg. estimated by national occupational data; state data are suppressed by ESD under confidentiality rules.

Table 15 continued

Cluster or Industry	LQ	Employment	Output ($ millions)	Earnings/ Worker	Percent of Occupations in Middle Wage Range	Percent of Occupations in High Wage Range	Chg Est 01-07	Chg Empl 01-07	Chg Wage 01-07	Projected Employment Increase 2006-16	R&D Occ. as % Empl.	Exports as % Output	Sum of Ranks*	Index (120-Summed Scores)
Overhead Cranes & Hoist Mfg.	1	16	15	12	1	13	14	8	7	5	6	14	112	8
Software/Computer Services	2	1	1	1	19	1	3	2	14	1	2	5	52	68
Aerospace	3	2	2	2	15	4	4	13	12	8	4	2	71	49
Fisheries	4	12	10	14	16	17	16	10	10	13	17	6	145	-25
Sporting Goods and Toy Mfg.	5	14	19	9	8	10	10	15	15	15	14	19	153	-33
Water Transportation	6	15	11	8	10	5	7	3	6	11	13	1	96	24
Nonstore retailers	7	3	6	17	7	15	2	11	5	3	10	4	90	30
Heavy Truck Mfg.	8	19	13	7	5	19	5	12	11	16	12	15	142	-22
Electromedical Apparatus	9	18	17	4	6	8	8	14	13	17	5	10	129	-9
Travel Arrangement	10	13	14	11	2	11	15	6	1	9	11	7	110	10
Spectator Sports	11	9	16	18	14	16	12	4	3	7	16	9	135	-15
Air Transportation	12	11	8	10	13	14	9	16	16	10	9	3	131	-11
Performing Arts	13	10	18	19	17	18	11	9	9	12	15	8	159	-39
Telecommunications	14	6	4	3	12	3	8.5	8.5	8.5	9	9	18	103.5	16.5
Scientific Research & Development	15	5	9	13	9	6	8.5	8.5	8.5	4	3	12	101.5	18.5
Custom Computer Programming	16	8	12	6	18	2	6	7	8	2	1	16	102	18
Depository Credit	17	4	5	5	11	7	8.5	8.5	8.5	9	9	17	109.5	10.5
Other Ambulatory Health Care	18	7	7	15	4	9	1	1	2	6	8	11	89	31
Other Construction	19	17	3	16	3	12	13	5	4	14	7	13	126	-6

Note: missing values assigned the median rank
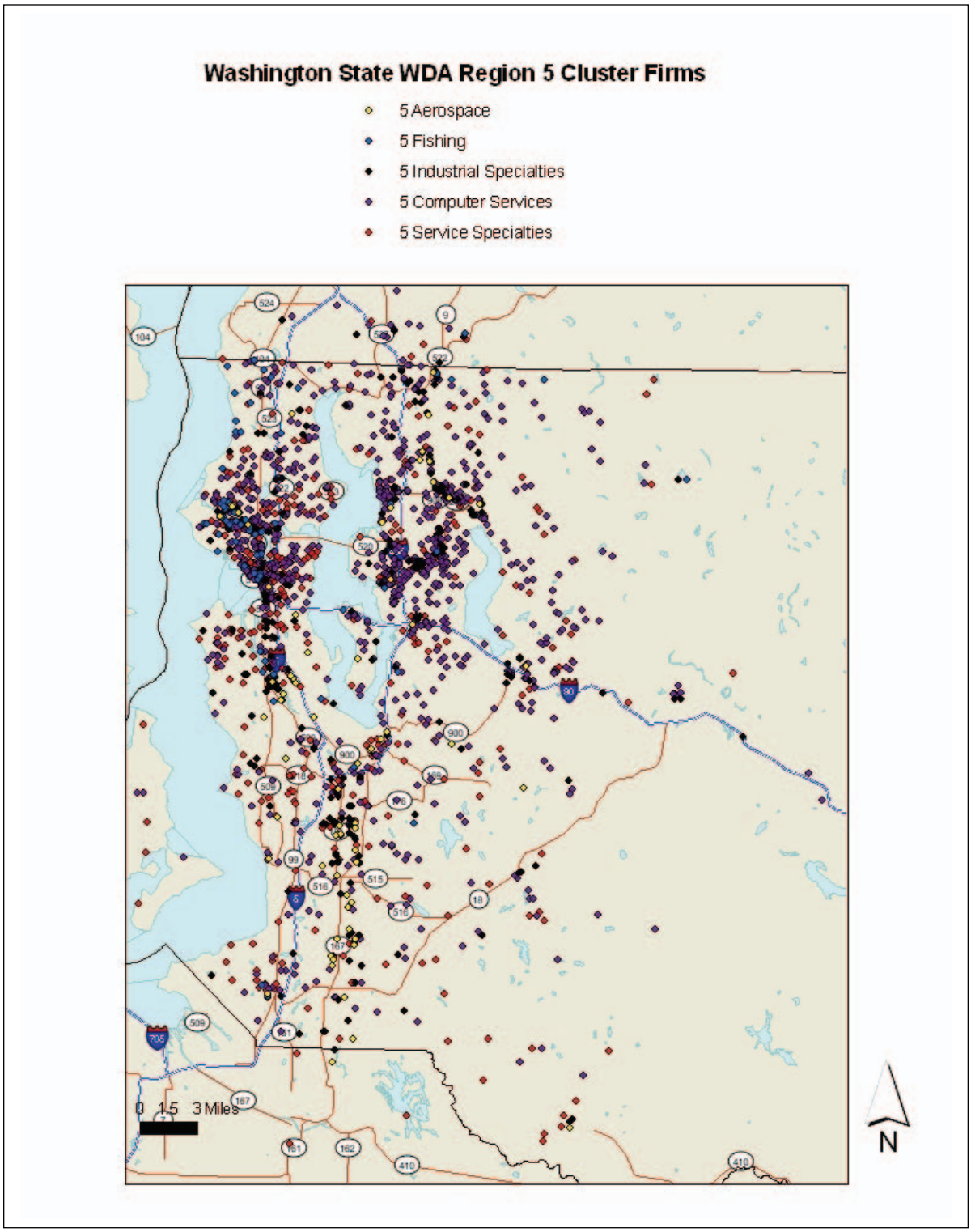
Figure 17: WDA5 Cluster Map