

**Industry Clusters**  
· **Economic Diversification**  
· **Competitive Metro Regions & Shift-Share**  
· **Cluster Site Factors**  
· **Inside the Metro Phoenix Clusters**

**Final Report**

**September 3, 2002**

**Prepared for:**  
**GPEC EDDT Smart Growth Task Force**

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## **Purpose**

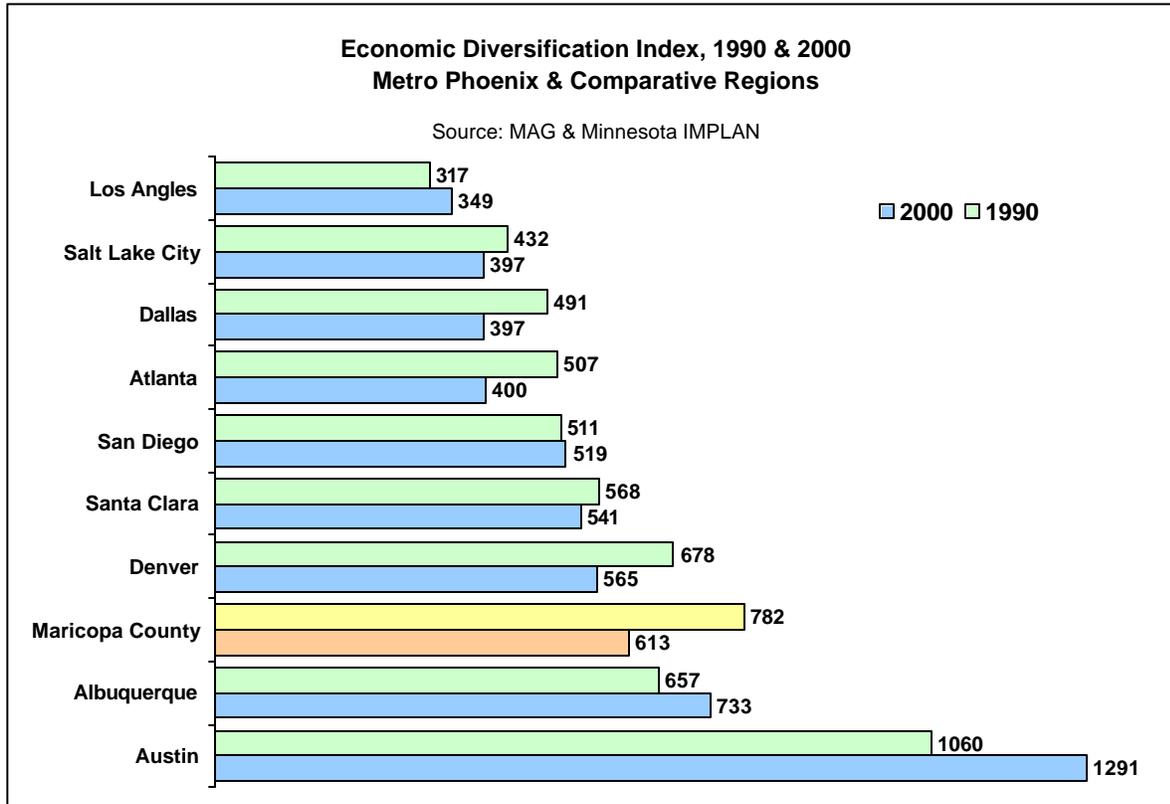
The purpose of this report is to generate discussion about the Greater Phoenix Region by regional and community economic developers. The report compares performance in the 1990's of the 12 basic private sector industry clusters in the metro Phoenix region to selected competitor regions. It also presents the top site factors required for each cluster. Lastly, it shows 4 digit SIC industry performance within each cluster for metro Phoenix.

## **Selected Competitors**

GPEC and SRP staff for comparison with Greater Phoenix selected the following metro regions. The competitor locations were chosen based a range of metro size classes, and history that these metros are either competitors for the Phoenix region, or that they are markets for prospect location to Phoenix. The nine cities are:

- Los Angeles
- Dallas/Ft. Worth, TX
- Atlanta, GA
- San Diego, CA
- Denver, CO
- Santa Clara/San Jose, CA
- Salt Lake City, UT
- Austin, TX
- Albuquerque, NM

## Diversification of Comparative Regions



- This chart displays “economic diversification” using a statistical technique developed by the metro Houston region. It is a variation of location quotient. In this analysis, a score of zero equals an industry share mix that perfectly matches the nations. Large scores indicate less economic diversification. The comparative regions are ranked according to the 2000 index score.
- Of the ten regions, metro Phoenix is 8<sup>th</sup> in terms of least diversified, ahead of only Albuquerque and Austin, which are smaller metro areas.
- However, during the 1990’s metro Phoenix became more diversified, with the increased shares of advanced business services, bioindustry, software, and “other basic industries” combined with the decreased location quotients of optics, high tech electronics, and aerospace/aviation.
- In general, economic diversification appears to correlate with size of metro region. Los Angeles, the largest region, has the most diverse economy. With the exceptions of Salt Lake City and San Diego, the rank order of diversification follows region size.

### Industry Cluster Structure in Metro Phoenix

To help understand the Phoenix region’s relative lack of economic diversification, this table shows the share and cumulative share of 16 industry clusters that comprise all of the metro

economy, as measured by wage & salary jobs. Using the “80/20” rule, 83% of the region’s jobs were in 7 of the 16 clusters. All are service or retail industries.

	<b>Industry Clusters</b>	<b>2000 Jobs</b>	<b>Share</b>	<b>Cumulative Share</b>
The high-priority, high-wage clusters – high tech, aerospace/aviation, software, and bioindustry – account for just under 10% of all jobs. Of the 7 clusters that dominate the economy, only	<b>Advanced Business Services</b>	<b>293,178</b>	<b>19.0%</b>	<b>19.0%</b>
	<b>Consumer Industries</b>	<b>250,984</b>	<b>16.3%</b>	<b>35.3%</b>
	<b>Growth Cluster</b>	<b>194,555</b>	<b>12.6%</b>	<b>48.0%</b>
	<b>Government</b>	<b>181,900</b>	<b>11.8%</b>	<b>59.8%</b>
	<b>Tourism</b>	<b>159,873</b>	<b>10.4%</b>	<b>70.2%</b>
	<b>Transportation &amp; Distribution</b>	<b>105,472</b>	<b>6.8%</b>	<b>77.0%</b>
	<b>Health Services</b>	<b>91,411</b>	<b>5.9%</b>	<b>83.0%</b>
	High-Tech/Information	60,048	3.9%	86.9%
	Aerospace	54,746	3.6%	90.4%
	Other Basic Industries	35,896	2.3%	92.7%
	Software	29,100	1.9%	94.6%
	Other Supplier Industries	28,482	1.8%	96.5%
	Agriculture and Food Processing	19,750	1.3%	97.8%
	Educational Services	14,531	0.9%	98.7%
	Bioindustry	8,790	0.6%	99.3%
	Mining & Prim. Metals	5,607	0.4%	99.6%
Plastics & Advanced Composite Materials	5,557	0.4%	100.0%	
All Clusters	1,539,880	100.0%		

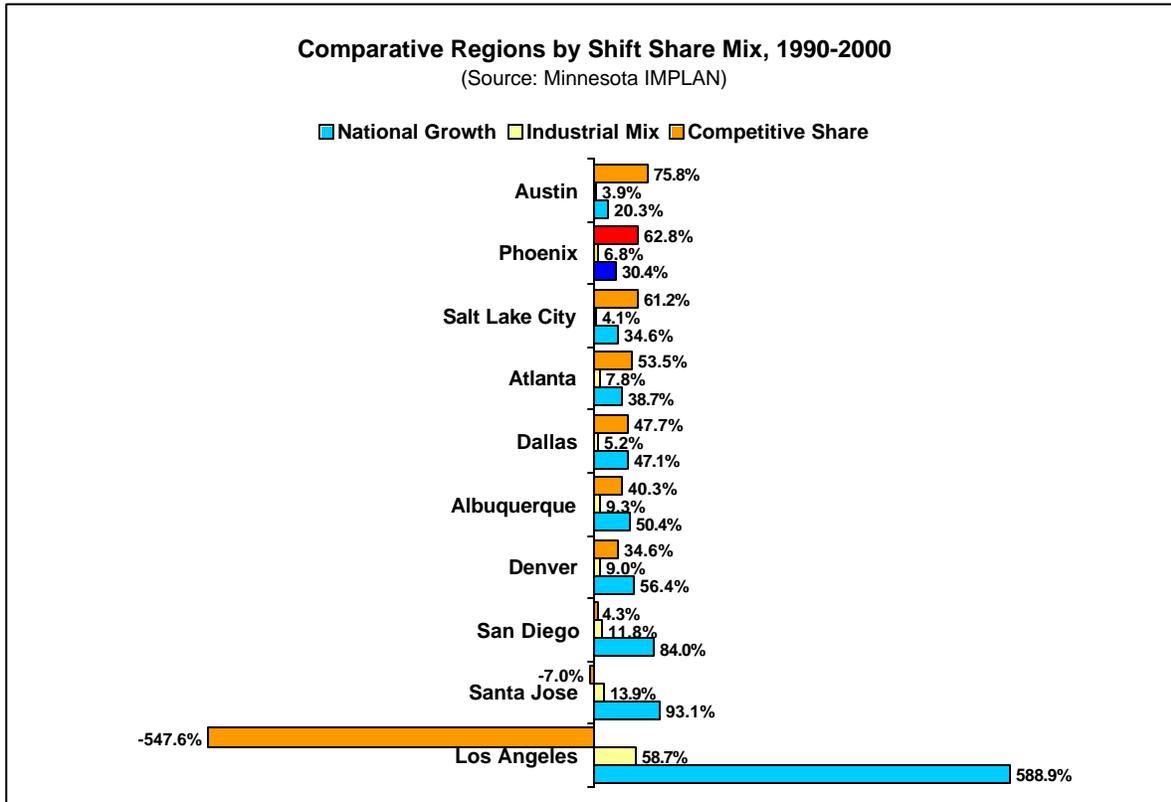
3 (advanced business services, transportation & distribution, and tourism) are basic industry clusters. Consumer industries, the growth cluster, government and health services are predominantly non-basic industries that sell to the Phoenix market. Together, these top 4 non-basic industries were 46.7% of all jobs in 2000.

The next table shows job change during the 1990’s. The concentration of job change among the top 7 clusters is even more pronounced – they accounted for 87.4% of change. A promising trend is the share of job change by high-wage clusters – up to 35.8% of change. Advanced business services led, by far, all high-wage cluster, with 28.2% of all change.

<b>Industry Clusters</b>	<b>1990's Job Change</b>		<b>Cumulative Share</b>
	<b>Change</b>	<b>Share</b>	
<b>Advanced Business Services</b>	<b>156,750</b>	<b>28.2%</b>	<b>28.2%</b>
<b>Growth Cluster</b>	<b>92,137</b>	<b>16.6%</b>	<b>44.7%</b>
<b>Consumer Industries</b>	<b>79,022</b>	<b>14.2%</b>	<b>58.9%</b>
<b>Government</b>	<b>47,300</b>	<b>8.5%</b>	<b>67.4%</b>
<b>Tourism</b>	<b>47,032</b>	<b>8.4%</b>	<b>75.9%</b>
<b>Transportation &amp; Distribution</b>	<b>36,013</b>	<b>6.5%</b>	<b>82.3%</b>
<b>Health Services</b>	<b>27,991</b>	<b>5.0%</b>	<b>87.4%</b>
Software	19,303	3.5%	90.8%
High-Tech/Information	10,249	1.8%	92.7%
Other Supplier Industries	9,006	1.6%	94.3%
Aerospace	8,888	1.6%	95.9%
Other Basic Industries	8,120	1.5%	97.3%
Educational Services	7,536	1.4%	98.7%
Bioindustry	3,975	0.7%	99.4%
Agriculture and Food Processing	2,080	0.4%	99.8%
Plastics & Advanced Composite Materials	1,446	0.3%	100.0%
Mining & Prim. Metals	(193)	0.0%	100.0%
Total Wage & Salary Jobs	556,655	100.0%	

## Shift Share by All Private Sector Industries

- This graph displays the three components of shift share analysis for the ten competitor regions. The regions are ranked according to competitive share as a percentage of total job change. “National growth” is colored blue, “industry mix” yellow, and “competitive share” is colored orange.



- What jumps out is the predicament of Los Angeles, which appears to have been affected by diseconomies of scale. Though it experienced positive job growth, Los Angeles had a negative competitive share that is off the scale. The loss of competitive share was offset by national growth and industry mix growth. In fact, low competitive share is a common theme among the three California metro regions. This indicates that a regional development strategy based on targeting businesses in Southern California is still viable for metro Phoenix.
- Metro Phoenix was 2d among competitive regions for the importance of competitive share, trailing only Austin. Austin, Phoenix, and Salt Lake City form a distinct tier on this measure.
- Atlanta and Dallas form a second tier, combining both larger population size with competitive shares that account for about 50% of job change.

## Target Industry Cluster Profiles

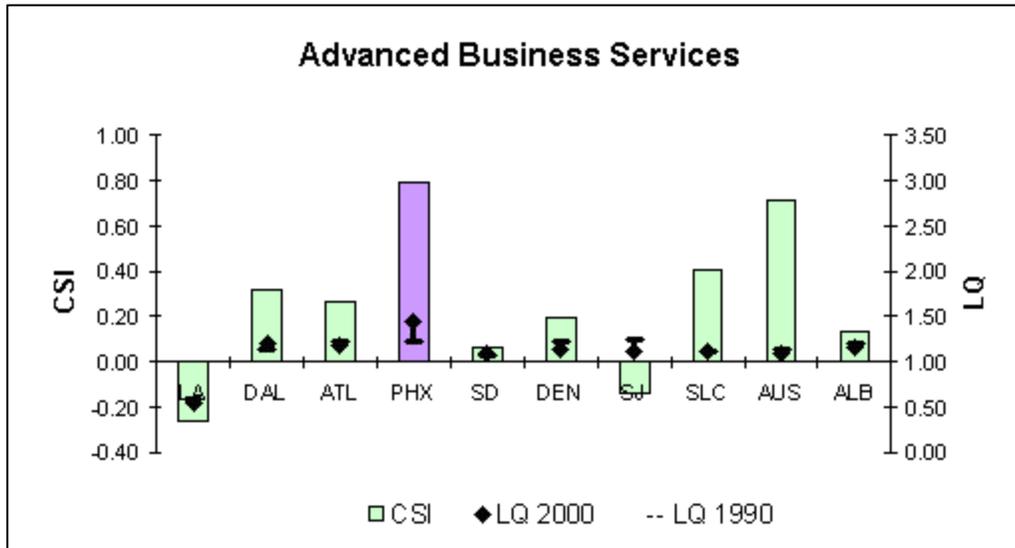
The remainder of this report contains profiles for each of the sixteen private sector industry clusters, as defined by GPEC for this study. GPEC target clusters appear first, then other basic clusters, and finally nonbasic clusters.

Each cluster profile is organized in the same way:

- A chart that combines competitive share with location quotients.
  - The competitive share is measured in this case by a “competitive share index.” The latter is the number of jobs due to the competitive share component of change in the 1990’s, divided by the 1990 number of jobs in the industry cluster in the metro region. Thus, this is measuring the competitiveness of the region for the cluster in percentage terms.
  - The location quotients are for 1990 and 2000, and show the direction of change in specialization.
- A short section that analyzes the comparative chart.
- A section that contains a list of site factors weighted by their importance to an industry cluster. This is taken from a target industry model maintained by Economic Strategies Group from 1987 through 1997. The industry cluster need is weighted on a 10-to-0 scale, with ten being the highest and six being the average. For each cluster, only the site factors that are scored 6 or above are displayed. As a rough gauge, this shows the site factors that are more important to a cluster. This is certainly open to comment by economic development practitioners in the Phoenix region.
- A section that displays, for metro Phoenix, the 4-digit SIC industries that comprise the cluster. These tables show the cluster name, its 2000 average annual wages & salaries, its shift-share components in terms of absolute jobs, and its competitive share as a percent of total job change. The 4-digit industries are ranked in descending order by the last measure. This list is a step towards focusing on more specific targets within the industry cluster.

In the balance of this report, GPEC priority clusters appear first, followed by other basic clusters, and finally nonbasic clusters. In each category, the clusters are sequenced by number of jobs in the region.

## GPEC Priority Clusters



### Comparative Performance

- Very strong cluster for Phoenix, with highest CSI and positive direction of location quotients.
- Only metro region that has both characteristics.

### Critical Site Factors

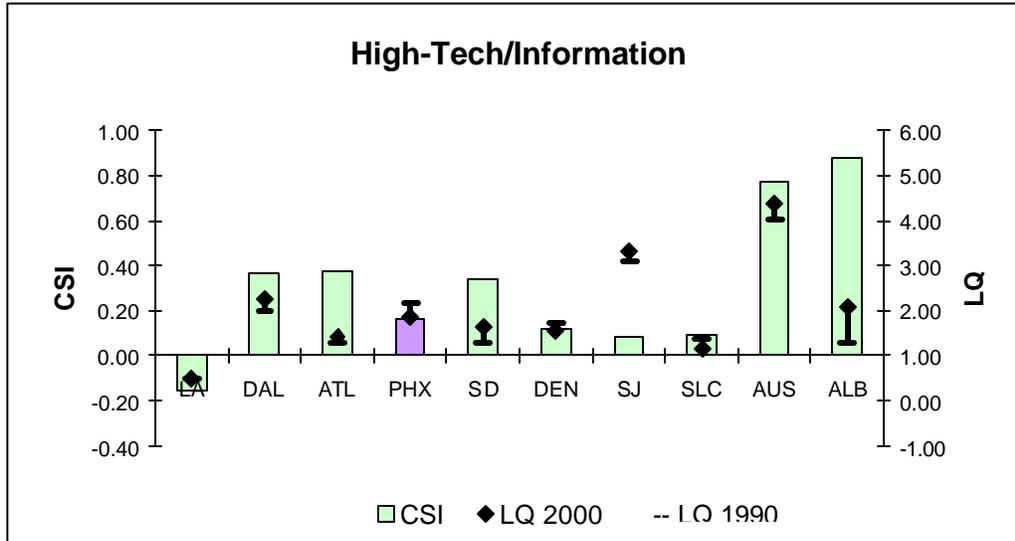
<b>Access to Markets</b>		<b>Cost of Skilled Workers</b>	6	<b>Local Transp./Commuting</b>	7
Geographic Proximity	7	<b>Cost of Unskilled Workers</b>	6	<b>Public Sector Costs</b>	
Telecom. Svcs.	10	<b>Real Estate</b>		Business Taxes	7
<b>Access to Resources</b>		Built Space Availability	8	<b>Quality of Life</b>	
Energy Dependability	8	Built Space Cost	7	Cost of Living	7
Bsns/Prof/Tech Svcs.	8	<b>Capital Availability</b>		Housing Costs	7
<b>Work Force</b>		Debt	8	Personal/Property Security	8
Exec., Adm., Prof.	7	<b>Public Sector Investments</b>		Climate/Physical Env	7
Technical	6	Secondary Ed. Quality	8	Recreat/Cultural Opps.	6
Admin. Support	7	Higher Ed. Quality	7	Area Image	7

*Inside the Metro Phoenix Cluster*

SIC	Industry & Cluster	Shift-Share Components					S-S Components, % of Change		
		Avg. Wages, 2000	Jobs, 2000	National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competitive Share
	<b>ALL INDUSTRIES/Clusters</b>	<b>\$ 35,166</b>	<b>1,350,145</b>	<b>154,450</b>	<b>34,703</b>	<b>319,375</b>	<b>30%</b>	<b>7%</b>	<b>63%</b>
	<b>Advanced Business Services</b>	<b>\$ 37,108</b>	<b>295,296</b>	<b>25,330</b>	<b>34,698</b>	<b>97,239</b>	<b>16%</b>	<b>22%</b>	<b>62%</b>
7363	Help supply services	\$ 21,453	89,190	3,557	25,093	41,160	5%	36%	59%
7389	Business services, nec	\$ 27,966	21,878	1,636	3,269	8,057	13%	25%	62%
6153	Short-term business credit	\$ 29,334	10,975	328	1,284	7,574	4%	14%	82%
6099	Functions related to deposit banking	\$ 44,913	12,913	627	1,466	7,402	7%	15%	78%
6141	Personal credit institutions	\$ 38,685	8,411	184	347	6,876	2%	5%	93%
6021	National commercial banks	\$ 35,304	11,910	1,210	-1,345	5,450	23%	-25%	103%
6211	Security brokers and dealers	\$ 78,183	7,667	401	836	4,243	7%	15%	77%
8742	Management consulting services	\$ 59,902	8,102	423	1,725	3,650	7%	30%	63%
8711	Engineering services	\$ 58,136	10,567	1,122	-75	3,407	25%	-2%	76%
7349	Building maintenance services, nec	\$ 12,662	11,779	1,341	56	3,077	30%	1%	69%
8721	Accounting, Auditing, & Bookkeeping	\$ 38,829	9,951	1,042	173	3,055	24%	4%	72%
7322	Adjustment & collection services	\$ 27,110	4,746	220	586	2,742	6%	17%	77%
7381	Detective & armored car services	\$ 19,050	7,890	770	449	2,475	21%	12%	67%
8741	Management services	\$ 47,916	5,374	566	-5	1,727	25%	0%	75%
6162	Mortgage bankers and correspondents	\$ 49,067	5,021	303	1,606	1,464	9%	48%	43%
8748	Business consulting, nec	\$ 50,698	2,845	100	746	1,456	4%	32%	63%
6371	Pension, health and welfare funds	\$ 27,921	1,864	63	139	1,320	4%	9%	87%
6321	Accident and health insurance	\$ 52,635	2,397	187	140	1,049	14%	10%	76%
7319	Advertising, nec	\$ 28,090	1,648	90	309	756	8%	27%	65%
6311	Life insurance	\$ 48,349	3,311	609	-1,355	736	-6770%	15053%	-8183%
6794	Patent owners and lessors	\$ 47,390	1,443	74	276	688	7%	27%	66%
6351	Surety insurance	\$ 51,681	764	14	40	630	2%	6%	92%
6061	Federal credit unions	\$ 28,516	1,602	134	200	539	15%	23%	62%
6331	Fire, marine, and casualty insurance	\$ 42,636	5,652	945	-944	504	187%	-187%	100%
6163	Loan brokers	\$ 46,541	1,128	42	473	386	5%	53%	43%
6062	State credit unions	\$ 29,892	339	3	3	315	1%	1%	98%
8999	Services, nec	\$ 56,912	552	35	11	314	10%	3%	87%
7311	Advertising agencies	\$ 45,496	1,643	226	-104	287	55%	-26%	70%
7359	Equipment rental & leasing, nec	\$ 34,509	2,699	352	156	271	45%	20%	35%
8631	Labor organizations	\$ 19,970	753	86	-70	269	30%	-25%	94%
7342	Disinfecting & pest control services	\$ 27,144	1,738	225	109	177	44%	21%	35%
6111	Federal & fed.-sponsored credit	\$ 48,294	183	1	4	173	1%	2%	97%
6798	Real estate investment trusts	\$ 79,199	166	1	6	152	1%	4%	95%
6733	Trusts, nec	\$ 38,244	236	13	4	147	8%	3%	89%
7335	Commercial photography	\$ 36,612	221	23	-44	120	23%	-45%	122%
7312	Outdoor advertising services	\$ 2,212,067	301	32	-24	118	25%	-19%	93%
8621	Professional organizations	\$ 39,384	501	58	28	101	31%	15%	54%
7361	Employment agencies	\$ 24,801	7,249	944	1,062	97	45%	50%	5%
6732	Educational, religious, etc. trusts	\$ 44,628	196	11	32	95	8%	23%	69%
7383	News syndicates	\$ 40,941	123	5	2	90	5%	2%	93%
6282	Investment advice	\$ 57,684	896	61	429	73	11%	76%	13%
7338	Secretarial & court reporting	\$ 26,567	612	66	126	60	26%	50%	24%
8651	Political organizations	\$ 20,907	87	10	-28	51	30%	-83%	153%
6221	Commodity contracts brokers, dealers	\$ 68,859	46	-	0	46	0%	0%	100%
6029	Commercial banks, nec	\$ 41,782	45	-	0	45	0%	0%	100%
6712	Bank holding companies	\$ 187,809	45	0	-1	44	1%	-2%	101%

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Change		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competitive Share
7334	Photocopying & duplicating services	\$ 26,997	1,233	132	343	40	26%	67%	8%
6231	Security and commodity exchanges	\$ 60,730	20	1	0	16	5%	-2%	98%
6792	Oil royalty traders	\$ 28,511	24	2	1	10	16%	11%	74%
6081	Foreign bank & branches & agencies	\$ 107,191	9	-	0	9	0%	0%	100%
8611	Business associations	\$ 38,145	793	140	-100	(7)	436%	-314%	-23%
7382	Security systems services	\$ 35,499	1,025	106	354	(9)	23%	79%	-2%
7313	Radio, TV, publisher representatives	\$ 698,194	135	20	16	(12)	85%	65%	-50%
6726	Investment offices, nec	\$ 71,224	3	3	2	(19)	-22%	-15%	137%
7336	Commercial art and graphic design	\$ 42,735	936	121	179	(21)	43%	64%	-7%
6799	Investors, nec	\$ 51,632	214	33	30	(27)	91%	84%	-75%
6722	Management investment, open-end	\$ 84,920	37	4	43	(31)	24%	271%	-195%
6289	Security & commodity services, nec	\$ 75,039	13	9	0	(43)	-25%	-1%	126%
6159	Misc. business credit institutions	\$ 80,988	783	118	138	(115)	84%	98%	-81%
7384	Photofinishing laboratories	\$ 25,471	711	177	-272	(158)	-70%	107%	63%
6399	Insurance carriers, nec	\$ 42,165	27	11	115	(162)	-33%	-329%	462%
6719	Holding companies, nec	\$ 141,954	400	106	-121	(163)	-60%	68%	92%
6361	Title insurance	\$ 44,263	2,088	300	391	(238)	66%	86%	-53%
8743	Public relations services	\$ 54,695	291	74	70	(255)	-66%	-63%	230%
7323	Credit reporting services	\$ 34,811	292	109	-149	(264)	-36%	49%	87%
8732	Commercial nonphysical research	\$ 29,872	2,382	364	319	(287)	92%	80%	-72%
6011	Federal reserve banks	\$ 76,642	9	72	-86	(369)	-19%	22%	96%
7331	Direct mail advertising services	\$ 37,317	563	166	-15	(496)	-48%	4%	144%
8111	Legal services	\$ 68,608	10,107	1,831	-1,016	(688)	1431%	-794%	-537%
6035	Federal savings institutions	\$ 57,784	34	221	-689	(701)	-19%	59%	60%
6036	Savings institutions, except federal	\$ 41,892	337	387	-1,415	(747)	-22%	80%	42%
8744	Facilities support services	\$ 23,512	557	166	379	(892)	-48%	-109%	257%
6324	Hospital and medical service plans	\$ 37,982	1,992	344	805	(1,033)	297%	694%	-891%
6091	Nondeposit trust facilities	\$ 68,413	64	627	753	(4,734)	-19%	-22%	141%
6022	State commercial banks	\$ 43,945	2,558	1,544	-2,568	(4,831)	-26%	44%	83%

Source: Minnesota IMPLAN, Maricopa Association of Governments



Comparative Performance

- Metro Phoenix is losing competitiveness in high tech/electronics.
- Along with Salt Lake City and Denver, it is the only region that had a lower location quotient in 2000.
- The most competitive regions are Austin and Albuquerque. Dallas, Atlanta, and San Diego are also more competitive than metro Phoenix.
- Los Angeles is the least competitive region, and may be vulnerable.

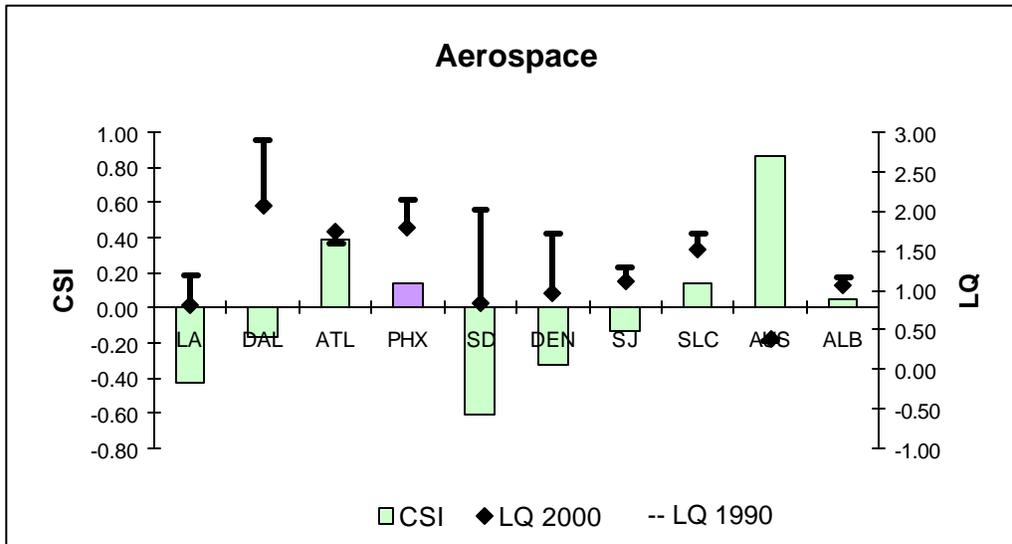
Critical Site Factors

<b>Access to Markets</b>		Operators/Assemblers	6	Secondary Ed. Quality	8
Trans.Svcs. - Cost	6	Cost of Skilled Workers	8	Local Transp./Commuting	6
Telecom. Svcs.	6	Cost of Unskilled Workers	8	<b>Public Sector Costs</b>	
<b>Access to Resources</b>		<b>Real Estate</b>		Regulatory Policies	8
Energy Dependability	10	Land Cost	7	Workers Compensation	9
Intermed. Mfd. Prods.	7	Built Space Availability	8	Unemployment Ins.	9
Bsns/Prof/Tech Svcs.	7	Built Space Cost	9	Business Taxes	7
<b>Work Force</b>		<b>Capital Availability</b>		<b>Quality of Life</b>	
Exec., Adm., Prof.	6	Debt	7	Personal/Property Security	6
Technical	7	Venture	6	Climate/Physical Env	7
Prec. Prod. & Repair	6	<b>Public Sector Investments</b>			

*Inside the Metro Phoenix Cluster*

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Change		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competitive Share
	<b>All Private Industries</b>	<b>\$ 35,166</b>	<b>1,350,145</b>	<b>154,450</b>	<b>34,703</b>	<b>319,375</b>	<b>30%</b>	<b>7%</b>	<b>63%</b>
	<b>High Tech/Electronics</b>	<b>\$ 69,439</b>	<b>60,158</b>	<b>9,181</b>	<b>(4,689)</b>	<b>5,636</b>	91%	-46%	56%
4813	Telephone communications, exc. radio	\$ 52,420	12,257	1,695	-1,568	2,894	56%	-52%	96%
4812	Radiotelephone communications	\$ 45,242	3,015	63	1,256	1,351	2%	47%	51%
3674	Semiconductors and related devices	\$ 85,707	32,088	5,067	-1,836	1,248	113%	-41%	28%
3672	Printed circuit boards	\$ 37,663	4,116	445	219	1,030	26%	13%	61%
3678	Electronic connectors	\$ 63,135	1,425	97	107	695	11%	12%	77%
3663	Radio & TV communications equipment	\$ 61,351	1,023	68	-67	654	10%	-10%	100%
3822	Environmental controls	\$ 69,091	1,906	302	-637	594	117%	-246%	229%
3825	Instruments to measure electricity	\$ 50,074	419	34	-81	279	15%	-35%	120%
3579	Office machines, nec	\$ 39,460	273	23	-63	186	16%	-43%	127%
3675	Electronic capacitors	\$ 37,849	82	-	0	82	0%	0%	100%
3691	Storage batteries	\$ 36,551	66	-	0	66	0%	0%	100%
3677	Electronic coils and transformers	\$ 20,416	150	26	-41	27	232%	-373%	241%
3824	Fluid meters and counting devices	\$ 58,158	8	0	0	6	6%	-4%	98%
3692	Primary batteries, dry and wet	\$ 33,906	4	-	0	4	0%	0%	100%
3578	Calculating and accounting equipment	\$ 19,962	3	-	0	3	0%	0%	100%
3823	Process control instruments	\$ 47,107	417	73	-55	2	364%	-273%	9%
3572	Computer storage devices	\$ 46,961	18	4	1	(9)	-101%	-34%	235%
3695	Magnetic and optical recording media	\$ 44,723	12	7	-22	(14)	-26%	77%	49%
3669	Communications equipment, nec	\$ 53,560	98	23	14	(66)	-80%	-48%	229%
3679	Electronic components, nec	\$ 34,601	1,110	214	-128	(139)	-396%	238%	258%
3694	Engine electrical equipment	\$ 15,238	29	35	-28	(170)	-22%	17%	104%
3577	Computer peripheral equipment, nec	\$ 51,122	332	84	23	(233)	-67%	-18%	185%
3829	Measuring & controlling devices, nec	\$ 46,111	83	72	-134	(249)	-23%	43%	80%
3661	Telephone and telegraph apparatus	\$ 53,735	251	129	-155	(428)	-29%	34%	94%
3571	Electronic computers	\$ 70,264	973	542	-1,461	(1,059)	-27%	74%	54%
3575	Computer terminals	NA	-	178	-33	(1,116)	-18%	3%	115%

Source: Minnesota IMPLAN, Maricopa Association of Governments



Comparative Performance

- Aerospace/aviation concentration declined for all regions except Atlanta, for which aviation is more important than aerospace.
- Metro Phoenix has the third highest competitive share index, but trails Austin and Atlanta significantly.
- Though the region's location quotient declined during the decade, the magnitude of decline was not as much as Dallas, San Diego, and Denver. These regions may be vulnerable.

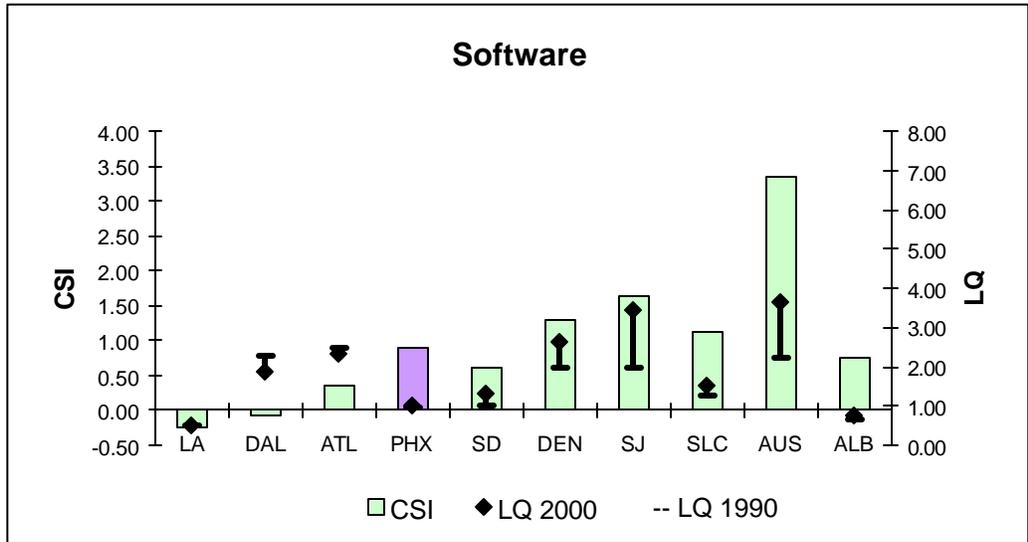
Critical Site Factors

<b>Access to Markets</b>		<b>Cost of Skilled Workers</b>	10	<b>Secondary Ed. Quality</b>	7
Geographic Proximity	7	<b>Cost of Unskilled Workers</b>	10	<b>Local Transp./Commuting</b>	6
Telecom. Svcs.	6	<b>Real Estate</b>		<b>Business Incentives</b>	6
<b>Access to Resources</b>		<b>Land Availability - Improved</b>	6	<b>Public Sector Costs</b>	
Energy Dependability	10	<b>Land Cost</b>	6	<b>Regulatory Policies</b>	8
Intermed. Mfd. Prods.	8	<b>Built Space Availability</b>	8	<b>Workers Compensation</b>	10
<b>Work Force</b>		<b>Built Space Cost</b>	8	<b>Unemployment Ins.</b>	10
Exec., Adm., Prof.	6	<b>Capital Availability</b>		<b>Business Taxes</b>	6
Prof. Specialty	8	<b>Debt</b>	6	<b>Quality of Life</b>	
Technical	7	<b>Venture</b>	6	<b>Personal/Property Security</b>	6
Prec. Prod. & Repair	7	<b>Public Sector Investments</b>		<b>Climate/Physical Env</b>	7

*Inside the Metro Phoenix Cluster*

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Chang		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competi Share
	<b>ALL INDUSTRIES/Clusters</b>	\$ 35,166	1,350,145	154,450	34,703	319,375	30%	7%	63%
	<b>Aerospace/Aviation</b>	\$ 47,898	54,745	8,416	(11,189)	11,659	95%	-126%	131%
4512	Air transportation, scheduled	\$ 43,466	16,392	2,135	-1,316	3,941	45%	-28%	83%
3728	Aircraft parts and equipment, nec	\$ 52,734	6,226	892	-1,896	2,373	65%	-139%	173%
3724	Aircraft engines and engine part	\$ 61,576	8,216	1,763	-4,990	1,835	-127%	359%	-132%
3721	Aircraft	\$ 55,302	4,059	887	-2,480	815	-114%	319%	-105%
3812	Search and navigation equipment	\$ 65,308	5,035	1,400	-4,603	612	-54%	178%	-24%
7699	Repair services, nec	\$ 36,159	2,264	313	-332	576	56%	-60%	103%
4513	Air courier services	\$ 31,233	5,767	177	4,145	479	4%	86%	10%
4522	Air transportation, nonscheduled	\$ 40,046	653	21	63	457	4%	12%	85%
3761	Guided missiles and space vehicles	\$ 73,342	543	98	-388	299	1089%	-4315%	3326%
3769	Space vehicle equipment, nec	\$ 45,363	340	46	-164	205	53%	-189%	236%
3764	Space propulsion units and parts	\$ 46,652	107	0	-1	106	0%	-1%	101%
5599	Automotive dealers, nec	\$ 31,663	333	36	2	102	26%	1%	73%
4581	Airports, flying fields, & services	\$ 32,237	3,079	395	468	62	43%	51%	7%
3462	Iron and steel forgings	\$ 43,297	40	3	-5	23	15%	-21%	106%
3463	Nonferrous forgings	\$ 9,658	3	2	1	(11)	-25%	-18%	143%
4731	Freight transportation arrangement	\$ 36,856	1,688	247	308	(214)	72%	90%	-63%

*Source: Minnesota IMPLAN, Maricopa Association of Governments*



Comparative Performance

- Software concentration is increasing in all competitive regions except Dallas and Los Angeles, which indicates that its growth is national.
- The top competitor markets, all with high competitive share indices and change in location quotient, are Austin, San Jose, and Denver.
- Phoenix is in a competitive second tier, along with San Diego, Salt Lake City, and Albuquerque.
- Again, Dallas and Los Angeles show concentration weakness. Atlanta is also on the weak side.

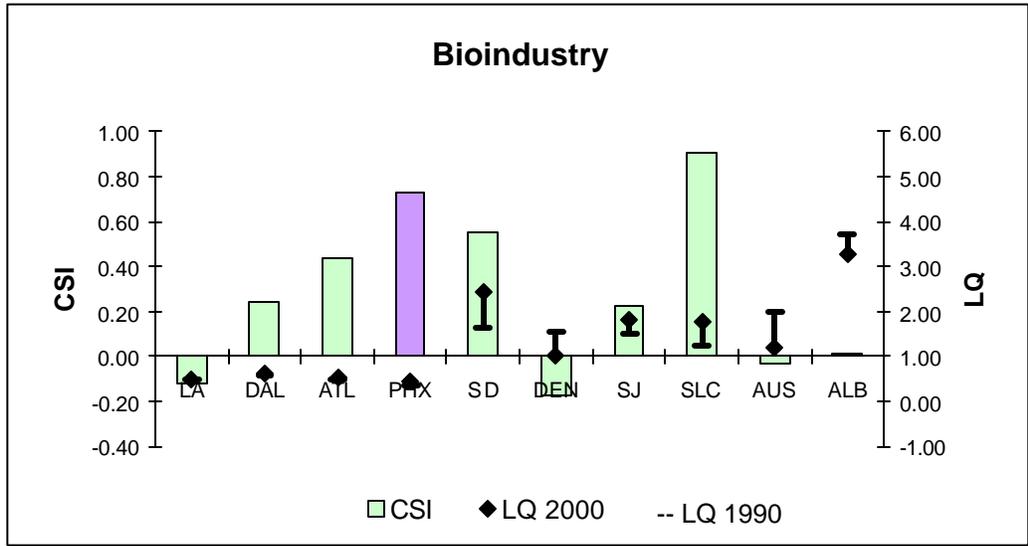
Critical Site Factors

<b>Access to markets</b>		Cost of unskilled workers	9	<b>Public sector costs</b>	
Telecom. Svcs.	10	<b>Real estate</b>		Regulatory policies	6
<b>Access to resources</b>		Built space availability	9	Workers compensation	8
Energy dependability	10	Built space cost	9	Unemployment ins.	8
Bsns/prof/tech svcs.	10	<b>Capital availability</b>		Business taxes	7
<b>Work force</b>		Debt	9	<b>Quality of life</b>	
Exec., adm., prof.	6	Venture	6	Personal/property security	7
Prof. Specialty	6	<b>Public sector investments</b>		Climate/physical env	7
Technical	10	Secondary ed. quality	8	Area image	6
Admin. Support	6	Local transp/commuting	6		
Cost of skilled workers	9	Business incentives	6		

*Inside the Greater Phoenix Cluster*

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Char		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competi Share
	<b>All Private Industries</b>	<b>\$ 35,166</b>	<b>1,350,145</b>	<b>154,450</b>	<b>34,703</b>	<b>319,375</b>	<b>30%</b>	<b>7%</b>	<b>63%</b>
	<b>Software</b>	<b>\$ 62,639</b>	<b>29,100</b>	<b>1,798</b>	<b>10,081</b>	<b>7,425</b>	<b>9%</b>	<b>52%</b>	<b>38%</b>
7374	Data processing and preparation	\$ 40,983	4,852	261	248	2,924	8%	7%	85%
5045	Computers, peripherals & software	\$ 82,750	6,254	544	401	2,342	17%	12%	71%
7377	Computer rental & leasing	\$ 45,076	1,986	101	-108	1,443	7%	-8%	100%
7375	Information retrieval services	\$ 64,818	1,841	26	260	1,412	2%	15%	83%
7371	Computer programming services	\$ 60,845	4,179	187	1,761	1,214	6%	56%	38%
7373	Computer integrated systems design	\$ 54,797	2,102	119	548	787	8%	38%	54%
7372	Prepackaged software	\$ 66,275	2,110	121	819	512	8%	56%	35%
7378	Computer maintenance & repair	\$ 44,447	1,196	91	133	477	13%	19%	68%
7376	Computer facilities management	\$ 38,723	452	10	9	380	2%	2%	95%
7379	Computer related services, nec	\$ 76,944	4,128	338	6,011	(4,066)	15%	263%	-178%

*Source: Minnesota IMPLAN, Maricopa Association of Governments*



Comparative Performance

- Metro Phoenix has the second-highest competitive share index, below only Salt Lake City. This indicates that there could be good potential for the region, particularly with the location of the Genomics Institute.
- Tempering that observation is the relatively small change in location quotient, which Phoenix shares with Los Angeles, Dallas, and Atlanta.
- Combining CSI and LQ, the most competitive regions are San Diego, San Jose, and Salt Lake City.
- The weakest competitors are Los Angeles, Austin, and Albuquerque.

Critical Site Factors

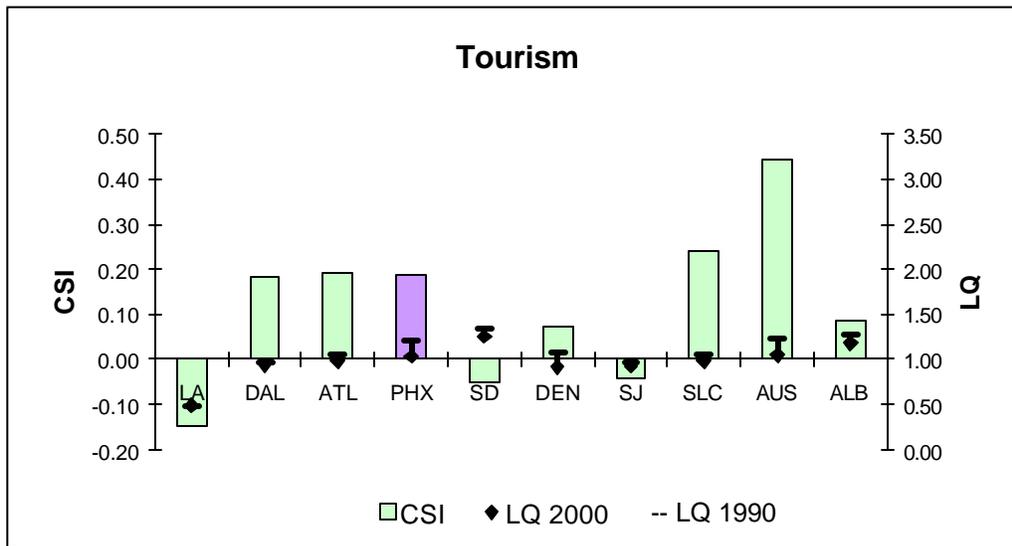
<b>Access to Markets</b>		Cost of Skilled Workers	8	Secondary Ed. Quality	7
Geographic Proximity	7	Cost of Unskilled Workers	8	Local Transp./Commuting	6
Trans.Svcs. - Cost	6	<b>Real Estate</b>		<b>Public Sector Costs</b>	
<b>Access to Resources</b>		Land Availability - Improved	6	Regulatory Policies	9
Energy Dependability	10	Land Cost	8	Workers Compensation	8
Intermed. Mfd. Prods.	8	Built Space Availability	8	Unemployment Ins.	8
Bsns/Prof/Tech Svcs.	8	Built Space Cost	9	Business Taxes	9
<b>Work Force</b>		<b>Capital Availability</b>		<b>Quality of Life</b>	
Exec., Adm., Prof.	6	Debt	8	Personal/Property Security	6
Technical	6	Venture	10	Climate/Physical Env	7
Operators/Assemblers	6	<b>Public Sector Investments</b>			

*Inside the Metro Phoenix Cluster*

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Chang		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competi Share
	<b>All Private Industries</b>	\$ 35,166	1,350,145	154,450	34,703	319,375	30%	7%	63%
	<b>Bioindustry</b>	\$ 49,886	8,790	884	547	2,544	22%	14%	64%
8734	Testing laboratories	\$ 39,179	1,712	129	107	773	13%	11%	77%
3845	Electromedical equipment	\$ 49,150	631	0	1	628	0%	0%	100%
8731	Commercial physical research	\$ 57,588	856	61	-69	533	12%	-13%	102%
2819	Industrial inorganic chemicals, nec	\$ 46,890	375	24	-81	303	10%	-33%	123%
2834	Pharmaceutical preparations	\$ 52,488	795	81	-2	276	23%	-1%	78%
5047	Medical and hospital equipment	\$ 58,253	2,739	315	471	235	31%	46%	23%
3842	Surgical appliances and supplies	\$ 43,463	185	11	-8	122	9%	-6%	98%
8733	Noncommercial research organizations	\$ 52,116	274	34	-35	88	39%	-40%	101%
3841	Surgical and medical instruments	\$ 46,954	96	3	-1	76	4%	-2%	97%
7352	Medical equipment rental	\$ 33,334	439	40	121	58	18%	55%	26%
2869	Industrial organic chemicals, nec	\$ 23,033	56	0	-1	54	1%	-1%	101%
3843	Dental equipment and supplies	\$ 30,982	64	3	0	41	8%	0%	92%
3826	Analytical instruments	\$ 57,292	73	7	-5	31	22%	-16%	94%
3821	Laboratory apparatus and furniture	\$ 20,215	3	-	0	3	0%	0%	100%
2836	Biological products exc. diagnostic	\$ 41,430	43	5	10	1	31%	61%	8%
2899	Chemical preparations, nec	\$ 50,648	72	25	-36	(53)	-39%	56%	83%
5049	Professional equipment, nec	\$ 54,405	207	74	-66	(204)	-38%	34%	104%
2833	Medicinals and botanicals	\$ 38,693	170	60	102	(317)	-38%	-66%	204%

Source: Minnesota IMPLAN, Maricopa Association of Governments

## Other Basic Industry Clusters



### Comparative Performance

- Across the board, tourism cluster location quotients declined for all competitive regions, though the Metro Phoenix decline was one of the greatest.
- All California regions also have negative competitive share indices.
- Austin and Salt Lake City are in a first tier of competitiveness, followed by Dallas, Atlanta and Phoenix, with Denver and Albuquerque third.

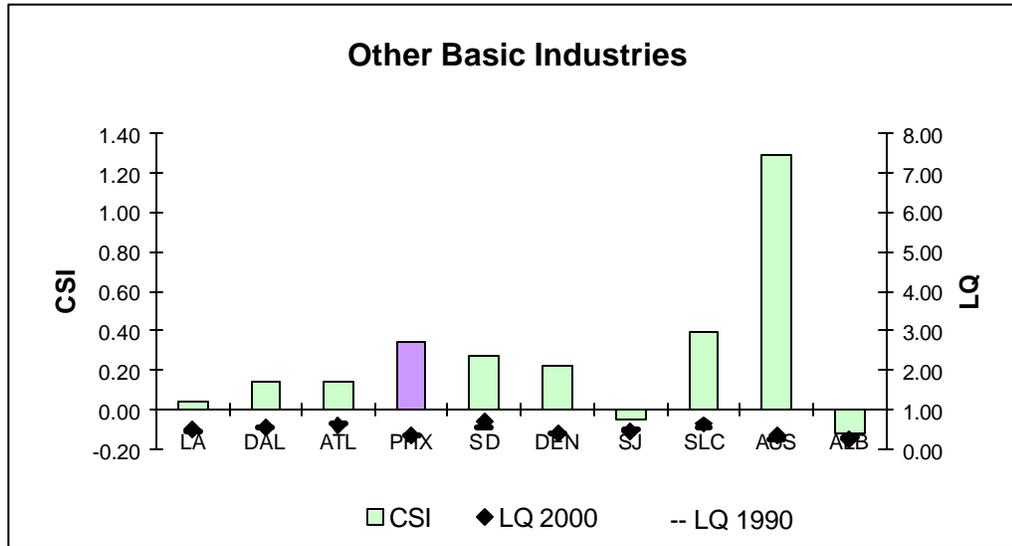
### Critical Site Factors

<b>Access to Markets</b>		Cost of Unskilled Workers	10	<b>Public Sector Costs</b>	
Geographic Proximity	10	<b>Real Estate</b>		Workers Compensation	10
Telecom. Svcs.	8	Land Availability - Improved	10	Unemployment Ins.	10
<b>Access to Resources</b>		Land Cost	10	Business Taxes	10
Energy Dependability	8	<b>Capital Availability</b>		<b>Quality of Life</b>	
<b>Work Force</b>		Debt	10	Personal/Property Security	7
Prof. Specialty	6	Venture	7	Climate/Physical Env	10
Service	9	<b>Public Sector Investments</b>		Recreatl/Cultural Opps.	10
Farm, Forest, Fish	7	Local Transp./Commuting	10	Area Image	10
Cost of Skilled Workers	10	Business Incentives	8		

*Inside the Metro Phoenix Cluster*

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Chang		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competi Share
	<b>All Private Industries</b>	<b>\$ 35,166</b>	<b>1,350,145</b>	<b>154,450</b>	<b>34,703</b>	<b>319,375</b>	<b>30%</b>	<b>7%</b>	<b>63%</b>
	<b>Tourism</b>	<b>\$ 17,471</b>	<b>162,646</b>	<b>21,165</b>	<b>3,703</b>	<b>22,444</b>	<b>45%</b>	<b>8%</b>	<b>47%</b>
5810	Eating & drinking places	\$ 12,567	99,426	12,471	2,028	16,971	40%	6%	54%
7941	Sports clubs, managers, & promoters	\$ 138,046	2,317	85	186	1,580	5%	10%	85%
4724	Travel agencies	\$ 29,467	2,853	281	-74	1,117	21%	-6%	84%
7210	Laundry, linen supply & cleaning svcs.	\$ 19,929	5,489	786	-647	1,066	65%	-54%	88%
7992	Public golf courses	\$ 17,917	3,510	194	1,222	1,035	8%	50%	42%
7997	Membership sports & recreation clubs	\$ 20,595	4,591	544	130	956	33%	8%	59%
7514	Passenger car rental	\$ 25,458	2,740	266	283	742	21%	22%	57%
7993	Coin-operated amusement devices	\$ 22,477	1,830	70	712	666	5%	49%	46%
7991	Physical Fitness facilities	\$ 14,065	2,494	231	487	517	19%	39%	42%
7996	Amusement parks	\$ 8,088	471	18	10	344	5%	3%	92%
7929	Entertainers & entertainment groups	\$ 36,111	459	49	-56	197	26%	-30%	104%
7519	Utility trail rental	\$ 36,547	239	13	-10	165	8%	-6%	98%
8412	Museums and art galleries	\$ 24,438	515	59	73	64	30%	37%	33%
7032	Sporting and recreational camps	\$ 21,769	59	0	0	56	1%	0%	99%
7515	Passenger car leasing	\$ 38,795	175	23	-26	49	50%	-55%	105%
7033	Trailer parks and campsites	\$ 19,127	384	54	11	27	59%	12%	29%
4142	Bus charter service, except local	\$ 19,077	339	45	27	23	47%	29%	24%
8422	Botanical and zoological gardens	\$ 22,712	408	43	131	2	24%	75%	1%
7911	Dance studios, schools, and halls	\$ 12,542	332	45	43	0	51%	49%	0%
7041	Membership-basis organization hotels	\$ 5,825	2	1	1	(4)	-31%	-18%	149%
7922	Theatrical producers and services	\$ 15,725	907	128	99	(17)	61%	47%	-8%
7021	Rooming and boarding houses	\$ 21,240	8	13	-31	(45)	-21%	49%	72%
7933	Bowling centers	\$ 11,819	817	190	-315	(90)	-88%	146%	42%
4729	Passenger transport arrangement, nec	\$ 25,512	122	51	-113	(94)	-33%	73%	60%
7948	Racing, including track operation	\$ 17,979	836	156	-11	(159)	-1114%	81%	1133%
7513	Truck rental and leasing, no drivers	\$ 33,014	1,627	350	-464	(164)	-126%	167%	59%
4725	Tour Operators	\$ 19,825	418	72	131	(174)	256%	468%	-623%
7999	Amusement and recreation, nec	\$ 18,604	3,384	310	1,745	(362)	18%	103%	-21%
7011	Hotels and motels	\$ 20,511	25,894	4,618	-1,867	(2,024)	634%	-256%	-278%

Source: Minnesota IMPLAN, Maricopa Association of Governments



Comparative Performance

- This is a wide range of industries that normally do not belong together in a cluster. These industries contain several basic industry clusters that normally are identified individually, but for this study are grouped together as a residual.
- It is, therefore, difficult to interpret the competitiveness results, since dissimilar industries are bundled together.
- Some of these industries may be large enough to form other industry clusters for the region, especially if there is a concentration in certain communities. Metro Phoenix has the third-greatest competitive share index, which indicates growth potential.

Critical Site Factors

<b>Access to Markets</b>		<i>Cost of Skilled Workers</i>	7	<i>Local Transp./Commuting</i>	6
<i>Geographic Proximity</i>	6	<i>Cost of Unskilled Workers</i>	9	<b>Public Sector Costs</b>	
<i>Trans.Svcs. - Cost</i>	6	<b>Space</b>		<i>Regulatory Policies</i>	8
<b>Access to Resources</b>		<i>Land Availability - Improved</i>	6	<i>Workers Compensation</i>	8
<i>Energy Dependability</i>	9	<i>Land Cost</i>	7	<i>Unemployment Ins.</i>	8
<i>Intermed. Mfd. Prods.</i>	9	<i>Built Space Availability</i>	7	<i>Business Taxes</i>	7
<b>Work Force</b>		<i>Built Space Cost</i>	8	<b>Quality of Life</b>	
<i>Prec. Prod. &amp; Repair Operators/Assemblers</i>	7	<b>Public Sector Investments</b>		<i>Personal/Property Security</i>	6
	8	<i>Secondary Ed. Quality</i>	7	<i>Climate/Physical Env.</i>	7

*Inside the Metro Phoenix Cluster*

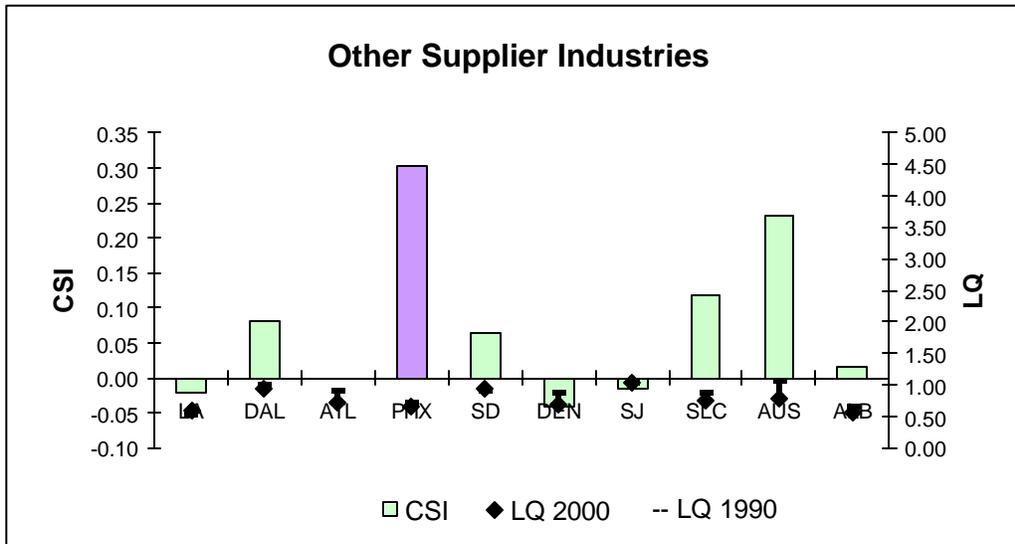
SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Change		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competitiv Share
	<b>All Private Industries</b>	\$ 35,166	1,350,145	154,450	34,703	319,375	30%	7%	63%
	<b>Other Basic</b>	\$ 35,811	35,611	5,038	(4,490)	7,610	62%	-55%	93%
3714	Motor vehicles parts and accessories	\$ 37,750	3,651	256	261	1,738	11%	12%	77%
2511	Wood household furniture	\$ 22,656	2,812	238	-260	1,539	16%	-17%	101%
3559	Special industry machinery, nec	\$ 56,657	1,821	49	11	1,492	3%	1%	96%
3999	Manufacturing industries, nec	\$ 23,849	806	33	16	580	5%	2%	92%
2893	Printing ink	\$ 42,810	419	10	-5	359	3%	-2%	99%
3732	Boat building and repairing	\$ 30,913	638	48	-8	340	13%	-2%	90%
3469	Metal stamping, nec	\$ 45,542	713	64	-19	321	17%	-5%	88%
2542	Partitions and fixtures, except wood	\$ 28,500	342	6	-3	305	2%	-1%	99%
3711	Motor vehicles and car bodies	\$ 63,717	560	46	-33	298	15%	-11%	96%
3451	Screw machine products	\$ 36,016	308	3	0	292	1%	0%	99%
3542	Machine tools, metal forming types	\$ 38,316	288	0	0	286	0%	0%	100%
3651	Household audio and video equipment	\$ 39,514	681	88	-153	268	43%	-75%	132%
3931	Musical instruments	\$ 54,265	238	-	0	238	0%	0%	100%
3713	Truck and bus bodies	\$ 32,652	273	7	1	226	3%	0%	97%
2521	Wood office furniture	\$ 23,535	330	20	-22	224	9%	-10%	101%
2841	Soap and other detergents	\$ 76,219	764	100	-103	222	46%	-47%	101%
3861	Photographic equipment and supplies	\$ 31,462	239	7	-18	210	4%	-9%	105%
3496	Misc. fabricated wire products	\$ 31,175	352	25	-17	209	11%	-8%	97%
3479	Metal coating and allied services	\$ 25,963	440	35	21	197	14%	8%	78%
2399	Fabricated textile products, nec	\$ 30,078	498	57	-62	192	31%	-33%	103%
3465	Automotive stamping	\$ 30,760	172	-	0	172	0%	0%	100%
2515	Mattresses and bedsprings	\$ 33,242	522	54	11	165	23%	5%	72%
3645	Residential lighting fixtures	\$ 20,972	198	7	-10	164	4%	-6%	102%
2731	Book publishing	\$ 38,988	313	28	-27	160	17%	-17%	99%
3549	Metalworking machinery, nec	\$ 51,488	156	-	0	156	0%	0%	100%
3553	Woodworking machinery	\$ 39,115	211	10	-4	150	6%	-3%	96%
3644	Noncurrent-carrying wiring devices	\$ 42,683	168	4	-3	146	3%	-2%	99%
2671	Paper coated & laminated, packaging	\$ 26,628	144	1	0	139	1%	0%	100%
3944	Games, toys, and children's vehicles	\$ 36,167	227	24	-65	138	25%	-67%	142%
2761	Manifold business forms	\$ 36,581	377	51	-85	134	51%	-85%	134%
2677	Envelopes	\$ 34,613	396	55	-93	131	59%	-99%	140%
3492	Fluid power valves & hose fittings	\$ 43,412	400	38	24	130	20%	12%	68%
2822	Synthetic rubber	\$ 39,319	170	7	-1	128	5%	0%	95%
3612	Transformers, except electronic	\$ 22,452	135	3	-6	124	2%	-5%	103%
2514	Metal household furniture	\$ 24,807	141	5	-9	121	4%	-8%	104%
3543	Industrial patterns	\$ 32,326	138	5	-8	116	4%	-7%	103%
3532	Mining machinery	\$ 40,729	120	1	-3	113	1%	-3%	101%
3483	Ammunition, exc. for small arms, nec	\$ 28,320	109	0	-1	109	0%	-1%	101%
3429	Hardware, nec	\$ 30,887	136	7	-11	102	7%	-11%	104%
2675	Die-cut paper and board	\$ 30,181	128	5	0	98	4%	0%	95%
2295	Coated fabrics, not rubberized	\$ 65,141	98	2	-1	88	2%	-1%	99%
2813	Industrial gases	\$ 44,483	194	21	-24	85	26%	-30%	104%
3519	Internal combustion engines, nec	\$ 54,862	84	0	0	82	0%	0%	100%
3799	Transportation equipment, nec	\$ 25,920	461	32	175	80	11%	61%	28%
3524	Lawn and garden equipment	\$ 28,731	740	127	-153	72	277%	-333%	156%
2674	Bags: uncoated paper & multiwall	\$ 30,592	71	-	0	71	0%	0%	100%

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Change		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competitive Share
3625	Relays and industrial controls	\$ 29,737	111	9	-17	69	15%	-28%	113%
2676	Sanitary paper products	\$ 44,065	123	11	-11	63	17%	-18%	100%
3484	Small arms	\$ 26,057	66	1	-4	60	3%	-6%	104%
3555	Printing trades machinery	\$ 31,479	108	10	-17	60	19%	-33%	114%
2253	Knit outerwear mills	\$ 26,754	60	-	0	60	0%	0%	100%
2387	Apparel belts	\$ 26,274	128	28	-108	53	-105%	401%	-195%
3069	Fabricated rubber products, nec	\$ 28,210	83	6	-11	52	13%	-22%	109%
2331	Women's & misses' blouses & shirts	\$ 17,676	78	12	-48	49	92%	-369%	377%
2851	Paints and allied products	\$ 36,024	86	8	-15	48	20%	-38%	117%
2392	Housefurnishings, nec	\$ 20,807	93	8	-8	47	17%	-16%	99%
2298	Cordage and twine	\$ 26,584	40	-	0	40	0%	0%	100%
3199	Leather goods, nec	\$ 34,259	130	14	-1	38	28%	-1%	74%
2522	Office furniture, except wood	\$ 46,575	68	5	0	37	11%	0%	89%
3699	Electrical equipment & supplies, nec	\$ 34,976	152	30	-80	37	-233%	614%	-282%
3564	Blowers and fans	\$ 23,482	90	9	-3	37	21%	-8%	87%
3639	Household appliances, nec	\$ 30,660	38	1	0	34	2%	-1%	99%
2679	Converted paper products, nec	\$ 27,815	127	21	-40	32	161%	-304%	243%
3961	Costume jewelry	\$ 23,807	31	1	-4	29	4%	-14%	110%
3432	Plumbing fixture fittings and trim	\$ 34,148	28	-	0	28	0%	0%	100%
3533	Oil and gas field machinery	\$ 24,925	27	-	0	27	0%	0%	100%
2842	Polishes and sanitation goods	\$ 28,129	95	15	-25	26	98%	-168%	170%
2211	Broadwoven fabric mills, cotton	\$ 25,498	26	0	0	25	1%	-2%	101%
2531	Public building & related furniture	\$ 42,414	25	-	0	25	0%	0%	100%
3641	Electric lamps	\$ 49,170	24	-	0	24	0%	0%	100%
2221	Broadwoven fabric mills, manmade	\$ 12,794	25	1	-1	23	3%	-6%	104%
2599	Furniture and fixtures, nec	\$ 34,468	86	10	-3	22	34%	-9%	74%
2891	Adhesives and sealants	\$ 55,042	180	27	-16	22	82%	-48%	66%
2299	Textile goods, nec	\$ 41,117	30	2	-4	21	11%	-21%	111%
3942	Dolls and stuffed toys	\$ 17,140	29	2	-1	19	8%	-5%	97%
3581	Automatic vending machines	\$ 34,640	54	5	0	19	21%	2%	77%
3011	Tires and inner tubes	\$ 43,676	21	0	0	19	2%	-3%	101%
2631	Paperboard mills	\$ 27,702	19	-	0	19	0%	0%	100%
3511	Turbines and turbine generator sets	\$ 18,398	17	-	0	17	0%	0%	100%
3547	Rolling mill machinery	\$ 36,758	16	-	0	16	0%	0%	100%
2621	Paper mills	\$ 27,468	19	1	-1	16	5%	-10%	105%
3634	Electric housewares and fans	\$ 25,864	49	9	-21	15	431%	-1070%	739%
2231	Broadwoven fabric mills, wool	\$ 40,392	44	9	-29	14	-153%	489%	-236%
2393	Textile bags	\$ 17,862	77	12	-16	12	139%	-173%	135%
3914	Silverware and plated ware	\$ 28,869	14	1	-1	12	5%	-11%	106%
3536	Hoists, cranes, and monorails	\$ 22,885	11	-	0	11	0%	0%	100%
3596	Scales and balances, exc. laboratory	\$ 59,258	11	0	0	10	2%	-3%	101%
3751	Motorcycles, bicycles, and parts	\$ 25,245	15	1	1	10	7%	6%	88%
3537	Industrial trucks and tractors	\$ 22,464	49	6	1	9	38%	6%	56%
3995	Burial caskets	\$ 31,691	14	1	-2	9	14%	-21%	107%
2816	Inorganic pigments	\$ 31,533	16	1	0	8	14%	-5%	90%
3471	Plating and polishing	\$ 27,961	843	135	-36	8	126%	-34%	7%
3523	Farm machinery and equipment	\$ 23,958	20	3	-4	7	43%	-63%	121%
2361	Girls' & children's dresses, blouses	\$ 27,158	8	1	-3	7	18%	-81%	163%
2911	Petroleum refining	\$ 64,689	6	-	0	6	0%	0%	100%
2999	Petroleum and coal products, nec	\$ 64,689	6	-	0	6	0%	0%	100%
3531	Construction machinery	\$ 59,034	250	41	-23	6	173%	-97%	24%
2678	Stationery products	\$ 28,357	5	-	0	5	0%	0%	100%

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Change		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competitive Share
2843	Surface active agents	\$ 11,817	5	-	0	5	0%	0%	100%
2397	Schiffi machine embroideries	\$ 25,208	4	-	0	4	0%	0%	100%
2517	Wood TV and radio cabinets	\$ 19,598	4	-	0	4	0%	0%	100%
3548	Welding apparatus	\$ 20,231	6	0	0	4	9%	-9%	99%
2251	Women's hosiery, except socks	\$ 22,066	3	-	0	3	0%	0%	100%
2269	Finishing plants, nec	\$ 22,066	3	-	0	3	0%	0%	100%
2284	Thread mills	\$ 22,066	3	-	0	3	0%	0%	100%
3143	Men's footwear, except athletic	\$ 20,212	3	-	0	3	0%	0%	100%
3991	Brooms and brushes	\$ 16,791	3	-	0	3	0%	0%	100%
2672	Paper coated and laminated, nec	\$ 50,384	5	0	0	3	12%	-10%	98%
3716	Motor homes	\$ 47,984	10	1	0	2	28%	12%	60%
3425	Saw blades and handsaws	\$ 25,862	2	-	0	2	0%	0%	100%
2311	Men's and boys' suits and coats	\$ 20,317	3	1	-3	1	-73%	285%	-112%
2262	Finishing plants, manmade	\$ 38,058	1	-	0	1	0%	0%	100%
3556	Food products machinery	\$ 65,971	1	-	0	1	0%	0%	100%
3565	Packaging machinery	\$ 56,884	1	-	0	1	0%	0%	100%
3554	Paper industries machinery	\$ 60,672	3	0	0	1	37%	-32%	96%
2339	Women's and misses' outerwear, nec	\$ 26,705	22	6	-13	(1)	-69%	159%	10%
2771	Greeting cards	\$ 35,890	2	1	-1	(1)	-55%	55%	100%
2673	Bags: plastics, laminated, & coated	\$ 33,652	28	5	0	(1)	153%	-15%	-38%
3965	Fasteners, buttons, needles & pins	\$ 18,414	2	1	-2	(3)	-28%	59%	69%
3497	Metal foil and leaf	\$ 22,369	3	1	1	(3)	-73%	-110%	283%
2519	Household furniture, nec	\$ 28,556	30	6	-4	(4)	-294%	210%	184%
3494	Valves and pipe fittings, nec	\$ 46,999	59	15	-33	(4)	-68%	150%	17%
3161	Luggage	\$ 43,625	2	1	-2	(4)	-26%	48%	78%
3452	Bolts, nuts, rivets, and washers	\$ 25,634	190	34	-25	(4)	679%	-500%	-79%
2353	Hats, caps, and millinery	\$ 20,317	3	1	-2	(4)	-29%	45%	85%
3493	Steel springs, except wire	\$ 40,394	5	3	-6	(8)	-27%	54%	73%
2782	Blankbooks and looseleaf binders	\$ 28,989	323	81	-192	(9)	-68%	160%	7%
3715	Truck trailers	\$ 28,293	103	13	31	(9)	37%	90%	-27%
3489	Ordnance and accessories, nec	\$ 25,378	2	4	-14	(9)	-20%	72%	48%
3915	Jewelers' materials & lapidary work	\$ 23,322	2	3	-5	(9)	-21%	43%	78%
3953	Marking devices	\$ 32,316	16	5	-6	(10)	-45%	56%	89%
2732	Book printing	\$ 40,270	45	10	-8	(10)	-122%	96%	126%
3955	Carbon paper and inked ribbons	\$ 29,104	2	3	-9	(11)	-21%	55%	66%
3495	Wire springs	\$ 33,924	42	9	-4	(12)	-128%	62%	167%
2341	Women's and children underwear	\$ 20,505	307	161	-720	(12)	-28%	126%	2%
3131	Footwear cut stock	NA	-	10	-51	(13)	-18%	94%	24%
3052	Rubber & plastics hose & belting	\$ 39,410	100	17	1	(14)	349%	28%	-277%
3172	Personal leather goods, nec	\$ 27,399	18	13	-49	(14)	-25%	97%	28%
3632	Household refrigerators and freezers	\$ 32,674	191	36	-27	(15)	-603%	455%	247%
3546	Power-driven handtools	\$ 20,231	6	4	-5	(15)	-25%	30%	95%
3589	Service industry machinery, nec	\$ 33,946	435	67	22	(17)	93%	30%	-23%
3592	Carburetors, pistons, rings, valves	NA	-	3	-3	(17)	-18%	18%	100%
3621	Motors and generators	\$ 43,144	107	26	-45	(17)	-73%	125%	48%
3053	Gaskets, packing and sealing devices	\$ 27,023	45	10	3	(19)	-136%	-36%	272%
2258	Lace & warp knit fabric mills	NA	-	4	-6	(21)	-18%	27%	92%
3482	Small Arms ammunition	\$ 17,960	2	5	-10	(21)	-20%	37%	83%
3423	Hand and edge tools, nec	\$ 20,525	7	6	-7	(23)	-24%	28%	96%
3652	Prerecorded records and tapes	\$ 21,287	20	7	0	(24)	-40%	0%	140%
3567	Industrial furnaces and ovens	NA	-	4	-4	(24)	-18%	18%	100%

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Chang		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competi Share
3563	Air and gas compressors	\$ 35,741	21	9	-11	(25)	-33%	42%	91%
3431	Metal sanitary ware	\$ 22,979	20	7	0	(26)	-38%	2%	136%
3851	Ophthalmic goods	\$ 26,402	56	19	-42	(27)	-39%	85%	54%
2329	Men's and boys' clothing, nec	NA	-	8	-24	(27)	-18%	56%	63%
3911	Jewelry, precious metal	\$ 58,315	100	24	-23	(30)	-82%	78%	103%
3585	Refrigeration and heating equipment	\$ 29,075	1,392	216	34	(34)	100%	16%	-16%
3535	Conveyors and conveying equipment	\$ 71,812	9	7	-1	(34)	-24%	2%	122%
2337	Women's and misses' suits and coats	\$ 18,620	8	17	-67	(37)	-20%	77%	43%
2391	Curtains and draperies	\$ 18,058	96	32	-63	(44)	-42%	83%	58%
2591	Drapery hardware & blinds & shades	\$ 72,376	32	13	-6	(45)	-34%	15%	118%
2394	Canvas and related products	\$ 25,845	238	46	-10	(46)	-415%	94%	421%
2823	Cellulosic manmade fibers	NA	-	8	1	(52)	-18%	-2%	120%
3646	Commercial lighting fixtures	\$ 42,112	13	11	4	(60)	-24%	-9%	133%
3648	Lighting equipment, nec	\$ 31,752	37	14	15	(68)	-36%	-39%	174%
2335	Women's, juniors', & misses' dresses	\$ 10,375	16	37	-150	(70)	-20%	82%	38%
3491	Industrial valves	NA	-	15	-16	(80)	-18%	20%	98%
2789	Bookbinding and related work	\$ 20,984	206	50	-32	(85)	-75%	48%	127%
3629	Electrical industrial apparatus, nec	\$ 47,308	35	17	16	(89)	-30%	-29%	159%
2321	Men's and boys' shirts	\$ 17,193	15	41	-161	(90)	-20%	77%	43%
3061	Mechanical rubber goods	\$ 39,408	131	34	4	(93)	-62%	-8%	170%
3647	Vehicular lighting equipment	\$ 24,296	24	21	-14	(98)	-23%	15%	108%
3541	Machine tools, metal cutting types	\$ 35,042	111	43	-68	(98)	-35%	55%	80%
3613	Switchgear and switchboard apparatus	\$ 31,680	23	24	-33	(99)	-22%	30%	92%
3792	Travel trailers and campers	\$ 34,703	49	19	31	(105)	-35%	-56%	190%
2396	Automotive and apparel trimmings	\$ 19,151	206	46	24	(117)	-99%	-51%	250%
3561	Pumps and pumping equipment	\$ 33,416	3	26	-36	(131)	-19%	25%	93%
3569	General industrial machinery, nec	\$ 31,479	90	38	-24	(132)	-32%	20%	112%
2273	Carpets and rugs	\$ 45,639	4	24	-16	(137)	-19%	13%	106%
2322	Men's & boys' underwear & nightwear	NA	-	70	-294	(157)	-18%	77%	41%
2395	Pleating and stitching	\$ 19,087	61	40	-12	(187)	-25%	8%	118%
2512	Upholstered household furniture	\$ 20,249	320	95	-95	(195)	-48%	49%	100%
2741	Miscellaneous publishing	\$ 37,165	590	148	-67	(298)	-68%	31%	138%
3545	Machine tool accessories	\$ 40,868	135	86	-112	(304)	-26%	34%	92%
2541	Wood partitions and fixtures	\$ 30,634	312	100	-15	(318)	-43%	6%	137%
3593	Fluid power cylinders & actuators	\$ 72,939	30	93	-85	(482)	-20%	18%	102%
3643	Current-carrying wiring devices	\$ 37,909	383	215	-403	(601)	-27%	51%	76%
3949	Sporting and athletic goods, nec	\$ 46,510	1,267	298	-16	(641)	-83%	5%	179%
2844	Toilet preparations	\$ 32,794	1,442	408	-261	(930)	-52%	33%	119%

Source: Minnesota IMPLAN, Maricopa Association of Governments



Comparative Performance

- This is a mixed group of industries that provide widely used products and services to a variety of other industries in metropolitan region markets.
- The general direction of the location quotients is downward -- only two of ten regions had increased concentration.
- Though metro Phoenix had less concentration in 2000 than in 1990, its competitive share index was the highest of all regions.

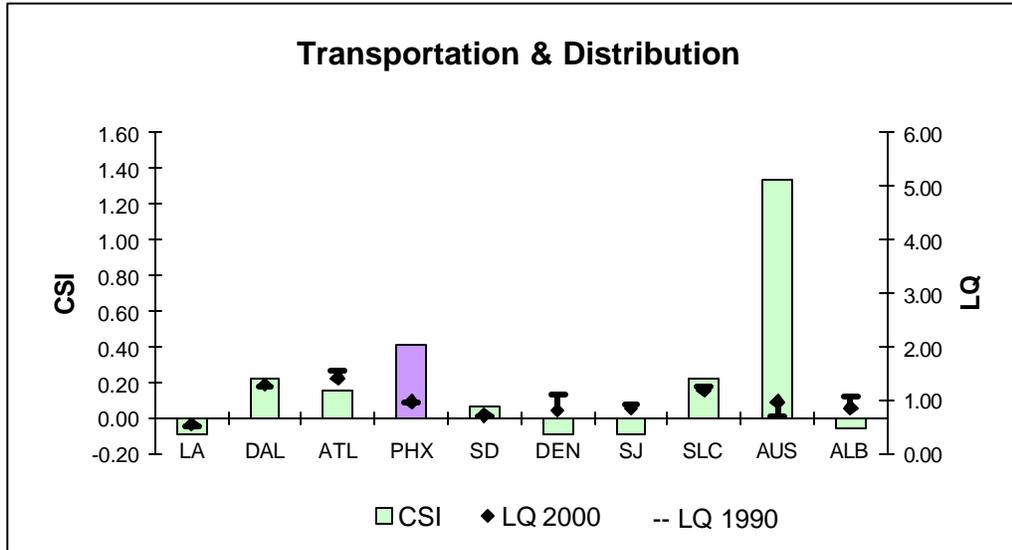
Critical Site Factors

<b>Access to Markets</b>		<i>Cost of Unskilled Workers</i>	7	<i>Local Transp./Commuting</i>	6
<i>Geographic Proximity</i>	6	<b>Space</b>		<i>Business Incentives</i>	6
<i>Trans.Svcs. - Cost</i>	7	<i>Land Cost</i>	7	<b>Public Sector Costs</b>	
<b>Access to Resources</b>		<i>Built Space Availability</i>	8	<i>Regulatory Policies</i>	8
<i>Energy Dependability</i>	9	<i>Built Space Cost</i>	7	<i>Workers Compensation</i>	7
<i>Intermed. Mfd. Prods.</i>	8	<b>Financial Capital</b>		<i>Unemployment Ins.</i>	7
<b>Work Force</b>		<i>Debt</i>	7	<i>Business Taxes</i>	7
<i>Prec. Prod. &amp; Repair</i>	6	<i>Venture</i>	6	<b>Quality of Life</b>	
<i>Operators/Assemblers</i>	7	<b>Public Sector Investments</b>		<i>Personal/Property Security</i>	6
<i>Cost of Skilled Workers</i>	7	<i>Secondary Ed. Quality</i>	7	<i>Climate/Physical Env.</i>	7

*Inside the Metro Phoenix Cluster*

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Chang		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competi Share
	<b>All Private Industries</b>	<b>\$ 35,166</b>	<b>1,350,145</b>	<b>154,450</b>	<b>34,703</b>	<b>319,375</b>	<b>30%</b>	<b>7%</b>	<b>63%</b>
	<b>Other Supplier</b>	<b>\$ 34,704</b>	<b>14,918</b>	<b>2,207</b>	<b>(701)</b>	<b>1,383</b>	76%	-24%	48%
3444	Sheet metal work	\$ 32,376	1,910	151	107	831	14%	10%	76%
3442	Metal doors, sash, and trim	\$ 31,659	1,519	126	-29	737	15%	-3%	88%
2759	Commercial printing, nec	\$ 32,018	1,658	188	-174	618	30%	-28%	98%
3448	Prefabricated metal buildings	\$ 30,405	694	38	19	432	8%	4%	88%
3441	Fabricated structural metal	\$ 31,020	901	82	-48	421	18%	-10%	92%
2653	Corrugated and solid fiber boxes	\$ 36,607	727	72	-30	294	21%	-9%	87%
3443	Fabricated plate work (boiler shops)	\$ 35,368	406	37	-41	209	18%	-20%	102%
2796	Platemaking services	\$ 47,595	436	59	-66	124	50%	-56%	106%
2791	Typesetting	\$ 34,485	207	31	-103	111	79%	-265%	286%
3411	Metal cans	\$ 73,125	97	17	-44	32	338%	-870%	633%
2655	Fiber cans, drums & similar products	\$ 28,093	20	2	-3	10	22%	-37%	115%
2754	Commercial printing, gravure	\$ 35,047	43	5	-1	10	38%	-8%	70%
3433	Heating equipment, except electric	\$ 37,472	58	9	-9	8	115%	-114%	100%
3412	Metal barrels, drums, and pails	\$ 19,306	4	-	0	4	0%	0%	100%
2657	Folding paperboard boxes	\$ 29,323	20	9	-12	(27)	-31%	41%	90%
3993	Signs and advertising specialties	\$ 34,046	563	85	69	(54)	85%	69%	-54%
3449	Miscellaneous metal work	\$ 39,412	69	22	-18	(56)	-43%	35%	107%
3498	Fabricated pipe and fittings	\$ 34,767	63	20	5	(73)	-43%	-12%	154%
2752	Commercial printing, lithographic	\$ 34,493	3,163	577	-476	(80)	2746%	-2266%	-380%
3499	Fabricated metal products, nec	\$ 37,898	222	54	81	(209)	-73%	-109%	283%
3599	Industrial machinery, nec	\$ 38,913	2,138	624	72	(1,960)	-49%	-6%	155%

Source: Minnesota IMPLAN, Maricopa Association of Governments



Comparative Performance

- Metro Phoenix has the second-highest CSI (after Austin), and no change in location quotient. There is good growth potential in this cluster.
- Growth in this cluster depends on the region’s location between producers and markets. Of the Western state regions, Austin, Salt Lake City and Dallas appear to be the closest competitors.
- All California metro regions have weak competitiveness, as does Denver and Albuquerque.

Critical Site Factors

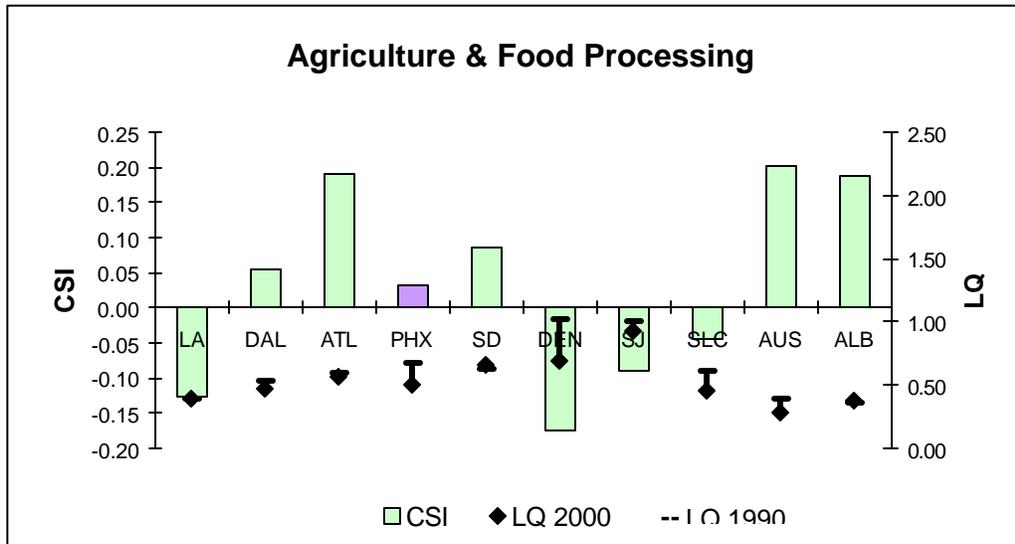
<b>Access to Markets</b>		Handlers, Cleaners, Laborers	6	<b>Public Sector Investments</b>	
Geographic Proximity	9	Cost of Skilled Workers	8	Business Incentives	6
Trans.Svcs. - Cost	8	Cost of Unskilled Workers	8	<b>Public Sector Costs</b>	
Telecom. Svcs.	8	<b>Real Estate</b>		Regulatory Policies	6
<b>Access to Resources</b>		Land Availability - Improved	9	Business Taxes	9
Energy Dependability	7	Land Cost	9	<b>Quality of Life</b>	
<b>Work Force</b>		Built Space Availability	7	Personal/Property Security	9
Sales	7	Built Space Cost	8	Climate/Physical Env	7

*Inside the Metro Phoenix Cluster*

SIC	Industry & Cluster	Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Char		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Compet Shar
	<b>All Private Industries</b>	<b>\$ 35,166</b>	<b>1,350,145</b>	<b>154,450</b>	<b>34,703</b>	<b>319,375</b>	<b>30%</b>	<b>7%</b>	<b>63%</b>
	<b>Transportation, Distribution, Wholesale Trade</b>	<b>\$ 42,801</b>	<b>101,549</b>	<b>12,611</b>	<b>(4,276)</b>	<b>24,497</b>	<b>38%</b>	<b>-13%</b>	<b>75%</b>
5065	Electronic parts and equipment	\$ 64,972	11,400	531	101	7,872	6%	1%	93%
5141	Groceries, general line	\$ 39,274	5,010	428	-192	2,443	16%	-7%	91%
4212	Local trucking, without storage	\$ 31,258	4,547	461	-251	1,824	23%	-12%	90%
4213	Trucking, except local	\$ 37,220	8,035	973	14	1,747	36%	1%	64%
5122	Drugs, proprietaries, and sundries	\$ 65,775	3,702	375	260	1,025	23%	16%	62%
5084	Industrial machinery and equipment	\$ 50,983	3,531	451	-366	986	42%	-34%	92%
5172	Petroleum products, nec	\$ 66,554	1,230	84	-168	855	11%	-22%	111%
5169	Chemicals & allied products, nec	\$ 53,242	1,870	175	-69	813	19%	-8%	89%
4226	Special warehousing and storage, nec	\$ 40,312	918	41	74	579	6%	11%	83%
5064	Electrical appliances, TV & radios	\$ 40,834	1,088	129	-313	569	34%	-81%	148%
4222	Refrigerated warehousing and storage	\$ 31,201	744	23	48	548	4%	8%	89%
5181	Beer and ale	\$ 41,149	1,292	131	-89	536	23%	-15%	93%
4225	General warehousing and storage	\$ 25,800	1,423	95	303	508	10%	33%	56%
5044	Office equipment	\$ 44,614	2,765	412	-378	485	79%	-73%	93%
5093	Scrap and waste materials	\$ 29,759	1,392	166	-117	441	34%	-24%	90%
5182	Wine and distilled beverages	\$ 41,963	1,234	139	-84	421	29%	-18%	88%
5091	Sporting & recreational goods	\$ 36,961	688	49	-4	378	11%	-1%	89%
5193	Flowers & florists' supplies	\$ 22,914	1,289	142	-3	374	28%	0%	73%
5032	Brick, stone, & related materials	\$ 40,275	1,390	126	223	352	18%	32%	50%
5046	Commercial equipment, nec	\$ 36,473	1,117	124	-20	338	28%	-5%	77%
5148	Fresh fruits and vegetables	\$ 25,744	1,350	181	-149	335	49%	-41%	91%
5199	Nondurable goods, nec	\$ 34,040	1,620	185	99	328	30%	16%	54%
5088	Transportation equipment & supplies	\$ 55,853	870	93	-42	311	26%	-12%	86%
5142	Packaged frozen foods	\$ 32,669	443	26	2	275	8%	1%	91%
5083	Farm and garden machinery	\$ 40,404	892	111	-98	275	38%	-34%	95%
5082	Construction and mining machinery	\$ 48,455	1,604	219	-76	266	54%	-19%	65%
5039	Construction materials, nec	\$ 38,552	652	79	-118	261	36%	-53%	118%
5074	Plumbing & hydronic heating supplies	\$ 41,059	1,505	221	-170	249	74%	-57%	83%
5099	Durable goods, nec	\$ 37,977	441	33	-15	241	13%	-6%	93%
5051	Metals service centers and offices	\$ 43,362	1,036	132	-46	229	42%	-15%	73%
4221	Farm product warehousing and storage	\$ 30,581	250	14	-33	193	8%	-19%	111%
5136	Men's and boys' clothing	\$ 30,107	403	33	2	189	15%	1%	84%
5139	Footwear	\$ 25,316	176	3	1	152	2%	1%	97%
5031	Lumber, plywood, and millwork	\$ 37,282	2,470	362	-16	151	73%	-3%	30%
5113	Industrial & personal service paper	\$ 42,060	804	119	-110	148	76%	-70%	94%
5198	Paints, varnishes and supplies	\$ 36,544	556	75	-70	141	52%	-48%	96%

SIC	Industry & Cluster	Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Char		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Compet Shar
	<b>All Private Industries</b>	<b>\$ 35,166</b>	<b>1,350,145</b>	<b>154,450</b>	<b>34,703</b>	<b>319,375</b>	<b>30%</b>	<b>7%</b>	<b>63%</b>
	<b>Transportation, Distribution, Wholesale Trade</b>	<b>\$ 42,801</b>	<b>101,549</b>	<b>12,611</b>	<b>(4,276)</b>	<b>24,497</b>	<b>38%</b>	<b>-13%</b>	<b>75%</b>
4214	Local trucking with storage	\$ 31,608	886	126	-58	131	63%	-29%	66%
5043	Photographic equipment and supplies	\$ 54,804	302	49	-125	112	136%	-346%	311%
5131	Piece goods & notions	\$ 29,854	281	32	-36	111	30%	-34%	104%
5194	Tobacco and tobacco products	\$ 43,067	250	30	-48	102	36%	-57%	121%
4231	Trucking terminal facilities	\$ 24,527	231	13	60	89	8%	37%	55%
5085	Industrial supplies	\$ 43,450	1,179	195	-166	86	170%	-145%	75%
5048	Ophthalmic goods	\$ 35,446	364	45	-12	86	38%	-10%	72%
4493	Marinas	\$ 19,496	127	6	4	83	7%	4%	89%
5162	Plastics materials & basic shapes	\$ 51,820	386	45	24	71	32%	17%	51%
5137	Women's and children's clothing	\$ 25,125	276	37	-31	68	50%	-41%	91%
5171	Petroleum bulk stations & terminals	\$ 45,286	322	66	-164	59	-170%	422%	-152%
5078	Refrigeration equipment and supplies	\$ 35,325	113	12	-10	45	26%	-21%	95%
5149	Groceries and related products, nec	\$ 41,978	3,156	448	239	28	63%	33%	4%
5192	Books, periodicals, & newspapers	\$ 44,608	409	60	-1	24	72%	-1%	29%
5092	Toys and hobby goods and supplies	\$ 38,902	237	34	-7	22	69%	-13%	44%
4789	Transportation services, nec	\$ 31,067	66	3	24	21	7%	49%	44%
5094	Jewelry & precious stones	\$ 34,141	400	68	-45	8	218%	-144%	26%
5159	Farm-product raw material, nec	\$ 96,646	25	4	-9	7	211%	-471%	360%
4783	Packing and crating	\$ 26,390	111	8	51	7	13%	77%	10%
4499	Water transportation services, nec	\$ 17,881	6	-	0	6	0%	0%	100%
4489	Water passenger transportation, nec	\$ 39,158	5	-	0	5	0%	0%	100%
5014	Tires and tubes	\$ 36,961	347	63	-62	4	1255%	-1236%	81%
5052	Coal and other minerals and ores	\$ 64,212	16	4	-13	3	-67%	212%	-44%
4449	Water transportation of freight, nec	\$ 30,424	2	-	0	2	0%	0%	100%
4013	Railroad Switching and Terminal Establishments	\$ 49,773	1	-	0	1	0%	0%	100%
5112	Stationery and office supplies	\$ 34,182	1,635	237	107	0	69%	31%	0%
4412	Deep Sea foreign trans. of freight	\$ 30,424	2	2	-4	(6)	-23%	52%	71%
4612	Crude petroleum pipelines	\$ 75,908	10	5	-13	(7)	-31%	86%	44%
5153	Grain and field beans	\$ 50,011	18	6	-9	(8)	-46%	76%	70%
4481	Deep sea passenger trans. ex. ferry	\$ 56,340	5	2	2	(9)	-37%	-41%	178%
4215	Courier services, except by air	\$ 20,252	1,441	445	-1,413	(16)	-45%	144%	2%
5154	Livestock	\$ 20,866	20	8	-18	(17)	-32%	68%	64%
5075	Warm air heating & air-conditioning	\$ 46,324	991	152	27	(17)	94%	16%	-10%
4613	Refined petroleum pipelines	NA	-	5	-10	(19)	-18%	41%	77%
5146	Fish and seafoods	\$ 35,129	149	34	-47	(20)	-99%	139%	60%
5063	Electrical apparatus and equipment	\$ 50,592	3,190	518	-131	(20)	141%	-36%	-6%
5147	Meats and meat products	\$ 38,798	645	130	-165	(30)	-203%	257%	46%
5033	Roofing, siding, & insulation	\$ 38,782	544	78	79	(37)	65%	66%	-31%
5012	Automobiles and other motor vehicles	\$ 37,268	1,827	259	198	(39)	62%	47%	-9%
4785	Inspection & fixed facilities	\$ 20,342	17	5	26	(40)	-53%	-286%	440%
5144	Poultry and poultry products	\$ 37,813	62	25	-56	(42)	-34%	76%	58%
5072	Hardware	\$ 41,883	1,419	229	4	(62)	134%	2%	-36%
5143	Dairy products, exc. dried or canned	\$ 35,051	718	169	-297	(77)	-83%	145%	38%
5021	Furniture	\$ 36,489	882	151	4	(94)	247%	7%	-154%
5145	Confectionery	\$ 49,740	629	117	-20	(104)	-1667%	280%	1488%
5191	Farm supplies	\$ 37,518	515	111	-83	(120)	-121%	91%	130%
4111	Local and suburban transit	\$ 29,364	1,563	242	125	(120)	98%	51%	-49%
5111	Printing and writing paper	\$ 55,053	40	38	-64	(140)	-23%	39%	84%
5023	Homefurnishings	\$ 40,776	1,321	254	-121	(196)	-403%	193%	311%
5015	Motor vehicle parts, used	\$ 30,195	314	97	-28	(285)	-45%	13%	132%
5087	Service establishment equipment	\$ 34,581	970	256	-218	(463)	-60%	51%	109%
5013	Motor vehicle supplies and new parts	\$ 34,197	2,764	590	-375	(666)	-131%	83%	148%
4119	Local passenger transportation, nec	\$ 21,953	623	157	478	(869)	-67%	-205%	373%

Source: Minnesota IMPLAN, Maricopa Association of Governments



Comparative Performance

- Downward direction of location quotients in 8 of 10 regions, including a significant drop for Phoenix..
- The competitive share index for Phoenix is not encouraging.

Critical Site Factors

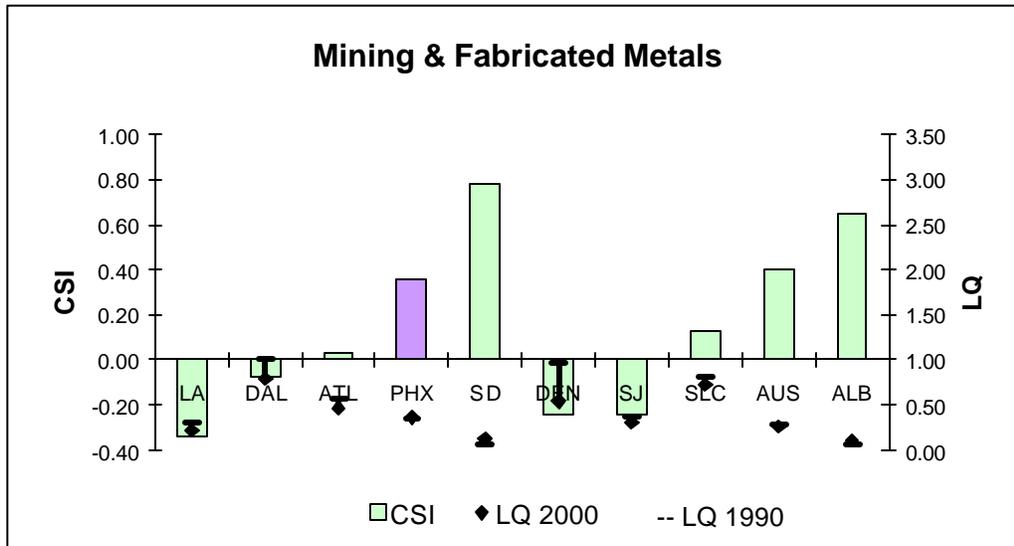
<b>Access to Markets</b>		Operators/Assemblers	6	Secondary Ed. Quality	7
Trans.Svcs. - Cost	8	Handlers, Cleaners, Laborers	6	Local Transp./Commuting	6
<b>Access to Resources</b>		<b>Real Estate</b>		<b>Public Sector Costs</b>	
Energy Dependability	9	Land Availability - Improved	7	Regulatory Policies	9
Raw Materials	6	Land Cost	6	Business Taxes	7
Intermed. Mfd. Prods.	7	Built Space Availability	6	<b>Quality of Life</b>	
<b>Work Force</b>		Built Space Cost	6	Personal/Property Security	6
Prec. Prod. & Repair	6	<b>Public Sector Investments</b>		Climate/Physical Env	7

*Inside the Metro Phoenix Cluster*

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Chang		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competi Share
	<b>ALL INDUSTRIES/Clusters</b>	<b>\$ 35,166</b>	<b>1,350,145</b>	<b>154,450</b>	<b>34,703</b>	<b>319,375</b>	<b>30%</b>	<b>7%</b>	<b>63%</b>
	<b>Agriculture &amp; Food Processing</b>	<b>\$ 26,431</b>	<b>13,390</b>	<b>1,977</b>	<b>(950)</b>	<b>1,592</b>	<b>75%</b>	<b>-36%</b>	<b>61%</b>
2086	Bottled and canned soft drinks	\$ 33,088	2,400	255	-343	1,096	25%	-34%	109%
0740	Veterinary services	\$ 24,616	2,822	248	609	612	17%	41%	42%
2011	Meat packing plants	\$ 26,448	1,183	121	-63	467	23%	-12%	89%
2051	Bread, cake, and related products	\$ 30,495	1,655	254	-378	393	94%	-140%	146%
0761	Farm labor contractors	\$ 8,078	1,150	114	98	318	21%	19%	60%
2052	Cookies and crackers	\$ 32,412	144	-	0	144	0%	0%	100%
2096	Potato chips and similar snacks	\$ 24,657	186	10	-16	135	8%	-13%	104%
0811	Timber tracts	\$ 18,278	126	12	-4	55	18%	-6%	88%
0723	Crop preparation services for market	\$ 16,707	306	42	-9	46	53%	-12%	59%
0851	Forestry services	\$ 28,148	36	-	0	36	0%	0%	100%
2013	Sausages and other prepared meats	\$ 22,015	66	5	0	36	12%	-1%	89%
2879	Agricultural chemicals, nec	\$ 33,180	70	6	-4	34	17%	-11%	94%
2067	Chewing Gum	\$ 35,075	21	-	0	21	0%	0%	100%
2064	Candy & other confectionery products	\$ 36,438	93	14	-12	15	82%	-72%	90%
2098	Macaroni and spaghetti	\$ 37,994	48	7	-13	14	92%	-166%	174%
2082	Malt beverages	\$ 20,766	10	-	0	10	0%	0%	100%
2068	Salted and roasted nuts and seeds	\$ 34,892	5	-	0	5	0%	0%	100%
2033	Canned fruits and vegetables	\$ 27,733	36	8	-16	4	-150%	323%	-72%
0971	Hunting, trapping, game propagation	\$ 20,071	3	-	0	3	0%	0%	100%
2037	Frozen fruits and vegetables	\$ 22,321	3	-	0	3	0%	0%	100%
2038	Frozen specialties, nec	\$ 22,321	3	-	0	3	0%	0%	100%
2045	Prepared flour mixes and doughs	\$ 23,929	3	-	0	3	0%	0%	100%
2046	Wet corn milling	\$ 18,446	3	-	0	3	0%	0%	100%
2023	Dry, condensed, evaporated products	\$ 34,440	5	1	-1	2	28%	-32%	104%
2076	Vegetable oil mills, nec	\$ 22,448	2	-	0	2	0%	0%	100%
2015	Poultry slaughtering and processing	\$ 22,321	3	0	0	2	9%	5%	86%
2084	Wines, brandy, and brandy spirits	\$ 31,532	1	-	0	1	0%	0%	100%
2034	Dehydrated fruits, vegetables, soups	\$ 22,321	3	1	-2	(1)	-46%	100%	46%
2092	Fresh or frozen prepared fish	NA	-	0	-1	(2)	-18%	29%	89%
2041	Flour and other grain mill products	\$ 32,174	56	12	-19	(4)	-112%	173%	39%
2053	Frozen bakery products, except bread	NA	-	1	0	(5)	-18%	6%	113%
2087	Flavoring extracts and syrups, nec	NA	-	1	1	(6)	-18%	-10%	128%
2066	Chocolate and cocoa products	NA	-	2	-3	(10)	-18%	28%	91%
2077	Animal and marine fats and oils	\$ 33,543	135	26	-23	(10)	-372%	326%	146%
0921	Fish hatcheries and preserves	NA	-	2	-4	(10)	-18%	32%	87%
0751	Livestock services, exc. veterinary	\$ 23,425	31	8	-11	(12)	-56%	73%	83%

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Chang		
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	<b>Agriculture &amp; Food Processing</b>	<b>\$ 26,431</b>	<b>13,390</b>	<b>1,977</b>	<b>(950)</b>	<b>1,592</b>	<b>75%</b>	<b>-36%</b>	<b>61%</b>
2874	Phosphatic fertilizers	NA	-	3	-6	(16)	-18%	32%	86%
0722	Crop harvesting	\$ 22,597	128	21	7	(17)	195%	61%	-156%
2074	Cottonseed oil mills	\$ 30,064	42	23	-84	(20)	-28%	103%	25%
2048	Prepared feeds, nec	\$ 32,126	58	16	-25	(21)	-54%	85%	69%
2024	Ice cream and frozen desserts	\$ 10,096	18	7	-4	(24)	-34%	20%	114%
0711	Soil preparation services	\$ 24,584	41	8	16	(26)	-395%	-791%	1286%
2032	Canned specialties	\$ 28,249	108	36	-98	(27)	-41%	110%	31%
2873	Nitrogenous fertilizers	\$ 40,215	56	15	-14	(29)	-56%	50%	106%
2047	Dog and cat food	\$ 42,920	32	9	2	(31)	-49%	-12%	161%
2875	Fertilizers, mixing only	\$ 16,892	13	9	-13	(34)	-25%	34%	91%
0721	Crop planting and protecting	\$ 31,138	87	28	-3	(94)	-42%	4%	138%
2035	Pickles, sauces, and salad dressings	\$ 13,777	2	22	-25	(118)	-19%	20%	98%
0752	Animal specialty services	\$ 16,204	417	69	101	(132)	178%	260%	-338%
0724	Cotton ginning	\$ 25,521	67	44	-59	(160)	-25%	34%	92%
2099	Food preparations, nec	\$ 22,838	750	153	-2	(237)	-178%	3%	276%
0762	Farm management services	\$ 14,610	82	55	-29	(244)	-25%	13%	112%
2097	Manufactured ice	\$ 35,237	55	52	4	(285)	-23%	-2%	124%
2026	Fluid milk	\$ 38,577	826	252	-503	(296)	-46%	92%	54%

Source: Minnesota IMPLAN, Maricopa Association of Governments



Comparative Performance

- There are more jobs in primary metals than in mining for this cluster.
- Half the metro regions had greater concentration of the cluster in 2000, compared to 1990.
- There is a lot of variance in the competitive share index, with Phoenix in a positive tier along with San Diego, Austin, Albuquerque, and (to a lesser extent) Salt Lake City.
- Phoenix’s concentration barely changed, but it was in a positive direction.

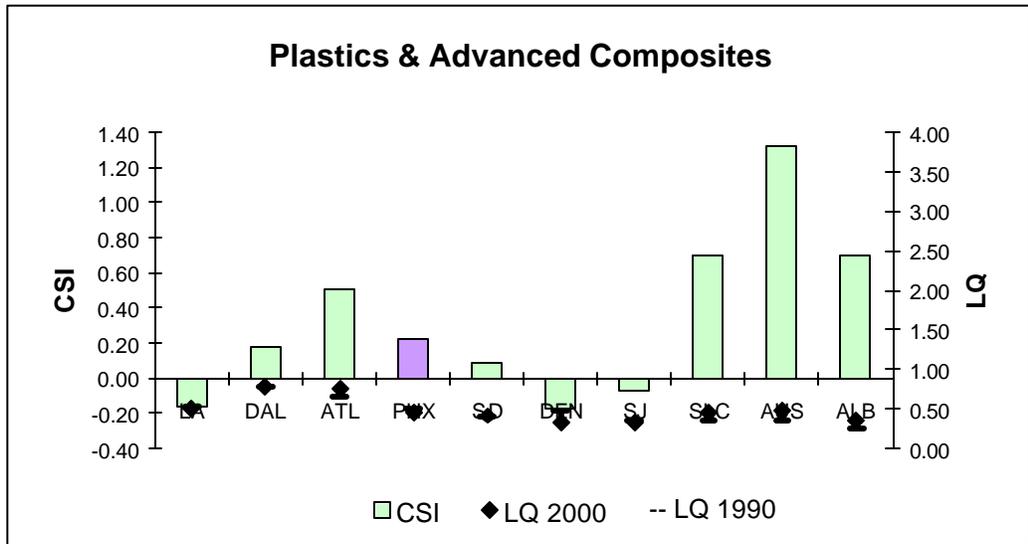
Phoenix Comparative Performance.

<b>Access to Markets</b>		<i>Cost of Skilled Workers</i>	6	<i>Local Transp./Commuting</i>	7
<i>Geographic Proximity</i>	6	<i>Cost of Unskilled Workers</i>	8	<b>Public Sector Costs</b>	
<i>Trans.Svcs. - Cost</i>	7	<b>Space</b>		<i>Regulatory Policies</i>	10
<b>Access to Resources</b>		<i>Land Availability - Improved</i>	7	<i>Workers Compensation</i>	7
<i>Energy Dependability</i>	9	<i>Land Cost</i>	7	<i>Unemployment Ins.</i>	7
<i>Intermed. Mfd. Prods.</i>	8	<i>Built Space Availability</i>	7	<i>Business Taxes</i>	6
<b>Work Force</b>		<i>Built Space Cost</i>	8	<b>Quality of Life</b>	
<i>Prec. Prod. &amp; Repair Operators/Assemblers</i>	7	<b>Public Sector Investments</b>		<i>Personal/Property Security</i>	7
	8	<i>Secondary Ed. Quality</i>	8	<i>Climate/Physical Env.</i>	7

*Inside the Metro Phoenix Cluster*

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Chang		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competi Share
	<b>All Private Industries</b>	<b>\$ 35,166</b>	<b>1,350,145</b>	<b>154,450</b>	<b>34,703</b>	<b>319,375</b>	<b>30%</b>	<b>7%</b>	<b>63%</b>
	<b>Mining &amp; Primary Metals</b>	<b>\$ 43,360</b>	<b>5,606</b>	<b>863</b>	<b>(743)</b>	<b>785</b>	95%	-82%	87%
3354	Aluminum extruded products	\$ 34,305	1,083	109	-5	384	22%	-1%	79%
3357	Nonferrous wiredrawing & insulating	\$ 38,973	1,831	268	-272	372	73%	-74%	101%
1021	Copper ores	\$ 102,578	538	50	-92	310	18%	-34%	116%
3317	Steel pipe and tubes	\$ 44,389	312	10	-1	252	4%	0%	97%
1411	Dimension stone	\$ 47,789	166	-	0	166	0%	0%	100%
3369	Nonferrous foundries, nec	\$ 32,936	129	-	0	129	0%	0%	100%
1429	Crushed and broken stone, nec	\$ 41,505	107	6	6	63	8%	8%	85%
3339	Primary nonferrous metals, nec	\$ 43,328	81	6	-12	56	12%	-25%	113%
1422	Crushed and broken limestone	\$ 26,077	21	-	0	21	0%	0%	100%
1389	Oil and gas field services, nec	\$ 38,949	24	1	-2	20	5%	-10%	105%
3312	Blast furnace and steel mills	\$ 25,745	141	31	-75	18	-118%	288%	-70%
1311	Crude petroleum and natural gas	\$ 29,096	20	2	-6	12	28%	-77%	150%
1381	Drilling oil and gas wells	\$ 30,422	10	0	0	9	2%	-4%	102%
1481	Nonmetallic minerals services	\$ 40,086	9	0	0	8	2%	0%	97%
3313	Electrometallurgical products	\$ 54,081	5	-	0	5	0%	0%	100%
1031	Lead and zinc ores	\$ 16,431	3	-	0	3	0%	0%	100%
1241	Coal mining services	\$ 16,365	3	-	0	3	0%	0%	100%
1321	Natural gas liquids	\$ 16,365	3	-	0	3	0%	0%	100%
3315	Steel wire and related products	\$ 22,867	3	-	0	3	0%	0%	100%
3353	Aluminum sheet, plate, and foil	\$ 20,473	3	-	0	3	0%	0%	100%
1459	Clay and related minerals, nec	\$ 21,366	1	-	0	1	0%	0%	100%
1081	Metal mining services	\$ 45,326	43	15	-54	(1)	-38%	136%	2%
3364	Nonferrous die-casting exc. aluminum	\$ 20,441	3	1	-1	(3)	-37%	42%	95%
3365	Aluminum foundries	\$ 29,793	60	11	-6	(7)	-569%	310%	358%
3341	Secondary nonferrous metals	\$ 25,520	36	12	-20	(19)	-43%	74%	69%
1382	Oil and gas exploration services	\$ 82,162	6	6	-9	(22)	-23%	37%	86%
3324	Steel investment foundries	\$ 32,593	471	91	-77	(41)	-338%	286%	153%
1423	Crushed and broken granite	\$ 36,254	43	12	7	(44)	-50%	-27%	177%
1041	Gold ores	\$ 62,203	14	16	-45	(45)	-22%	61%	61%
3398	Metal Heat treating	\$ 32,823	190	37	9	(59)	-287%	-66%	453%
3366	Copper foundries	\$ 30,836	74	32	-51	(83)	-32%	50%	81%
3325	Steel foundries, nec	\$ 45,550	117	56	-51	(190)	-30%	28%	102%
3351	Copper rolling and drawing	\$ 36,239	3	37	-41	(193)	-19%	21%	98%
3363	Aluminum die-castings	\$ 28,667	53	48	72	(326)	-23%	-35%	158%

Source: Minnesota IMPLAN, Maricopa Association of Governments



Comparative Performance

Metro Phoenix is a second-tier region for plastics, with a location quotient less than one, and a decline in location quotient between 1990 and 2000. The top competitor regions are Austin, San Jose, Albuquerque, and Atlanta.

Critical Site Factors.

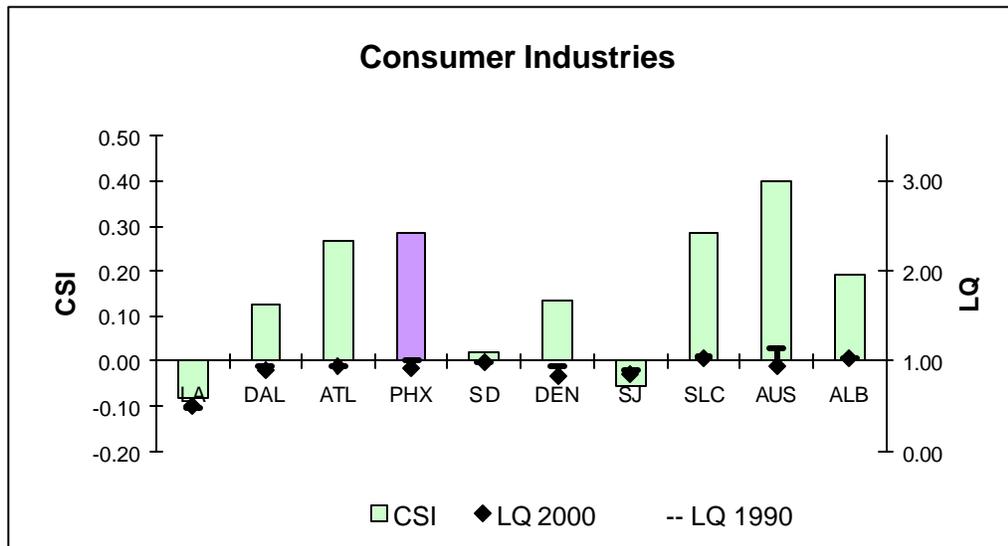
<b>Access to Markets</b>		<i>Unemployment Ins.</i>	8
<i>Geographic Proximity</i>	9	<i>Business Taxes</i>	8
<b>Access to Resources</b>		<b>Quality of Life</b>	
<i>Energy Dependability</i>	9	<i>Personal/Property Security</i>	6
<i>Intermed. Mfd. Prods.</i>	9	<i>Climate/Physical Env.</i>	7
<b>Work Force</b>			
<i>Prec. Prod. &amp; Repair</i>	6		
<i>Operators/Assemblers</i>	9		
<i>Cost of Skilled Workers</i>	8		
<i>Cost of Unskilled Workers</i>	9		
<b>Space</b>			
<i>Land Cost</i>	6		
<i>Built Space Availability</i>	7		
<i>Built Space Cost</i>	6		
<b>Financial Capital</b>			
<i>Debt</i>	6		
<i>Venture</i>	6		
<b>Public Sector Investments</b>			
<i>Secondary Ed. Quality</i>	7		
<i>Local Transp./Commuting</i>	6		
<i>Business Incentives</i>	6		
<b>Public Sector Costs</b>			
<i>Regulatory Policies</i>	8		
<i>Workers Compensation</i>	8		

Inside the Metro Phoenix  
Cluster

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Change		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competitiv Share
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	<b>Plastics &amp; Advanced Composites</b>	<b>\$ 33,687</b>	<b>5,557</b>	<b>754</b>	<b>(83)</b>	<b>775</b>	<b>52%</b>	<b>-6%</b>	<b>54%</b>
3089	Plastics products, nec	\$ 32,094	2,930	300	-29	1,026	23%	-2%	79%
3088	Plastics plumbing fixtures	\$ 31,347	487	13	35	370	3%	8%	89%
3082	Unsupported plastics profile shapes	\$ 27,734	175	11	-16	119	10%	-14%	105%
3086	Plastics foam products	\$ 33,279	614	83	18	57	53%	11%	36%
3085	Plastics bottles	\$ 37,350	258	32	7	47	37%	8%	55%
2821	Plastics materials and resins	\$ 40,857	5	4	-6	(13)	-24%	40%	84%
3544	Special dies, tools, jigs & fixtures	\$ 43,700	734	126	-63	(13)	251%	-126%	-25%
3083	Laminated plastics plate & sheet	\$ 27,967	44	12	10	(42)	-59%	-52%	211%
3084	Plastics pipe	\$ 35,274	79	27	10	(104)	-40%	-15%	155%
3081	Unsupported plastics film & sheet	\$ 30,966	62	38	-7	(177)	-26%	5%	121%
3087	Custom compound purchased resins	\$ 28,164	169	110	-41	(496)	-26%	10%	116%

Source: Minnesota IMPLAN, Maricopa Association of Governments

## Nonbasic Industry Clusters



### Critical Site Factors

#### Access to Markets

Geographic Proximity 10  
Telecom. Svcs. 10

#### Access to Resources

Energy Dependability 8  
Bsns/Prof/Tech Svcs. 7

#### Work Force

Cost of Skilled Workers 7

Cost of Unskilled Workers 7

Cost of Unskilled Workers 5

#### Space

Built Space Availability 9

Built Space Cost 8

#### Financial Capital

Debt 8

#### Public Sector Investments

Secondary Ed. Quality 7

#### Public Sector Costs

Unemployment Ins. 6

Business Taxes 7

#### Quality of Life

Personal/Property Security 8

Climate/Physical Env. 6

Area Image 7

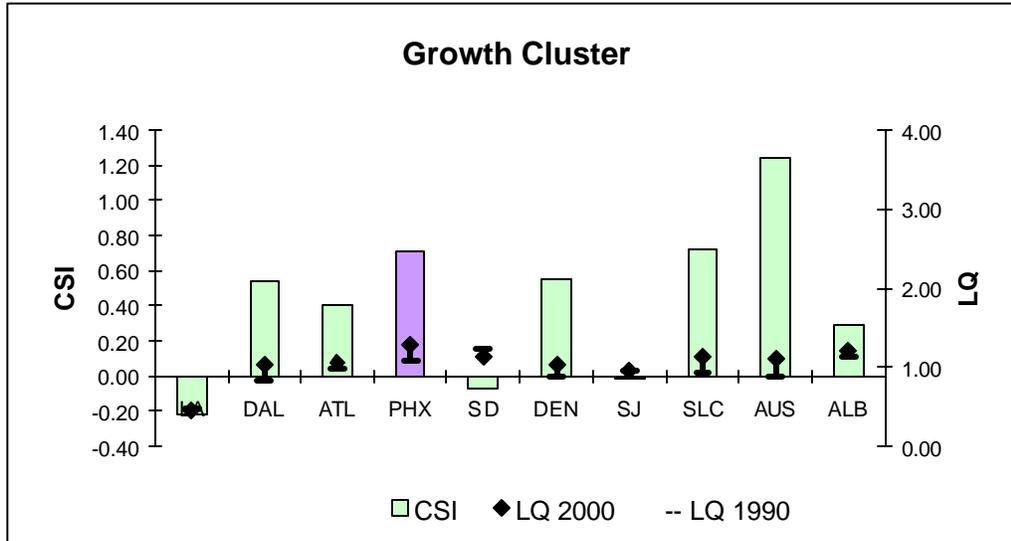
*Inside the Metro Phoenix Cluster*

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Chang		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competi Shar
	<b>All Private Industries</b>	<b>\$ 35,166</b>	<b>1,350,145</b>	<b>154,450</b>	<b>34,703</b>	<b>319,375</b>	<b>30%</b>	<b>7%</b>	<b>63%</b>
	<b>Consumer Industries</b>	<b>\$ 25,662</b>	<b>258,516</b>	<b>32,036</b>	<b>1,562</b>	<b>50,349</b>	<b>38%</b>	<b>2%</b>	<b>60%</b>
5311	Department stores	\$ 17,937	29,261	3,260	-420	8,655	28%	-4%	75%
5511	New and used car dealers	\$ 46,080	16,505	1,780	-187	5,212	26%	-3%	77%
5411	Grocery stores	\$ 23,181	35,611	5,412	-3,372	4,081	88%	-55%	67%
5961	Catalog and mail-order houses	\$ 42,755	4,183	179	315	2,713	6%	10%	85%
5651	Family clothing stores	\$ 13,868	3,604	195	269	2,079	8%	11%	82%
8661	Religious organizations	\$ 20,005	2,159	24	47	1,960	1%	2%	97%
8641	Civic and social associations	\$ 21,069	7,031	787	-2	1,959	29%	0%	71%
5712	Furniture stores	\$ 30,163	5,014	490	-94	1,948	21%	-4%	83%
8361	Residential care	\$ 19,422	8,016	671	1,802	1,885	15%	41%	43%
5731	Radio, TV, & electronic stores	\$ 25,309	3,438	169	499	1,850	7%	20%	73%
5541	Gasoline service stations	\$ 19,680	6,171	787	-666	1,762	42%	-35%	94%
8322	Individual and family services	\$ 21,809	6,892	595	1,411	1,647	16%	39%	45%
4841	Cable and other pay TV services	\$ 34,926	2,856	195	377	1,224	11%	21%	68%
7841	Video tape rental	\$ 11,433	2,617	209	85	1,185	14%	6%	80%
5531	Auto and home supply stores	\$ 29,391	8,234	1,100	56	1,086	49%	3%	48%
6411	Insurance agents, brokers, & service	\$ 44,448	9,665	1,389	-370	1,080	66%	-18%	51%
7299	Miscellaneous personal services, nec	\$ 16,270	1,729	105	12	1,039	9%	1%	90%
5943	Stationery stores	\$ 25,541	1,642	104	80	893	10%	7%	83%
7538	General automotive repair shops	\$ 29,529	3,616	408	227	758	29%	16%	54%
5734	Computer and software stores	\$ 40,508	2,930	213	853	703	12%	48%	40%
5461	Retail bakeries	\$ 15,182	1,648	142	36	695	16%	4%	80%
5999	Miscellaneous retail stores, nec	\$ 27,538	5,796	621	1,102	689	26%	46%	29%
7623	Refrigeration service and repair	\$ 35,590	1,226	112	-64	565	18%	-11%	92%
5521	Used car dealers	\$ 38,627	1,774	135	360	545	13%	35%	52%
5941	Sporting goods and bicycle shops	\$ 17,160	2,468	288	98	515	32%	11%	57%
5942	Book stores	\$ 14,772	1,642	138	250	502	16%	28%	56%
5499	Miscellaneous food stores	\$ 19,091	1,491	94	401	485	10%	41%	50%
5947	Gift, novelty, and souvenir shops	\$ 13,880	2,989	345	311	455	31%	28%	41%
5571	Motorcycle dealers	\$ 33,313	810	45	97	423	8%	17%	75%
5713	Floor covering stores	\$ 37,347	1,183	126	-50	421	25%	-10%	85%
5632	Women's accessory & specialty stores	\$ 13,448	731	54	-27	410	12%	-6%	94%
2721	Periodicals	\$ 40,186	1,141	124	-49	391	27%	-11%	84%
5932	Used merchandise stores	\$ 17,011	2,305	192	723	344	15%	57%	27%
7532	Top & body repair & paint shops	\$ 32,485	2,388	297	130	339	39%	17%	44%
4131	Intercity & rural bus transportation	\$ 29,552	481	28	-30	330	9%	-9%	101%
5992	Florists	\$ 15,776	1,307	193	-248	312	75%	-96%	121%

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	<b>Consumer Industries</b>	<b>\$ 25,662</b>	<b>258,516</b>	<b>32,036</b>	<b>1,562</b>	<b>50,349</b>	<b>38%</b>	<b>2%</b>	<b>60%</b>
8699	Membership organizations, nec	\$ 28,617	672	63	-1	267	19%	0%	81%
7542	Carwashes	\$ 14,623	3,376	424	379	261	40%	36%	25%
5736	Musical instrument stores	\$ 23,215	496	34	28	250	11%	9%	80%
7291	Tax return preparation services	\$ 19,765	1,060	95	215	232	18%	40%	43%
7536	Automotive glass replacement shops	\$ 34,454	724	55	138	231	13%	33%	54%
4833	Television broadcasting stations	\$ 53,641	1,275	170	-51	229	49%	-15%	66%
7832	Motion picture theaters, ex drive-in	\$ 9,329	1,965	245	165	220	39%	26%	35%
5993	Tobacco stores and stands	\$ 20,437	354	9	97	199	3%	32%	65%
5611	Men's & boys' clothing stores	\$ 16,551	703	113	-222	198	127%	-249%	223%
5722	Household appliance stores	\$ 28,378	525	72	-124	188	53%	-92%	139%
5621	Women's clothing stores	\$ 13,588	2,464	638	-1,829	179	-63%	181%	-18%
7692	Welding repair	\$ 28,331	306	27	-45	178	17%	-28%	111%
5421	Meat and fish markets	\$ 15,083	224	10	-12	175	6%	-7%	102%
8399	Social services, nec	\$ 27,960	1,397	196	-41	172	60%	-13%	53%
7231	Beauty shops	\$ 16,783	5,657	902	-331	171	122%	-45%	23%
7539	Automotive repair shops, nec	\$ 30,793	1,003	156	-167	162	103%	-110%	107%
4832	Radio broadcasting stations	\$ 51,018	1,171	198	-237	132	213%	-255%	142%
5949	Sewing, needlework, and piece goods	\$ 14,258	917	197	-483	126	-124%	304%	-79%
8331	Job training and related services	\$ 14,102	2,267	286	301	123	40%	42%	17%
5331	Variety stores	\$ 10,978	516	89	-173	115	287%	-559%	372%
7641	Reupholstery and furniture repair	\$ 22,214	338	44	-56	111	44%	-57%	113%
5946	Camera & photographic supply stores	\$ 20,227	229	24	-31	103	25%	-32%	107%
5948	Luggage and leather goods stores	\$ 17,259	181	18	-15	83	21%	-18%	97%
5641	Children's and infants' wear stores	\$ 10,874	314	30	51	70	20%	34%	46%
5661	Shoe stores	\$ 15,082	1,703	331	-496	67	-337%	506%	-69%
7631	Watch, clock, and jewelry repair	\$ 22,431	114	9	-8	65	13%	-12%	99%
7822	Motion Picture and tape distribution	\$ 23,350	65	0	0	62	1%	0%	99%
5962	Merchandising machine operators	\$ 23,835	383	73	-144	57	-520%	1026%	-405%
7819	Services allied to motion pictures	\$ 30,984	132	6	36	56	6%	36%	57%
4822	Telegraph & other communications	\$ 85,117	66	2	-3	54	5%	-6%	101%
5441	Candy, nut, and confectionery stores	\$ 13,051	246	37	-43	50	84%	-98%	114%
7833	Drive-in motion picture theaters	\$ 7,706	58	4	-15	48	10%	-41%	130%
7521	Automobile parking	\$ 15,621	649	83	62	48	43%	32%	25%
5984	Liquefied petroleum gas dealers	\$ 30,758	256	39	-40	47	86%	-89%	103%
4899	Communications services, nec	\$ 52,959	52	2	-3	40	6%	-9%	103%
5431	Fruit and vegetable markets	\$ 16,688	123	14	2	29	32%	3%	65%
5551	Boat dealers	\$ 32,270	183	27	-13	24	70%	-33%	63%
5451	Dairy products stores	\$ 20,232	66	14	-51	23	-112%	389%	-178%
5994	News dealers and newsstands	\$ 12,668	55	6	-6	22	28%	-29%	101%
5561	Recreational vehicle dealers	\$ 34,542	621	76	116	13	37%	56%	6%

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5989	Fuel dealers, nec	\$ 15,607	11	0	-1	9	4%	-8%	104%
7534	Tire retreading and repair shops	\$ 26,945	110	20	-28	9	2000%	-2801%	901%
7622	Radio and television repair	\$ 43,690	247	57	-128	6	-89%	199%	-10%
5983	Fuel oil dealers	NA	-	-	0	-	#DIV/0!	#DIV/0!	#DIV/0!
7629	Electrical repair shops, nec	\$ 36,625	620	110	-88	(0)	523%	-421%	-2%
7694	Armature rewinding shops	\$ 42,881	221	45	-69	(1)	-181%	275%	5%
4173	Bus terminal and service facilities	NA	-	1	-3	(5)	-18%	43%	76%
7829	Motion Picture distribution services	NA	-	2	-4	(6)	-18%	46%	72%
7251	Shoe repair and shoeshine parlors	\$ 15,827	16	8	-27	(10)	-28%	92%	36%
2711	Newspapers	\$ 63,549	4,433	881	-1,235	(12)	-241%	337%	3%
7533	Auto exhaust system repair shops	\$ 25,398	59	12	-5	(17)	-139%	51%	187%
5945	Hobby, toy, and games shops	\$ 13,019	1,771	245	209	(20)	56%	48%	-5%
7261	Funeral service and crematories	\$ 28,296	461	74	12	(28)	128%	20%	-48%
4151	School Buses	\$ 15,070	162	28	15	(30)	229%	125%	-254%
5714	Drapery and upholstery stores	\$ 21,377	107	35	-80	(36)	-42%	98%	44%
4141	Local bus charter service	\$ 14,161	138	22	32	(38)	140%	198%	-238%
7241	Barber shops	\$ 18,903	139	55	-173	(44)	-34%	107%	27%
5995	Optical goods stores	\$ 25,944	1,164	187	5	(46)	128%	3%	-31%
5944	Jewelry stores	\$ 27,292	1,853	333	-246	(48)	854%	-630%	-123%
5921	Liquor stores	\$ 14,700	250	70	-91	(109)	-54%	70%	84%
7537	Automotive transmission repair shops	\$ 30,228	332	63	38	(111)	-572%	-341%	1013%
5719	Misc. homefurnishings stores	\$ 19,998	2,034	251	544	(129)	38%	82%	-19%
7221	Photographic studios, portrait	\$ 16,833	774	174	-159	(187)	-100%	92%	108%
5399	Misc. general merchandise stores	\$ 12,722	989	269	-533	(212)	-56%	112%	45%
5735	Record & prerecorded tape stores	\$ 13,023	842	163	18	(229)	-340%	-38%	478%
8811	Private Households	\$ 18,989	1,432	193	437	(251)	51%	115%	-66%
4121	Taxicabs	\$ 11,553	67	69	-83	(295)	-22%	27%	95%
7812	Motion picture & video production	\$ 59,664	511	100	301	(436)	-286%	-861%	1247%
5963	Direct selling establishments	\$ 33,628	1,121	282	-199	(502)	-68%	48%	120%
5699	Misc. Apparel & accessory stores	\$ 16,404	871	259	-227	(571)	-48%	42%	106%
7549	Automotive services, nec	\$ 24,437	1,368	184	778	(596)	50%	213%	-163%
8351	Child day care services	\$ 13,611	7,505	887	2,464	(682)	33%	92%	-26%
5912	Drug stores and proprietary stores	\$ 26,675	5,448	1,134	-822	(1,046)	-155%	112%	143%

Source: Minnesota IMPLAN, Maricopa Association of Governments



Critical Site Factors.

**Access to Markets**

Geographic Proximity 6  
 Trans.Svcs. - Cost 7

**Access to Resources**

Energy Dependability 9  
 Intermed. Mfd. Prods. 6

**Work Force**

Prec. Prod. & Repair 6  
 Operators/Assemblers 6  
 Handlers, Cleaners, Laborers 7

Cost of Skilled Workers 7

Cost of Unskilled Workers 7

**Space**

Land Cost 7  
 Built Space Availability 8  
 Built Space Cost 9

**Financial Capital**

Debt 6

**Public Sector Investments**

Secondary Ed. Quality 8

Local Transp./Commuting 6

**Public Sector Costs**

Regulatory Policies 8  
 Workers Compensation 7  
 Unemployment Ins. 7  
 Business Taxes 8

**Quality of Life**

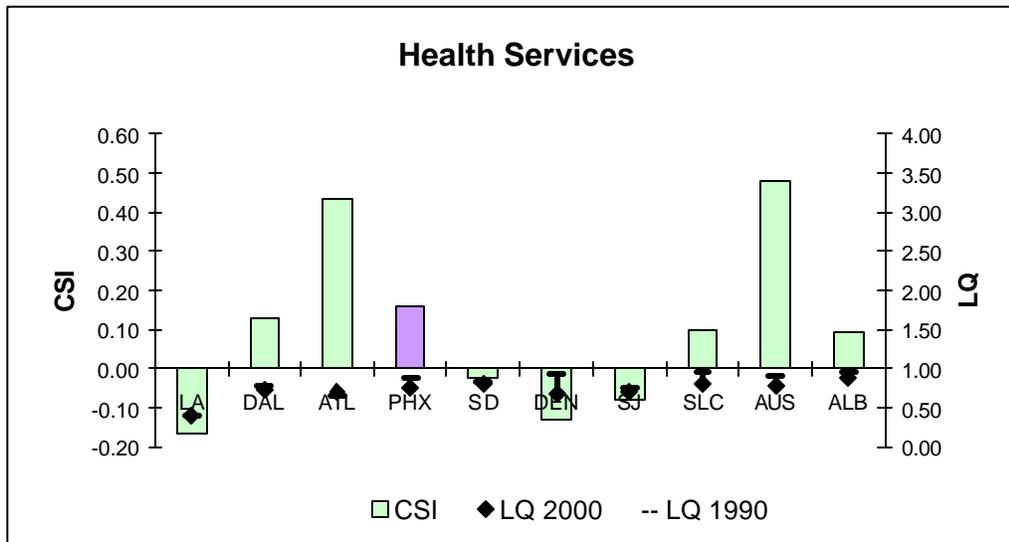
Personal/Property Security 7  
 Climate/Physical Env. 7

*Inside the Metro Phoenix Cluster*

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	<b>Growth Cluster</b>	<b>\$ 34,923</b>	<b>194,559</b>	<b>18,795</b>	<b>4,475</b>	<b>68,874</b>	20%	5%	75%
1520	Residential construction	\$ 43,859	9,919	646	56	5,699	10%	1%	89%
1742	Plastering, drywall, and insulation	\$ 25,039	11,416	928	-124	5,554	15%	-2%	87%
1711	Plumbing, heating, air-conditioning	\$ 36,555	13,482	1,098	1,030	5,373	15%	14%	72%
1731	Electrical work	\$ 35,727	13,819	1,083	1,655	5,182	14%	21%	65%
1751	Carpentry work	\$ 29,234	9,356	535	976	4,928	8%	15%	77%
5211	Lumber and other building materials	\$ 25,352	7,285	471	568	3,680	10%	12%	78%
0780	Landscaping	\$ 20,681	11,492	947	1,815	3,569	15%	29%	56%
1771	Concrete work	\$ 30,500	8,863	670	997	3,542	13%	19%	68%
1623	Water, sewer, and utility lines	\$ 33,962	4,955	347	38	2,679	11%	1%	87%
6552	Subdividers and developers, nec	\$ 47,955	4,642	462	-959	2,620	22%	-45%	123%
1540	Nonresidential construction	\$ 35,551	8,556	1,020	-638	2,618	34%	-21%	87%
1721	Painting and paper hanging	\$ 25,099	4,597	317	68	2,487	11%	2%	87%
1611	Highway and street construction	\$ 39,822	5,190	441	-45	2,392	16%	-2%	86%
1799	Special trade contractors, nec	\$ 31,884	6,022	613	395	1,671	23%	15%	62%
8712	Architectural services	\$ 60,962	3,608	276	255	1,576	13%	12%	75%
1741	Masonry and other stonework	\$ 33,117	3,950	378	-15	1,528	20%	-1%	81%
1794	Excavation work	\$ 35,033	2,913	181	244	1,502	9%	13%	78%
6531	Real estate agents and managers	\$ 38,610	12,325	1,544	919	1,445	40%	24%	37%
4953	Refuse systems	\$ 46,528	1,632	30	24	1,417	2%	2%	96%
4911	Electric services	\$ 71,008	6,145	1,086	-2,238	1,376	483%	-994%	612%
1761	Roofing, siding, and sheet metal work	\$ 26,120	4,312	479	4	1,220	28%	0%	72%
3273	Ready-mixed concrete	\$ 43,188	3,362	331	47	1,178	21%	3%	76%
2451	Mobile homes	\$ 28,928	2,828	182	728	926	10%	40%	50%
1743	Terrazzo, tile, marble, mosaic work	\$ 28,826	1,690	119	13	913	11%	1%	87%
2431	Millwork	\$ 26,285	1,591	126	-4	784	14%	0%	87%
5251	Hardware stores	\$ 26,626	1,547	140	-105	749	18%	-13%	96%
1531	Operative builders	\$ 65,970	1,491	180	-393	723	35%	-77%	142%
2434	Wood kitchen cabinets	\$ 30,073	1,471	117	102	614	14%	12%	74%
1791	Structural steel erection	\$ 36,548	2,038	241	-36	519	33%	-5%	72%
1752	Floor laying and floor work, nec	\$ 33,319	1,182	92	134	455	14%	20%	67%
7353	Heavy construction equipment rental	\$ 45,931	1,424	161	-45	430	30%	-8%	79%
3446	Architectural metal work	\$ 29,027	673	59	17	275	17%	5%	78%
3229	Pressed and blown glass, nec	\$ 49,013	274	1	-1	269	0%	0%	100%
6541	Title abstract offices	\$ 37,274	351	17	24	220	6%	9%	84%
5261	Retail nurseries and garden stores	\$ 21,243	1,023	127	7	199	38%	2%	60%
3231	Products of purchased glass	\$ 31,104	375	34	-18	173	18%	-10%	92%

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1795	Wrecking and demolition work	\$ 32,987	268	13	15	167	7%	8%	85%
1793	Glass and glazing work	\$ 34,636	797	97	16	153	36%	6%	57%
3292	Asbestos products	\$ 44,896	154	3	-14	150	2%	-10%	108%
8713	Surveying services	\$ 38,958	494	52	9	147	25%	4%	71%
2452	Prefabricated wood buildings	\$ 22,852	293	24	13	128	14%	8%	78%
3281	Cut stone and stone products	\$ 25,055	165	7	-1	124	5%	-1%	96%
3296	Mineral wool	\$ 31,671	112	-	0	112	0%	0%	100%
3295	Minerals, ground or treaded	\$ 29,655	221	21	-27	109	21%	-26%	105%
3255	Clay refractories	\$ 39,851	112	1	-1	109	1%	-1%	100%
2448	Wood pallets and skids	\$ 19,922	279	26	31	80	19%	23%	58%
3253	Ceramic wall and floor tile	\$ 19,983	87	5	-8	62	9%	-14%	105%
4941	Water supply	\$ 43,453	250	29	9	54	32%	10%	59%
2441	Nailed wood boxes and shook	\$ 24,630	55	1	-1	50	2%	-2%	100%
4922	Natural gas transmission	\$ 71,994	102	16	-47	45	115%	-338%	322%
2952	Asphalt felts and coatings	\$ 47,845	53	3	-3	37	8%	-8%	100%
3297	Nonclay refractories	\$ 50,935	51	3	-2	35	8%	-5%	97%
1781	Water well drilling	\$ 33,583	313	43	3	33	54%	4%	42%
4924	Natural gas distribution	\$ 52,435	769	149	-224	31	-339%	509%	-70%
1796	Installing building equipment, nec	\$ 47,050	525	67	62	31	42%	39%	19%
2439	Structural wood members, nec	\$ 27,302	1,138	118	345	31	24%	70%	6%
2499	Wood products, nec	\$ 24,768	163	27	-38	24	195%	-269%	174%
5231	Paint, glass, and wallpaper stores	\$ 34,808	553	108	-170	24	-285%	448%	-63%
3259	Structural clay products, nec	\$ 7,152	45	6	-14	17	64%	-138%	174%
3271	Concrete block and brick	\$ 38,753	372	63	-50	12	244%	-191%	47%
4931	Electric and other services combined	\$ 43,997	10	-	0	10	0%	0%	100%
2426	Hardwood dimension & flooring mills	\$ 16,693	5	-	0	5	0%	0%	100%
2491	Wood preserving	\$ 30,187	5	-	0	5	0%	0%	100%
3241	Cement, hydraulic	\$ 18,699	4	-	0	4	0%	0%	100%
1442	Construction sand and gravel	\$ 33,503	157	26	-16	4	187%	-113%	26%
2493	Reconstituted wood products	\$ 28,859	20	3	0	3	43%	0%	57%
3262	Vitreous china table & kitchenware	\$ 18,200	3	-	0	3	0%	0%	100%
4925	Gas production and/or distribution	\$ 21,317	3	-	0	3	0%	0%	100%
3274	Lime	\$ 55,637	7	1	-1	2	46%	-62%	116%
3211	Flat glass	\$ 17,691	1	1	-1	(4)	-23%	28%	95%
2435	Hardwood veneer and plywood	\$ 18,081	3	2	1	(8)	-28%	-13%	141%
2449	Wood containers, nec	\$ 25,713	3	4	-5	(18)	-21%	26%	95%
4971	Irrigation systems	\$ 21,131	51	9	10	(19)	#DIV/0!	#DIV/0!	#DIV/0!
3272	Concrete products, nec	\$ 34,536	1,142	187	-42	(19)	149%	-34%	-15%
3251	Brick and structural clay tile	\$ 30,422	57	16	-25	(20)	-54%	85%	69%
2951	Asphalt paving mixtures and blocks	\$ 31,591	22	7	0	(22)	-45%	0%	145%
3269	Pottery products, nec	\$ 17,297	69	20	-31	(28)	-51%	80%	71%
2429	Special product sawmills, nec	\$ 16,693	5	12	-32	(37)	-20%	56%	64%
3275	Gypsum products	\$ 58,000	91	26	-13	(62)	-52%	26%	126%
3299	Nonmetallic mineral products, nec	\$ 28,008	141	36	-24	(67)	-65%	44%	121%
2421	Sawmills and planing mills, general	\$ 21,754	40	23	-37	(73)	-27%	43%	84%
4952	Sewerage systems	\$ 36,875	31	10	50	(85)	-41%	-199%	340%
6553	Cemetery subdividers and developers	\$ 24,661	65	34	-28	(126)	-28%	24%	105%
4959	Sanitary services, nec	\$ 25,993	502	48	401	(208)	20%	166%	-86%
1629	Heavy construction, nec	\$ 39,736	1,748	354	-267	(270)	-194%	146%	148%
5271	Mobile home dealers	\$ 32,624	317	80	289	(489)	-67%	-240%	407%
1622	Bridge, tunnel, & elevated highway	\$ 34,343	518	181	-126	(526)	-39%	27%	112%
6510	Real estate development	\$ 24,909	6,369	1,352	-1,023	(1,328)	-135%	102%	133%

Source: Minnesota IMPLAN, Maricopa Association of Governments



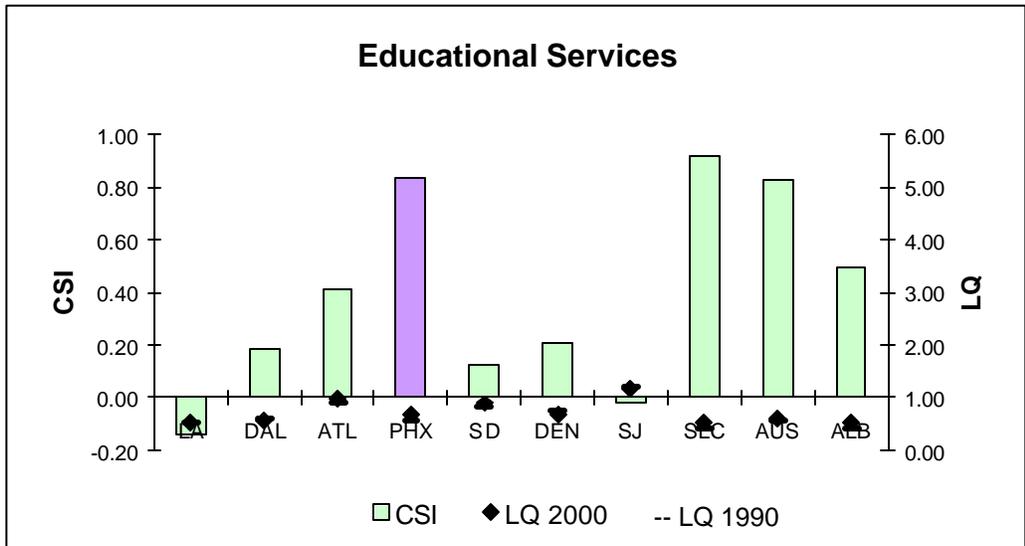
Critical Site Factors

<b>Access to Markets</b>		<i>Cost of Skilled Workers</i>	9	<i>Higher Ed. Quality</i>	6
<i>Telecom. Svcs.</i>	10	<i>Cost of Unskilled Workers</i>	9	<i>Local Transp./Commuting</i>	7
<b>Access to Resources</b>	9	<b>Space</b>		<b>Quality of Life</b>	
<i>Energy Dependability</i>	7	<i>Built Space Availability</i>	10	<i>Cost of Living</i>	8
<i>Bsns/Prof/Tech Svcs.</i>	8	<i>Built Space Availability</i>	9	<i>Housing Costs</i>	6
<b>Work Force</b>		<b>Financial Capital</b>		<i>Personal/Property Security</i>	8
<i>Prof. Specialty</i>	9	<i>Debt</i>	7	<i>Climate/Physical Env.</i>	10
<i>Technical</i>	9	<b>Public Sector Investments</b>		<i>Recreat/Cultural Opps.</i>	10
<i>Service</i>	6	<i>Secondary Ed. Quality</i>	9	<i>Area Image</i>	10

*Inside the Metro Phoenix Cluster*

SIC	Industry & Cluster	Avg. Wages, 2000	Jobs, 2000	Shift-Share Components			S-S Components, % of Chang		
				National Growth	Industrial Mix	Competitive Share	National Growth	Industrial Mix	Competi Share
	<b>All Private Industries</b>	<b>\$ 35,166</b>	<b>1,350,145</b>	<b>154,450</b>	<b>34,703</b>	<b>319,375</b>	<b>30%</b>	<b>7%</b>	<b>63%</b>
	<b>Health Services</b>	<b>\$ 39,788</b>	<b>94,996</b>	<b>11,986</b>	<b>5,967</b>	<b>11,728</b>	<b>40%</b>	<b>20%</b>	<b>40%</b>
8011	Offices & clinics of medical doctors	\$ 57,775	25,935	2,340	2,614	8,229	18%	20%	62%
8082	Home health care services	\$ 26,236	4,501	113	649	3,123	3%	17%	80%
8059	Nursing and personal care, nec	\$ 24,101	2,018	87	-142	1,599	6%	-9%	104%
8021	Offices and clinics of dentists	\$ 42,569	7,262	833	487	1,402	31%	18%	51%
8071	Medical laboratories	\$ 43,136	3,055	269	93	1,229	17%	6%	77%
8052	Intermediate care facilities	\$ 21,920	1,543	87	-82	1,063	8%	-8%	100%
8093	Specialty outpatient clinics, nec	\$ 31,710	2,487	237	214	748	20%	18%	62%
8069	Specialty hospitals exc. psychiatric	\$ 38,219	1,643	188	102	330	30%	16%	53%
8049	Offices of health practitioners, nec	\$ 33,350	2,467	210	973	138	16%	74%	10%
8042	Offices and clinics of optometrists	\$ 35,287	634	81	42	68	43%	22%	36%
8072	Dental laboratories	\$ 30,464	530	79	-33	52	81%	-34%	53%
8043	Offices and clinics of podiatrists	\$ 38,212	316	46	21	1	67%	31%	2%
8062	General medical & surgical hospitals	\$ 33,509	31,090	5,037	-1,374	(22)	138%	-38%	-1%
8041	Offices and clinics of chiropractors	\$ 26,318	1,327	199	86	(41)	81%	35%	-17%
8099	Health and allied services, nec	\$ 37,624	940	126	194	(64)	49%	76%	-25%
8092	Kidney dialysis centers	\$ 37,037	1,076	85	690	(163)	14%	113%	-27%
8063	Psychiatric hospitals	\$ 29,717	432	217	-510	(460)	-29%	68%	61%
8031	Offices of osteopathic physicians	\$ 47,852	1,258	235	231	(490)	-980%	-961%	2041%
8051	Skilled nursing care facilities	\$ 21,647	6,482	1,517	1,714	(5,014)	-85%	-96%	281%

Source: Minnesota IMPLAN, Maricopa Association of Governments



*Inside the Metro Phoenix Cluster*

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	<b>Educational Services</b>	<b>\$ 32,928</b>	<b>14,531</b>	<b>1,284</b>	<b>771</b>	<b>5,482</b>	17%	10%	73%
8211	Elementary and secondary schools	\$ 25,085	5,216	321	290	2,857	9%	8%	82%
8299	Schools & educational services, nec	\$ 30,543	2,566	125	420	1,341	7%	22%	71%
8221	Colleges and universities	\$ 42,823	3,219	345	-85	1,077	26%	-6%	81%
8222	Junior colleges	\$ 38,334	805	71	90	254	17%	22%	61%
8243	Data processing schools	\$ 48,250	1,035	49	586	135	6%	76%	18%
8244	Business and secretarial schools	\$ 21,763	237	49	-183	104	-163%	612%	-348%
8249	Vocational schools, nec	\$ 31,349	1,421	281	-357	(37)	-251%	318%	33%
8231	Libraries	\$ 28,414	32	43	9	(251)	-21%	-4%	126%

Source: Minnesota IMPLAN, Maricopa Association of Governments