

ECONOMIC ASSESSMENT

Population

In recent years, Dallas has shown one of the slowest population growth rates in the Metroplex. From 1990 to 2004, the U.S. population grew by 18.1 percent; Dallas' rate of 20.2 percent exceeded that nationwide rate but fell behind the state rate of 32.4 percent and the metro area rate of 43 percent. The city's slower growth rate relative to its suburbs and the sources of this growth have important economic implications.

Table 1: Population Growth, 1990 to 2004

	City of Dallas	Dallas-Fort Worth	Texas	US
1990	1,006,877	3,885,415	16,986,510	248,709,873
2000	1,188,580	5,030,828	20,851,820	281,421,906
2004	1,210,393	5,557,430	22,490,022	293,655,404
1990 to 2000				
# Inc.	181,703	1,145,413	3,865,310	32,712,033
% Inc.	18.0%	29.5%	22.8%	13.2%
CAGR	1.7%	2.6%	2.1%	1.2%
1990 to 2004				
# Inc.	203,516	1,672,015	5,503,512	44,945,531
% Inc.	20.2%	43.0%	32.4%	18.1%
CAGR	1.3%	2.6%	2.0%	1.2%

Source: U.S. Census Bureau; TIP Strategies, Inc. CAGR = Compound annual growth rate

Note: Population figures for Dallas-Fort Worth use the nine-county metropolitan area definition in both 1990 and 2000. These are Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall and Tarrant counties.

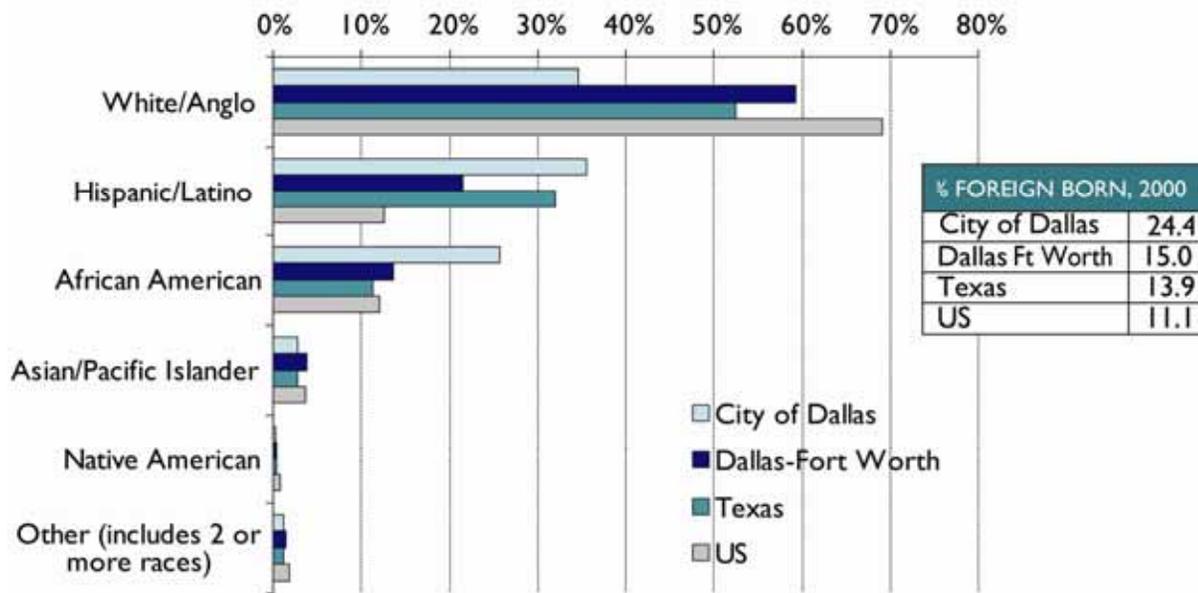
According to the 2000 U.S. census, Hispanics now comprise a slightly larger share—35.6 percent—of the city's total population than Anglos—34.6 percent. African-Americans account for about 25 percent of the city's population, representing the third largest ethnic category. Asians compose a slightly smaller proportion of Dallas' population (2.7 percent) than in the Dallas-Fort Worth area (3.8 percent). Almost 25 percent of the city's population was foreign-born in 2000. This is more than double the national average of 11 percent.

The city's changing racial and ethnic mix has implications for current and future employers. Typically, immigrants or non-English speakers have lower levels of education than the population as a whole. For example, 44 percent of Hispanic adults (those 25 years or over) in the city of Dallas had less than a 9th grade education in 2000. Another 23 percent had not completed high school. That means in Dallas about two-thirds of Hispanic adults did not have a high school diploma or GED. This is more than double the

rate for Dallas' total adult population, which reports roughly 30 percent of residents age 25 or older in 2000 did not have a high school diploma of any sort.

In 2000, 45 percent of Dallas's working age Hispanic population (those 18 to 64 years old) was not proficient in English, although for the city's school age Hispanic population, that rate dropped to less than 20 percent.

Figure 1: Race and Ethnicity, 2000



Source: U.S. Census Bureau

Table 2: Ability to Speak English for the Hispanic Population 5 Years and Older in Dallas, 2000

	5 to 17 years:		18 to 64 years:		65 years and over:		Total	
	Number	%	Number	%	Number	%	Number	%
Total	99,147	100.0%	263,292	100.0%	9,580	100.0%	372,019	100.0%
Speak only English	13,432	13.5%	26,591	10.1%	1,152	12.0%	41,175	11.1%
Speak other languages:	85,715	86.5%	236,701	89.9%	8,428	88.0%	330,844	88.9%
Speak English "very well"	44,952	45.3%	73,652	28.0%	2,723	28.4%	121,327	32.6%
Speak English "well"	22,036	22.2%	43,849	16.7%	1,583	16.5%	67,468	18.1%
Speak English "not well"	13,284	13.4%	66,296	25.2%	1,992	20.8%	81,572	21.9%
Speak English "not at all"	5,443	5.5%	52,904	20.1%	2,130	22.2%	60,477	16.3%

Source: U.S. Census Bureau

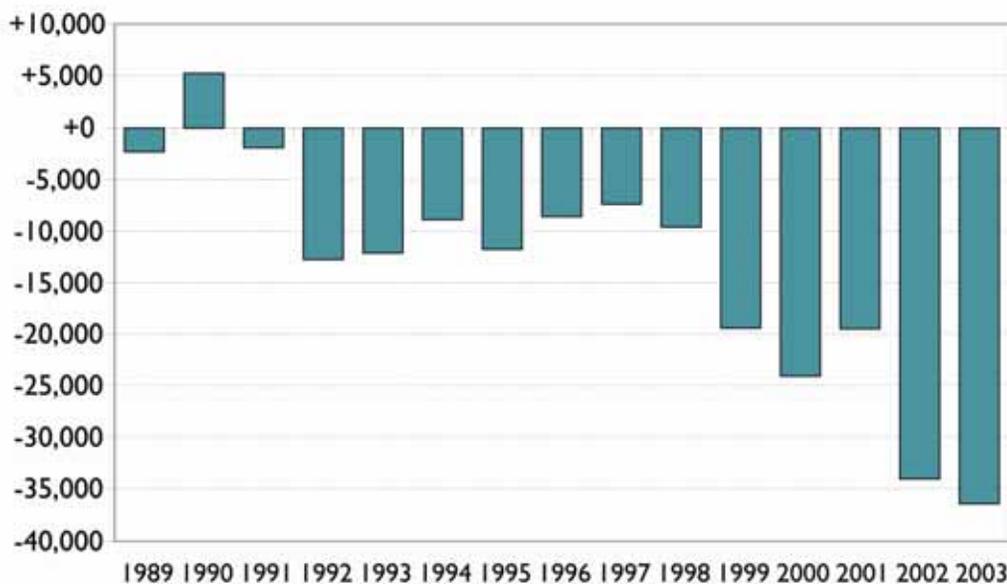
The U.S. Census Bureau figures show that natural increase (births minus deaths) plays a very similar role in the growth of the four primary counties (Collin, Dallas, Denton, Tarrant) of the Dallas-Fort Worth

region. Dallas County, however, exceeds the others in net international migration and is the only one losing domestic-born residents to other counties. These patterns are typical for a large maturing city, such as Los Angeles, Chicago or New York City. This also shows the composition of Dallas County's population is changing much faster than in the more rapidly growing counties adjacent to it.

County-level data on year-over-year address changes compiled from federal tax returns by the Internal Revenue Service provides a more detailed understanding of these trends. According to IRS data (which goes back 15 years), 1990 was the last year in which Dallas County netted new in-migrants, those who moved to Dallas from elsewhere within the United States. Through most of the 1990s, Dallas County annually lost an average of 10,000 residents who moved elsewhere in the state or nation, with the rate dramatically increasing beginning in 1998. By 2003, it exceeded 35,000. If it were not for immigrants, Dallas County would be losing population. In this respect, Dallas is more like Chicago or New York (net gain of population through immigration) than like Detroit or Cleveland (long-term loss of population).

When residents leave Dallas County, they tend to remain in the region. Top destinations for those moving out of Dallas County are Collin, Denton, Tarrant, Ellis, Kaufman, Rockwall, Henderson, Hunt and Van Zandt counties. Low interest rates may help to explain the rapid rate at which people left Dallas County beginning at the end of the 1990s. Low rates coupled with increasing housing construction in the suburban areas has made housing more affordable in these outlying areas, most likely luring many of Dallas' first-time homebuyers to the suburbs.

Figure 2: Dallas County Net Migration, 1989-2003



Note: Based on year-over-year changes in Federal tax returns
 Source: U.S. Internal Revenue Service

Table 3: Components of Population Change April 1, 2000 to July 1, 2003

County	Average Annual Estimate of Annual Change Due To:		
	Natural Increase (Births Minus Deaths)	Net International Migration	Net Domestic Migration
Collin	13,443	7,027	37,832
Dallas	13,115	13,307	-17,712
Denton	12,751	4,633	32,354
Tarrant	11,259	6,818	5,229

Source: U.S. Census Bureau, TIP Strategies

While household size is falling nationwide, it is increasing in urban areas in Texas. In the city of Dallas, average household size rose from 2.46 persons per household in 1990 to 2.58 by the end of the decade. Household composition in the city also differs considerably from the region. In the city, one-third of the households are singles living alone compared to slightly less than one-quarter for the region, with fewer than 20 percent of all households in the city representing married couples with children. For Dallas-Fort Worth overall, this ratio is 36.7 percent. The combination of a large percentage of single-person households and a rising average household size suggests that some households in the city of Dallas are considerably larger than the nationwide average. This pattern is typical of cities that are experiencing significant immigration and has important implications for the local housing market and long-range facilities planning.

Table 4: Household Size and Composition, 2000

	Percent of Total Households in 2000			Average Household Size	
	Married Couple with Children	Single/Living Alone	Other	1990	2000
City of Dallas	19.4%	32.9%	47.6%	2.46	2.58
Dallas-Fort Worth	36.7%	24.7%	38.6%	2.64	2.70
Texas	27.1%	23.7%	49.2%	2.73	2.74
US	23.5%	25.8%	50.7%	2.63	2.59

Source: U.S. Census Bureau; TIP Strategies, Inc

An analysis of the city’s population by age cohorts reinforces this point. Both statewide and nationwide, the five-year age cohorts of population for those 19 and under show little change from one cohort to the next. This even distribution of age groups suggests that children move through the public school system in a fairly even flow that would not overwhelm or burden most school districts. In Dallas, however, the age cohorts were skewed toward the very young in 2000, indicating that the public schools will be accommodating larger and larger student populations as these children grow up.

Dallas has a large population of young adults, an age group coveted by cities. Almost 30 percent of the city’s population is in the 20- to 34-year-old age cohort (28.8 percent) compared to 24.0 percent in the



region and just 20.9 percent nationwide. Those aged 65 or higher represent 8.6 percent of the city's population, similar to the 8.1 percent average for the area but far less than the national average of 12.4 percent. The difference in the city's age distribution is evident in its median age, which has remained unchanged at 30.5 years while the median age in other geographic areas has increased.

An analysis of population density (persons per square mile) illustrates differences in development patterns and provides an indication of the efficiency of land use in an area. A primary goal of local economic development is expansion of the tax base, and there is an economic link between land use and tax revenue. For cities that can easily annex land, this goal can be met with little regard for population densities or efficient land use. For cities hemmed in by oceans, mountains, or in Dallas' case, by suburban city limits, the correlation of population density and land use efficiency becomes much stronger.

Figure 3 compares population density in Dallas to:

- Houston, San Antonio and Austin;
- selected cities in the Dallas area with high population density or significant increases in density (University Park, Highland Park, Addison);
- major U.S. cities of similar size (San Diego, Phoenix, San Jose);
- metropolitan areas from different regions of the country (Los Angeles, Seattle, Minneapolis, Miami).

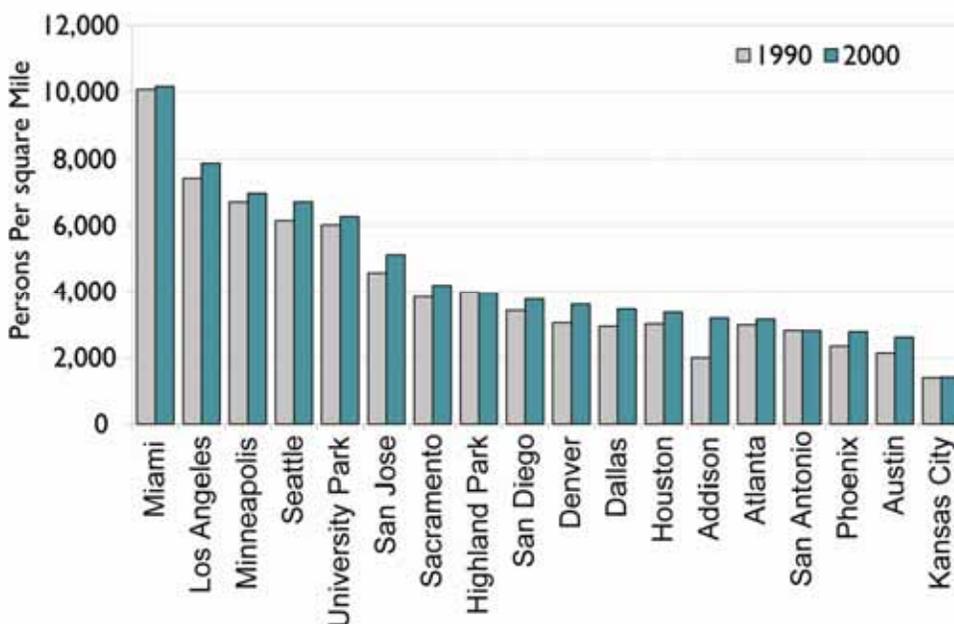
Population density is higher in Dallas than other major Texas cities as well as many major U.S. cities of similar size. Cities in the U.S. Southwest were among the leaders in increasing their population densities in the 1990s. The cities of Austin, Phoenix and Denver all increased in density at about the same rate as Dallas. Addison is a local example of a hemmed-in city that is successfully linking fiscally minded economic development goals to efficient land uses. Not surprisingly, this has coincided with a recent uptick in the city's population density.

Table 5: 5-Year Age Cohorts as a Percent of Total Population, 1990 and 2000

	City of Dallas		D/FW		Texas		U.S.	
	1990	2000	1990	2000	1990	2000	1990	2000
Under 5 years	8.1%	8.3%	8.4%	8.0%	8.2%	7.8%	7.4%	6.8%
5 to 9 years	7.0%	7.6%	7.9%	7.9%	8.2%	7.9%	7.3%	7.3%
10 to 14 years	6.2%	6.7%	6.9%	7.6%	7.6%	7.8%	6.9%	7.3%
15 to 19 years	6.5%	6.9%	6.9%	7.2%	7.7%	7.8%	7.1%	7.2%
20 to 24 years	9.0%	8.9%	8.0%	7.1%	7.9%	7.4%	7.6%	6.7%
25 to 29 years	11.9%	10.6%	10.6%	8.4%	9.0%	7.6%	8.6%	6.9%
30 to 34 years	10.4%	9.2%	10.4%	8.5%	9.1%	7.5%	8.8%	7.3%
35 to 39 years	8.2%	8.3%	8.6%	8.9%	8.1%	8.1%	8.0%	8.1%
40 to 44 years	6.7%	7.2%	7.4%	8.2%	6.9%	7.8%	7.1%	8.0%
45 to 49 years	5.1%	6.1%	5.7%	6.8%	5.3%	6.8%	5.6%	7.1%
50 to 54 years	4.0%	5.1%	4.3%	5.8%	4.3%	5.7%	4.6%	6.2%
55 to 59 years	3.7%	3.7%	3.6%	4.2%	3.9%	4.3%	4.2%	4.8%
60 to 64 years	3.5%	2.8%	3.1%	3.1%	3.7%	3.4%	4.3%	3.8%
65 to 69 years	3.2%	2.4%	2.8%	2.5%	3.4%	2.9%	4.1%	3.4%
70 to 74 years	2.4%	2.1%	2.0%	2.0%	2.5%	2.6%	3.2%	3.1%
75 to 79 years	1.9%	1.8%	1.5%	1.6%	2.0%	2.0%	2.5%	2.6%
80 to 84 years	1.2%	1.2%	1.0%	1.0%	1.3%	1.3%	1.6%	1.8%
85 years and over	1.0%	1.1%	0.8%	0.9%	1.0%	1.1%	1.2%	1.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Median age in years	30.5	30.5	30.1	32.1	30.8	32.3	32.9	35.3

Source: U.S. Census Bureau, TIP Strategies

Figure 3: Population Density, 1990-2000



Source: U.S. Census Bureau



Income and poverty

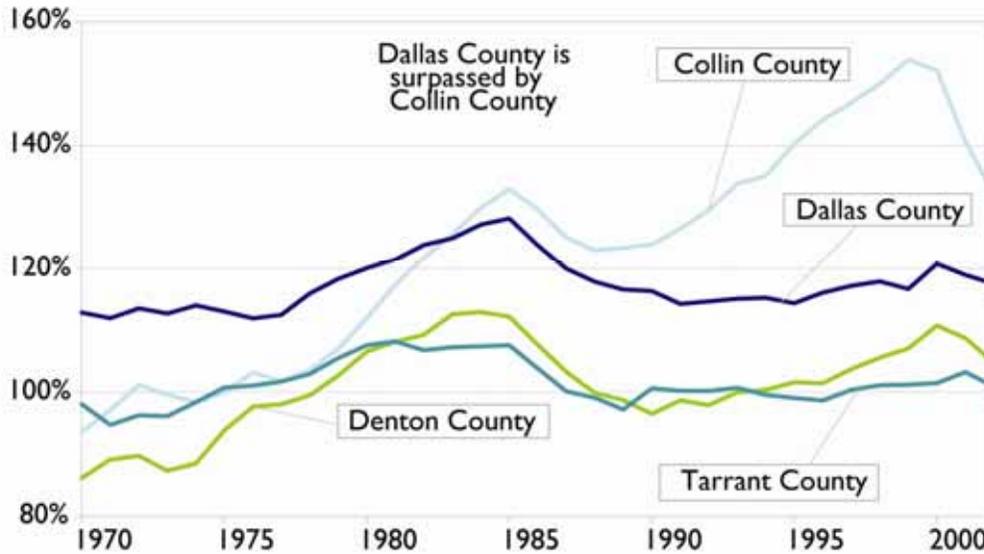
Trends in personal income illustrate the health of a local economy and can highlight changes in the economy over time. Since 1969, when county income levels were first recorded, Dallas County has maintained a consistently higher per capita income than the national average, ranging from 12 to 28 percent above U.S. figures. As of 2003, the county's per capita income of \$36,617 was 16 percent above the national average. While still above the U.S., this was down from 2000, when per capita personal income in Dallas County was 21 percent above the national average. This drop is likely due to the Dallas area's reliance on dot-com and telecommunications industries.

In the 1970s, Dallas County led the region in per capita income but was passed by Collin County in the early 1980s, reflecting the movement of people and businesses to the suburbs. Collin County's 2003 per capita personal income averaged \$39,941. This figure was well ahead of both Dallas County and the U.S. However, it represents a sharp drop from 2000, when per capita income in Collin County averaged \$45,404. Again, this drop probably reflects the county's ties to technology-related industry.

A larger share of households in Dallas derive their income from work-related earnings (86.0 percent) than the national average (80.5 percent). Conversely, a smaller share of the city's residents (17.3 percent) receives a Social Security check than the national average (25.7 percent). Sources of income for the region were similar with 88.0 percent of households receiving income from earnings and 17.0 percent receiving income from Social Security. Fewer households reported retirement income in the city than in the region or the nation, a result of Dallas's age structure and ethnic mix.

An analysis of the sources of income can provide some clues about a region's economic structure but it does not provide an indicator of the standard of living. A comparison of poverty rates for various groups can fill this gap. Poverty rates in Dallas exceed the national average by most standard indicators. In one area, however, the city outperforms the statewide average (though not the national one). For poverty rates among families headed by a single female, the city is in slightly better shape than the state as a whole.

Figure 4: Per Capita Income as a Share of U.S. Average, 1970-2003



Source: U.S. Bureau of Economic Analysis

Table 6: Income and Poverty Indicators, 1999

	City of Dallas	Dallas-Fort Worth	Texas	US
Sources of Income (Percent of households with income from):				
Earnings	86.0%	88.0%	83.9%	80.5%
Social Security	17.3%	17.0%	21.6%	25.7%
Supplemental Security	3.7%	2.7%	3.9%	4.4%
Public Assistance	2.9%	2.1%	3.2%	3.4%
Retirement Income	9.2%	11.1%	13.2%	16.7%
Poverty Rates (percent living below federal poverty level):				
Families				
Total	14.9%	8.1%	12.0%	9.2%
With Children Under 18	21.0%	11.4%	16.6%	13.6%
With Children Under 5	24.5%	14.3%	20.7%	17.0%
Families with Female Head of HH				
Total	28.4%	22.2%	29.5%	26.5%
With Children Under 18	34.7%	27.3%	36.2%	34.3%
With Children Under 5	42.3%	37.5%	47.2%	46.4%
Individuals				
Total	17.8%	10.8%	15.4%	12.4%
18+	15.0%	9.5%	13.3%	10.9%
65+	13.1%	9.6%	12.8%	9.9%
Children Under 18	25.1%	13.9%	20.2%	16.1%
Children 5-17	24.5%	13.1%	19.3%	15.4%

Source: U.S. Census Bureau

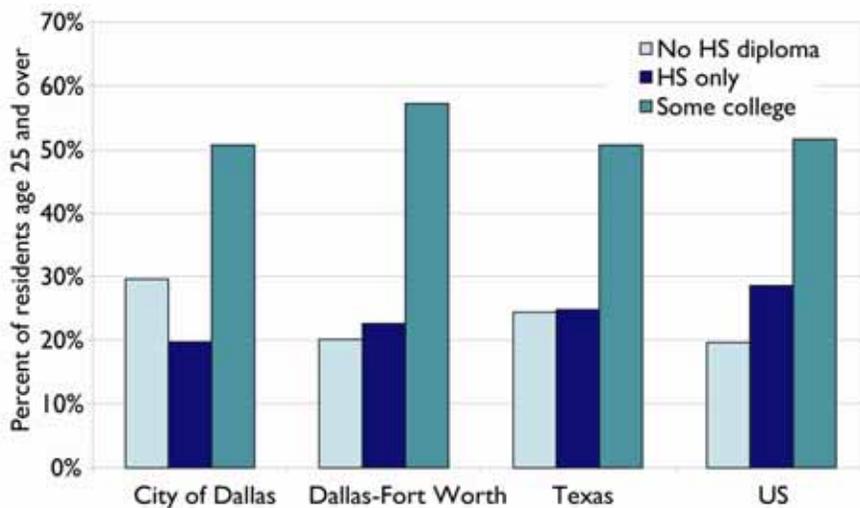
Education

Among the more reliable indicators of economic performance is the education level of city inhabitants. The education level of younger adults correlates very closely with wages, job growth and capital investment. About half of Dallas' adult residents have at least some college experience. This is a similar share of the population as the state and the nation, although it trails the region. Of those adults in Dallas without any college experience, a larger share has no high school diploma (30 percent) than those who do (20 percent). Nationwide, the trend is the opposite: Of those adults without any college, 20 percent have no high school diploma compared to 29 percent who do. Dallas, however, has a higher share of adult residents with a graduate degree (9.6 percent) than the metro, state or national average. The percentage of Dallas residents who have a bachelor's degree exceeds the state and national averages, though it lags just behind the region's rate of 19.6 percent. The amenities this educated population demands—ranging from education to entertainment—help create a world-class city.

Retail

In sheer dollar value, no other community in the Metroplex matches Dallas in retail sales. Establishments within the city posted almost \$20 billion in gross retail sales in 2004, almost twice that of its closest competitor, Carrollton. Suburban communities are quickly gaining ground with Frisco posting a 200 percent increase in gross retail sales since 2000. In fact, Frisco has experienced greater growth in dollars than Dallas since 2000, adding more than \$995 million in gross sales versus \$814 million for Dallas. Dallas was also outpaced by Fort Worth during this period, as Fort Worth added \$858 million in gross retail sales. Though much smaller in scale, other suburban communities that have experienced significant growth in percentage terms in recent years include: Terrell, 182.5 percent; Rowlett, 141.0 percent; and Cedar Hill, 113.9 percent.

Figure 5: Educational Attainment, 2000



Source: U.S. Census Bureau

Table 7: Annual Gross Retail Sales Figures for Selected Cities, Ranked by Sales in 2004

	2000	2003	2004	Change 2000 to 2004		Change 2003 to 2004	
				Increase/ Decrease	%	Increase/ Decrease	%
Dallas	\$18,999,316,193	\$18,637,170,905	\$19,813,481,096	\$814,164,903	4.3%	\$1,176,310,191	6.3%
Fort Worth	7,710,963,459	7,910,637,158	8,568,686,271	857,722,812	11.1%	658,049,113	8.3%
Irving	6,545,126,471	4,435,273,598	5,462,537,964	1,082,588,507	-16.5%	1,027,264,366	23.2%
Plano	5,213,015,736	5,317,978,853	5,444,411,551	231,395,815	4.4%	126,432,698	2.4%
Arlington	5,198,291,419	4,959,775,049	4,978,930,372	-219,361,047	-4.2%	19,155,323	0.4%
Garland	2,179,974,690	2,290,428,140	2,404,855,079	224,880,389	10.3%	114,426,939	5.0%
Carrollton	2,415,725,415	2,082,973,469	2,187,650,526	-228,074,889	-9.4%	104,677,057	9.2%
Grand Prairie	2,211,778,978	2,025,443,738	2,123,117,772	-88,661,206	-4.0%	97,674,034	4.8%
Richardson	2,954,483,194	2,401,488,841	2,104,062,407	-850,420,787	-28.8%	-297,426,434	-12.4%
Mesquite	1,848,786,177	1,998,353,300	2,051,070,911	202,284,734	10.9%	52,717,611	2.6%
Denton	1,295,599,084	1,406,102,912	1,511,127,838	215,528,754	16.6%	105,024,926	7.5%
Frisco	492,751,228	1,294,089,480	1,487,920,532	995,169,304	202.0%	193,831,052	15.0%
Farmers Branch	1,564,308,820	1,475,514,922	1,331,182,203	-233,126,617	-14.9%	-144,332,719	-9.8%
McKinney	810,710,353	911,351,520	1,093,861,548	283,151,195	34.9%	182,510,028	20.0%
Terrell	350,810,674	908,217,471	990,960,324	640,149,650	182.5%	82,742,853	9.1%
N Richland Hills	1,022,480,059	934,923,117	904,286,165	-118,193,894	-11.6%	-30,636,952	-3.3%
Addison	1,751,206,410	890,804,622	812,265,776	-938,940,634	-53.6%	-78,538,846	-8.8%
Rockwall	514,966,274	637,277,709	719,811,583	204,845,309	39.8%	82,533,874	13.0%
Coppell	1,095,142,372	387,643,292	564,168,180	-530,974,192	-48.5%	176,524,888	45.5%
Southlake	413,556,774	449,508,093	475,465,979	61,909,205	15.0%	25,957,886	5.8%
Flower Mound	289,650,379	422,066,419	457,915,948	168,265,569	58.1%	35,849,529	8.5%
Rowlett	185,009,909	270,656,858	445,856,009	260,846,100	141.0%	175,199,151	64.7%
Cedar Hill	207,987,721	379,992,781	444,969,049	236,981,328	113.9%	64,976,268	17.1%
De Soto	323,738,865	334,871,217	325,150,630	1,411,765	0.4%	-9,720,587	-2.9%
Lancaster	181,540,249	207,957,648	206,602,878	25,062,629	13.8%	-1,354,770	-0.7%
Benbrook	106,906,779	116,278,007	112,227,052	5,320,273	5.0%	-4,050,955	-3.5%
Richland Hills	70,730,812	39,004,827	52,376,389	-18,354,423	-25.9%	13,371,562	34.3%

Source: Texas Comptroller of Public Accounts; TIP Strategies, Inc.

The analysis of gross retail sales taxes provides a picture of the sales volume in each city. To better understand the sources of retail sales tax revenue in Dallas, an analysis of taxable retail sales by store format shows the city lost ground in almost every category. The largest declines have been in furniture and home furnishings (down 23.4 percent), general merchandise stores (down 10.4 percent) and building materials and garden supply stores (down 8.8 percent). These categories are dominated by “big box” stores, such as Home Depot and Wal-Mart, which more commonly build in the suburbs.

Employment Trends

Since 1990, Dallas County has lost in jobs growth to the suburbs. This trend has been particularly notable since 2000. Between 1990 and 2004, Dallas County added slightly less than 20,000 establishments and about 260,000 jobs. While this is an impressive total, it translates to a compound annual growth rate of just 2.5 percent for establishment growth and 1.4 percent for job growth. By comparison, Collin County

gained more than 8,700 establishments and 128,000 jobs, representing compound annual growth rates of 8.6 percent and 7.0 percent, respectively. Denton and Rockwall counties also saw significant growth in percentage terms during the period. While not on par with the pace set by some suburban counties, Tarrant County saw higher rates of growth in establishments (3.2 percent) and employment (1.9 percent) than did Dallas County.

Recently, Dallas County has seen a precipitous drop in the growth of both establishments and jobs. While the economic downturn in 2000 through 2004 had an impact on growth throughout the region and nation, growth in Dallas ground to a halt. In those five years, Dallas County gained just more than 100 establishments but lost more than 130,000 jobs. Tarrant County fared significantly better, adding almost 2,000 establishments and losing just 4,300 jobs. But poor economic conditions did little to slow the growth of Collin and Denton counties. From 2000 through 2004, these suburban counties maintained their aggressive rates of growth.

Table 8: Taxable Retail Sales by Store Format, 1999 to 2003

City of Dallas	1999	2003	Percent Change 1999 to 2003
Miscellaneous Retail	\$1,669,027,163	\$1,767,666,311	5.9%
Eating & Drinking Places	\$1,542,747,118	\$1,614,028,856	4.6%
General Merchandise Stores	\$1,121,767,699	\$1,004,661,909	-10.4%
Furniture & Homefurnishing Stores	\$1,121,714,327	\$859,759,367	-23.4%
Apparel & Accessory Stores	\$821,134,510	\$774,716,155	-5.7%
Food Stores	\$744,321,538	\$695,763,627	-6.5%
Building Materials & Garden Supplies	\$701,717,596	\$639,811,022	-8.8%
Automotive Dealers & Service Stations	\$421,429,529	\$429,936,056	2.0%

Source: Texas Comptroller of Public Accounts; TIP Strategies, Inc.

Table 9: Growth Trends for Selected Counties

	Change 1990 to 2004			Change 2000 to 2004		
	Number	%	CAGR	Number	%	CAGR
Average Annual Establishments						
Dallas County	19,964	41.3%	2.5%	110	0.2%	0.0%
Tarrant County	12,230	56.1%	3.2%	1,921	6.0%	1.5%
Collin County	8,774	217.8%	8.6%	3,384	35.9%	8.0%
Denton County	5,096	148.3%	6.7%	1,613	23.3%	5.4%
Average Annual Employment						
Dallas County	258,961	22.0%	1.4%	-131,534	-8.4%	-2.2%
Tarrant County	160,675	29.9%	1.9%	-4,303	-0.6%	-0.2%
Collin County	128,284	159.4%	7.0%	41,122	24.5%	5.6%
Denton County	66,918	100.2%	5.1%	14,370	12.0%	2.9%
Average Annual Pay						
Dallas County	21,428	79.4%	4.3%	3,929	8.8%	2.1%
Tarrant County	16,431	68.9%	3.8%	4,795	13.5%	3.2%
Collin County	18,161	71.9%	3.9%	2,878	7.1%	1.7%
Denton County	13,980	71.7%	3.9%	4,143	14.1%	3.4%

Source: U.S. Bureau of Labor Statistics, TIP Strategies, Inc.
CAGR = Compound Annual Growth Rate



Despite slower growth in establishments and jobs, wage growth in Dallas County has remained strong. Average annual wages in Dallas County rose from \$26,975 in 1990 to \$48,403 in 2004, an increase of more than \$21,000. This represents a 4.3 percent compound annual growth rate, slightly above that in other core counties. Although wage growth in Dallas County dropped off during the 2000 to 2004 period, it did not decline as much as establishment growth and annual average employment. In addition, wages remained higher in Dallas County than nearby counties, which had annual average wages in 2004 as follows: Collin County, \$43,419; Denton County, \$33,467; and Tarrant County, \$40,273.

Labor Force

Since the recession of 2001, the labor force in the city of Dallas—which grew swiftly in the late 1990s—has remained relatively unchanged at just below 700,000. In September 2004, the number of employed residents in the city remained about 11,000 below its 2000 peak of 655,746. The labor force participation in Dallas is 65.1 percent, below the metro average of 69.2 percent but above state and national levels of almost 64 percent. This trend generally holds true across genders,

In the late 1990s, Dallas' unemployment rate drew even with Fort Worth while trailing the statewide average. Since 2000, however, the city of Dallas rate has peaked at well over the state average. By contrast, unemployment rates in large suburbs like Arlington and Plano are running well below the state rates.

An analysis of commuting patterns reveals that Dallas County is the largest employment center in the region, providing 52.0 percent of the 2.6 million jobs in the 16-county area covered by the NCTCOG in 2000. In 2000, 66.7 percent of Dallas County jobs were held by Dallas County residents. Tarrant County residents were second, comprising 10.0 percent of Dallas County employment. Collin County and Denton County residents filled 8.8 percent and 7.0 percent of the jobs, respectively.

Of the jobs in Dallas County, the leading occupational groups are office administration, sales, transportation, production and food service. Each of these occupational groups accounts for more than 100,000 jobs within city limits. Some occupational groups have a high concentration of jobs in Dallas County relative to the statewide average. Leading occupational groups with high concentrations (i.e. relatively strong labor pools) within the county are computer and mathematical, business and financial, legal, and art and entertainment occupations. These occupations are concentrated in Dallas relative to the nation as a whole, as evidenced by location quotients of 1.3 or higher.

Table 10: Dallas County(1) Community Patterns, 2000

COUNTY OF RESIDENCE	WORK IN DALLAS COUNTY ⁽²⁾	
	Number	Percent
Dallas	905,380	66.7%
Tarrant	136,092	10.0%
Collin	119,210	8.8%
Denton	95,367	7.0%
Other Dallas/Ft Worth County ⁽³⁾	64,003	4.7%
Other Texas County	24,831	1.8%
Out-of-State	12,377	0.9%
Total	1,357,260	100.0%

Source: U.S. Bureau of the Census (Journey-to-Work data files); North Central Texas Council of Governments

(1)Sub-county level data are not available for Texas on this indicator.

(2)The Census Bureau's commuting data are based on sample data and exclude some groups, such as those who work at home or those who were not employed during the "reference week" (i.e., the week prior to completion of the Census form). As a result, these figures will differ from other sources of employment data. They are intended to provide a broad view of the concentration of employment within the region.

(3)"Other Dallas/Fort Worth" includes Ellis, Erath, Hood, Hunt, Johnson, Kaufman, Navarro, Palo Pinto, Parker, Rockwall, Somervell, and Wise counties.

Table 11: Establishment-Based Employment by Occupation, 2003

	Dallas County	Dallas PMSA	Texas	Dallas County Location Quotient
Office & Administrative	286,130	356,250	1,641,330	1.1
Sales-Related	180,510	233,350	1,003,010	1.1
Transportation & Material Moving	109,740	134,250	651,940	1.0
Production	103,780	134,960	659,620	1.0
Food Preparation & Serving-Related	100,340	142,470	743,960	0.8
Management	95,670	115,680	506,630	1.2
Business & Financial Operations	73,980	85,800	319,430	1.4
Education, Training, & Library	66,250	102,250	637,840	0.6
Installation, Maintenance, & Repair	66,240	80,610	417,780	1.0
Computer & Mathematical	64,010	74,860	201,310	2.0
Construction & Extraction	62,480	81,560	492,290	0.8
Healthcare Practitioners & Technical	56,450	71,440	407,850	0.9
Building & Grounds Cleaning & Maintenance	44,360	54,570	291,730	0.9
Architecture & Engineering	38,120	45,870	194,310	1.2
Protective Service	31,090	38,910	230,840	0.8
Personal Care & Service	27,180	34,450	249,250	0.7
Healthcare Support	26,210	34,100	219,150	0.7
Arts, Design, Entertainment, Sports, & Media	18,980	24,080	92,000	1.3
Legal	13,710	17,710	63,050	1.3
Life, Physical, & Social Science	11,300	13,180	71,450	1.0
Community & Social Services	8,510	12,350	76,520	0.7
Farming, Fishing, & Forestry	730	1,120	22,920	0.2
Total -- All Occupations	1,485,790	1,889,800	9,194,200	1.0

Source: Texas Workforce Commission

NOTE: Location quotients (LQs) are ratios used to measure the relative concentration of an indicator in a region (in this case, employment by occupation) versus its concentration in the nation. An LQ of 1.00 indicates an occupation's regional concentration is the same as the nation. LQs greater than 1.25 generally indicate a regional specialization.

The median salary in Dallas County was \$29,480 in 2003, which is 14.7 percent above the statewide median. Managers, attorneys, and computer and math-related professions earn the highest median salaries in Dallas County. Median earnings in these professions run 9 to 17 percent above the statewide average. Some of the less lucrative occupational groups earn median salaries that are nonetheless considerably higher than the statewide average. Community and social services, sales, and healthcare support occupations earn 22 to 26 percent more than their counterparts statewide.

Industrial Composition

Slightly more than half (57 percent) of jobs in Dallas County, 57 percent are located within the Dallas city limits. For the primary four-county region, Dallas provides 33.5 percent of jobs. As a result, the industrial composition of the city and the surrounding region is fairly similar, differing primarily in expected ways. For example, the city of Dallas picks up a noticeably smaller share of employment in the sectors that directly reflect suburban growth outside the central city: construction, local government and education.

Table 12: Median Salary by Occupation, 2003

	Dallas County	Dallas PMSA	Texas	Dallas County Salary as a Share of	
				Dallas PMSA	Texas
Management	\$77,230	\$75,985	\$65,815	101.6%	117.3%
Legal	\$68,850	\$54,520	\$59,525	126.3%	115.7%
Computer & Mathematical	\$65,080	\$65,005	\$59,660	100.1%	109.1%
Architecture & Engineering	\$56,780	\$56,690	\$55,930	100.2%	101.5%
Business & Financial Operations	\$53,585	\$53,270	\$49,010	100.6%	109.3%
Life, Physical, & Social Science	\$53,365	\$53,035	\$45,900	100.6%	116.3%
Healthcare Practitioners & Technical	\$45,525	\$44,915	\$42,700	101.4%	106.6%
Community & Social Services	\$41,670	\$38,845	\$33,110	107.3%	125.9%
Education, Training, & Library	\$38,240	\$38,315	\$36,830	99.8%	103.8%
Arts, Design, Entertainment, Sports, & Media	\$36,040	\$37,185	\$32,420	96.9%	111.2%
Installation, Maintenance, & Repair	\$31,345	\$31,785	\$31,170	98.6%	100.6%
Office & Administrative	\$27,915	\$27,495	\$24,700	101.5%	113.0%
Construction & Extraction	\$27,305	\$27,065	\$26,795	100.9%	101.9%
Protective Service	\$25,480	\$26,985	\$29,030	94.4%	87.8%
Sales-Related	\$24,760	\$23,310	\$19,930	106.2%	124.2%
Transportation & Material Moving	\$23,040	\$22,805	\$21,545	101.0%	106.9%
Production	\$22,990	\$23,030	\$23,315	99.8%	98.6%
Healthcare Support	\$22,505	\$22,185	\$18,445	101.4%	122.0%
Building and Grounds Cleaning & Maintenance	\$17,875	\$17,775	\$16,355	100.6%	109.3%
Food Preparation & Serving-Related	\$14,840	\$14,495	\$14,095	102.4%	105.3%
Farming, Fishing, & Forestry	\$14,730	\$15,715	\$14,980	93.7%	98.3%
Personal Care & Service	\$14,590	\$14,985	\$14,215	97.4%	102.6%
Total -- All Occupations	\$29,480	\$28,685	\$25,710	102.8%	114.7%

Source: Texas Workforce Commission

Table 13: Estimated Annual Average Employment, 2004

	U.S.		Four -County Region ⁽¹⁾		City of Dallas ⁽²⁾	
	Number	%	Number	%	Number	%
Agriculture & Mining	1,427,154	1.1%	10,871	0.4%	4,575	0.5%
Electric, Gas, Water, Sanitary Services	582,110	0.4%	7,764	0.3%	4,123	0.5%
Construction	6,904,753	5.1%	127,150	5.0%	35,961	4.2%
Manufacturing	14,377,842	10.7%	265,082	10.5%	76,517	9.0%
Wholesale Trade	5,646,707	4.2%	155,548	6.1%	70,455	8.3%
Retail Trade	23,794,664	17.7%	460,093	18.2%	127,964	15.1%
—Auto Dealers, Gas Stations, & Related	2,777,457	2.1%	48,426	1.9%	13,354	1.6%
—Furniture & Home Furnishings	1,058,585	0.8%	28,097	1.1%	6,469	0.8%
—Home Improvement	1,246,220	0.9%	19,790	0.8%	4,984	0.6%
—Food Stores	2,835,906	2.1%	44,123	1.7%	11,874	1.4%
—Apparel & Accessory Stores	1,337,475	1.0%	27,762	1.1%	8,679	1.0%
—General Merchandise	2,824,095	2.1%	60,945	2.4%	13,366	1.6%
—Eating & Drinking Places	8,767,972	6.5%	180,845	7.1%	54,779	6.5%
—Miscellaneous Retail	2,946,953	2.2%	50,104	2.0%	14,458	1.7%
Transportation	4,220,563	3.1%	115,097	4.5%	36,226	4.3%
—General Freight Trucking	951,823	0.7%	23,299	0.9%	11,200	2.1%
—Warehousing & Storage	534,741	0.4%	7,676	0.3%	3,763	0.4%
Communication	3,169,039	2.4%	93,026	3.7%	31,867	3.8%
Finance Insurance & Real Estate	7,381,774	5.5%	193,994	7.7%	86,200	10.2%
—Banks, Savings & Lending Institutions	2,831,260	2.1%	77,384	3.1%	31,814	3.7%
—Securities Brokers	788,789	0.6%	16,103	0.6%	8,601	1.0%
—Insurance Carriers & Agents	2,342,599	1.7%	61,715	2.4%	26,545	3.1%
—Real Estate, Holding, Other Investment Offices	1,419,126	1.1%	38,791	1.5%	19,241	2.3%
Services	43,014,952	32.0%	767,979	30.3%	298,331	35.2%
—Legal Services	1,145,894	0.9%	24,425	1.0%	17,738	2.1%
—Business Services	17,897,284	13.3%	339,147	13.4%	131,532	15.5%
—Education Institutions & Libraries	2,743,371	2.0%	38,191	1.5%	9,463	1.1%
—Healthcare & Social Assistance	14,172,665	10.5%	220,329	8.7%	90,377	10.7%
—General Medical & Surgical Hospitals	4,078,514	3.0%	58,709	2.3%	24,131	2.8%
—Motion Pictures & Amusements	1,797,227	1.3%	28,196	1.1%	7,655	0.9%
—Hotels & Lodging	1,761,499	1.3%	25,959	1.0%	10,967	1.3%
—Automotive Services	1,208,715	0.9%	35,595	1.4%	10,295	1.2%
—Personal Services	2,288,297	1.7%	56,136	2.2%	20,303	2.4%
Government	21,591,054	16.1%	314,989	12.4%	72,406	8.5%
—State Government	5,024,985	3.7%	36,318	1.4%	6,261	0.7%
—Local Government	13,847,813	10.3%	235,433	9.3%	55,061	6.5%
—Federal Government	2,718,255	2.0%	43,237	1.7%	12,188	1.4%
Other/Nonclassifiable	2,256,491	1.7%	22,208	0.9%	3,814	0.4%
Total Employment	134,367,103	100.0%	2,533,802	100.0%	848,441	100.0%

Sources: Economy.com; ESRI; TIP Strategies, Inc.

(1) Dallas, Tarrant, Collin and Denton counties

(2) City-level employment data are not published by state or federal employment agencies. The estimates shown here were calculated by applying the ratio of city-to-county employment by sector derived from a private data provider (ESRI) to county-level data from Economy.com.



The services sector accounts for more than one-third of all jobs in Dallas while professional services and companies engaged in information technologies show strong clusters in the city, as demonstrated by their relatively high location quotients. Yet for a city of its size, Dallas has relatively few corporate headquarters, arts-related and retail trade employment rates. With an LQ of just 0.8, total retail trade employment is also less concentrated in the city than would be expected. The location quotient for the retail trade sector rarely deviates too far from 1.0 (the national average), regardless of location. The rare exceptions are rural areas (which may lack retail amenities) or tourist meccas (which have a retail concentration well beyond the needs of the local population).

Despite a restructuring and decentralization of the regional banking system in the last generation, the city still holds on to 44 percent of all the jobs in financial services in the four-county region. Twenty years ago this strong concentration of financial jobs in the central city would have been expected. Today, however, given the rise of suburban back-office operations and branch banking, the still-strong concentration of financial jobs is welcome news.

Health services jobs, too, are clustered in the city, with at least four of every 10 jobs in the industry in the four-county region within the city. Of the county's 125,000 jobs in this industry, 90,000 are in the city. In the largest single job-generator of the health sector—hospitals—the city of Dallas is home to about 24,000 of the county's 32,000 jobs. Medical centers account for three of the top five spots the North Central Texas Council of Governments list of major employers in the Dallas area. Parkland Memorial Hospital, UT-Southwestern and Baylor University Medical Center each employ 5,000 to 7,000 workers. However, the lack of a major medical complex (like in Houston) gives the city a relatively average location quotient (LQ) in health services.

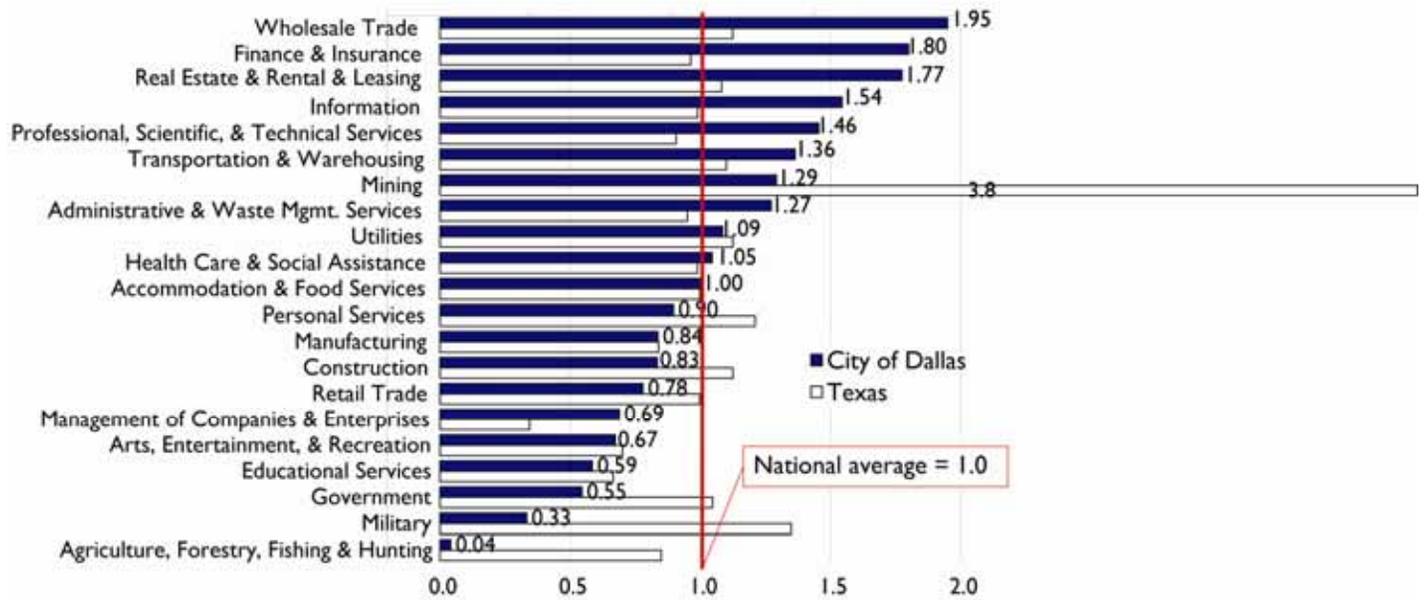
The same pattern is true for education, which has a below-average LQ within the city. Many of the Dallas-Fort Worth area's largest campuses are in the suburbs, including Denton, Arlington and Richardson. While large U.S. cities have one or more major research campuses as a part of the urban fabric, in newer cities such as Dallas and Phoenix, these campuses were placed in the suburbs.

Nearly half of all the jobs in warehousing, trucking and wholesale trade are still in the city, despite the trend toward greenfield development of new warehouses in the suburbs. An analysis of employment location quotients reveals that the city's job base is concentrated heavily in activities related to distribution (including wholesale trade, transportation and warehousing) and financial services (including banking, insurance and property-related transactions). By comparison the state of Texas has only an average concentration in these same industries relative to the nation.

Shift-share analysis is a statistical technique that can provide a better understanding of past changes in employment. It is especially useful when examining economic recessions or periods of rapid structural change because it gives policymakers an idea of how the groundwork is being laid for the next economic cycle. The technique is applied to local employment changes at the industry level to isolate, first, what would have happened if the local area had followed national growth patterns and, second, what would have happened if national industry trends had been followed. After isolating these factors, the residual that is left is the employment change that was attributable solely to local developments.

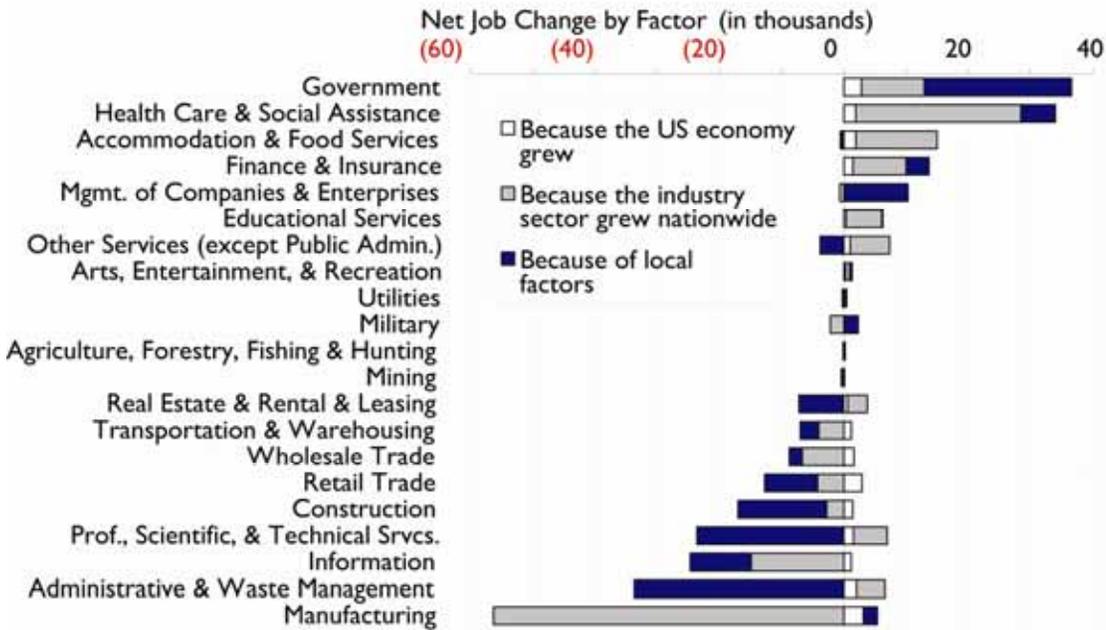
The application of shift-share analysis to metropolitan employment patterns in Dallas/Fort Worth from 2000 to 2005 indicates that local factors were responsible for a number of job shifts. For example, government grew for local reasons. Undoubtedly, this expansion was at least in part because of population pressure. Local factors also appear to be a major reason for the job losses in both professional and administrative services.

Figure 6: Location Quotients, 2005



Sources: Economy.com; TIP Strategies

Figure 7: Factors Impacting D/FW Job Growth, 2000-2005



Sources: Economy.com; TIP Strategies

An imploding manufacturing sector nationwide could not be offset by an expanding national economy, a weak dollar and positive local factors in Dallas/Fort Worth that encourage manufacturing growth. The bigger trend was just too large to overcome.

Healthcare, again, is notable in that most of the jobs added in Dallas/Fort Worth were attributable to larger trends in the industry. Local factors were less significant in stimulating this industry's expansion.

Digging into each sector of the economy and looking at individual industries is perhaps the best way to understand how the city's job base has changed in the past five years. More than 22,000 jobs in employment services were lost in the past five years in Dallas/Fort Worth. Among other things, this industry includes temporary and contract workers. That job losses would fall disproportionately in this industry during weak economic times is no surprise since temporary workers are often the most expendable.

Also hard hit were high tech workers. Job losses in high tech industries piled up in both manufacturing (telecom equipment and electronic components) and services (systems design and telecom service providers). Other creative industries that suffered significant job losses included advertising, engineering and architecture.

The 9/11 terrorist attacks in 2001 coupled with an economic downturn explain the dramatic loss in airline-related jobs. However, the city also saw significant losses in jobs related to security services. Even when

considering the transfer of airport security workers from private sector contractors to federal employees, the losses to this sector are larger than expected.

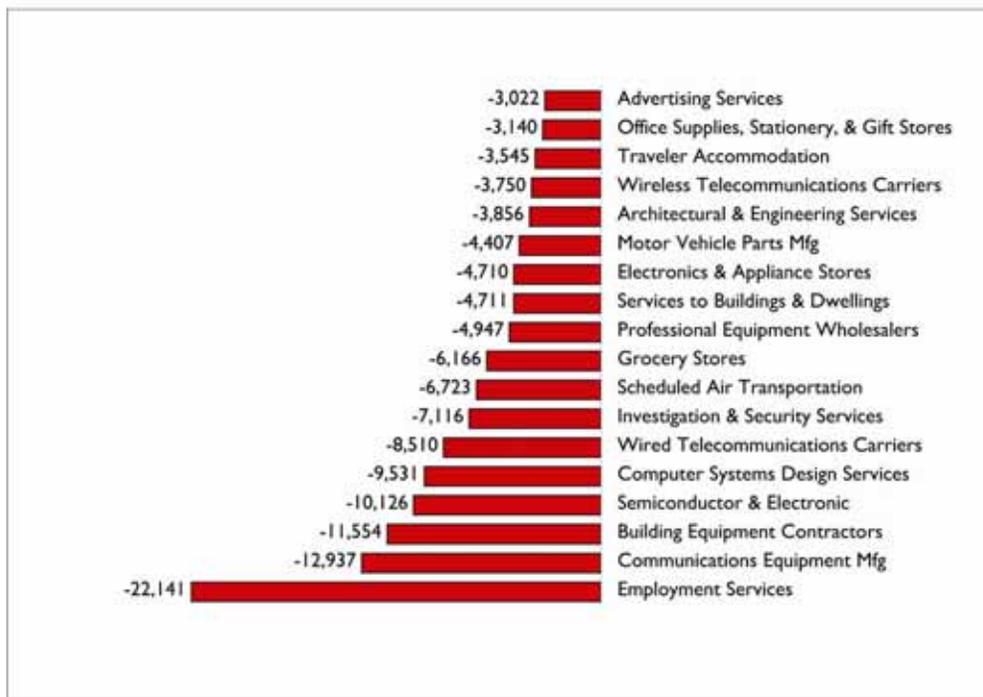
Local government added more jobs than any other part of the economy. Population growth may have much to do with this as well as a post-9/11 reassessment of local service levels. Despite these job gains, however, local government in the Dallas/Fort Worth area still has a location quotient of 0.92 relative to the nation's 1.00. The city's lower LQ is likely because of the economies of scale afforded to government in an urban area versus suburban and rural areas.

Many of the region's job gains in the past five years were in lower-paying sectors of the economy including support services for businesses, families and individuals; child care services; restaurants and fast food; vocational and rehab services; and community and relief services.

Higher paying jobs requiring specific skills and education were added, but with less frequency. These included doctor's offices, corporate and regional headquarters, non-bank credit services (including mortgage origination), insurance and dues-paying and membership organizations.

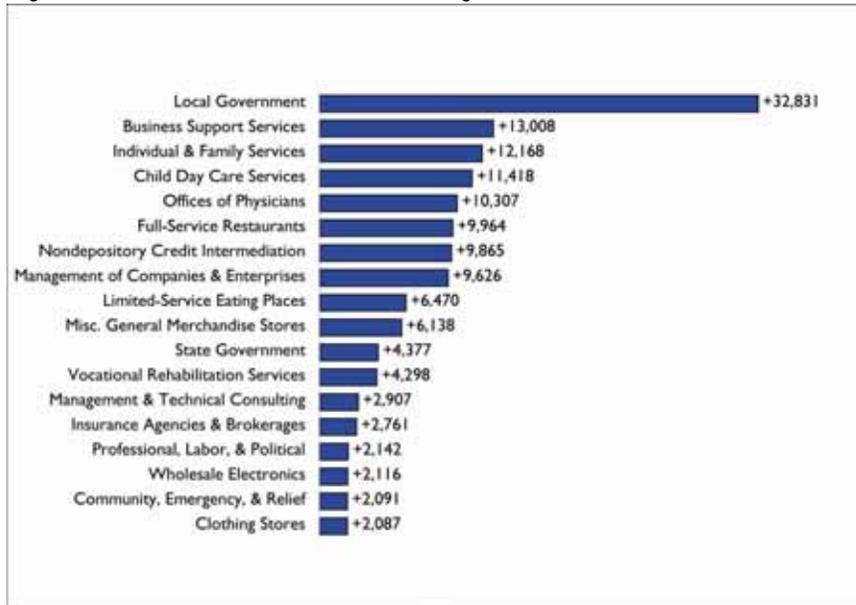
In many metropolitan areas, healthcare has become a major sector of the economy, adding a range of jobs covering all pay and skill levels. Within the health sector, Dallas/Fort Worth added jobs in areas such as vocational rehab and family services. In the higher end of healthcare services, however, only doctors' offices added more than 2,000 jobs within the city in the past five years. Hospitals, clinics and research centers did not rank on this list for significant job gains.

Figure 8: Dallas/Ft. Worth Industries Losing 3,000 or More Jobs; Net Jobs Lost, 2000-2005



Sources: Economy.com; TIP Strategies

Figure 9: Dallas/FW Industries Adding 2,000 or More Jobs; Net Jobs Gained, 2000-2005



Sources: Economy.com; TIP Strategies

Dallas' Southern Sector

Assessing Dallas' economic potential must include a comparison of the city's Northern and Southern sectors. Census data were collected for 1990 and 2000 at the tract level on a number of indicators using a physical barrier (Interstate 30) to divide the city. West Dallas, the area between I-30 and the Trinity River that lies west of Downtown, was also included in the Southern Sector.

Across all major racial and ethnic groups, population growth in the 1990s was stronger in northern Dallas, with total population increasing by 21.5 percent versus 7.6 percent in the Southern Sector. One exception was the foreign-born population; it doubled in both areas in the 1990s, but the growth rate in the Southern Sector of 130.7 percent was somewhat faster than to the north, where it was 125.4 percent. The Hispanic population grew at a faster rate of 121.4 percent in the Northern Sector, resulting in a fairly balanced north-south distribution of this group by 2000. The city's African-American population is more concentrated in the Southern Sector, with 70.6 percent of this group residing in the area versus 29.8 percent in the north.

Population growth in the 1990s was faster in the northern part of the city across all major age cohorts, too. Perhaps most surprising is that the schoolage population (under 18) grew three times faster in this area than in the Southern Sector (38.4 percent versus 10.5 percent). While slightly more than half of the under-18 population still resides in the Southern Sector (53.5%), the balance is shifting slightly. Preschool children are more evenly distributed with roughly 50 percent living in each sector.

Educational attainment marks perhaps the sharpest divide between north and south. Among college-educated Dallas residents, 84.1 percent live in the Northern Sector. Meanwhile, the adult population (age 25+) in the Southern Sector grew by almost 5 percent in the 1990s, even as the Southern Sector's share of adults with a high school education fell by 0.4 percent.

Table 14: Selected Characteristics by Sector, 1990 to 2000

	Percent Change 1990 to 2000		Share of Dallas Total in 2000	
	Northern	Southern	Northern	Southern
Total population	21.5%	7.6%	55.3%	44.7%
Race/ethnicity				
White	-11.5%	-38.6%	79.7%	20.3%
Black	28.7%	-8.0%	29.4%	70.6%
Native American	6.8%	-49.0%	70.2%	29.8%
Asian	43.1%	-1.1%	85.5%	14.5%
Hispanic	121.4%	86.8%	49.6%	50.4%
Foreign Born	125.4%	130.7%	60.6%	39.4%
Age distribution				
Under 5	35.9%	8.3%	50.9%	49.1%
Under 18	38.4%	10.5%	46.5%	53.5%
19-24	22.0%	15.1%	56.4%	43.6%
25-54	19.3%	7.7%	60.1%	39.9%
55-64	5.0%	0.6%	54.0%	46.0%
65+	9.9%	-5.1%	58.7%	41.3%
16-64	18.9%	8.4%	57.9%	42.1%
Highest level of education completed (population age 25 years and older)				
Population age 25+	16.3%	4.7%	59.2%	40.8%
High school	3.2%	-0.4%	46.6%	53.4%
Bachelor's degree	8.9%	3.0%	84.1%	15.9%
Graduate degree	13.5%	-5.4%	85.4%	14.6%
Total households				
Families	15.6%	3.4%	54.3%	45.7%
Married couples	8.6%	-3.4%	58.7%	41.3%
Families with children	331.3%	133.5%	54.8%	45.2%
Female head of HH with children	131.6%	44.0%	44.6%	55.4%
Total housing units				
Occupied	4.2%	-4.6%	62.1%	37.9%
Owner-Occupied	11.9%	4.0%	62.2%	37.8%
Renter-Occupied	10.6%	4.1%	53.0%	47.0%
Vacant	12.7%	4.0%	69.7%	30.3%
	-48.3%	-54.5%	59.7%	40.3%
Area's share of:				
Employed people	8.9%	-4.3%	63.2%	36.8%
Unemployed people	0.9%	-13.4%	45.6%	54.4%
People living below the poverty level	34.9%	2.9%	43.6%	56.4%
HH employment by sector				
Financial and real estate	-11.0%	-10.9%	71.1%	28.9%
Professional	32.6%	-2.5%	71.5%	28.5%
Health-related	31.0%	19.6%	59.8%	40.2%
Education-related	9.9%	-9.8%	61.4%	38.6%
Transport-related	-27.2%	-25.9%	48.7%	51.3%
Manufacturing and construction	15.8%	2.0%	54.6%	45.4%
Services	152.8%	112.2%	64.0%	36.0%
Retail	-30.3%	-33.0%	63.4%	36.6%
Other	-76.1%	-83.1%	76.7%	23.3%
Mode of travel to work				
Car	8.9%	-2.1%	63.2%	36.8%
Car Alone	3.5%	-4.2%	65.4%	34.6%
Carpool	41.6%	4.5%	55.3%	44.7%
Transit	1.0%	-24.1%	52.9%	47.1%
Bike	-1.2%	-26.5%	83.0%	17.0%
Walk	-13.6%	-20.6%	69.3%	30.7%

Source: U.S. Census Bureau; Fregonese Calthorpe Associates; TIP Strategies



North Dallas provides 62.2 percent of the city's housing units and married couples (with or without children) are more likely to live in the north. The Southern Sector is home to more female-headed households with children (55.4% versus 44.6% in the north).

Roughly two-thirds of the Dallas residents who are job-holders live in the Northern Sector. Of those in the labor force but unemployed, 54.4 percent live in the Southern Sector. Similarly, 56.4 percent of city residents who live below the poverty line reside in the Southern Sector.

More than seven of every 10 Dallas residents employed in finance, real estate and professional services live in the Northern Sector. Southern Sector residents are best represented in transportation-related industries where they hold about half of the total jobs.

Public transit as a means for commuting to work saw a 1 percent increase in the Northern Sector in the 1990s, but ridership declined during the decade by 24.1 percent in the Southern Sector. Despite that sharp decline, Southern Sector residents still make up about 47 percent of total public transit commuters. Biking and walking to work were much more common among people living to the north. This is perhaps a reflection of the fact that these options require close proximity of home to job, a situation that is much less feasible for those living in the Southern Sector.

Retail opportunities are particularly limited in the Southern Sector. A cursory analysis found a gap of more than \$18,800 per household in retail spending between the city's two sectors. Even accounting for lower incomes in the Southern Sector and the fact that other parts of the city capture more tourist and business travel dollars, it seems clear that the Southern Sector is "under-retailed."

Global Economy

The Dallas-Fort Worth area has always been successful at exploiting its central location – whether as a stagecoach, railroad or airline stop between the nation's coasts or as a north-south trade hub during the Chisholm Trail or NAFTA eras. According to statistics prepared by the Dallas Chamber of Commerce, more than 2,250 global companies are based in the region, including 19 Fortune 500 headquarters and nine Global 500 headquarters. The chamber tallies 425 foreign-owned businesses and multinational corporations in the region, which provide more than 250,000 jobs.

Though still a small part of the regional economy, international trade in the region is increasing. Total exports from the Dallas-Fort Worth region topped \$16.4 billion in 2004, up 34 percent from \$12.3 billion in 2003. Imports to the region increased by 22 percent during the same period, rising from \$22.6 billion in 2003 to \$27.6 billion in 2004. This translates to a total trade volume of \$44.0 billion in 2004, and increase of 26 percent from \$34.9 billion in 2003.

An analysis of trade flows by industry sector reflects the region's strength in computers and electronics. At almost \$10 billion dollars, this sector represented 60 percent of the region's exports in 2004. Computers and electronic products were also the largest import sector, with almost \$17 billion in goods coming into the region from other countries in 2004, illustrating the increasing emphasis on assembly in this industry (versus production). Other industry sectors with significant trade flows in the region include

machinery manufacturing; transportation equipment; and electrical equipment and appliance manufacturing.

Table 15: Retail Indicators, 2003

	Northern Sector	Southern Sector	Difference
Taxable retail sales (<i>in millions</i>)	\$6,867	\$1,173	(\$5,694)
Population	628,945	508,533	(120,412)
Taxable retail sales per capita	\$10,918	\$2,307	(\$8,611)
Households (HHs)	262,033	159,288	(102,745)
Taxable retail sales per HH	\$26,206	\$7,365	(\$18,842)

Source: Texas Comptroller of Public Accounts.

Note: Includes only those zip codes that are substantially within the city limits. Population and HH figures were based on Census tracts, as data were not available for selected zip codes. Calculations are intended to provide sense of general trends only.

Table 16: Trade Statistics by Industry Sector, All Counties (in thousands of US\$)
 Ranked by Total Exports through Dallas-Fort Worth Customs District in 2004

NAICS	Description	Imports			Exports		
		2003	2004	% Change	2003	2004	% Change
334	Computer and electronic product mfg.	13,385,665	16,930,331	26.5%	8,711,542	9,899,787	13.6%
333	Machinery manufacturing	1,134,665	1,474,326	29.9%	1,328,080	2,914,095	119.4%
336	Transportation equipment mfg.	2,037,202	2,157,326	5.9%	977,918	2,306,669	135.9%
335	Electrical equipment and appliance mfg.	847,603	1,082,213	27.7%	200,287	278,720	39.2%
325	Chemical manufacturing	415,726	524,455	26.2%	176,188	195,095	10.7%
339	Miscellaneous manufacturing	907,049	926,881	2.2%	358,326	179,918	-49.8%
332	Fabricated metal product mfg.	438,186	531,042	21.2%	139,787	177,553	27.0%
990	Special classification provisions, n.e.s.o.i	26,305	28,015	6.5%	118,546	146,654	23.7%
331	Primary metal manufacturing	64,353	102,847	59.8%	36,838	46,054	25.0%
326	Plastics and rubber products mfg.	189,399	220,050	16.2%	33,361	33,361	0.0%
311	Food manufacturing	33,093	43,523	31.5%	28,484	31,353	10.1%
323	Printing and related support activities	44,383	42,794	-3.6%	34,932	28,758	-17.7%
920	Used or second-hand merchandise	39,673	49,613	25.1%	29,093	24,103	-17.2%
322	Paper manufacturing	51,472	55,257	7.4%	15,528	20,328	30.9%
327	Nonmetallic mineral product mfg.	232,948	247,855	6.4%	12,678	18,514	46.0%
316	Leather and allied product mfg.	322,487	290,831	-9.8%	5,824	16,876	189.8%
315	Apparel manufacturing	661,176	690,446	4.4%	6,782	6,906	1.8%
313	Textile mills	77,475	86,097	11.1%	5,450	5,448	0.0%
337	Furniture and related product mfg.	393,835	431,107	9.5%	6,516	5,297	-18.7%
212	Mining, except oil and gas	292	304	4.1%	534	5,061	847.7%
112	Animal production	9,543	12,716	33.2%	11,666	4,823	-58.7%
314	Textile product mills	170,046	194,164	14.2%	6,125	2,840	-53.6%
111	Crop production	16,256	11,897	-26.8%	2,745	2,545	-7.3%
113	Forestry and logging	480	195	-59.4%	1,358	1,843	35.8%
321	Wood product manufacturing	92,038	102,554	11.4%	1,150	1,459	26.9%
910	Waste and scrap	1,657	594	-64.2%	169	1,103	551.3%
980	Goods returned to Canada (export); US goods returned & re-imports (import)	651,249	833,193	27.9%	1,554	1,001	-35.6%
511	Publishing industries, except Internet	382	653	70.7%	71	745	945.5%
312	Beverage and tobacco product mfg.	21,108	23,304	10.4%	182	519	185.6%
324	Petroleum and coal products mfg.	871	1,586	82.1%	110	120	9.8%
114	Fishing, hunting and trapping	6,928	17,791	156.8%	416	107	-74.3%
211	Oil and gas extraction	357,353	502,879	40.7%	---	---	---
TOTAL		22,632,902	27,618,840	22.0%	12,254,241	16,359,660	33.5%

Source: U.S. International Trade Commission; TIP Strategies, Inc.
 N.e.s.o.i= Not elsewhere specified or indicated

Taiwan tops the list of export countries with more than \$2 billion dollars in goods and services leaving Dallas-Fort Worth for this destination in 2004, an increase of 45 percent over 2003. By contrast, trade dropped off dramatically with 2003's top export destination, the Philippines, falling by almost \$670 million in 2004. Fluctuations in year-to-year trade are impacted by a several factors, however, and can be misleading.

In terms of imports, China far outstrips other trading partners, delivering more than \$9 billion in goods and services to the region in 2004. This is an increase of \$2.8 billion from 2003 and accounted for one-third of the region's total imports in 2004. A look at the top five import countries paints an even clearer picture of Dallas-Fort Worth's Asian connection which accounted for almost 70 percent of the region's imports in 2004: China (\$9.2 billion); Korea (\$5.6 billion); Japan (\$1.7 billion); Singapore (\$1.2 billion); and Taiwan (\$1.1 billion). These countries were also among the top destinations for the region's exports.

In light of its importance to the region's trade flows and the enormous market potential it represents, specific attention should be given to China. An analysis of trade by industry sector reveals that computer and electronic products account for the bulk of the region's trade with China. At more than \$6 billion, this sector made up roughly two-thirds of Dallas-Fort Worth's imports from China in 2004.

Table 17: Key Trading Partners, All Industries (in thousands US\$)
Ranked by Total Exports through Dallas-Fort Worth Customs District in 2004

Country	Imports			Exports		
	2003	2004	% Change	2003	2004	% Change
Taiwan	1,088,079	1,083,228	-0.4%	1,401,966	2,035,206	45.2%
Singapore	1,155,424	1,588,087	37.4%	981,818	1,846,182	88.0%
Korea	4,132,155	5,629,255	36.2%	1,227,064	1,779,227	45.0%
Japan	1,742,048	1,793,357	2.9%	1,246,227	1,266,705	1.6%
Philippines	497,807	471,563	-5.3%	1,833,619	1,164,997	-36.5%
Malaysia	515,272	516,356	0.2%	1,057,515	1,127,357	6.6%
China	6,311,837	9,159,399	45.1%	348,090	870,268	150.0%
Germany	675,538	789,126	16.8%	572,110	716,691	25.3%
Greece	5,692	9,992	75.5%	21,064	637,305	2925.5%
United Kingdom	652,919	609,724	-6.6%	499,476	616,466	23.4%
Israel	367,770	439,980	19.6%	28,940	609,421	2005.8%
Mexico	303,409	204,236	-32.7%	564,436	389,026	-31.1%
Thailand	523,324	558,610	6.7%	189,293	353,619	86.8%
Hong Kong	83,825	103,467	23.4%	270,291	352,470	30.4%
Belgium	171,264	227,420	32.8%	200,668	326,897	62.9%
Netherlands	100,402	138,780	38.2%	165,812	309,326	86.6%
France	506,275	573,404	13.3%	220,689	259,247	17.5%
India	163,954	180,045	9.8%	138,456	188,431	36.1%
Australia	53,403	130,351	144.1%	80,969	143,599	77.4%
Brazil	663,967	246,787	-62.8%	138,266	111,801	-19.1%
Canada	411,931	369,065	-10.4%	59,846	102,300	70.9%
United Arab Em	10,489	9,892	-5.7%	37,395	93,050	148.8%
Switzerland	311,954	298,137	-4.4%	111,153	89,764	-19.2%
Ireland	57,598	85,968	49.3%	76,432	80,996	6.0%
Italy	209,142	225,477	7.8%	100,799	73,861	-26.7%

Source: U.S. International Trade Commission; TIP Strategies, Inc.

Table 18: Trade with China by Industry Sector, Top 15 Industries (in thousands US\$)
Ranked by Imports through Dallas-Fort Worth Customs District in 2004

NAICS	Description	Imports			Exports		
		2003	2004	% Change	2003	2004	% Change
334	Computer and electronic product mfg.	3,724,015	6,097,321	63.7	269,358	679,201	152.2
335	Electrical equipment and appliance mfg.	484,448	625,338	29.1	10,271	19,253	87.4
339	Miscellaneous manufacturing	493,577	566,517	14.8	13,190	7,186	-45.5
333	Machinery manufacturing	298,260	438,751	47.1	24,076	106,166	341
337	Furniture and related product mfg.	238,660	251,138	5.2	223	737	230.1
332	Fabricated metal product mfg.	152,658	192,772	26.3	4,545	12,874	183.3
316	Leather and allied product mfg.	227,517	185,064	-18.7	---	427	---
327	Nonmetallic mineral product mfg.	132,679	141,029	6.3	363	3,909	976.6
315	Apparel manufacturing	141,811	132,322	-6.7	---	16	---
326	Plastics and rubber products mfg.	95,605	114,213	19.5	1,808	2,850	57.6
314	Textile product mills	65,508	86,437	31.9	122	18	-84.9
336	Transportation equipment mfg.	63,159	75,569	19.6	10,612	20,135	89.7
321	Wood product manufacturing	51,729	62,228	20.3	11	3	-69.8
980	Goods returned to Canada (export)US goods returned & re-imports (import)	22,745	32,654	43.6	---	---	---
331	Primary metal manufacturing	16,749	31,997	91	605	2,578	326

Source: U.S. International Trade Commission; TIP Strategies, Inc.
N.e.s.o.i = Not elsewhere specified or indicated

Much of the region's international success is connected to Dallas-Fort Worth International Airport. The value of shipments through the airport totaled \$31.2 billion in 2004, (\$14.6 billion in exports, \$16.6 billion in imports), placing it 17th among foreign trade gateways, according to the U.S. Bureau of Transportation Statistics, up from the 20th in 2003.

Table 19: Top U.S. Foreign Trade Freight Gateways by Value of Shipments (Current \$ billions)
Data for 2003 is based on the top 50 freight gateways in 2003

Gateway	Type	2004				2003			
		Rank	Exports	Imports	Total	Rank	Exports	Imports	Total
JFK International Airport, NY	Air	1	52.7	72.6	125.3	2	46.6	65.3	111.9
Port of Los Angeles, CA	Water	2	16.4	105.1	121.4	1	16.9	105.2	122.1
Port of Long Beach, CA	Water	3	18.6	102.8	121.3	5	17.2	78.7	95.9
Port of Detroit, MI	Land	4	58.2	55.6	113.8	3	54.5	47.3	101.9
Port of New York, NY and NJ	Water	5	23.1	90.4	113.5	4	24.3	76.9	101.2
Port of Laredo, TX	Land	6	38.4	51.1	89.5	6	32.4	46.4	78.8
Los Angeles International Airport, CA	Air	7	33.9	34.8	68.7	7	32.6	31.2	63.8
Port of Buffalo -Niagara Falls, NY	Land	8	31.7	36.6	68.4	9	27.4	32.0	59.4
Port of Houston, TX	Water	9	29.2	37.2	66.4	11	21.5	28.5	49.9
Port of Huron, MI	Land	10	23.6	42.3	65.9	8	22.7	39.6	62.3
Chicago, IL	Air	11	25.2	40.1	65.4	10	20.6	33.7	54.3
San Francisco International Airport, CA	Air	12	24.3	30.3	54.6	12	20.6	26.1	46.6
Port of Charleston, SC	Water	13	15.4	31.3	46.7	13	13.4	26.0	39.4
Port of El Paso, TX	Land	14	18.3	24.4	42.8	14	16.7	22.5	39.2
Port of Norfolk Harbor, VA	Water	15	12.0	21.5	33.5	15	11.0	18.5	29.5
Port of Baltimore, MD	Water	16	6.9	24.4	31.3	18	5.7	20.3	26.0
Dallas-Fort Worth, TX	Air	17	14.6	16.6	31.2	20	11.4	12.2	23.6
New Orleans, LA	Air	18	15.2	14.8	30.0	16	13.7	13.7	27.4
Port of Seattle, WA	Water	19	6.7	22.9	29.6	21	5.7	17.4	23.1
Port of Tacoma, WA	Water	20	5.3	23.6	28.9	17	5.2	21.1	26.3
Port of Oakland, CA	Water	21	8.5	18.8	27.3	19	7.8	17.4	25.1
Port of Savannah, GA	Water	22	9.7	16.6	26.3	24	7.4	13.9	21.3
Anchorage, AK	Air	23	5.7	20.5	26.3	23	5.6	16.5	22.1
Miami International Airport, FL	Air	24	16.2	9.1	25.3	22	14.0	8.8	22.7
Atlanta, GA	Air	25	10.4	14.6	24.9	28	8.3	9.9	18.2

NOTES

All data: Trade levels reflect the mode of transportation as a shipment enters or exits at a border port. Flows through individual ports are based on reported data collected from U.S. trade documents. Trade does not include low-value shipments.

Numbers may not add to totals, due to rounding.

Air: Data for all air gateways include a low level (generally less than 2-3 percent of the total value) of small user-fee airports in the same region. Air gateways not identified by airport name (e.g., Chicago, IL, and others) include major airport(s).

SOURCES

Air: U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division, special tabulation, August 2004 and September 2005.

Water: 2003: U.S. Department of Transportation, Maritime Administration, Office of Statistical and Economic Analysis, personal communication, Aug. 4, 2004;

Water 2004: U.S. Army Corps of Engineers, Navigation Data Center, special tabulation, preliminary data.

Land: U.S. Department of Transportation, Bureau of Transportation Statistics, Trans-border Surface Freight Data, special tabulation, August 2004 and September 2005.

Dallas/Fort Worth International Airport (DFW) is also one of the world’s busiest airports in terms of passenger traffic, with 59.4 million total passengers in 2004. Of these, 5.1 million were international passengers. This flow presents the city with a significant opportunity to be viewed as being “globally connected,” opening the door for more investment and higher-paying jobs. The more foreign carriers, foreign destinations, carrier competition and destination options, the better off Dallas is related to the world economy.

DFW’s importance to the city’s international position is not without its vulnerabilities. American Airlines transported 84 percent of those international passengers in 2004. American’s dominance at DFW may discourage competition for both foreign and domestic routes and it leaves the area susceptible to industry changes that could touch on everything from air routes to airline ownership.



In summary, the de facto economic development strategy of the Dallas/Fort Worth region has relied heavily on its geographic location. As a long-term approach, this leaves Dallas vulnerable to changes in technologies, political forces and transportation patterns. Other cities that relied on location to drive economic growth include St. Louis, Buffalo and New Orleans. Cities such as New York City, Boston and London that build an internationally competitive economy seek educational attainment, innovation and long-term wealth accumulation and do not rely on their location to drive their success.

ForwardDallas! Vision and Forecast

In order to better understand the relation between employment, housing and land use in Dallas, a number of employment and land use scenarios were developed for the city. Scenario modeling was used in the forwardDallas! process because of its ability to demonstrate the impact of different approaches to future development. These scenarios represent alternatives for the city's future growth, which participants used in eight community workshops and two citywide workshops. From citizen input at these workshops, several future growth scenarios were developed and studied. Each of these was systematically evaluated and modeled. The best ideas and most pertinent strategies were used to create a forwardDallas! Vision Scenario.

Based on City workshops, interviews with local business leaders, and national and regional trends, the scenarios were narrowed to a single employment forecast for Dallas, which underlies the forwardDallas! Vision.

Forward Dallas! Vision forecasts about 400,000 jobs being added in the city by 2030. Like national trends, most of this growth is concentrated in the service sector, with manufacturing showing an overall decline in employment.

Within the service sector, healthcare and social assistance will show the largest gain, representing one out of every five new jobs added. The addition of 84,000 jobs in this industry reflects national demographic shifts as well as the changing nature of the healthcare industry, such as increases in testing and the move to home healthcare. Because of the substantial projected employment gains and the existing cluster of healthcare institutions in Dallas, this Economic Element recommends targeting the healthcare industry for recruitment, expansion and retention efforts.

Employment in high-end service industries is also expected to increase significantly in the city during the forecast period. The finance and insurance sector—jobs that are traditionally focused in the central business district—is forecast to add about 45,000 jobs, roughly one in 10 jobs created during the next 25 years or so. Other high-end service sector employment increases include professional and technical services (30,000) and information (20,800).

Employment in transportation and warehousing, the sector that includes logistics operations, is also forecast to show significant gains, adding more than 11,000 jobs by 2030. Anticipated job growth, coupled with the city's available land and transportation networks, makes this sector a target for economic development initiatives.

Table 20: ForwardDallas! Employment Forecast by Major Industry Sector

Industry Sector	Net Change 2005-2030	% of Total Net Change
Healthcare & Social Assistance	84,000	21.0%
Accommodation & Food Service	58,000	14.5%
Finance & Insurance	44,800	11.2%
Administrative & Waste Mgmt. Services	39,200	9.8%
Professional & Technical Services	30,000	7.5%
Construction	29,600	7.4%
Information Services	20,800	5.2%
Personal Services	19,200	4.8%
Wholesale Trade	16,400	4.1%
Local Government	15,200	3.8%
Transportation & Warehousing	11,200	2.8%
Real Estate & Rental/Leasing	7,600	1.9%
Retail Trade	7,600	1.9%
Management of Companies & Enterprises	6,400	1.6%
Educational Services	6,400	1.6%
Arts, Entertainment, & Recreation	2,400	0.6%
Federal Government	1,600	0.4%
State Government	1,200	0.3%
Agriculture, Forestry, Fishing & Hunting	0	0.0%
Utilities	0	0.0%
Manufacturing	-400	-0.1%
Total Military Personnel	-400	-0.1%
Mining & Related Activities	-800	-0.2%
Total Employment	400,000	100.0%

Sources: TIP Strategies, Inc.; Economy.com; ESRI

This is a forecast and what actually happens in a city is often a function of many events—local, regional and national. The goals and policies outlined in this element, in concert with those presented elsewhere in the plan, provide a roadmap for achieving these targets.

Forward Dallas! Vision Target Industries

Based on the economic assessment and the forwardDallas! Vision, the following industry targets will be emphasized in this assessment: healthcare, logistics and technology-intensive industries.

Healthcare

Access to primary and emergency health care is an important quality of life consideration for residents and businesses. But increasingly, it is seen as an economic driver and employment center. A cluster of



healthcare facilities, especially when coupled with research hospitals and medical schools, provides an important source of stable, high-paying jobs in many metropolitan areas.

As manufacturing employment declines in the U.S., cities are becoming increasingly reliant on the healthcare industry as a source of stable employment and tax revenue. While the vast majority of the nation's high-powered research hospitals tend to be not-for-profit facilities that generate no local property taxes, their indirect tax potential is hidden in terms of outsourced services, supplies and equipment, as well as the private-sector spinoff companies that evolve from medical research.

Dallas has excellent medical facilities with national reputations in selected medical fields. According to annual rankings by *U.S. News & World Report*, Dallas/Fort Worth hospitals rank in the Top 20 nationwide in the following specialties: orthopedics (9), heart and heart surgery (10), hormonal disorders (10), gynecology (11), kidney disease (12), ear, nose, and throat (12), digestive disorders (15), rheumatology (15), rehabilitation (16), neurology and neuroscience (18), and urology (20).

The city's healthcare cluster is dominated by the nonprofit UT-Southwestern Medical Center, Baylor University Medical Center and Texas Healthcare Resources. The atmosphere of cooperation and competition that these three entities provide makes for a more dynamic labor pool where new ideas and concepts can be cross-pollinated, tested and implemented. UT-Southwestern is the crown jewel of the regional healthcare industry and has the potential to be a catalyst for a wide range of productive medical research, testing and development in the coming years.

Dallas lacks a major healthcare complex, such as Houston's world-renowned Texas Medical Center. The current concentration of research institutions in the Southwestern Medical District along Harry Hines Boulevard could be the foundation for such a development. This long-term goal would require a high degree of collaboration between the City and the existing institutions, as well as substantial involvement by the city's philanthropic community. Developing an area plan would be an important first step.

Employment

Hospitals make up the largest share of healthcare employment in the city, accounting for slightly more than one-quarter of the total jobs in the industry. However, an analysis of location quotients reveals that hospital employment in Dallas is slightly less concentrated than in the nation as a whole: general medical and surgical hospitals have an LQ of 0.92; psychiatric and substance abuse hospitals, 0.99; and specialty except psychiatric and substance abuse hospitals, 0.84.

Within the healthcare industry, the highest LQ (2.06) was found in home healthcare services, with employment at levels twice that of the national average. Other places where Dallas has a specialization relative to the U.S. include: offices of physicians, 1.46; offices of other health practitioners, 1.56; medical and diagnostic laboratories, 1.20.

Table 21: Estimated Healthcare Employment, 2005

NAICS	Description	City of Dallas (Estimated)		Texas		U.S.
		Emp	LQ	Emp	LQ	Emp
62	Health Care & Social Services	96,790	1.05	1,060,519	0.99	14,584,213
6211	Offices of Physicians	19,661	1.46	160,889	1.03	2,125,642
6212	Offices of Dentists	5,456	1.09	48,243	0.83	787,051
6213	Offices of Other Health Practitioners	5,301	1.56	40,674	1.04	534,057
6214	Outpatient Care Centers	2,031	0.71	21,585	0.65	450,879
6215	Medical and Diagnostic Laboratories	1,436	1.20	14,194	1.02	189,035
6216	Home Health Care Services	10,236	2.06	168,632	2.93	782,692
6219	Other Ambulatory Health Care Services	1,046	0.77	10,282	0.66	212,754
6221	General Medical and Surgical Hospitals	24,286	0.92	254,341	0.83	4,152,370
6222	Psychiatric and Substance Abuse Hospitals	574	0.99	6,008	0.89	91,509
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals	826	0.84	8,652	0.76	154,105

Sources: Economy.com; ESRI; TIP Strategies

With the exception of doctors' offices, most healthcare jobs that have been added recently have been lower-wage jobs (e.g., vocational rehab, social services). Hospitals, clinics and institutes, by contrast, saw declines in employment during the period. Shift-share analysis suggests that local factors were responsible for these losses.

Table 22: Shift-Share Analysis for Healthcare and Key Subsectors in Core Employment Region (I), 2000-2005

NAICS	Description	National Shift	Industry Shift	Local Shift	Total Shift
62	Health Care and Social Assistance	+1,897	+26,595	+5,538	+34,030
6211	Offices of Physicians	+338	+5,025	+4,945	+10,307
6212	Offices of Dentists	+143	+1,972	-3,432	-1,317
6213	Offices of Other Health Practitioners	+112	+2,395	-3,367	-860
6214	Outpatient Care Centers	+65	+1,042	-1,738	-631
6215	Medical and Diagnostic Laboratories	+35	+571	-1,483	-877
6216	Home Health Care Services	+180	+4,146	-3,654	+672
6219	Other Ambulatory Health Care Services	+35	+779	-1,279	-465
6221	General Medical and Surgical Hospitals	+595	+6,026	-8,205	-1,584
6222	Psychiatric and Substance Abuse Hospitals	+13	+79	-63	+29
6223	Specialty (except Psychiatric and Substance Abuse) Hospitals	+20	+500	-585	-64

Sources: U.S. Bureau of Labor Statistics, U.S. Census Bureau, U.S. Bureau of Economic Analysis, Economy.com, TIP Strategies
(1)Total of Dallas, Tarrant, Collin, and Denton Counties

A review of recent employment trends reveals little difference in industry pay scales between Dallas and Fort Worth. Earnings for new hires were separated by less than \$50 per month between the two markets in the first quarter of 2004, with new workers earning slightly less in Dallas (\$2,328) than in Fort Worth (\$2,371). Monthly pay for all healthcare workers was, however, slightly higher in Dallas than in Fort Worth, with average monthly earnings at \$3,520 and \$3,421, respectively.

Table 23: Quarterly Workforce Indicators, 2004 Q1

SELECTED STATISTICS	NAICS 62: HEALTH CARE & SOCIAL ASSISTANCE, 2004 Q1		
	DALLAS PMSA	FORT WORTH PMSA	TEXAS
Average Monthly Earnings	\$3,520	\$3,421	\$2,889
Average New Hire Earnings	\$2,328	\$2,371	\$1,947
Job Creation	+7,749	+3,730	+50,081
Net Job Flows	-2,105	-374	-8,904
New Hires	24,546	12,101	163,269
Separations	30,290	13,882	198,389
Total Employment	172,941	75,741	1,085,634
Turnover	11.3%	10.8%	11.2%

Source: Quarterly Workforce Indicators, U.S. Census Bureau

Key Occupations

The healthcare industry includes workers in a broad range of occupations with those in diagnostic and treatment fields receiving the highest pay. Experienced chiropractors earned an average of \$76.24 per hour in Dallas in 2004. The lowest wages go to those in personal service and maintenance fields. Entry-level wages for personal & home care aides, one of rapidly growing occupations in the region, averaged just \$5.92 per hour in 2004. In contrast, starting pay for registered nurses averaged \$19.43 per hour during the same period, with experienced RNs earning an average of \$28.37.

Table 24: Selected Healthcare Occupations (Ranked by Average Hourly Wage in 2004)

Occupation	Average Hourly Wage Dallas PMSA, 2004		
	Average	Entry-Level	Experienced
Physicians & surgeons	<i>not available</i>	<i>not available</i>	<i>not available</i>
Chiropractors	\$60.55	\$29.17	\$76.24
Physical therapists	\$35.47	\$23.11	\$41.65
Medical & health services managers	\$31.32	\$21.30	\$36.33
Dental hygienists	\$28.62	\$19.12	\$33.37
Registered nurses	\$25.39	\$19.43	\$28.37
Medical & clinical laboratory technologists	\$23.34	\$17.94	\$26.04
Radiologic technologists & technicians	\$22.19	\$16.11	\$25.22
First-line supervisors/managers of office & administrative support workers	\$21.92	\$13.96	\$25.90
Physical therapist assistants	\$19.70	\$11.83	\$23.63
Physical therapist aides	\$16.09	\$8.53	\$19.86
Mental health & substance abuse social workers	\$15.86	\$11.87	\$17.86
Dental assistants	\$14.44	\$10.86	\$16.24
Emergency medical technicians & paramedics	\$14.30	\$9.20	\$16.86
Billing & posting clerks & machine operators	\$14.01	\$11.03	\$15.50
All other healthcare support workers	\$13.34	\$9.91	\$15.06
Medical secretaries	\$13.04	\$10.16	\$14.48
Medical assistants	\$12.04	\$10.11	\$13.01
Receptionists & information clerks	\$11.53	\$8.52	\$13.04
Social & human service assistants	\$10.64	\$5.87	\$13.02
Nursing aides, orderlies, & attendants	\$9.69	\$7.19	\$10.95
Home health aides	\$8.04	\$6.00	\$9.05
Maids & housekeeping cleaners	\$7.70	\$5.93	\$8.59
Personal & home care aides	\$6.93	\$5.92	\$7.44

Sources: U.S. Bureau of Labor Statistics; Texas Workforce Commission; TIP Strategies

Site Location Factors

The cost structures for both major sectors analyzed, ambulatory healthcare services and hospitals, nursing, and residential care facilities, are quite similar. Labor is by far the greatest cost for the healthcare industry, accounting for about half of all identifiable costs in 2003. The following categories round out the top five in both sectors: real estate, administrative and support services, chemical products and miscellaneous professional, scientific and technical services. Together, these five categories account for 59 to 68 percent of total costs. Taxes on production make up a relatively small share of costs in the healthcare industry because many of these organizations are nonprofit. Site selection factors that support healthcare development include proximity to other medical facilities, labor availability and the amount of research in the area.

Table 25: Top 10 Identifiable Input Costs as a Share of Total Output in Key Healthcare Subsectors, 2003

	AMBULATORY HEALTH CARE SERVICES		HOSPITALS, NURSING, & RESIDENTIAL CARE FACILITIES	
	Rank	Share of Total Output	Rank	Share of Total Output
Labor costs	1	46.9%	1	50.4%
Real estate	2	4.5%	2	8.1%
Administrative & support services	3	3.7%	3	4.0%
Chemical products	4	2.2%	4	3.2%
Misc. professional, scientific & technical services	5	2.1%	5	2.4%
Misc. manufacturing	6	2.0%	10	1.6%
Food services & drinking places	---	---	6	2.1%
Legal services	7	1.6%	7	1.9%
Other ambulatory health care services	8	1.6%	---	---
Broadcasting & telecommunications	9	1.4%	8	1.8%
Plastics & rubber products	10	1.1%	9	1.8%

Sources: U.S. Bureau of Economic Analysis; TIP Strategies

Logistics

Once known as “warehousing and distribution,” logistics, the process of moving goods to market, has evolved significantly in recent years. What was once a matter of simply storing large quantities of goods and shipping them in bulk when end-users placed orders is now an increasingly sophisticated science that seeks to minimize inventories and respond to the growing demand for next-day—or even several-times-a-day—delivery. Shifts within the industry have been accelerated by global trade, containerization and standardized packaging, just-in-time (JIT) inventory management, outsourcing of delivery services and increased technological capabilities. The result has been a heightened emphasis on economies of scale leading to “superhub” distribution locations.

Business Facilities magazine recently ranked Texas as the number one state for logistics industry growth, citing its central location, extensive infrastructure, and competitive wage scale and transportation costs. Along with Southern California, Northern New Jersey, Chicago and Atlanta, Dallas-Fort Worth is one of a handful of “superhub” locations in the U.S. for warehousing, distribution and wholesaling activities. Within a one-day drive of the Mexican border, the D-FW web of interstate highways and rail crossings has made it a favorite distribution location for NAFTA trade. Like many states, Texas has also seen dramatic increases in trade with Asia. As a result, increasing traffic at the Port of Houston and Texas border crossings has opened up opportunities for Dallas to capture a larger share of the state’s trade and encouraged the creation of an inland port.

In addition to being a good fit for the region, the logistics industry provides some of the advantages once attributed to manufacturing. Logistics has well-defined skill ladders with opportunities for advancement based on experience and on-the-job learning. The industry’s ability to provide relatively good paying jobs for unskilled workers, coupled with the city’s central location and availability of relatively affordable industrial land, makes logistics a logical target for Dallas, particularly for the Southern Sector.

The Dallas area is home to a number of logistics-related employers: Yellow Freight System (550 employees); Watkins Motor Lines (500); Lundy Services (320); Con-Way Southern (275); Vari-Lite



(275); and Advo (250). In addition, the Dallas area has a substantial cluster of air transportation-related employers because of DFW International Airport, Love Field and smaller facilities such as Hensley Field and Dallas Executive Airport.

The City established an Agile Port System Task Force and in April 2005 signed a Memorandum of Understanding with the Port of Houston Authority and the U.S. Maritime Administration to establish Dallas as an inland port for Houston. The Port of Manzanillo has also sought an agreement with the City to establish Dallas as Manzanillo's preferred inland port. A Friendship and Cooperation Protocol was signed between the parties in August 2005 to begin the process of developing a container trade route from the Port of Manzanillo to the Port of Dallas. ForwardDallas! includes a plan to site intermodal facilities in the city.

Employment

The city has strong job offerings in sectors that interface with logistics, primarily transportation and wholesale trade. In fact, these industries make up a somewhat higher share of total employment in the city than they do in the county. This is particularly notable, too, considering that two of the primary areas in Dallas County that are important to logistics—DFW and the Great Southwest Industrial District—are outside city limits.

The transportation and warehousing sector, which includes both freight and passenger activities, currently employs more than 132,000 people in the Dallas-Fort Worth area. Another 168,000 people work in wholesale trade, for a total of slightly more than 300,000 transportation- and logistics-related jobs in the region and represents about one-third of all employment in these sectors statewide. Within the estimated 37,000 transportation and warehousing jobs in Dallas, generalized freight trucking is the largest, representing about 11,600 jobs. Wholesale trade accounts for an estimated 71,000 jobs.

This employment cluster is reflected in the above average location quotients for the industry. Dallas's employment levels are significantly above the national average in both transportation (LQ of 1.36) and warehousing and wholesale trade (1.95) sectors. Within the various subsectors, even greater strengths emerge. For example, employment in nonscheduled air transportation comprises more than eight times the share of total employment in the city of Dallas than it does in the nation as a whole. Other subsectors where Dallas has a high concentration of employment include other support activities for transportation (7.82); paper and paper product merchant wholesalers (4.12); and electrical and electronic goods merchant wholesalers (3.71).

Despite its strength in both transportation and warehousing and wholesale trade, the Dallas-Fort Worth area still showed job losses in both sectors in recent years. A shift-share analysis of the region's core employment centers (Dallas, Tarrant, Collin and Denton counties) reveals that much of the employment decline was from changes within specific subsectors of the industry. In many cases, the job losses reflect the shift to a more capital-intensive approach to distribution activities. In other words, as logistics firms employ more technological innovations, they require fewer workers and the jobs that remain typically require higher skills. For other industries, job losses are a reflection of the economic downturn and other macroeconomic factors.

Table 26: Estimated Employment in Logistics and Selected Subsectors, 2005

NAICS	Description	City of Dallas (Estimated)		Texas		USA
		Emp	LQ	Emp	LQ	Emp
48-49	Transportation & Warehousing	37,340	1.36	348,531	1.10	4,309,901
4811	Scheduled Air Transportation	2,760	0.92	59,379	1.71	472,331
4812	Nonscheduled Air Transportation	2,495	8.15	7,582	2.14	48,212
4821	Rail Transportation	515	0.38	16,084	1.03	212,914
4841	General Freight Trucking	11,585	1.87	71,251	0.99	974,516
4842	Specialized Freight Trucking	4,173	1.58	31,182	1.02	416,860
4881	Support Activities for Air Transportation	579	0.64	12,229	1.17	141,577
4882	Support Activities for Rail Transportation	138	1.06	467	0.31	20,410
4884	Support Activities for Road Transportation	1,464	3.28	6,471	1.25	70,331
4885	Freight Transportation Arrangement	571	0.50	17,195	1.31	178,752
4889	Other Support Activities for Transportation	1,623	7.82	15,103	6.28	32,686
4931	Warehousing & Storage	3,834	1.10	26,018	0.65	547,057
42	Wholesale Trade	71,178	1.95	475,191	1.12	5,749,467
4231	Motor Vehicle/Parts & Supplies Merchant Whslrs	3,363	1.51	26,047	1.01	350,262
4232	Furniture & Home Furnishing Merchant Whslrs	1,938	2.79	10,068	1.25	109,421
4233	Lumber & Other Constr Materials Merchant Whslrs	2,162	1.35	19,919	1.07	252,508
4234	Prof. & Commercial Equip & Supplies Merch Whslrs	12,636	2.99	68,385	1.40	666,710
4235	Metal & Mineral (except Petroleum) Merchant Whslrs	1,988	2.56	11,940	1.33	122,541
4236	Electrical & Electronic Goods Merchant Wholesalers	8,142	3.71	30,798	1.21	345,511
4237	Hardware/Plumbing/Heating Equip & Supplies Merch Whslrs	2,971	1.98	19,043	1.09	236,747
4238	Machinery, Equipment, & Supplies Merchant Whslrs	5,663	1.33	67,164	1.36	672,921
4239	Miscellaneous Durable Goods Merchant Wholesalers	3,210	1.84	19,017	0.94	275,032
4241	Paper & Paper Product Merchant Wholesalers	3,878	4.12	10,888	1.00	148,285
4242	Drugs & Druggists' Sundries Merchant Wholesalers	2,312	1.66	15,792	0.98	219,596
4243	Apparel, Piece Goods, & Notions Merchant Whslrs	1,205	1.24	6,255	0.56	152,752
4244	Grocery & Related Product Wholesalers	7,451	1.73	51,638	1.04	678,218
4246	Chemical & Allied Products Merchant Wholesalers	1,668	1.90	14,508	1.43	138,148
4249	Misc Nondurable Goods Merchant Wholesalers	2,569	1.10	23,435	0.86	368,849
4251	Wholesale Electronic Markets & Agents & Brokers	8,349	1.90	50,463	0.99	693,141

Sources: Economy.com; ESRI; TIP Strategies

Table 27: Shift-Share Analysis for Logistics and Key Subsectors in Core Employment Region (I), 2000-2005

NAICS	Description	Change in Employment			
		National Share	Industry Share	Local Share	Total Change
48-49	Transportation & Warehousing	+1,211	-4,053	-2,973	-5,815
4811	Scheduled Air Transportation	+401	-7,402	+278	-6,723
4812	Nonscheduled Air Transportation	+41	+274	+243	+557
4821	Rail Transportation	+7	-64	+274	+217
4841	General Freight Trucking	+248	-1,210	-369	-1,332
4842	Specialized Freight Trucking	+87	+461	-766	-217
4860	Pipeline Transportation	+4	-71	+34	-32
4881	Support Activities for Air Transportation	+45	-88	-186	-229
4882	Support Activities for Rail Transportation	+2	+1	+76	+78
4884	Support Activities for Road Transportation	+20	+89	+558	+666
4885	Freight Transportation Arrangement	+26	-44	-433	-452
4889	Other Support Activities for Transportation	+24	+246	-1	+269
4931	Warehousing & Storage	+72	+397	+43	+513
42	Wholesale Trade	+1,622	-6,747	-2,046	-7,171
4231	Motor Vehicle & Motor Vehicle Parts & Supplies Merchant Wholesalers	+88	-226	-1,151	-1,289
4232	Furniture & Home Furnishing Merchant Wholesalers	+41	-310	-150	-419
4233	Lumber & Other Construction Materials Merchant Wholesalers	+59	+604	-335	+327
4234	Professional & Commercial Equipment & Supplies Merchant Wholesalers	+285	-2,516	-2,715	-4,947
4235	Metal & Mineral (except Petroleum) Merchant Wholesalers	+36	-598	+1,067	+505
4236	Electrical & Electronic Goods Merchant Wholesalers	+197	-3,959	+1,869	-1,892
4237	Hardware, & Plumbing & Heating Equipment & Supplies Merchant Wholesalers	+68	-355	+204	-83
4238	Machinery, Equipment, & Supplies Merchant Wholesalers	+165	-1,369	-1,389	-2,593
4239	Miscellaneous Durable Goods Merchant Wholesalers	+75	-422	+355	+9
4241	Paper & Paper Product Merchant Wholesalers	+61	-1,070	+2,299	+1,290
4242	Drugs & Druggists' Sundries Merchant Wholesalers	+58	+803	-473	+387
4243	Apparel, Piece Goods, & Notions Merchant Wholesalers	+29	-217	-437	-625
4244	Grocery & Related Product Wholesalers	+152	-398	-140	-386
4245	Farm Product Raw Material Merchant Wholesalers	+7	-93	+670	+584
4246	Chemical & Allied Products Merchant Wholesalers	+34	-61	+521	+494
4247	Petroleum & Petroleum Products Merchant Wholesalers	+15	-149	-47	-181
4248	Beer, Wine, & Distilled Alcoholic Beverage Merchant Wholesalers	+22	+180	-62	+140
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	+66	-208	-467	-609
4251	Wholesale Electronic Markets & Agents & Brokers	+165	+1,903	+48	+2,116

Sources: U.S. Bureau of Labor Statistics, U.S. Census Bureau, U.S. Bureau of Economic Analysis, Economy.com, TIP Strategies
 (1)Total of Dallas, Tarrant, Collin, and Denton Counties

An analysis of recent employment trends in the industry reveals differences both between the two major sectors (transportation and warehousing and wholesale trade) and between the Dallas and Fort Worth areas. Of the two sectors considered in this analysis, monthly earnings were highest in wholesale trade, with Dallas workers in this sector earning more on average than their Fort Worth counterparts (\$5,507 versus \$4,323) and well above the state average of \$4,757.

By contrast, transportation and warehousing workers in Fort Worth earned more on average than Dallas workers in this industry (\$4,104 versus \$3,402). This figure, which is significantly below average earnings

for all workers in the Dallas PMSA (\$4,708 per month), is most likely a reflection of the logistics industry’s shift toward Tarrant County, leaving older, more obsolete facilities in Dallas. Entry level wages in the industry are comparable between the two metropolitan areas. Entry level workers in both cities, however, earn less than the average for all transportation and warehousing workers in the state. For wholesale trade, entry level workers earn significantly more in Dallas than in Fort Worth (\$3,830 versus \$3,202).

Table 28: Quarterly Workforce Indicators, 2004 Q1

SELECTED STATISTICS	NAICS 48-49: TRANSPORTATION & WAREHOUSING			NAICS 42: WHOLESALE TRADE		
	DALLAS PMSA	FORT WORTH PMSA	TEXAS	DALLAS PMSA	FORT WORTH PMSA	TEXAS
Average Monthly Earnings	\$3,402	\$4,104	\$3,649	\$5,507	\$4,323	\$4,757
Average New Hire Earnings	\$2,472	\$2,485	\$2,909	\$3,830	\$3,202	\$3,347
Job Creation	+2,985	+1,573	+16,189	+6,215	+2,074	+26,346
Net Job Flows	-43	-3,961	-8,358	+645	+531	+5,349
New Hires	10,261	5,331	48,438	14,165	4,717	57,567
Separations	11,764	10,295	65,215	15,302	4,785	60,344
Total Employment	78,258	54,237	359,146	128,987	39,056	462,026
Turnover	9.1%	10.7%	10.7%	7.7%	8.2%	8.3%

Source: Quarterly Workforce Indicators, U.S. Census Bureau

Despite the fact that transportation and warehousing workers in Fort Worth earned significantly above the state average for the industry (\$4,104 versus \$3,649), the turnover rate of 10.7 percent was similar to the state’s. By contrast, job turnover in this sector in Dallas is a relatively low 9.1 percent. Turnover is also lower in Dallas’ wholesale trade sector, just 7.7 percent versus 8.3 percent for the state as a whole. This is likely a reflection of the high earnings potential of this sector in Dallas.

Key Occupations

The broad definition of logistics used here covers a range of occupations. Within each subsector, the occupational mix is driven by sector-specific occupations, such as reservation and transportation ticket agents and travel clerks, which account for almost one in five jobs in the scheduled air transportation subsector. However, there are occupations that are common across the industry, particularly within the activities most traditionally related with logistics. For example truck drivers, (both truck drivers heavy and tractor-trailer, and truck drivers, light or delivery services) appeared in the top ten occupations for the following subsectors. The number represents percentage of employment these two occupations represent.

- General freight trucking: 59.7 percent.
- Specialized freight trucking: 54.3 percent.
- Freight transportation arrangement: 13.1 percent.
- Warehousing and storage: 5.9 percent.

- Other transit and ground passenger transportation: 2.8 percent.

Other occupations found in a number of subsectors of the logistics industry include: laborers and freight, stock and material movers, hand; general and operations managers; first line supervisors/managers (various); and office clerks, general.

Table 29: Selected Logistics Occupations (Ranked by Average Hourly Wage in 2004)

Occupation	Average Hourly Wage Dallas PMSA, 2004		
	Average	Entry-Level	Experienced
General & Operations Managers	\$49.20	\$22.57	\$62.52
Accountants & Auditors	\$29.15	\$18.40	\$34.52
First-Line Supervisors/ Managers of Production & Operating Workers	\$22.84	\$14.52	\$27.00
First-Line Supervisors/ Managers of Office & Administrative Support Workers	\$21.92	\$13.96	\$25.90
Truck Drivers, Heavy & Tractor-Trailer	\$18.07	\$11.97	\$21.13
Executive Secretaries & Administrative Assistants	\$17.61	\$13.02	\$19.90
Bookkeeping, Accounting, & Auditing Clerks	\$14.96	\$10.76	\$17.06
Customer Service Representatives	\$14.86	\$10.51	\$17.04
Maintenance & Repair Workers, General	\$13.95	\$9.13	\$16.35
Truck Drivers, Light or Delivery Services	\$12.31	\$7.18	\$14.87
Shipping, Receiving, & Traffic Clerks	\$12.18	\$8.80	\$13.87
Office Clerks, General	\$11.76	\$8.04	\$13.62
Stock Clerks & Order Fillers	\$10.48	\$7.38	\$12.02
Laborers & Freight, Stock, & Material Movers, Hand	\$9.42	\$6.45	\$10.91
Packers & Packers, Hand	\$8.90	\$5.99	\$10.36

Sources: U.S. Bureau of Labor Statistics; Texas Workforce Commission; TIP Strategies

Site Location Factors

An analysis of the industry's cost structures reveals that labor costs dominate the bottom line in almost all aspects of the logistics industry. As a percentage of total output, labor costs ranged from a low of 12.5 percent for those in the water transportation subsector to 49.5 percent of total output for warehousing and storage.

Taxes represent another area of concern for most businesses. In the logistics industry, it's the wholesalers that pay the most in taxes as a share of their total output. Related subsectors of the logistics industry have a different tax picture because of a combination of slim profit margins, subsidies and tax breaks.

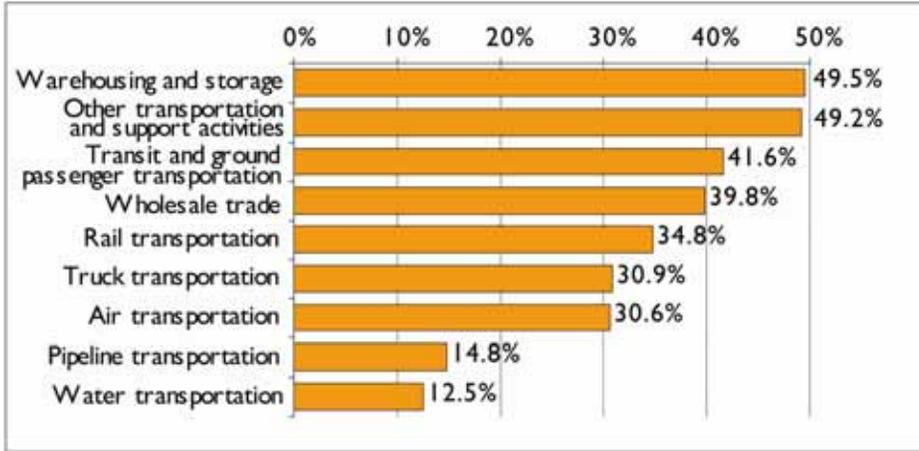
Other inputs that ranked in the top ten across the industry include miscellaneous professional, scientific and technical services; petroleum¹ and coal products; administrative and support services; miscellaneous transportation and support activities; and wholesale trade. These costs generally represented less than 10 percent of total output and, in most cases, less than 5 percent.

Other factors impacting site location decisions in the logistics industry include: proximity to major manufacturers; proximity to suppliers and customers; tax advantages; quality of the potential workforce;

¹ Recent changes in fuel costs may have substantially altered the percentage of output that petroleum represents.

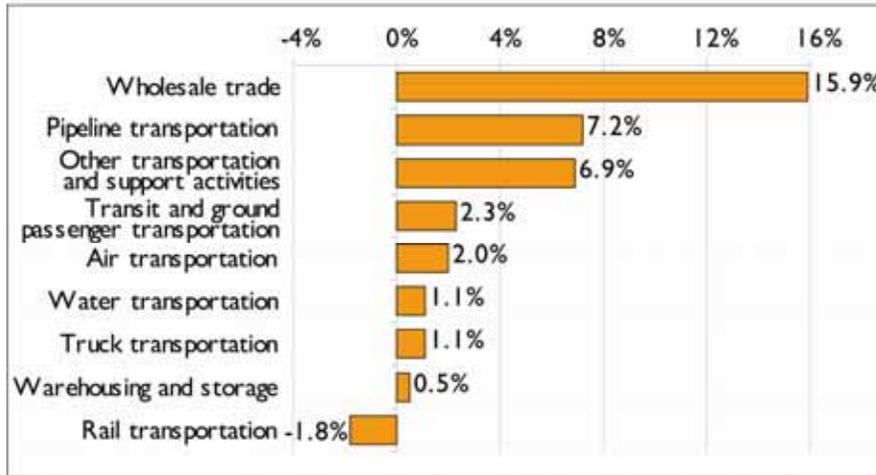
access to a good selection of transportation providers; quality of available real estate; weather and other environmental issues; quality of a market’s transportation infrastructure.

Figure 10: Labor Costs as a Share of Output



Source: U.S. Bureau of Economic Analysis, TIP Strategies

Figure 11: Taxes (less subsidies) as a Share of Total Output



Source: U.S. Bureau of Economic Analysis, TIP Strategies

Technology-Intensive Industries

Dallas is home to a broad range of technology-intensive industries with a deep labor pool of technically skilled workers. This includes information technology-related manufacturing, with about 22,000 jobs in industries such as computer and peripheral equipment manufacturing, communications equipment manufacturing and semiconductor and other electronic component manufacturing. Texas Instruments, with about 7,800 employees at its headquarters on North Central Expressway, is the largest private employer within the city. TI is also a significant research facility, generating more than one-quarter of the patents issued in metropolitan Dallas in the 1990s. The company’s decision to locate its \$3 billion semiconductor manufacturing plant in the Dallas area adds to the region’s strengths. The information and



professional and technical services sectors, important components of an information technology cluster, are also significant sources of employment in Dallas.

Vought Aircraft's operations at Hensley Field also offer an opportunity to build on the technology demands of the aerospace industry. Vought's facilities at Hensley include the company's headquarters and many of its research and testing functions. In addition to Vought, the region includes a number of other companies in this industry, such as Lockheed Martin, Bell Helicopter and Raytheon. As a result, aerospace product and parts manufacturing was included as part of this analysis.

The common theme for technology-related companies is often occupational. Regardless of industry, these companies employ programmers, engineers and technicians whose skills can be applied across a number of areas—from software to semiconductors to wireless communications. While the Dallas-Fort Worth area lacks strong specialization in one particular technological field, the region's skilled labor pool is a key consideration for new, expanding or relocating companies. Other assets include the excellent engineering programs at University of Texas-Dallas, as well as the region's excellent cargo and passenger air service.

Given this base, targeting technology-intensive industries makes sense for a number of reasons. Innovative industries are dynamic and provide new growth opportunities. While this often translates into turnover, this "job churn" is an increasingly important part of a market's vitality. This is particularly true in technology-related industries, where most of the core occupations are high wage and require skilled workers.

Perhaps the most important reason to focus on technology-intensive industries and companies is cross-platform applications. This convergence of telecommunications with semiconductors and computers, as well as with software and advanced manufacturing and logistics, signals the advent of entirely new products and services. Existing companies are developing new products that have cross-platform applications (i.e., applications that are functional in previously unrelated systems) and new companies are emerging to serve these applications. As a result, the relation between technology-intensive companies in Dallas is likely to grow and the importance of the cluster is apparent. This bolsters plans to recruit and expand support for the most R&D intensive industries in the region as well as those that have the highest number and percentage of technically skilled workers.

Employment

Technology-related employment is strong throughout the region, with local concentrations strongest in telecommunications (both services and equipment manufacturing) and in semiconductors. Of the industries analyzed, semiconductor and other electronic component manufacturing has the highest level of employment within the city (more than 12,000 employees). Other strengths for Dallas include computer systems design and related services (11,600), wired telecommunications carriers (10,400), and aerospace product and parts manufacturing (5,000).

One of every 12 jobs in Texas is in the city of Dallas. The same ratio is true for manufacturing jobs. But for jobs in the information and professional services sectors, Dallas is home to one in every seven jobs statewide. The information sector includes establishments that transmit, distribute and process data or

provide the means to do so. This sector, which encompasses industries ranging from telecommunications to software publishers to Internet service-providers, employs about 31,000 people in Dallas. While this represents just 4 percent of the city’s employment, the city’s strong location quotient of 1.54 suggests that employment is much more concentrated in Dallas than in other parts of the nation.

When considered at the industry level, the strongest clustering of employment in the city is seen in semiconductors and telecommunications: semiconductor and other electronic component manufacturing (LQ of 4.12); communications equipment manufacturing (3.80); telecommunications resellers (3.44); and wired telecommunications carriers (2.97).

Table 30: Estimated Employment in Selected Information Technology and Related Industries, 2005

NAICS	Description	City of Dallas (Estimated)		Texas		USA
		Emp	LQ	Emp	LQ	Emp
31-33	MANUFACTURING	76,403	0.84	887,381	0.84	14,376,088
3341	Computer & Peripheral Equipment Manufacturing	854	0.61	21,469	1.32	220,789
3342	Communications Equipment Manufacturing	3,833	3.80	18,778	1.61	158,931
3343	Audio & Video Equipment Manufacturing	105	0.46	619	0.23	35,881
3344	Semiconductor & Other Electronic Component Manufacturing	12,093	4.12	53,456	1.57	462,032
3345	Navigational, Measuring, Electromedical, & Control Instruments Manufacturing	2,488	0.91	19,399	0.61	431,732
3346	Manufacturing & Reproducing Magnetic & Optical Media	488	1.58	2,332	0.65	48,548
3364	Aerospace Product and Parts Manufacturing	4,954	1.79	44,668	1.39	436,646
51	INFORMATION	31,518	1.54	233,899	0.99	3,213,909
5112	Software Publishers	2,974	1.88	17,984	0.98	249,822
5171	Wired Telecommunications Carriers	10,374	2.97	59,612	1.47	549,922
5172	Wireless Telecommunications Carriers (except Satellite)	2,344	1.82	12,718	0.85	203,007
5173	Telecommunications Resellers	2,980	3.44	16,946	1.69	136,526
5174	Satellite Telecommunications	133	1.18	837	0.64	17,731
5175	Cable & Other Program Distribution	507	0.59	5,282	0.53	135,585
5179	Other Telecommunications	—	0.05	797	1.31	8,279
54	PROFESSIONAL, SCIENTIFIC, & TECHNICAL SERVICES	65,001	1.46	468,767	0.91	7,030,940
5415	Computer Systems Design & Related Services	11,598	1.54	71,820	0.82	1,189,481
—	All Industries	866,689		10,035,860		136,508,192

Sources: Economy.com; ESRI; TIP Strategies

A downturn in technology industries in recent years has dampened job growth in this sector. A shift-share analysis of technology employment shows that local factors specific to Dallas-Fort Worth contributed to job losses. For example, communications equipment manufacturing shed almost 13,000 jobs during the 2000 to 2005 period. Shift-share analysis suggests that about 10,000 of those jobs were lost because of conditions affecting the industry as a whole, while another 3,200 were the result of specific issues in the local economy. By contrast, Dallas offers particular advantages in semiconductor and other electronic component manufacturing, with more than 1,500 jobs attributable to this factor.

Recent employment trends show that average monthly earnings for all manufacturing workers are comparable between Dallas and Fort Worth, with workers earning \$4,862 and \$4,747, respectively in the first quarter of 2004. However, new hires did better in the manufacturing industry in Dallas, earning an average of \$1,200 per month more than in Fort Worth.

In other sectors more clearly tied with technology, the disparity between Dallas and Fort Worth is even more apparent. Average monthly earnings for workers in the information sector in Dallas were more than \$1,400 above average earnings in Fort Worth. This sector also illustrates a revealing trait of some aspects of technology industry jobs, that is the value placed on those entering the industry. During the first quarter of 2004, new hires in the information sector in Dallas earned more on average (\$7,328) than all workers in the sector at that time (\$6,052). This likely reflects the higher demand for these kinds of workers, given their higher concentration in the Dallas area. There are 87,000 information sector jobs in the Dallas metropolitan area versus just 18,535 in Fort Worth.

Table 31: Shift-Share Analysis for Selected Information Technology and Related Industries in Core Employment Region (I), 2000-2005

NAICS	Description	Change in Employment			
		National Share	Industry Share	Local Share	Total Change
31-33	MANUFACTURING	+3,113	-56,425	+2,274	-51,038
3341	Computer & Peripheral Equipment Manufacturing	+24	-688	+181	-482
3342	Communications Equipment Manufacturing	+267	-10,038	-3,165	-12,937
3343	Audio & Video Equipment Manufacturing	+3	-96	+90	-3
3344	Semiconductor & Other Electronic Component Manufacturing	+360	-12,041	+1,555	-10,126
3345	Navigational, Measuring, Electromedical, & Control Instruments Manufacturing	+94	-1,042	-113	-1,061
3346	Manufacturing & Reproducing Magnetic & Optical Media	+10	-241	+342	+110
3364	Aerospace Product and Parts Manufacturing	+293	-4,933	+6,166	+1,526
51	INFORMATION	+1,171	-14,893	-9,854	-23,576
5112	Software Publishers	+98	-513	-2,294	-2,709
5171	Wired Telecommunications Carriers	+355	-8,705	-159	-8,510
5172	Wireless Telecommunications Carriers (except Satellite)	+98	+922	-4,770	-3,750
5173	Telecommunications Resellers	+107	-3,990	+959	-2,924
5174	Satellite Telecommunications	+5	-80	-45	-120
5175	Cable & Other Program Distribution	+31	+314	-1,062	-717
5179	Other Telecommunications	+0	-1	-14	-15
54	PROFESSIONAL, SCIENTIFIC, & TECHNICAL SERVICES	+1,549	+5,404	-23,660	-16,707
5415	Computer Systems Design & Related Services	+349	-2,204	-7,676	-9,531

Sources: U.S. Bureau of Labor Statistics, U.S. Census Bureau, U.S. Bureau of Economic Analysis, Economy.com, TIP Strategies
(1)Total of Dallas, Tarrant, Collin, and Denton Counties

The professional, scientific and technical services sector is also an important source of job creation as illustrated in Table 32.

Table 32: Quarterly Workforce Indicators, 2004 Q1

SELECTED STATISTICS	NAICS 31-33: MANUFACTURING			NAICS 51: INFORMATION			NAICS 54: PROF., SCIENTIFIC, & TECHNICAL SERVICES		
	DALLAS PMSA	FORT WORTH PMSA	TEXAS	DALLAS PMSA	FORT WORTH PMSA	TEXAS	DALLAS PMSA	FORT WORTH PMSA	TEXAS
Average Monthly Earnings	\$4,862	\$4,747	\$4,427	\$6,052	\$4,631	\$4,962	\$5,625	\$4,265	\$4,954
Average New Hire Earnings	\$4,416	\$3,167	\$3,260	\$7,328	\$3,561	\$5,110	\$3,928	\$2,646	\$3,492
Job Creation	+8,792	+3,555	+38,802	+2,701	+646	+8,595	+11,449	+5,036	+45,565
Net Job Flows	-76	+31	+3,373	-2,097	-423	-9,515	+4,908	+3,172	+18,955
New Hires	18,814	8,971	89,507	6,922	1,716	24,653	23,406	8,206	91,321
Separations	22,301	10,147	101,892	10,279	2,415	37,955	21,581	6,843	88,086
Total Employment	203,694	98,589	897,685	87,000	18,535	243,848	124,605	30,476	462,242
Turnover	7.6%	7.1%	7.1%	12.3%	8.2%	12.1%	11.7%	12.2%	11.0%

Source: Quarterly Workforce Indicators, U.S. Census Bureau

Key Occupations

Not surprisingly, engineers were among those most in demand within the industries analyzed. According to the latest forecast from the U.S. Bureau of Labor Statistics, occupations in electronics equipment manufacturing including computer hardware and semiconductors will continue to face net job losses in the coming years. However, many of the same occupations will face better prospects in the service-oriented tech industries. With the glaring exception of fixed-line telecommunication services, most of the service-oriented tech sectors are expected to gain jobs across occupations.

Of the leading technology occupations analyzed, engineering managers in all industries had the highest average hourly wages at \$51.67. Other high-wage occupations among technology-intensive industries include computer and information systems managers (\$49.92); aerospace engineers (\$39.25); computer hardware engineers (\$38.66); computer software engineers, systems software (\$37.94). Assembly jobs represent the lower end of the spectrum with average wages of roughly \$11 to \$12 per hour. Experienced assemblers do not see a huge advantage, with these occupations earning an average of just \$13 to \$14 per hour.

Despite a dismal national outlook for technology-related occupations in some fields, the local outlook in Dallas is somewhat brighter. According to data from the Texas Workforce Commission, engineering and computer-related occupations should add jobs in both Dallas and Fort Worth in the coming years. Entry-level wages are high in these occupations and the opportunity for earnings growth is good. With the growth of technology industries, sales and office jobs are often added in even greater numbers than engineering and computer-related positions. Earnings in these less-skilled positions are more modest, but earnings growth potential over time is encouraging, given the current spread between entry-level and experienced-worker wages.

Table 33: Selected Information Technology Occupations (Ranked by Average Hourly Wage in 2004)

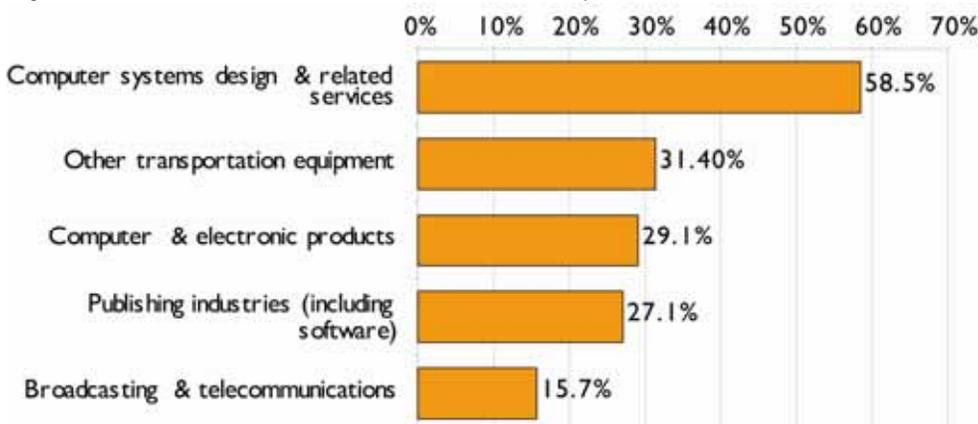
Occupation	Average Hourly Wage Dallas PMSA, 2004		
	Average	Entry-Level	Experienced
Engineering Managers	\$51.67	\$34.71	\$60.15
Computer & Information Systems Managers	\$49.92	\$32.90	\$58.42
Aerospace engineers	\$39.25	\$28.53	\$44.61
Computer Hardware Engineers	\$38.66	\$24.55	\$45.71
Computer Software Engineers, Systems Software	\$37.94	\$25.98	\$43.93
Electrical Engineers	\$37.86	\$27.36	\$43.11
Electronics Engineers, Except Computer	\$37.19	\$27.61	\$41.98
All other engineers	\$37.12	\$26.94	\$42.21
Mechanical Engineers	\$35.78	\$25.00	\$41.17
Computer Programmers	\$35.62	\$23.08	\$41.88
Computer Software Engineers, Applications	\$34.64	\$22.35	\$40.79
Computer Systems Analysts	\$33.87	\$23.47	\$39.06
Industrial Engineers	\$33.43	\$24.45	\$37.93
All other computer specialists	\$32.06	\$17.42	\$39.38
Network & Computer Systems Administrators	\$30.67	\$21.88	\$35.07
Electrical & Electronic Engineering Technicians	\$24.23	\$17.87	\$27.41
Computer Support Specialists	\$22.70	\$14.24	\$26.94
Electrical & Electronic Equipment Assemblers	\$12.23	\$8.87	\$13.91
Electromechanical Equipment Assemblers	\$11.65	\$8.30	\$13.33
Team Assemblers	\$11.06	\$7.47	\$12.86

Sources: U.S. Bureau of Labor Statistics; Texas Workforce Commission; TIP Strategies

Site Location Factors

For technology-related companies that manufacture equipment, labor costs are typically one of the bigger items in the budget. Still, as a share of total output, labor costs are surprisingly low for electronics manufacturing, software publishing, other transportation equipment (which includes aerospace), and—especially—telecommunications services. Only for data and systems design services do labor costs exceed 50% of total output. Professional and technical services represent another factor common to many of the industry segments analyzed. Coupled with in-house labor costs, it becomes clear that availability of skilled labor is an overriding concern for technology-related industries. Because of the importance placed on talent, quality of place considerations are an important factor in developing technology-intensive industries.

Figure 12: Labor Costs as a Share of Total Outputs



Source: U.S. Bureau of Economic Analysis, TIP Strategies



Summary of Findings

Improving the city's competitive position is a major focus of the Economic Element within the forwardDallas! Comprehensive Plan with emphasis placed on Dallas' success in relation to its suburbs, which have the resources and organizational capacity for business recruitment. Several proposals will help address these challenges: continued attention to the Downtown; redevelopment in the Southern Sector; and the success of signature projects—such as the Trinity River Corridor and Victory development. The City also must redefine itself within the region, acting as a leader in economic growth.

Although the role of economic development has been greatly expanded in recent years, efforts must continue to focus on business and industry. The retention and expansion of existing business coupled with targeted recruitment remain paramount to the city's economic vitality. This will allow the city to recapture its economic standing in the region. The City will have to direct its resources at particular industry targets linked to specific sites.

Dallas enjoys many development opportunities, such as the Trinity River Corridor project, transit-oriented development around current and future DART stations, and protecting and reenergizing the city's remaining industrial areas. Reinvigorating the Downtown so it can achieve a certain critical mass is a major effort that will undoubtedly require City involvement. However, these and other “catalyst projects” must be undertaken with an eye toward the implications for business growth and must be prioritized based on feasibility and impact.

Texas's reliance on retail sales tax as a funding mechanism for economic development has direct consequences for Dallas. While the City is not eligible to adopt the economic development sales tax, its neighbors are, resulting in the aggressive pursuit of retail by the suburbs. The loss of retail growth to the suburbs has impacts on Dallas commensurate with the loss of manufacturing or technology jobs. Where workers spend their money matters—maybe as much or more than where their primary job is based. The City must develop a retail strategy that restores the Downtown retail environment, creates unique shopping venues throughout the city and introduces new retail opportunities to the Southern Sector.

Tied closely to Dallas's economic status is the question of image. Current marketing efforts have failed to position Dallas favorably against its suburbs. A Dallas business address was once a “must have” symbol of success. Today, companies are satisfied with a Dallas area office and many seek a suburban location. Anecdotal evidence suggests that the city is losing ground to the suburbs in tourism as well, as high-end accommodations and attractions are built in other parts of the region. Restoring Dallas' image as the driver of the region is an important aspect of this element.

A holistic approach to economic development recognizes the role of land use planning in creating quality of place. Successful economic development programs must rely on more than incentives and a low cost business environment. The answer to job and investment growth lies in creating an environment that meets the needs of workers and businesses alike. Providing room for the expansion and attraction of new



businesses must be balanced with providing housing options and amenities for the workforce to support those businesses.

Finally, implementing the Economic Element requires discussions of organizational considerations. Unambiguous channels for prospect management are essential for successful economic development. As such, roles and responsibilities in this area must be clearly delineated. Strategic Engagement 2005 (SE 2005) provides a framework for organizing the City's efforts in this area.