TEXAS REGIONAL OUTLOOK

Central Texas

JOHN SHARP
Comptroller of Public Accounts

A Report of the Comptroller's

FORCES OF CHANGE
PROJECT

COMPTROLLER OF PUBLIC ACCOUNTS
STATE OF TEXAS
AUSTIN, 78774

JOHN SHARP
Comptroller

Dear Fellow Texan:

This is the second year we have done *Regional Outlook* reports. This year, we've added an analysis of the historical forces that have shaped each region, as well as insights into the area's current and future population. We've also examined the region's present and future economic health, and identified which occupations and businesses are doing well now and which are poised for future growth.

Much of this new analysis comes from a major project we are working on at the Comptroller's Office entitled *The Forces of Change*. In February, Governor Ann Richards signed Executive Order 92-1 calling upon the Comptroller to undertake a sweeping study of the major issues likely to face the citizens of Texas over the next 35 years. It has been an eye-opener for us to look at these forces of change–those inevitable undercurrents of demographics, economics and social norms that already are beginning to shape the very nature of Texas.

Our 17 million residents and 7 million workers are engaged in a highly diversified economy with an output of more than $250 billion a year. It's important we know how Texas got where it is today, and where it is going tomorrow. How are these forces playing out in our state? What can we do to position ourselves to gain the greatest advantage in the times ahead?

One of the great strengths of this state has been its diversity: in land, in resources, in people. We have the wide open spaces, cattle and oil wells that outsiders think of when they think of Texas. But we also have three of the nation's 10 most populous cities, and more metropolitan areas than any other state. To learn about Texas, you have to find out about the incredible range of economic, social and cultural activity across the state. To know the whole, you have to figure out the pieces.

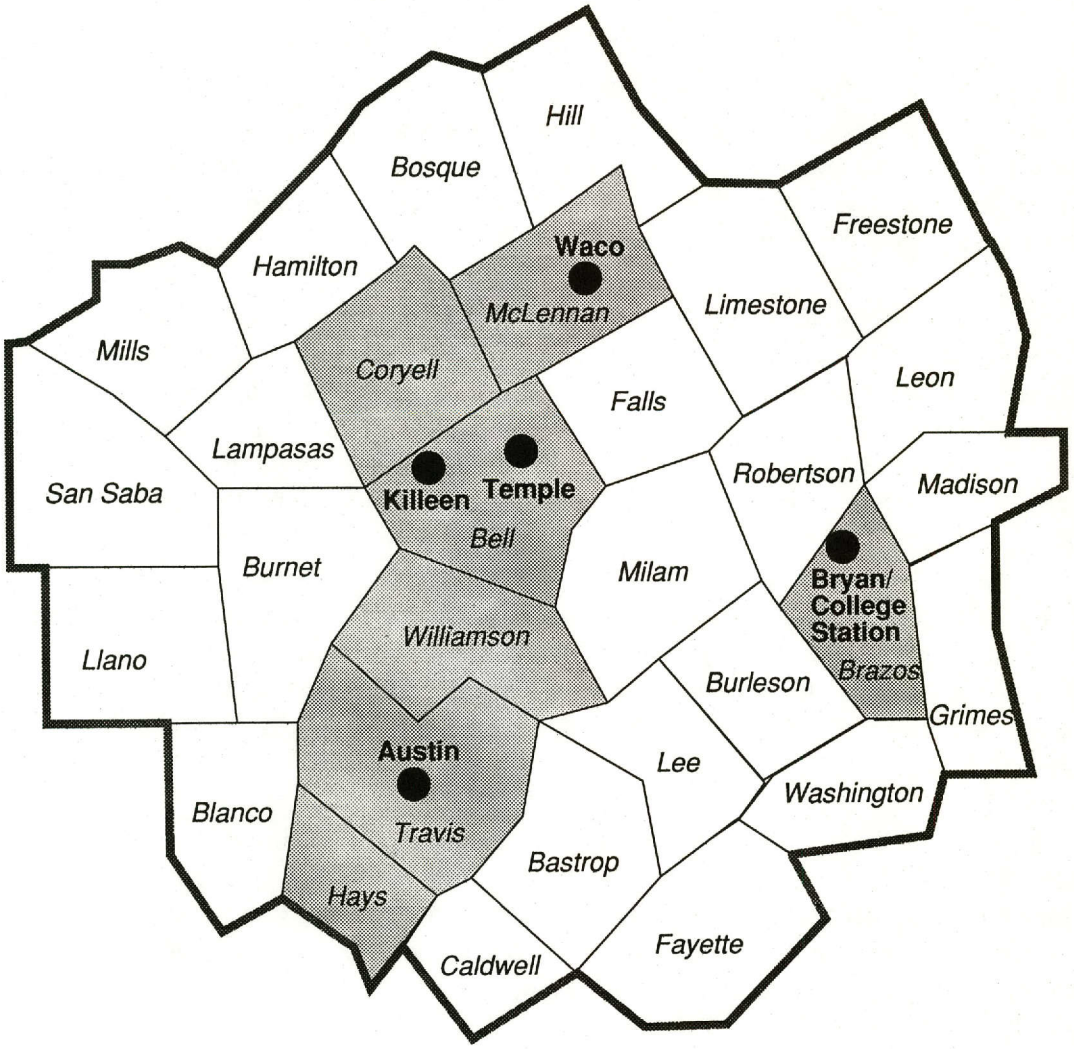
I hope you find this report informative, useful and thought-provoking.

Sincerely,

John Sharp

JOHN SHARP
Comptroller of Public Accounts

Central Texas
Counties and Metropolitan Areas



Shaded areas indicate Metropolitan Statistical Areas (MSA).

REGIONAL OUTLOOK: CENTRAL TEXAS

TABLE OF CONTENTS

Introduction

We are living in a time of change. More than ever before, the basic structures of our social and economic world—the market place, the family, the government—are undergoing transformations that will fundamentally alter the way we work and the way we live.

The world order that provided the political framework for more than a generation—two military superpowers with conflicting ideologies—has vanished virtually overnight. Now, economic powerhouses in Asia, Europe and America are waging war over market share, trade and jobs. Small businesses, as they contend with more and more regulations, have to worry about competitors around the world, not just around the corner.

Our cities seem under siege as we battle poverty, drugs and unemployment. Every day we hear more of teen pregnancy, adult illiteracy, job layoffs. The last generation's traditional family of a breadwinner, a housewife and two or three kids, has become a statistical oddity, the victim of financial pressures, stagnant wages and salaries, divorce and changing attitudes about the proper roles of men and women.

Future demographics meets the changing economy at the crossroads of the work force. Winners and losers in the new world economy will be less and less determined by who has what resources and more and more by who has what skills, technology and knowledge. All of this will be played out on a stage in which the environment will demand and receive much greater consideration.

Against this backdrop, state government will face increasing pressures to meet growing and changing needs. Federal, state and local governments are caught between insistent calls for better schools, human services and highways, and irate taxpayers tired of turning over a bigger and bigger chunk of hard-earned money to a growing bureaucracy. Government must be held accountable for efficiency and effectiveness.

Texas cannot sit back and watch as the world changes. We will change, too, like it or not. The question is, will we allow ourselves to be carried along willy-nilly, hoping for the best but fearing the worst? Or do we begin now to understand the forces shaping our future?

It is with this perspective that the Comptroller's Office has undertaken a sweeping study, *The Forces of Change.* Our state's 17 million residents and 7 million workers are engaged in a highly diversified economy with an output of more than $250 billion a year. We want to know how Texas got where it is today, and where it's going tomorrow. How are the forces of change playing out in our state? What can we do to position ourselves to gain the greatest advantage in the times ahead?

This report is one part of that project. Recognizing the diversity of Texas demands that we place the forces of change in a regional perspective. All of the forces of change will affect the entire state, but some will play out more prominently in different regions of Texas.

To address this diversity, this report will review the trends of change in the Central Texas region of the state. Reviewing the economic history and geography of Central Texas is a necessary precursor to understanding the current structure of, and ongoing changes in, the region's economy. Crucial in the economic future of the region will be the changing demographics and its subsequent effects on the labor force. The interplay of known economic trends and changing demographics yields a baseline forecast for the economic health of the region to the turn of the century.

Most importantly, against this forecast we can assess the likely impacts of key forces of change on the future of Central Texas. Of critical importance in this region will be improving work force skills to compete in a new world economy based less on natural resource endowments and more on the abilities of the labor force. At the same time, environmental concerns must be reconciled with economic pressures.

CENTRAL TEXAS

We can, with intelligence and foresight, come up with a plan to make the most of the new world now being created. Who "wins" and who "loses" in the 21st century has not yet been decided, but it is being decided today. The stakes are high, and the competition will be fierce. We will feel the results of this competition on our own standard of living, and how we fare will do much to determine what kind of world we will leave to our children. ✪

native tribes. After the drought, the alluvial soils of the region soon proved fruitful for the planter-colonists of the Austin settlement.

Other colonies made up mainly of immigrants from the Upper and Deep South soon followed and Anglo-American communities began sprouting throughout the area. The colonists brought with them the plantation system of agriculture, where hand labor typically supplied by slaves was used to cultivate a cash crop on a large area of land. The farming traditions of the South introduced the region to and extended the culture of cotton to Texas.

The economy of the small Anglo-American communities in the Central Texas region were also based on the trade of their agricultural products of beef and pork, but cotton was the chief money crop.

Texas' Declaration of Independence was drafted and signed at Washington-on-the-Brazos some fourteen years after Austin's colony was established. The new Republic of Texas consisted of a succession of plantations and farms carved out of the forested lands of the river valleys. Washington served as the commercial inland port for Central Texas with steam-powered paddle wheelers importing household and farming goods and exporting cotton and beef and beef by-products.

Before Texas won independence from Mexico in 1836, most of the 30,000 Anglo-American residents of the Republic lived within a 100-mile arc of Galveston Island. Independence did not change Texas dependence on farming and the barter system continued to substitute for money well into the 19th century.

After independence, however, the migration of Americans and Europeans into the region exploded and the Texas frontier's westward movement advanced to the Balcones Escarpment. In 1839, the government of the infant republic decided that the capitol should be in Austin, on the edge of settlement, to serve as a vision of western expansion and to accelerate migration to the west. The government also thought that moving the capitol to Austin would attract forts to provide protection against the Comanches.

By the time Texas became a state in 1845, most of the native tribes were on reservations and Anglo settlers took their place in most of Central Texas. After annexation, a stable environment combined with Texas' liberal land policies, contributed to a dramatic increase in the state's population.

Many of the new settlers of Central Texas were Europeans, primarily from Germany. In 1850, Germans outnumbered Mexicans in Texas. Immigration throughout the century left a band of German communities from the Gulf Coast to the Hill Country. The Hill Country area remains a distinctive part of Central Texas because of the achievements of the early German settlers and their descendants in prospering on the marginally productive land.

Many European immigrants came to Texas for economic and political reasons, while others came for religious freedom. Some settled in Lee County near Giddings on the Smithville-Houston Oxcart Road. Others settled in what are now the Central Texas counties of Fayette, Williamson, Coryell and Bell. Though many of the new settlers were farmers and ranchers, there were also merchants and professionals.

Agriculture

The Civil War severely disrupted Texas' cotton trade and thus the state's economy. Cotton continued to be grown but the Union blockade of the Gulf impeded export of the product. After the war, the large plantations were divided into smaller areas for tenant farmers or sharecroppers.

Cotton farming increased after the Civil War and began to spread rapidly up the river valleys of Central Texas. Soon textile mills were operating in the area. By 1868, the Bastrop Manufacturing Company, the oldest textile mill in the state, had 1,100 spindles producing 1,000 yards of cloth per day. The Waco Manufacturing Company had 1,000 spindles, with an 800 yard capacity.

The first commercial cottonseed-oil mill in Texas was built in High Hill, Fayette County, in 1867. At that time, cottonseed oil was primarily burned in lamps for light, although some was used in the manufacture of paints, soap and lubricants.

Though the planter system all but vanished after the Civil War, the rich soil of most of Central Texas was still productive. The cultivation of cotton continued, and farmers in the region began to diversify and plant crops such as corn and sorghum.

The advent of the railroad to Central Texas after the Civil War advanced the development of commercial agriculture and

Economic History and Geography

The key to understanding the development of Texas is the relationship of man to the land. The Central Texas region of the state, made up of 30 counties, is home of the birthplace of the Republic of Texas and has played a rich historical role in the establishment and development of the state. The richness of the forested river bottoms in the region led to the establishment of the first Anglo-American colony in Texas. Most of these original settlers were planters from the South. Cotton became the predominant money crop through the 19th century.

The geographic, cultural and economic diversities of Central Texas make this region unique in the state. The economy of the region has become a well-balanced blend of agriculture, natural resources, trade, government, education and industry.

Economic History

The Native American inhabitants of the Central Texas region in the 1700s and 1800s were the Tonkawa and Waco tribes. The tribes were hunters and gatherers with buffalo as the mainstay of their diets. The tribes were subgroups of the Wichitas who had migrated into Texas in the 17th and 18th centuries from the Great Plains. The Tonkawas and Wacos settled on the Brazos River near the present site of Waco.

By the mid-1800s, clashes with other tribes and frontier settlers, combined with disease brought by the Europeans greatly reduced the tribes' numbers. The receding range of the buffalo herds forced the tribes to hunt smaller game as the superior, mounted Comanche tribes controlled hunting grounds to the west.

The Comanches began migrating from the Great Plains into Texas in the 1700s. The tribes' diverse diets consisted of wild game and wild plants including bear, deer, longhorn cattle, grapes, currants, pecans and acorns. However, the most important element of their diet and their economic well-being was the buffalo. The products made from the buffalo provided the tribes with almost every essential including clothing, housing, tools, fuel for fire, food and food containers, and ceremonial accessories.

The tribes also engaged in trade with the Comancheros, New Mexicans who provided the Native Americans with arms and ammunition in exchange for livestock and other goods. This trading arrangement provided a profit incentive for the tribes' raids on frontier settlers, though the Comanches' primary motive was to prevent the colonists from settling on the tribes' traditional hunting grounds.

As the Western frontier approached the buffalo's range land that extended deep into Texas, the Plains tribes aggressively prohibited Anglos from settling in the western half of the state. Though the Comanches did not inhabit Central Texas, they frequently made raids there delaying widespread Anglo development.

Because the Comanches were nomadic, following the buffalo herds, they were more resistant to the European diseases that contributed to the decimation of many of the sedentary tribes in Texas. The legendary horsemanship skills of the Comanches allowed them to dominate the South Plains for more than a century.

In the early 1820s through the early 1830s, portions of several counties in the Central Texas region—Fayette, Washington, Bastrop, Lee, Burleson, Grimes and Brazos—were part of the first permanent Anglo-American colony in Texas. Stephen F. Austin of Missouri, established the colony along the Brazos River and the settlement became known as the Austin colony. The colonists suffered a devastating first year, weathering a drought and murderous attacks from the

- **The Central Texas region is marked both by cultural and economic diversity.**
- **Central Texas has a wide variety of natural resources.**
- **The region's public universities have fostered and supported growth and development in the high-technology industries.**

industry. The Houston and Texas Central (H&TC), laying rails northwest out of Houston, had reached Brazos County by 1860. Construction came to a standstill, however, until the war was over. In 1867, the rail line reached Bryan and in 1868 advanced to Hearne. Two years later, the tracks extended to Groesbeck and beyond. H&TC began laying tracks from Brenham toward Austin, reaching the capital city in 1871.

Before the railroads, many of the small subsistence farmers in the region had little incentive to plant more food crops than they could use themselves, since charges for shipping agricultural produce by wagon usually exceeded the market prices of the commodities. Families grew their own wheat and ground the grain into flour at small local mills.

After the railroads came, it was more economically feasible to buy less expensive flour from mills in the North, so local wheat growing declined. As freight rates fell, cotton farming increased and transformed the character of Central Texas agriculture from subsistence farming to a commercial agricultural system. Cotton, still the leading cash crop, was planted everywhere—plains, prairies, bottomlands and uplands.

It was not until the 20th century that many farmers switched from cotton to feed crops, due to erosion of the soil, boll weevil infestation and root-rot in the cotton plants. The area suffered from droughts during the national agricultural depression following WWI, and in the 1930s, three events—the Great Depression, the Dust Bowl years and mechanized cultivation—caused major changes in Texas' agricultural industry.

In Central Texas as in other areas, many of the tenant farmers moved to the cities and some of the fields were converted to pastures. The main cultivated crops of the region are feed crops—corn and grain sorghum, although some non-traditional crops have experienced some success.

Grape Cultivation and Wine

While Texas is not usually associated with grape cultivation or wine production, the industry has a 300-year history in the state, 100 years more than its California rival. Today, many counties in Central Texas have a significant amount of wine grape production.

Texas vineyards are important to the history of winemaking because in the mid-1800s vines from Texas saved the European wine industry. Disease in the 1860s and 1870s had all but destroyed the vineyards of France, Germany and Spain. Fortunately, a Texas agronomist, experimenting with hybrid grapes, developed a disease-resistant vine by grafting European vines onto those native to Texas. He shipped these hybrid grapevines to Europe and received the French Legion of Honor for his efforts.

The Central Texas region has several wineries processing Texas-grown grapes, and their tasting rooms and tours serve as tourist attractions for the area. These vineyards include Fall Creek, Messina Hof, Cypress Valley, Slaughter Leftwich and Hill Country Cellars.

Fall Creek Winery, located near Lake Buchanan, grows vinifera grape hybrids for its medal-winning wines. Bryan-College Station is the site of another award-winning establishment, Messina Hof Winery, named for Messina, Sicily and Hof, Germany. The winery combines the winemaking traditions of both these countries, and includes a tub of grapes for visitors to stomp as part of its tour. Cypress Valley is a small vineyard located in Blanco County, while Hill Country Cellars located near Cedar Park is one of the largest wineries in Texas.

Diversified Agriculture

Although cultivated crops are found west of the Balcones Escarpment, this area of Central Texas, part of the Hill Country, is usually associated with ranches and commercial livestock products including cattle, sheep, goats, wool and angora.

The Central Texas region produces a wide variety of commodities including cotton, cattle, grains, peaches, pecans, vegetables, sheep, poultry, hogs, wool, angora and dairy products. In addition to these major agricultural commodities, a number of specialty commodities are emerging. Several specialty items that may eventually become major contributors to the area's agricultural sector include soybeans, dwarf apples, blueberries, Christmas trees, exotic livestock, and aquaculture. Improvements in transportation combined with scientific and technological advances continue to increase the productivity potential of commercial farming throughout the area.

Although agriculture is important to the Central Texas economy, the region began diversifying its economy early in its history.

In 1900, 80 percent of the state's population was rural, and the majority were farmers. By 1930, less than 50 percent of the state's population were on farms and by 1940 only 30 percent. This precipitous decline of rural Texas saw population explosions for the urban areas, in Central Texas and across the state. This shift from rural to urban further diversified the economy of the region.

Austin

The first settlers in what became the city of Austin lived near the present day Congress Avenue Bridge in 1838, and called their community Waterloo. A commission charged with locating a site for the capital selected the city after President Mirabeau Lamar visited during a hunting trip and extolled Waterloo's virtues. In the autumn of 1839, the Republic completed construction of a capitol surrounded by an eight-foot stockade and ditch to protect it from Indian attacks, and Austin replaced Waterloo as the city's name.

The fear aroused by the continuing hostilities with Mexico prompted President Sam Houston to move the state government to Houston in 1842 and then to Washington-on-the-Brazos. Citizens of Austin protested the government's move, instigating the Archive War, in which they refused to relinquish the archives of the land office, forcing the government to return to Austin in 1845.

A fire destroyed the capitol in 1881, prompting the legislature to appropriate about three million acres of public domain to pay the construction costs of a new building. The state traded the acreage, which went on to become the famous XIT ranch in the High Plains region, to a group of Chicago businessmen. The capitol, constructed of granite from the Central Texas region, opened in 1888. The establishment of Austin as the seat of state government has led the federal government and corporations to locate offices and headquarters in the city. Government employment and spending remains an important element in the city's economy.

Industrialization grew in Austin from 1880, increasing the need for electric power, and in response forced the construction of a dam and power plant on the Colorado River. Flood waters destroyed the dam in 1900. The dam was rebuilt in 1912, but subsequent floods forced the construction of a series of river control dams on the Colorado, beginning in 1938. The resulting Highland Lakes have increased Austin's attractiveness to residents and tourists.

The military boosted Austin's employment during World War II with the construction of Bergstrom Air Force Base on land leased by the federal government from the city. More recently, the closing of Bergstrom this year has hurt the Austin economy, and the city is analyzing the possibility of using the former base as an airport.

Education is another important aspect of Austin as the city includes Austin Community College, Austin Presbyterian Theological Seminary, Concordia Lutheran College, Episcopal Theological Seminary of the Southwest, Huston Tillotson College, St. Edward's University and The University of Texas at Austin. Access to The University of Texas at Austin attracted high tech companies and later the establishment of MCC and Sematech. Today, high technology industries are a major driver of the city's economy.

Tourism has long been important to the city, first as the site of the capitol. Restoration and expansion of the capitol, estimated at $180 million, will continue through 1995. The plans call for the building to look as much as possible as it did in 1888, and upon completion, the capitol will be connected by tunnels to the Supreme Court, the John H. Reagan, Sam Houston and Texas Employment Commission buildings.

The city also has many museums including the Lyndon B. Johnson Library and Museum, the Texas Memorial Museum, the Texas Museum of Natural History and the University Art Museum. Several parks also attract tourists including the Wild Basin Preserve, home to the endangered golden-cheeked warbler and black-capped vireo. Zilker Park is the site of the famous Barton Springs swimming pool and Japanese, herb, xeriscape demonstration, rose and fragrance gardens.

Waco

Established in 1849, Waco was first named Waco Village after the Native Americans who previously lived at the site. The location of the town, near the junction of the Bosque and Brazos rivers, was an ideal place for a settlement. Texas Rangers first built Fort Fisher in 1837, but abandoned it shortly thereafter as the area was far from

College Station was also located on the Texas and New Orleans and the International-Great Northern Railroads, which allowed the city to develop as a trade center for the surrounding rural, agricultural area. The city was the site of the Agricultural and Mechanical College of Texas, which became Texas A&M University. The university remains the city's largest employer.

Public Universities

The Central Texas region contains the flagship institutions, Texas A&M University and The University of Texas at Austin, of the two largest Texas public university systems.

The University of Texas at Austin, originally the University of Texas, was the first public university created in the state. The Republic of Texas in 1839 allocated public lands for the university's support, but unfortunately none of these lands were appropriated at that time. In 1858 the legislature finally appropriated the land previously allocated along with $100,000 and a portion of other lands reserved to aid in building railroads, but the events surrounding the Civil War prevented Texas from building the university, delaying construction for over two decades.

The first public institution of higher education to exist physically in the state was the Agricultural and Mechanical College of Texas, created by legislation in 1871, with classes opening for about 40 students in the fall of 1876. The college was located along the Brazos River and offered a low-cost, liberal, practical education that emphasized agriculture and mechanical arts, while also including the general sciences, classics and military sciences.

Originally endowed with a federal grant of 180,000 acres of land script, the legislature designated the Agricultural and Mechanical College of Texas a branch of the University of Texas. The problem was that no University of Texas existed when the college was built and therefore it developed independently.

After the construction of The University of Texas in 1882, there was some confusion because now two independent schools existed, and the discovery of oil on land endowed to higher education created a problem. In 1923, when the Santa Rita discovery well produced a gusher on the West Texas lands endowed to education, a controversy arose regarding the claim of the Agricultural and Mechanical College to a portion of the oil lease royalties, which went into the Permanent University Fund (PUF). The courts resolved the controversy in 1934, granting the Agricultural and Mechanical College a one-third interest in the proceeds of the PUF.

By 1950, the legislature designated the Agricultural and Mechanical College of Texas the headquarters for the Texas Agricultural and Mechanical College System. The college was granted university status and renamed Texas A&M University in 1963. Today, Texas A&M University houses the flagship institution for a system that includes colleges, extension services and experiment stations.

In 1967 the Texas Legislature changed the name of the University of Texas to The University of Texas at Austin and made it the flagship component of the University of Texas System. The system includes many institutions of higher learning across the state and many organized research agencies, such as the Bureau of Business Research, W. J. McDonald Astronomical Observatory and the Balcones Research Center. Access to these facilities, along with those located at Texas A&M, attracts companies, especially high technology firms, that have a large investment in research and development.

High Technology Manufacturing

High technology industries usually include microchip, computer, electronics, communications and biotechnology firms, having a technology-oriented work force and extensive research and development efforts in common. In Texas, high technology research accompanied the increase in defense spending in the 1940s. For example, the Balcones Research Center, created in 1946, originally performed defense related research, which has evolved into high tech research.

The quality of research conducted at the flagship institutions of the state's university systems has attracted two research consortia to Central Texas. According to the Higher Education Coordinating Board in 1991, Texas A&M University ranked first and The University of Texas at Austin ranked second in terms of research expenditures at public institutions of higher education in Texas. The result of the research excellence of

civilization. In 1844, two brothers built a trading post and by 1849 the city had streets and sold lots.

Waco profited from its location and infrastructure as it became a market center, first for the plantations located in the Brazos Valley, and then for the cattle industry, due to the city's location on the Chisholm Trail. The longest suspension bridge in the world up to that time was built across the Brazos River in 1870, and the town's dominance as a trade center increased as the bridge was the only one crossing the river. Shortly thereafter came the railroads, first the Waco and Northwestern, then the Cotton Belt and finally the Missouri, Kansas and Texas.

One of the nicknames of early Waco was "Athens of Texas," in honor of the city's institution of higher learning. Waco Classical School, renamed Waco University, finally becoming Baylor University, was established in 1845. Today, the university, with an enrollment of over 11,000 students, is a major employer in Waco.

The James Connally Technical Institute, another institution of higher education, was created by Texas A&M University in 1965. In 1969, the legislature separated and renamed it the Texas State Technical Institute. In September 1991, the name of the school changed to Texas State Technical College (TSTC). The location in Waco is the largest of all the TSTC campuses in the state.

After 1945, the basic economy of Waco shifted from being mainly an agricultural market center to include industrial and commercial development. In the 1940s, the South's first great tire factory and a large, modern glass container plant were located in the city. Waco became a trade, manufacturing and agricultural processing center by 1975.

Tourism is an important industry in Waco. The Texas Ranger Hall of Fame, constructed in 1968 near the site of the original Fort Fisher, is an attraction, as is the Dr. Pepper Museum. The Dr. Pepper drink was created in Waco in the 1880s. The Cameron Park Zoo, scheduled to open in Spring 1993, will replace the Central Texas Zoo.

Temple/Killeen

The Gulf, Colorado and Santa Fe Railroad established the city of Temple in 1880, naming it for the railroad's chief construction engineer, B. M. Temple. Railroad workers were among the first town residents, attracting stores to the area, and when the city became a railroad division point in 1882, the increase in population attracted professionals such as doctors and lawyers. In the early decades of the 20th century, the town grew into one of the leading medical centers in the Southwest.

Tourism also provides some economic growth for Temple. The city was designated the "Wildflower Capital of Texas" in 1989, and is home to the Czech Heritage Museum. Temple houses the Railroad and Pioneer Museum in the restored vintage depot.

Killeen was another town on the Gulf, Colorado and Santa Fe Railroad system. Its establishment followed Temple's by two years. The town name was also derived from a railroad official, Frank P. Killeen. The town developed as a market center for the surrounding rural agricultural area, shipping cotton and grain. The addition of Camp Hood, renamed Fort Hood during World War II, increased the town's population and boosted the economy.

The fort, named for Confederate General John Bell Hood, is the home of the 3rd Armored Mobile Corps, the largest armored installation in the free world. The deactivation of the 2nd Armored Division and deployment to the Persian Gulf of the 1st Armored and 1st Cavalry divisions, which were stationed at Fort Hood, hurt the area's economy. More recently, the Defense Department has called Fort Hood its top fighting installation, and troop realignments that include moving the 5th Infantry Division Mechanized from Fort Polk to Fort Hood, back up this claim.

Bryan/College Station

Originally within the Austin Colony, establishment of Bryan occurred in 1865, when William Joel Bryan donated land along the Brazos River for the town to entice the railroads. The crossing of two railroads, the Texas and New Orleans and the International-Great Northern Railroads provided an early economic development boost.

The economy of the city is based on trade for the surrounding diversified agriculture, the educational institutions within its proximity—Texas A&M University and Allen Academy—and tourism. Hunting and fishing provide attraction to tourists year round and the Messina Hof Wine Cellars offers regular tours.

these educational facilities prompted the Microelectronic and Computer Technology Corporation (MCC) and Sematech to locate in Austin.

MCC, created in 1983, is the nation's first research consortium financed by private industry. The consortium includes 22 member companies and 50 associate members. Advanced Micro Devices, Hewlett-Packard and Digital Equipment Corporation are among the member companies and the State of Texas is an associate member. In 1988, Sematech, a $200 million electronics research consortium of 12 U.S. microchip manufacturers—including IBM, Motorola, Texas Instruments and Intel and the Pentagon—moved to Austin. Sematech's mission is to make the U.S. the world leader in semiconductor manufacturing.

The support provided by the university research centers and consortiums support and attract a host of high technology firms. For example, IBM Corporation is the largest private employer in Austin, and one estimate puts the number of high tech and software development companies in Austin at 450. Included among these firms are Dell Computers, a home-grown personal computer company, Motorola, Texas Instruments and 3M, which is headquartered in Austin.

Natural Resources

Natural resources have played an important role in the economy of Central Texas, and in honor of the abundance of minerals—gold, fluorspar, feldspar, graphite, magnesite, manganese, tungsten and vermiculite—the region is also known as the Central Mineral Region. These minerals usually exist in small deposits or are mined in limited quantities. Other resources mined in large quantities exist, however, and include building materials in the western and central parts of the region, while oil and natural gas production takes place in the eastern portion of the region.

Natural gas production from the Mexia field in Limestone County occurred as early as 1912, and oil was produced in minimal quantities until 1921. That year a gusher spouted oil over 100 feet in the air and produced 18,000 barrels per day. On the same day, another well blew in producing 24,000 barrels per day. In less than a week the population of Mexia grew tenfold from 4,000 to 40,000. Peak production of 33 million barrels occurred in 1922 and eventually the existence of the oil and natural gas deposits led to the discovery of the Austin Chalk formation underlying the region, as the source of these deposits. The Central Texas region continues to produce oil and gas, but the resource is declining.

Other natural resources of the Central Texas region include building materials such as granite, marble and limestone. Much of the building material quarried is the source of dimension stone or crushed stone for mixing, but the area also produces granite blocks. All the granite blocks used for the capitol came from Granite Mountain in Burnet County, which consists of an 866-foot dome of solid pink granite, covering 180 acres of land near the city of Marble Falls. Commercial development of the quarry began in 1882 when a railroad ran between the mountain and Marble Falls to carry granite for the capitol.

Lignite, a low rank coal, is another important mineral produced in the region. Before the arrival of oil and gas, lignite was a significant source of energy. Today, lignite, mined in Bastrop, Freestone, Grimes and Limestone counties, produces electricity for domestic and industrial use.

Geography

Central Texas comprises a confluence of geography, just as it does a confluence of cultures. Here, three of the five physiographic regions of the North American Continent, the Coastal Plains, Interior Plains and Great Plains meet. Several natural regions of Texas also come together in the Central Texas Region, including the Gulf Coastal Plains, Blackland Belt, Balcones Escarpment, Llano Basin and the Edwards Plateau. North of the Balcones Escarpment, the eastern half of the Llano Basin meets the Comanche Plateau.

The average annual rainfall of the Central Texas region ranges from 44 inches in the East to 30 inches in the West. Two major rivers, the Brazos and Colorado, cross the area, and the Edwards Limestone, Trinity Sands, Carrizo-Wilcox Sands and Gulf Coastal Sands aquifers provide drinking water. The many lakes and reservoirs of the region—including the seven Highland Lakes of the Colorado River, Buchanan, Inks, LBJ, Marble Falls, Travis, Austin, and Town—

CENTRAL TEXAS

provide recreation along with drinking water.

The land forms of the region range from gently sloping and rolling to the more rugged mesa landscape of the plateau region, with elevation between 250 to 2,000 feet above sea level. The mean annual temperature ranges from 66 to 70 degrees and the climate is subtropical humid or mild and wet in the East and subtropical subhumid mild winters and hot dry summers in the West. The growing season is approximately 230 to 270 days.

The Central Texas region ranges from a dark clayey loam in the East to an alkaline loam above limestone over the Edwards Plateau. Natural vegetation includes the two fingers of the Post Oak Belt in the eastern counties of the region, where post oak, hickory and other oaks grow among scattered prairie. Separating these fingers is a sliver of the Blackland Prairie where grasses including grama and bluestem grow among scattered oaks and mesquite. A wider area of Blackland Prairie is west of the Post Oak Belt.

In the southwestern portion of Central Texas the vegetation of the Edwards Plateau is prevalent and includes live oak, shinnery oak, red oak and juniper. The western area of the Central Texas region has Western Cross Timbers vegetation, which includes post oak, blackjack oak and prairie grasses.

Several state parks and wildlife areas and a fish hatchery are in Central Texas. Bastrop State Park, established in 1935, is famous for the "Lost Pines," an area of loblolly pines and hardwoods. Pedernales State Park, located along the Pedernales River in Blanco County and established in 1970, is home to nesting sites of the endangered golden-cheeked warbler. Inks Lake State Park, established in 1940, consists of over 1,200 acres in Burnet County on the Colorado River. Abundant wildlife roams the park, and Buchanan Dam, world's largest multi-arch dam, is located within six miles.

The wildlife areas include Granger Wildlife Management Area and Wild Basin Wilderness Preserve. Granger, with over 11,000 acres of grassland and bottom lands, and is home to mourning dove, quail, fox, squirrel, rabbits, pheasant and migrant birds. Wild Basin is a 220 acre Hill Country sanctuary for native plants, animals and birds, including the endangered golden-cheeked warbler and black-capped vireo. Burnet County is the site of Inks Lake National Fish Hatchery, which produces 800,000 channel catfish and largemouth and striped bass annually. ✪

Economic Structure and Trends

The distinctiveness of a regional economy can be expressed in terms of the ways in which it differs from other regions, the state and the nation. This section of the report will examine the economic structure and recent economic trends of Central Texas.

In broad terms the region shares with the state a large and growing service sector, and significant employment in retail trade. A government sector that is proportionally much larger than in the state and manufacturing industries which are unique to the region differentiate Central Texas from other parts of the state.

Broad Employment Trends in Central Texas

Overall employment in Central Texas has run counter to some of the trends that have impacted the state as a whole (See Figure 1). While most of the rest of the state was suffering following the crash in the state's oil industry in 1983, Central Texas continued to add jobs. The region was buffered from decline by its huge government sector and a flourishing high technology manufacturing industry. However, overbuilding in the region's metropolitan areas caused a real estate market collapse, and the economic woes of the rest of the state finally caught up with Central Texas. The region experienced employment declines in 1986-87. Stabilization in real estate combined with continued gains in manufacturing, government and services produced impressive job gains in Central Texas in the late 1980s and early 1990s. Employment in 1991 reached a record 699,800, a net gain of 57,800 jobs, or 9 percent over 1988 employment. During the last four years, employment grew by 7.0 percent in Texas and by 2.6 percent in the U.S. So, during the period 1988 to 1991, employment in the Central Texas region grew at a pace well ahead of the state and more than three times faster than in the nation.

Job growth in Central Texas has kept pace or been ahead of the state for the past decade. As a result, the region's share of statewide employment has risen since 1982, dipping only slightly in 1987-88.

With some variations, the largest employment sectors in Central Texas reflect the largest sectors statewide. Table 1 highlights the fact that the Central Texas region has a relatively larger government sector, and manufacturing that is on par with the state as a whole.

The importance of the service sector is evident. In fact, in both the region and the state, the largest employment gains over the past decade have occurred in the services sector. Between 1982 and 1991, Texas' service sector added more than 560,000 jobs, including 66,800 in Central Texas.

But services, by their nature, are provided locally, and are not export-oriented. In fact, the growth of services is mostly attributable to several trends driven by demand from inside the region.

Recent growth in services has been tied to the increasing complexity of the business environment. With the rise of the global economy, technology and regulation, businesses have come to rely more and more on independent firms for legal, accounting, data processing, consulting and many other services. Not surprisingly, business services is one area in which service growth has been concentrated.

Another area of prominent service growth for the state, and for Central Texas in particular, is health care. This trend has been driv-

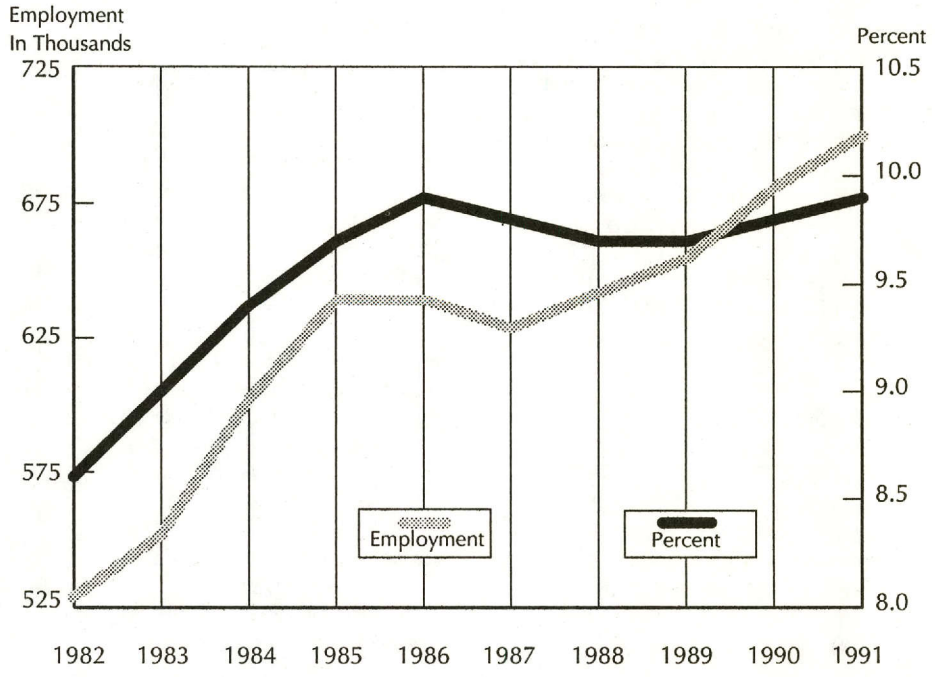
• Central Texas has a dominant government sector—boosted by military employment, state government and higher education—that is proportionally much larger than in the state as a whole.

• The region specializes in government, electronics, semiconductors and other technology-oriented manufacturing industries.

• Industries such as computers, business, health, and educational services and various retail establishments gained in competitive share from 1988 to 1991 and are likely to capture a large share of future job growth.

Figure 1

Central Texas Employment
Total and Percent of Statewide Employment



SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

en by the aging of the population as well as rising income and the rapid advancement of health care technology.

Finally, the large-scale entry of women into the work place has driven up household income and stimulated demand for such things as child care and cleaning services.

Areas of Specialization

One key to understanding a region's economy is to define the industries that drive income and employment growth. Typically, these industries sell their particular goods or services outside the region, thereby generating regional "export" income. While these industries may or may not be an area's biggest, they play a much larger role in the regional economy than in the state's or nation's.

One measure of this greater importance is the "location quotient" which expresses how large a local industry is relative to the national economy. Mathematically, the location quotient is defined as the percentage of the region's total employment that is accounted for by a particular industry, divided by the same industry's percentage share of total national employment. Thus, a location quotient greater than "1" means that the industry employs proportionally more people in the region than it does in the nation as a whole. Table 2 presents 30 industries in Central Texas whose share of total regional employment is more than two times larger than the industry's corresponding share of total national employment.

Government

Government employment makes up a much larger portion of Central Texas' employment base than in the state as a whole. The state capitol and state government operations in Austin, the presence of state universities in Austin, College Station, San Marcos and elsewhere, all boost the region's government employment. In addition, a large and growing military installation in Killeen adds to the size of the sector. Two government industry classifications top the list of areas of specialization in Central Texas. "Administration of Economic Programs" includes government employment that is classified as regulation or administration of transportation programs, regulation and inspection of commercial sectors, and regulation of agricultural commodities. "Environmental Quality and Housing" refers to government employment related to community development agencies, housing, waste management and environmental protection agencies.

Manufacturing

Central Texas' employment base is about as manufacturing-intensive as the state's economy, but less so than the nation. The region's manufacturing sector accounts for 13.5 percent of its total employment as compared with 13.9 percent statewide and 17 percent nationally. The region has numerous distinct and specialized manufacturing exports. Manufacturing in Central Texas is predominantly concentrated in the region's four metropolitan areas. Nearly 85 percent of all manufacturing employment in the region in 1991 was located in the Austin, Waco, Killeen-Temple and Bryan-College Station metropolitan areas.

Computers, Semiconductors and Other High Technology Industries

Central Texas is home to a strong and growing, highly specialized electronics and technology industry. Anchored by the location of two high technology research consortiums—MCC and Sematech—and large university research programs, the high tech sector in Central Texas has prospered. Computers and semiconductors rank high among the region's areas of specialization. Industry giants in computers and microchips like IBM, Texas Instruments, Motorola and Advanced Micro Devices have facilities in Central Texas. Recently, Apple Computer made a substantial investment in the region, locating a 400-person customer support center in Austin. Central Texas' computer and semiconductor sector is further buttressed by emerging industry leaders like Dell Computer, CompuAdd, Cypress Semiconductor and others.

High tech in Central Texas is not solely concentrated in computers and microchips. Manufacturers of fluid meters and counting devices, process control instruments, telephone apparatus, printed circuit boards and surgical appliances also thrive here.

Location Quotient and Shift Share Analysis

This section of the paper explores the structure of the region's economy and how it has changed over the past several years. More specifically, an analysis known as "location quotient" has been used to identify the unique structural components of the Central Texas economy. This technique compares an industry's proportion of employment in a region with its proportion in the nation's economy. This identifies areas of specialization in the Central Texas economy that "export" outside the region, thereby bringing in many of the dollars that flow through other sectors of the economy.

Merely examining structural concerns often misses important trends. To identify the dynamic components of the region's economy, a "shift share" analysis helps to point out the economic strengths and weaknesses. The technique decomposes the change in an economy over time into component parts. One part, the national growth component, explains the change in a region's employment growth that can be attributed to growth in the national economy. A second component, the industry mix, adjusts for the industries represented in the region, relative to the national economy. The final and key component is the competitive effect which points to industries for which the region has gained or lost competitive share in employment.

One criticism of the location quotient technique is that it offers only a static—or "snapshot"—view of an economy. The strength of location quotient analysis is that it highlights areas of regional specialization, but it does so only for a particular point in time. The shift share analysis, however, shows a broader picture of change in a regional economy over time. Shift share analysis points to industries that may be waxing or waning in terms of attractiveness and competitive advantage relative to other regions in the United States. Industries that gained in competitive share have been successful in grabbing a disproportionately large amount of the available pool of new employment generated in that industry over the time period in question. This indicates that the region is comparatively more attractive to the industry than other regions in the nation. In this way, the shift share analysis portrays a more dynamic view of change in an economy, and highlights industries that may continue to capture a large share of new growth in the future.

Table 1
Largest Industries
(Based on 1991 Employment)

Texas	% of Total	Central Texas	% of Total
Services	23.0%	Government	28.3%
Retail Trade	18.4	Services	22.6
Government	18.0	Retail Trade	17.8
Manufacturing	13.9	Manufacturing	13.5
Wholesale Trade	6.2	Finance, Insurance and Real Estate	5.2

SOURCE: Texas Employment Commission and Texas Comptroller of Public Accounts.

Other Manufacturing

Central Texas has some concentration of manufacturing related to its natural resources. Oil and gas production in Central Texas is centered around the Giddings Field, which stretches across the southeastern portion of the region. As a result, oil and gas equipment manufacturing and heavy construction are listed among the region's specialized industries.

In the western, hill country portion of Central Texas, mining of native stone is an important industry. Limestone—used for agricultural lime and road construction—and granite used for monuments and construction are prevalent. Regionwide employment in these industries is proportionally larger than in the nation as a whole.

Other construction-related manufacturing industries are located in Central Texas. Cement, bricks, blinds and shades and even mobile homes are well-represented industries. Primary aluminum is another area of specialization in the region.

Two Temple manufacturers—both of whom make school desks and chairs—have helped make furniture an area of regional specialization. Ice cream and candy are Central Texas specialties as well: candy maker M&M Mars in Waco and Blue Bell Ice Cream in Washington County have large operations that boost regional employment in these industries.

Areas of Comparative Advantage

Another key to understanding a region's economy lies in defining its growth industries. Growth is attributable to several different causes. Some growth in a region tends to be driven by national economic growth trends. Whether the mix of industries in a region reflects relatively faster or slower growing industries is yet another factor affecting regional employment trends. The most telling indicator, however, describes employment growth in a region that is related to the region's relative attractiveness. "Shift share" analysis provides such an indicator. The shift share technique identifies regional growth that is attributable to national growth and industry mix. The residual represents the growth in a region that has been generated by the region's ability to compete with other regions for their share of new jobs in an industry. A region that has gained in competitive share in a particular industry has been relatively more successful than other regions—or has exhibited a comparative advantage—in attracting jobs.

Services and Trade

Central Texas has a large and growing service sector. Business, health, and educational services are among the industries that gained the most in competitive share (see Table 3). Other services that gained in competitive share include social services and amusement and recreation services. Many service industries are driven more by demand from within the region than export potential to areas outside the region. However, educational services in Central Texas—centered around several large state

Table 2
Top 30 Areas of Specialization in the Central Texas Region Economy

Industry	Regional Employment in 1991	Location Quotient*
Administration of Economic Programs	6,034	37.6
Environmental Quality and Housing	4,878	19.7
Primary Aluminum	1,662	10.4
Lime	303	9.4
Laboratory Apparatus and Furniture	513	8.9
Computers	14,794	8.8
Public Building and Related Furniture	1,616	7.9
Semiconductors and Related Devices	8,516	5.7
Cut Stone and Stone Products	493	5.5
Minerals, Ground or Treated	453	5.2
Fluid Meters and Counting Devices	346	4.5
Brick and Structural Clay Tile	409	4.4
Jewelry, Precious Metal	935	3.9
Process Control Instruments	1,482	3.7
Candy and Other Confectionery Products	1,138	3.7
Fabricated Pipe and Fittings	561	3.5
Plastics Foam Products	1,112	3.5
Ice Cream and Frozen Desserts	497	3.4
Telephone Apparatus	2,516	3.3
Glass Containers	726	2.9
Oil and Gas Field Machinery	831	2.9
Mattresses and Bedsprings	492	2.7
Mobile Homes	648	2.6
Clay Refractories	105	2.6
Leather Goods	151	2.4
Printed Circuit Boards	1,440	2.3
Drapery Hardware, Blinds and Shades	293	2.2
Cement	259	2.2
Heavy Construction	10,355	2.2
Surgical Appliances and Supplies	1,323	2.2

*Figures above 1 indicate an industry in which the region specializes.

SOURCE: Texas Comptroller of Public Accounts.

Table 3
Top 30 Central Texas Industries Ranked by Gain in Competitive Share
(Based on change in employment from 1988 to 1991)

Industry	Regional Employment in 1991	Gain in Competitive Share*
Computers	14,794	6,764
Business Services	28,076	6,137
Health Services	59,769	2,754
Semiconductors and Related Devices	8,561	1,706
Eating and Drinking Places	46,445	1,547
Aircraft	1,864	1,496
Educational Services	96,330	1,396
Miscellaneous Retail	13,679	1,368
General Merchandise Stores	16,027	1,161
Social Services	24,377	1,084
Executive, Legislative and General Gov't.	9,359	1,048
Telephone Apparatus	2,516	976
Special Trade Contractors	13,940	898
Wholesale Trade-Nondurable Goods	13,244	878
Engineering and Management Services	17,441	743
Printed Circuit Boards	1,440	736
Real Estate	9,647	654
Insurance Agents, Brokers & Service	5,376	639
Communication	8,940	596
Amusement and Recreation Services	8,946	584
Nondepository Institutions	2,691	559
Coal Mining	1,149	552
Transportation by Air	2,170	545
Automotive Dealers	12,740	487
Agricultural Services	3,761	473
Environmental Quality and Housing	4,878	470
Furniture and Home Furnishings Stores	4,108	417
Primary Aluminum	1,662	402
Motors and Generators	700	401
Oil and Gas Extraction	3,301	396

*Represents employment growth from 1988 to 1991 that is attributable to the region's comparative advantage in the industry over other regions in the United States.

SOURCE: Texas Comptroller of Public Accounts.

and private universities and technical schools—tend to draw in dollars from outside the region in the form of student spending. In addition, some of the region's health care institutions—in particular Temple's Scott and White Hospital—are renowned for highly specialized treatment and draw many patients from outside the region.

Several retail trade industries appear to be gaining in competitive share. Central Texas generates a good deal of economic activity from retail transactions, boosted by student spending. As a result, eating and drinking places and general merchandise stores showed strong increases in competitive share. In addition, Central Texas automotive dealers, furniture and home furnishings stores and miscellaneous retail establishments increased their competitive share of employment between 1988 and 1991.

Wholesale trade of nondurable goods, a more export-oriented industry, is also among the strong gainers of competitive share. Employment in this industry is boosted by McLane Company, a large Temple-based grocery distributor.

Tourism and travel are boosting the export potential in the region's trade and services sectors. Tourism, like more traditional exports, brings in dollars from outside the region. In the Central Texas region, tourism and business travel-related expenditures topped $1.16 billion in 1989 (latest data available). Travel-related employment rose to more than 25,400 in 1989.

Other Industries

Several of the region's manufacturing industries added significant amounts of competitive share employment. High tech manufacturing is an important industry in Central Texas, and the region grabbed a large share of the jobs generated over the period 1988 to 1991. The region remained attractive for computers, semiconductor, telephone, printed circuit board and motor and generator manufacturers.

Aircraft manufacturing is also growing in importance in Central Texas. Waco is home to Chrysler Technology Airborne Systems which performs aircraft modifications, including installation of telecommunications equipment and navigation systems.

The region's once beleaguered construction and real estate markets have been on the mend since 1988. Some construction, real estate and related industries are included on the list of Central Texas region industries that gained in competitive share—in particular special contractors, engineering services and real estate.

Driven by more stable prices, oil and gas extraction in the Central Texas region added employment faster than other regions from 1988 to 1991.

Summary

What emerges from this analysis of specialization and change is a picture of a region with a strong government sector—spread among military bases, state government operations and state universities—providing support to other industries. Services, including education and health care, are also a large and growing area of specialization for the Central Texas region. Students at the region's several large educational institutions boost retail spending. In addition, university-related research helped spawn a now robust computer and microchip industry. Other high technology manufacturing industries continue to grow in importance here. ✪

Demographics

The 30 counties of Central Texas are in a period of transition. Examples of many of the demographic trends that have affected the state in recent years can be found throughout the region. The ethnic make-up of the region, for example, is rapidly becoming more diverse. Though Hispanics made up only a slight percentage of the population just a few decades ago, their growth rate is consistently the highest among ethnic groups. The percentage of Anglos in the region, on the other hand, has steadily declined in recent years, falling by almost 5 percent since 1980.

The state's aging population is another example. In the wake of the Baby Boom generation, birth rates in most parts of the state have declined. This, coupled with steadily increasing life-spans, has increased the age of the average Texan, a trend mirrored in Central Texas.

The region, however, differs from the state in other respects. Largely as a result of people relocating to the region from other areas of the state and nation, the population of the region has outpaced the state average by almost 50 percent during the last 10 years. These demographic trends will dramatically change the face of Central Texas in coming years.

Population Growth

According to the 1990 census, the Central Texas region has a population of 1,734,335, representing an increase of 28.1 percent since the 1980 census. This is significantly above the state's growth rate of 19.4 percent during the same period. Counties in the region, however, have experienced population swings that vary greatly from the region's norm. Of the region's 30 counties, 10 had population gains which exceeded the state average, but twice that number either suffered population declines or grew more slowly than the rest of state. There was also much disparity between the growth rates of rural and urban counties. While all but two urban counties exceeded the state average in population gain, only a handful of rural counties did.

During the 1980s, metropolitan counties in the region grew much faster than did non-metropolitan ones. The Central Texas region contains the metropolitan statistical areas (MSAs) of Austin, Bryan-College Station, Temple-Killeen and Waco. With the exception of McLennan and Coryell counties, each of the metropolitan counties that make up the various MSAs exceeded the state average for population growth.

Metropolitan areas throughout Texas tend to outpace the state average for population growth. The metropolitan areas of Central Texas exemplified this trend combining for a population growth of 32.7 percent for the decade of the 1980s. Of the 10 counties in the region which exceeded the state's growth average, five were metropolitan counties and the other five were adjacent to metro counties.

Williamson County, part of the Austin MSA, led the region, growing at a 82.4 percent clip. Williamson County's growth was only part of the picture that showed the Austin MSA grow at a pace of 45.6 percent and account for more than half of the total population additions for the entire region.

The Bryan-College Station MSA, made up of Brazos County, also showed strong

• Population growth in the Central Texas region has been significantly higher than the statewide average.

• As a result of rapid growth among Hispanics and slowing growth among Anglos, the region is becoming more ethnically diverse.

• Though the Central Texas population is growing older, compared to the state its population is comparatively young.

• Throughout the 1980s, personal income levels in the region trailed those of the state.

Table 4
Central Texas Population

County	Total 1980	Total 1990	Total Percent Change	Hispanic 1980	Hispanic 1990	Hispanic Percent Change	Anglo 1980	Anglo 1990	Anglo Percent Change	Black 1980	Black 1990	Black Percent Change	Other 1980	Other 1990	Other Percent Change
Bastrop	24,726	38,263	54.7	3,402	6,933	103.8	17,037	26,665	56.5	4,183	4,351	4.0	104	314	201.9
Bell	157,889	191,088	21.0	17,407	24,995	43.6	110,549	124,908	13.0	25,433	34,977	37.5	4,500	6,208	38.0
Blanco	4,681	5,972	27.6	432	840	94.4	4,159	5,038	21.1	77	56	-27.3	13	38	192.3
Bosque	13,401	15,125	12.9	701	1,430	104.0	12,320	13,320	8.1	294	312	6.1	86	63	-26.7
Brazos	93,588	121,862	30.2	9,455	16,713	76.8	71,989	87,139	21.0	10,267	13,409	30.6	1,877	4,601	145.1
Burleson	12,313	13,625	10.7	1,274	1,624	27.5	8,347	9,543	14.3	2,643	2,392	-9.5	49	66	34.7
Burnet	17,803	22,677	27.4	1,258	2,440	94.0	16,178	19,814	22.5	269	255	-5.2	98	168	71.4
Caldwell	23,637	26,392	11.7	7,790	9,988	28.2	11,768	13,547	15.1	3,811	2,675	-29.8	268	182	-32.1
Coryell	56,767	64,213	13.1	4,663	6,243	33.9	39,609	42,681	7.8	10,609	13,293	25.3	1,886	1,996	5.8
Falls	17,946	17,712	-1.3	1,690	2,072	22.6	11,363	10,843	-4.6	4,830	4,732	-2.0	63	65	3.2
Fayette	18,832	20,095	6.7	968	1,702	75.8	16,138	16,678	3.3	1,682	1,662	-1.2	44	53	20.5
Freestone	14,830	15,818	6.7	301	619	105.6	11,286	12,124	7.4	3,187	2,999	-5.9	56	76	35.7
Grimes	13,580	18,828	38.6	1,232	2,657	115.7	8,562	11,554	34.9	3,743	4,552	21.6	43	65	51.2
Hamilton	8,297	7,733	-6.8	177	403	127.7	8,079	7,284	-9.8	0	2	0.0	41	44	7.3
Hays	40,594	65,614	61.6	12,386	18,249	47.3	26,836	44,661	66.4	1,068	2,091	95.8	304	613	101.6
Hill	25,024	27,146	8.5	1,414	2,230	57.7	20,999	22,310	6.2	2,497	2,492	-0.2	114	114	0.0
Lampasas	12,005	13,521	12.6	1,284	1,753	36.5	10,413	11,321	8.7	158	241	52.5	150	206	37.3
Lee	10,952	12,854	17.4	659	1,410	114.0	8,482	9,650	13.8	1,757	1,752	-0.3	54	42	-22.2
Leon	9,594	12,665	32.0	174	509	192.5	7,543	10,507	39.3	1,863	1,601	-14.1	14	48	242.9
Limestone	20,224	20,946	3.6	696	1,459	109.6	14,790	15,239	3.0	4,669	4,127	-11.6	69	121	75.4
Llano	10,144	11,631	14.7	265	453	70.9	9,781	11,098	13.5	39	22	-43.6	59	58	-1.7
Madison	10,649	10,931	2.6	802	1,178	46.9	7,168	7,127	-0.6	2,608	2,547	-2.3	71	79	11.3
McLennan	170,755	189,123	10.8	14,988	23,643	57.7	127,585	134,507	5.4	27,068	29,036	7.3	1,114	1,937	73.9
Milam	22,732	22,946	0.9	2,390	3,456	44.6	17,210	16,528	-4.0	3,047	2,884	-5.3	85	78	-8.2
Mills	4,477	4,531	1.2	326	484	48.5	4,112	4,029	-2.0	5	10	100.0	34	8	-76.5
Robertson	14,653	15,511	5.9	1,372	1,904	38.8	8,617	9,373	8.8	4,626	4,197	-9.3	38	37	-2.6
San Saba	6,204	5,401	-12.9	968	998	3.1	5,166	4,373	-15.4	29	13	-55.2	41	17	-58.5
Travis	419,573	576,407	37.4	72,288	121,689	68.3	295,049	375,279	27.2	44,422	60,998	37.3	7,814	18,441	136.0
Washington	21,998	26,154	18.9	663	1,158	74.7	16,391	19,321	17.9	4,794	5,427	13.2	150	248	65.3
Williamson	76,521	139,551	82.4	9,693	20,004	106.4	62,062	110,724	78.4	4,033	6,537	62.1	733	2,286	211.9
Total	1,354,389	1,734,335	28.1	171,118	279,236	63.2	989,588	1,207,185	22.0	173,711	209,642	20.7	19,972	38,272	91.6
Texas Total	14,229,191	16,986,510	19.4	2,985,824	4,339,905	45.4	9,350,297	10,291,680	10.1	1,692,542	1,976,360	16.8	200,528	378,565	88.8

Note: These numbers were adjusted to define Anglo, Black, Hispanic and Other as mutually exclusive categories by the Department of Rural Sociology, Texas A&M University.

SOURCES: U.S. Census Bureau, Texas A&M University and Texas Comptroller of Public Accounts.

growth during the decade. Between 1980 and 1990 the county's population grew by 30.2 percent, adding more than 28,000 new residents to the county. The region's other MSAs, while adding population during the decade, could not keep pace with the state. The Temple-Killeen MSA, made up of Bell and Coryell counties, fell only slightly below the state's pace as its population grew by 19 percent in the 1980s. McLennan County, encompassing the Waco MSA, grew by 10.8 percent during the same time period.

The metropolitan counties accounted for the vast majority of the region's population growth. Of the 380,000 new residents which entered the region during the 1980s, 332,000 (87 percent) went to urban counties. In contrast, most rural counties in the region saw much smaller gains and combined to grow by only 14.1 percent. Of the rural counties, those surrounding metropolitan areas tended to grow faster.

Only five rural counties exceeded the state growth average in Central Texas and each of them is adjacent to a metro area. Bastrop, Blanco and Burnet all enjoyed sizable population gains between 1980 and 1990, growing at rates of 54.7, 27.6 and 27.4 percent respectively. The region's other two counties which grew faster than the state, Leon and Grimes, surround the Bryan-College Station MSA and grew at a rate of 32 and 38.6 percent respectively.

Proximity to an MSA did not, however, guarantee population growth. Falls County and Hamilton County, which border the Temple-Killeen MSA both saw population declines during the 10 years between 1980 and 1990. San Saba County was the only other county in the region to lose population during the decade.

Most of the population changes can be attributed to people relocating to the region. Net migration, which measures the number of people moving into and out of the area, coincides, for the most part, with the overall population trends of the region. Counties that saw their population decline most likely had either negative or only very slight migration gains, while strong growth in total population often includes large in-migration numbers. Virtually every county in the region gained population as a result of in-migration. Of the 30 counties in the region, only four had more people moving out of the county than into the county.

Net-migration was particularly strong in the metro counties of Central Texas. The decline of the family farm combined with disappearing jobs in the oil patch has left many rural residents out of work and with few prospects for employment in other lines of work. As a result, many of these people relocate to the metropolitan areas in search of job opportunities. The disparity between relative growth rates between the rural and urban counties demonstrates this trend in the Central Texas Region. For example, the population of Milam County, which increased slightly during the past decade, would have declined if only net-migration were taken into account.

Unlike most parts of the state, however, most rural counties of Central Texas gained population as a result of in-migration. Several of these counties, such as Llano, Bosque, Hill and Fayette would have experienced population declines were it not for new residents from other counties.

Williamson County gained 63,000 residents between 1980 and 1990, saw more than 50,000 of those came from other counties. The same held true in all of the other metropolitan counties with the exception of Bell County which saw almost 2,700 more people move out of the county than into it.

Population trends in the region have resulted in large increases in population density of some areas. In Central Texas there are approximately 66.8 residents per square mile, up from a level of just 52.2 residents per square mile in 1980. The region is comparable to the state, which averages almost 64 persons per square mile. Individual counties within the region, however, underwent dramatic shifts in population density during the last ten years. Williamson and Bastrop saw their population density levels increase by more than 50 percent.

Ethnic Diversity

While the population of the region has increased by 28.1 percent during the past ten years, changes among the ethnic groups have varied greatly. The Anglo population increased by 22 percent while the Black population grew by just 20.7 percent. It was strong growth in the Hispanic population that enabled the region to grow faster than the state. In the past decade, the total number of Hispanics in Central Texas has grown by 63.2 percent and their share of the total

population has grown from 12.6 to 16.1 percent. The state's Hispanic growth rate was 45.4 percent over the 10-year period.

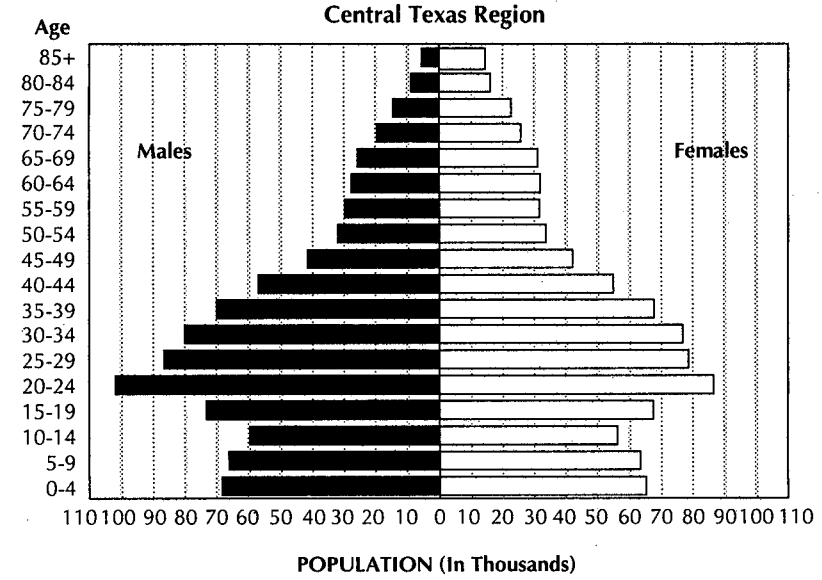
Growth in the Hispanic population has been widespread across the region, with many counties doubling their totals of ten years ago. The growth rate of the Hispanic population also surpassed that of the other ethnic groups in each of the counties except Hays.

The African-American population in Central Texas has grown by just over 20 percent during the past 10 years. Growth, however, has not been evenly spread, as almost all of the growth has been in the region's metropolitan counties. In fact, between 1980 and 1990, while the Black population in the metropolitan counties increased by almost 36,000, the number of African-Americans in rural counties actually declined by more than 1,500. The total number of Blacks decreased in 17 of the region's 30 counties and their percentage in the ethnic make-up decreased in 23 of the counties and stayed the same in three others.

The number of Anglos in the ethnic mix has declined in Central Texas Region during the past 10 years, surpassing the regional growth average in only five counties. Though the number of Anglos has declined relative to total population, they still represent a clear majority in every county in the region.

In Central Texas, Anglos make up almost 70 percent of all residents, compared to 60 percent of all Texas residents (See Table 5.) Hispanics account for just 16.1 percent of the region's population compared to 25.6 percent for the state. Though the percentage of Blacks in the region is very close to that of the state, there is much disparity among the individual counties. While almost all of the counties in the eastern half of the region have a higher than average percentage of Blacks, in each of the counties along the western edge of the region Blacks make up less than 1 percent of the total population.

Figure 2
1990 POPULATION BY AGE AND SEX
Central Texas Region



SOURCES: Bureau of the Census, United States Department of Commerce.

Age

Though the ethnic make-up of the Central Texas region resembles that of the state, the breakdown of its population by age group is not so similar. As a result of its many colleges and universities, the Central Texas region has a disproportionate number of people between the ages of 18 and 24. Also, the region's popularity as a retirement destination has led a large number of people over the age of 65 to settle there.

Two trends in age-group breakdown, however, have affected the region just as they have the rest of the nation. The first is the impact of the "Baby Boomers" and the second is the gradual aging of the population.

Most of the Baby Boomers, those born in the population explosion that followed World War II, now occupy the age categories between 25-44. Behind the "20-24" group, the next two age cohorts are occupied by the baby boom generation. The "25-29" group ranks as the second largest, making up 9.5 percent of the population and the 30- to 34-year-olds rank third at 9.0 percent of the population. Central Texas Baby Boomers combine to make up 31.9 percent of the total population for the region.

The Baby Boomers have swollen the ranks of their age divisions, increasing the total population in their age groups by almost 58.7 percent in the past 10 years. The age-group categories vacated by them have declined rapidly in their wake. In

1980, Central Texans between the ages of 15 and 24 made up 23.7 percent of the total population. Ten years later, as the Baby Boomers aged, the number of people in that age group had stayed virtually the same, but their share of the total population had decreased to 18.9 percent.

As the swollen ranks of the Baby Boomers age, they have increased the average age of the population. This, combined with medical advances that have extended the average life-span, promises to dramatically alter the make-up of the population in coming years.

The effects of increased longevity are evident in the Central Texas region. The number of the region's residents above the age of 75 has increased by almost 32 percent during the past 10 years. The largest increase of any age category came from the "85 and older" group, which grew by almost 40 percent during the decade.

Income

Though the Central Texas region has grown faster than the state in terms of population, it consistently lags behind it in terms of personal income. Since 1980, growth in per capita income levels for the region have remained at or behind state averages. In 1990, the region averaged $15,756 in income per person while the state averaged $16,717 (see Table 6).

Since the statewide recession of the mid-1980s, however, personal income in the region has grown at an impressive pace, increasing at an average annual rate of 5.2 percent between 1987 and 1990. Despite this strong growth, the region has still not been able to keep pace with the 6.5 percent annual income growth rate of the state during that period.

Individual counties in the region, however, not only kept pace with the state average, but exceeded it. Bolstered by an average annual increase of 11.4 percent since 1988, personal income in Blanco County has risen from just 93 percent of the state average in 1987 to stand at 107 percent as of 1990. Though Blanco County has grown the fastest in recent years, it is not the only county to exceed the state average. Four other counties exceed the state average; Washington County boasts the region's highest per capita income level at 113 percent of the state average.

The metropolitan counties of the region fared slightly better than did the non-metropolitan ones. The metropolitan counties, Travis, Hays, Williamson, McLennan, Bell, Coryell and Brazos, combined for a per capita income level of $16,208, very close to equaling the state average, while the non-metro counties averaged just $14,281, 85 percent of the state level.

Demographic Trends in the Future

In Central Texas, most of these trends in both the size and make-up of the population are expected to continue into the 21st century. The region's population will continue to grow at a rate very close to that of the state's. For the next ten years, the region is projected to grow at an annual average rate of 1.6 percent, while the population of the state will expand by an average of 1.2 percent per year.

Differences in the rate of population growth among the various ethnic groups will continue to increase the ethnic diversity of the region. The Black population in the region will expand at a rate that is very close to, or slightly behind, that of the state. The number of Hispanics in the region will continue to grow faster than any other group, though their meteoric rise will slow to an annual rate of 2.4 percent in the coming decade. In the next 10 years, the number of minorities in the region's ethnic mix will begin to increase faster as the Anglo growth rate falls to just 0.5 percent. Despite their declining numbers, the percentage of Anglos in the region will continue to surpass the state average, making up more than two-thirds of the population until the year 2025. ✪

Table 5
Central Texas' Ethnic Make-up

County	Percent Hispanic 1980	Percent Hispanic 1990	Percent Anglo 1980	Percent Anglo 1990	Percent Black 1980	Percent Black 1990	Percent Other 1980	Percent Other 1990
Bastrop	13.8%	18.1%	68.9%	69.7%	16.9%	11.4%	0.4%	0.8%
Bell	11.0	13.1	70.0	65.4	16.1	18.3	2.9	3.2
Blanco	9.2	14.1	88.8	84.4	1.6	0.9	0.3	0.6
Bosque	5.2	9.5	91.9	88.1	2.2	2.1	0.6	0.4
Brazos	10.1	13.7	76.9	71.5	11.0	11.0	2.0	3.8
Burleson	10.3	11.9	67.8	70.0	21.5	17.6	0.4	0.5
Burnet	7.1	10.8	90.9	87.4	1.5	1.1	0.6	0.7
Caldwell	33.0	37.8	49.8	51.3	16.1	10.1	1.1	0.7
Coryell	8.2	9.7	69.8	66.5	18.7	20.7	3.3	3.1
Falls	9.4	11.7	63.3	61.2	26.9	26.7	0.4	0.4
Fayette	5.1	8.5	85.7	83.0	8.9	8.3	0.2	0.3
Freestone	2.0	3.9	76.1	76.6	21.5	19.0	0.4	0.5
Grimes	9.1	14.1	63.0	61.4	27.6	24.2	0.3	0.3
Hamilton	2.1	5.2	97.4	94.2	0.0	0.0	0.5	0.6
Hays	30.5	27.8	66.1	68.1	2.6	3.2	0.7	0.9
Hill	5.7	8.2	83.9	82.2	10.0	9.2	0.5	0.4
Lampasas	10.7	13.0	86.7	83.7	1.3	1.8	1.2	1.5
Lee	6.0	11.0	77.4	75.1	16.0	13.6	0.5	0.3
Leon	1.8	4.0	78.6	83.0	19.4	12.6	0.1	0.4
Limestone	3.4	7.0	73.1	72.8	23.1	19.7	0.3	0.6
Llano	2.6	3.9	96.4	95.4	0.4	0.2	0.6	0.5
Madison	7.5	10.8	67.3	65.2	24.5	23.3	0.7	0.7
McLennan	8.8	12.5	74.7	71.1	15.9	15.4	0.7	1.0
Milam	10.5	15.1	75.7	72.0	13.4	12.6	0.4	0.3
Mills	7.3	10.7	91.8	88.9	0.1	0.2	0.8	0.2
Robertson	9.4	12.3	58.8	60.4	31.6	27.1	0.3	0.2
San Saba	15.6	18.5	83.3	81.0	0.5	0.2	0.7	0.3
Travis	17.2	21.1	70.3	65.1	10.6	10.6	1.9	3.2
Washington	3.0	4.4	74.5	73.9	21.8	20.8	0.7	0.9
Williamson	12.7	14.3	81.1	79.3	5.3	4.7	1.0	1.6
Total	**12.6%**	**16.1%**	**73.1%**	**69.6%**	**12.8%**	**12.1%**	**1.5%**	**2.2%**
TEXAS	**21.0%**	**25.6%**	**65.7%**	**60.6%**	**11.9%**	**11.6%**	**1.4%**	**2.2%**

Note: These numbers were adjusted to define Anglo, Black, Hispanic and Other as mutually exclusive categories by the Department of Rural Sociology, Texas A&M University.

SOURCES: U.S. Census Bureau, Texas A&M University and Texas Comptroller of Public Accounts.

Table 6
Central Texas' Per Capita Personal Income

1990 Rank in State		1980	1990	Change	Percent Change
195	Bastrop	$6,635	$13,240	$ 6,605	99.5%
184	Bell	7,876	13,536	5,660	71.9
50	Blanco	6,975	17,850	10,875	155.9
137	Bosque	9,197	14,624	5,427	59.0
217	Brazos	6,703	12,641	5,938	88.6
197	Burleson	6,520	13,157	6,637	101.8
87	Burnet	8,514	16,113	7,599	89.3
211	Caldwell	6,451	12,792	6,341	98.3
227	Coryell	5,423	12,120	6,697	123.5
228	Falls	7,930	12,101	4,171	52.6
71	Fayette	8,331	16,886	8,555	102.7
188	Freestone	7,699	13,476	5,777	75.0
215	Grimes	7,734	12,729	4,995	64.6
92	Hamilton	6,940	15,967	9,027	130.1
170	Hays	6,603	13,787	7,184	108.8
174	Hill	7,357	13,681	6,324	86.0
162	Lampasas	6,979	13,904	6,925	99.2
154	Lee	8,138	14,150	6,012	73.9
131	Leon	7,708	14,731	7,023	91.1
199	Limestone	6,669	13,088	6,419	96.3
37	Llano	8,836	18,387	9,551	108.1
157	Madison	6,657	14,101	7,444	111.8
127	McLennan	8,425	14,925	6,500	77.2
151	Milam	8,566	14,185	5,619	65.6
88	Mills	9,175	16,102	6,927	75.5
159	Robertson	6,688	14,044	7,356	110.0
102	San Saba	7,237	15,645	8,408	116.2
39	Travis	9,659	18,340	8,681	89.9
31	Washington	9,390	18,939	9,549	101.7
126	Williamson	7,713	14,934	7,221	93.6
Regional Average		$8,210	$15,756	$7,300	88.9%
TEXAS AVERAGE		**$9,528**	**$16,717**	**$7,189**	**75.5%**

SOURCES: Bureau of Economic Analysis and Texas Comptroller of Public Accounts.

Labor Force

The Central Texas region should be commended for its higher education system. The region's four metropolitan areas have a large concentration of professional, trade and services occupations, balanced by jobs in agriculture, manufacturing and wholesale trade. The region's industrial portfolio has broadened its manufacturing base to include coal mining, steel processing, computer manufacturing and food processing. Machinery-related jobs and health care are growing in importance as occupational fields.

The Central Texas region follows many of the state's occupational shift trends. Service and sales jobs constitute a growing portion of the region's employment. Professional and technical occupations are also making strong gains.

The region ranks above average in both the number of high school seniors planning to attend college and college entrance exam scores for those students.

Labor Force Demographics

Central Texas has a long history of low unemployment. Nevertheless, when the state's economy took a down turn following the oil crash, unemployment rose to 6.9 percent in 1986 and 1987. Since then, however, the region's unemployment rate has remained below six percent. During the first seven months of 1992, the region's unemployment rate has ranged between 5.4 and 5.9 percent.

In 1990, the Central Texas working age population (18-64 year olds) totaled 1.1 million, or 66.7 percent of the region's total population. Statewide, 61.4 percent of the population is of working age. In addition to the working age population being substantially larger than the state average, the fastest growing segment of the region's population is between the ages of 35 and 44.

A strong point for the region is growth of the college attending age (18-24) population. This age group will go from negative growth to positive growth in 1998 and will have from 2.2 percent to 3.4 percent annual increases for seven years. For five more years, from 2005 into 2009, positive growth is forecast to continue, but at a much slower annual rate. Central Texas could have a work force asset worth noting in this age group, as most high school graduates of the region plan to attend college.

Another age group of significant importance are those between 25 and 34 which return to college for advanced degrees, additional training or to complete college work begun earlier in life. This population group is forecast to sustain positive annual growth in Central Texas for 12 years beginning in 2005 through 2016. The large higher education infrastructure in Central Texas will make it easier for this group to raise educational attainment levels.

As the supply of labor changes in the future, so will the number of jobs which require special training. Higher education will continue to increase in importance. National projections show that jobs requiring a degree—executive, administrative and managerial, specialized professions and technical occupations—will grow by more than 27 percent between now and 2005. Jobs not requiring a college degree are projected to increase by less than 16 percent during the same period of time.

• The vast higher education infrastructure located in Central Texas will continue to provide a high number of professional jobs for the region.

• Central Texas students continue to raise college entrance exam scores, already above the state average.

• The region's work force training programs recognize the changing needs of its population.

Educational Attainment

Public education has been a successful

Table 7
Central Texas, Texas and U.S. Educational Attainment Levels in 1990

	Central Texas	Texas	United States
Less Than 9th Grade	9.1%	12.3%	9.7%
9th-12th Grade No Diploma	13.6	15.9	11.9
Have Not Completed High School	22.7	28.2	21.6
High School Grad or GED	25.7	25.9	39.2
Some College No Degree	26.4	22.9	19.7
Associate Degree	5.0	4.9	NA
Bachelor Degree	13.6	12.6	11.8
Graduate Degree	6.6	5.5	7.7
Completed High School	77.3	71.8	78.4

SOURCES: U.S. Census Bureau and Texas Comptroller of Public Accounts.

institution in the Central Texas region. Overall, the system has achieved high marks for graduation rates and college entrance examination scores. A college education is recognized by most students as the ticket to a better job. In 1991, 54 percent of the region's high school seniors planned to attend college, and is projected to increase to 78 percent in 1992.

The proportion of the region's adult population having some college education is 51.6 percent compared with the statewide

Table 8
Central Texas' 10 Largest Occupations in 1990

Occupation	Total	Percent of Total	Percent of State Total	Rank in State
Total, All Occupations	680,400			
Food and Beverage Occupations	49,900	7.3%	6.2%	2
General Office Occupations	47,300	7.0	6.4	1
Teachers and Instructors	44,200	6.5	4.4	6
Mechanics, Installers and Repairers	26,900	4.0	4.5	4
Helpers, Laborers and Material Movers, Hand	26,500	3.9	4.4	5
Construction Trades, Extractive	26,200	3.9	4.3	7
Secretaries	22,100	3.2	3.0	10
Transportation and Material Moving Machine Operators	21,900	3.2	4.6	3
Management Support Occupations	20,900	3.1	3.0	11
Salespersons, Retail	20,500	3.0	3.1	8

SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

Table 9
Central Texas' 10 Fastest Growing Occupations 1985-1990

Occupation	1985 Total	1990 Total	1985-1990 Job Change	Rank in State Growth
Total, All Occupations	604,000	680,400	76,400	
Food and Beverage Occupations	43,200	49,900	6,700	1
Teachers and Instructors	38,000	44,200	6,200	2
General Office Occupations	43,700	47,300	3,600	5
Mechanics, Installers and Repairers	24,000	26,900	2,900	4
Cashiers	12,400	15,200	2,800	9
Transportation & Material Moving Machine Operators	19,300	21,900	2,600	3
Secretaries	19,500	22,100	2,600	10
Management Support Occupations	18,500	20,900	2,400	11
Salespersons, Retail	18,100	20,500	2,400	13
Health Care Maintenance and Treating Occupations	11,800	14,000	2,200	6

SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

figure of 45.9 percent and the national average of 39 percent. The annual dropout rate for Central Texas' schools was 4.4 percent in 1991, but increased to 5.9 percent in 1992. Statewide, the drop out rate was 5.1 percent in 1991. Over 77 percent of adults in the region have a high school education or higher.

One tool used to measure student achievement is standardized testing. Until the 1989-1990 school year, Texas' public schools used the Texas Educational Assessment of Minimum Skills (TEAMS) test to assess student skills. During the last year of the test, 75.3 percent of Central Texas students passed all sections, compared to the state average of 73.6 percent. In 1990, TEAMS was replaced by the Texas Assessment of Academic Skills (TAAS). In 1991, Central Texas students continued to score above state averages, with 59.2 percent passing all sections of TAAS compared to 55.7 percent statewide.

Central Texas students rank high in the state and scored higher than the national average on standardized college placement exams. In 1991, they averaged 902 on the Scholastic Aptitude Test compared to the state average of 872 and the national average of 900. On the American College Testing exam, Central Texas students averaged 20.4, somewhat higher than the state average of 19.8 and substantially above the national average of 18.6.

The availability of higher education is a prominent factor in the level of educational achievement for this region. Major universities and numerous colleges supported by large student populations offer ready opportunity to students in the region and the state.

Occupational Characteristics

Central Texas' labor force is concentrated in the region's four metropolitan areas—Austin, Bryan-College Station, Killeen-Temple and Waco. The region's metropolitan area labor force rose by 76,400, or 12.7 percent, from 604,000 in 1985 to an estimated 680,400 in 1990. During the same period the statewide labor force grew by an estimated 10.4 percent.

Central Texas is similar to the state regarding its fastest growing industries. Elementary and secondary schools, restaurants and hospitals are the leading employers. In addition, Central Texas has several industries, including health care, electronics and

construction, that are vital to the regional economy.

Professional and technical occupations—ones that require higher education—constitute a substantially larger percentage of the Central Texas labor force than in the state as a whole. In 1990, professionals in Central Texas constituted 22.9 percent of the labor force, while accounting for 19 percent of the state's total labor force.

Central Texas' teachers and instructors make up the largest portion of professional occupations, accounting for 6.5 percent of the region's total labor force in 1990, compared to 4.4 percent statewide. The number of teachers and instructors in the region has expanded at an impressive rate, rising by 16.4 percent between 1985 and 1990.

Central Texas' manufacturing base is supported by more than 156,600 production, operative and maintenance workers representing 23 percent of the regional labor force in 1990. Mechanics, installers and repairers make up the largest portion of production occupations. In 1990, these occupations employed 26,900, or 4.0 percent of the total labor force, and have added 2,900 workers since 1985.

Central Texas' largest transportation-related occupation is truck drivers, accounting for more than half of transportation workers. In 1990, the region's truck drivers constituted 1.9 percent of the labor force. Across the state, the number of truck drivers has increased by 10.8 percent during those five years, while their share of the total labor force stood at 2.4 percent as of 1990.

Service-related employment in the region has been higher than in the state as a whole. In 1990, service sector jobs accounted for an estimated 15.0 percent of total state occupations, up from 14.5 percent in 1985, while in Central Texas service occupations accounted for 17.3 percent of the labor force in 1990. Health service occupations, such as nursing aides, dental assistants and medical assistants, are experiencing one of the fastest growth rates within the service sector, at both the state and the regional level. Health service occupations continue to constitute a larger percentage of the total labor force in 1990; 2.0 percent in the region compared with 1.5 percent statewide.

Sales-related occupations have a slightly smaller presence in the Central Texas region than they do in the state as a whole. In 1990, sales workers made up 10.3 percent of the labor force in the region versus 11.1 percent statewide.

Retail sales personnel make up the largest portion of the sales-related work force in both the region and the state. The sector's share of the total labor force was 3 percent in 1990 in the region, and 3.1 percent statewide. The region's retail sales growth rate of 13.4 percent was higher than the state's.

Clerical and administrative support occupations have an equal presence in the Central Texas region and the state. In 1990, their share of the total labor force was 17.7 percent in both the region and the state. Secretaries constitute the largest portion of the clerical and administrative support sector. In Central Texas, over 22,000 secretarial jobs accounted for 3.2 percent of the total labor force in 1990, compared with 3.0 percent statewide.

Average Wage Comparison

Texas has historically been a relatively low-wage state, but now average wages are approximately equal in the state and the nation. Texas' average annual wage was $23,800 in 1990, $500 above the national average wage of $23,300. The regional average wage of $20,600 was $3,200 below the state average wage. However, in ten industrial classifications, 9.6 percent of the Central Texas labor force earn higher than state average wages for those same classifications.

In comparison, the Central Texas average wage of $20,600 was $2,700 below the national average wage. However, in 1990, the average wage in the Central Texas region exceeded the national average wage in ten industries. These industries employed 11.6 percent of the regional labor force. The region's diversified industries, coal mining and electronics benefit from average wages higher than those for the nation.

Of the region's 10 largest private industries, seven had average wages higher than the state, but only two are higher than U.S. averages. Health services, the region's largest employment sector, had wages below the state and national averages in 1990, $21,400 compared with a state average of $24,300.

The region's second largest industry, eat-

Table 10
Central Texas and U.S. 1990 Average Annual Wages

Industry	U.S. Annual Average Wage	Central Texas Average Wage	Amount Above U.S. Average
Services, Not Elsewhere Classified	$44,600	$53,800	$9,200
Industrial Machinery & Equipment	32,900	41,400	8,500
Coal Mining	39,700	45,100	5,400
Membership Organizations	15,800	20,100	4,300
Electronic & Electrical Equipment	30,100	34,000	3,900
Agricultural Production, Crops	12,800	14,700	1,900
Rubber & Miscellaneous Plastics	24,700	26,600	1,900
Primary Metal Industries	33,000	34,500	1,500
Educational Services	21,000	22,400	1,400
Local Passenger Transit	14,700	15,600	900

SOURCES: Texas Employment Commission, Bureau of Labor Statistics and Texas Comptroller of Public Accounts.

ing and drinking establishments, also had wages below the state and national averages. In 1990, restaurant and bar employees' average annual wage was $8,200, or 9.9 percent below the Texas average and $100 or 1.2 percent below the U.S. average. Business services, the third largest industry in the region, also offer lower wages than the state and nation.

Some explanations for lower wages in the Central Texas region include a lower cost of living, slow economic recovery and employers' conformity to prevailing wage rates.

Table 11
Relative Wage Rates for Central Texas' 10 Largest Private Industries

Industry	U.S. Average Annual Wages	Central Texas Average Annual Wages	Difference	Percent Difference
Health Services	$25,200	$21,400	$-3,800	-15.1%
Eating & Drinking Places	8,300	8,200	-100	-1.2
Business Services	19,500	17,900	-1,600	-8.2
Food Stores	13,000	11,500	-1,500	-11.5
Industrial Machinery & Equipment	32,900	41,400	8,500	25.8
Engineering & Management Services	34,800	31,400	-3,400	-9.8
Electronic & Other Electric Equipment	30,100	33,900	3,800	12.6
General Merchandise Stores	12,600	11,200	-1,400	-11.1
Special Trades Contractors	25,000	20,000	-5,000	-20.0
Miscellaneous Retail Stores	14,500	13,600	-900	-6.2

SOURCES: Texas Employment Commission, Bureau of Labor Statistics and Texas Comptroller of Public Accounts.

CENTRAL TEXAS

Work Force Development

In an effort to keep pace with changing occupations in the region, local educators and industry leaders are attempting to provide students with the necessary skills to enter tomorrow's work force. By introducing vocational and technical training to students in secondary and higher education, local officials are hoping to increase the number of skilled workers.

The long-term goal for the Central Texas labor force is to raise the proportion of more demanding, high-skill jobs. With more students attending college and others being trained in skilled occupations, the wage base should also increase. Educational programs are being implemented stressing the importance of technical skills as a means to reach these goals.

The Texas Quality Work Force Planning program aims to develop a skilled and educated work force capable of contributing to the state's economy as well as compete in the global marketplace. The Texas Quality Work Force Planning Committee is a partnership between the Texas Education Agency, Texas Department of Commerce and Texas Higher Education Coordinating Board, and also involves employers, educators and training providers.

As an extension of and coordinated by Quality Work Force Planning, a federally funded program called Tech-Prep is being implemented in the Fall of 1992 by several Central Texas high schools. Tech-Prep is designed as a six-year degree plan for students working toward a career in technical fields. After career counseling, ninth graders begin two years of Pre-Tech-Prep which stresses academic skills. Eleventh-grade students enter the four-year core of courses, as coordinated with area colleges, to earn an Associate Degree with initial and master technician certification. After completing the associate degree program, students will be ready to enter the labor force or continue their education at the university level in order to attain advanced technical skills.

Texas State Technical College, (TSTC) in Waco, was created to develop the skilled labor force needed by new and emerging industries. The college is moving away from agriculture-related training as the economic impact of agriculture has declined. TSTC is adjacent to Waco's 4,200 acre Industrial Park and owns the second-largest commercial airport in Texas.

TSTC is also involved in the Tech-Prep program with target occupations including health and safety technicians. TSTC maintains cooperative training relationships with area manufacturers such as Chrysler Technology Airborne Systems and M&M Mars Candy and is also working with Alcoa. The college provides contract training through its Economic Development and Industrial Training center.

Austin Community College (ACC) has developed into a major educator in its metropolitan area. The majority of students attend classes with plans to continue their education at four-year colleges, such as the University of Texas and Southwest Texas State University. The college's Business and Technology Center provides local industry with training seminars on computer skills and Total Quality Management. ACC also contracts with area employers to provide on-site upgrading of employee skills.

Texas A&M University has received a development grant for Quality Work Force Planning to coordinate training for counselors and provide expertise in implementing occupational programs.

The University of Texas is working to train community college administrators in general leadership skills through its teacher education department as its direct contribution to Tech-Prep programs.

Several occupational areas have been projected to be of growing importance to the region. Medical and health care programs have been initiated by Blinn College of Brenham in cooperation with five area high schools. Associate degree programs include nursing, physical therapy, radiological technicians, medical laboratory technicians, medical secretaries and medical assistants. Bryan Independent School District has purchased a building in order to establish a magnet school for health occupations to benefit the entire Brazos Valley Quality Work Force Planning Region.

Blinn College is also coordinating efforts to meet the changing needs of the area to facilitate programs in office technology including computer programmers and operators and secretaries. Industry has need for and will provide job openings for those trained in auto mechanics and production assemblers/fabricators and drafters.

In the northern part of the Central Texas region there is much interest in providing

trained workers to fill growing needs for aircraft mechanics and assemblers as well as secretaries and health care workers. McClennan Community College and Texas State Technical College in Waco have agreements with Waco and surrounding area high schools to begin occupational training programs for technicians to be employed in manufacturing, business office occupations and personal protection jobs including law enforcement, firefighters and security personnel.

Hill College has agreements with over 30 high schools and offers 20 occupational technical programs. High interest areas include auto technology, computer assisted drafting and air conditioning/refrigeration and human services occupations such as child care training.

Central Texas College District in Killeen has shaped its occupational and educational programs to meet the needs of the region and serve military personnel at Fort Hood. Medical occupational training is offered at the college for students to graduate as registered nurses, licensed vocational nurses, medical lab technicians, emergency medical technicians and nurses aides. Mechanical fields are covered by programs offering air conditioning/refrigeration repair, drafting and auto and diesel mechanics. Additional associate degree programs are offered in agriculture, computers, electronics, criminal justice, food services, business management and legal services. Central Texas College District is unique in serving the educational needs of military personnel, as students can continue working on a degree at the college even if they are transferred. College course work can be taken at 18 college sites in the U.S. and eight sites in Europe with credits given toward their degree at the college. The district also has a college program for Navy personnel.

Temple Junior College contributes to work force training through agreements with six area high schools. Tech-Prep programs are available for information technology, auto technology and health occupations.

Notable accomplishments as industry and public education cooperate in labor force development include Alcoa's program with Hays Independent School District to graduate students trained for jobs in their facilities. Texas Instruments hired high school graduates from the first Tech-Prep trained class for intern positions in which each employee, at the end of the initial evaluation period, received superior ratings and were recommended for regular employment. ✪

Forecast

Many of the forces of change playing out in Texas will have direct impact on the economic outlook for the Central Texas region by the turn of the century. An aging population along with generally rising health care expenditures will support a growing health care industry in the region. Rising incomes and lifestyle changes, such as more women working outside the home, should drive further increases in the demand for other services.

In other respects, the economy of the Central Texas region will differ significantly from that of the state. Divergent trends in the presence of the military in the region will occur. In Austin, Bergstrom Air Force Base will close during the first half of the decade, but the deployment of an additional 12,000 troops in Killeen will more than offset this loss. The continued concentration of electronics and computer firms in Austin will bolster this city's growing national reputation as a high-tech mecca while providing the impetus to allow Austin to grow through the loss of Bergstrom. Outside of Austin, Texas A&M University will provide the stability and continued growth to maintain Bryan-College Station as one of the lowest areas of unemployment in the state. Solid growth in the food processing industry should lead changes in the diversified economy elsewhere in the Central Texas region.

Changing Structure of the Central Texas Economy

Building on a diversified manufacturing base, the Central Texas region displayed strong employment growth during the 1980s and will continue to perform relatively well into the next century.

In absorbing the economic shock of the closure of Bergstrom Air Force Base, Austin's economy should continue to display moderate growth during the first half of the decade of the 1990s. As the aftershocks of the base's closing begin to lessen, economic growth should accelerate in the latter half of the decade.

Because some of Austin's positive performance can be traced to its relative attractiveness, as other parts of the state and the nation continue their slow recovery from the recession, later in the decade, the exodus of companies and people from relatively depressed areas to Austin should slow.

Undergirding Austin's strong performance in the face of a weak national economy and defense cutbacks is the continued growth of the personal computer and micro-electronics industries in the region. Nationally, these industries are seen as performing well during the 1990s, with employment growing by about 30 percent (see Figure 3). Austin is fulfilling the promise of becoming Silicon Gulch, boasting fifteen relocations or expansions of firms based in California's Silicon Valley since 1989. Leading the list of new-to-area firms is Apple Computer's relocation of its customer service operation.

Apple joins a growing constellation of computer and micro-electronics firms in the area which includes IBM, Dell Computer, Motorola, CompuAdd and MCC. These firms and others should serve as the engine of job growth in manufacturing in Austin.

Government, Austin's other traditional growth industry, will continue to expand, but at a much slower pace than in the past. In particular, continuing budgetary pressures on state government will slow the addition of jobs in this sector and much the same picture emerges for growth in job opportunities in the federal sector. The majority of the modest growth

• The relocation of 12,000 troops to Killeen will increase the role of the military in Central Texas.

• Based on Austin's growing national reputation as a high tech mecca, strong manufacturing job growth is expected.

• Military and manufacturing relocations will make construction the fastest growing sector in the economy in the 1990s.

TABLE 12
Central Texas Economic Forecast Through 2000

	1990	1995	2000	Average Yearly Growth 1990-95	1995-2000	1990-2000
Total Personal Income *(in $Billions)*	$27.26	$36.60	$52.79	6.1%	7.6%	6.8%
Total Nonfarm Employment *(in Thousands)*	672.0	747.5	843.4	2.2	2.4	2.3
Mining Employment *(in Thousands)*	2.5	3.1	3.0	4.4	-0.3	2.0
Construction Employment *(in Thousands)*	23.5	26.8	32.7	2.6	4.0	3.3
Manufacturing Employment *(in Thousands)*	89.9	98.1	111.3	1.8	2.6	2.2
TPU/Comm Employment *(in Thousands)*	23.8	26.1	30.4	1.8	3.1	2.5
Trade Employment *(in Thousands)*	150.1	166.1	184.7	2.0	2.1	2.1
FIRE Employment *(in Thousands)*	36.7	36.6	37.7	-0.1	0.6	0.3
Services Employment *(in Thousands)*	150.3	175.4	203.6	3.1	3.0	3.1
Government Employment *(in Thousands)*	195.1	215.0	239.0	2.0	2.1	2.0
Retail Sales *(in $Billions)*	26.7	38.1	55.3	7.4	7.7	7.5
Population *(in Thousands)*	1,730.3	1,911.4	2,026.6	2.0	1.2	1.6
Births *(in Thousands)*	29.5	29.8	29.9	0.2	0.1	0.1
Deaths *(in Thousands)*	16.7	18.8	20.2	2.4	1.5	2.0
Per Capita Personal Income	$15,756	$19,149	$26,050	4.0	6.3	5.2

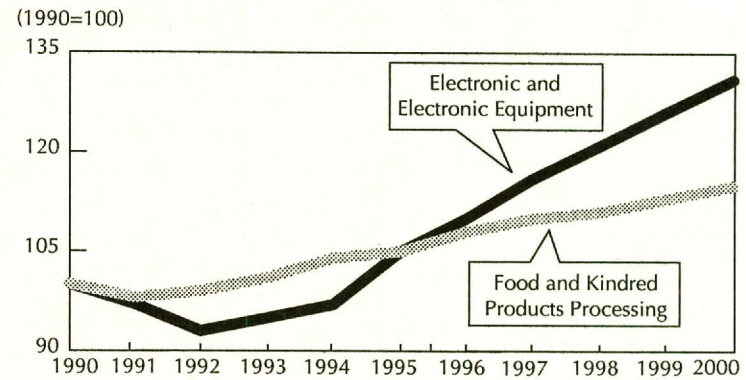
SOURCE: Wharton Econometric Forecasting Associates and Texas Comptroller of Public Accounts.

expected in government in Austin and the rest of the region will come from local government.

Outside of Austin, one of the biggest economic changes involves the relocation of an additional 12,000 troops to Killeen. The influx of these new military residents, along with civilian in-migration into Austin generated by the area's relatively good economy, will have a substantial impact on the growth of the construction industry in Central Texas during the decade. In fact, construction is seen as the fastest growing sector of the Central Texas economy during the 1990s, with employment growing at an average annual rate of 3.3 percent from 1990 to 2000.

Finally, some growth in the diversified manufacturing base found outside of Austin should occur during the decade. In particular, national forecasts expect a 15 percent growth in the food processing industry during the decade (see Figure 3), a growth pattern in which Central Texas should share.

Figure 3
Key National Employment and Production Forecasting Indices



SOURCES: Wharton Econometric Forecasting Associates and Texas Comptroller of Public Accounts.

Service Sector Growth

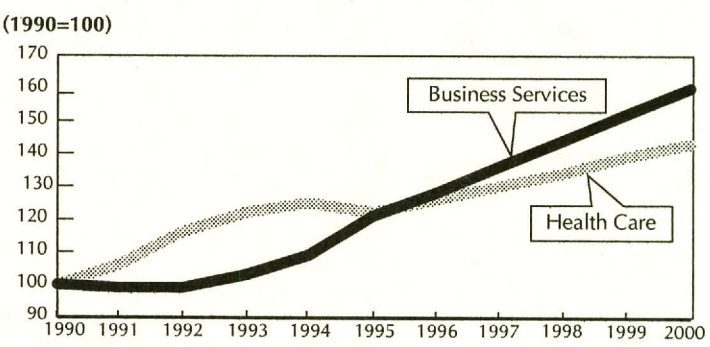
Two other strong national forces of change will serve to generate the bulk of the region's jobs outside of the more traditional sources of manufacturing, government and construction. First, rapidly rising expenditures on health care coupled with an aging population are expected to generate national employment gains in the health care industries of more than 40 percent during the 1990s (see Figure 4). In meeting the health care needs of its population, the Central Texas region will share in these employment gains.

Second, companies in the U.S., and particularly manufacturing firms, are reorganizing their business operations. There is a trend toward "out-sourcing" of business functions previously conducted within the company. Notable in this regard are many maintenance, accounting and security functions. As a result, employment in firms providing these business services has grown considerably during the past few years. At the national level, this growth is expected to continue during the 1990s with business services employment expected to increase by nearly 70 percent over the next ten years. Based on these trends employment in business services is also forecast to increase in the Central Texas region during the last decade of the 20th century.

Spurred by these trends, the service sector is expected to be the second fastest growing sector of the Central Texas economy during the 1990s. Employment growth in services should average 3.1 percent annually from 1990 to 2000, adding 53,300 jobs during this period.

To serve this growing employment base, other sectors are also expected to add jobs during the decade. About 34,600 jobs in wholesale and retail trade will be generated during the 1990s along with nearly 6,600

Figure 4
Employment Indices for U.S. Business and Health Care Services



SOURCES: Wharton Econometric Forecasting Associates and Texas Comptroller of Public Accounts.

jobs in the transportation, communication and public utilities industries. In contrast to many other parts of the state, even the hard-hit finance, insurance and real estate sectors should show some growth during the decade as a result of increased construction activity.

Population and Income

The underlying economic trends expected for the Central Texas region during the next ten years will serve to generate rising incomes. Total personal income in the region is expected to increase at a 6.8 percent average annual rate from 1990 to 2000, the same growth rate expected for the state.

Because Central Texas' economy will prove relatively stronger than many other sections of the state, the area will continue to attract in-migration during the 1990s. This will not only result in a population growth rate of 1.6 percent, exceeding an expected 1.2 percent growth rate for the state, but will also cause a slowing of the growth of per capita income. The expected 5.2 percent annual growth rate in per capita income is below a projected rate of 5.5 percent for the state as a whole during the last decade of the 20th century. ✪

Forces of Change

Evidence of the forces of change can be seen all around us, in our history as well as in our current situation. While the forces of change have consequences for all Texans, some are particularly relevant to a region of the state.

In the Central Texas region, the bounty of the earth has historically been one source of wealth and prosperity, but perhaps more important, the location of the region allowed it to develop a diversified economy including trade, education and government services. Today, the area's location in relation to major Texas metro areas, globalization of trade, the research conducted in the area and demographic trends are just a few of the forces of change that will have a substantial impact on the economy.

The Center of the Triangle

The Republic of Texas chose Austin as the state capital because of its location on the frontier, to serve as a vision of westward expansion. Today, the location of the Central Texas region serves as a vision of the future through its location in the heart of the "Texas Triangle," which is the area inscribed by the highways connecting the anchor metropolitan areas of Houston, San Antonio and Dallas-Fort Worth.

In the future of Texas, the Triangle will have characteristics that separate it from the other areas of Texas. The Triangle will exhibit greater ethnic diversity, greater employment opportunities and greater development.

While the three metropolises will be the focus of development for the Triangle, the Central Texas area within the Triangle will benefit from its proximity to the anchor growth centers. The infrastructure connecting the Triangle anchor cities and the Central Texas region includes both the research and higher educational facilities and the transportation network.

Research and Development

Research centers, higher educational facilities, and high technology firms could be considered an agglomeration economy, a term which means that there is a benefit to these entities locating close to each other. Access to the educational and research facilities prompted both MCC and Sematech to locate in Austin and high tech firms frequently note the access to research facilities and a highly trained work force as reasons for choosing to locate in a particular place. One reason that high tech firms locate close to the source of research is that industrial innovations and modifications are critical to a firm's competitiveness.

The amount of research conducted within the region and the Triangle is important when considering that high technology companies are attracted by and dependent on research, and these high tech firms typically bring high wage jobs. In 1991, approximately 44 percent of the research and development (R&D) dollars spent by public institutions in Texas were spent in the Central Texas Region, since Texas A&M University ranked number 1 in R&D dollars and The University of Texas at Austin ranked number 2. When the area is expanded to the Triangle, the amount of R&D dollars spent increases to approximately 88 percent.

Developing a synergy among research consortia, educational research facilities, government and private industry, not just in one city but within the region, the Triangle and the state, is becoming more important as global competition begins to dominate industrial growth potential. Recently, several reports have noted that the U.S. semiconductor

- **Globalization of the economy will affect the region as the potential for trade increases.**
- **The developing synergy between research centers, consortia and high-tech firms will have a major impact on the region's development.**
- **The same demographic trends affecting the state—an aging population and increasing ethnic diversity—will also affect Central Texas.**

industry has reached parity with the Japanese in manufacturing equipment capability, and that the U.S. semiconductor equipment suppliers had moved into first place in terms of market share. Part of the credit for the turnaround in the industry has gone to the Sematech, a research consortium of private companies and the federal government.

Considering the amount of research conducted in the region and the Triangle, facilitating the synergy among the research centers, educational facilities, government and private industry would provide an avenue for increased and accelerated development. This is important as innovation and lead time are critical in high tech industries and anything that assists or increases these two elements will serve to attract more high tech firms.

While the region will benefit from high tech firms locating in Central Texas, not all areas will benefit equally. Some areas or cities in the region have an advantage in attracting firms either because they are the site of a major research facility, through their location on a major transportation artery or through having other firms in the same industry with which infrastructure can be shared.

Areas of Central Texas that currently lack an advantage in attracting high tech firms can gain an advantage by offering opportunities for their working age population to obtain the training that high technology firms require. An educated work force is a magnet these areas can use to attract new businesses and high wage, high technology jobs. Education and training opportunities offered to the region's human resources may provide the most valuable key for the future prosperity of all of Central Texas.

Transportation and Globalization

Another infrastructure system connecting the cities of the Texas Triangle to the Central Texas region is the transportation system, specifically Interstates 35, 45 and 10, which also increase the area's trade opportunities. Interstate 45 connects Dallas to Houston, while Interstate 10 passes through San Antonio before connecting the East and West coasts. Interstate 35 runs from Dallas to San Antonio passing through a host of Central Texas cities before meeting the Interamerican Highway at the border, which goes to Monterrey, Mexico.

Sharing a trade route to Mexico with two major metro areas gives the Central Texas cities along Interstate 35 the opportunity to increasingly globalize their trade efforts. Globalization is a broad term usually referring to the spread of international trade via a high tech, integrated communication and transportation network. Texas has always participated in international trade through strong economic and cultural ties with its next-door neighbor, Mexico. These ties have become even more important as more of the trade between the U.S. and Mexico passes through Texas, and is important to the region because the trade is generally via Interstate 35, and the pace of trade between the two countries is expected to accelerate.

If the current round of trade talks between the U.S. and Mexico ends with a North American Free Trade Agreement (NAFTA), the countries will begin phasing out many of the current barriers to trade. Opening the border to free trade would have a net positive impact on the state and the region. Shipments both to and from Mexico and total Texas output would rise. In fact, though, projections from the Comptroller's Office show that Texas' exports will rise substantially by the year 2000 with or without a NAFTA. Free trade would give the growing trade between Texas and Mexico an additional boost.

Because NAFTA is expected to have a significant impact on the Texas economy, the Comptroller's Office undertook an analysis of the agreement's potential impact. The results of this study, titled "The U.S.-Mexico Free Trade Pact: Payoffs and Tradeoffs," include background information on NAFTA as well as the expected impact on industrial employment. To obtain a copy of this report, contact the Research Division of the Comptroller's Office at 1-800-531-5441.

Central Texas has an excellent opportunity to increase trade if NAFTA passes because a major transportation route to Mexico, Interstate 35, passes through the region. Mexico offers a huge market for the goods that Central Texas produces.

The region may also find that trade with the Pacific Rim and Middle East is fertile ground for its products as these two areas have money to spend. In terms of market share, perhaps the region should look a little farther south of Mexico. Latin America offers a large, undeveloped market and it is possible that South Texas firms could

acquire an impressive share as this area gains in political stability and economic strength.

Central Texas could also increase its trade potential by identifying and supporting the types of businesses that could profit from international trade. For example, globalization could translate into future opportunities in the services industries. Fields such as environmental management and computer or legal consulting may be areas that Central Texas can profit from.

Demographics

The Central Texas region represents a meeting place of cultures, reflecting the demographic changes and trends that will affect the state. The total population will increase in the region, but generally at a declining rate, just as the state's will. The population growth for both is forecast to be less than 1 percent just after the turn of the century.

The region exhibits more racial diversity, although the Anglo portion of the population will maintain a majority status, while no race or ethnicity will dominate the state's population. However, the Hispanic population in the region is forecast to increase its share from approximately 16 percent to 25 percent while the African -American proportion will remain stable at about 12 percent.

The portion of the population that is 65 and older will grow in Central Texas as it will in the state. The increasing population in this age group has important implications for the health care industries and elderly benefits programs, particularly as some areas of the region are rural and a considerable distance from hospitals and other health care facilities. ✪

Statistical Appendix

LIST OF TABLES

CENTRAL TEXAS

Central Texas Total Employment 1982-1991

Year	1982	1983	1984	1985	1986	1987	1982-1987 Change	1982-1987 Percent Change
Austin MSA	265,600	285,400	321,600	351,100	353,100	345,700	80,100	30.2%
Bryan-College Station MSA	44,100	45,600	47,400	47,700	47,200	47,200	3,100	7.0
KilleenTemple MSA	58,500	59,900	64,100	66,800	69,000	69,700	11,200	19.1
Waco MSA	68,700	70,000	73,200	75,200	74,100	72,800	4,100	6.0
MSA Total	436,900	460,900	506,300	540,800	543,400	535,400	98,500	22.5
Non-MSA Total	91,800	90,800	95,600	98,500	95,800	93,300	1,500	1.6
Region	528,700	551,700	601,900	639,300	639,200	628,700	100,000	18.9
Texas	**6,168,100**	**6,100,300**	**6,404,200**	**6,585,600**	**6,464,500**	**6,412,300**	**244,200**	**4.0**
Regional Percent of Total Texas Employment	8.6%	9.0%	9.4%	9.7%	9.9%	9.8%		
Regional Unemployment Rate	5.3	5.0	3.7	4.9	6.5	6.9		
Texas Unemployment Rate	6.9	8.0	5.9	7.0	8.9	8.4		

Year	1988	1989	1990	1991	1987-1991 Change	1987-1991 Percent Change	1982-1991 Change	1982-1991 Percent Change
Austin MSA	350,400	360,100	378,700	393,600	47,900	13.9%	128,000	48.2%
Bryan-College Station MSA	49,700	51,900	56,000	55,700	8,500	18.0	11,600	26.3
Killeen-Temple MSA	71,700	72,400	73,600	74,100	4,400	6.3	15,600	26.7
Waco MSA	74,900	75,600	76,800	78,900	6,100	8.4	10,200	14.8
MSA Total	546,700	560,000	585,100	602,300	66,900	12.5	165,400	37.9
Non-MSA Total	95,300	94,700	95,900	97,500	4,200	4.5	5,700	6.2
Region	642,000	654,700	681,000	699,800	71,100	11.3	171,100	32.4
Texas	**6,606,500**	**6,739,800**	**6,983,300**	**7,065,800**	**653,500**	**10.2**	**897,700**	**14.6**
Regional Percent of Total Texas Employment	4.2%	4.0%	4.0%	4.0%				
Regional Unemployment Rate	5.5	5.2	4.7	5.1				
Texas Unemployment Rate	7.3	6.7	6.2	6.6				

Note: MSA counties are Bell, Brazos, Coryell, Hays, McLennan, Travis and Williamson.

SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

Employment by Sector in the Central Texas Region

Number of Jobs

Sector	1982	1987	1991	1982-87 Change	1982-87 Percent Change	1987-91 Change	1987-91 Percent Change	1982-91 Change	1982-91 Percent Change
Agriculture, Forestry and Fishing	3,700	5,700	7,600	2,000	54.1%	1,900	33.3%	3,900	105.4%
Mining	9,100	4,500	5,200	-4,600	-50.5	700	15.6	-3,900	-42.9
Construction	31,200	30,900	23,900	-300	-1.0	-7,000	-22.7	-7,300	-23.4
Manufacturing	73,200	77,200	94,200	4,000	5.5	17,000	22.0	21,000	28.7
Transportation, Communications and Public Utilities	20,700	22,700	24,200	2,000	9.7	1,500	6.6	3,500	16.9
Wholesale Trade	23,600	26,000	26,700	2,400	10.2	700	2.7	3,100	13.1
Retail Trade	100,100	120,500	124,900	20,400	20.4	4,400	3.7	24,800	24.8
Finance, Insurance and Real Estate	28,500	38,300	36,500	9,800	34.4	-1,800	-4.7	8,000	28.1
Services	91,500	127,900	158,300	36,400	39.8	30,400	23.8	66,800	73.0
Government	147,100	175,000	198,300	27,900	19.0	23,300	13.3	51,200	34.8
Total	**528,700**	**628,700**	**699,800**	**100,000**	**18.9%**	**71,100**	**11.3%**	**171,100**	**32.4%**

Percent of Total Employment

Sector	1982	1987	1991
Agriculture, Forestry and Fishing	0.7%	0.9%	1.1%
Mining	1.7	0.7	0.7
Construction	5.9	4.9	3.4
Manufacturing	13.8	12.3	13.5
Transportation, Communication and Public Utilities	3.9	3.6	3.5
Wholesale Trade	4.5	4.1	3.8
Retail Trade	18.9	19.2	17.8
Finance, Insurance and Real Estate	5.4	6.1	5.2
Services	17.3	20.3	22.6
Government	27.8	27.8	28.3
Total	**100.0%**	**100.0%**	**100.0%**

SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

Employment by Sector in the Austin MSA

Number of Jobs

Sector	1982	1987	1991	1982-87 Change	1982-87 Percent Change	1987-91 Change	1987-91 Percent Change	1982-91 Change	1982-91 Percent Change
Agriculture, Forestry and Fishing	900	1,700	2,300	800	88.9%	600	35.3%	1,400	155.6%
Mining	800	800	800	0	0.0	0	0.0	0	0.0
Construction	14,900	16,100	13,100	1,200	8.1	-3,000	-18.6	-1,800	-12.1
Manufacturing	32,900	39,100	52,600	6,200	18.8	13,500	34.5	19,700	59.9
Transportation, Communications and Public Utilities	8,100	11,100	13,000	3,000	37.0	1,900	17.1	4,900	60.5
Wholesale Trade	11,300	13,300	13,000	2,000	17.7	-300	-2.3	1,700	15.0
Retail Trade	50,000	65,900	68,100	15,900	31.8	2,200	3.3	18,100	36.2
Finance, Insurance and Real Estate	16,000	24,200	22,900	8,200	51.3	-1,300	-5.4	6,900	43.1
Services	49,700	76,700	96,900	27,000	54.3	20,200	26.3	47,200	95.0
Government	81,000	96,800	110,900	15,800	19.5	14,100	14.6	29,900	36.9
Total	**265,600**	**345,700**	**393,600**	**80,100**	**30.2%**	**47,900**	**13.9%**	**128,000**	**48.2%**

Percent of Total Employment

Sector	1982	1987	1991
Agriculture, Forestry and Fishing	0.3%	0.5%	0.6%
Mining	0.3	0.2	0.2
Construction	5.6	4.7	3.3
Manufacturing	12.4	11.3	13.4
Transportation, Communications and Public Utilities	3.0	3.2	3.3
Wholesale Trade	4.3	3.8	3.3
Retail Trade	18.8	19.1	17.3
Finance, Insurance and Real Estate	6.0	7.0	5.8
Services	18.7	22.2	24.6
Government	30.5	28.0	28.2
Total	**100.0%**	**100.0%**	**100.0%**

SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

Employment by Sector in the Bryan-College Station MSA

Number of Jobs

Sector	1982	1987	1991	1982-87 Change	1982-87 Percent Change	1987-91 Change	1987-91 Percent Change	1982-91 Change	1982-91 Percent Change
Agriculture, Forestry and Fishing	200	500	600	300	150.0%	100	20.0%	400	200.0%
Mining	1,500	600	700	-900	-60.0	100	16.7	-800	-53.3
Construction	3,100	1,800	1,800	-1,300	-41.9	0	0.0	-1,300	-41.9
Manufacturing	3,400	3,200	3,600	-200	-5.9	400	12.5	200	5.9
Transportation, Communications and Public Utilities	1,900	1,500	1,400	-400	-21.1	-100	-6.7	-500	-26.3
Wholesale Trade	1,100	1,300	1,300	200	18.2	0	0.0	200	18.2
Retail Trade	8,400	8,900	10,800	500	6.0	1,900	21.3	2,400	28.6
Finance, Insurance and Real Estate	1,700	1,800	1,800	100	5.9	0	0.0	100	5.9
Services	5,700	7,400	10,100	1,700	29.8	2,700	36.5	4,400	77.2
Government	17,100	20,200	23,600	3,100	18.1	3,400	16.8	6,500	38.0
Total	**44,100**	**47,200**	**55,700**	**3,100**	**7.0%**	**8,500**	**18.0%**	**11,600**	**26.3%**

Percent of Total Employment

Sector	1982	1987	1991
Agriculture, Forestry and Fishing	0.5%	1.1%	1.1%
Mining	3.4	1.3	1.3
Construction	7.0	3.8	3.2
Manufacturing	7.7	6.8	6.5
Transportation, Communications and Public Utilities	4.3	3.2	2.5
Wholesale Trade	2.5	2.8	2.3
Retail Trade	19.0	18.9	19.4
Finance, Insurance and Real Estate	3.9	3.8	3.2
Services	12.9	15.7	18.1
Government	38.8	42.8	42.4
Total	**100.0%**	**100.0%**	**100.0%**

SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

Employment by Sector in the Killeen-Temple MSA

Number of Jobs

Sector	1982	1987	1991	1982-87 Change	1982-87 Percent Change	1987-91 Change	1987-91 Percent Change	1982-91 Change	1982-91 Percent Change
Agriculture, Forestry and Fishing	200	500	400	300	150.0%	-100	-20.0%	200	100.0%
Mining	100	100	100	0	0.0	0	0.0	0	0.0
Construction	3,400	3,600	2,400	200	5.9	-1,200	-33.3	-1,000	-29.4
Manufacturing	7,500	8,000	8,500	500	6.7	500	6.3	1,000	13.3
Transportation, Communications and Public Utilities	2,500	2,200	2,100	-300	-12.0	-100	-4.5	-400	-16.0
Wholesale Trade	2,000	2,100	2,500	100	5.0	400	19.0	500	25.0
Retail Trade	12,100	13,800	14,000	1,700	14.0	200	1.4	1,900	15.7
Finance, Insurance and Real Estate	2,300	3,100	3,000	800	34.8	-100	-3.2	700	30.4
Services	9,800	14,000	16,900	4,200	42.9	2,900	20.7	7,100	72.4
Government	18,600	22,300	24,200	3,700	19.9	1,900	8.5	5,600	30.1
Total	**58,500**	**69,700**	**74,100**	**11,200**	**19.1%**	**4,400**	**6.3%**	**15,600**	**26.7%**

Percent of Total Employment

Sector	1982	1987	1991
Agriculture, Forestry and Fishing	0.3%	0.7%	0.5%
Mining	0.2	0.1	0.1
Construction	5.8	5.2	3.2
Manufacturing	12.8	11.5	11.5
Transportation, Communications and Public Utilities	4.3	3.2	2.8
Wholesale Trade	3.4	3.0	3.4
Retail Trade	20.7	19.8	18.9
Finance, Insurance and Real Estate	3.9	4.4	4.0
Services	16.9	20.1	22.8
Government	31.8	32.0	32.7
Total	**100.0%**	**100.0%**	**100.0%**

SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

Employment by Sector in the Waco MSA

Number of Jobs

Sector	1982	1987	1991	1982-87 Change	1982-87 Percent Change	1987-91 Change	1987-91 Percent Change	1982-91 Change	1982-91 Percent Change
Agriculture, Forestry and Fishing	500	500	800	0	0.0%	300	60.0%	300	60.0%
Mining	100	100	100	0	0.0	0	0.0	0	0.0
Construction	3,200	3,500	3,000	300	9.4	-500	-14.3	-200	-6.3
Manufacturing	15,500	14,200	15,200	-1,300	-8.4	1,000	7.0	-300	-1.9
Transportation, Communications and Public Utilities	3,100	3,100	3,300	0	0.0	200	6.5	200	6.5
Wholesale Trade	4,400	4,300	4,300	-100	-2.3	0	0.0	-100	-2.3
Retail Trade	13,300	14,700	14,800	1,400	10.5	100	0.7	1,500	11.3
Finance, Insurance and Real Estate	4,300	4,500	4,800	200	4.7	300	6.7	500	11.6
Services	13,100	15,800	19,100	2,700	20.6	3,300	20.9	6,000	45.8
Government	11,200	12,100	13,500	900	8.0	1,400	11.6	2,300	20.5
Total	**68,700**	**72,800**	**78,900**	**4,100**	**6.0%**	**6,100**	**8.4%**	**10,200**	**14.8%**

Percent of Total Employment

Sector	1982	1987	1991
Agriculture, Forestry and Fishing	0.7%	0.7%	1.0%
Mining	0.1	0.1	0.1
Construction	4.7	4.8	3.8
Manufacturing	22.6	19.5	19.3
Transportation, Communication and Public Utilites	4.5	4.3	4.2
Wholesale Trade	6.4	5.9	5.4
Retail Trade	19.4	20.2	18.8
Finance, Insurance and Real Estate	6.3	6.2	6.1
Services	19.1	21.7	24.2
Government	16.3	16.6	17.1
Total	**100.0%**	**100.0%**	**100.0%**

SOURCES: Texas Employment Commission and Texas Comptroller of Public Accounts.

CENTRAL TEXAS

Central Texas Gross Retail Sales 1984-1991

In Millions of Dollars

Year	1984	1985	1986	1987	1984-1986 Change	1984-1986 Percent Change
Austin MSA	$ 5,317.2	$ 5,903.9	$ 5,627.9	$ 5,713.2	$310.70	5.8%
Bryan-College Station MSA	713.5	722.8	686.1	682.9	-27.40	-3.8
Killeen-Temple MSA	1,046.7	1,158.8	1,144.5	1,131.6	97.80	9.3
Waco MSA	1,209.5	1,282.0	1,273.9	1,252.6	64.40	5.3
MSA Total	8,286.9	9,067.5	8,732.4	8,780.3	445.50	5.4
Non-MSA Total	1,733.7	1,801.1	1,661.7	1,627.5	-72.00	-4.2
Region	10,020.6	10,868.6	10,394.1	10,407.8	373.50	3.7
Texas	**$109,373.4**	**$115,426.6**	**$110,089.5**	**$110,728.3**	**$716.10**	**0.7%**

Year	1988	1989	1990	1991	1987-1991 Change	1987-1991 Percent Change	1984-1991 Change	1984-1991 Percent Change
Austin MSA	$ 5,629.0	$ 5,837.7	$ 6,158.3	$ 6,689.9	$ 976.7	17.1%	$ 1,372.7	25.8%
Bryan-College Station MSA	741.1	792.6	886.5	928.5	245.6	36.0	215.0	30.1
Killeen-Temple MSA	1,150.4	1,198.9	1,216.3	1,273.7	142.1	12.6	227.0	21.7
Waco MSA	1,301.7	1,367.1	1,404.8	1,452.7	200.1	16.0	243.2	20.1
MSA Total	8,822.2	9,196.3	9,665.9	10,344.8	1,564.5	17.8	2,057.9	24.8
Non-MSA Total	1,667.9	1,752.6	1,877.5	1,966.4	338.9	20.8	232.7	13.4
Region	10,490.1	10,948.9	11,543.4	12,311.2	1,903.4	18.3	2,290.6	22.9
Texas	**$116,813.9**	**$123,650.9**	**$133,394.1**	**$139,049.0**	**$28,320.7**	**25.6%**	**$29,675.6**	**27.1%**

Note: MSA counties are Bell, Brazos, Coryell, Hays, McLennan, Travis and Williamson.

SOURCE: Texas Comptroller of Public Accounts.

For additional copies of this report contact:

Texas Comptroller of Public Accounts
Research Division
P.O. Box 13528
Austin, TX 78711-9831

Or call:
1-800-531-5441, ext. 3-4900;
or 463-4900 in Austin