

OCTOBER 2017



# FISCAL NOTES

TEXAS BIOTECH - BIGGER AND BETTER 8

STATE REVENUE WATCH 15

## Gone To Texas: Migration

By Kevin McPherson and Bruce Wright

### WHO'S COMING AND WHERE THEY'RE GOING

If you live in a Texas city, you've probably seen endless highway projects and a skyline dotted with cranes. People are drawn to Texas for jobs, a low cost of living and a high quality of life. Our natural resources and central location in the country, adjacent to the sea and on a national border, have helped create and sustain competitive advantages in transportation, energy, wholesale and retail trade and more.

Of course, there's nothing new about this. People have been flocking to the Lone Star State since its inception.

But who's coming, and where do they end up?

A deeper understanding of Texas migration patterns can help us understand current trends — and plan accordingly.

### A HERITAGE OF FAST GROWTH

Texas has been a fast-growing state for more than a century, growing more than twice as fast as the U.S. as a whole (**Exhibit 1**).

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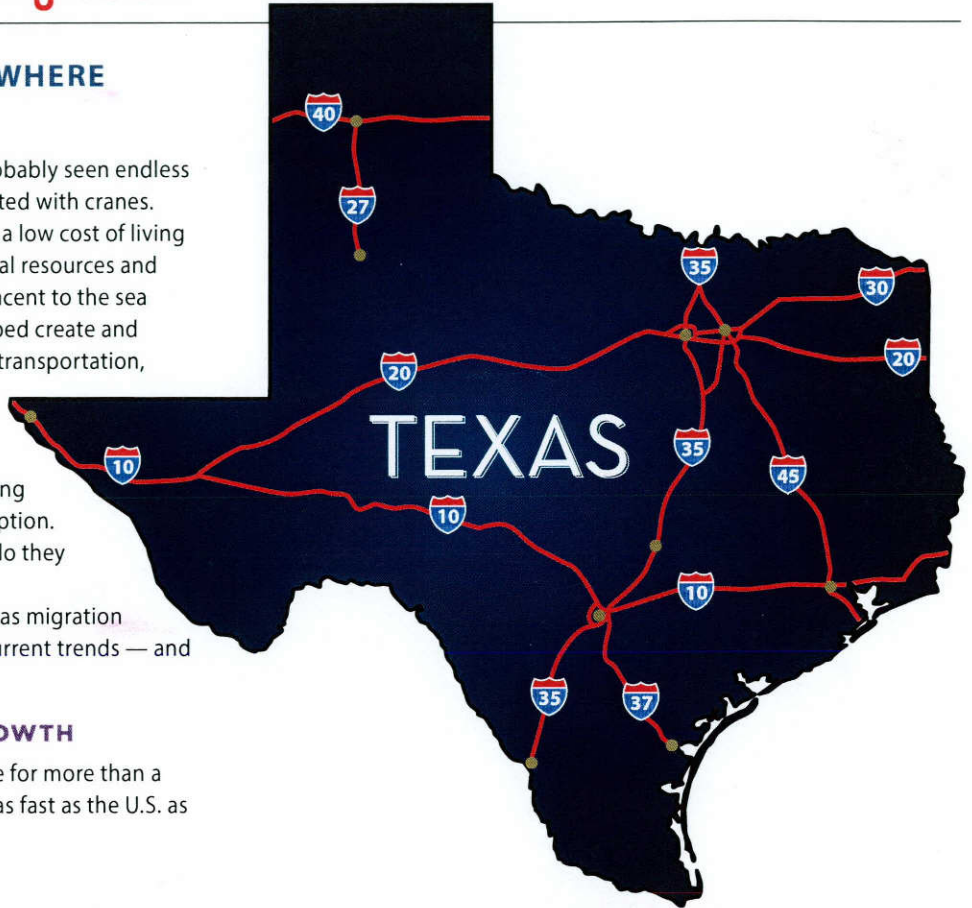
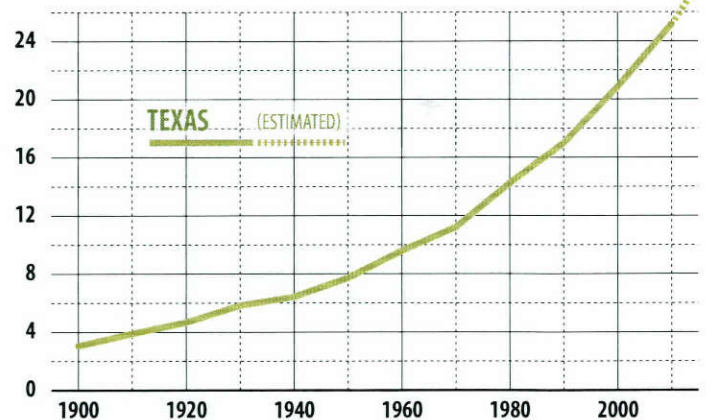
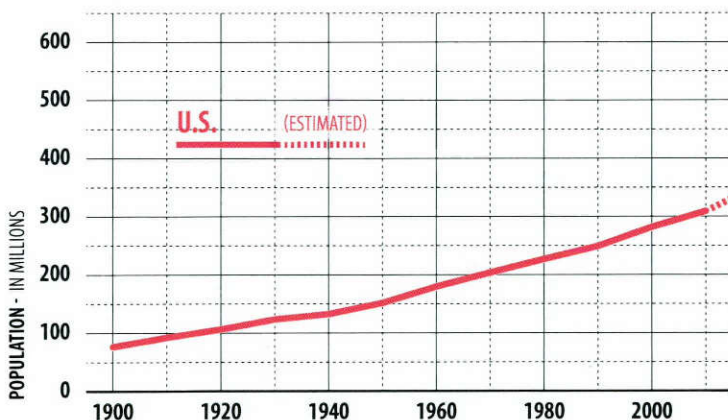


EXHIBIT 1

### POPULATION INCREASE FROM 1900 TO 2010



Note: 1900-2010 figures represent decennial Census counts; others are Census estimates as of July 1 of each year.  
Sources: Texas State Library and Archives Commission and U.S. Census Bureau

# A Message from the Comptroller

We're all still reeling from the devastation wrought by Hurricane Harvey, but at the same time we know Texans will rebuild and thrive, just as we always have. Texas has been one of the fastest-growing states practically since we entered the Union, and nothing's going to change that — our inherent advantages and our determination are simply too strong.



In this issue of *Fiscal Notes*, we take a look at migration patterns — who's coming to the state, who's leaving and what areas are seeing the biggest population increases. It's a fascinating story with some angles that may surprise you.

We also examine Texas' burgeoning bioscience and biotechnology industries, cutting-edge fields that promise to bring enormous advances in human health and well-being. We estimate that more than 400,000 Texas jobs are supported, directly or indirectly, by industries related to biology, and the outlook for the future is more than bright. Biological science and technology promise to revolutionize medicine, agriculture, energy and more.

Before I sign off, I'd like to express our sympathy and our very best wishes to the tens of thousands of Texans who've had their lives turned upside down by storm and flood. I'd also like to give you some information that could help anyone you know who's been affected by Harvey.

If they have a business and need an extension on Texas state taxes, have them call our **Taxpayer Services line at 800-252-5555** or email us at **ExtensionRequests@cpa.texas.gov**.

If they're looking for FEMA assistance, they should register online at **www.DisasterAssistance.com** or call **800-621-FEMA (3362)**.

If they have an insurance-related problem, please direct them to the **Texas Department of Insurance's consumer hotline at 800-252-3439**.

As always, I hope you enjoy this issue!

**GLENN HEGAR**

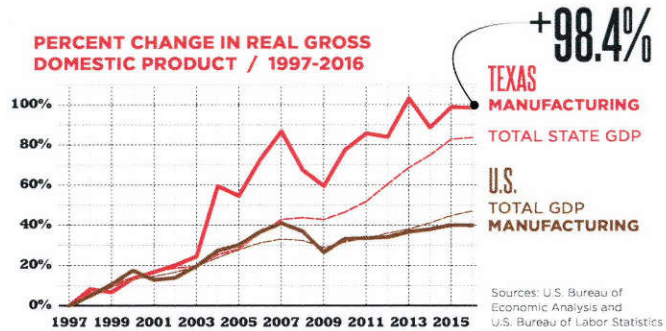
Texas Comptroller of Public Accounts

# TEXAS MANUFACTURING

Texas has an extraordinary manufacturing economy. The state's resources make it a natural leader in petroleum and chemical manufacturing; its research institutions have fostered computer-related and other high-tech manufacturing; and a business-friendly environment and skilled labor have helped create a burgeoning automotive manufacturing sector.

**Glenn Hegar**

Texas Comptroller of Public Accounts



**3,000,000**  
DIRECT & INDIRECT EMPLOYMENT

**\$225.8 Billion**  
TEXAS MANUFACTURING GDP

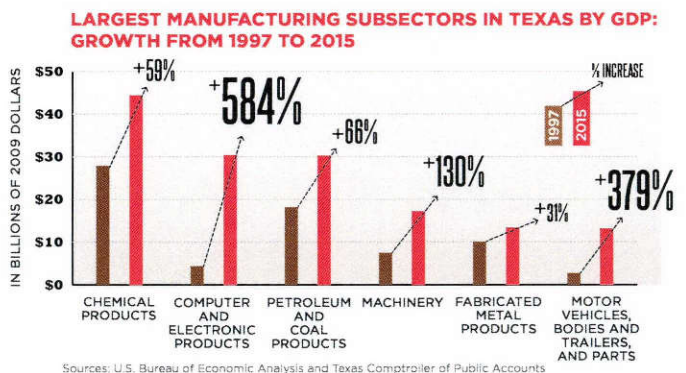
**\$73,738**  
AVERAGE ANNUAL WAGE

**\$210.3 Billion**  
EXPORTS

**TEXAS MANUFACTURING ACCOUNTED FOR 10.4 PERCENT OF U.S. MANUFACTURING GDP IN 2016.**

**BETWEEN 1997 AND 2016, MANUFACTURING REAL GDP INCREASED 98 PERCENT, COMPARED WITH AN 84 PERCENT GAIN ACROSS ALL TEXAS INDUSTRIES.**

Sources: U.S. Bureau of Economic Analysis and Texas Comptroller of Public Accounts



While Texas manufacturing employment has fallen due to automation and other factors, its economic output has increased. From 1997 through 2016, manufacturing employment fell by 19 percent, but its real GDP rose by 98 percent. Texas has 858,000 direct manufacturing jobs, as well as another 2.2 million jobs indirectly supported by manufacturers. In 2016, average Texas manufacturing wages approached \$74,000, versus a statewide average of \$54,000.

To see more in-depth Texas manufacturing data, visit: [comptroller.texas.gov/economy/economic-data/manufacturing/](http://comptroller.texas.gov/economy/economic-data/manufacturing/)

If you would like to receive paper copies of *Fiscal Notes*, contact us at [fiscal.notes@cpa.texas.gov](mailto:fiscal.notes@cpa.texas.gov)

## THE ELEMENTS OF MIGRATION

The population of any region is determined by its births, deaths and migration to and from the area.

Of Texas' total population growth between 2010 and 2016, migration accounted for almost exactly half (**Exhibit 2**). Net domestic migration — arrivals to and from other U.S. states — represented about 32 percent of the total increase, with net international immigration accounting for 19 percent. "Natural increase," the population change due to in-state births less in-state deaths, represented 49 percent of the state's net growth.

This pattern isn't universal, however. In the same period, for instance, net migration accounted for just 22 percent of California's population increase, and *all* those gains represented international immigration; the state's domestic migration turned negative, with a net loss of more than 383,000 residents to other states.

A 2016 report by the Texas Demographic Center analyzed the state's migration patterns for the 2009-2013 period in detail. On average, only about 16 percent of moves in this period represented net migration to the state (**Exhibit 3**). The remainder moved *within* Texas, with nearly 61 percent staying within the same county.

While such moves don't change the state's *total* population, they can have significant demographic and economic effects on the areas involved.

The pattern varies with location, however. According to the Texas Demographic Center, smaller counties (those with populations of 65,000 or less) received the majority of their new residents from other parts of Texas. Larger counties received most new residents from other states, while border counties, unsurprisingly, received a majority of new residents from international immigration.

## WHERE FROM? WHERE TO?

Americans traditionally are a mobile breed, constantly on the move for new opportunities. In 2015, California and Florida ranked first and second, respectively, both as the most common last residence of new Texans and

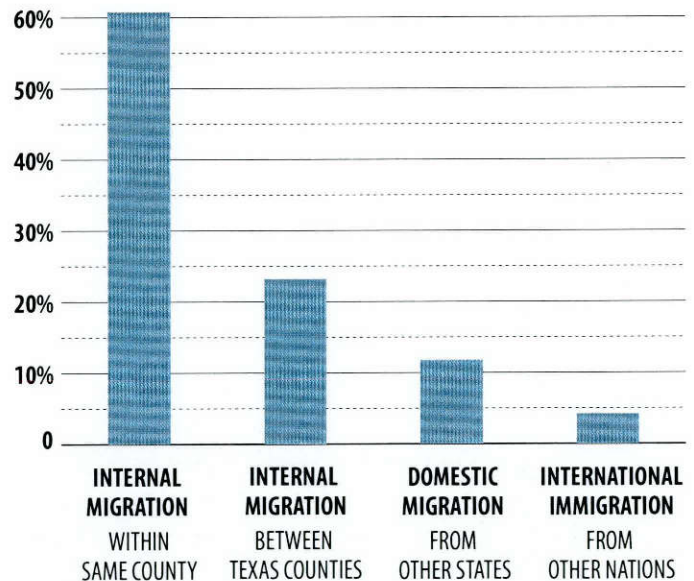
### MIGRATION TERMS

TERM	DEFINITION
IMMIGRATION	Movement from another country to the U.S.
EMIGRATION	Movement from the U.S. to another country
DOMESTIC MIGRATION	Movement from one state to another in the U.S.
INTERNAL MIGRATION	Movement within a state
OUT-MIGRATION	Movement out of a state
IN-MIGRATION	Movement into a state
NET MIGRATION	Total population change due to migration

Sources: Texas Demographic Center and Texas Comptroller of Public Accounts

EXHIBIT 3

### SHARE OF MOVES BY MIGRATION TYPE IN TEXAS, 2009-2013



Source: Texas Demographic Center

EXHIBIT 2

### COMPONENTS OF POPULATION CHANGE IN TEXAS, APRIL 1, 2010-JULY 1, 2016

BIRTHS	DEATHS	NATURAL INCREASE	NET MIGRATION: DOMESTIC	NET MIGRATION: INTERNATIONAL	NET MIGRATION: TOTAL	TOTAL POPULATION CHANGE
2,437,794	1,117,880	1,319,914	866,933	508,843	1,375,776	2,716,496

Notes: The total population change estimate in this exhibit reflects the Census Bureau's use of its "estimates base" for 2010 rather than the actual, slightly different, decennial count. It also includes a "residual" amount that cannot be attributed to any specific demographic component.

Source: U.S. Census Bureau, "Cumulative Estimates of the Components of Resident Population Change for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2016"

# Gone To Texas: Migration

the most common destination for those leaving Texas (**Exhibit 4**). In both cases, the balance of inflow and outflow favored Texas.

In the 2010-2016 period, Texas led all states in net domestic migration, with nearly 867,000 new residents (**Exhibit 5**).

## PATTERNS WITHIN TEXAS

The vast majority of Texas' population growth occurs in its metropolitan areas, due to the jobs and economic opportunities they offer. Texas has three of the nation's 10 most populous cities (Houston at fourth, San Antonio, seventh and Dallas, ninth) and two of its 10 largest metropolitan areas (Dallas-Fort Worth-Arlington, fourth, and Houston-The Woodlands-Sugar Land, fifth).

In 2016, Texas was home to five of the nation's 10 fastest-growing cities of 50,000 or more, including the top three (**Exhibit 6**).

The Census Bureau's county-level statistics indicate that migration among states is largely a metropolitan affair. **Exhibit 7** shows the five U.S. counties contributing the most net domestic migration to each of Texas' five most populous counties from 2011 through 2015. Of the

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EXHIBIT 5

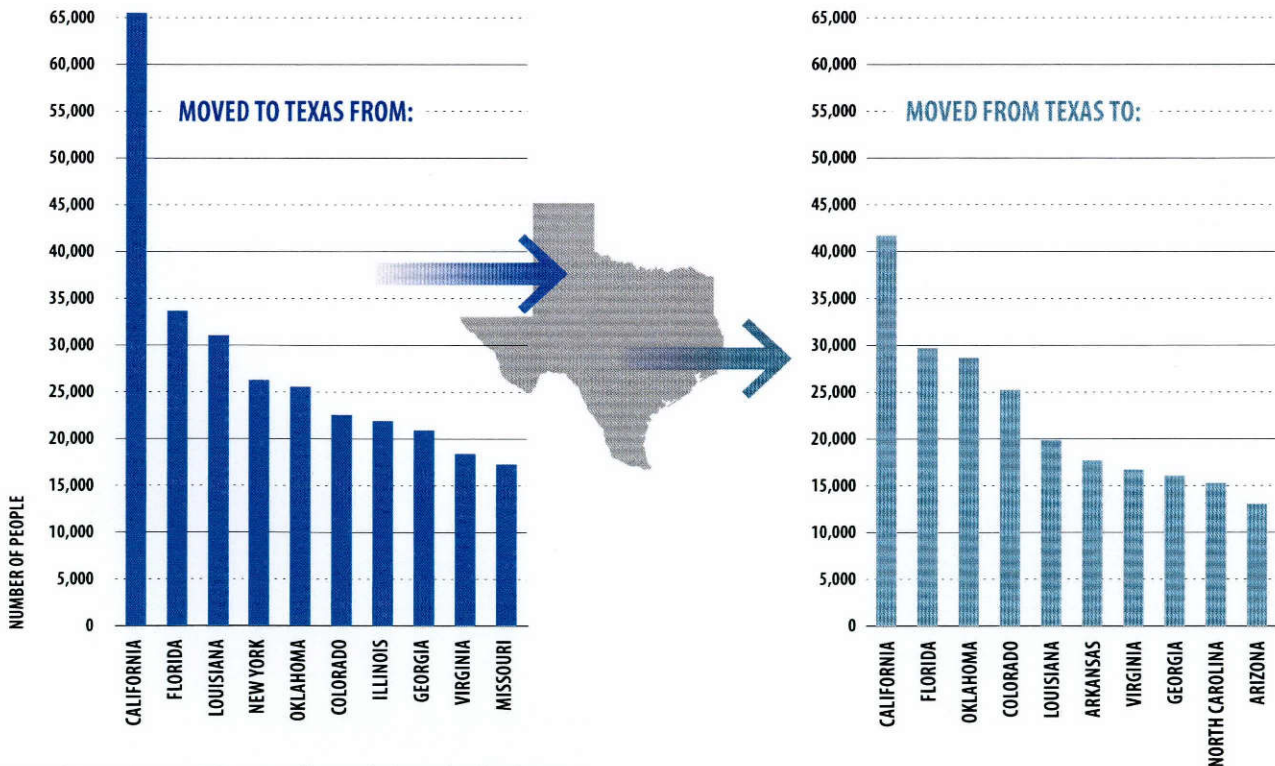
## TOP AND BOTTOM FIVE STATES FOR NET DOMESTIC MIGRATION, 2010-2016

STATE	NET DOMESTIC MIGRATION GAIN/LOSS
<b>Texas</b>	<b>866,933</b>
Florida	866,484
Colorado	243,671
North Carolina	242,283
Arizona	223,380
.....	
Michigan	-215,872
New Jersey	-336,359
California	-383,344
Illinois	-540,166
New York	-846,669

Source: U.S. Census Bureau, "Cumulative Estimates of the Components of Resident Population Change for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2016"

EXHIBIT 4

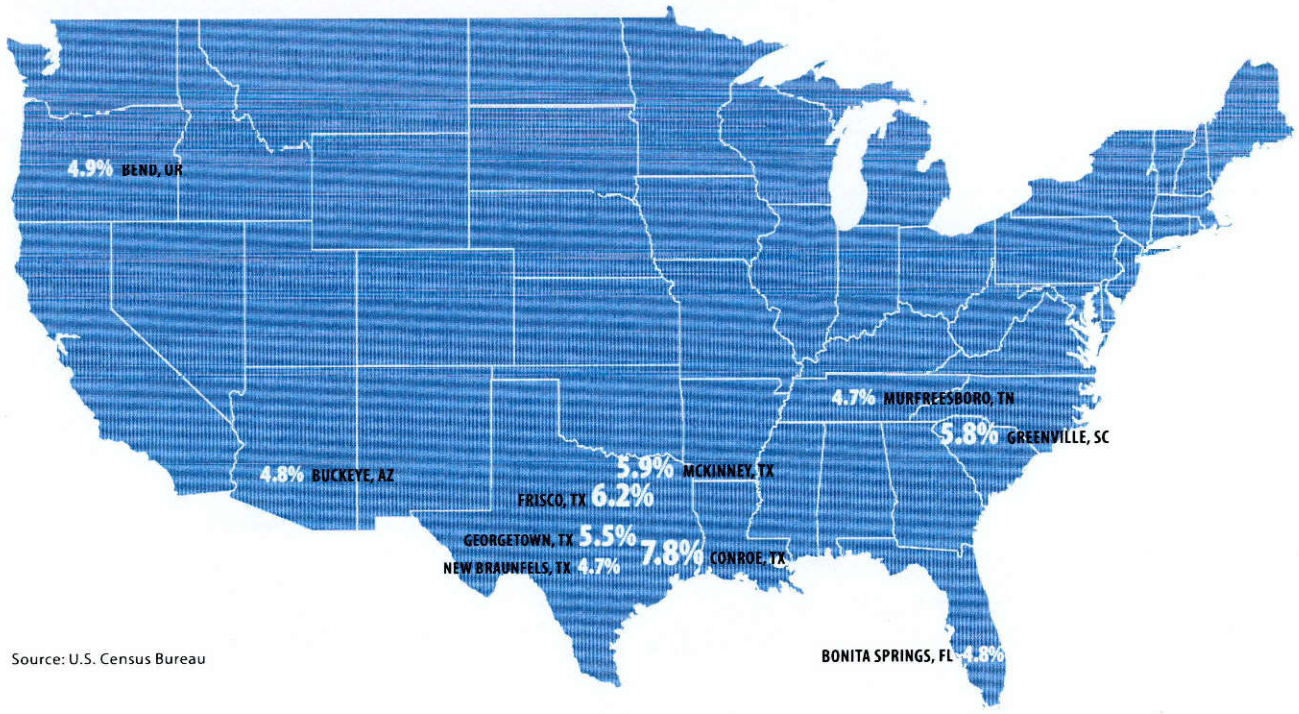
## TOP STATES FOR TEXAS IN-MIGRATION AND OUT-MIGRATION, 2015 ESTIMATES



Source: U.S. Census Bureau, 2015 American Community Survey One-Year Estimates

EXHIBIT 6

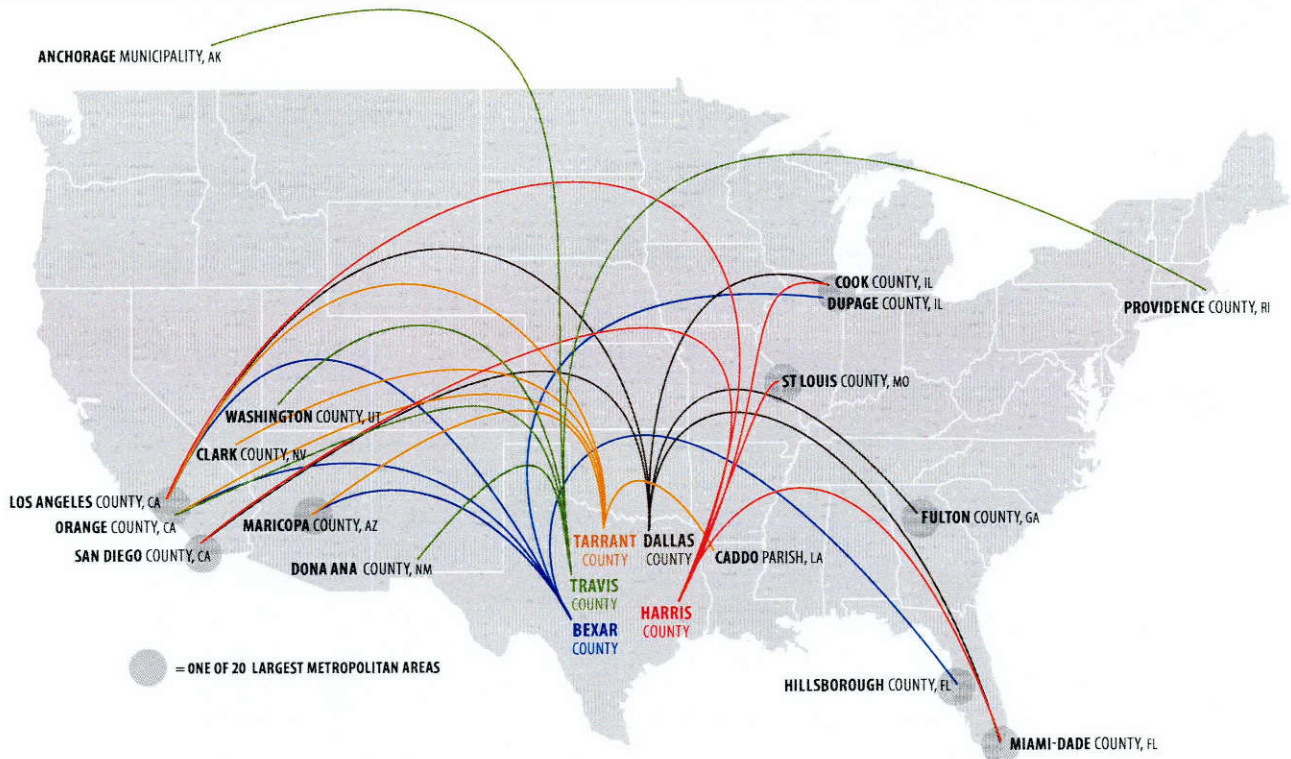
THE 10 FASTEST-GROWING LARGE CITIES, JULY 2015 TO JULY 2016 (POPULATIONS OF 50,000 OR MORE)



Source: U.S. Census Bureau

EXHIBIT 7

NET DOMESTIC MIGRATION TO TEXAS' MOST POPULOUS COUNTIES, 2011-2015: TOP FIVE ORIGIN COUNTIES FOR EACH



Source: U.S. Census Bureau, 2011-2015 American Community Survey

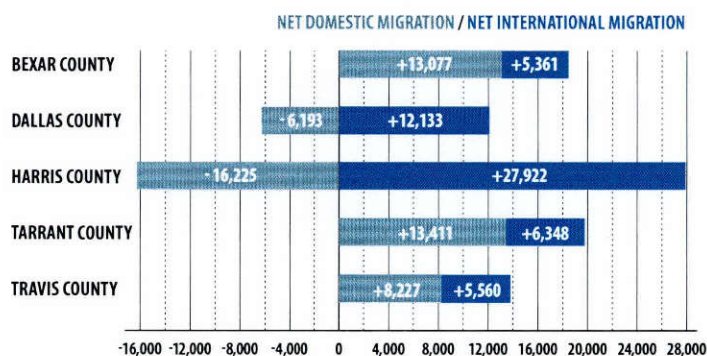
25 possible positions, 19 are counties within the nation's 20 largest metropolitan statistical areas.

The data offer some support for the popular notion that Texas is providing a haven for Californians escaping the state's cost of living and sky-high real estate prices; nine of the 25 slots are occupied by California counties. Ironically, though, while Austin is often considered the epicenter of this phenomenon, the exhibit also indicates that Travis County draws new residents from a remarkably diverse set of locations.

**Exhibit 8** examines more recent Census immigration data for the five most populous Texas counties. Note that, despite in-migration from dozens of other states, both Dallas and Harris counties experienced negative domestic migration between July 1, 2015, and July 1, 2016. In both cases, however, net *international* immigration more than made up the difference.

EXHIBIT 8

**NET DOMESTIC AND INTERNATIONAL MIGRATION FOR TEXAS' FIVE MOST POPULOUS COUNTIES JULY 1, 2015 TO JULY 1, 2016**



Source: U.S. Census Bureau, "Estimates of the Components of Resident Population Change: April 1, 2010 to July 1, 2016 — 2016 Population Estimates"

**AUSTIN: THIS PLACE IS TURNING INTO ... FLORIDA?**

Austin's a booming high-tech hub, and to many locals, growth spells one thing: Californians. Yet according to the Census Bureau, those crowded roads may be carrying more ex-Floridians than former residents of the Golden State.

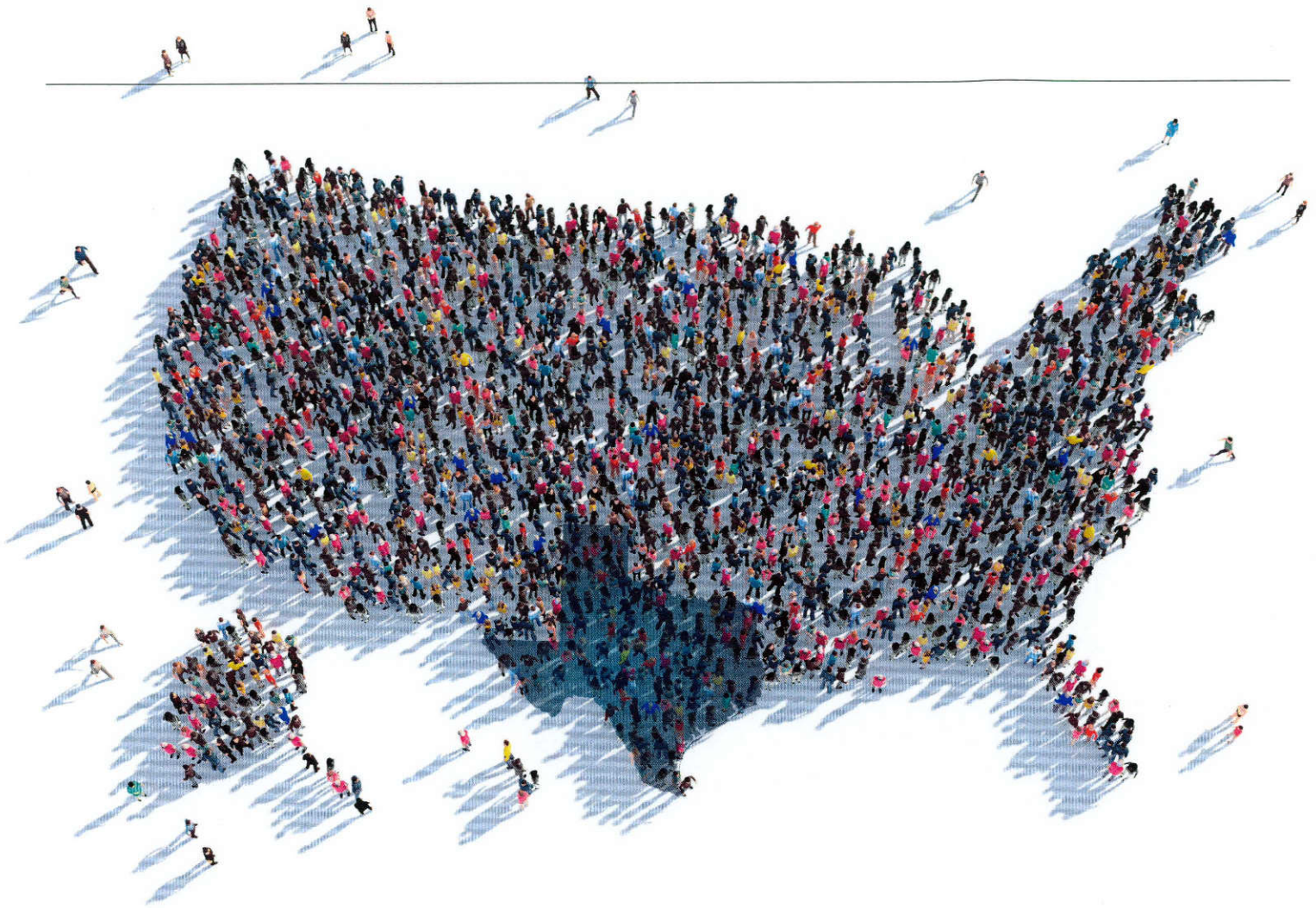
Of the top 10 states accounting for Travis County's net domestic migration, California placed only third between 2011 and 2015 (**Exhibit 9**).

EXHIBIT 9

**NET DOMESTIC MIGRATION TO TRAVIS COUNTY, 2011-2015: TOP 10 STATES BY SHARE OF TOTAL**



Source: U.S. Census Bureau, 2011-2015 American Community Survey



### AND STILL THEY COME

Despite the fluctuations of the state and national economies, businesses and their employees continue coming to the Lone Star State, attracted by its high quality of life and business-friendly tax and regulatory structure.

According to the Tax Foundation, Texas has the nation's fifth-lowest state and local tax burden, and recently *Chief Executive Magazine* named Texas the "Best State for Business" for the 13th year in a row. In the year ending in August 2017, Texas added more jobs (nearly 299,000) than any other state. Recent arrivals include the North American headquarters of Toyota and Kubota Tractor, both formerly based in California. In 2017, *Site Selection* magazine awarded Texas its Governor's Cup, citing 642 projects expanding or creating new corporate facilities in the state.

Texans know what keeps us here, and the rest of the country is catching on.

But growth brings its own challenges. Texas' population is expected to reach nearly 60 million by 2050, bringing with it skyrocketing demand for water, housing, transportation, schools and jobs.

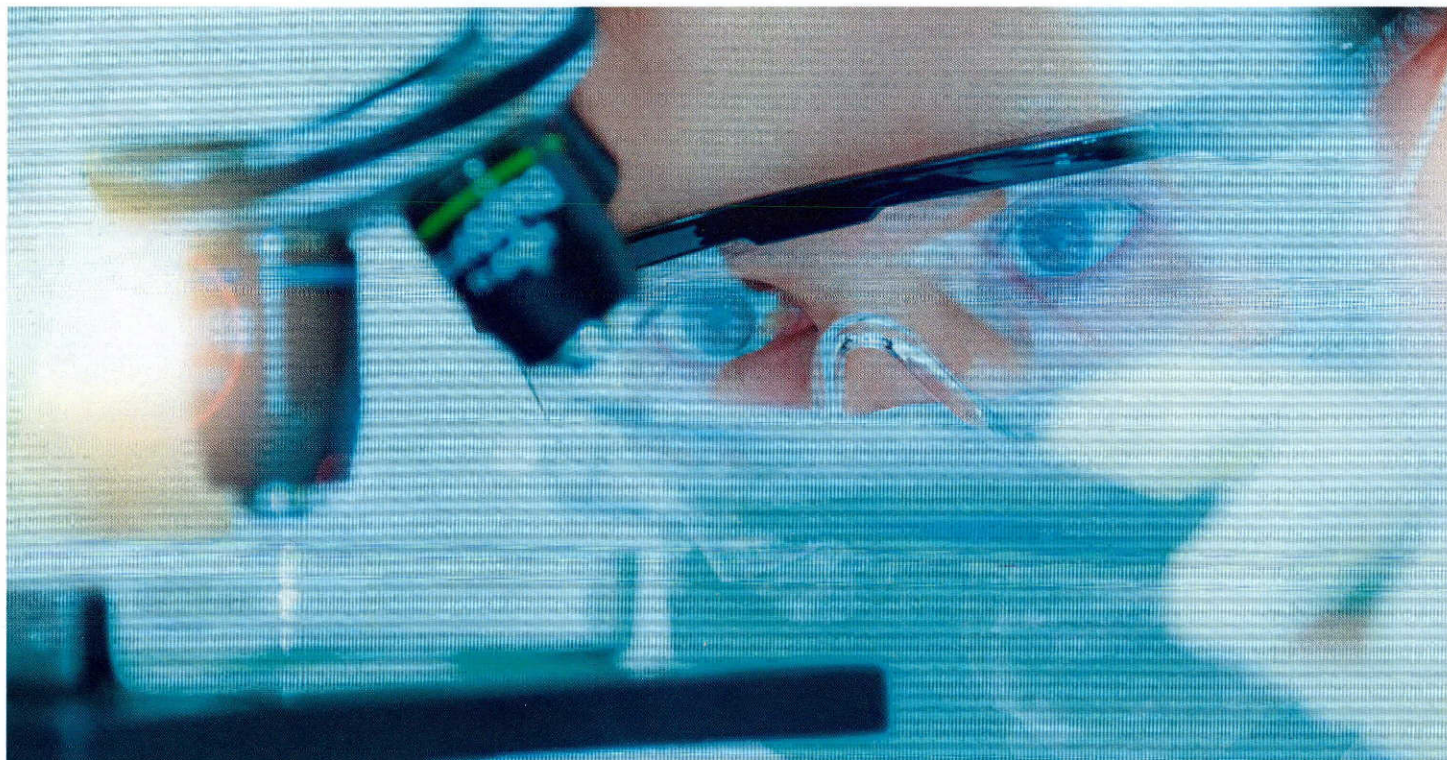
Housing in Texas' urban areas is increasingly expensive, due in part to high demand from new residents. According to the Texas Association of Realtors, home sales and home prices hit record highs in both 2015 and 2016. Inevitably, some are being priced out of the hottest markets. Texas' homeownership rate was 61.5 percent in 2016, eighth-lowest among the 50 states, and it's been falling since 2008, due at least in part to rising housing costs.

Transportation needs will change dramatically. In some areas, highways such as I-35 and I-10 can't keep up with *current* traffic. Of course, teleworking, ridesharing and mass transit may change the picture in the future, but in the near term Texas cities can expect worsening traffic and deteriorating road conditions.

And of course, not all areas of Texas are growing. Rural counties losing residents to metropolitan areas face their own challenges, such as access to health care, teacher shortages and inadequate local government revenues.

No matter what the future holds, though, some people will always be drawn to Texas. Texans have faced many challenges over the years, and they're up for this one as well. **FN**

## A RISING STAR IN LIFE SCIENCES INDUSTRIES



Texas is big in biotech, and getting bigger.

Nearly 99,000 Texans work in fields related to various aspects of the biological sciences and biotechnology, and their efforts directly and indirectly support an estimated 306,000 more Texas jobs.

Texas has long been known as a center for cutting-edge life science; it's been nearly 50 years since the pioneering organ transplants of Houston surgeons Denton Cooley and Michael E. DeBakey caught the attention of the world. Today, some of the most advanced surgical techniques and cardiology treatments stem from the work of physicians and scientists at Houston's Texas Medical Center (TMC), the world's largest. And some of the most innovative genomics work — built on the study of human DNA — have emerged from Baylor College of Medicine.

Texas is home to major companies with bioscience interests such as Kimberly-Clark and Celene. Industry giants such as Novartis, Abbott, Medtronic and Johnson & Johnson, among others, have major operations in the state. And more are on their way.

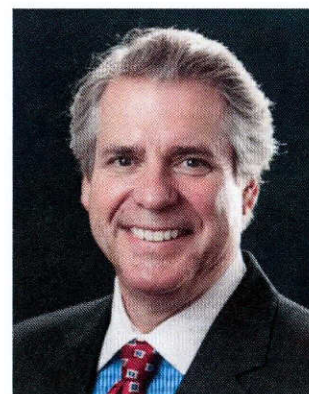
"The stage is set," says Thomas Kowalski, president and chief executive officer of the Austin-based Texas Healthcare and Bioscience Institute. "Given the incredible growth and innovation we've achieved in just a few years, coupled with the state's commitment to competing on a global scale for the top companies and

talent, Texas is poised to become a national and international leader in biotechnology."

### THE TECH OF BIOTECH

Simply stated, biotechnology or "biotech" is technology based on biology — products based on cellular or biomolecular processes that can improve our lives and the health of our planet. While man has used biological processes for thousands of years to make products such as cheese, beer and wine, today biotechnology usually refers to the gene engineering technologies that revolutionized the biological sciences in 1973, when scientists Stanley Cohen and Herbert Boyer first demonstrated DNA cloning in their lab at Stanford University.

New tools and products developed by biotechnologists are useful in research, industry and the clinic. Genetic engineering tools are used to identify genes, produce genetically designed cells and microorganisms, study cellular and disease pathways and even create genetically modified animals and plants for agricultural, medical and industrial



**THOMAS R. KOWALSKI**  
PRESIDENT & CEO,  
TEXAS HEALTHCARE AND  
BIOSCIENCE INSTITUTE



applications. Biotechnology provides breakthrough products and technologies to combat debilitating and rare diseases, feed the hungry and reduce environmental damage.

The Texas Governor's Office defines the field of biological sciences and biotechnology based on industries as defined by the federal government's North American Industry Classification System (**Exhibit 1**). Using these definitions, we can estimate Texas direct and indirect employment generated by these industry sectors.

### RESEARCH INFRASTRUCTURE

Texas' strong life sciences industry stems from a robust academic research infrastructure, including some of the world's most prestigious universities and independent research institutes. The National Science Foundation ranks Texas as a top state for doctorates awarded in biotech-related fields; the state produces more than 5,000 medical school graduates each year. Texas ranks first in the nation for doctorates in agricultural sciences and third for life-sciences doctorates.

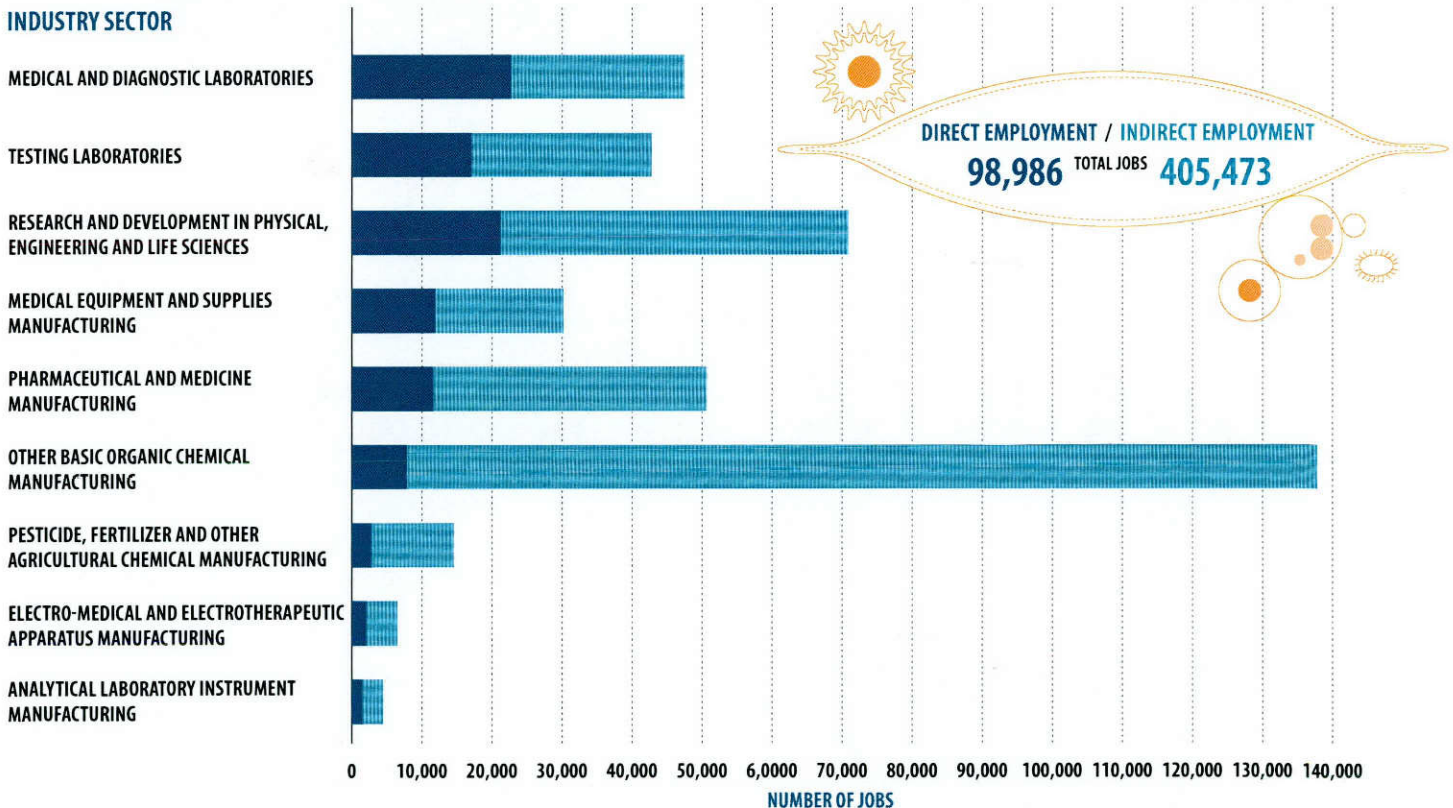
## Texas' strong life sciences industry stems from an equally robust academic research infrastructure.

Texas institutions draw world-class faculty, such as Dr. Bruce Beutler, who joined the UT Southwestern Medical Center from the prestigious Scripps Research Institute in California and shortly afterward won the Nobel Prize for his contributions to the study of the body's immune system. Beutler alone brought tens of millions of dollars in external research funding into the state.

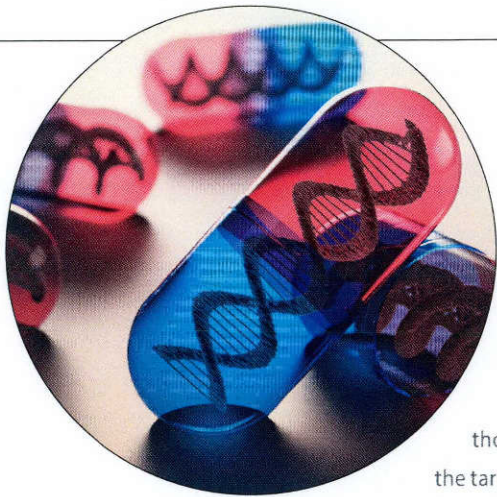
In 2015, Texas launched the Governor's University Research Initiative (GURI) grant program. As part of the \$36 million program, the state recruited 10 prominent researchers in fields such as molecular biology and animal genetics. And in 2016, the University of Texas  
CONTINUED ON PAGE 11

EXHIBIT 1

### BIOSCIENCES/BIOTECHNOLOGY EMPLOYMENT IN TEXAS, 2016



Sources: Texas Governor's Office, Texas Comptroller of Public Accounts and Emsi



## Primary Biotech Markets

### **MEDICAL BIOTECHNOLOGY**

Biotechnology revolutionized the pharmaceutical industry's approach to drug development. Most major pharmaceutical companies now have active research programs to identify genes or proteins associated with particular diseases. Once found, thousands of chemicals are screened for activity against the target gene or protein. Potential drugs then are optimized, checked for toxicity and efficacy and finally tested in clinical trials.

Other companies use disease-related genes as markers to develop clinical diagnostics or to predict a patient's response to a drug based on genomic information (sometimes called "personalized" medicine).

An ever-expanding list of companies provides substances and equipment to support drug discovery, including custom biomolecules, specially engineered cells and screening kits.

### **AGRICULTURAL BIOTECHNOLOGY**

The same technologies used for drug development also can improve agricultural products. Millions of farmers around the world use agricultural biotech to increase crop yields, improve nutritional content and quality and produce foods free of allergens and toxins. And since some bioengineered plants can produce their own natural pesticides, biotech can significantly reduce farming's impact on the environment.



### **INDUSTRIAL BIOTECHNOLOGY AND BIOFUELS**

Industrial biotechnology uses biologicals such as microbes and enzymes in traditional manufacturing processes to produce cleaner, more sustainable products and materials. "Biorefineries" produce biofuels and chemicals from renewable biomass, such as plants genetically engineered to produce useful substances.





System Board of Regents approved \$30 million to recruit outstanding faculty for its health science institutions through its Faculty STARS (Science and Technology Acquisition and Retention) program, doubling the budget from the previous year.

And brilliant minds produce innovative science, which in turn attracts federal grant money. In 2015, the National Institutes of Health (NIH) provided Texas institutions with about \$1 billion in grant funds.

Research discoveries, in turn, attract the interest of companies and investors. Promising technologies often are licensed to companies, providing royalty streams that fund further research. They also spur new startup companies, which attract venture capital investments that help fund the development and commercialization of new technologies.

## **GROWING ECONOMIC POWER**

Biotechnology is becoming an increasingly crucial economic engine for state and local communities across the nation, especially in Texas.

A recent study released by the Biotechnology Innovation Organization (BIO) shows the impressive strength and resilience of U.S. bioscience. Between 2001 and 2016, while many industries struggled through economic downturns, employment in the biosciences rose by nearly 10 percent, outperforming all other technology sectors.

## **Biotechnology is an increasingly critical economic engine for state and local communities across the nation.**

According to BIO's *The Value of Bioscience Innovation in Growing Jobs and Improving Quality of Life 2016*, U.S. bioscience firms employ nearly 1.7 million people and created nearly 147,000 net new jobs between 2001 and 2016. Employment in the entire field rose by 2.2 percent in the last four years, with the medical-sector job count growing by more than 3 percent. In 2014, the average annual wage for a U.S. bioscience/biotech worker reached \$94,543 — roughly \$43,000 or 85 percent more than the average private-sector wage of \$51,148.

"The BIO study highlights the tremendous progress made in Texas' bioscience industry in recent years, achieving the top quintile in six out of 10 bioscience performance metrics," Kowalski says. These were bioscience job creation, business growth, expenditures in research and development, funding from the NIH, venture capital investments and bioscience and related patents. "The report showcases the state's status as a leader in the nation," he says.

# Texas Biotech – Bigger and Better



## In 2016, the Dallas-Fort Worth Metroplex had the largest share by far of jobs in biotech research and development.

It should be noted that BIO uses a slightly different definition of bio-related industry than the Governor’s Office. Based on the latter definitions, Texas bioscience and biotech industries have expanded their direct employment by about 2 percent annually since 2010 (**Exhibit 2**). Total employment, including jobs indirectly supported by these industries, has risen by about 1.5 percent a year.

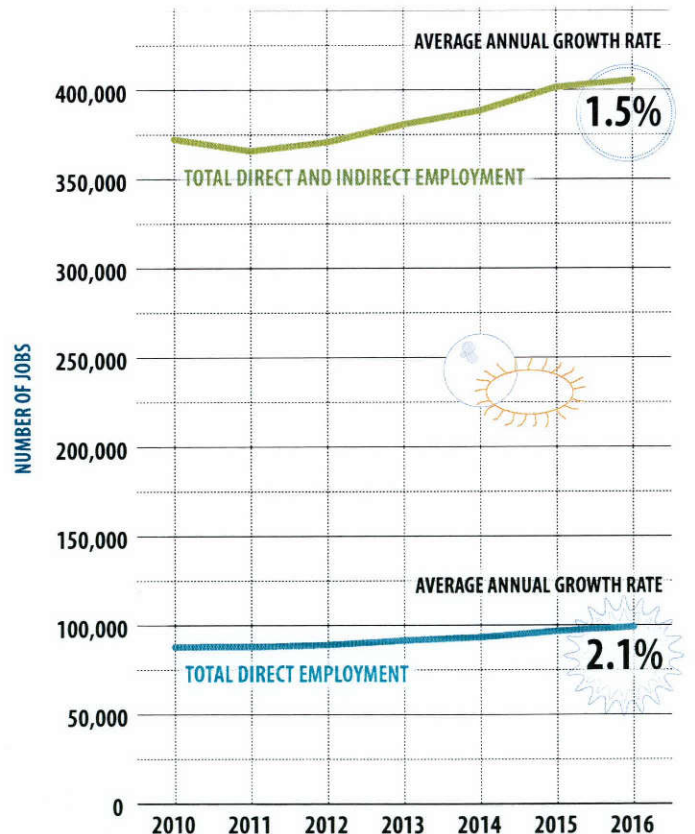
### METRO SPOTLIGHT

Texas’ four largest metropolitan areas — Dallas-Fort Worth, Houston, San Antonio and Austin — supply about four-fifths of all employment in two key industries related to biotechnology: biotech research and development (R&D) and pharmaceutical and medicine manufacturing. In all, these industries provide nearly 14,000 jobs in the metros and support an estimated 33,500 more (**Exhibit 3**).

In 2016, the Dallas-Fort Worth Metroplex had the largest share by far of jobs in biotech R&D (**Exhibit 4**), at 1,350 positions or 27 percent. DFW employment in the field rose by 34 percent between 2010 and 2016 — rapid growth by most standards, but not as fast as San Antonio, which saw its employment in this industry almost double.

EXHIBIT 2

### AVERAGE ANNUAL JOB GROWTH IN TEXAS BIOSCIENCE/BIOTECHNOLOGY INDUSTRIES, 2010-2016



Sources: Texas Governor’s Office, Texas Comptroller of Public Accounts and Emsi

## Houston-area employment in pharmaceutical and medicine manufacturing doubled in just six years, outpacing national job growth by a factor of 40.

And while the Houston area saw the biggest drop in R&D employment, the remaining jobs pay the highest average salaries among the metros and substantially more than the state average for the industry. These salaries lag behind the national average for such work largely because the largest bioscience centers, such as San Francisco and Boston, have among the nation's highest living costs and must pay accordingly to lure employees.

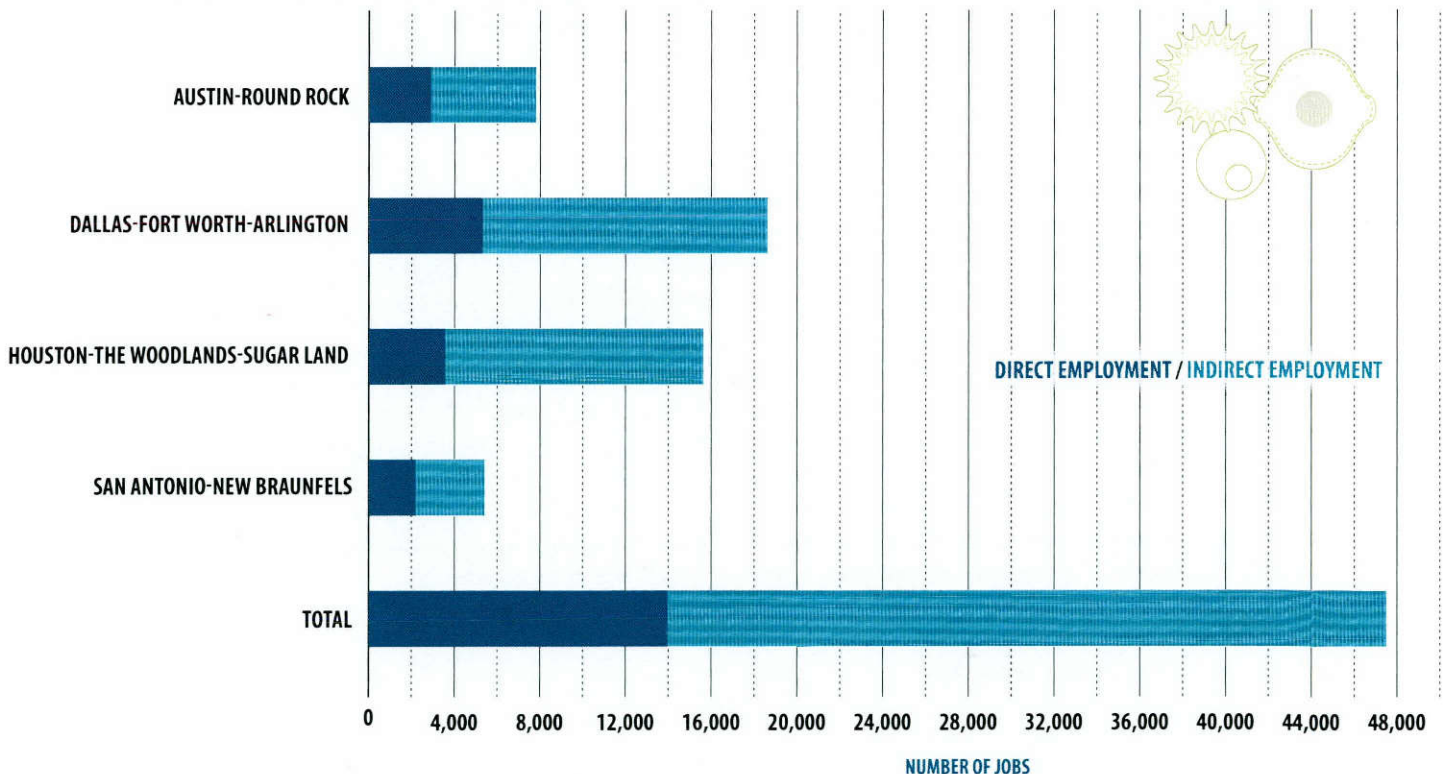
What the Houston area lost in biotech R&D employment, however, it more than made up in pharmaceutical and medicine manufacturing (Exhibit 5). The metro area's employment in these



industries doubled in just six years, registering the fastest growth rate among the metros and outpacing national job growth by a factor of 40. In 2016, Houston also offered the highest average wages in this field, as the only metro paying well above both the state and national averages. Yet the Dallas-Fort Worth area again had the largest share of these jobs, with more than a third of total state employment in these industries.

EXHIBIT 3

### BIOTECH R&D AND PHARMACEUTICAL AND MEDICINE MANUFACTURING: EMPLOYMENT IN TEXAS' FOUR LARGEST METROPOLITAN AREAS, 2016



Sources: Texas Comptroller of Public Accounts and Emsi

EXHIBIT 4

## RESEARCH AND DEVELOPMENT IN BIOTECHNOLOGY

METROPOLITAN AREA	2010 DIRECT EMPLOYMENT	2016 DIRECT EMPLOYMENT	PERCENT CHANGE	2016 AVERAGE WAGES
Austin-Round Rock	1,070	1,036	-3.2%	\$98,585
Dallas-Fort Worth-Arlington	1,008	1,350	33.9%	\$92,351
Houston-The Woodlands-Sugar Land	1,306	1,014	-22.4%	\$117,659
San Antonio-New Braunfels	446	835	87.2%	\$85,239
<b>Texas</b>	<b>4,349</b>	<b>4,938</b>	<b>13.5%</b>	<b>\$101,116</b>
<b>United States</b>	<b>136,799</b>	<b>170,842</b>	<b>24.9%</b>	<b>\$151,818</b>

Sources: Texas Comptroller of Public Accounts and Emsi

EXHIBIT 5

## PHARMACEUTICAL AND MEDICINE MANUFACTURING

METROPOLITAN AREA	2010 DIRECT EMPLOYMENT	2016 DIRECT EMPLOYMENT	PERCENT CHANGE	2016 AVERAGE WAGES
Austin-Round Rock	1,750	1,857	6.1%	\$76,183
Dallas-Fort Worth-Arlington	4,111	3,963	-3.6%	\$98,049
Houston-The Woodlands-Sugar Land	1,298	2,562	97.4%	\$136,716
San Antonio-New Braunfels	1,071	1,354	26.5%	\$68,871
<b>Texas</b>	<b>9,600</b>	<b>11,652</b>	<b>21.4%</b>	<b>\$95,051</b>
<b>United States</b>	<b>278,792</b>	<b>285,501</b>	<b>2.4%</b>	<b>\$115,697</b>

Sources: Texas Comptroller of Public Accounts and Emsi

Texas as a whole also saw robust growth in pharmaceutical and medicine manufacturing, with employment rising nearly 10 times as fast as the nation's.

### TRENDS AND OPPORTUNITIES

The competitive landscape of the bioscience industries is changing rapidly due to rising costs, market pressures, growing demand for health care and emerging digital and analytical capabilities.

While demand for new drugs continues to rise, so too does the cost of R&D. According to a recent report by Deloitte, the cost of developing and bringing a new drug to market rose from \$1.19 billion in 2010 to \$1.54 billion in 2017. Meanwhile, the pharmaceuticals industry faces growing pressure to help control global health care expenditures, which Deloitte estimates will rise from \$7.0 trillion in 2015 to \$8.7 trillion by 2020; others put the numbers significantly higher.

But thanks to advances in technology — such as next-generation DNA sequencing, new biosensor technology and advanced digital tools — physicians will soon be able to recognize early warning signs of disease from gene-based analyses of a patient's tissue sample, and prescribe early corrective action, either through lifestyle adjustments or personalized therapeutics. Disease will be prevented or detected before clinical symptoms appear.

Biomedical research and “big data” analytics, both with strongholds in Texas, will converge in this new multi-trillion-dollar industry.

“We’ve seen the incredible strides human intellect and ingenuity can make in just a few years. Imagine what discoveries lie ahead,” Kowalski says. **FN**

# State Revenue Watch

This table presents data on net state revenue collections by source. It includes the most recent monthly collections, year-to-date (YTD) totals for the current fiscal year and a comparison of current YTD totals with those in the equivalent period of the previous fiscal year.

These numbers were current at press time. For the most current data as well as downloadable files, visit [comptroller.texas.gov/transparency](http://comptroller.texas.gov/transparency).

Note: Texas' fiscal year begins on Sept. 1 and ends on Aug. 31.

## NET STATE REVENUE — All Funds Excluding Trust

(AMOUNTS IN THOUSANDS)

### Monthly and Year-to-Date Collections: Percent Change From Previous Year

Tax Collections by Major Tax	SEPTEMBER 2017	YEAR TO DATE: TOTAL	YEAR TO DATE: CHANGE FROM PREVIOUS YEAR
<b>SALES TAX</b>	\$2,356,666	\$2,356,666	10.41%
PERCENT CHANGE FROM SEPTEMBER 2016	10.41%		
<b>MOTOR VEHICLE SALES AND RENTAL TAXES</b>	385,502	385,502	-2.61%
PERCENT CHANGE FROM SEPTEMBER 2016	-2.61%		
<b>MOTOR FUEL TAXES</b>	293,771	293,771	-0.09%
PERCENT CHANGE FROM SEPTEMBER 2016	-0.09%		
<b>FRANCHISE TAX</b>	-14,442	-14,442	-62.21%
PERCENT CHANGE FROM SEPTEMBER 2016	-62.21%		
<b>OIL PRODUCTION TAX</b>	184,197	184,197	17.41%
PERCENT CHANGE FROM SEPTEMBER 2016	17.41%		
<b>INSURANCE TAXES TAX</b>	22,202	22,202	33.29%
PERCENT CHANGE FROM SEPTEMBER 2016	33.29%		
<b>CIGARETTE AND TOBACCO TAXES</b>	34,729	34,729	-72.78%
PERCENT CHANGE FROM SEPTEMBER 2016	-72.78%		
<b>NATURAL GAS PRODUCTION TAX</b>	109,013	109,013	84.87%
PERCENT CHANGE FROM SEPTEMBER 2016	84.87%		
<b>ALCOHOLIC BEVERAGES TAXES</b>	92,783	92,783	-1.17%
PERCENT CHANGE FROM SEPTEMBER 2016	-1.17%		
<b>HOTEL OCCUPANCY TAX</b>	43,939	43,939	3.95%
PERCENT CHANGE FROM SEPTEMBER 2016	3.95%		
<b>UTILITY TAXES<sup>1</sup></b>	333	333	-124.26%
PERCENT CHANGE FROM SEPTEMBER 2016	-124.26%		
<b>OTHER TAXES<sup>2</sup></b>	12,970	12,970	74.15%
PERCENT CHANGE FROM SEPTEMBER 2016	74.15%		
<b>TOTAL TAX COLLECTIONS</b>	<b>\$3,521,664</b>	<b>\$3,521,664</b>	<b>7.09%</b>
PERCENT CHANGE FROM SEPTEMBER 2016	<b>7.09%</b>		
Revenue By Source	SEPTEMBER 2017	YEAR TO DATE: TOTAL	YEAR TO DATE: CHANGE FROM PREVIOUS YEAR
<b>TOTAL TAX COLLECTIONS</b>	\$3,521,664	\$3,521,664	7.09%
PERCENT CHANGE FROM SEPTEMBER 2016	7.09%		
<b>FEDERAL INCOME</b>	3,677,253	3,677,253	2.38%
PERCENT CHANGE FROM SEPTEMBER 2016	2.38%		
<b>LICENSES, FEES, FINES, AND PENALTIES</b>	664,288	664,288	2.90%
PERCENT CHANGE FROM SEPTEMBER 2016	2.90%		
<b>STATE HEALTH SERVICE FEES AND REBATES<sup>3</sup></b>	582,016	582,016	-25.22%
PERCENT CHANGE FROM SEPTEMBER 2016	-25.22%		
<b>NET LOTTERY PROCEEDS<sup>4</sup></b>	140,815	140,815	0.89%
PERCENT CHANGE FROM SEPTEMBER 2016	0.89%		
<b>LAND INCOME</b>	122,283	122,283	-27.29%
PERCENT CHANGE FROM SEPTEMBER 2016	-27.29%		
<b>INTEREST AND INVESTMENT INCOME</b>	65,379	65,379	76.25%
PERCENT CHANGE FROM SEPTEMBER 2016	76.25%		
<b>SETTLEMENTS OF CLAIMS</b>	2,829	2,829	-8.14%
PERCENT CHANGE FROM SEPTEMBER 2016	-8.14%		
<b>ESCHEATED ESTATES</b>	17,924	17,924	84.44%
PERCENT CHANGE FROM SEPTEMBER 2016	84.44%		
<b>SALES OF GOODS AND SERVICES</b>	20,490	20,490	-23.17%
PERCENT CHANGE FROM SEPTEMBER 2016	-23.17%		
<b>OTHER REVENUE</b>	205,826	205,826	-3.83%
PERCENT CHANGE FROM SEPTEMBER 2016	-3.83%		
<b>TOTAL NET REVENUE</b>	<b>\$9,020,768</b>	<b>\$9,020,768</b>	<b>1.33%</b>
PERCENT CHANGE FROM SEPTEMBER 2016	<b>1.33%</b>		

<sup>1</sup> Includes public utility gross receipts assessment, gas, electric and water utility tax and gas utility pipeline tax.

<sup>2</sup> Includes taxes not separately identified.

<sup>3</sup> Includes various health-related service fees and rebates that were previously in "license, fees, fines and penalties" or in other non-tax revenue categories.

<sup>4</sup> Gross sales less retailer commission and the smaller prizes paid by retailers

Notes: Totals may not add due to rounding. Excludes local funds and deposits by certain semi-independent agencies.

Includes certain state revenues that are deposited in the State Treasury but not appropriated.



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