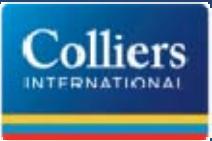


# Houston Economic Outlook



## EXECUTIVE SUMMARY

### HOUSTON MSA EMPLOYMENT

2011:	75,800 jobs gained
2010:	13,100 jobs gained
2009:	(95,200) jobs lost
2008:	22,500 jobs gained

### HOUSTON MSA POPULATION

2011:	6.1M
2010:	5.9M
2010-2011	3.4% growth
2000-2010:	26.1% growth
1990-2000:	25.2% growth

### ENERGY

WTI Crude Oil:	\$84.10/barrel (6/2012)
	\$101.93/barrel (6/2011)
	\$75.35/barrel (6/2010)
	\$69.68/barrel (6/2009)
Natural Gas:	\$2.41/MMBtu (6/2012)
	\$3.98/MMBtu (6/2011)
	\$3.92/MMBtu (6/2010)
	\$3.18/MMBtu (6/2009)

### IMPORT/EXPORT TRADE

HAS Air Freight:	934.2M lbs. (2011)
	882.5M lbs. (2010)
Port Total Tonnage:	236M tons (2011)
	220M tons (2010)

### JOB GROWTH & UNEMPLOYMENT (Not Seasonally Adjusted)

UNEMPLOYMENT	6/11	6/12
HOUSTON	9.0%	7.5%
TEXAS	8.6%	7.6%
U.S.	9.3%	8.4%
JOB GROWTH	ANNUAL CHANGE	# OF JOBS ADDED
HOUSTON	3.3%	85K
TEXAS	2.2%	231K
U.S.	1.3%	1.8M

## HOUSTON, "AMERICA'S COOLEST CITIES TO LIVE"

Houston ranked among the top-performing U.S. metros in 2011 and continues to lead the nation in population and job growth in 2012. Although 2009 was undeniably challenging with local job losses totaling 95,200, this was the first year Houston suffered job losses following a stellar period of expansion and job growth from 2005 thru 2008. While the nation's economy still has hurdles to overcome, Houston is once again making headlines as having one of the healthiest economies in the U.S. In its March 2012 issue, Site Selection ranked Houston #1 for "Tier One New and Expanded Facilities in 2011" for MSA's with population over 1 million, securing 195 corporate facility expansion projects. In addition, Chief Executive Magazine (for the eighth straight year) named Texas as the number one state for Best Business, in which Houston's energy industry played a huge part. In July 2012, Forbes ranked Houston #1 in the following categories: "America's Coolest Cities to Live", "Big Cities Where Self-Employment is Growing the Fastest", and "Cities Where a Paycheck Stretches the Furthest".

Houston's economic base comprises varied mature industries led by the energy sector, accounting for just over 50 percent of the local economy. Following the energy price peaks at midyear 2008, with crude oil trading at \$133 per barrel and natural gas over \$8 per MMBtu, the industry experienced increased volatility due in large part to prevailing uncertainty regarding the worst global economic recession in recent history. After oil prices spiked last year, demand decreased, increasing supply. During the first half of 2012, energy prices have decreased and at mid-year crude oil was near \$84 per barrel and natural gas prices reached historical lows, just below \$2.50 per MMBtu. According to the U.S. Energy Information Administration, the West Texas Intermediate (WTI) crude oil spot price will average about \$88 per barrel over the second half of 2012. Increased demand, particularly from emerging markets led by China and India with mass-scale industrialization projects underway, is the primary reason many industry experts are convinced the era of low crude oil prices is over and prices are expected to increase 23 percent by 2030, while global energy demand will increase an even more significant 55 percent during the same period.

Houston's strategic location and core strengths, including an expanding energy sector, strong import/export trade activity, cutting-edge medical advancements, and technological breakthroughs across industries, uniquely position it to play a vital role in meeting national and global market demands. At a time of unprecedented geopolitical demographic shifts affecting markets worldwide, Houston stands as a leader among U.S. metros of the 21<sup>st</sup> century.

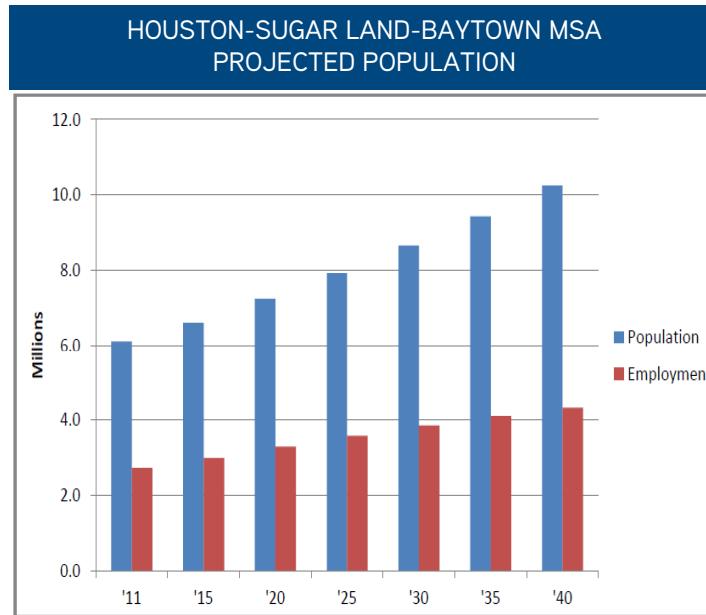


## HOUSTON MSA RANKS 1ST IN U.S. POPULATION GROWTH

Houston ranks among the leading metropolitan areas in the U.S., and is the fourth largest city and the fifth largest Metropolitan Statistical Area (MSA) in the nation. In March 2011, the U.S. Census Bureau announced that the Houston MSA, which consists of 10 counties, ranked first in the nation for population growth. Between 2000 and 2010, the Houston MSA increased an impressive 26.1 percent, from 4.7M to 5.9M residents. Further, the Houston metro area is expected to increase to over 6.2M by 2015. On a more long-term basis, demographers project strong population growth for the area over the next thirty years as domestic and international migration trends favor Houston's geographical, cultural, and economic strengths.

The 2010 U.S. Census also showed a dramatic increase of 23.5 percent in Houston metro area households from 1.7 million in 2000 to 2.1 million in 2010. The average household income for the metro area was estimated at \$76,301 in 2009, with a 11.9 percent projected increase to \$85,409 by 2014. The median household income was estimated at \$53,942 in 2010, an annual decrease of 0.4 percent from \$54,146 in 2009. By comparison, the national income levels fell below the Houston market, with 2010 U.S. household median income at \$50,046 an annual decrease of 0.3 percent from \$50,221 in 2009.

Houston's strong economic base continues to be a key factor driving both domestic and international migration trends. Houston ranked 3rd among U.S. MSA's with the most Fortune 500 headquarters with twenty-five (25) companies on the 2012 list, following New York, with a total of sixty-seven (67) and Chicago, with a total of twenty-nine (29) Fortune 500 companies headquartered locally, and many other companies maintaining U.S. administrative headquarters in the metro area. Notably, Houston surpassed other major metros on the Fortune 500 list, including Washington D.C. with twenty (20) and Los Angeles with nineteen (19). Houston has also been recognized for having a total of twelve (12) companies on the 2012 "Fortune's 100 Best Companies to Work For" list.



Source: The Perryman Group, Summer 2012; Greater Houston Partnership

Houston area residents are well-educated, with the majority of the population over 25 years of age holding a high school diploma and residents with college/graduate educational studies outnumbering those with less than a high school education.

This high level of educational achievement is not surprising given Houston's numerous nationally recognized colleges and universities, as well as technical and trade schools, including Rice University, University of Houston, University of St. Thomas, Texas Southern University, Houston Baptist University, Baylor College of Medicine, San Jacinto College, Lone Star College, and Houston Community College.

Bolstered by above-average demographic trends and a strong base of diverse industries, Houston is well-positioned to compete in today's global markets. Long recognized as the energy capital of the world, with every major energy company represented locally, Houston now stands as a global example of economic diversity. The area is home to a thriving base of industries including medical/biomedical technology, global trade (particularly airborne and waterborne domestic/international cargo), aeronautics, plastics manufacturing, electronics, computers, software design and integrated power.

Sources: U.S. Census Bureau, Greater Houston Partnership;  
[http://money.cnn.com/magazines/fortune/fortune500/2012/full\\_list/](http://money.cnn.com/magazines/fortune/fortune500/2012/full_list/)

## HOUSTON EMPLOYMENT SECTOR

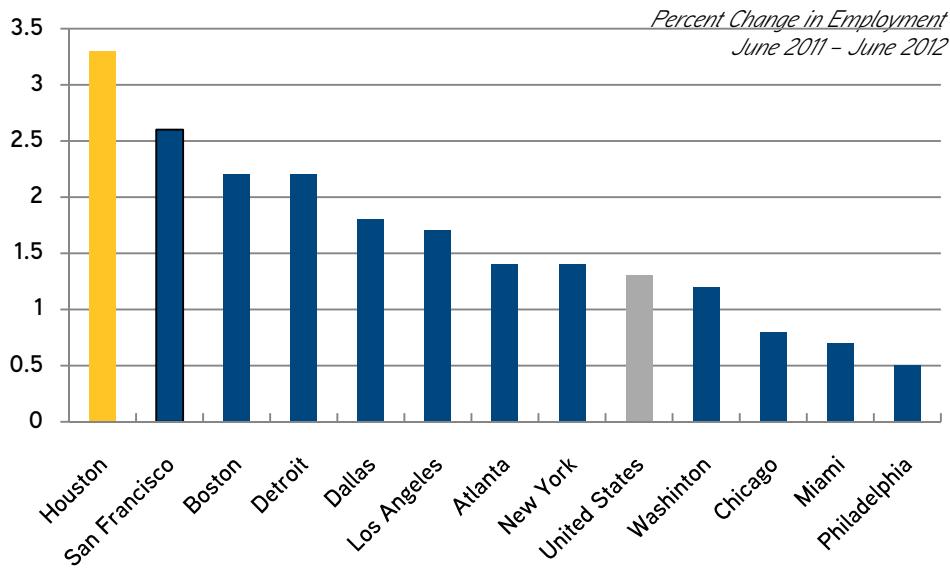
Houston's employment sector has weathered the recession better than most major metro areas. The downturn here was short-lived and the Houston MSA began recovering jobs sooner than most, recovering more than the jobs it lost in the recession. Between June 2011 and June 2012, Houston posted the most job gains out of the 12 most populous U.S. major metros, and had stronger job growth than the U.S. as a whole as seen in the graph below.

According to a study by HIS Global Insight, only 26 metro areas have completely recovered jobs lost in the recession, and by the end of 2012 that number will grow to 52. US total nonfarm payrolls will have grown by another 1.3%, and the nation will have regained 48% of the jobs lost in the recession, putting itself on solid footing to maintain strong positive growth in 2013 and beyond. However, for almost 80 metros, full recovery is over five years away.

### HOUSTON AMONG 12 MOST POPULOUS U.S. MAJOR METROS

Sources: U.S. Bureau of Labor Statistics, April 2012; Greater Houston Partnership

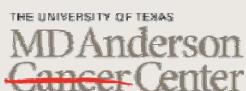
Percent



Natural gas prices have remained relatively static due in part to the development and perfection of hydraulic fracturing of shale formations for natural gas production. As natural gas is the primary material used in the petrochemical industry, the region looks to gain new capital investment, plants and jobs as one-half of the petrochemical industry jobs in Texas are in the Houston region. This type of job growth is evident as Houston's Mining and Logging industry sector had the largest annual change in employment at 9.3 percent.

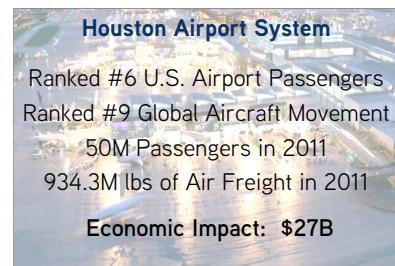
Additional Houston employment industry sectors that reported annual growth above 6.5 percent include: Leisure & Hospitality at 7.3 percent; Other Services (which includes equipment and machinery repairing) at 6.8 percent; and Education & Health Services at 6.5 percent. Government was the only industry sector that lost jobs over the year, down by 10,600 or 2.8 percent.

### SELECT MAJOR AREA EMPLOYERS



## HOUSTON'S STRONG BUSINESS CLIMATE

Houston has long been recognized among the most competitive U.S. cities for corporate relocation and expansion activity. In its March 2012 issue, *Site Selection* ranked Houston #1 for Tier One New and Expanded Facilities in 2011 of MSA's with population over 1 million, securing 195 corporate facility expansion projects. In addition, *Chief Executive Magazine* (for the eighth straight year) named Texas as the number one state for Best Business, in which Houston's Energy Industry played a huge part. In July 2012, *Forbes* ranked Houston #1 in "Big Cities Where Self-Employment is Growing the Fastest", and "Cities Where a Paycheck Stretches the Furthest". **In addition to its diverse growth industries and educated/skilled workforce, a key factor underscoring Houston's business appeal is the fact that it is one of the least expensive major U.S. cities in which to conduct business. Significant benefits include the absence of state or city income taxes, no state property tax, as well as an exceptionally low cost of living index.**



\* Statewide Economic Impact

Sources: Federal Reserve Bank of Dallas; Port of Houston Authority; Fly2Houston.com; Greater Houston Partnership; Perryman Report; NASA Acquisition Internet Service (NAIS)

As a major transportation hub with two major airports, a world-renowned port, and superior rail and road infrastructure, Houston facilitates the interconnection of global business locations. Business alliances with major U.S. and international markets is further enhanced by the presence of 94 foreign consulate offices in Houston. In 2011, Houston ranked third in the U.S. – following New York and Los Angeles – in foreign consulate representation.

Houston's ability to foster continued expansion in future-growth industries responsible for generating high quality, well-paid jobs across all business sectors has placed it in the top tier among U.S. cities. With its numerous business advantages, Houston is well-positioned to successfully compete in today's global marketplace.



TRAVEL TIME FROM HOUSTON				
City	Distance (Miles)	Air (Hours)	Rail (Hours)	Truck (Hours)
Atlanta	793	2.5	66	13
Chicago	1,090	2.5	86	18
Denver	1,119	2.5	60	17
Los Angeles	1,550	3.5	90	24
Miami	1,188	2.5	NA	19
New York	1,631	3.5	NA	20
Seattle	2,443	5.0	60	36

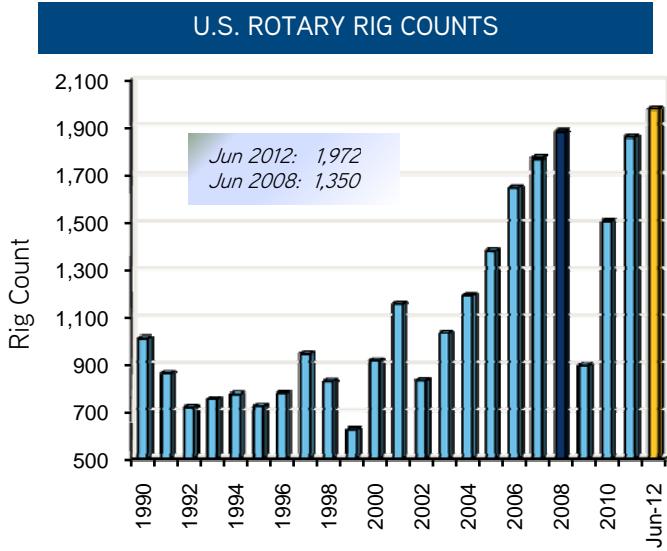
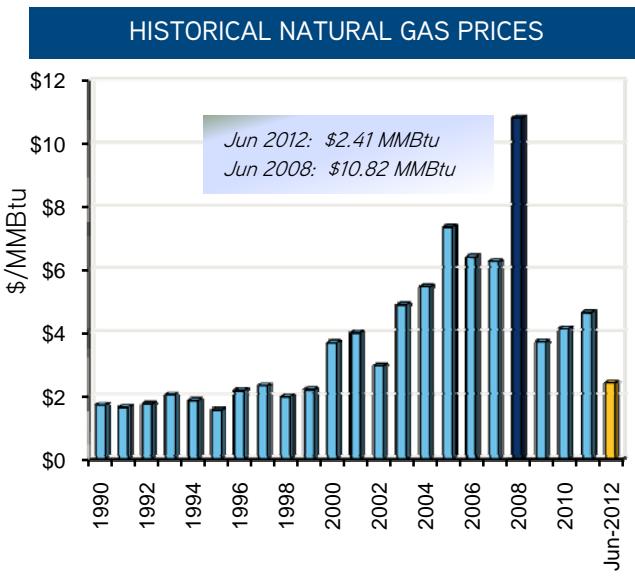
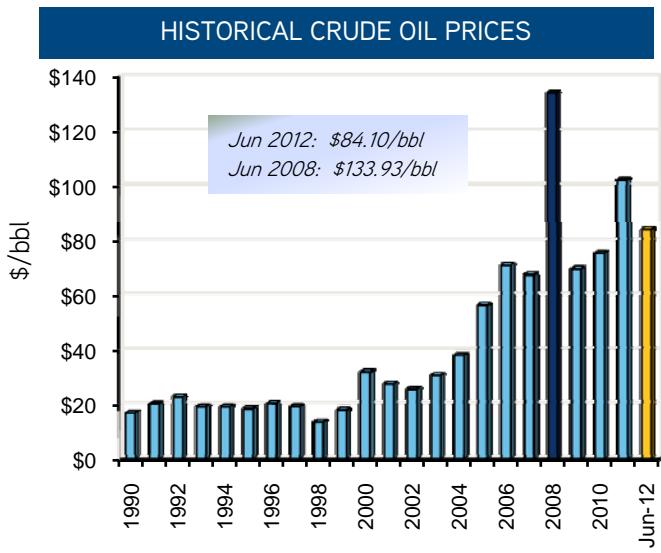
Source: www.mapquest.com, Official Airlines Guide, BNSF Railway, Union Pacific Railroad and Greater Houston Partnership Research Department

## HOUSTON – GLOBAL ENERGY CAPITAL

Houston is internationally recognized as the global energy capital, with virtually every segment of the energy industry represented by over 5,000 firms in the region. It is also known as the global center for integrated power, a fast-growing new sector of the energy industry. In just over a decade, the number of Houston-based energy trading companies has tripled, with petrochemical capacity in the area nearly four times larger than the nearest competing U.S. site. All major oil and gas companies have extensive operations in the area, including ExxonMobil, Chevron, BP America, Citgo, ConocoPhillips, Shell Oil Company, BHP Biliton, TOTAL, BG Group, Devon Energy, LyondellBasell, Halliburton, Occidental Petroleum, Petrobras, Marathon Oil, Anadarko Petroleum, Transocean, Apache, Hess Corporation, Newfield Exploration, Enterprise Products Partners, and Plains All American Pipeline.



According to a June 2012 British Petroleum statistical review of world energy, global energy consumption grew by 2.5 percent in 2011, below the 5.1 percent increase seen in 2010, but in-line with historical averages. The report states that China accounted for 71 percent of energy consumption growth. Although oil continued to lose market share for the 12<sup>th</sup> consecutive year, it remains the world's leading fuel, at 33.1 percent of global energy consumption. The U.S. total natural gas consumption grew by 1.5 percent in 2011 and is expected to grow another 3.2 percent in 2012.



The U.S. Energy Information Administration's (EIA) Annual Energy Outlook released in June 2012 indicates overall U.S. energy consumption will grow at an average annual rate of 0.3 percent from 2010 through 2035. EIA projects spot crude oil prices will rise to about \$117 per barrel in 2015 and \$127 per barrel in 2020. Prices will increase slowly between 2020 and 2035 to \$145 per barrel. The Henry Hub natural gas prices are projected to average \$3.70 per MMBtu at the end of 2012 and will increase to \$5.39 per MMBtu by 2020, and to \$11.67 by 2035. The U.S. rotary rig count increased to 1,972 rigs in June 2012, which is above the historical high of 1,350 rigs reached in 2008.

Source: Energy Information Administration; West Texas Intermediate; Baker Hughes; Greater Houston Partnership

## HOUSTON'S PETROCHEMICAL & PLASTICS INDUSTRY

Houston is a global leader in manufacturing petrochemicals, with the Houston Ship Channel recognized as the largest petrochemical complex in the U.S. The area is home to more than 125 refining and petrochemical manufacturing companies operate the region's largest petrochemical plants including; Bayport Industrial District, Battleground Industrial Complex, Bayport Shipping Terminal, and the Houston Ship Channel.



Today, the chemical industry employs 70,000 people in Texas, nearly a tenth of the industry's total U.S. workforce, according to Labor Department figures. About half of those jobs are in the Houston region, spread across more than 430 chemical plants and refineries. In 2011, Texas led the nation in crude oil production, with 26 petroleum refineries producing over 4.7 million barrels of crude oil per day, 27 percent of total U.S. refining capacity.

The discovery of shale rock formations, rich with natural gas and natural gas liquids, has had a huge impact on the region's economy as many of the major energy companies headquartered in Houston have expanded into natural gas production.

Chemical companies are racing to make investments to take advantage of low natural gas prices, since natural gas is used as a feedstock in chemical production. Exxon Mobil Corporation paid \$1.69 billion for two closely-held energy explorers to gain shale-gas reserves in Pennsylvania and neighboring states. Over the past year, oil companies have expanded quickly to tap shale oilfields in Texas that could increase domestic oil production by 25 percent over the next decade. More than a dozen companies drilled over 3,000 wells over the past 12 months at Eagle Ford and other sites. According to the Texas Railroad Commission, drilling permits increased 24.7 percent in 2011, which includes both oil and gas.

### MAJOR HOUSTON REGION CHEMICAL PLANTS

Air Liquide USA	ExxonMobil Corp.
Air Products	Goodyear Tire & Rubber Co.
Baker Petrolite Corp	INEOS Olefins & Polymers
BASF Corporation	LyondellBasell Industries
Bayer Material Science	Lubrizol Corporation
BP Texas City	OxyVinyls, LP
Celanese	Rohm and Haas Texas
Chevron Phillips Chemical	Shell Chemical
Dow Chemical Company	Solvay Chemicals, Inc.
E.I. du Pont de Nemours Co.	Total Petrochemicals USA

"Thousands of jobs have been proposed in the Houston area from recently announced plants and expansions from chemical companies such as Irving-based Celanese Corp. and The Dow Chemical Co."

*Houston Business Journal  
July 2012*



Source: Energy Information Administration; Greater Houston Partnership

### ENERGY INDUSTRY – EXPANSIONS, ACQUISITIONS & NEW INVESTMENTS

- Jul 2012: Billions of dollars of chemical plants planned in the Houston area.
- Jul 2012: Houston sees resurgence in manufacturing due to petrochemical rebirth.
- Jul 2012: Shale growth drives \$17M expansion at Global Pipe
- Jun 2012: Exxon plans multi-billion dollar chemical plant in Baytown
- Apr 2012: BP alternative energy division moves HQ to Houston
- Apr 2012: Mac Process, the largest North American solutions provider of pneumatic conveying and air filtration systems, invested more than \$1 million in phase one of a Houston test center that opened as "the most extensive petrochemical pneumatic test center in North America".
- Mar 2012: Dow Chemical plans to invest \$4 billion in six projects along the Gulf Coast, to capitalize on cheap natural gas liquids from the Eagle Ford and other shales.

Source: Houston Business Journal; Houston Chronicle;

## THE PORT OF HOUSTON

The Port of Houston's market strength and strategic location represents a winning combination for business growth and increased industrial development. The economic impact of the Port of Houston is significant, accounting for \$178.5B of total economic activity in Texas, including \$56.5B of total personal income, and \$4.5B in state and local taxes. Total value of foreign trade through the Port of Houston in 2011 was \$242.5B. Among the largest developments is the \$1.2B Bayport Container and Terminal Project, which generates an estimated \$1.6B of annual business and tax revenue, as well as 32,000 jobs. The most recent phase completed added 1,330 feet of additional wharf, 18 Rubber Tire Gantry (RTG) yard cranes, six post Panamax cranes, a total of 7,000 feet of berthing space at final build-out and 2.3M TEU (twenty-foot equivalent unit) capacity. The significant increase in demand for waterborne cargo has been driven by several factors, including trade agreements with Asia, Europe and Latin America, as well as the overall expansion of global industrialization. Significant increased demand at the Port of Houston continues to put the port on the top of port rankings. In 2011, The Port of Houston ranked first in the United States in international waterborne tonnage handled and was second in total cargo tonnage in 2011. A Port of Houston Authority 2012 economic impact study showed that more than 1.1 million jobs in Texas and nearly \$179 billion of annual statewide economic activity were in some way related to cargo moving through the port.

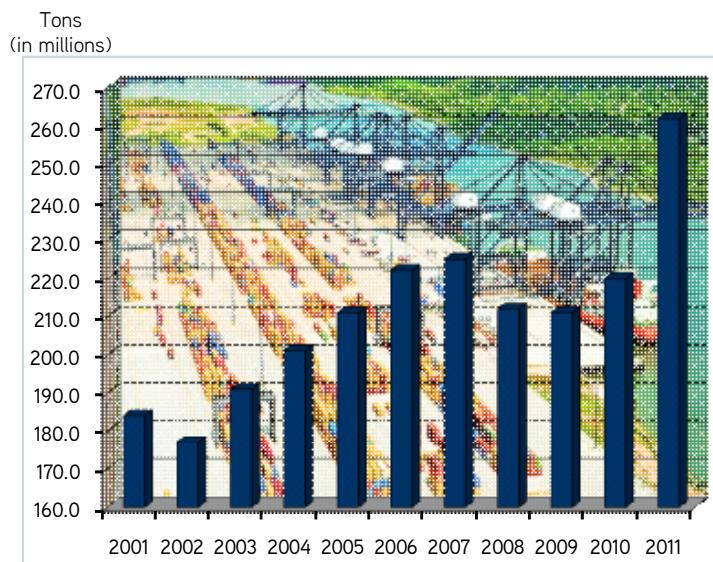
The Port of Houston Authority (PHA) has planned significant infrastructure improvements over the next few years to accommodate larger vessels and increased cargo resulting from the Panama Canal expansion. Plans for 2012 include \$206 million in capital improvement projects. Approximately \$146 million will be allocated to continued development and modernization of Bayport and Barbours Cut container terminals. In addition, about \$5 million has been allocated for maintenance dredging and related improvements of the Houston Ship Channel. The remaining 2012 capital budget will be used primarily for projects at the general cargo and bulk terminals in the Turning Basin area and port security.

Container imports received at the Port of Houston Authority rose by 5.5 percent in 2011. The PHA handled 16.9 million tons of cargo containers in 2011, a 4.3 percent increase from the previous year's total of 16.2 million tons. The Port Authority handled 4.3 million tons of steel in 2011, reflecting an increase of 58 percent over 2010. An immense network of interstate highways and railways connect the port with an inland market of approximately 100 million customers. Over 25 million square feet of distribution centers near the port and other centers are growing around the Houston metro area in response to the port's global trade and commerce.

### HOUSTON - THE IRREPLACEABLE PORT

The Houston Port Authority was the first to introduce double-stacking rail cargo, and the first to receive certain ISO certifications for environmental management and security. It was also a leader in the creation of foreign trade zones. Thus, it came as no surprise that Containerisation International named Houston the Port Authority of the Year in 2011. The Port of Houston handles seventy percent of all the containerized cargo in the U.S. Gulf of Mexico and is vital to the nation's petrochemical industry. Unlike key East and West Coast ports, there are no alternatives to the Port of Houston. New Orleans and Tampa might possibly handle Houston's vessel traffic, but those ports lack the energy, security, and inland infrastructure that make Houston a one-of-a-kind.

### PORT OF HOUSTON AUTHORITY TOTAL TONNAGE HANDLED 2001-2011



## NASA/JOHNSON SPACE CENTER



NASA's Johnson Space Center (JSC) is a \$1.8B complex occupying 1,700 acres, first established in 1961, and later renamed in 1973 in honor of the late President Lyndon B. Johnson, a native Texan. JSC is one of NASA's largest research and development facilities and mission control for all U.S. manned space flight communications, including the International Space Station and Exploration Programs. From the early space exploration projects Gemini, Apollo and Skylab, came the historic moment when the first word from the moon was "Houston", and deservedly so, as it took a 15,000-member team in Houston to develop, test and

put into action what millions around the world watched on television in 1969. Since its inception, JSC continues to make significant advances in science, aeronautics, technology, engineering and medicine.

In 2011 JSC's workforce represented over 14,000 jobs, including approximately 3,000 civil servants and 12,000 contractor personnel employed onsite or in facilities in the area. JSC's top contractors include Boeing, United Space Alliance, Lockheed/Martin, Anadarko Industries, Jacobs Engineering, Honeywell, Bastion Technologies, Science Applications International Corporation (SAIC), Raytheon, Oceaneering Space Systems, and Wylie Laboratories, among many others.

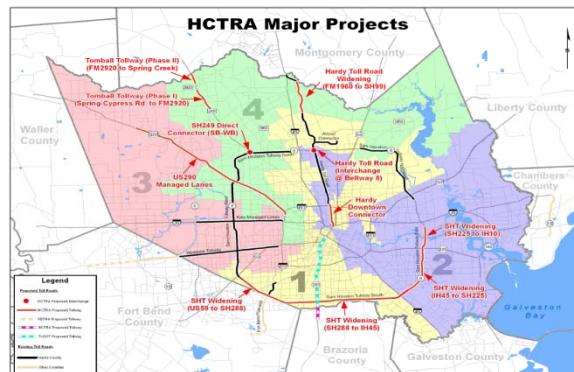
The Mission Control Center at Johnson Space Center directs all space shuttle missions, including international space station assembly flights. MCC also manages all activity onboard the international space station. JSC serves as the lead NASA center for the International Space Station -- a U.S.-led collaborative effort of 16 nations, and the largest, most powerful, complex human facility to ever operate in space.

## HOUSTON'S MOBILITY INFRASTRUCTURE

Houston's location in the south central U.S. strategically places it equidistant from the nation's major population centers – New York (1,631 miles) and Los Angeles (1,550 miles). Connection to major national and international locations is facilitated through Houston's excellent transportation infrastructure which includes the George Bush Intercontinental Airport, William P. Hobby Airport, Ellington Field, the Port of Houston, and the well-integrated mainline railroads and trucking system serving the area.

In the Houston MSA, an extensive freeway system spans 575.5 miles and is one of only two major U.S. cities where traffic congestion has declined in the past ten years. This improvement is due to a massive road construction program that averaged more than \$1B annually.

Between 2003 and 2008, a boom in new construction projects for Houston's major freeways and tollways significantly improved mobility and accessibility for the region. Expansion of the Katy Freeway (Interstate 10) was one of the most significant projects completed in October 2008, with other key improvement projects including Loop 610/West Loop, Southwest Freeway (U.S. Highway 59 South), Grand Parkway (State Highway 99), North Freeway (Interstate 45 North), Eastex Freeway (U.S. Highway 59 North); Crosby Freeway (U.S. Highway 90), Sam Houston Tollway (Beltway 8), and Westpark Tollway. New projects for 2012 and beyond include work on the Hwy 290 expansion, IH 610 and U.S. Hwy 290 interchange, as well as Segment E of the Grand Parkway.



## HOUSTON AIRPORT SYSTEM

The Houston Airport System (HAS) is one of the world's leading multi-airport facilities and includes George Bush Intercontinental Airport, William P. Hobby Airport, and Ellington Field. HAS ranked sixth nationally in passenger volume in 2011, carrying an impressive 50 million passengers and 934.3 million pounds of air freight. The Houston Airport System has a local economic impact of \$27 billion annually.

**George Bush Intercontinental Airport/Houston (IAH)**, situated twenty-three miles north of downtown Houston, is the nation's 10<sup>th</sup> busiest airport serving 40.1 million passengers in 2011 and offering 185 domestic and international destinations, with nearly 700 daily departures including non-stop direct flights to major cities in Europe, Mexico, Latin America and Asia. IAH is served by 17 passenger airlines and 12 all-cargo airlines handling more than 934.4 million pounds in cargo in 2011. Currently, IAH has five runways and five terminals, no takeoff and landing curfews, and ample land to expand its facilities as requirements demand. The scope and quality of IAH facilities make it one of the top U.S. airports for international air cargo traffic.

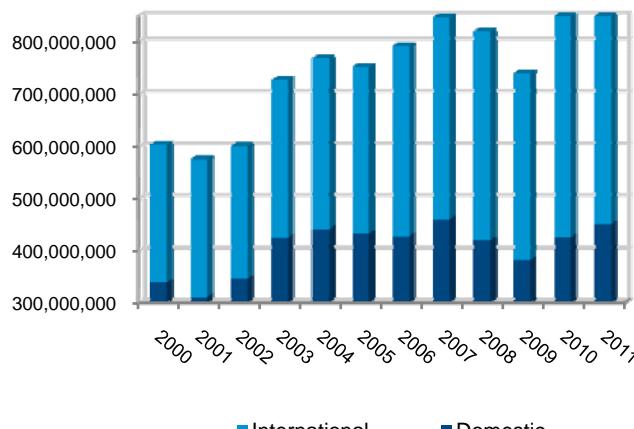


**William P. Hobby Airport** is located seven miles southeast of downtown Houston and is the nation's 37th busiest commercial airport, handling over 9.9 million passengers in 2011. Hobby Airport also serves as a major regional center for corporate and private aviation, with five passenger airlines offering scheduled service to approximately 65 U.S. destinations, including direct or non-stop service to 31 destinations. There are 255 private aircraft based at Hobby, including 91 corporate jets and five fixed-base operators serving the airport.

### Air Cargo

A strong increase in domestic and international trade – with air freight cargo up 5.4 percent between 2010 and 2011 – continues to drive activity at IAH and was the impetus behind the recently completed AirCargo Center, a \$180 million 165-acre complex. The new cargo complex features a state-of-the-art 500,000-SF warehouse distribution center and ramp for 20 wide-body aircraft designed to increase IAH's cargo surface capacity by 75 percent. With over 900 air freight-related businesses in the area, IAH is among the leading distribution hubs in the nation with a solid track record of growth and continued future expansion.

#### AIR FREIGHT IN POUNDS (DOMESTIC & INTERNATIONAL CARGO)



### IAH AIR FREIGHT STATISTICS & TRENDS

- IAH ranked 17<sup>th</sup> largest air cargo hub in the U.S.
- IAH is one of the fastest growing distribution hubs in the U.S.
- Between 2011-2012, air freight cargo via IAH increased 5.4 percent to 984M pounds
- IAH has state-of-the-art facilities to globally transport time-sensitive products
- Houston's role as a major gateway for import-export trade is expected to continue expanding with the new Panama Canal lock open

Source: Airport Council International; Houston Airport System

## TEXAS MEDICAL CENTER

The Texas Medical Center (TMC) – the world's largest medical center – represents one of Houston's major economic drivers and core industries with an estimated regional annual economic impact of \$14 billion. TMC is also one of Houston's largest employers with 92,500 employees, including physicians, scientists, researchers and other advanced degree professionals in the life sciences.

The internationally-renowned, 1,300-acre TMC is the world's largest medical complex with 52 member institutions, including leading medical, academic and research institutions, all of which are non-profit and dedicated to the highest standards of research, education and patient and preventive care. Member institutions include 13 hospitals and two specialized patient facilities, as well as 19 renowned academic and research institutions virtually covering all health-related careers – including two medical schools, four nursing schools, as well as schools of dentistry, public health, and pharmacy – and 15 support services organizations. Over 69,000 students – including more than 7,000 international students – are affiliated with TMC, including high school, college and health profession graduate programs. More than 7.1 million patients visited in 2011, including approximately 16,000 international patient visits.

**The University of Texas M.D. Anderson Cancer Center ranked #1 in U.S. News & World Reports "Americas Best Hospitals" for cancer care.**



In addition to the medical facilities and institutions of higher learning, TMC is also home to more than 280 professional buildings. Overall, the complex covers over 18 miles of public and private streets and roadways, with 45.5 million square feet of existing patient, education, and research space.

TMC has continued to grow and expand over the past several decades with the majority of growth occurring in the past ten years. The Center is located in the 110-acre University of Texas Research Park, a joint effort between the University of Texas Health Science Center, M.D. Anderson and General Electric Healthcare. In terms of future growth, TMC has approved \$7.1 billion in building and infrastructure investments between 2008 and 2012, with annual research expenditures estimated at \$1 billion.

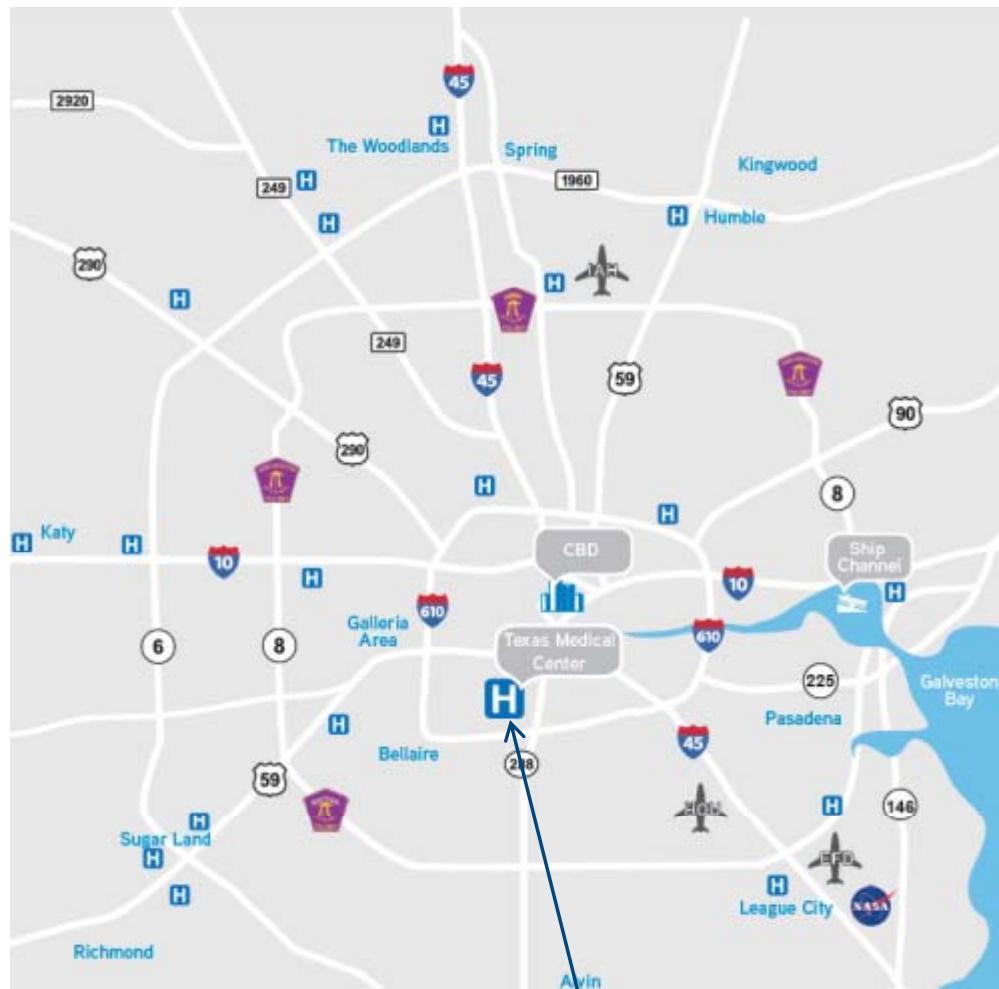
### **TMC Patient Care Institutions**

The University of Texas M.D. Anderson Cancer Center  
 Texas Children's Hospital  
 Memorial Hermann Hospital System  
 The Methodist Hospital  
 St. Luke's Episcopal Hospital  
 Lyndon B. Johnson General Hospital  
 Quentin Mease Community Hospital  
 Ben Taub General Hospital  
 The Institute for Rehabilitation and Research  
 The Hospice at the Texas Medical Center  
 Texas Heart Institute  
 Shriners Hospitals for Children – Houston  
 Veterans Affairs Medical Center in Houston

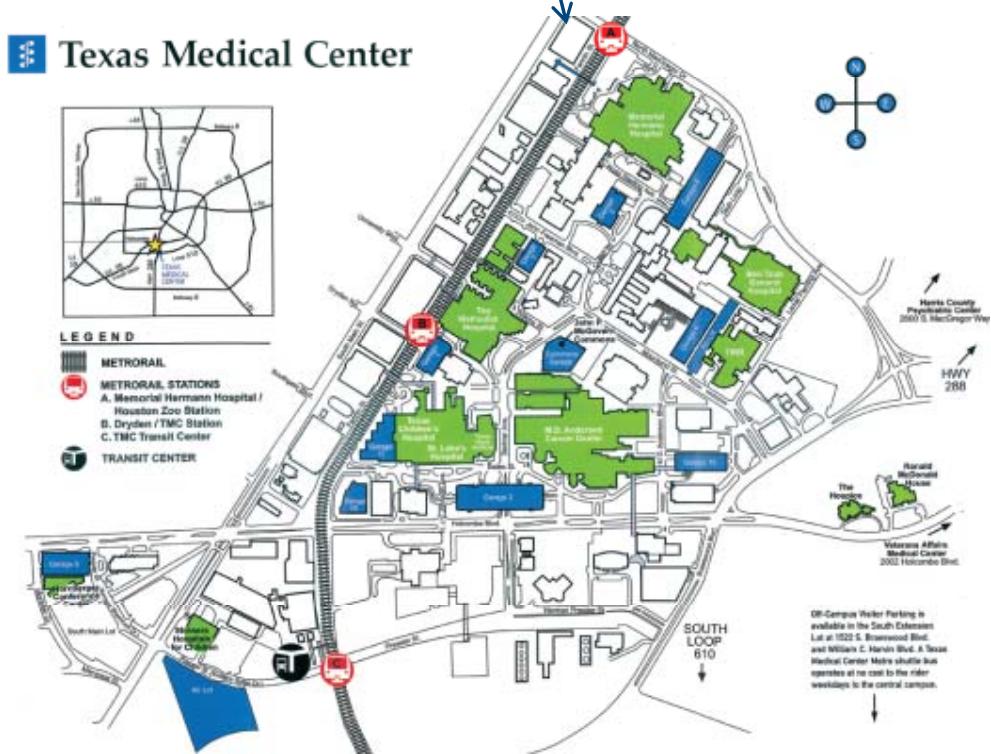
### **TMC Academic and Research Institutions**

Texas Children's Hospital Neurological Research Institute  
 Baylor College of Medicine  
 The University of Texas Health Science Center at Houston  
 The University of Texas M.D. Anderson Cancer Center  
 University of Houston College of Pharmacy  
 Rice University  
 Texas A&M University Health Science Center  
 Prairie View A&M University College of Nursing  
 Texas Woman's University Institute of Health Sciences  
 Texas Southern University College of Pharmacy and Health Sciences  
 Harris County Psychiatric Center  
 Houston Academy of Medicine

## HOUSTON AREA HOSPITAL LOCATIONS



 Texas Medical Center



## BIOSCIENCES & BIOTECHNOLOGY

Biotechnology and the life science industry continue expanding in the Houston region with more than 100 institutions and companies attracting over \$1.8B in research and development funding annually. Since 2005, the Texas Emerging Technology Fund has allocated more than \$197.2 million in funds to 133 early-stage companies, and \$173 million in grant matching and research superiority funds to Texas universities. Since 2010, the state-funded Cancer Prevention and Research Institute of Texas has awarded \$382 million in cancer research, commercialization and prevention grants. Leading research efforts in the area represent established and emerging industries, including nanotechnology, pharmaceuticals, nutraceuticals, genetics/genomics, biodefense and infectious diseases, stem cell research, and oncology.

Long known for its research-centric Texas Medical Center (TMC), the Houston region is gaining momentum in the development and commercialization of products ensuring its place as a major biotechnology and life sciences cluster. Public and private sector support, including investments by entrepreneurs and venture capitalists, will continue to be crucial in creating the necessary infrastructure to facilitate the entrance of both established and start-up private companies committed to biotechnology.

### BIOSCIENCES IN 2011-2012

**Jul 2012** Four new stem cell scientists join The Children's Regenerative Medicine Program at The University of Texas Medical School Houston.

**Mar 2012** The Cancer Prevention Research Institute (CPRIT) awards \$20M to Rice, MD Anderson Cancer Center.

**Nov 2011** Rainbow Coral Corp. establishes new biosciences headquarters in Houston.

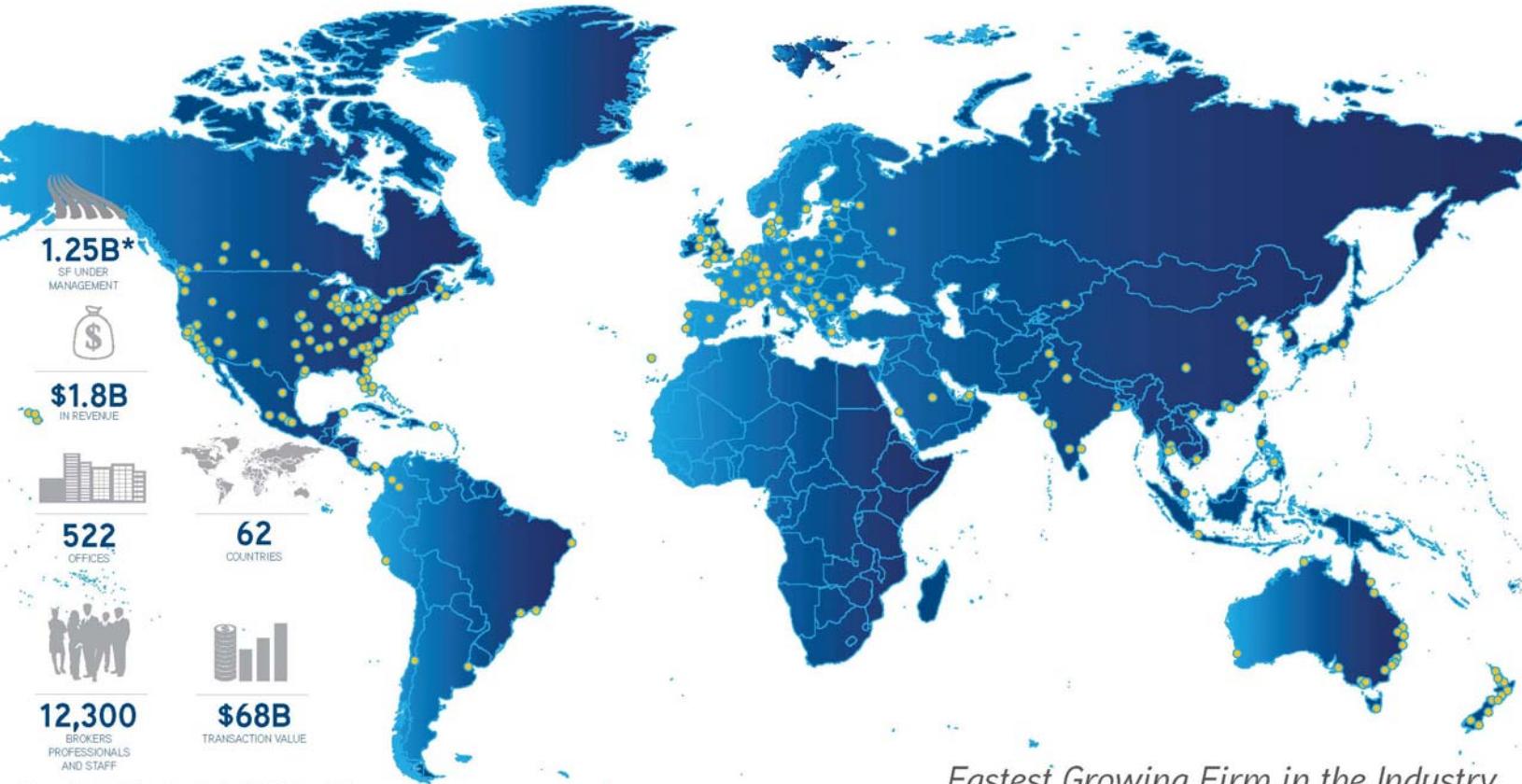
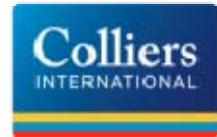
**May 2011** University of Texas System regents chose internationally renowned Harvard cancer geneticist as the next president of M.D. Anderson Cancer Center.

### HOUSTON AREA BIOTECHNOLOGY BUSINESS PARKS

Outside of the TMC, the 1,000-acre Research Forest located in The Woodlands (30 miles north of downtown Houston) is a long-standing major research center designed specifically for scientific, research and biotechnology companies. More recently established business parks/organizations geared towards biotechnology commercialization in the Houston region include the Genesis Biotechnology Park and BioHouston, Inc. Genesis Biotechnology Park comprises 16 innovative life science companies and researchers located just south of the TMC. The Park was developed to increase venture capital interests in Houston and is committed to supporting start-up companies by providing tenant options for shared office, wet laboratory space (including equipment), and flexible leases.

BioHouston, Inc., a non-profit corporation founded by Houston area academic/research institutions, is actively leading a broad-based effort to strengthen Houston's position as a global competitor in life science and biotechnology. BioHouston's Resource Center, the first incubator facility serving the Houston life sciences community, is housed at the Genesis Biotechnology Park, adding a key component to ongoing commercialization efforts. The Center is specifically designed to serve start-up biotech and life sciences companies by offering access to shared laboratory space, research resources, and networking opportunities with a community of biotech entrepreneurs.

From its base of cutting-edge research, Houston has taken the next step in its evolution as a primary life science cluster by creating an environment conducive for private companies to develop and market life science products. With key initiatives in place to bring together the public and private sectors, as well as significant improvements to the scope of services and incentives available to private companies, the infrastructure is in place to capitalize on Houston's strong research base and convert it into commercialized product. With this process now in motion, the biotech future in Houston looks bright.



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