2019

HOUSTON EMPLOYMENT FORECAST

GREATER HOUSTON
PARTNERSHIP.

Making Houston Greater.

December 2018

INTRODUCTION

The Greater Houston Partnership forecasts the nine-county metro Houston area will create 71,000 jobs in '19. Employment will grow in all sectors, with health care, construction and administrative services turning in the strongest performances. Energy will continue to recover. Manufacturing output will grow. Construction activity will pick up. Retail will benefit from population growth. Professional services will find new clients throughout the region. And health care will recapture its crown as the region's leading job generator. The year should end with 3.2 million payroll jobs, a net increase of more than 600,000 over the past 10 years. Only New York, Los Angeles and Dallas have created more jobs over the same period.

WHERE ARE WE NOW?

Houston has emerged from one of the worst energy downturns of the past 35 years. Oil prices fell by 75 percent, the rig count by 80 percent and exploration budgets by 62 percent. One in every four energy jobs in Houston was lost.

In previous downturns, a collapse in energy prices would have devastated the entire economy. This time, Houston held up quite well. Job losses in energy were offset by job gains elsewhere. Maybe the jobs didn't pay as well as the ones lost, but they did offer opportunities for employment. Home sales plateaued but never plummeted. Weaker demand helped slow the escalation of home values that had priced many would-be buyers out of the market during the energy boom. The plunge in oil prices didn't precipitate a collapse in commercial real estate. However, some office building owners found themselves with too much empty space on their hands and few good options for filling it. The Federal Deposit Insurance Corporation didn't step in to take over any insolvent Houston banks, unlike the '80s, when all the city's largest banks failed. And the local unemployment rate rose above the national rate, but it never reached the levels of the Great Recession and stayed well below the peak experienced during the '80s.

METRO HOUSTON FORECAST, JOB GAINS
December '18 - December '19

Source: Greater Houston Partnership

What does all this tell us? Oil is still important, but it no longer determines Houston's fate. We survived the downturn with minimal damage to the overall economy because Houston's ties to the U.S. and global economies are as strong as its ties to the oil and gas industry.

THE ASSUMPTIONS

All forecasts are based on assumptions–some reasonable, others outlandish. The Partnership's outlook is based on the following realistic assumptions:

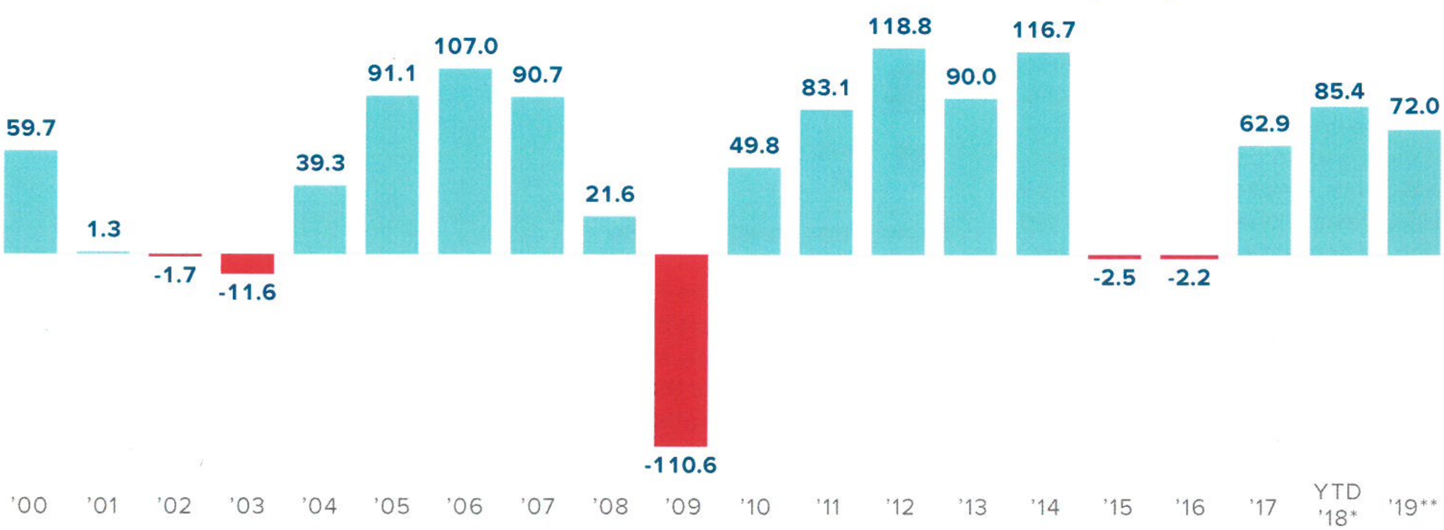
- Real U.S. gross domestic product (GDP), the broadest measure of the nation's economic activity, grows 2.7 percent or better in '19.
- U.S. job creation averages 200,000 per month, sustaining domestic demand for products and services from Houston.
- The price of West Texas Intermediate (WTI), the U.S. benchmark for light sweet crude, averages $55 per barrel or better over the year.
- Any rise in interest rates has a minimal impact on construction or capital investments.
- Fluctuations in the U.S. stock market are short-lived and share values continue to rise.
- The appreciation of the dollar against other major currencies has a negligible impact on trade.
- Houston exporters subject to tariffs levied in the trade war find alternate markets for their products.
- Political turmoil in Washington has minimal influence on business or consumer confidence.
- Any tax law changes or environmental or business regulations that emanate from Washington have minimal repercussions on the industries that drive Houston's economy.
- People continue to move here from other cities, counties, states and countries.
- And the region avoids another natural disaster like Hurricanes Harvey or Ike.

If a single assumption proves wrong, the Partnership's forecast would still hold. If two prove wrong, the forecast would need to be tweaked. But if three or more prove wrong, the entire forecast would need to be revisited. The greatest risks to Houston in '19 are from plummeting oil prices, interest rates that rise too quickly, a U.S. trade war that expands beyond China, or a collapse of the U.S. stock market that pulls business and consumer confidence down with it. Those events are possible, but not probable, in '19.

A FINAL NOTE

The purpose of this forecast isn't to score a bull's-eye, though the Partnership would be pleased if it did. Rather, the purpose is to highlight the forces shaping Houston's economy. A clearer understanding of the trends driving growth or decline should help the business community make better investment, staffing and purchase decisions. Given the uncertainty surrounding oil prices, global trade and politics in Washington, the more insight, the better. Now the details behind the numbers.

METRO HOUSTON JOB GROWTH, December to December, (000s)



Sources: Texas Workforce Commission and Greater Houston Partnership *October YTD ** Partnership forecast

ENERGY

Oil is in the black again. In Q3/18, the combined profits of the 25 largest exploration, oil field service, and equipment manufacturing firms exceeded $28.5 billion. Granted, the earnings of ExxonMobil, Chevron, Shell, Halliburton, Schlumberger and BP inflate the total, but even the majority of smaller firms are profitable again.

The downturn cost Houston 86,400 high-paying energy jobs. Since the recovery began, about 24,400 jobs have been recouped, that's less than a third of the region's losses. More than 160 exploration, oil field service and midstream companies in Texas filed for bankruptcy during the downturn. Three years of layoffs, cost-cutting and restructuring has made those which survived leaner, more productive and more cost-conscious.

That's a good thing since the indys-try's outlook changes rather quickly. In less than six weeks, the price of domestic crude has fallen by $20 per barrel. Analysts that in September spoke of the markets finally balancing in November are discussing an oil glut. Concerns that sanctions against Iran will create supply shortages have evaporated. Russia and Saudi Arabia, who six months ago agreed to boost output, now hope OPEC will agree to production cuts at its December meeting.

And the U.S. keeps on drilling. The U.S. rig count has inched up 34 rigs from early September to mid-November. The U.S. Energy Information Administration (EIA) forecasts the U.S. will produce 1.2 million more barrels per day in '19 than it did in '18. Though WTI traded in the mid-$50s in November, EIA expects crude to average $65 a barrel in '19. And a recent survey by the Federal Reserve Bank of Dallas found that most firms in the Eleventh District can drill a well and still make a profit with oil at $52 per barrel.

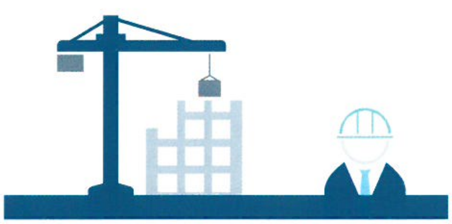
Another period of low oil prices is unlikely to lead to significant layoffs. After three years of job cuts, staffing levels are thin. There's already a worker shortage in the industry, especially in the field. Firms worried about losing their crews or losing their leases will continue to drill wells.

Minor job cuts will still occur in '19, but these will be in response to companies selling assets or making strategic decisions to exit certain plays. The layoffs will be offset by hiring elsewhere, especially in oil field services, equipment manufacturing and digital analysis. Hiring will more than offset job losses. On net, the Partnership's forecast calls for the energy industry to add 1,900 jobs in '19.

ENERGY OVERVIEW

	Peak	Trough	Most Recent
U.S. Rig Count	1,931	404	1,081
Oil Prices (WTI, $/bbl)	$107.95	$26.19	$59.93
U.S. Exploration Budgets (Billions)	$231.80	$88.20	$132.50
Houston Energy Employment	300,100	213,700	237,700

Sources: Baker Hughes, U.S. Energy Information Administration, Oil & Gas Journal, Texas Workforce Commission



CONSTRUCTION

OFFICE

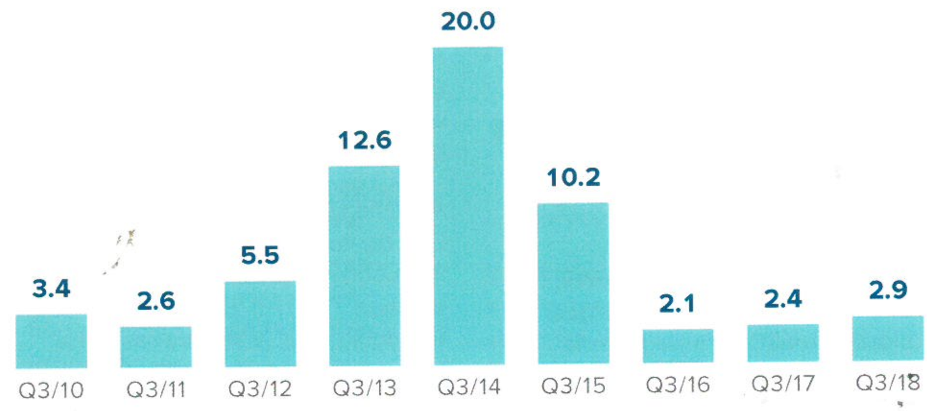
Depending upon which report one reads, in Q3/18 Houston recorded either its first positive or least negative absorption in nearly four years. The timing of the reports fits the historic pattern for the region. Office activity tends to lag behind the rest of the economy by two years going into a recession and two years coming out. For Houston, the bottom of the most recent downturn was mid-'16, when job losses and energy bankruptcies peaked.

The office market, however, has a long way to go before it recovers. Brokerage reports place the amount of vacant space at 50 to 60 million square feet. That's equivalent to 1,300 acres of office space, which would be a decent size ranch in most Texas counties.

The office vacancy rate currently stands in the low 20s. A healthier rate would be in the mid-teens. In a normal year, the market absorbs 2 to 4 million square feet of space, suggesting that Houston needs four to five years of healthy absorption to bring the direct vacancy rate down to a less concerning level.

The good news is that builders have stopped building, at least in the office market. As of Q3/18, less than three million square feet was under construction, much of it preleased. And CoStar projects less than 2.0 million square feet will be built in '19 and again in '20.

OFFICE SPACE UNDER CONSTRUCTION
Million Square Feet



Source: Transwestern

INDUSTRIAL

The industrial market (warehouse, distribution and manufacturing) has fared much better. Developers have delivered 53 million square feet of space since over the past five years yet the current vacancy rate stands at 5.1 percent. The needs of e-commerce, Houston's growing population and activity at the Port of Houston continue to drive industrial demand.

More than 11 million square feet of space is currently under construction and will be delivered in the next six to 12 months. That volume equates to about two percent of existing inventory. Only a third is preleased, however. The speed at which the speculative space is leased will signal whether the market is overbuilt or warrants more warehouses and distribution centers.

HOUSTON INDUSTRIAL SPACE DELIVERED
Million Square Feet

Year	Peak
'14	8.5
'15	13.3
'16	13.8
'17	8.8
UC**	11.2
Total	53.164

Source: CoStar

** Under Construction as of Q3/18

RETAIL

The onslaught of e-commerce hasn't dampened demand for retail space. The vacancy rate was 5.4 percent in Q3/18 compared to 6.3 percent in Q3/13, and that's after developers have added 28.2 million square feet of space to the market over the period. Another 4.7 million square feet is under construction, of which 75 percent is preleased. Given projected population, income and job growth, developers should face no difficulty leasing space now under construction or any that breaks ground next year.

MULTI-FAMILY

Conventional wisdom holds that the apartment market shifts from tenant-favorable to landlord-favorable whenever occupancy tops 90 percent. Landlords can then raise rents without losing tenants and developers can break ground on new projects, confident they will lease up quickly once completed.

With a few exceptions, most Houston developers build Class A apartments, typically those in the best locations with a high level of amenities. Class A occupancy stood at 87.8 percent in October '18, well above the May '16 nadir of 76.5 percent but below the inflection point for a landlord-favorable market. Class A rents have trended up since late-'17, but flattened in mid-'18 and even slipped a bit since.

The market signals are somewhat muddled because of Hurricane Harvey. Thousands of Houstonians with flood-damaged homes moved into apartments immediately after the storm, boosting occupancy and lifting rents. Many in the real estate community took this as a sign the market needs more apartments. But the Harvey effect is fading. Leases signed immediately after the storm are now expiring. Some renters are renewing while others are moving back home. Complicating matters, absorption always turns negative in the fourth quarter. Families are reluctant to relocate once the school year begins. Others want to avoid the chaos of packing during the holiday season. A clearer picture of the market should emerge after the first of the year.

The good news is that apartment construction remains subdued. Developers are on pace to add 8,200 units in '18, well below the 21,300 added in '16 and the 20,300 added in '15, the height of the building boom. If the Partnership's jobs forecast proves accurate, the market could absorb another 12,000 units in '19 without negatively affecting rents or occupancy.

SINGLY-FAMILY

New home construction also has held up well. As of Q3/18, Houston was second in the nation in housing starts, behind Dallas-Fort Worth. Though rising interest rates will make it more difficult for some families to qualify for a mortgage, local builders have become resourceful at controlling costs and maintaining affordability. Seventy percent of all starts in Houston are for homes priced between $200,000 and $400,000. Population and job growth next year will support an increase in single-family starts in '19.

PROJECTS TO WATCH

A number of large projects are in the works that could boost construction activity in '19 and '20:

- Germany-based Convestro plans to start construction in '19 on a $1.7 billion methylene diphenyl diisocyanate plant in Baytown.
- LyondellBasel recently broke ground on a $2.4 billion propylene oxide and tertiary butyl alcohol plant in Channelview.
- McNair Interests plans to break ground next year on a $500-million, high-end mixed-use development in the Uptown/Galleria area.
- Construction could begin in late '19 on the first phase of the $15-billion bullet train between Houston and Dallas.
- Houston City Council recently approved $1.23 billion for improvements to Mickey Leland International Terminal, the Federal Inspection Services building and other facilities at Bush Intercontinental Airport.
- And in the four elections held since November '17, local voters approved $8.7 billion in city, county and school district construction bonds. This figure includes the $2.5 billion Harris County voters approved in August '18 for flood control.

Other than the office and multifamily sectors, construction activity is holding steady or picking up. Hiring should benefit. The forecast calls for the sector to add 8,900 jobs in '19.

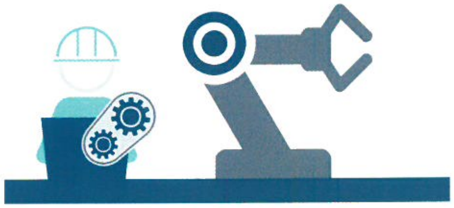
WHOLESALE TRADE

Wholesalers are the classic middlemen, buying in bulk from manufacturers, consolidating their purchases into warehouses, then reselling in smaller quantities to retail, industrial and commercial clients. Wholesale falls into two categories, durables (goods typically lasting three or more years) and non-durables (goods easily consumed or that become components of another good).

In Houston, wholesalers' fortunes tend to follow one of two paths—they track manufacturing, which tends to track the oil and gas industry, or they follow retail sales, which tend to track population, income and job growth.

The recent downturn in the oil and gas industry was hard on durables goods wholesalers, the sector losing jobs in '15 and '16. Nondurables fared much better, with job growth essentially flat in '15 and showing marginal growth in '16.

As noted earlier, the outlook for energy is improving. For manufacturing it's the brightest it's been in years. That growth should spill over into durables wholesale trade. Strong employment and population growth should lift nondurables as well. The forecast calls for wholesale trade to add 2,400 jobs in '19.



MANUFACTURING

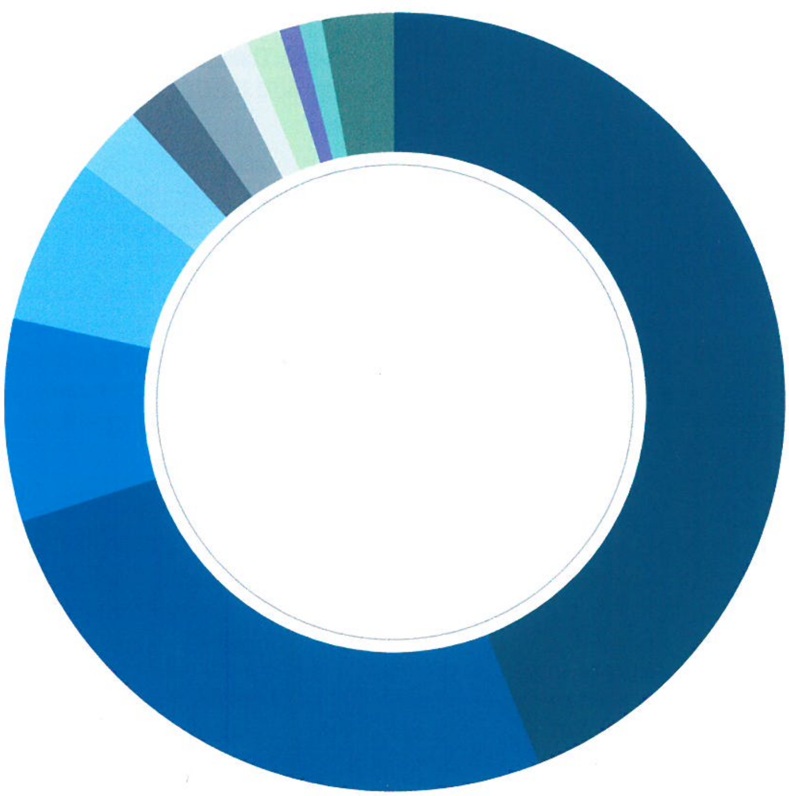
The outlook for manufacturing is the brightest it's been in years. The surge in exploration activity is driving the demand for oil field equipment. The recent $60-billion expansion of the region's chemical industry has led to increased exports of plastics, resins and refined products. The region created 11,400 manufacturing jobs in the first 10 months of '18, but it's still 30,000 jobs short of the peak reached during the fracking boom. In October '18, the typical manufacturing worker logged a 44.9-hour week, up from 41.3 hours in March '16, the bottom of the downturn. And the May '17 issue of *Site Selection* rated Houston the top global metro for metals, machinery and equipment, and chemicals and plastics manufacturing. Evidently, others have read the report. Since the beginning of the year, 60 manufacturing concerns have announced plans to locate, expand or consolidate operations in Houston.

On the downside, growth in the U.S. rig count may have peaked. Orders for new pumps, pipes and engines may slow as a result. The ongoing U.S.-China trade dispute will eventually impact Houston's exports to the Asian nation. The dollar continues to strengthen, making U.S. goods more expensive to foreign buyers. And two-thirds of the respondents to a recent manufacturing survey by the Federal Reserve Bank of Dallas reported difficulty in hiring workers.

The forecast sees continued growth in manufacturing tied to upstream energy, but at a slower pace than in '18. Shipments of chemicals, plastics and refined products should expand as plants constructed during the building boom find markets for their products overseas. And the strong U.S. economy should spur further demand for goods "Made in Houston." The forecast calls for the manufacturing sector to add 6,300 jobs in '19.

METRO HOUSTON MANUFACTURING EMPLOYMENT

Q2/'18



44% Machinery and Metals **99,450 Jobs**

26% Chemicals, Refining, Plastics **58,960 Jobs**

8% Computers and Electronics **18,970 Jobs**

7% Food and Beverages **15,610 Jobs**

3% Printing and Paper **6,510 Jobs**

2% Cement and Concrete Product Manufacturing **4,760 Jobs**

2% Transportation Equipment **5,100 Jobs**

1% Furniture and Appliances **2,650 Jobs**

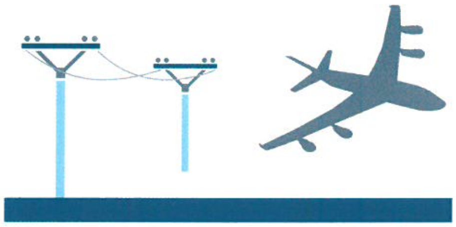
2% Wood Products **3,160 Jobs**

1% Medical Equipment and Supplies Manufacturing **1,920 Jobs**

1% Textiles and Apparel **2,110 Jobs**

3% Miscellanous Manufacturing **6,700 Jobs**

Source: Texas Workforce Commission



TRANSPORTATION, WAREHOUSING AND UTILITIES

The jobs in this sector come in all modes—air, water, trucking, rail, pipeline, couriers, bus, freight forwarding and stevedoring. Each has a different economic driver:

- **AIR:** business and leisure travel
- **WATER:** international trade, fuels and chemicals production
- **TRUCKING:** manufacturing, wholesaling and port traffic
- **PIPELINES:** oil and gas production
- **WAREHOUSING:** manufacturing and wholesaling
- **SUPPORT SERVICES:** all the aforementioned
- **UTILITIES:** commercial and residential construction

With the improvement of Houston's economy, business and leisure travel has picked up. The Houston Airport System will likely set a record for passenger traffic in '18. Trade via the region's four ports continues to grow. Through September, overall tonnage is up 9.9 percent compared to last year. Midstream companies can't build pipelines fast enough to bring crude from the Permian Basin to the refineries and export terminals on the Texas Gulf Coast. And the region continues to add new homes and commercial buildings that will require service from the local utilities. The forecast assumes these trends will continue and calls for this industry group to add 2,600 jobs in '19.

METRO HOUSTON TRANSPORTATION JOBS*

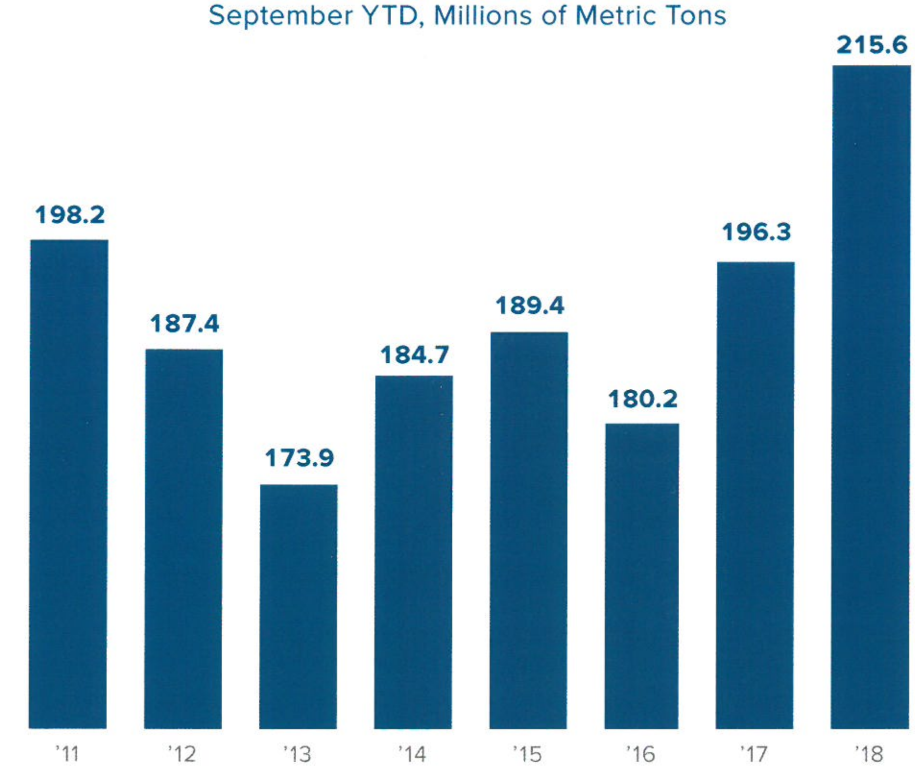
Sector	Jobs	% of Sector
Freight Forwarding, Cargo Handling	30,322	24.5
Trucking	25,876	20.9
Air Transportation	19,631	15.9
Warehousing	17,481	14.1
Pipelines	11,259	9.1
Couriers	11,207	9.1
Water Transportation	3,993	3.2
Buses and Taxis	3,945	3.2
Total	123,714	100.0

*As of June '18

Source: Texas Workforce Commission

HOUSTON-GALVESTON CUSTOMS DISTRICT TRAFFIC

September YTD, Millions of Metric Tons



Source: WISERTrade

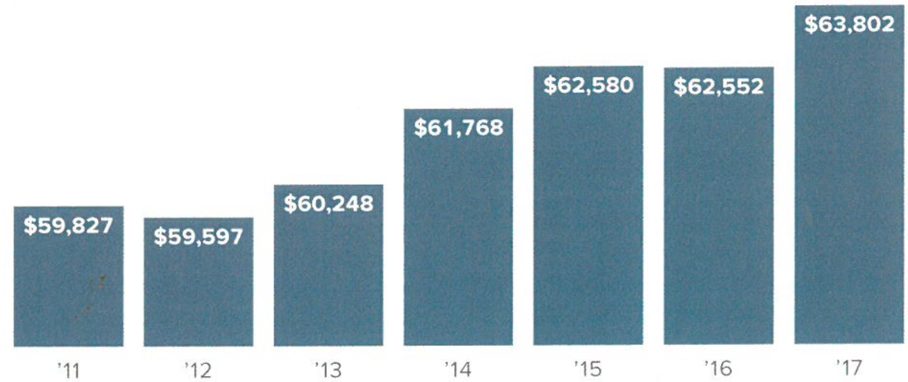
RETAIL

The fundamentals that drive retail—jobs, population, income, home construction, access to credit and consumer confidence—all favor Houston.

JOBS: After two years of stagnation, job growth returned to Houston in late '17. Employment is forecasted to grow above trend through the end of '18 and likely through '19, and–barring a collapse in oil prices or a national downturn–into '20 as well.

POPULATION: Metro Houston added nearly 950,000 residents between April 1, 2010 and July 1, 2017. Roughly 55 percent of the growth came from natural increase (births minus deaths) and 45 percent from net migration (people moving here minus those moving out). Various forecasts suggest the region will add 600,000 to 700,000 residents over the next five years.

METRO HOUSTON MEDIAN HOUSEHOLD INCOME



Source: U.S. Census Bureau

INCOME: After several years of stagnation, average household income rose in '17, and total salaries paid to workers in the Houston area in Q2/18 were up $2.2 billion, or 5.0 percent, from Q2/17. They're still down from the historic peak, however.

HOME CONSTRUCTION: Developers will build more houses in '19 than they did in '18. As the adage goes, "Retail follows rooftops." New home construction will draw retailers to Houston's suburbs.

ACCESS TO CREDIT: According to Equifax, the share of the region's population with subprime credit scores continues to decline, suggesting local consumers are finding it easier to finance their purchases.

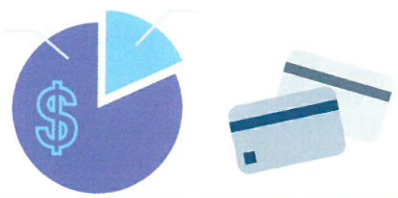
CONSUMER CONFIDENCE: Data from the Federal Housing Finance Agency show home values in Houston have risen 15.1 percent over the past three years. Not withstanding the recent drops, the Dow Jones Industrial Average is up nearly 65 percent from five years ago. As a result, Houstonians should have more in their IRAs, 401(k)s and mutual funds, and their homes are likely worth more now than at the beginning of the decade. Consumers who feel they are financially better off are likely to spend more.

All factors that support retail growth align in Houston's favor. The forecast calls for the sector to add 5,600 jobs in '19.

METRO HOUSTON POPULATION

	Population	Change from Prior Year	Annual Growth Rate
'11	6,057,947	110,528	1.9%
'12	6,183,726	125,779	2.1%
'13	6,329,553	145,827	2.4%
'14	6,496,862	167,309	2.6%
'15	6,664,187	167,325	2.6%
'16	6,798,010	133,823	2.0%
'17	6,892,427	94,417	1.4%

Source: U.S. Census Bureau



FINANCE AND INSURANCE

Finance and insurance includes commercial banks, credit unions, insurance brokers, insurance carriers, investment advisors, mortgage bankers and security brokerages.

Employment growth has been flat in recent years as banks close branches, replace tellers with ATMs and devote more resources to online banking. Houston now has 125 fewer branches (an 8.1 percent drop) than it did 10 years ago. Bank deposits, however, are up $136.3 billion (a 124.7 percent increase) over the same period.

A handful of institutions have expansion plans in the works. Frost Bank will build 25 new financial centers in Houston over the next two years, nearly doubling its current presence in the city. Corpus Christi-based American Bank and Kansas City-based Commerce Bank plan to enter the Houston market, but each will open a single branch. Most out-of-town banks are entering the market by acquiring an existing Houston bank. Six such deals have been announced over the past 12 months.

Meanwhile, JPMorgan Chase plans to close its fraud protection and workforce management units in Houston eliminating 102 jobs. And Wells Fargo has announced plans to cut headcount nationwide by 10 percent over the next three years. More cuts will come as the industry reassesses the role branches and staff play in a world where most customers handle their banking on mobile phones.

On the finance and insurance side, Houston's population continues to grow, expanding the potential pool of auto, home, life and health insurance customers, and the need for additional agents, claims processors and managers to service those accounts. Though banking will likely cut jobs in '18, insurance will add enough jobs to offset those losses. The forecast calls for the sector to gain 1,400 jobs in '19.

METRO HOUSTON BANK OVERVIEW

Year	Branches	Deposits $ Billions
'08	1,545	109.3
'09	1,542	118.2
'10	1,558	137.1
'11	1,534	154
'12	1,530	179.1
'13	1,526	208
'14	1,514	242.5
'15	1,492	215.2
'16	1,483	219.2
'17	1,450	240.9
'18	1,420	245.6

*As of June 30th each year.

Source: Federal Deposit Insurance Corporation

REAL ESTATE AND RENTAL AND LEASING

Real estate and rental and leasing includes the sale, leasing and management of real property (single-family homes, apartments, office buildings, warehouses) plus the rental of vehicles, appliances, furniture, construction and industrial equipment. All depend on growth of the broader economy.

Leasing of office space has begun to pick up. The industrial market is the strongest of all commercial sectors. Developers continue to add apartments to the market. Home sales will remain strong in '19. Consumer rentals have grown with the population. Heavy equipment rentals saw a boost from post-Harvey cleanup, but that activity has wound down.

'19 should be a year when real estate sales activity picks up and equipment leasing benefits from strong construction activity. The subsector should finish the year with a net gain of 1,800 jobs.

HEALTH CARE AND SOCIAL SERVICES

Several health care providers—CHI St. Luke's, Memorial Hermann Health System, University of Texas MD Anderson, Bay Area Medical Center, East Houston Medical Center, Kindred Hospital—announced layoffs in '17 and the sector lost jobs for the first time in Houston's history. Though the loss was small, only 1,400 jobs, it was a loss nonetheless and a shock for a sector that added 10,000 or more jobs each of the previous three years. The loss challenged the widely held belief that health care in Houston will grow ad infinitum and cushion the region against downturns in other sectors.

Health care faces a number of ongoing challenges:

- Pressure from insurance companies to control costs;
- Lower reimbursements by the federal government for patients treated under Medicare and Medicaid;
- Consumers, facing higher deductibles, who become more selective about when and how they seek treatment; and
- Competition from health care providers outside traditional settings.

Twenty years ago, most patients received their care in a doctor's office or hospital. Now, patients might visit a clinic inside a pharmacy, an urgent care facility in a shopping center or seek diagnosis and a prescription via teleconference over the internet.

While the industry is under constant pressure to control costs, its patient load continues to expand. The region records 100,000 births each year. Each baby begins a cycle of check-ups, vaccinations and treatments for typical childhood illnesses. The region adds population every year through net migration. Each arrival will eventually need to find a doctor, dentist or preferred clinic in their new hometown. And Houston's over-65 population expands by 30,000 residents each year. As seniors deal with the maladies of aging, they tend to visit the doctor, the clinic and the hospital more frequently.

With Democrats now controlling the U.S. House of Representatives, Congress is unlikely to repeal the Affordable Care Act. The ACA has substantially increased the number of Houstonians with health care insurance. But with Republicans controlling the senior leadership positions in Austin, Texas is unlikely to expand Medicaid coverage. Texas is one of only 14 states not to do so. As a result, Texas still has the largest population without insurance coverage in the U.S. The resistance to expanding Medicaid will continue to place a strain on hospital budgets and local property tax payers.

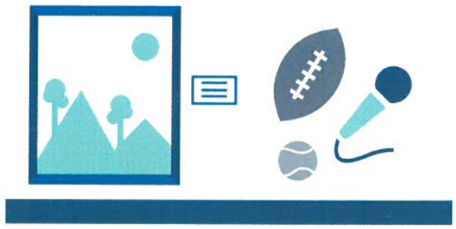
The forecast assumes population and job growth will continue, U.S. and state legislators make no significant changes to the ACA, Medicare and Medicaid programs, and there won't be mass layoffs at area hospitals. The sector should create 9,000 jobs in '19.

ADMINISTRATIVE SUPPORT AND WASTE MANAGEMENT AND REMEDIATION SERVICES

The sector includes employment services (contract workers), services to buildings (janitors and maids), investigation and security services (guards and watchmen), administrative and business support services (back office operations), and waste collection and treatment (garbage collection and disposal).

From the bottom of Great Recession (January '10) until September '18 (the most recent data available at this writing), the sector added 75,900 jobs, a 50.0 percent increase. Only the restaurant sector added more–79,300 jobs, a 44.1 percent increase. Much of the sector's growth can be attributed to the long-term trend of firms outsourcing as many non-core operations as possible and relying on contract workers for functions once performed by permanent full-time employees. This is true for both blue-collar and white-collar occupations.

As Houston's economy continues to improve, firms will hire additional contract workers to handle increasing demand, outsourcing will expand and firms will sign new contracts to maintain their landscaping and protect their properties. The forecast calls for the sector to create 7,600 jobs in '19.



ARTS, ENTERTAINMENT, RECREATION

The sector might be more appropriately named "Culture, Play and Fitness," or "Things Houstonians Do in Their Spare Time." It includes a smorgasbord of activities—amusement parks, arcades, botanical gardens, bowling centers, fitness and sports centers, golf courses and country clubs, marinas, museums, musical groups, parks, racetracks, spectator sports, theaters and zoos.

Employment in the sector is highly seasonal, peaking in the summer months when children are out of school, families are on vacation and Houstonians are spending more time outdoors. The start of the arts season offsets some of the losses in outdoor activities in the fall, and the sector almost always ends up with net job gains.

With the exception of the major institutions, like the Houston Texans, the Museum of Fine Arts, Houston or 24-Hour Fitness, most firms in the sector are modest enterprises with small staffs. Additions to payroll come one or two employees at a time. Significant growth occurs only when a new museum or amusement park enters the market. The Partnership doesn't anticipate any major events of this nature in '19. Growth will be organic and based on the same factors influencing retail growth—income, population and employment. The forecast calls for the sector to add 1,000 jobs in '19.

INFORMATION

The information sector includes newspaper, magazine and book publishers; software publishers; motion picture and video production; sound recording; radio and television broadcasting; telecommunications; data processing; news services and internet publishing. The sector has lost jobs in 12 out of the last 20 years and overall employment is substantial lower than it was two decades ago. Social media has reduced the roles of print and broadcast media and technology continues to replace labor in telecommunications. Still, the sector does occasionally add employment. Job growth, meager as it is, tends to occur in years in which Houston is already experiencing strong gains elsewhere in the economy. The forecast assumes Houston's robust economic health causes this downward trend to pause, the sector adding 200 jobs by year's end.

EDUCATIONAL SERVICES

The sector includes private elementary, middle and high schools; private junior and senior colleges and universities; for-profit business, vocational and technical training programs; and education support services.

A number of factors drive enrollment: a growing school age population, parents' concerns about the quality of public education, workers seeking to upgrade skills to pursue new careers or hang on to the ones they have, and aggressive marketing by private universities. The forecast assumes all these factors remain in place in '19 and calls for the sector to create 1,500 jobs.

PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES

Identified with white-collar jobs and billable hours, professional, scientific and technical services includes accounting, engineering, architecture, law, computer systems design, management consulting, research labs, advertising, marketing and public relations firms.

During the fracking boom, the sector added 44,600 jobs, a 25.6 percent increase. During the bust, the sector lost 5,700 jobs, a 2.6 percent decrease. Most of the job losses occurred in architecture and engineering as energy firms delayed or cancelled projects and chemical plant and office construction wound down.

Growth returned in mid-'17, and the year finished strong with a net gain of 9,400 jobs. The biggest gains are in management consulting, followed by the "all other professional, scientific, technical services," category, the catchall for any service that doesn't fit in the categories neatly outlined above. This is one sector, however, where the Partnership believes job growth has been overstated and will be revised downward in March.

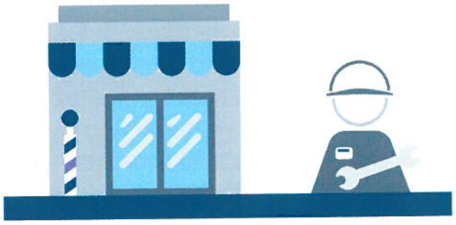
The forecast assumes that U.S. economic growth remains strong, that the energy industry continues to improve, and that local economic growth provides opportunities for firms throughout the sector. Over the past 20 years, the sector has added on average 4,700 jobs a year, substantially more in boom years, significantly less in lean times. Job growth throughout Houston should be better than average next year. The forecast calls for professional, scientific and technical services to create 7,200 jobs in '19.

METRO HOUSTON PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES*

Sector	Firms #	Firms % of Total
Management and technical consulting services	4,890	24.5
Legal services	3,647	18.3
Computer systems design and related services	3,627	18.2
Architectural and engineering services	3,035	15.2
Accounting and bookkeeping services	2,350	11.8
Other professional and technical services	1,037	5.2
Specialized design services	538	2.7
Advertising, PR, and related services	474	2.4
Scientific research and development services	338	1.7
Total	**19,936**	**100.0**

*As of June '18

Source: Texas Workforce Commission



OTHER SERVICES

Other services includes repair shops (automotive, electronic equipment, household appliances), personal care (barber and beauty shops, nail salons, weight loss centers), funeral parlors and cemeteries, dry cleaners and laundries, and membership organizations. The sector is dominated by small firms with few employees. Employment growth here tends to mirror that in the overall economy. The forecast calls for the sector to create 1,800 jobs in '19.

ACCOMMODATION AND FOOD SERVICES

ACCOMMODATION

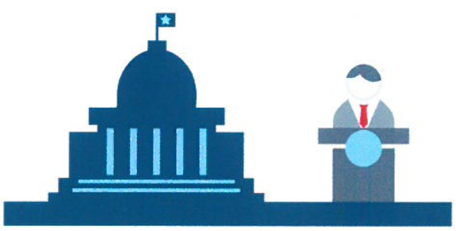
Hotel occupancy depends heavily on business travel and tourism. After struggling for two years under the weight of the energy downturn, occupancy and revenues picked up in '17, first with the onslaught of visitors for Super Bowl LI, then again when flood victims displaced by Hurricane Harvey sought shelter in hotels and motels. Absent any similar events to boost demand in '18, occupancy and revenues have slipped.

Future growth will depend on the opening of new hotels and motels, each needing additional managers, clerks and maids to operate. CBRE estimates there are 40 hotels (15 upper-priced, 25 lower-priced) currently under construction. These will add another 5,200 rooms to the market, boosting inventory by 4.5 percent. Unfortunately, CBRE also forecasts demand to grow only 4.3 percent, resulting in a drop in occupancy rate and revenue. The new hotels will need to be staffed, but not to the levels they would be if demand were stronger. The forecast calls for the sector to add 700 jobs in '19.

FOOD SERVICES

Restaurants and bars have a notoriously high failure rate, but every year the region gains more than establishments it loses. Houston has 3,200 more bars and restaurants today than it did a decade ago, along with 79,300 additional jobs in those eating and drinking places.

Growth depends on several factors—increases in budgets for business entertaining, growing consumer confidence, healthy job growth, increasingly hectic lifestyles, consumers' willingness to try new concepts, and lack of will or skill to cook at home. Houston should see a net gain of 300 bars and restaurants next year, as strong economic, population and job growth support a host of new openings. The Partnership forecasts food services to add 6,000 jobs in '19.



GOVERNMENT

The public sector employs 400,000 Houstonians, making it the leading employer in the region. Approximately two-thirds work at state-funded universities, community colleges and school districts. Cities, counties and state and local agencies employ another 90,000. Fewer than 30,000 Houstonians, less than 1.0 percent of all workers, are on the federal payroll.

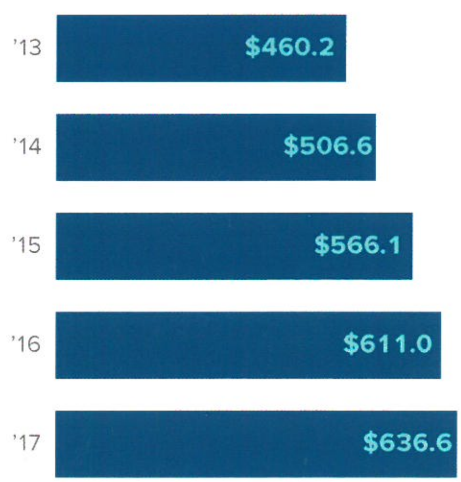
As the region's population grows, so does the need to expand police and fire protection, water and sewer services, libraries and road repairs. The ability to expand those services depends on funding. Local municipalities depend heavily on property and sales taxes, counties mainly on property taxes and school districts on property taxes, state funds and federal grants.

Property values in all nine metro counties have grown substantially over the past five years. For example, appraised property values in Harris County, the City of Houston and the Houston Independent School District (HISD) are up 48.3 percent, 48.6 percent and 52.1 percent respectively over the past five years.

Sales tax revenues tend to mirror the

TOTAL TAXABLE PROPERTY VALUE*

9-County Houston Metro Area (Billions)



Change '13-'17

$176.4 | **38.3%**

Source: Texas Comptroller of Public Accounts business cycle. Collections for the 10 most populous metro areas stagnated during '15 and '16 and began improving in '17. Through the first 11 months months of '18, collections for the group were up 9.2 percent.

The trends in property values and sales tax collections suggest the region's municipalities should have the revenues to expand services, which translates into expanding payroll. But the City of Houston is a special case. In '04, residents voted to amend the city charter to limit the annual growth of property tax revenue to the combined rates of inflation and population growth, or 4.5 percent, whichever is lower. Fiscal year '17 was the third year the charter amendment capped property tax revenues. That will likely occur in '18 and '19 as well.

And in the November '18 election, voters approved Houston firefighters receiving pay parity with Houston police officers. Mayor Sylvester Turner estimates the cost to the city at roughly $100 million. Given that Houston is not allowed to raise taxes to pay for the salary increase, the city will need to cut expenses elsewhere. Mayor Turner has said this could lead to layoffs of as many as 800 city employees.

HISD faces similar constraints. In '93, the Texas State Legislature created a recapture system, more commonly known as "Robin Hood," to redistribute tax money from school districts with high property values to districts with low property values. The Texas Education Agency (TEA) has designated HISD a property-rich district, meaning HISD must share its wealth with property-poor districts in the state. No consideration is made for the fact that three-fourths of Houston ISD's students are economically disadvantaged and one-third are English Language Learners (ELL) and require a higher level of engagement and resources to educate. For the '18-'19 school year, HISD's recapture payment exceeded $240 million. HISD is not alone. More than 400 districts across the state, 18 in the Houston area, are considered property-rich and required to send money to Austin. This limits their ability to hire additional teachers and staff to serve the larger populations. Over the past five years, enrollments in the Houston area school districts have increased by more than 120,00 students.

Federal employment–NASA, the U.S. Postal Service, U.S. district courts, and more–has grown marginally over the past decade, federal payrolls expanding by 200 to 300 in a typical year, an insignificant increase in a region with more than 3.1 million jobs. State employment in fields other than education has followed a similar pattern.

Given all these factors, even with a healthy economy Houston is unlikely to see a surge in public sector employment in '19. Any growth will be modest. The forecast calls for 5,100 jobs to be added next year.

SALES TAX ALLOCATIONS

Millions, November Year To Date
10 Most Populous Houston Area Cities

City	YTD '18	Change From Previous Year	
		$	%
Houston	630.658	48.139	8.2
Pasadena	31.493	2.185	7.4
Pearland	30.881	2.825	10.1
League City	21.523	2.447	12.8
Sugar Land	48.982	4.750	10.7
Baytown	19.710	1.504	8.3
Missouri City	9.038	1.149	14.6
Conroe	45.254	5.540	13.9
Galveston	19.721	1.029	5.5
Texas City	21.891	3.353	18.1
Friendswood	7.778	1.445	22.8
La Porte	9.322	1.259	15.6

Source: Texas Comptrollers of Public Accounts

IN LIGHT OF THE CURRENT DATA

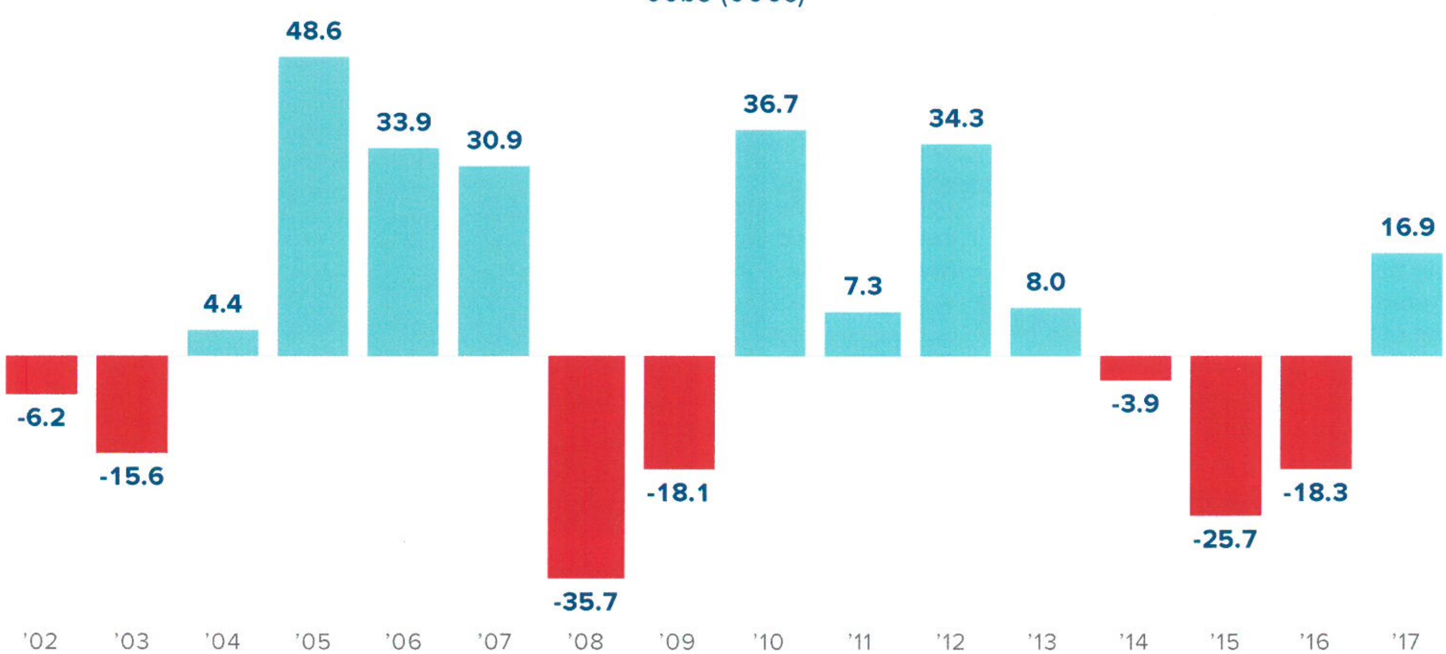
The Partnership's forecast for 71,000 jobs in '19 may seem low in light of recent Texas Workforce Commission (TWC) reports that the region created 114,000 jobs in the 12 months ending October '18. One must take those reports with a grain of salt.

First, the October 12-month total includes November and December '17, months in which Harvey recovery efforts helped to stimulate the local economy. Construction, retail, restaurants, wholesale trade and employment services set records for job growth at the end of '17. As Houston moves into '19, those months won't be included in the 12-month calculations and TWC will report substantially lower numbers.

Second, employment estimates will be revised in March, and because current estimates don't comport with other indicators such as office and apartment absorption, the revisions likely will show slower growth than is currently being reported. The monthly TWC report is based on a survey of employers. Like any survey, it's subject to error, especially when TWC estimates employment for nonreporting establishments. The revisions released in March will be based on administrative records, especially unemployment insurance premiums which more accurately reflect the number of workers on payroll. These annual "benchmark" revisions are often significant. That will likely be the case with the '18 data because the recent monthly TWC estimates paint a picture of regional job growth that seems both implausible and unsustainable. In anticipation of downward revisions in the estimates, the Partnership has elected to base its '19 forecast on a more subdued picture of regional job growth in the wake of Harvey.

BENCHMARK REVISIONS, MARCH CHANGES TO ANNUAL GROWTH

Jobs (000s)



Source: Texas Workforce Commission

CONCLUSION

The Partnership's forecast represents the organization's best efforts to explain the factors influencing activity, and more specifically job growth, in Houston's economy. Like all forecasts, the Partnership's prognosis runs the risk that emerging trends might derail the analysis. As we put the forecast to bed and prepared to send the final document to the printer in late November, three such trends made the news.

- WTI fell to near $52 per barrel,
- The OECD proclaimed that global growth has peaked, and
- The Dow fell to its lowest level of the year.

All three suggest the engines that drive Houston's growth are sputtering. A closer look at the details behind each report shows that's not the case.

OIL PRICES

Global oil prices surged above $70 per barrel in the fall of '18 as the Trump Administration, having pulled out of the Iran nuclear deal, threatened sanctions on any country that purchased crude from Tehran. Traders expected a global crude shortage and bid prices up. In early November, however, the administration announced temporary exemptions from the sanctions for eight countries, including the two largest buyers of Iranian crude, India and China. These waivers erased any uncertainty premiums that had propped up oil prices. Just as traders overreacted to news of the sanctions, they likely have overreacted to news of the exemptions. Given the cost-cutting measures and efficiency gains of the past three years, the U.S. energy industry is better prepared to handle a low-price scenario should it last more than a few months. However, OPEC, Russia and their allies have called a meeting in early December to discuss crude production cuts. Should they reach an agreement—and as we go to press news reports indicate that seems likely—oil prices should ratchet up again.

GLOBAL GROWTH

In late November, the Organisation for Economic Co-operation and Development (OECD) issued a report stating that global growth peaked in '18 and has begun to slow amid rising trade and financial risks. That theme was picked up by most news outlets. The slowdown comes from an outflow of capital from emerging economies, the weakening of their currencies, and the withdrawal of fiscal and monetary stimulus in the world's advanced economies. What was lost in media coverage was that the OECD still expects the global economy to grow some 3.5 percent in '19 and 3.5 percent again in '20. That's only slightly off the pace of 3.7 percent for '18. Houston is not facing the economic collapse of its major trading partners.

STOCK MARKET

The *Wall Street Journal* reported in late November that stocks, bonds and commodities are staging a rare simultaneous retreat, deepening a sense of unease on Wall Street. In late November, the Dow Industrial Average traded 2.2 percent below where it began in January. The selloff reflects a healthy but painful readjustment of investor expectations. The Federal Reserve's gradual raising of interest rates is also diminishing the appeal of the stock market to many investors. And technology stocks continue to take a beating over concerns about privacy issues and the peaking of growth in the sector. Almost no one, however, is predicting a recession next year. The consensus among forecasters at the National Association for Business Economics is that real U.S. GDP growth will average 2.7 percent in '19, only slightly lower than the 2.9 percent in '18. Houston ties to the U.S. economy will continue to foster growth in '19.

The external factors that drive Houston's economy—energy prices, the ongoing U.S. expansion, global growth—still align in Houston's favor. The internal factors—net migration, construction, consumer confidence—fall into place as well. Houston should enjoy healthy economic growth in '19, and barring a U.S. or global downturn or a collapse in oil prices, that growth should continue into '20.

Data used in the analysis and forecast came from the following sources: Apartment Data Services, Baker Hughes, CBRE, CenterPoint Energy, City of Houston Aviation Department, City of Houston Building Permit Department, Colliers International, CoStar, Dodge Data & Analytics, Equifax, FMI Corporation, Federal Deposit Insurance Corporation, Federal Housing Finance Agency, Federal Reserve Bank of Dallas, Federal Reserve Bank of St. Louis, Haynes and Boone, *Houston Business Journal*, *Houston Chronicle*, Houston Association of Realtors, Institute for Supply Management, JLL, John Burns Real Estate Consulting, MetroStudy, Meyers Research, NAI Partners, National Association for Business Economics, Organisation for Economic Co-operation and Development, Oil & Gas Journal, Port Houston, TexAuto Facts, Texas Comptroller of Public Accounts, Texas Workforce Commission, The *Wall Street Journal*, Transwestern, U.S. Bureau of Labor Statistics, U.S. Bureau of Economic Analysis, U.S. Census Bureau, U.S. Energy Information Administration, WISERTrade and various company websites.