GREATER HOUSTON
PARTNERSHIP.
Making Houston Greater.

2018
HOUSTON EMPLOYMENT FORECAST

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TRANSWESTERN®

INTRODUCTION

Houston moved closer to full recovery in '17. But for every two steps forward, the region took one step back. Crude prices rose along with the rig count, but oil companies continued to lose money. Developers built more single-family homes, and resale homes closed at a record pace, but vehicle sales slumped to their lowest level in six years. Houston hosted a Super Bowl in February, won a World Series title in November, but dealt with an unwelcome guest named "Harvey" in August.

Next year, Houston will take three steps forward for every one step back. With each worker hired, home built, or container loaded at the port, Houston will be closer to full recovery. Job growth, however, won't return to trend (55,000 to 60,000 per year) until the energy industry begins hiring again. That's unlikely to happen next year.

'18 promises to be a better year, however, because two of Houston's economic drivers—U.S. economic growth and global trade—will move forward while energy remains in neutral.

U.S. GROWTH

Though Houstonians sometimes hate to admit it, Texas is part of the U.S., and when the nation prospers, that's good for Houston. Why? Because the nation buys more of what Houston has to sell. A few examples:

- North American auto manufacturers produced 18 million light-duty vehicles and trucks in '16. A typical family car contains 150 pounds of rubber, 200 pounds of fluids, and 250 pounds of plastics. These components likely come from the plastics and chemical plants along the Houston Ship Channel.
- The U.S. produced 80 million metric tons of steel in '16. To produce one ton requires a significant quantity of natural gas. That gas comes from fields across the U.S., but Houston companies have the know-how to find and produce it.

SELECTED U.S. GROWTH FORECASTS
% Change, Real GDP, '17 - '18

Comerica	**2.9**	Northern Trust Company	**2.3**
Moody's	**2.9**	The Economist	**2.2**
Georgia State University	**2.6**	Société Générale	**2.2**
Wells Fargo	**2.6**	Swiss Re	**2.2**
FedEx	**2.5**	UBS	**2.2**
Goldman Sachs	**2.5**	Fannie Mae	**2.0**
BMO Capital Markets	**2.4**	**Average**	**2.4**

- Americans drove more than 3.2 trillion miles in '16. One-fourth of the nation's refining capacity is located on the Texas Gulf Coast.

The consensus among economists is that U.S. GDP, adjusted for inflation, will grow 2.4 percent in '18, and that's good for Houston.

GLOBAL TRADE TIES

Global trade is important to Houston because the region's international ties are as strong as its domestic ties.

- Metro Houston ranks second only to New York in value of exports.
- Nearly 5,000 Houston-area companies are engaged in global commerce.
- Global trade supports nearly 450,000 jobs in the region.
- The Port of Houston ranks first in the U.S. in foreign tonnage.
- Many of Houston's public companies derive a significant portion of their revenues from their overseas operations. The average is 30 percent, but companies such as Halliburton and Oceaneering receive more than half their revenues from international sales and operations.

Oxford Economics forecasts world GDP to grow 3.0 percent in '18, and that's good for Houston.

ENERGY

Approximately one-third of Houston's GDP is tied directly to oil and gas. This figure doesn't include energy's impact on wholesale trade, transportation, and professional services. Nor does it account for how much of their paychecks energy workers spend at the grocers, in local restaurants or at the drug store. Factor in those expenditures, and energy's impact on local GDP is significantly higher. The U.S. Energy Information Administration (EIA) forecasts West Texas Intermediate to trade on the spot market at $50 per barrel in the first half of '18 and $54 per barrel in the second. That's not much improvement over '17, when crude averaged $49 per barrel most of the year. Even if crude breached $60 per barrel, that wouldn't send the industry on a hiring binge. Oil prices are volatile and crude would need to stay above $60 for several quarters before the industry feels confident that another collapse isn't imminent.

DAILY SPOT PRICE - West Texas Intermediate

Source: U.S. Energy Information Administration

IN A NUTSHELL

The Partnership's forecast calls for job growth in 14 sectors: manufacturing; wholesale trade; retail trade; transportation, warehousing and utilities; finance and insurance; real estate; business, professional and technical services; educational services; health care; administrative services; arts and entertainment; accommodation and food services; other services; and government. Employment will remain flat in energy. Job losses will continue in two sectors: construction and information. The forecast calls for the nine-county region[1] to create 45,500 jobs in '18.

KEY ASSUMPTIONS

The forecast includes several key assumptions:

- U.S. real GDP grows 2.4 percent or more, adjusted for inflation.
- U.S. job creation averages 200,000 jobs per month.
- Any unrest in oil-exporting countries has a minimal impact on prices.
- Federal Reserve increases in interest rates have no detrimental effect on the economy.
- The global economy grows at its current pace or better.
- The ongoing political turmoil in Washington has minimal impact, if any, on business or consumer confidence.
- Any appreciation in the dollar against other currencies has little impact on exports.
- The price of WTI generally holds above $50 per barrel, and any dip below that level proves transitory.
- Houston continues to attract residents from other cities, states, and countries.
- Houston avoids another natural disaster like Hurricanes Harvey or Ike.

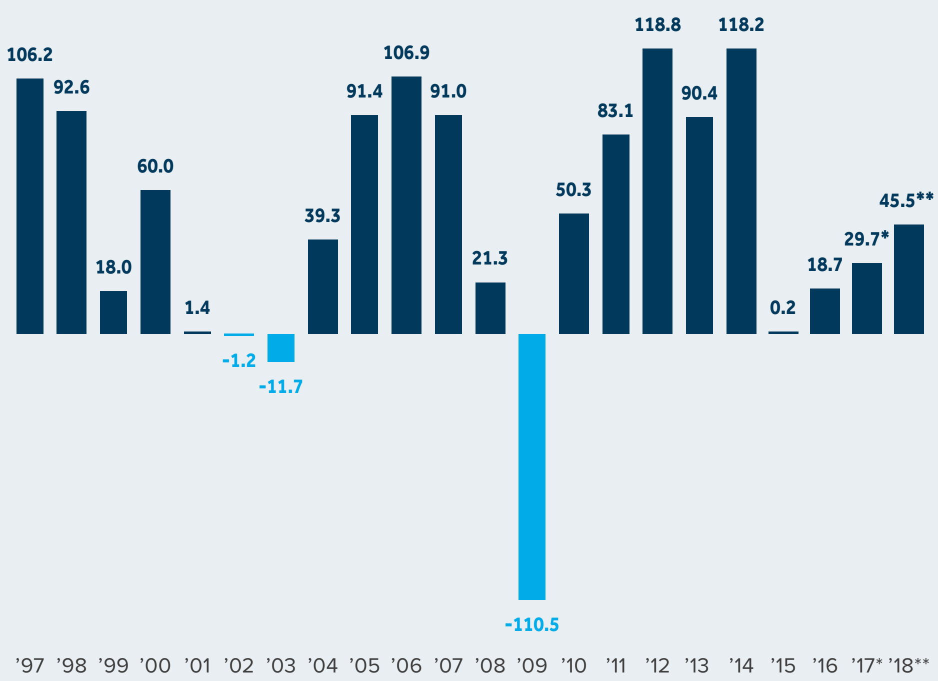
If any of these assumptions prove wrong, the Partnership's forecast would need to be revisited.

[1] The nine-county region, formally named the Houston-The Woodlands-Sugar Land Metropolitan Statistical Area, includes Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller counties.

A FINAL NOTE

The purpose of this forecast isn't to score a bullseye, 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 losses should help the business community make better investment, staffing, and purchase decisions. Given the uncertainty surrounding oil prices, geopolitics and the climate in Washington, the more insight, the better. Now the details behind the numbers.

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



Source: Texas Workforce Commission & Greater Houston Partnership forecasts
* Partnership's '17 forecast ** Partnership's '18 forecast

ENERGY

The energy industry (exploration, production, and oil field services) employs 85,700 workers in Houston, about 2.8 percent of all jobs in the region. At its December '14 peak, the industry employed 114,600. The difference, 28,900 jobs, represents a loss of one in every four in the industry. Oil field equipment manufacturing, considered by many as part of the industry, lost 19,500 jobs, nearly half its workforce. The recent upturn in drilling has induced some hiring in oil field services, but exploration and production, as well as equipment manufacturing, continues to cut staff. Any job loss ripples through the economy, because the energy industry pays better than any other industry in Houston, and for the most part those salaries are spent here. Average compensation in exploration and production is $185,000, in oil field services, $118,000, in equipment manufacturing, $107,000. The Houston average for all industries is $61,000.

Like other industries, energy has learned to do more with less. Though its workforce has shrunken, crude production continues to grow. EIA forecasts U.S. output to average 9.9 million barrels per day (b/d) in '18. That would set a new record, surpassing the old one of 9.6 million b/d set in '70.

The outlook for '18 depended on the outcome of the November 30 meeting of the Organization of Petroleum Exporting Countries (OPEC). At that meeting, OPEC and non-OPEC energy ministers agreed to extend production cuts to the end of 18'. The initial agreement reached in November '16 is credited with boosting prices from the mid-$40s to where they are today. If OPEC hadn't reached an agreement, crude prices would have dropped and additional layoffs would have occurred.

The outlook for the industry continues to improve. EIA forecasts global supply to exceed global demand by 300,000 barrels per day in '18, a substantial drop from Q4/15 when supply exceeded demand by 1.7 million barrels per day. Twelve of the 24 largest public energy companies in Houston recorded a profit in Q3/17. That's up from five in Q1/17. Investor focus has shifted from companies that grow production, often by outspending cash flow, to those that control costs and generate a return on capital. And only 20 North American energy firms filed for bankruptcy in the first 10 months of '17, according to the law firm Haynes and Boon. That compares with 64 over the same period in '16.

When oil prices collapsed in early '15, firms were quick to lay off employees. Back then, it was a matter of survival. Today, layoffs result from strategic decisions to restructure companies to operate in a long-term low-price environment. More will come in '18. The cuts, however, will occur in exploration and production (white collar jobs), not oil field services (blue collar jobs). The industry had difficulty assembling crews this year when the rig count rebounded. It will be reluctant to release them if oil slumps again. And the cuts will be shallow compared to the layoffs of '15 and '16. Taking all these factors into consideration, the forecast calls for oil field services to add jobs, exploration and production to cut jobs, mergers to force more economies of scale, and companies to continue consolidating operations into Houston. The net effect is that energy employment will be flat in '18.

MANUFACTURING

Manufacturing employs 214,000 workers, 7.5 percent of all jobs in the region. It's the single largest contributor to GDP, accounting for $1 in every $6 of Houston's economic output.

The industry is divided into durables and nondurables manufacturing. Durables are goods with a lifespan of three or more years, like machinery and equipment. Nondurables have shorter lifespans or become components of durable goods. Examples include paint and chemicals.

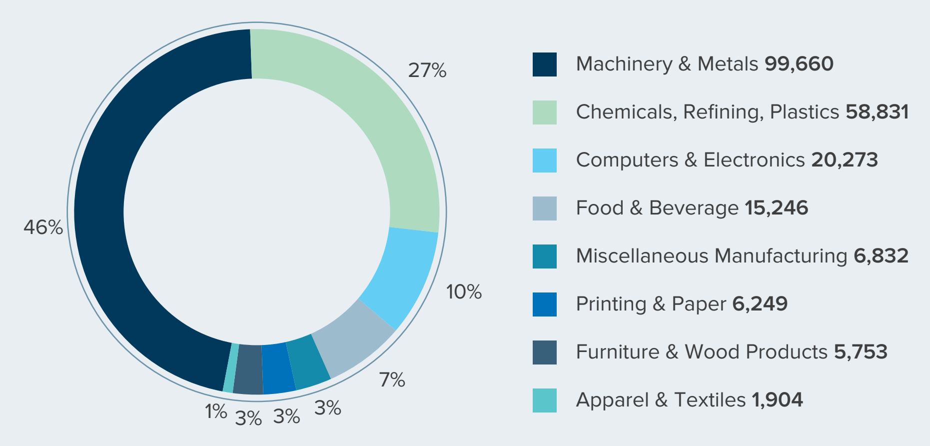
Durables account for one-third of the region's manufacturing output value but two-thirds of its jobs; nondurables account for two-thirds of output and one-third of the jobs. Chemicals and refining, highly capital-intensive industries, dominate nondurables, thus the higher output per worker.

During the downturn, manufacturing lost 45,000 jobs, mainly in machines, fabricated metal products, computers, and electronics. Durables manufacturing employment, driven by a rising rig count, began to recover in '17, but further improvement is uncertain, given that the rig count peaked in July.

A few sectors—food processing, beverages, and petrochemicals—consistently add jobs over time. These sectors, however, account for only one-third of all manufacturing jobs in the region. If manufacturing employment is to grow, the energy industry needs to purchase more drilling rigs, equipment, and spare parts.

The forecast assumes that the rig count grows moderately and the dollar weakens marginally. It's almost certain that more chemical plants will come online and the region's food processing plants expand to feed a growing Houston population. The forecast calls for the region to add 2,700 manufacturing jobs in '18.

HOUSTON MANUFACTURING EMPLOYMENT - JUNE '17



Source: Texas Workforce Commission

CONSTRUCTION

OFFICE

Houston's office market continues to struggle. Q3/17 marked the fifth consecutive quarter of negative absorption. The overall vacancy rate, as low as 11.6 percent in Q4/14, now stands at 15.4 percent. Factor in sublease space, and the effective vacancy rate is 23.3 percent. '17 is likely to end with 4.0 million square feet of negative absorption. As leases expire in '18, more space will be thrown back on the market. Between 40 and 50 million square feet is currently vacant or available for sublease. Asking rates have dipped only slightly, but concessions such as free rent and generous tenant improvement allowances make posted rents meaningless as a market indicator. Brokers report net effective rents dropping as much as 30 percent once negotiations begin.

In Q3/17, only 2.3 million square feet of office space was under construction. That figures is far below 17.3 million square feet at the Q3/14 peak. Over the past 15 years, Houston has never experienced a year with zero office construction, but it has come close. In ’03, ’04, and ’05, the market added less than one million square feet each year. With so much available space on the market, Houston is unlikely to see much speculative office construction. The office construction that does occur will be build-to-suit or projects substantially preleased before breaking ground.

HOUSTON OFFICE MARKET Q3/17

	Inventory (Million Sq Ft)	Direct Vacancy - %	Total Availability - %	YTD Net Absorption (Million Sq Ft)	Under Construction (Million Sq Ft)
Class A	142.5	15.1	24.5	-3.0	2.0
Class B	89.7	16.7	23.0	-1.0	0.3
Total*	241.9	15.4	23.3	-4.0	2.3

Source: Transwestern *Total includes Class C space not shown in table.

INDUSTRIAL

The industrial market has fared better. In Q3/17, the vacancy rate stood at 4.8 percent. Houston absorbed 25 million square feet of space over the past three years, and only 2.6 million square feet is under construction. Online retailers, consumer goods warehouses, third-party logistics providers, and chemicals and plastics firms are driving demand. The warehouse subsector remains healthy, the manufacturing subsector less so. The demand for flex space is weakest, but that sector comprises only 8.5 percent of the industrial market.

A few concerns have emerged. Industrial sublease space is creeping onto the market. Factor it in, and the effective vacancy rate edges up to 5.0 percent. Asking rates have hardly budged. In a tight market, rates would rise fairly steadily. This signal hasn’t deterred developers, though. Pontikes Development is building a three million-square-foot industrial park in Baytown. Oakmont Industrial Group, an Atlanta-based developer, broke ground in September on a nearly 700,000-square-foot speculative warehouse in Katy. Best Buy recently announced plans for a 550,000-square-foot distribution center in Missouri City. Ikea recently inked a one million-square-foot warehouse lease in Baytown. And Amazon recently built an 855,000-square-foot fulfillment center in Pinto Business Park and will open a one-million-square-foot facility in ’18 near Katy. The forecast anticipates moderate growth in warehouse demand, and with it more industrial construction.

As noted in last year’s forecast, the boom in chemical plant construction is winding down. Industrial Info Resources of Sugar Land estimates that the value of construction work, both new, maintenance and turnaround, will drop by 11.7 percent in ’18. However, a number of large projects are in the works, and if these are announced early in the year, job losses in heavy industrial construction could be minimal.

HOUSTON INDUSTRIAL MARKET Q3/17

	Inventory (Million Sq Ft)	Direct Vacancy - %	Overall Vacancy - %	YTD Net Absorption (Million Sq Ft)	Under Construction (Million Sq Ft)
Flex/R&D	43.8	10.1	10.3	-1.1	0.0
Manufacturing	82.4	2.0	2.3	0.3	0.3
Warehouse/ Distribution	385.4	4.8	4.9	7.8	2.3
Total	511.6	4.8	5.0	6.9	2.6

Source: Transwestern Note: Numbers may not sum due to rounding.

RETAIL

Metro area retail sales peaked in Q4/14 and have trended down since. The retail real estate market has been slow to react, and only this year have retail vacancy rates ticked up. Over the past four quarters, deliveries have outpaced absorption. At 5.6 percent, the retail vacancy rate is still below the long-term average, making this market among the healthiest of Houston’s real estate sectors. In some submarkets, like the Inner Loop, the vacancy rate is much lower, and for some product types, such as strip centers, the rate is much higher.

More than 4.0 million square feet of retail space had been delivered through the end of Q3/17. About 3.8 million square feet of retail space is under construction, of which less than half is preleased. The bulk of new construction is in the far suburban markets adjacent to rapidly growing residential developments. Houston continues to add population, driving retail growth, but incomes have fallen, somewhat offsetting those gains.

The forecast assumes population growth and new home construction will continue to drive the demand for retail space in the suburbs, and developers will find opportunities in near-town neighborhoods. As a result, retail construction will maintain its current pace through the end of ’18.

MULTIFAMILY

Early reports of Hurricane Harvey's impact on the multifamily market were greatly exaggerated. As the waters began to recede, Apartment Data Services (ADS) launched a survey of the 2,751 properties in the region and found that fewer than 16,000 units, about 2.4 percent of inventory, suffered damage. Most will be repaired and quickly returned to service. Units leased by families forced to evacuate, about 11,000 apartments, will be tossed back on the market once repaired. Bottom line: Harvey did not create the need for more apartments in Houston.

The good news is that the frenetic pace of multifamily construction has finally begun to settle down. Only 9,567 units were under construction in November. A handful will come online by year's end, fewer than 7,000 will open in '18, and less than 1,000 will arrive in '19. Barring a surge in new construction, the market should begin to rebalance by the end of '18. A note of caution, however: developers have proposed another 17,310 units. Should those projects move from the drawing board to the construction site next year, rebalancing of the market will be delayed. The Partnership's forecast assumes multifamily construction in '18 remains well below the pace of '17.

SINGLE-FAMILY

According to the Texas Department of Public Safety, Hurricane Harvey caused significant damage to nearly 100,000 homes in the Houston metro area. The forecast assumes that 90 percent of the families whose homes were damaged by Harvey will have completed their repairs by the storm's first anniversary. By the end of '18, most of Harvey's impact on construction will have evaporated.

Home sales have held up well despite the weak economy.

Realtors should close on 94,000 single-family homes, condos, duplexes and townhomes in '17, a new record for the region. The median price for a single-family home was $227,098 in October, up 4.4 percent from a year ago. It took an average of 56 days to sell a home in October '17, down from 61 days in October '16. The strong resale market has driven builders to break ground on more homes in the suburbs.

MetroStudy expects builders to break ground on 27,450 single-family homes in '17. That volume would rank Houston second only to Dallas in new home starts. Builders have maintained the pace of construction by designing homes on smaller lots and keeping the price of an entry-level home below $250,000. The forecast incorporates MetroStudy's expectation that homebuilders will start 27,950 single-family homes in '18.

One final note: local voters approved $4.2 billion in city, county, and school district construction bonds in the May '17 and November '17 elections. Those funds should support a moderate level of construction activity over the next two years.

Based on these considerations, the forecast calls for the region to sustain a net loss of 4,500 construction jobs in '18.

HOUSTON-AREA HOME SALES – 12-Month Total

Source: Houston Association of Realtors

WHOLESALE TRADE

Wholesale trade employs 160,000 workers in Houston, 5.3 percent of the region's total, and paid $12.5 billion in salaries and wages in '16. The sector lost nearly 11,000 jobs in the downturn and has yet to recover. Most of the losses came in durable goods wholesaling, heavily weighted to supplying parts and equipment to the energy industry or lumber and hardware to the construction industry. Even with the jump in the rig count, durable goods wholesaling remains depressed. Employment in nondurable goods (grocery, alcoholic beverages, and paper products) has held up well, primary because of population growth.

The Partnership's analysis assumes that losses in durable goods have ended, nondurable goods will grow along with the population, and Houston's role as a distribution and logistics center continues to expand. The forecast calls for employment growth to resume, the sector adding 1,800 jobs in '18.

RETAIL TRADE

Retail employs more than 300,000 baggers, butchers, bakers, cashiers, clerks, stockers, and managers, or one in every 10 jobs in the region. The sector paid $9.6 billion in wages in ’16, 5.2 percent of the region’s total. The U.S. Bureau of Economic Analysis (BEA) places the sector’s contribution to GDP at $23.3 billion, or 4.9 percent of the total.

The four-quarter total for retail sales crested at $98.4 billion in Q1/15, then slid along with energy employment.[2] Though the retail sector continued to add jobs, consumers held on to their wallets. Retail sales, adjusted for inflation, remain $5 billion off their peak. Blame e-commerce for only part of the decline. There’s less purchasing power in the market. Real wages and salaries are $5.9 billion from their Q4/15 peak. That hasn’t stopped new merchants from entering the market or existing ones from expanding their presence. Over the past two years, retailers opened 500 shops, boutiques, and stores and employment grew by more than 10,000 jobs.

Retail job growth helped offset losses elsewhere. Unfortunately, the sector doesn’t pay well. In ’16, the typical retail worker earned $31,600 for a year’s work. Only the restaurant sector pays less.

Future growth in retail depends on several factors:

- *Population:* Houston added 125,000 residents between July 1, 2015 and July 1, 2016. The Texas Demographic Center forecasts metro Houston will add between 500,000 and 800,000 residents over the next five years.
- *Employment:* Job growth in ’18 will be better than in ’17, but still not up to the region’s long-term trend of 55,000 to 60,000 jobs per year.
- *Income:* Adjusted for inflation, total wages and salaries paid to Houston-area workers were flat in Q1/17 compared to Q1/16. That’s a good sign. Total wages declined through much of the recent downturn.
- *Financial Well-Being:* Home values in Houston have risen 4.6 percent through the first nine months of ’17. The Dow Jones Industrial Average is up 16.4 percent since the beginning of the year. When a family’s assets appreciate in value, the family feels better about its overall financial position and is likely to spend more.
- *Consumer Confidence:* A nationwide Gallup poll conducted in October found Americans in their best holiday shopping mood in years. In the ’17 Kinder Houston Area Survey, 64 percent of respondents rated job opportunities in Houston as good or excellent, up marginally from 62 percent in ’16.
- *Access to Credit:* The share of households in Harris County with subprime credit scores, potentially at high risk for default, has dropped from 32.9 percent in Q2/13 to 27.1 percent in Q2/17.

The forecast assumes that population growth will maintain its pace, job growth will improve, wages will start to creep up, families will feel better about their finances, confidence will remain high, and consumers will have access to credit. The forecast calls for the region to add 6,500 retail jobs in ’18.

METRO HOUSTON RETAIL SALES

4-Qtr Moving Total*

Source: Texas State Comptroller

* excludes gasoline purchases

[2] The Partnership’s calculations exclude gasoline sales.

FINANCE AND INSURANCE

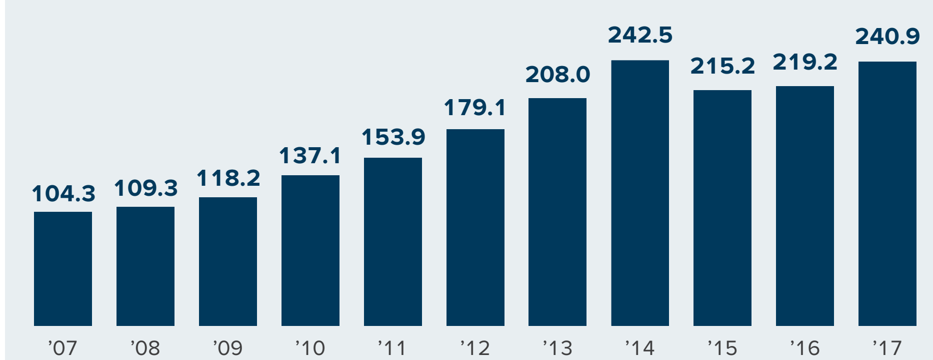
Finance and insurance employs about 100,000 Houstonians, 3.4 percent of all jobs in the region. BEA places the sector's contribution to GDP at $61.8 billion, or 12.9 percent of the total. The sector includes commercial banks, credit unions, insurance brokers, insurance carriers, investment advisors, mortgage bankers, and security brokerages. Average annual compensation in the industry was $74,000 in '16.

Bank deposits in Houston have more than doubled over the past 10 years, yet employment is flat and the number of bank branches has declined. A few well-capitalized banks have acquired weaker banks in the aftermath of the Great Recession. Dodd-Frank spurred a few mergers as banks sought economies of scale to help comply with the legislation's regulatory burdens. Cellphone apps and the internet now handle transactions once handled in person. And low interest rates have cut into bankers' profits, limiting their ability to offer new products.

However, securities brokerages and investment advisors have blossomed, the subsector adding more than 550 offices and nearly 7,000 employees over the past 10 years. Their ascent parallels the rise in individuals investing in stocks, bonds, and commodities, either directly or through their retirement plans.

The forecast assumes that population growth, home construction, and the economic recovery will drive the need for banking, finance and insurance services in '18, but many of those services will be delivered via the Internet. Interest rates will creep up, improving banks' profitability and allowing them to expand their product offerings. Many businesses and homeowners will deal with Harvey-related insurance claims well into '18. The ongoing recovery will marginally expand banks' loan portfolios. And the need to save for a child's college education and build retirement nest eggs will keep investment advisors busy. The forecast calls for the finance and insurance sector to add 2,200 jobs in '18.

METRO HOUSTON BANK DEPOSITS – $Billions



METRO HOUSTON BANK BRANCHES

'07	'09	'11	'13	'15	'17
1,459	1,542	1,534	1,526	1,492	1,450

Source: Federal Deposit Insurance Corporation

REAL ESTATE AND RENTAL AND LEASING

The sector employs 57,000 workers, about 1.9 percent of all job holders in the region, and paid $3.5 billion in salaries and wages in '16. Brokers and property managers (office, industrial, retail, apartments) represent about 39,000 jobs. Average compensation in real estate was $71,000 in '16. Equipment rentals (cars, trucks, heavy equipment, formal wear, appliances) employ the remaining 18,000. Average compensation in rentals and leasing was $66,000 in '16.

Commercial leasing activity in '17 fell to its lowest level in years, limiting the need for brokers and nonessential staff. The boom in apartment construction has led to a surge in hiring people to maintain those properties. Construction activity has fallen off, and with it the demand for heavy equipment.

The forecast assumes commercial leasing activity will pick up as the economy improves, apartment owners will hire additional staff to manage properties coming on line, the pace of home sales won't slacken, car rental activity picks up along with business travel, and local businesses continue to rent rather than purchase equipment to control costs. Based on those assumptions, the forecast calls for real estate and rentals to add 1,500 jobs in '18.

PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES

The sector includes accounting, advertising, architectural and engineering services, computer systems design, law offices, management consulting, public relations, and scientific research. The sector employs about 210,000 workers, or 7.2 percent of all job holders.

Job growth is slowly returning. Congress has proposed a new tax code. Any time Washington creates uncertainty, that translates into additional work for the legal and accounting sector. Engineering projects put on hold during the downturn are being re-evaluated, though not yet funded. Money is creeping back into marketing budgets. The threat of cyberattacks mandates that companies update their networks. And a new focus on big data across industries should translate into more work for consulting firms.

The forecast assumes those factors will boost demand for accounting, legal, computer and management services, and that the broad sector will add 4,500 jobs in ’18.

PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES – June ’17

	Firms		Employment	
Sector	#	% Total	#	% Total
Accounting and Bookkeeping	2,325	11.7	26,351	12.5
Advertising and Public Relations	470	2.4	4,093	1.9
Architectural and Engineering	3,006	15.2	64,266	30.5
Computer Systems Design	3,565	18.0	27,888	13.2
Legal	3,653	18.4	25,398	12.1
Management Consulting	4,925	24.8	35,418	16.8
Other Services	1,020	5.1	17,408	8.3
Scientific Research	323	1.6	7,492	3.6
Specialized Design	540	2.7	2,275	1.1
Total	19,827	100.0	210,589	100.0

Source: Texas Workforce Commission

ACCOMMODATION AND FOOD SERVICES

HOTELS

Metro Houston has approximately 86,000 hotel rooms. The sector employs 26,000 workers, under one percent of all jobs in the region, but the lodging industry generates around $90 million in tax revenues annually through a 17 percent hotel occupancy tax.[3] Average compensation in the sector was about $29,000 in ’16.

Hotel occupancy depends heavily on business travel and tourism. Houston struggled through ’15 and ’16 as the energy industry brought fewer employees to Houston for conferences, training, and seminars, reducing demand for meeting space, meals, and hotel rooms. This decline was somewhat offset by an increase in tourism. Houston hosted 20.5 million visitors in ’16, up from 14.8 million in ’14.

Hoteliers received a boost from Super Bowl LI, which brought more than 150,000 visitors to Houston in late January and early February. The event injected nearly $350 million into the region’s economy, $292 million of that from visitor spending.

Hurricane Harvey forced many Houstonians from their homes and brought workers into the area to assist in the recovery. CBRE Hotels estimates that Harvey will have generated more than two million additional room nights in the Houston MSA.

Hotel construction is expected to slow in ’18. Many developers rushed to open hotels in time for the Super Bowl and now that’s behind them. Financing hotel construction in Houston remains difficult and hotel developers must now compete with rebuilding work from Harvey, which

[3] Six percent goes to the State of Texas, two percent to Harris County, two percent to the Harris County Sports Authority, and seven percent to the City of Houston. The city uses the bulk of its proceeds to service convention and entertainment center bonds, with the remaining portion funding operations of Houston First, the Greater Houston Convention & Visitors Bureau, the Houston Arts Alliance, the Houston Museum District Association, the Miller Theatre Advisory Board, and the Theatre Improvement District.

places upward pressure on the price of construction wages and materials. CBRE expects 3,000 to 4,000 new rooms to be added to inventory, but a dip in overall occupancy will result in a dip in average daily room rates in '18.

SUPER BOWL LI VISITOR SPENDING

	$ millions	% share
Hotels	88.3	30.2
Food & Drinks	59.4	20.3
Entertainment	56.2	19.2
Retail	44.9	15.4
Transportation	30.9	10.6
Other	12.6	4.3
Total	292.3	100.0

Source: Rockport Analytics

RESTAURANTS AND BARS

Restaurants and bars employ more than 260,000 Houstonians, about one in every 12 jobs. A typical chef made $42,000 in '16, a restaurant manager, $41,000, a bartender, $28,000, and wait staff, $24,000 (excluding tips and other compensation).

On net, the region has added 310 restaurants and bars each year for the past 12 years. The region added 96 restaurants, both full-service and fast casual, in Q1/17 alone, many rushing to open in time for Super Bowl LI.

Employment growth has slowed somewhat lately, as this sector, too, looks for ways to embrace technology to reduce labor costs. iPad menus have begun replacing counter help in some eateries. The cost of eating out has risen faster than the cost of eating at home. Traditional eateries must compete with prepared meals found in many grocery stores and meals prepared at home with all the ingredients ordered online and delivered to the doorstep. More restaurant concepts from the East and West coasts will enter Houston, possibly pushing up rents and forcing some long-time establishments to either relocate or shut their doors.

The bars and restaurants will need waitstaff, cooks and dishwashers. The hotels will need desk clerks, bell hops and cleaning staff. Though hotel occupancy will drop, hotels opening in '18 will still need to staff up. Houston should open another 250-300 restaurants, cafes, bars and eateries next year. The forecast calls for 6,500 new jobs in the sector.

INFORMATION

About 31,000 Houstonians, 1.0 percent of all job holders, work in Information. The sector includes book publishers, cable television services, cell phone services, data processing, Internet publishing, libraries and archives, motion picture production and distribution, music publishers, news syndicates, magazine publishers, newspaper publishers, radio broadcasting, recording studios, software publishers, television broadcasting, web hosting, and wired telecommunications carriers.

While employment has grown in movie theatres and periodical publishing, employment in other subsectors continues to shrink. The local newspaper industry employs 1,200 fewer workers than 10 years ago, the radio industry 700 fewer broadcasters, and cellphone and wired telecom services, 2,000 fewer workers. Technology has replaced labor and the Internet has replaced traditional media. Firms that survive today have rethought their business models. In Houston, employment peaked in December '90. The downward trend will continue. The forecast calls for the sector to shed another 400 jobs in '18.

ARTS, ENTERTAINMENT AND RECREATION

The "fun and games" sector includes arcades, botanical gardens, bowling alleys, fitness centers, golf courses, marinas, museums, music groups, parks, performing arts companies, race tracks, spectator sports, theater companies, and zoos. It employs approximately 34,000 Houstonians, or 1.2 percent of all jobs in the region. The industry is highly seasonal, with employment peaking in the summer and sinking to its nadir in the winter months.

Activity depends heavily on discretionary income. Consumers are more willing to splurge on tickets to the opera or sign up for a gym membership when their financial outlook is bright, and they cut back on such spending when times are lean. Population growth and an increase in visitors to the region help drive expansion, as does income growth.

The forecast assumes local incomes grow, consumer preferences don't change, and the dislocation of arts venues due to Harvey flooding has minimal impact on attendance for the sector as a whole. The forecast calls for arts, entertainment and recreation to add 600 jobs in '18.

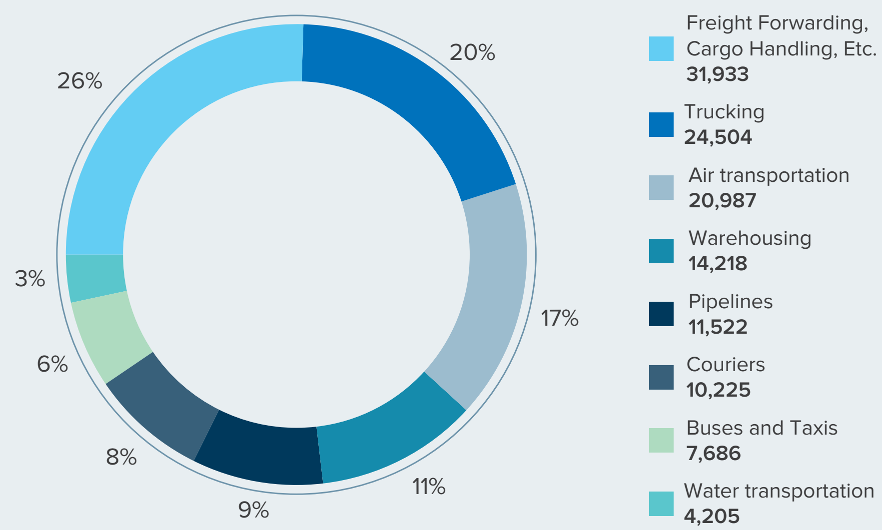
TRANSPORTATION, WAREHOUSING, AND UTILITIES

The sector includes airlines, trucking firms, barge companies, bus companies, taxis, limousines, pipelines, sightseeing services, messengers, couriers, freight services, and warehousing. It employs about 125,000 workers, or 4.0 percent of the area's job holders.

The energy industry's woes have impacted the transportation sector as well: less corporate travel, driving vacations rather than flying vacations, leaner inventories in warehouses, fewer spare parts delivered to drilling rigs working in the field. But the worst appears to be over for the sector.

The forecast assumes that Houston Airport System passenger volumes, down most of '17, begin to grow again; traffic through the Houston-Galveston Customs District picks up as global growth strengthens; developers continue to build warehouses and distribution centers; and employment at local utilities holds constant.

METRO HOUSTON TRANSPORTATION JOBS
June '17



Source: Texas Workforce Commission

These factors support moderate employment growth. The forecast calls for the sector to add 1,500 jobs in '18.

GOVERNMENT

The government sector employs more than 400,000 workers in the region, about one in every nine payroll jobs.[4] This figure includes federal, state, county, municipal and school district employees. Government payrolls topped $17.2 billion in '16, about 9.3 percent of the region's total.

Three factors influence job growth in the public sector—population growth, revenue growth, and local attitudes toward government. As noted earlier, the metro region should add another 125,000 residents next year, boosting the call on libraries, road repairs and police protection. And Houstonians' attitudes toward government don't indicate they want to "drain the swamp." In his '17 Kinder Houston Area Survey, Rice University professor Steven Klineberg found that 49.9 percent of respondents believe government should do more to solve our country's problems. Only 40.8 percent thought government should do less.

So what about the third driver of the public sector, tax revenues?

Washington appears intent on cutting taxes, not expenditures, so

TOTAL TAXABLE PROPERTY VALUE
9-County Houston Metro Area

	$ Billions	
'11	406.7	
'12	426.3	
'13	460.1	
'14	506.6	
'15	566.1	
'16	611.0	
Change '11 - '16	204.3	52%

Source: Texas Comptroller's Office

[4] The one-in-nine calculation includes both payroll and self-employed workers.

federal employment is unlikely to drop in Houston.

Though the debate was acrimonious, legislators approved $216.8 billion in total spending for the state's budget for the 2018-19 biennium, up slightly from the $209.4 billion for the previous biennium. This relatively small increase suggests state employment in Houston will hold steady or marginally increase.

Counties rely on property taxes to fund road repairs, hospitals, law enforcement, parks and a host of other services. In the nine-county region, property values have jumped 50.2 percent over the past five years. The jump in values has helped county governments serve their growing populations.

Cities rely on sales taxes as well as property tax revenues. Year-to-date, sales tax collections in the region's 10 most populous cities are essentially flat, limiting their capacity to hire new employees.

School districts receive funds from the federal government, the state of Texas, and local property taxes. A provision known as "recapture," which the media has dubbed "Robin Hood," requires property-wealthy districts to send a portion of their local property tax revenues to the Texas Education Agency (TEA) to be redistributed to property-poor districts. Locally, 20 school districts, including the Houston Independent School District, will send $341 million to the TEA next year, limiting their ability to hire more educators or offer new programs.

SALES TAX COLLECTIONS
10 Most Populous Cities*

	YTD '17	YTD '16	% Change
Houston	**$582.5**	**$582.4**	**0.0%**
Sugar Land	**44.2**	**48.0**	**-7.8**
Conroe	**39.7**	**38.4**	**3.3**
Pasadena	**29.3**	**29.8**	**-1.7**
Pearland	**28.1**	**27.5**	**2.2**
League City	**19.1**	**17.9**	**6.5**
Galveston	**18.7**	**18.6**	**0.3**
Texas City	**18.5**	**19.0**	**-2.4**
Baytown	**18.2**	**17.1**	**6.5**
Rosenberg	**15.8**	**14.3**	**10.5**
Total	**$814.1**	**$813.0**	**0.1%**

Source: Texas Comptroller of Public Accounts *Through November of each year.

The forecast sees no change to federal employment, growth in state employment at the pace of recent years, a delayed impact of Hurricane Harvey on property tax revenues, a gradual increase in sales tax revenues, and work arounds for school districts on the issue of recapture.

HEALTH CARE AND SOCIAL ASSISTANCE

Health care and social assistance employs nearly 340,000 Houstonians, one in every nine workers in the region. That's up from 202,000, or one in every 11 workers, 25 years ago. Average annual income in health care is $53,300, but the pay varies widely. The typical surgeon might earn $245,000 in a year, a registered nurse $77,000, a home health aide $22,000.

Historically, three factors have influenced growth in demand for health care—a growing population, an aging population, and the availability of health insurance. As Houston's population grows, the number of consumers of health care grows. Houston has added nearly 750,000 residents over the past five years. As the population ages, Houstonians require more health care. Between '12 and '16, Houston's over-65 population has grown by 130,000 residents. And because of the Affordable Care Act (ACA), more

Houstonians have health insurance. According to the U.S. Census Bureau's American Community Survey, 82.8 percent of Houston's population has health coverage, up from 76.6 percent in '12.

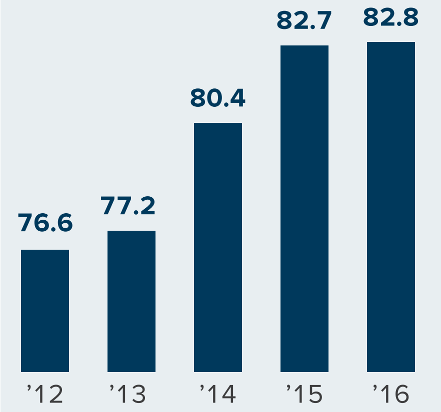
But health care has grown more competitive. Thirty years ago, most patients received medical treatment in a doctor's office or hospital. Today, options include freestanding emergency departments, urgent care facilities, clinics inside drug and grocery stores, virtual consultations, and home health care. The industry must also deal with lower reimbursement rates, reimbursement based on outcomes rather than procedures, and relentless pressure from the government, insurance companies, and consumers to reduce costs.

Furthermore, generations tend to consume health care differently. Millennials seldom see a doctor unless it's a happy or unhappy event, *e.g.*, a child birth or a broken bone. Baby Boomers see doctors for chronic disease management or treatment of illnesses, *e.g.*, arthritis, osteoporosis, cancer. GenXers fall somewhere in the middle.

Ben Taub Hospital, Houston Methodist, Kingwood Medical Center, M.D. Anderson Cancer Center, Memorial Hermann and Texas Children's Hospital have facilities under construction that will open in '18. More than 250 health care-related projects have been proposed for the Houston region, according to Dodge Analytics. The projects range from renovating doctors' offices to new hospital construction. Even if only a fraction of these projects break ground, the demand for doctors, nurses, secretaries and hospital administrators will grow.

The forecast assumes Houston's population continues to grow, the over-65 population expands by another 20,000 to 25,000 per year, Congress fails to repeal the ACA, more Houstonians find jobs with benefits that include health coverage, and local institutions find ways to manage costs without cutting personnel. The forecast calls for health care to create 8,000 jobs in '18.

% METRO HOUSTON POPULATION WITH HEALTH INSURANCE



Source: U.S. Census Bureau

EDUCATIONAL SERVICES

Educational services includes private colleges, universities, elementary and secondary schools, sports instruction, exam preparation, fine arts academies, technical and trade schools. (Public education is included in Government.) The sector employs about 61,000 Houstonians, two percent of all jobs in the region, and generates about $2.6 billion in annual wages. Employment growth has remained strong, driven by parents seeking alternatives to public schools, workers needing to build their skill sets to improve their chances in the workplace, students (and parents) wanting better grades on exams, and athletes trying to improve their performance on the field. The forecast assumes that nothing derails recent growth trends and the sector adds 1,200 jobs in '18.

ADMINISTRATIVE AND SUPPORT AND WASTE MANAGEMENT AND REMEDIATION SERVICES

The sector includes 41 subsectors, but 75 percent of the jobs fall into just six—employment agencies, janitorial services, landscaping, administrative support, security, and temporary help. Though the sector accounts for one in 14 jobs in the region, the industry accounts for nearly one in five jobs added in the 12 months ending October '17. This imbalance reflects the long-running trend toward outsourcing non-core functions. The Partnership expects this trend to continue, especially as firms look for ways to cut costs next year. As a result, the Partnership forecasts the industry to add 5,200 jobs in '18.

other

OTHER SERVICES

Other services includes fix-it shops (appliance, automotive, computer, furniture repair), glamour merchants (hair stylists, beauty shops, nail salons), member organizations (churches, foundations, social advocacy groups), and businesses not easily classified (funeral homes, linen services). Though a small sector by employment, 3.6 percent of Houston-area jobs, its 13,954 firms represent 11.1 percent of all businesses in the region. These are typically small businesses with a handful of employees. They paid more than $850 million in wages and salaries in Q1/17.

The sector's fortune tends to track overall economic trends. Population growth translates into increasing demand for personal care services. In a strong economy, workers don't hesitate to fix what's broken, splurge on salon visits, and give generously. In a weak economy, workers postpone repairs, visit salons and shops less frequently, allow memberships to lapse, and reduce their charitable donations.

'18 will be a transition year for the sector, with Houston's economic health improving but not back to full recovery. The Partnership's analysis assumes job growth to be stronger than in recent years but not returning to normal until '19. The forecast calls for other services to create 1,200 jobs in '18.

RISKS TO THE FORECAST

The Partnership's forecast represents the organization's best effort to explain the factors influencing job growth next year. The estimates are based on a set of overall assumptions (outlined on page two) along with the industry-specific trends (noted in each section).

Like all economic outlooks, this prognosis runs the risk that unexpected events might derail the forecast. The risks can be positive, yielding higher job growth than forecasted, or negative, yielding lower job growth than forecasted. Some forecasts assign probabilities to those risks. The Partnership feels it suffices to note the major risks, outlined below.

WHAT COULD GO WRONG?

The U.S. economy starts to sputter. Most economists call for GDP growth of 2.4 percent or better next year, but a terrorist attack, a cyberattack, or a loss of business or consumer confidence could derail those forecasts. Slower U.S. growth would translate into a slower recovery in Houston.

Population growth slows dramatically. A weak economy makes Houston a less attractive place to relocate. Houston's fastest growing employment sectors—health care, retail, restaurants, finance, education—would see fewer patients or customers. Job growth in Houston would slow.

OPEC members ignore any agreement and ramp up production. There's always a bit of cheating, but substantial cheating would flood the market with crude and send prices tumbling. The energy industry would launch a new round of layoffs.

China slips into recession. The demand for crude would fall, taking prices and jobs with it.

War breaks out between North Korea, South Korea and the U.S. The global supply chain would snap. Asian economies would slide into recession. Houston's exports to the region would tumble.

The U.S. abandons the North American Free Trade Agreement. The U.S. would place tariffs on Mexican goods, Mexico would retaliate with tariffs on U.S. imports, prices would rise and demand for goods produced in Houston would fall.

Congress repeals the Affordable Care Act. The ranks of uninsured would swell. The sick and injured would postpone seeking help until their situations became dire. Charity caseloads would soar. Local hospitals would suffer significant financial stress.

WHAT COULD GO RIGHT?

Wage growth finally kicks in. The tightening U.S. labor market should soon require companies to offer higher salaries to attract new employees.

The chemical industry announces a second wave of major plant construction. By some estimates, another $42 billion in projects are actively under consideration for the U.S. Gulf Coast.

Global crude production proves to be lower or consumption higher than anticipated. Supply and demand balance sooner, prices rise quicker, and the energy industry begins to grow again.

A FEW WORDS ABOUT HURRICANE HARVEY

As of this writing, three months have passed since Hurricane Harvey inundated Houston. The storm may have delayed Houston's recovery but it didn't drown it.

The region's four ports—Houston, Galveston, Freeport and Texas City—reopened shortly after the storm subsided. The same holds true for Houston's three airports—Bush Intercontinental, Hobby and Ellington. At the storm's peak, a fourth of the nation's refining capacity was impacted. All but one is back to pre-Harvey operating levels. Only a handful of chemical plants suffered major damage and on those plants, repairs are underway. Of the office buildings impacted, only ground floors and basements were flooded. Here, too, repairs are underway. Harvey forced a few companies to permanently shutter their local operations, but 99.9 percent of Houston-area firms are back in business. Bottom line: The business community has largely recovered from Harvey.

That's not true for families and individuals. Images of flooded homes, high-water rescues, and evacuees sleeping on cots remain fresh in our minds. Though most evacuees have returned to work or school, many have yet to return home. For them, the rebuilding process is only beginning.

The storm should have a minimal impact on long-term population growth. Most individuals chose a city based on economic opportunity, culture, affordability, or to be close to family and friends. Harvey did nothing to change that. The impact on residential real estate is yet to be determined. Countless of changes will be proposed. It is critical that the more viable and cost-effective solutions will be implemented before another event like Harvey visits the region.

Houstonians are a resilient lot. Witness how we've handled the most recent downturn in the economy. The hope is that by next year's forecast date, all the families and individuals affected by Harvey will have recovered as well.

HURRICANE HARVEY IMPACT

	Damaged	% of Inventory
Single-Family Homes	**162,000**	7.0
Apartments	**16,000**	2.4
Office Space	**2.0 MSF**	1.0
Vehicles	**300,000**	9.6

Sources: Texas Department of Public Safety, Apartment Data Services, Transwestern, TexAuto Facts

THE OUTLOOK PAST 2018

When future historians look back at Houston in the early 21st century, three events, all of which occurred this year, will define the period. They are Super Bowl LI, Hurricane Harvey, and the Astros' World Series title. Historians won't show interest in the events themselves, but instead will focus on what the events reveal about Houston as the city struggled to recover from yet another energy downturn.

On the surface, Super Bowl LI looks like a week-long block party. Over one million people swarmed Discovery Green to drink beer, listen to music, and enjoy what was officially known as the "NFL Experience" and "Super Bowl LIVE." Dig deeper and one sees thousands of volunteers working behind the scenes to make the event a success. For their efforts, they received a t-shirt, a plate of barbecue, and a warm thank you. For most, that was enough.

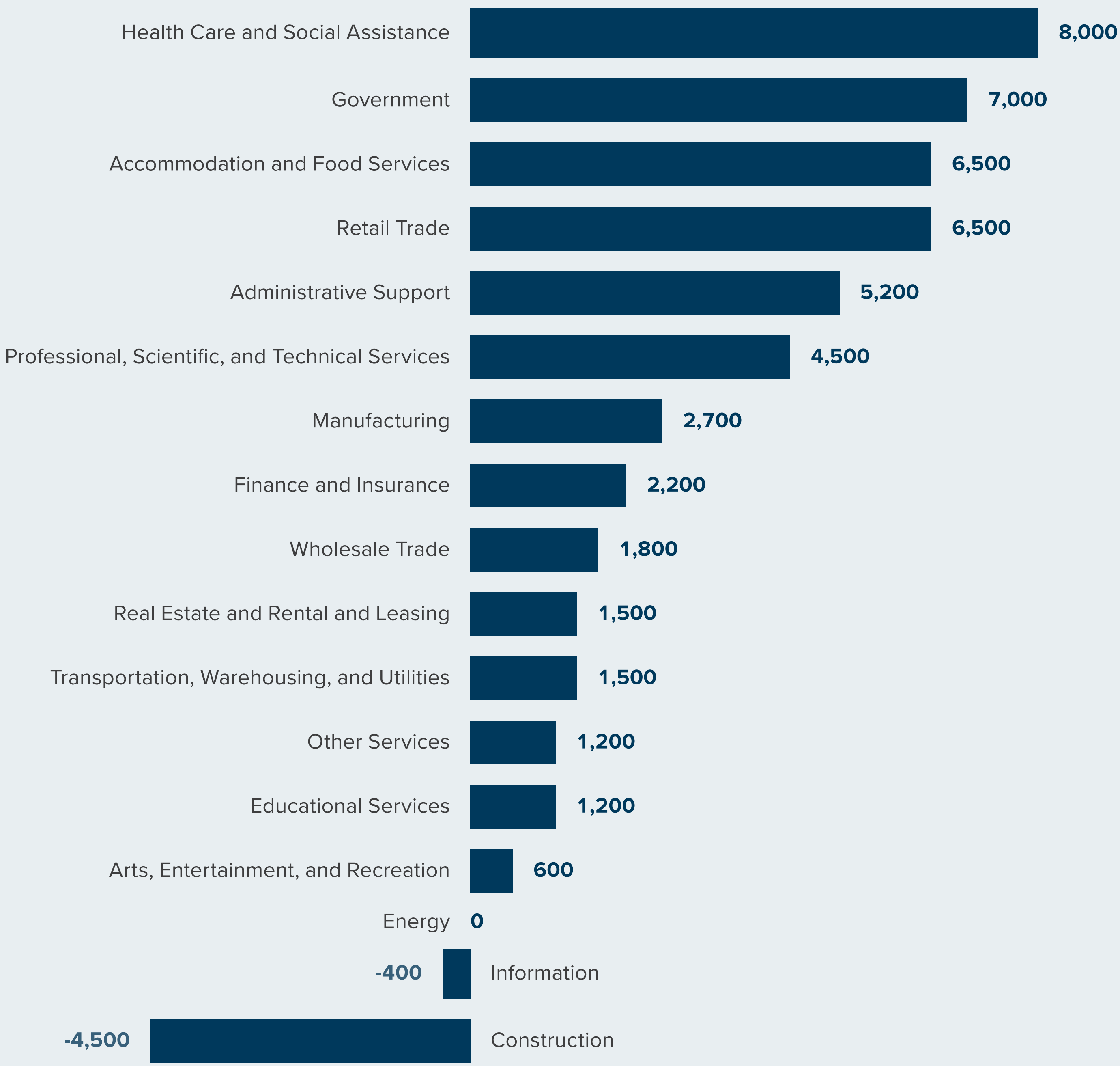
Play almost any YouTube clip of Hurricane Harvey and one sees human tragedies unfold—flooded homes, submerged vehicles, families sleeping on cots in shelters—but one also views moments of grace, neighbor helping neighbor and stranger rescuing stranger.

"[A]fter watching the way the people of that state have responded to this tragedy, I think Texas might have saved us too," wrote *Time Magazine*. ". . . rescue after rescue, kindness after kindness. They are a reminder of something we feared might be extinct: an aspect of America that brims with compassion—the kind that doesn't discriminate."

From the bleachers, the Astros looked like a bunch of young, gifted athletes. But examine their backgrounds. The Astros' best pitcher is a transplant from Detroit. The team's best batter is an immigrant from Venezuela. The guy wearing the catcher's gear grew up in a small town in north Texas. The manager, a Stanford grad, used his smarts to guide the team. The roster is a microcosm of Houston. Like the Astros, most everyone here is from somewhere else, yet we find ways to cooperate, combine our skills, and achieve success—inside the operating room, on the shop floor, around the conference table, and on the baseball diamond.

Many fret over what will be the next "big thing" to move Houston forward: What will happen to Houston when the world runs out of oil, or the world no longer needs oil because everything runs on electricity? One need only look at the qualities Houstonians have demonstrated over the past 12 months—commitment, compassion, cooperation—to see the fuel that will drive Houston well into the 21st century. The next resource we tap will be the people who live here.

METRO HOUSTON, FORECAST JOB GAINS/LOSSES
December ’17 - December ’18



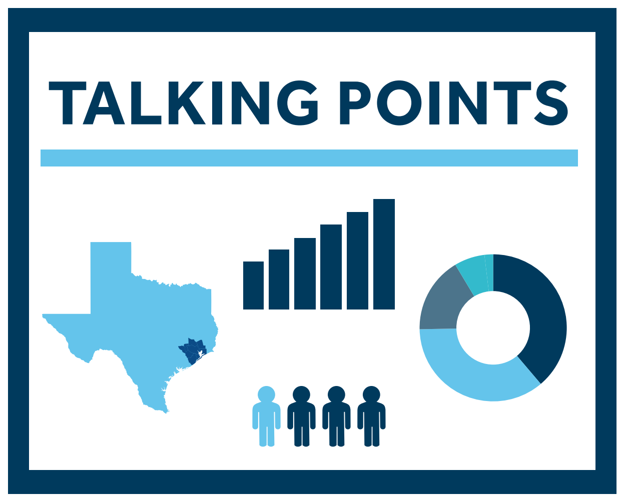
Source: Greater Houston Partnership

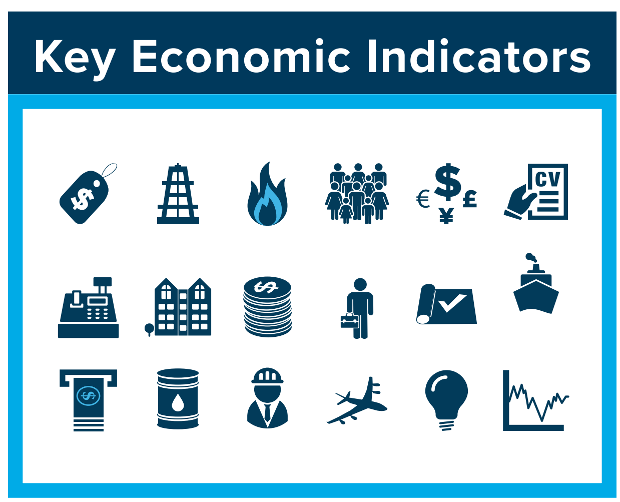
Patrick Jankowski, Jenny Philip, Josh Pherigo, Roel Martinez, Skip Kasdorf, Nadia Valliani and Melissa Verhoef contributed to this forecast.

Data used in the analysis and forecast came from the following sources: Baker Hughes Incorporated, CBRE, CBRE Hotels, CenterPoint Energy, City of Houston Aviation Department, City of Houston Building Permit Department, Colliers International, Dodge Data & Analytics, Federal Reserve Bank of Dallas, Houston Business Journal, Houston Chronicle, Houston Association of Realtors, Industrial Infor Resources, Institute for Supply Management - Houston, Inc., JLL, John Burns Real Estate Consulting, Meyers Research, NAI Partners, Oxford Economics, Port Houston, RealtyNewsReport.com, Texas Association of Counties, TexAuto Facts Report (InfoNation, Inc.), Texas State Comptroller’s Office, Texas Workforce Commission, Transwestern, U.S. Bureau of Labor Statistics, U.S. Census Bureau, U.S. Energy Information Administration, WISERTrade.

Stay up to date on the Houston economy through the year.

Check out other Partnership Research publications at houston.org/economy.





GREATER HOUSTON PARTNERSHIP

Making Houston Greater.

Patrick Jankowski, CCR
Senior Vice President, Research

Jenny Philip
Director, Economic Research

Roel Gabe Martinez
Senior Manager, Research

Nadia Valliani
Manager, Research

Josh Pherigo
Analyst, Research

Melissa Verhoef
Associate, Research

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@pnjankowski

Connect with me:
linkedin.com/in/pnjankowski

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