2022

HOUSTON EMPLOYMENT FORECAST

December 2021

GREATER HOUSTON PARTNERSHIP

Making Houston Greater.

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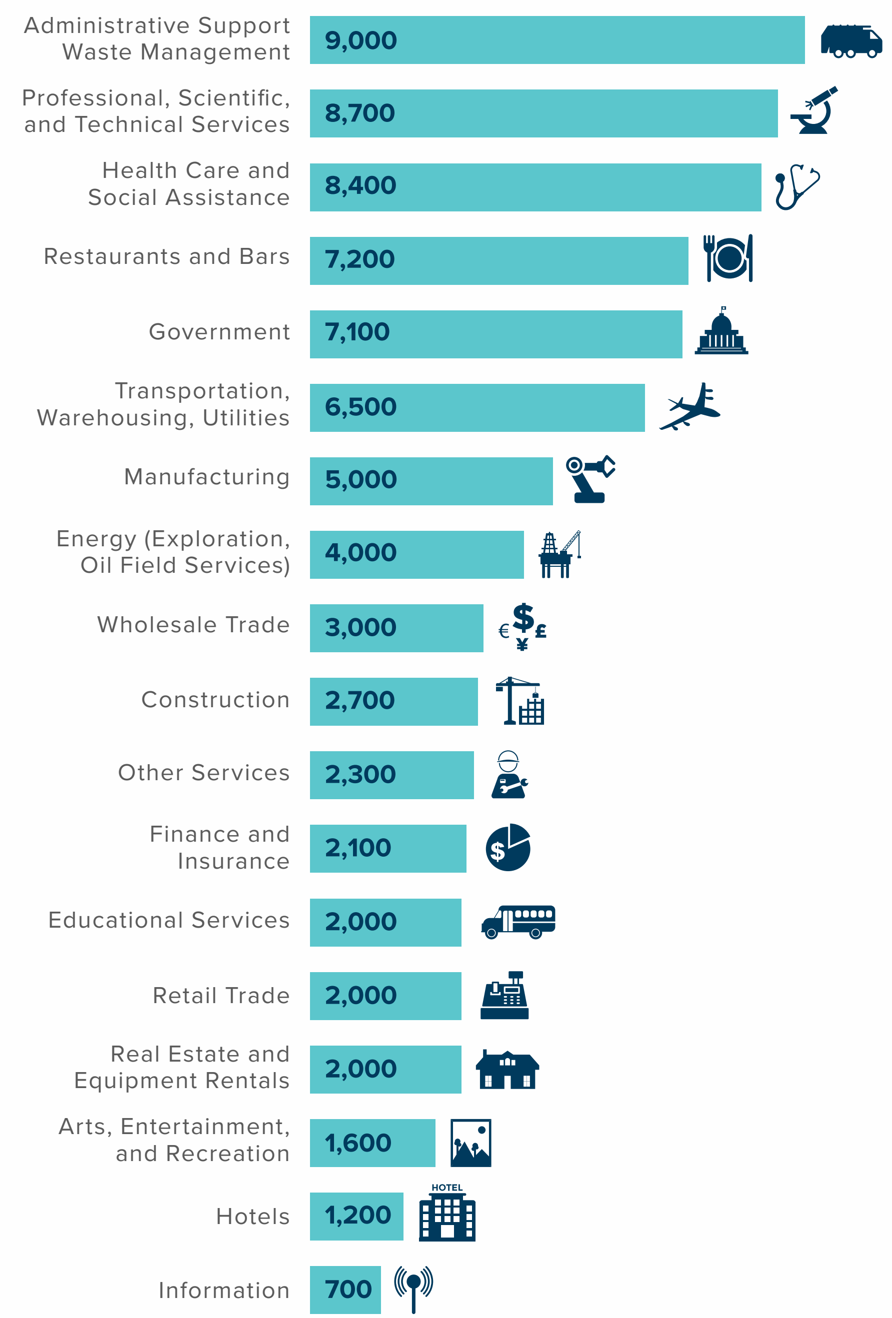
FIFTH THIRD BANK

INTRODUCTION

The Partnership's forecast calls for Metro Houston to create 75,500 jobs in '22.[1] Growth will occur in every sector of the economy, including several that struggled to create jobs in recent years. The greatest gains will occur in administrative support and waste management; government; health care and social assistance; and professional, scientific and technical services. Despite healthy job growth, Houston will likely fall 10,000 to 20,000 jobs shy of pre-COVID employment levels when '22 comes to an end.

Five factors will support job growth next year—the ongoing U.S. expansion, robust global trade, energy consumption returning to pre-crisis levels, pent-up consumer demand, and local population growth. The recovery will continue to face headwinds, however. Elevated inflation, supply chain woes, and worker shortages will temper growth, but they won't halt it. There's too much pent-up demand for that. The risks to growth tend to be more political than economic, like an escalation in tensions between China and the U.S., a massive cyberattack on U.S. facilities, or widespread social unrest, either at home or abroad. And one can't rule out the possibility of a new COVID variant sweeping through the nation. While the Partnership acknowledges these are valid concerns, in preparing this forecast it chose to focus on the economic factors that will impact Houston in '22. Here's what's driving Houston's growth.

METRO HOUSTON FORECAST, PROJECTED JOB GAINS/LOSSES
December '21 - December '22



U.S. Growth

As of November '21, the nation had recovered 18.2 million of the 22.4 million jobs lost in the early stages of the pandemic. Pre-crisis, the U.S. created around 200,000 jobs per month or 2.4 million per year. Forecasters call for growth in '22 to track well above historic trends. The consensus of the 47 professional forecasters surveyed in September by the National Association for Business Economics is for the U.S. to average 321,000 net new jobs per month in '22. The economists surveyed by *The Wall Street Journal* expect 350,000 jobs per month. The Survey of Professional Forecasters calls for 456,300. At any of those rates, the U.S. would recoup all the jobs lost in the pandemic by December '22 at the latest.

Global Trade

Houston's economy is deeply tied to global trade and foreign investment. The region has trading relationships with more than 200

[1] Metro Houston, formally known as the Houston-The Woodlands-Sugar Land Metropolitan Statistical Area, includes Austin, Brazoria, Chamber, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller Counties.

countries. Nearly 5,000 Houston-area firms are engaged in global commerce, including more than 2,300 local manufacturers. And more than 1,700 firms in Houston report foreign ownership.

Census Bureau data shows Houston's exports in Q2/21 had already surpassed the previous peak, even with the current supply chain issues making shipping products more difficult.

Metro Houston Exports*
Second Quarter, $ Billions

Q2/21	Q2/20	Q2/19	Q2/18
34.8	21.4	30.7	26.9

*Origin of Movement Series
Source: U.S. Census Bureau

As the global economy continues to recover, Houston's exports will continue to grow. The International Monetary Fund (IMF) projects global growth at 4.9 percent in '22. The World Trade Organization (WTO) expects global merchandise trade to increase by 4.7 percent in '22, up from 4.1 percent in its March forecast.

Energy Demand

Houston is the leading domestic and international center for virtually every segment of the energy industry—exploration and production, transmission, marketing, service, trading, supply, offshore drilling, and technology. Global crude demand drives a major portion of Houston's economy. Crude consumption topped 98.5 million barrels per day (B/D) in February '20 before falling by nearly 18 million barrels over the next two months. Demand began to recover in May '20 and has since accelerated and is expected to reach pre-COVID levels next year.

Global Crude Demand Forecast, Million Barrels/Day

Quarter	OPEC	EIA
Q4/19	101.07	101.6
Q2/20	82.60	84.9
Q3/21	97.89	98.6
Q3/22	101.75	101.6

Sources: Organization for Petroleum Exporting Countries, U.S. Energy Information Administration

Pent-Up Consumer Demand

Consumers are flush with cash and ready to spend. Early in the pandemic, households saved 26.1 percent of their disposable incomes. As of Q3/21, that had slipped to 8.9 percent but remains well above the 7.5 percent average in the five years prior to the pandemic. Household balance sheets are also in better shape. Debt service as a percent of disposable personal income is at its lowest point since the Federal Reserve began keeping records 40 years ago. And consumers are sitting on massive savings, as much as $1.6 trillion according to a recent report in *The Wall Street Journal*.

Local Population Growth

A growing population supports a growing demand for everything from movie tickets, to dishwashers, to dental services. Metro Houston added 91,100 residents in '20, boosting the region's population to over 7.1 million. After several years of decline, inmigration, international and domestic, has picked up.

Metro Houston Population Growth, '000s

	Immigration	Natural Increase	Total*
'11	49.6	59.2	108.8
'12	69.0	57.8	127.1
'13	86.5	57.3	144.5
'14	109.7	60.9	171.8
'15	108.4	62.7	171.4
'16	71.6	63.9	135.5
'17	33.3	59.1	92.6
'18	21.9	54.0	76.0
'19	37.2	51.2	88.5
'20	44.3	46.7	91.1

*Columns may not sum to total due to rounding errors and data omissions
Source: U.S. Census Bureau

An improving job market, low cost of living, and high quality of life should boost Houston's population by 100,000 residents or more in '22. One should be mindful, however, that if population growth follows historic trends, half those gains will come from the net natural increase (i.e., births minus deaths), and the other half from in-migration (one-fourth international, one-fourth domestic). Put another way, only half the region's growth comes via the moving van, the other half comes from the maternity ward.

HOUSTON'S RECOVERY TO DATE

As of September '21, Metro Houston had recouped 245,600 jobs, or roughly 68 percent of the 361,400 lost in the early stages of the pandemic. The sectors most impacted by social distancing are near full recovery. Restaurants and bars have recouped 90.1 percent of their losses, retail 86.5 percent, other services (i.e., personal services), 94.0 percent.

For industries struggling prior to the pandemic, COVID-19 made their situations worse. Energy, manufacturing, construction, and wholesale trade belong to that group. They began to shed jobs well before COVID-19 arrived and continued to shed them after the economy reopened. Those sectors account for over half the jobs needed to close the gap and recapture its pre-pandemic

[2] OPEC = Organization for Petroleum Exporting Countries; IEA = International Energy Agency; EIA = U.S. Energy Information Administration.

peak. The good news is that the outlook for all four has improved in recent months and they're taking steps, albeit tiny ones, toward recouping their losses.

The Partnership interviewed dozens of individuals, reviewed scores of reports, read hundreds of articles, and analyzed countless data sets in preparing this forecast. In the process, four indicators stood out for what they say about Houston's recovery. Those indicators are the spot price for West Texas Intermediate, the Houston Purchasing Managers Index, Houston/Galveston customs district traffic, and claims for unemployment benefits.

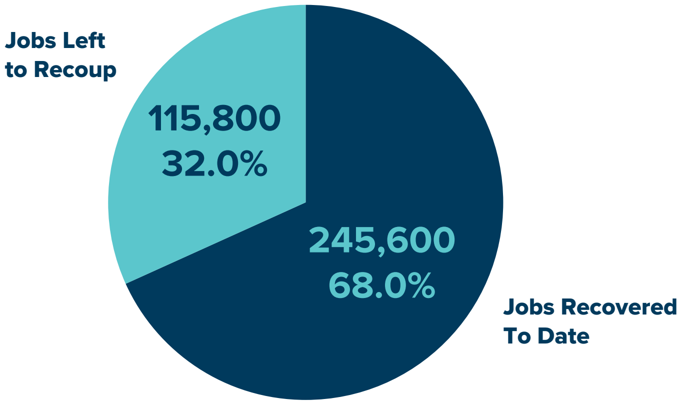
West Texas Intermediate (WTI), the U.S. benchmark for light, sweet crude, has traded at $70 or higher on the NYMEX since mid-September. As this forecast went to press, crude traded above $80 per barrel, a level not seen since the fall of '14. Higher prices are finally bringing relief to Houston's energy industry. In Q3/21, the major oil companies reported their highest quarterly profits in years.

In October, the Houston Purchasing Managers Index (PMI) registered 61.0, the highest reading since March '19. Readings above 50 indicate growth over the next three to four months; readings below 50 suggest contraction. October marks the 15th consecutive month it has registered above 50. The string of plus-50 readings indicates Houston's recovery has been underway for some time.

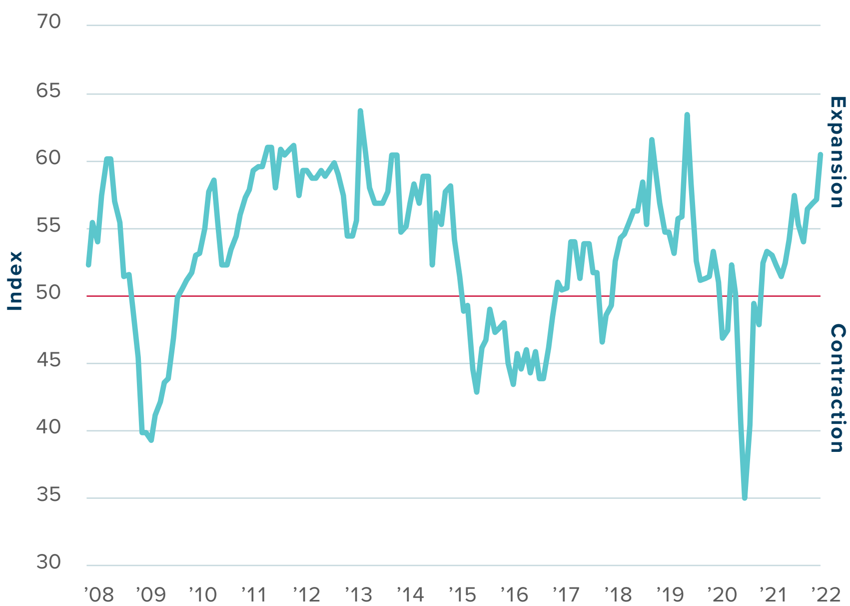
Metro Houston averaged 5,000 initial weekly claims for unemployment benefits in the month of October. That's down from 9,800 the same month in '20 and from 65,000 per week in April '20. Fewer workers are filing continued claims as well, just over 28,000 in September '21, down from 195,000 in September '20. The ranks of Houston's unemployed are approaching pre-pandemic levels.

Through the first nine months of '21, the Houston/Galveston Customs District handled over $123.2 billion in exports, up 33.5 percent from the same period in '20. The district is only $4.0 billion from passing the total exports ($127.0 billion) for all of '19. At the current pace, Houston should finish '21 with a record volume of exports passing through the district (+$150 billion). The export data indicates the strength of demand overseas for the crude, refined products, chemicals, and equipment that Houston manufacturers produce.

PROGRESS TO DATE, METRO HOUSTON EMPLOYMENT

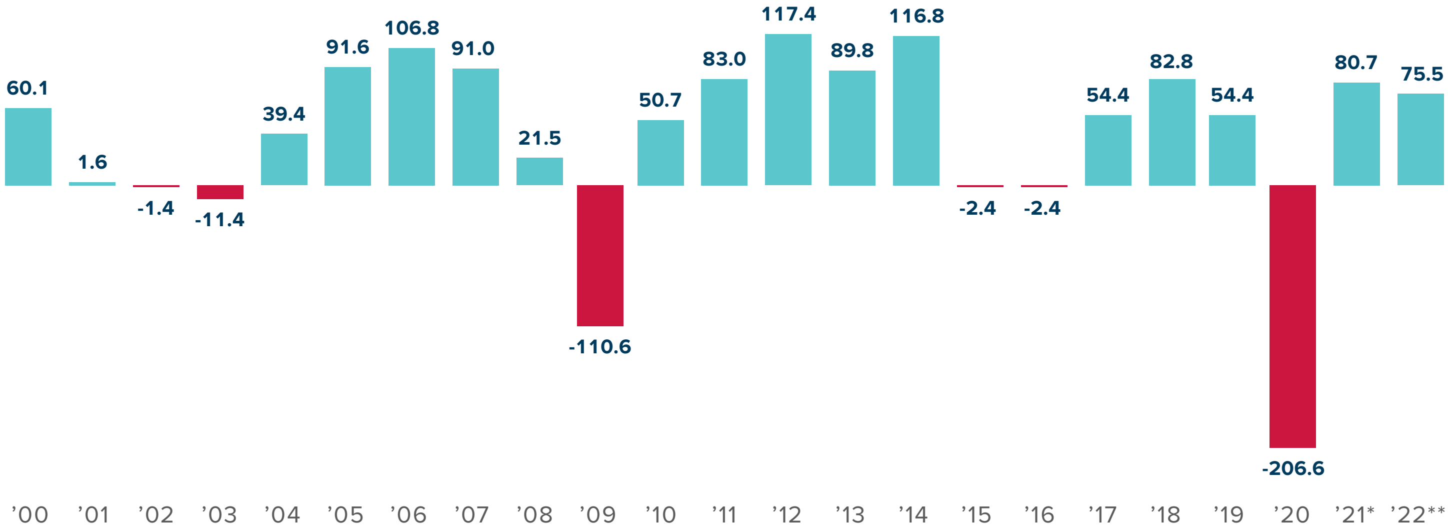


HOUSTON PURCHASING MANAGERS INDEX
Above 50 = Broad Economic Expansion



Source: Institute for Supply Management-Houston

METRO HOUSTON JOB GROWTH, December '21 to December '22, ('000s)



Sources: Texas Workforce Commission *September YTD **Partnership forecast

HOW WILL '22 COMPARE

Only eight times in the past 21 years has annual growth exceeded 75,500 jobs, the Partnership's forecast for '22. Those eight years tend to coincide with rising oil prices or prices at an unsustainably high level. Factor out the booms (and the busts), and metro Houston typically creates 65,000 to 70,000 jobs in a "normal" year. Measured against that, '22 looks to be one of the better years for job growth in Houston.

One Final Note

The purpose of this forecast isn't to score a bullseye with the numbers, though the Partnership would be pleased if it did. Rather, the goal is to highlight the forces shaping Houston's economy. A clearer understanding of the trends driving growth (or losses) should help the business community to make better investment, staffing and purchase decisions. Given the uncertainty surrounding the economy, the more insights, the better. Now the details behind the numbers.

ENERGY

Since early October, West Texas Intermediate (WTI) has traded at $80 per barrel on the spot market. In the past, crude trading at that level would lead to a surge in drilling activity, a wave of equipment orders, firms scrambling to find geologists, and conversations with real estate brokers about the need to lease more office space. None of that has happened, which shows how much the industry has changed in recent years.

Those changes are well-documented, but to understand how they will determine industry's course over the next 12-18 months it helps to restate them.

Oil prices have become more volatile, even by energy industry standards. Since '14, the industry has endured five episodes in which crude prices have risen or fallen 40 percent or more over less than six months.

Volatility has led to more companies hedging their production. A recent analysis by *World Oil* found that 90 percent of oil and gas firms hedged their production in '20, up from 73 percent the year before. Hedging locks in the price oil companies will receive for crude delivered at a specific date in the future.

The industry has fallen out of favor with Wall Street. Oil firms were able to rapidly grow production through most of the last decade because investors were willing to lend them funds to drill more oil wells. Between 2010 and 2020, the industry raised over $300 billion from outside investors, according to a study by Deloitte. But promised returns never materialized, so investors pulled back. Drillers must now exercise "capital discipline," funding any exploration activities out of internal cash flow. The impact can be seen in the decline in the rig count, which began in December '18.

The industry has become more productive. Drillers have a better understanding of shale geology, drilling equipment is more efficient, and firms are more selective about where they drill. According to the U.S. Energy Information Administration (EIA), initial production from wells drilled in the Permian Basin and Bakken nearly doubled from October '16 to October '21.

The industry has learned to do more with less. From December '14 to December '19, upstream energy (exploration, production, oil field services) shed roughly one-third of its U.S. workforce yet grew domestic production by 3.4 million barrels over the same period.

Climate change and looming peak demand now dominate long-term planning. Consumption of crude will likely peak within the next 15 to 20 years, according to most scenarios. Some firms, like BP and Shell, have sold off acreage and assets to focus on non-fossil fuel technologies. Others, like ConocoPhillips, have snapped up acreage, ensuring crude and natural gas remain in their portfolios well into the future.

Shareholders continue to pressure energy companies to take more aggressive stances on combatting global warming. ExxonMobil and Chevron suffered shareholder rebellions from climate activists and disgruntled institutional investors over the oil giants' plodding adoption of strategies for a low-carbon future. More recently, one of Shell Oil's major investors called for the corporation to spin off its liquefied natural gas, renewables, and marketing businesses into a standalone company.

U.S. Crude Production and Oil and Gas Employment*

Year	Avg Annual MB/D	Employment (000s) As of December	Employment (000s) Change from Prior Year
'14	8.8	535.8	34.0
'15	9.4	435.6	-100.2
'16	8.8	355.3	-80.3
'17	9.4	384.6	29.3
'18	10.9	423.1	38.5
'19	12.3	393.6	-29.5
'20	11.3	323.2	-70.4

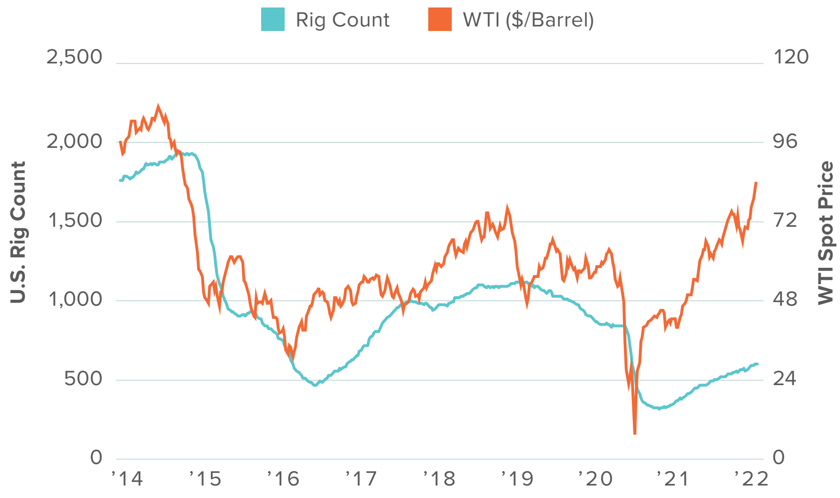
Net Change Since Dec '14
* Exploration and production and oil field services
Source: U.S. Energy Information Administration, U.S. Bureau of Labor Statistics

Against this backdrop, the industry must deal with a looming crisis in Europe. Low inventories and expectations of a colder than normal winter have tripled natural gas prices on the continent in recent weeks. Utilities which can substitute oil for natural gas are doing so, but this has driven up the global price of crude.

The good news is that global demand will soon recover to pre-crisis levels, keeping prices well above $52 per barrel, the average break-even point for a well drilled in the U.S. Crude will likely trade well above that in the coming months. In early November, the futures strip had WTI trading on the NYMEX at $71 per barrel or higher through December '22. EIA forecasts crude to average $68 per barrel in '22, still high enough to earn a profit on the typical new well.

All this bodes well for Houston's energy sector. Higher demand will sustain oil prices near their current level. That will boost U.S. drilling activity leading to new equipment orders and additional hiring. But the early '20s won't look like the early '10s. Production growth, equipment orders, and job gains will be more subdued. The forecast calls for Houston's energy sector to add 4,000 jobs in '22.

U.S. RIG COUNT v. WTI SPOT PRICE



Source: Baker Hughes

MANUFACTURING

Houston manufacturers have faced numerous challenges in recent years. Hurricane Harvey struck in ’17, flooding much of the region. Production was offline for weeks at some facilities and months at others. In ’18, President Trump launched a trade war with China, the region’s top trading partner back then. Houston’s exports to China fell by $482 million that year and another $2.8 billion the following. In ’19, the energy industry scaled back on drilling. Orders for rigs, pumps and pipes plummeted. In ’20, the pandemic arrived on Houston’s doorstep. Consumers shut their wallets and factories closed their doors. The component of the Houston PMI that measures production fell to 34.5, the lowest point on record.

In ’21 winter Storm Uri wreaked havoc on the region’s petrochemical industry when it swept through Texas. Many companies declared force majeure when power outages and frozen equipment prevented them from delivering on their contracts. At one point, 45 percent of U.S. PVC capacity, 55 percent of chlorine capacity, 60 percent of caustic soda capacity, 73 percent of polyethylene capacity, 80 percent of paraxylene capacity, and 84 percent of polypropylene capacity was offline. The freeze hit at a time when inventories were already low. Nine months later, some plants are still struggling to return to pre-freeze production levels.

Now, the industry must deal with a host of other issues. In a Q3/21 survey, the National Manufacturers Association (NAM) asked its members to identify the biggest challenges facing their firms. Respondents could select more than one issue. The top four that respondents named were:

- Increased raw material costs (86.4 percent)
- Attracting and retaining a quality workforce (80.0 percent)
- Supply chain challenges (79.8 percent)
- Transportation and logistics costs (69.1 percent)

Raw material costs have skyrocketed. Since April ’20, the global price of copper has risen 85.3 percent, the price of aluminum 78.3 percent, and cotton 59.5 percent. Although lumber prices have fallen considerably in recent months, they’re still up 38 percent from April ’20.

The extent of the worker shortage can be seen in the latest Job Openings and Labor Turnover Survey (JOLTS) compiled by the U.S. Department of Labor. As of September ’22, there were 897,000 manufacturing job openings across the U.S. The nation averaged 394,000 openings per month in the five years leading up to the pandemic.

The flotilla of ships waiting off the coast of California to unload their cargoes underscores the problems with supply chains. Long-distance trucking costs have risen 24.1 percent since April ’20, according to the Bureau of Labor Statistics. And Moody’s has incorporated several high-frequency metrics to create a supply chain stress index. In normal times, the index should be at 100. In mid-October, the index hit 125.

Manufacturers are also dealing with a lack of shipping containers, making it more difficult to get their product to market. Throughout the year, shipping lines reposition those big, steel boxes to where they are most needed and can fetch the highest rates. Asian exporters, desperate to get their products into the U.S., are bidding up rates. *The Wall Street Journal* reports the cost to ship goods from Asia to the U.S. is now four to ten times the cost prior to the pandemic, so shippers are repositioning as many empty containers overseas as possible. Prior to the pandemic, the Port of Houston handled about 36,000 empty containers each

Houston Manufacturing Employment*

	Jobs	% of Total
Chemicals, Plastics, Fuels	57,429	27.4
Machinery, Computers, Electrical Equipment	56,612	27.0
Fabricated Metal Products	44,065	21.0
Food & Beverges	15,800	7.5
Miscellaneous Products	9,907	4.7
Primary Metals	9,870	4.7
Paper & Wood Products	9,517	4.5
Transportation Equipment	4,333	2.1
Textiles & Apparel	2,310	1.1
Total	**209,843**	**100.0**

*as of Q2/21
Source: Texas Workforce Commission

month. The ratio of empty exports to empty imports held close to 1:1. But that has shifted dramatically in recent months. From June ’21 through September of ’21, the port averaged 66,000 empty containers per month. The ratio of empty exports to empty imports is now 5:1.

Manufactures also face a shortage of truck drivers to get their products to market. The industry was short 80,000 truckers prior to the pandemic. That shortage will soon hit 100,000, according to the American Trucking Association.

Manufacturing employment in Houston peaked in December ’14 at 261,000 jobs. It trended down following the fracking bust, bottoming out in December ’16, then struggled to recover before resuming its slide in August ’19. The pandemic accelerated the trend. The sector lost 26,000 jobs during the early stages of the pandemic and continued to shed workers even as the economy reopened. The sector began to recover earlier this year but will likely take several years to return to its previous peak. Nearly 18,000 of the 21,400 jobs left to recoup are tied to oil and gas, and drilling activity is not expected to return to pre-pandemic levels for several years.

Despite these challenges, manufacturers remain optimistic. In its Q3/21, 87.5 percent of participants in a NAM survey responded that the outlook for their firms was positive leading into ’22. The majority expect sales, production, wages, and employment to rise over the next four quarters.

An increase in drilling activity should lift the demand for oil field equipment in ’22. Houston’s chem plants sell much of their production overseas, so they should benefit from the increase in global growth. Since January of this year, 53 companies have announced plans to expand or establish manufacturing plants in Houston. They will need to hire workers to run those plants. And Houston will continue to add residents, benefitting the food processors in the region. Bottom line, the outlook for manufacturing in Houston continues to improve. The forecast calls for the sector to add 5,000 jobs in ’22.

CONSTRUCTION

The construction sector’s woes predate the pandemic. COVID-19 only made matters worse. Though recognized as an “essential industry” by the U.S. Department of Homeland Security (which allowed construction to continue during the pandemic), many developers suspended work or cancelled projects anyway. The outlook for construction has improved since then, but it now faces a new set of challenges—shortages of materials, extended delivery delays, soaring prices, labor shortages, and workers’ resistance to vaccine mandates. Construction firms seem to be taking these challenges in stride, though. They remain optimistic about ’22. To understand the industry’s pain, it helps to understand the state of Houston’s real estate markets.

Office

Demand for office space peaked in ’14. Since then, the market has logged negative absorption in 18 out of the past 28 quarters. Houston’s overall vacancy rate now approaches that of the 1980s. The market has over 71.2 million square feet (MSF) of vacant or available space. That’s the equivalent of 50 empty Williams Tower office buildings.

Lease rates have been flat or declining in Houston since the end of ’14. Developers have been slow to read the market or have simply chosen to ignore the signals. They’ve added another 19.5 million square feet of office space since the start of ’16.

The pipeline may have finally begun to dry up. Most of the 3.7 MSF of office space under construction in Q3/21 will deliver in late ’21 or early ’22. As of late October, only 15 office projects comprising less than 1.7 MSF of space have broken ground in ’21. Construction is falling to levels not seen since the 1980s oil bust. Demand will remain weak, however, as tenants with hybrid work schedules are still assessing how to best use their existing space.

Industrial/Warehouse

Developers have delivered over 122.0 MSF of industrial space since Q1/14, or 17 percent of the region’s current inventory (718.9 MSF). The space was built to serve the needs of e-commerce, industrial suppliers, third party logistics firms, and retail distribution centers.

The market had been leaning toward overbuilding for some time. Delivery of new space has exceeded absorption five out of the past six years. The vacancy rate for the newest Class A space, that built since '19, hit 25.0 percent in Q4/21, well above the average of 7.4 percent for the overall market.

The pace of construction has tapered, though, with only 14.7 MSF under construction in Q3/21, down from 18.6 MSF in Q3/20. And Q3/21 marks the second consecutive quarter in more than three years that demand for industrial space (11.6 MSF) outpaced new space delivered to the market (6.0 MSF)

Retail

Retail describes a type of commercial property, not the function that occurs within it. A retail center might include a clinic (health care), branch bank (finance), pizza parlor (restaurant), fitness center (recreation), liquor store (retail), and a dry cleaner (personal services). The vacancy rate, while up from pre-pandemic levels, has hovered between 5.0 and 6.0 percent since the beginning of '17.

Developers have added 5.5 to 7.7 MSF of retail space per year over the past five years. In Q3/21, 4.1 MSF was under construction, slightly below the recent trend. Pandemic-induced delays account for part of the slow down, that and retail's uncertain future as more consumers turn to e-commerce.

There's a common phrase in commercial real estate: "retail follows rooftops." The housing boom underway in Houston's distant suburbs will provide new opportunities for retail in '22. Overall population growth and job creation will also drive the demand for retail space in the coming year.

Multifamily

'21 has been one of the best years on record for Houston's multifamily market. Occupancy, absorption, and rents are up across all classes of property. Landlords have been able to scale back the incentives they offer to attract new tenants. And construction of new properties has finally tapered off.

All that reflects a dramatic shift in conditions over the past 12 months. From '14 to '20, developers overbuilt. Occupancy would briefly top 90 percent, then thousands of new units would flood the market and the rate would fall below 90 again.[3] But that changed earlier this year. Houston emerged from the early stages of the pandemic with considerable pent-up demand. Apartment Data Services reports the market has absorbed 35,544 units in the 12 months ending October '21. That's more than were absorbed in '18, '19 and '20 combined. Such strong demand is driving up rents, with Class A rates up 16.5 percent and Class B up 11.6 percent compared to October '20. And would-be tenants are finding fewer deals. In Q3/21, only 35 percent of properties offer an incentive (deposit, wavers, floor plan upgrades, etc.), down from 69 percent at the end of Q4/20.

Houston Multifamily Trends

Year	Units Added	Units Absorbed	Avg. Ann Occupancy
'12	5,954	14,953	89.4
'13	12,314	16,080	90.4
'14	17,472	15,788	91.0
'15	20,679	13,289	90.4
'16	21,702	5,028	88.3
'17	13,980	17,328	89.3
'18	5,655	8,749	89.6
'19	17,095	14,534	89.3
'20	21,781	11,574	88.4
'21 Oct YTD	**12,825**	**35,544**	**91.9**

Source: Apartment Data Services

Several factors are contributing to multifamily's banner year. Job growth has picked up. Population growth is likely stronger than the U.S. Census Bureau has reported. Would-be homeowners, priced out of the single-family market, are opting to rent apartments instead. Renters, weary of sharing quarters with a roommate, are splitting up. And young adults who moved in with their parents during the early stages of the pandemic are finally moving out.

It's unclear how long market conditions will lean in the landlord's favor, but as of late October more than 13,500 units were under construction with another 28,600 announced or in the early planning stages.

Single-Family

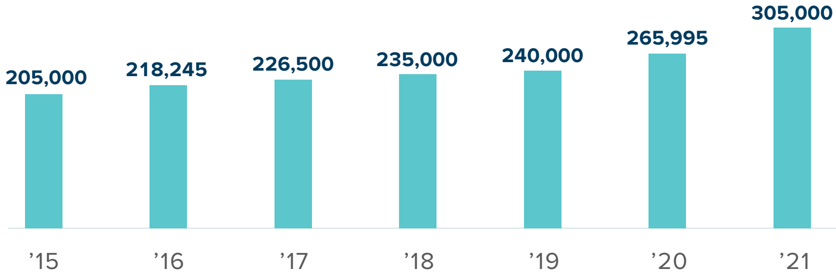
Single-family is also enjoying a banner year. Research firm Zonda/Metrostudy reports builders are on track to start over 43,000 homes in '21. That's the highest level of starts since the mid-00s, the heyday of the housing boom fueled by subprime lending. This time is different, however. Lending standards are much stricter and there's less speculation in the market.

Several factors account for the boom. Mortgage rates remain at historic lows making payments more affordable. Millennials are finally becoming homeowners and driving up demand. The adoption of hybrid work schedules is driving the need for dedicated home offices. And there's a dearth of resale homes on the market.

In the 12 months ending October '21, brokers have closed on more than 130,000 re-sale homes (single-family, duplexes, condos and townhomes). At the current rate, Houston has less than a two-month supply of homes for sale. Six months is the norm. High demand and limited supply have driven up prices. The median price of a single-family home has risen by $100,000 in the past seven years.

[3] When occupancy rates top 90, that indicates it's a landlord friendly market. When they fall below 90 percent, that indicates a tenant friendly market.

SEPTEMBER MEDIAN PRICE, SINGLE-FAMILY HOME, $



Sources: Houston Association of Realtors

Demand for new and resale homes may have plateaued. A few builders have brought back incentive packages to help close deals. Others have recognized the need to increase brokers' commissions to maintain the current pace of sales. And the resale market recorded 1.8 months of inventory in October '21, low by historic standards but an improvement from 1.3 months in May. Home supply averaged 3.7 months in the five years prior to the pandemic.

Three high-profile projects broke ground in '21 that will help sustain construction activity over the next several years:

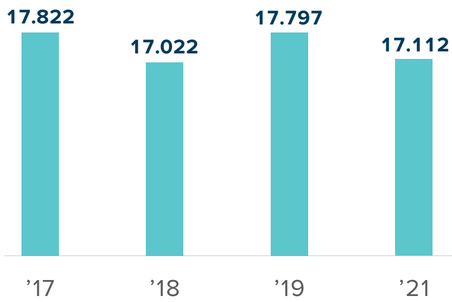
- The Texas Medical Center broke ground on TMC3, a 37-acre campus that will include shared and proprietary research centers, multidisciplinary labs, healthcare institutions, a hotel and conference center, a residential tower, retail, restaurants, and a unique double-helix green space.
- Hines broke ground on Levit Green, a 53-acre development just east of the Texas Medical Center that will offer research facilities, office, residential, shopping and dining, outdoor amenities and green space for Houston's biotech, life sciences and medical research communities.
- Midway broke ground on East River, a 150-acre site near downtown that will include office and retail space, a green space plaza, multifamily housing, a cinema, nine-hole golf course, restaurants, and bars.

The industry faces several challenges as it enters the new year. Supply chain issues continue to dog the industry. Builders report delays of four to six months on appliances, windows, cabinets, and marble countertops. Labor, always short in construction, is even more so now. And vaccine mandates from Washington don't sit well with some construction workers, including a few who have threatened to quit and find employment in another sector or with another contractor not subject to the mandate.

Despite the headwinds, the outlook for construction has improved, albeit marginally, since the first of the year. The September report from Dodge Data indicates construction activity year-to-date is up 5.0 percent in the first nine months of this year. That's much improved from Q1/21 when activity year-to-date was down 14.2 percent. Through the first eight months of '21, City of Houston building permits were flat compared to the prior year. That's much improved from Q1/21 when activity year-to-date was down 30.8 percent.

Outside investors view of Houston real estate has been improving over time. In "Emerging Trends in Real Estate 2022," the Urban Land Institute (ULI) ranked the outlook for Houston real estate 24th out of the 80 U.S. and Canadian cities in the study. That's a significant improvement over '21 when Houston ranked 52nd, and in '18, when Houston ranked as low as 60th. The ranking is based on interviews and surveys from over 2,000 real estate professionals, including investors, fund managers, developers, property companies, lenders, brokers, advisers and consultants.

HOUSTON CONSTRUCTION CONTRACTS AWARDED, SEPTEMBER YTD, $ BILLIONS*



Source: Dodge Data & Analytics
* Does not include streets, bridges, utilities and non-structural projects

To summarize, Houston's office glut will dampen the need for new office construction. The demand of e-commerce and container traffic at the port will spur the need for additional warehouse and distribution space. As the housing boom continues in the distant suburbs, developers will break ground on retail centers to serve these more remote populations. The demand for single-family homes remains steady, so construction will likely maintain its current pace. Homebuilders have enough orders on the books and potential buyers on waiting lists to remain busy well into '22. Multifamily construction will rise to meet the growing demand. The outlook for heavy/industrial construction remains cloudy, but engineering/procurement/construction firms remain optimistic about their prospects in the new year. The Partnership expects the pace of construction will pick up marginally next year. The forecast calls for the sector to create 2,700 jobs in '22.

WHOLESALE TRADE

Houston's wholesale trade sector has been one of the slowest to recover from the COVID-induced recession. As of mid-September, the industry had recouped less than 15 percent of its initial job losses. Even though job growth picked up mid-year, wholesale will be among the last sectors to return to pre-pandemic employment levels.

To understand why the recovery has been so slow, it helps to understand the role wholesale trade plays in the region's economy. Consumers buy from retailers, like H-E-B, Kroger, Walmart, and Academy Sports & Outdoors. Businesses, institutions, and the government buy from wholesalers. Some of the larger wholesalers in Houston include Sysco (restaurant supplies), MRC Global (pipes, valves, flanges), Cardinal Health (medical supplies), W.W. Grainger (industrial equipment), and The Grocer Supply Co. (groceries, household sundries.) Wholesalers purchase in large quantities from manufacturers, hold those inventories in their warehouses, then break those goods and supplies into smaller quantities for delivery to their clients. Over 11,000 wholesale establishments served Houston as of Q2/21.

The fortunes of the wholesale sector track those of the overall economy. Like so many other industries, it was caught unawares at the start of the pandemic. The sales-to-inventory ratio shot up to unhealthy levels. To survive, wholesalers had to cut costs, which meant laying off workers. In Houston, one in every 12 lost their jobs. They also cut back on their own orders and sold down their inventories.

The supply chain issues affecting the broader economy hit wholesale especially hard. As the economy reopened, they found themselves short on inventory and unable to secure supplies from manufactures and other vendors. In September, the wholesale inventory-to-sales ratio was at its second lowest level since October '14. The industry is also dealing with a shortage of freight handlers, forklift operators and truck drivers.

Wholesale trade in Houston faces an extra challenge—much of it is tied to the oil and gas industry. They sell directly to the oil field service firms and drillers, or to the manufacturers of oil field and drilling equipment. As noted earlier, the domestic rig count peaked in December '18. Manufacturing and wholesale employment peaked seven months later in July '19.

A full recovery in Houston's wholesale sector depends on several factors:

- Growth in the domestic rig count. As noted earlier, drilling activity should pick up in '22.
- Growth of the U.S. economy. As noted earlier, the U.S. economy should grow at 3.5 percent or better in '22.
- Resolution of the supply chain issues plaguing the economy. Media reports suggest this may take 12 to 18 months to fix.
- Investments in local roads and port infrastructure. The Port of Houston Authority has embarked on a billion-dollar project to deepen and widen the Houston Ship Channel and expand and improve the region's container terminals.
- Companies replacing just-in-time inventory systems with just-in-case systems. Given current supply chain woes, companies will need to carry higher levels of inventory in the future.

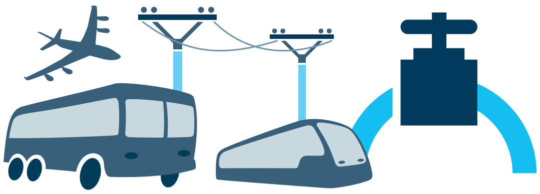
U.S. WHOLESALERS INVENTORY TO SALES RATIOS*

Source: U.S. Census Bureau

*seasonally adjusted

- Traditional growth drivers. Houston should see population, employment, foreign trade, and GDP continue to expand.

The demand for wholesale products won't abate in '22. If anything, it will accelerate, especially if the energy industry resumes drilling. The Partnership's forecast assumes that more factors will lean positive than negative and that the region's wholesale trade sector will add another 3,000 jobs in '22.



TRANSPORTATION, WAREHOUSING, UTILITIES

The sector includes all modes of transportation (air, pipelines, rail, trucking, water), support services (freight forwarding, packing, and crating), warehousing and utilities. Each is recovering at a different pace, but in the aggregate, employment now exceeds pre-crisis levels due to the strong growth in trucking and warehousing.

Houston Airports should handle over 39.0 million passengers in '21, up from the 24.7 million in '20 but well below the 59.8 million of '19. Passenger traffic began to recover in the late spring as U.S. vaccination rates topped 50 percent, families booked summer vacations, and business travelers grew more comfortable with flying again. The late-summer Delta surge briefly slowed the recovery, but passenger traffic picked up again in the fall.

Airlines are calling back employees on furlough and looking to hire thousands more to handle the anticipated increase in passenger traffic. As of September '21, domestic traffic was at 67.9 percent of pre-pandemic levels. Last September, domestic traffic was at 40.7 percent of the previous year's pace.

International traffic has been slower to recover. In an October survey by Morning Consult, only 30 percent of respondents indicated they were comfortable flying overseas, up from 15 percent in January but still insufficient to spur a rebound in global travel. International traffic should soon get a boost, however, since the White House recently lifted COVID-19 travel restrictions for fully vaccinated international visitors. But a full recovery is several years away. According to the International Air Travel Association (IATA), domestic travel won't fully recover until '23, international not until '24.

Through the first nine months of '21, tonnage through the Port of Houston was down 4.8 percent from '20, the drop attributed to reduced shipments of crude and refined products. Container traffic, however, was on pace to set a record in '21 with no indication the pace will let up in '22. Manufacturers, wholesalers, and retailers need to replenish their inventories and are driving the surge. Year-to-date, containerized imports were up nearly 30 percent, more than offsetting the nearly 15 percent drop in exports. The region is clearly benefitting from the investment in new cranes and wharf-side facilities the Port of Houston Authority has made in recent years.

Nationally, trucking volumes remain 6 percent below pre-crisis levels, according to the American Trucking Association (ATA). There just aren't enough drivers. Despite that, Houston has managed to recoup all the trucking jobs lost in the crisis. Employment is at a record high.

Houston continues to add industrial space. The boom has been fed by consumers embracing e-commerce, Houston's growth as a logistics hub, and the surge in container traffic at the port. This in turn has fed the need for more warehouse workers.

Trucking is the critical link in the supply chain. Cargo may arrive in Houston by air, rail, or water, but a truck will haul it from the port or airport to its final destination, either across town or across the state. The demand for drivers will remain high well after the supply chain issues are resolved.

Though over half the nation's pipelines are controlled from Houston, employment has remained flat for the last 20 years. Automation and economies of scale have curbed the need for additional manpower. The region is unlikely to see any employment growth in this sector in '22. The same goes for local utilities.

The shift toward e-commerce and home deliveries has kept Houston's couriers and package delivery services busy throughout the pandemic. There's no sign that will let up, even as the pandemic subsides.

The outlook for transportation, warehousing and utilities is among the brightest of all sectors. IATA expects air passenger traffic to pick up in '22. The WTO forecasts continued growth in global trade. Local merchants need to restock their shelves, wholesalers their warehouses, and manufactures their inventories. And U.S. online sales are forecast to leap from $993 billion in '21 to over $1 trillion in '22.

The transportation/warehousing sector will record strong job growth well beyond next year. Only another recession could disrupt its path, and that's unlikely for at least the next few years. The forecast calls for Houston to add 6,500 transportation jobs in the coming year.

PORT OF HOUSTON CONTAINER TRAFFIC 12-Month Moving Total

Source: Port of Houston Authority

TEU = Twenty-foot Equivalent Unit

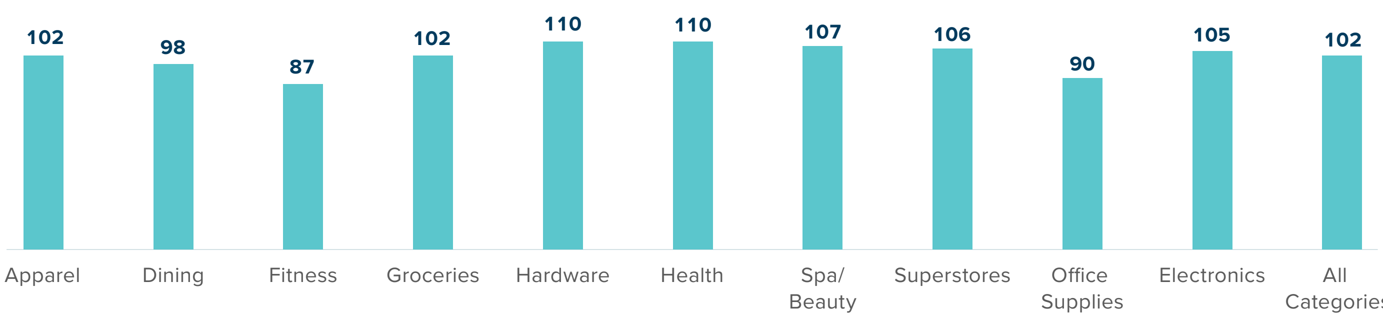
RETAIL

Retail sales now exceed their pre-pandemic level. Consumers have fatter wallets and lower debt levels. Only a handful of stores declared bankruptcy in '21. But online shopping continues to make inroads into brick-and-mortar retail, and supply chain bottlenecks and labor shortages weigh on retail perhaps more than another sector.

U.S. retail sales topped $620 billion the first nine months of '21, up 13.1 percent from $548 billion in the comparable period the year prior. Purchases were up across all sectors, with clothing, sporting goods and home furnishing logging the greatest percentage gains. In-store foot traffic is finally approaching pre-pandemic levels, with supermarkets, hardware and mass merchandise stores nearing historic levels. Retailers like Macy's, Marshalls, T.J. Maxx, Kohl's and Foot Locker, which struggled in the early stages of the pandemic, reported rebounds in sales in '21.

The website retaildive.com tracked 30 bankruptcies in '20, including major brands like Brooks Brothers,

HOUSTON RETAIL FOOT TRAFFIC, OCT '21 AS PERCENT OF OCT '19



Source: Placer.ai

JCPenny, Lord & Taylor, Pier 1, and Stein Mart. Through August of this year, the site had identified only eight bankruptcies, L'Occitane being the only prominent brand. The trend in retail has clearly shifted from sad closings to grand openings. The Daily in Retail, a retail research platform, counted 5,725 store opening announcements nationwide through Q3/21. That's nearly double the 2,890 closings the firm identified over the same period a year earlier.

Consumer purchasing power continues to grow. In Q2/21, U.S. personal income was nearly $950 billion (4.8 percent) above '20 levels. (Comparable data for metro Houston is not available.)

The summer surge in COVID cases no longer seems to weigh on consumer confidence. The Conference Board's Consumer Confidence Index® stood at 113.8 in October (1985=100), up from 109.8 in September. The proportion of consumers in the board's survey that said they plan to purchase homes, automobiles, and major appliances in the near future all increased in October—a sign that consumer spending will continue to support economic growth well into '22.

Bottlenecks at factories, ports and container yards have sent costs skyrocketing, squeezing retail margins, and creating inventory shortfalls. In September, inventories were at their lowest level in five years, according to the U.S. Census Bureau. As a result, some appliance brands are hard to find, food items - especially imported ones - are missing from grocery shelves, and shoppers have fewer choices in apparel and accessory stores.

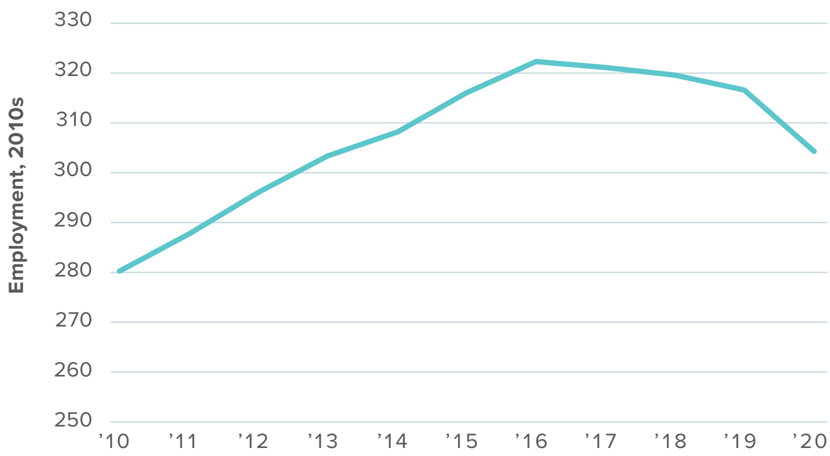
And like other sectors, retail is struggling to find workers. Nationwide, retail had nearly 1.1 million job openings in September, according to the U.S. Department of Labor. To combat the shortage, Amazon, Best Buy and Target have all raised their minimum wages to $15 an hour. Walmart matched that for many of its employees, but still has a starting wage of $11 per hour.

Retail lost more jobs (99,500) in Houston than any other sector in the early stages of the pandemic. As of mid-September, the sector had recouped 86.5 percent of those losses. But that may be a bit misleading since retail employment always surges in the fall as merchants hire temporary workers for the holiday shopping season.

Houston's retail sector began to shed jobs prior to the pandemic. TWC reported nominal losses in '17, '18, and '19 and significant losses in '20. Brick-and-mortar retail has struggled as online shopping captures a larger share of the consumer's wallet. In Q2/11, e-commerce accounted for one in every 20 dollars spent on a retail purchase. In Q2/21, it accounted for one in every eight. One offsetting factor has been Houston's housing boom. As noted earlier, the region will likely add around 43,000 single-family homes this year and a comparable number next. Home sales drive the need for new furniture, lawn and garden tools, and consumer electronics. The residents will also need to shop for groceries, pet supplies, gasoline, alcoholic beverages and to fill doctors' prescriptions. Houston will see more retail centers in the distant suburbs over the next few years.

The forecast assumes the fundamentals that traditionally drive retail—jobs, population, income, home construction, access to credit and consumer confidence—still favor Houston. Online sales will eat into brick-and-mortar sales but a surge in activity in the suburbs will offset those losses. The forecast calls for retail to reverse the trend of losses incurred over the past four years and add 2,000 jobs in '22.

RETAIL EMPLOYMENT, METRO HOUSTON, AS OF DECEMBER



Source: Texas Workforce Commission *average 12-months ending 9/21

INFORMATION

The information sector includes cable services, data processing, motion picture and video studios, movie theatres, newspaper, magazine and book publishers, radio and television broadcasting, sound studios, and satellite, wired and wireless telecommunications.

The heyday for the sector was in the late ’90s and early ’00s. It logged continuous growth for over a decade, plateauing December ’00 at 49,400 jobs then begining a steady decline. As of September ’21, local employment stood at 28,800 jobs a 41.7 percent fall from its peak. Telecommunications accounts for the bulk of the losses.

Houston is not unique. Information employment in the U.S. peaked around the same time. Mergers and acquisitions, traditional media competing with web-based media, workers replaced by technology, and the need to cut costs has reduced the number of firms and employees in the sector. The events of March-April ’20 added to the sector’s long-standing woes.

But the outlook has improved over the last 12 months. Advertising spending is recovering. In the U.S., revenues will hit $278 billion in ’21, an increase of 23 percent, according to Magna, a media intelligence company. Moviegoers are returning to the cinema. The industry is on track to sell over 400 million tickets in ’21, nearly double the 223 million sold in ’20 but far short of the 1.2 billion sold in ’19.

As of September ’21, the sector had recouped only 600 of the 4,500 jobs shed in the early stages of the pandemic. Movie theatres accounted for over half the sector’s losses, so as ticket sales rise, so should employment. The boost in ad revenues should enable newspapers, periodical publishers, radio, and television broadcasters to replace some of the personnel laid off in ’20. Advances in technology continue to reduce the need for manpower in the telecom sector.

The forecast assumes an overall improving economy, a growing desire for consumers to experience movies in theatres, that media and telecom companies resume hiring, and no additional job losses occur in data processing and telecommunications. The forecast calls for information to recoup another 700 jobs in ’22.

FINANCE AND INSURANCE

The finance and insurance sector includes corporations engaged in lending (banks, credit unions, credit cards, sales financing, mortgage brokers), firms involved in securities trading (brokerages, portfolio managers, investment advisors), companies that handle insurance (life, health, property, medical, commercial), and employee benefit plans and pension funds. The sector benefited from the quick rebound of the U.S. economy, recouping in the 14 months all jobs lost in the early stages of the pandemic. Finance and insurance was among the first to reach that milestone. As of September ’21, employment stood at an all-time high.

The sector faces numerous challenges, though. Some are legacies of the pandemic, others the result of long-term trends. Those challenges provide opportunities for growth in ’22.

Banking

The banking community, fearing significant loan losses early in the pandemic, set aside billions in capital to cover those losses. But Paycheck Protection Program (PPP) loans kept many businesses solvent. Households used their stimulus checks to pay down debt. And the economy reopened quicker than anticipated. The share of loans 90 days or more past due fell, albeit slightly, from Q2/20 to Q2/21. Not needing those excess reserves, banks recently released those billions, allowing them to report hefty profits for Q3/21. They are flush with cash and ready to lend to businesses and consumers.

Securities Trading

The collapse of the stock market early in the pandemic ravaged the portfolios of many investors. Over roughly 30 days, the Dow Jones Industrial Average fell 10,960 points (37.1 percent), the S&P 500 Index 1,149 points (33.9 percent), and the NASDAQ Composite 2,956 points (30.1 percent). The drop was short-lived, however. By June ’20, the NASDAQ had returned to its previous peak, the S&P by August, and the Dow by November. Like the plunge in share values, job losses were short-lived. The sector shed 600 jobs the first two months of the pandemic but recouped them all two months later. Investors still needed to manage their portfolios, even if those portfolios were worth much less than they were a few months earlier.

Insurance

Consumers were primarily focused on health, safety, and economic concerns during the early stages of the pandemic, not shopping for insurance. New policy sales fell by 10 to 30 percent. Vehicle miles traveled dropped by almost 40 percent. Many Houstonians, concerned over exposure to the virus, canceled trips to the doctor. Twice during the pandemic, hospitals were banned from performing elective procedures. With fewer accidents, fewers doctors’ visits, and fewer elective procedures, there were fewer claims to process. Insurance firms held onto their employees anyway, shedding only 200 jobs in March-April ’20 and recouping them all by May.

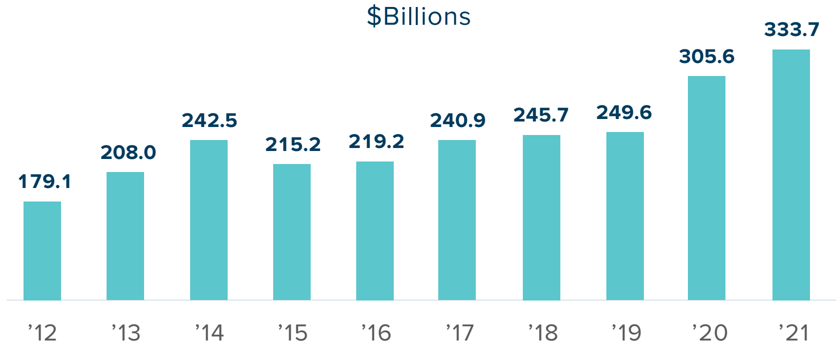
A few factors that will influence growth in finance and insurance next year:

- Since ’12, the banking industry has shuttered over 120 brick-and-mortar branches in Houston. As more services move online, the industry will need fewer tellers but more programmers.
- Between Q2/19 and Q2/21, $84 billion in deposits flowed into FDIC-insured banks in Houston. The banks are looking for places to lend these funds.
- According to the Fed’s October Senior Loan Officer Opinion Survey, banks have eased their lending standards and are experiencing stronger demand for loans of all types—commercial, industrial, residential mortgage.
- Millennials are entering the stock market. Online broker Charles Schwab gained a record four million new clients last year. More than half were under 40.
- When millennials first entered the workforce, insurance plans—specifically life and home—were seen as a luxury. Now, a bit older and entering new life stages, millennials have realized that employer-supplied insurance may not be enough.
- After several hurricanes (Harvey, Imelda, Nicholas), a pandemic (COVID-19), and a winter storm (Uri), firms are more aware of the need for business interruption insurance.

The forecast assumes only a minor slowdown in U.S. economic growth; that Houston will continue to recoup jobs lost early in the pandemic; that there’s an uptick in energy, manufacturing, and construction activity; that the pace in-migration to the region accelerates; and the single- and multifamily housing continues to boom. The forecast calls for finance and insurance to add 2,100 jobs in ’22.

INSURED BANK DEPOSITS, METRO HOUSTON*

$Billions



Sources: Federal Deposit Insurance Corporation *as of June 30

REAL ESTATE AND RENTAL AND LEASING

The title is a bit misleading. Only one-third of the jobs involve real estate. The remainder involves the rental of business equipment, consumer goods, and other items. The real estate portion includes the sale, leasing, and management of real property (single-family homes, apartments, office buildings, warehouses). The rentals portion includes the rental of vehicles, appliances, furniture, construction, and industrial equipment.

Real estate remains a mixed bag in ’21. Office leasing has slipped. Retail leasing is flat. Industrial, single-family and multifamily have soared. Purchases of office, industrial and retail properties are ahead of last years’ pace. And this may be the best year on record for raw land transactions, according to Land Advisors.

Rentals has fared better. Consumers have resumed traveling, nudging up vehicle rentals. Construction activity has ticked up, lifting heavy equipment rentals. And offices have reopened, boosting the need for office electronics.

Overall, the sector shed 6,400 jobs in March and April of ’20. According to TWC, as of September ’21 only 100 had been recouped. Given the trajectory of the economy, TWC has likely failed to capture the extent to which employment has rebounded. Job gains will likely be revised significantly upward when TWC releases its benchmark revisions to the employment data in March of ’22.

As the recovery accelerates, so should activity in the sector. The forecast calls for the real estate rentals and leasing sector to add 2,000 jobs in ’22.

PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES

The sector includes accounting, engineering, architecture, law, computer systems design, management consulting, research labs, advertising, marketing, and public relations firms. The jobs tend to be white collar, well-paid, and office-based.

The sector shed 13,800 jobs in the early stages of the pandemic. As of September ’21, the sector had recouped 83.3 percent of those losses. The sector will likely have recouped all its lost jobs by February ’22 at the latest.

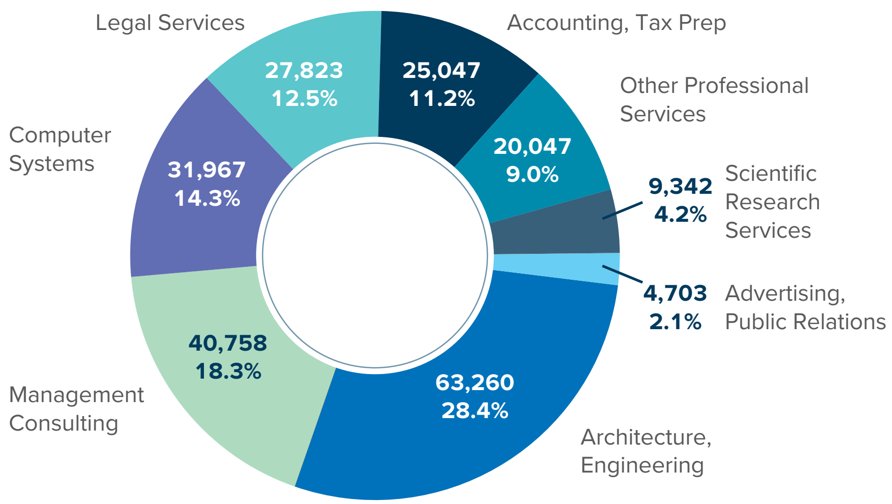
The outlook for professional services rides on the health of their clients. Sixty-five percent of all respondents to the October ’21 NABE Business Conditions Survey reported rising revenues in Q2/21. Fifty-eight percent expected revenues to continue rising in coming months. Only 7 percent expect falling revenues. This bodes well for professional service firms seeking to engage their clients in audits, analyses, advisory and consulting work.

Additional factors supporting growth in ’22:

- Congress wants to raise taxes to pay for infrastructure investments and new social programs. Any time Congress tinkers with the tax code, it creates work for law firms and accountants.
- The dollar value of projects entering planning stages continues to suggest that the recovery in engineering, procurement and construction work should resume early in ’22, according to *Engineering News Record*.
- Money is flowing back into marketing budgets. According to *Ad Age*, U.S. ad spending will grow 12 percent in ’22. This translates into the need for more marketing, advertising, and public relations professionals.
- Ransomware attacks are up 62 percent since ’19, according to the 2021 Cyber Threat Report by SonicWall. The threat of further cyberattacks will drive companies to upgrade their networks.
- The focus on big data across industries translates into more work for tech firms.

The forecast calls for professional, scientific, and technical services to add 8,700 jobs in ’22.

HOUSTON EMPLOYMENT, PROFESSIONAL, SCIENTIFIC, AND TECHNICAL SERVICES



Source: Texas Workforce Commission

ADMINSTRATIVE SUPPORT AND WASTE MANAGEMENT

The sector includes employment services (contract workers), services to buildings (janitorial and landscaping), investigation and security services (guards and watchmen), administrative and business support services (back-office operations), and waste collection and treatment (garbage collection and disposal). All four suffered significant losses in the early stages of the pandemic.

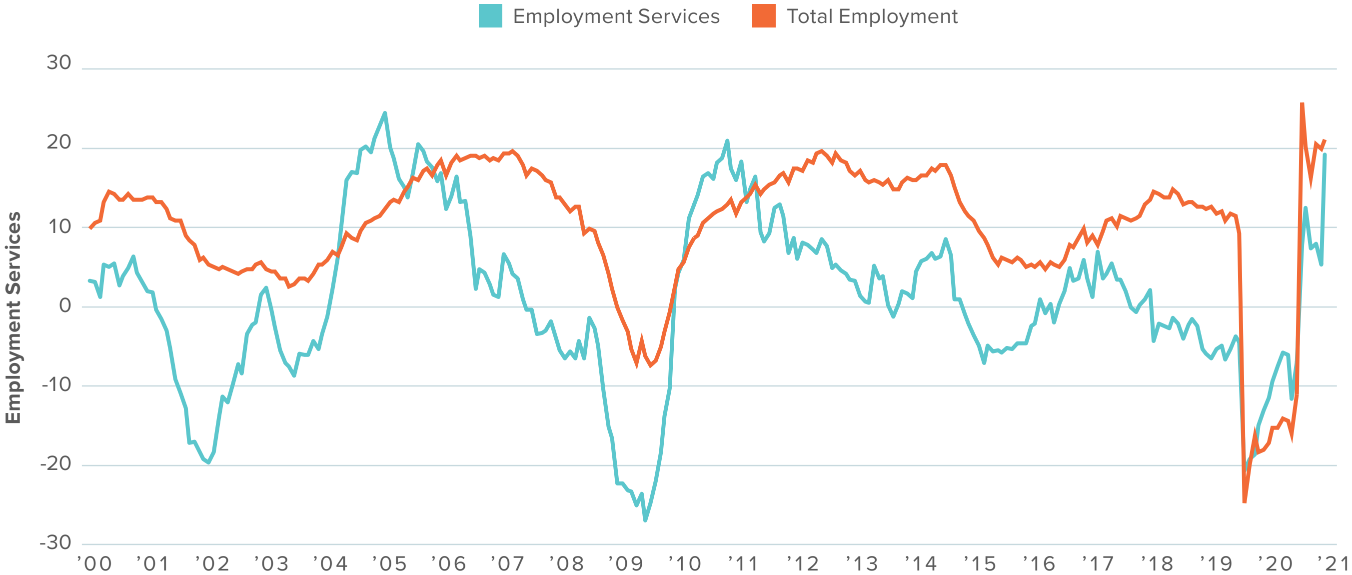
As projects were cancelled or delayed, firms needed fewer engineers, accountants, designers, manufacturing employees, and warehouse workers, so they released them from their contracts. With most white-collar employees working remotely, offices didn't need to be cleaned as often. Layoffs of janitorial staff ensued. The pandemic forced the closure of bars, restaurants, concert venues, and sporting events, obviating the need for security services. And with offices and factories operating well below capacity, there was less trash to haul away.

As more residents became vaccinated, those trends reversed themselves. Businesses began calling workers back to the office and consumers grew more comfortable visiting restaurants and bars. All subsectors have recorded job gains over the past 18 months.

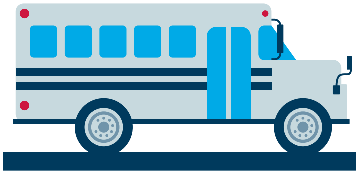
Historically, the employment services subsector serves as a bellwether for broader trends in the economy. At the onset of a recession, employment slumps as businesses hold onto their full-time employees but release their contract workers. As the economy recovers, businesses reengage contract workers to handle the initial uptick in demand. As the recovery builds steam, contract workers are often converted to full-time payroll employees. Though there have been a few blips along the way, employment services has trended up since last May, recouping all jobs lost in the early stages of the pandemic. Employment now stands at an all-time high, an indication that Houston will soon see stronger job growth in other sectors.

In '22, businesses will continue to rely on contract workers to meet their needs, but the labor shortage will provide those workers with additional bargaining power. As a byproduct of "The Great Resignation," Houstonians not wanting any long-term commitments may pursue contract work instead of full-time, permanent work. As more businesses call their employees back to the office, demand for cleaning and disposal services will increase. And as consumers grow more comfortable visiting bars and restaurants and attending sporting events, these establishments will hire more security guards. The forecast calls for the industry to add 9,000 jobs in '22.

12-MONTH PERCENT CHANGE, EMPLOYMENT SERVICES V. TOTAL EMPLOYMENT



Source: U.S. Bureau of Labor Statistics



EDUCATIONAL SERVICES

Educational services includes private colleges, universities, elementary and secondary schools, sports instruction, exam preparation, fine arts academies, technical and trade schools. School districts and community colleges are part of local government. State-funded universities are part of state government.

The sector lost 8,000 jobs in March and April '20 as Stay Home, Work Safe mandates forced these establishments to close. Many reopened with the start of a new school year. As of September '21, the sector had recovered 86.3 percent of the jobs lost in the early stages of the pandemic. By Q1/22, all jobs should be recouped.

In '22, population, income and employment growth in other sectors will help lift educational services in Houston. Job gains will also be driven by parents seeking alternatives to public schools, workers needing to improve their skill sets, students wanting better grades on exams, and athletes trying to improve their performance on the field. Growth should resume its normal pace next year. The sector should add 2,000 jobs in '22.

HEALTH CARE AND SOCIAL ASSISTANCE

Health Care

If one word describes Houston's health care workers in the fall of '21, it would be "exhausted." They have dealt with COVID-19 for 20-plus months and the past few have been particularly grueling. New infections, hospitalizations, and deaths from the virus surged over the summer, peaking in September before winding down. As of late October, new infections, hospitalizations, and deaths had fallen to half their recent peak but remain four times that seen in early summer.

COVID's impact will linger well into '22. Many Houstonians, afraid to visit doctors and clinics, postponed medical care during the pandemic. Some ailments ignored for a year or two will require more time and come at a higher cost to treat.

Hospitals are still dealing with the financial impact. Twice during the pandemic, Texas Governor Greg Abbott prohibited hospitals from performing elective procedures, the first time to conserve personal protective equipment, the second time to ensure hospitals had enough beds to handle the surge in COVID patients. Health care providers lost hundreds of millions in potential revenue.

And many health care professionals are reassessing their career options. Nurses, medical assistants, therapists, doctors, and clinicians are suffering burnout. Houston's hospitals faced staff shortages prior to the pandemic. If fatigue forces professionals to leave health care altogether, those shortages will become more acute.

Social Assistance

Social assistance includes counseling and day care services. Finding quality day care was a challenge even prior to the pandemic. Families often waited months for an open spot. COVID made matters worse. Many providers closed during the pandemic and have yet to reopen. Those that have reopened can't staff up. Daycare workers, like so many others, are seeking better pay in other industries. The typical childcare worker in Houston earns $23,000 per year, about the same as a cook in a fast-food restaurant.

Demographic trends will support the post-pandemic expansion of Houston's health care sector:

- The region records 90,000 to 100,000 live births each year. Each baby represents a new customer for health care providers.
- Another 40,000-plus people move to Houston each year. Each represents another health care consumer.
- The population continues to age. Houston has 175,000 more residents aged 65 and older today than it did five years ago. Older residents need more care than younger residents.
- Residents are living longer. A man who reaches 65 can expect to live another 18.1 years. A woman can expect another 20.7 years.

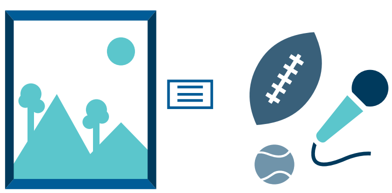
One of the biggest challenges facing Houston's health care industry is the large number of uninsured.

According to the U.S. Census Bureau, one in five Houstonians lacks health insurance compared to one in 10 for the nation. Treating the uninsured creates a financial burden on the hospitals and the costs get passed on to patients with health insurance or absorbed by the hospitals. The Bush School of Government & Public Service at Texas A&M University estimates another 220,000 Houston-area residents would receive health coverage and $1.2 billion in federal dollars would flow to local health care providers if the Texas Legislature would agree to expand Medicaid in Texas, something it has been unwilling to do.

Other challenges facing health care providers: pressure from insurance companies to control costs, lower reimbursements from the federal government for patients treated under Medicare and Medicaid, consumers who have become more selective about when and how they seek treatment, and competition from health care providers outside traditional settings (like pharmacies and grocery stores).

The sector lost 37,700 workers early in the pandemic. As of September ’21, ambulatory health care had recouped all its losses and hospitals were 800 jobs shy of their pre-crisis employment. That suggests that the remaining losses (3,500) are in daycares and social services. While health care will likely recoup all its losses by the end of ’21, social services will struggle well into ’22.

The forecast assumes staff burnout will have a marginal impact on total employment, new government regulations will have a minimal impact on scheduling of services, demographic trends will continue to drive the need for doctors, nurses, and physician assistants, and that daycares are able to fill at least some of their open positions. The sector should create 8,400 jobs in ’22.



ARTS, ENTERTAINMENT AND RECREATION

No sector suffered more in the early stages of the pandemic than arts, entertainment, and recreation. Museums closed. Fitness centers shuttered. Arts organizations cut their seasons short. And sports teams played to empty stadiums. The pandemic arrived in Houston in late February ’20. By mid-April, the sector had laid off half its workforce.

The community found ways to survive, though. Some groups shifted to digital performances. The Alley Theatre’s holiday tradition, A Christmas Carol, for instance, was seen by more than 250,000 viewers around the world. Fitness trainers made house calls. They set up their equipment on their clients’ driveways and continued their routines. Amusement parks, racetracks, and zoos mandated masks, even while outdoors. And revenues from television broadcasts helped sustain the region’s professional sports teams.

In September ’21, AMS Analytics conducted a survey of arts patrons around the nation. Among the major findings was patrons’ willingness to attend events again, but only if masks and vaccinations were required of all attendees. Additional findings:

- 81 percent of those who attended a live in-person indoor performance in recent weeks responded they were ‘comfortable’ or ‘very comfortable’ with the experience.
- Of those who hadn’t attended in recent weeks, 32 percent expect to start attending in January ’22 or soon thereafter.
- However, 35 percent are still ‘very concerned’ about the safety of gathering in large numbers.
- About half believe all attendees should be required to wear a mask indoors, while three in four respondents are more likely to visit a venue employing a vaccinated-only policy.

Many Houston venues have already instituted strict mask, vaccination, testing, and sanitization policies. Some even monitor audiences for individuals who slip off their masks while watching the performance.

The forecast assumes the full benefits from reopening have yet to accrue to arts and recreation. Attendance and patronage should pick up next year. At some point in ’22, the traditional drivers—population, income, leisure time, out-of-town visitors, corporate donations, fitness resolutions—will spur growth.

The forecast calls for the sector to add 1,600 jobs in ’22. However, it’s unlikely to return to pre-crises employment levels until the following year.

HOTELS

Though leisure travel has returned, business, convention, and group travel remain depressed. Hotel occupancy rates, revenues, and employment remain well below ’19 levels. The sector will likely be among the last to fully recover from the COVID-induced recession.

Challenges facing the industry:

- Travelers spent a third less in Houston during the pandemic ($13 billion) than the year before ($19.1 billion), according to Dean Runyan Associates. Spending on hotels, motels, and other accommodations fell from $2.9 billion to $1.2 billion.
- Houston Airports handled 35.0 million fewer passengers in ’20 than ’19, nearly a 60 percent drop. Traffic has improved, but through September ’21 it was down 32 percent from pre-pandemic levels.
- Hotel occupancy in Houston averaged 63 percent in ’19 but slipped to 41 percent in ’20. It’s forecast to average 53 percent in ’22.
- Revenue per available room (RevPAR), a measure of a hotel’s financial performance, averaged $33 in ’20, down from $63 the year before. It’s forecast to average $45 in ’22.

The industry enjoyed a brief surge in activity in the spring of ’21. As more of the population was vaccinated Houstonians grew more comfortable socializing. Weddings which had been postponed were rescheduled. Businesses held offsite meetings. Nonprofits hosted fundraising galas. Families took vacations again. The sector enjoyed a brief surge in job growth, but that only lasted until mid-summer when the wave of Delta infections made consumers wary again.

Activity should pick up in ’22, assuming there’s no dramatic drop in business and consumer confidence, nor a fifth wave of the virus, and there’s no rollback of workers returning to the office. President Biden’s easing of restrictions on international travel to the U.S. should help the recovery. Prior to the pandemic, one in five passengers through Houston Airports was traveling internationally. But air travel won’t return to previous levels for a few more years.

The recovery may come a bit sooner if some of the pent-up demand for business travel is unleashed. In a recent survey commissioned by Hilton and Morning Brew, 87 percent of respondents said they miss hopping from city to city to pursue their work. More than half (54 percent) noted that the importance of building “real life” relationships is more apparent than ever.

The industry should get a lift from an increase in conventions and trade shows in ’22. As of late October, Houston First had 41 meetings and conventions booked for ’22, up from 20 in ’21 yet down from 43 in ’20.

The supply of hotel rooms continues to grow as well. As of late October, there were 4,300 hotel rooms under construction, adding to the existing inventory of over 90,000 rooms.

Hotel practices adopted during the pandemic will remain in place as the industry recovers. To avoid unnecessary contact between staff, once a visitor checks in their room won’t be cleaned again until they check out. Fresh towels will be provided only when requested. Room service will be limited to a few items and delivered in a disposable container inside a paper bag. And hotels may no longer employ an on-site maintenance crew, contracting instead with plumbers and technicians in the community to fix a leaky shower or AC unit that won’t shut off.

’22 will still be a recovery year for Houston’s hotel sector. Demand, occupancy, room rates and RevPAR won’t approach ’19 levels until ’23 or ’24. The same holds true for convention attendance, which is likely to remain at 60 to 70 percent of pre-pandemic levels in ’22 and 80 to 90 percent in ’23, according to McCaslin Hotel Consulting.

If there’s no fifth wave of COVID-19, business travel picks up, residents and visitors grow comfortable with large social gatherings, and there’s no drop in business and consumer confidence, ’22 should be a better year for the industry than the previous two. The forecast calls for the sector to add 1,200 jobs in ’22.

FOOD SERVICES AND DRINKING PLACES

Houston's restaurants, cafes and bars were well on the road to recovery in the summer of '21. Half the region's population had received at least one dose of a COVID vaccine. The rate of initial infections had plummeted. Deaths had fallen to their lowest level since early in the pandemic. And consumers ventured out, dined out, and hit the bars and nightclubs. By July, the sector had recovered all the jobs lost in March and April of the prior year. Then the Delta variant struck. Infections spiked, hospitals filled with COVID patients, and consumers stayed home. The sector shed another 10,000 jobs.

The surge delayed but didn't derail the recovery. Local COVID cases peaked in early September and then declined. Restaurant reservations rose again. For all but one day in October '21, reservations tracked above pre-pandemic levels. Employment still lags, though. If hiring follows historic patterns, it will return to its previous peak by early '22.

The restaurant industry, like so many others, continues to deal with inflation, supply chain woes and labor shortages. In September '21, the National Restaurant Association conducted a survey of its members and found that:

- 95 percent of restaurant operators reported delivery delays and supply shortages in recent months.
- 75 percent have changed their menus as a result.
- 91 percent indicated total food costs are higher than prior to COVID-19.
- 85 percent reported their profit margins were lower.
- 83 percent said their restaurant was at least 10 percent below necessary staffing levels, 39 percent were at least 20 percent below on staffing.

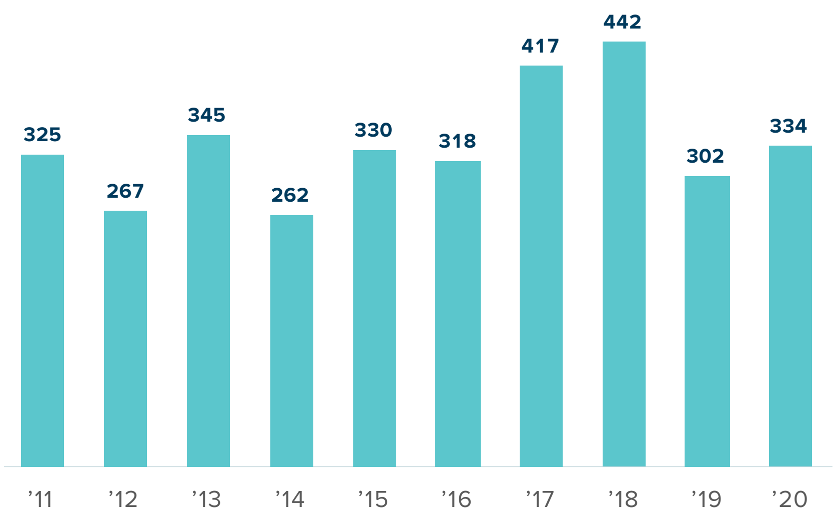
As a result of being understaffed, 68 percent had reduced hours of operation, 46 percent had cut back on menu items, 45 percent closed on days that they would normally be open, and 44 percent reduced seating capacity.

Understaffing is severe. There were 1.4 million job openings in accommodations and food services in September, according to BLS. That's one in every 10 positions in the industry. No other sector has a higher vacancy rate.

The sector managed to eke out some growth during the pandemic. According to TWC data, metro Houston added 56 restaurants and bars between Q1/20 and Q1/21. That's a net gain after closures have been subtracted from openings. In a healthier economy, the region would have netted five times as many new restaurants.

Growth in '22 will depend on several factors—the willingness of consumers to dine out again (higher vaccination rates should help), more employees returning to the office (boosting the lunch-time crowds), consumers' willingness to try new concepts (never a problem in Houston), the sector returning to a normal pace of openings (250 or more per year), and operators' ability to find waitstaff, busboys, cooks and counter help (a big unknown). The forecast assumes these factors will align next year. The forecast calls for restaurants and bars to add 7,200 jobs in '22.

NET GAINS, EATING AND DRINKING PLACES



Sources: Texas Workforce Commission

OTHER SERVICES

Other services includes automotive repair, beauty salons, car washes, civic organizations (like the Crime Stoppers and The 100 Club), commercial machinery repair, dry cleaning, foundations (such as Houston Endowment and the Greater Houston Community Foundation), funeral homes, home repair services, labor unions, nail salons, parking garages, religious organizations (such as Interfaith Ministries for Greater Houston and the Archdiocese of Galveston–Houston), and social advocacy organizations (such as Baker Ripley and the United Way of Greater Houston).

Government mandates forced many of these businesses to close early in the pandemic. Decisions to work remotely impacted others. Economic uncertainty reduced revenues for almost all of them. If not for PPP loans, many would have shut their doors permanently. The sector shed over 30,000 jobs in March and April of '20. It benefitted from the quick reopening and the growth that followed. As of September '21, 94.0 percent of the jobs lost had been recouped. The sector should fully recover by early '22. As the rest of the economy grows, so will the repair shops, beauty salons, and organizations that serve the broader Houston community. The forecast calls for other services to add 2,300 jobs in '22.

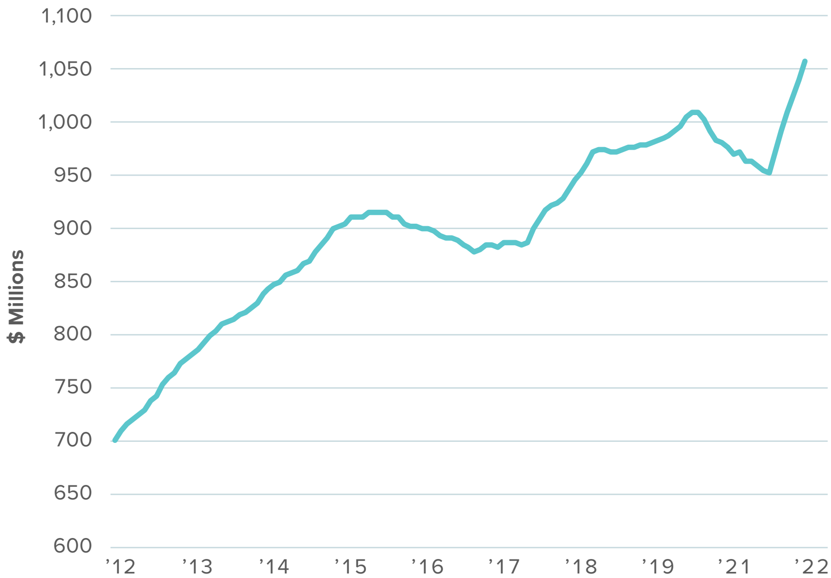
GOVERNMENT

Two factors influence the size of the public sector more than any other—population growth and available revenues. Other factors come into play—federal mandates, state regulations, public attitudes, private sector grants—but taxes and people trump them all.

A growing population equates to a larger constituent base. This, in turn, means greater demand for public services—libraries, health clinics, waste management, road repairs, fire and police protection. Though population growth slowed in the early stages of the pandemic, the number of out-of-state license plates on the roads today suggests in-migration has resumed. Even in weak years Houston adds 80,000 to 90,000 residents. The region likely topped that in '21 and should add even more in '22.

Over half (60.7 percent) of all government employees in metro Houston work for a school district, community college or state-funded university. School enrollment grows in tandem with population. The population enrolled in elementary education grows by 10,000 to 12,000

SALES TAX ALLOCATIONS, 12-MONTH TOTAL
12 Most Populous Houston Area Cities



Source: Texas Comptroller of Public Accounts each year. The population enrolled in four-year and two-year colleges grows by roughly 4,000 each year. This growth drives the need for additional teachers, classroom aids, instructors, and administrators on Houston campuses.

The two greatest revenue sources for government services are sales and property taxes. After falling significantly during the early stages of the pandemic, sales to consumers and businesses have recovered, and with them, tax collections. As of October, collections in the region's 12 largest cities were 4.6 percent above the pre-pandemic peak.

Property values continue to rise as well, with the value of assessed property in the Houston Independent School District up 11.7 percent, in the City of Houston up 11.2 percent, and in Harris County up 12.5 percent over the past three years ('17 – '20). Other jurisdictions have experienced similar increases. The revenues generated, of course, depend on the rates set by each jurisdiction and restrictions voters or the Texas State Legislature have placed on their ability to raise taxes.

The forecast assumes the public sector will receive adequate revenues to serve the region's growing population. Government services should add 7,100 jobs in '22.

Full Market Value of Tax Roll

	$ Billions		Change, '17-'20	
	'17	'20	$	%
Houston ISD	227.0	253.5	26.5	11.7%
City of Houston	303.8	337.8	34	11.2%
Harris County	585.3	658.4	73.1	12.5%

Source: Harris County Appraisal District and Partnership calculations

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Patrick Jankowski

December 1, 2021

SOURCES

Data used in the analysis and forecast came from the following sources: AMS Analytics, American Chemistry Council, Americans for the Arts, American Hotel & Lodging Association, The American Institute for Architects, American Trucking Association, Apartment Data Services, Associated Builders & Contractors, Associated General Contractors of America, Baker Hughes, Biznow, Bloomberg, CBRE, CenterPoint Energy, Chemical Week, City of Houston Aviation Department, City of Houston Building Permit Department, Colliers International, CoStar, Dodge Data & Analytics, Engineering News Record, Episcopal Health Foundation, Federal Deposit Insurance Corporation, Federal Reserve Bank of Dallas, Federal Reserve Bank of St. Louis, Federal Reserve Bank of Philadelphia, Forbes, Gallup, Hospitality.net, Houston Business Journal, Houston Chronicle, Houston Association of Realtors, Houston First, Houston: The Economy at a Glance, Houston Facts, Houstonia, Industrial Info Resources, Institute for Supply Management, International Energy Agency, International Air Transport Association, JLL, John Burns Real Estate Consulting, McCaslin Hotel Consulting, Moody's, Morning Consult, NAI Partners, National Association for Business Economics, National Association of Manufacturers, National Restaurant Association, National Retail Federation, The Numbers, OpenTable, Organisation for Economic Co-operation and Development, Oil & Gas Journal, Organization of Petroleum Exporting Countries, Port Houston, Retail Dive, Rigzone, The Texas Standard, TexAuto Facts, Texas Comptroller of Public Accounts, Texas Medical Center, Texas Workforce Commission, The Perryman Group, 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, World Trade Organization, Yelp, and various company websites.

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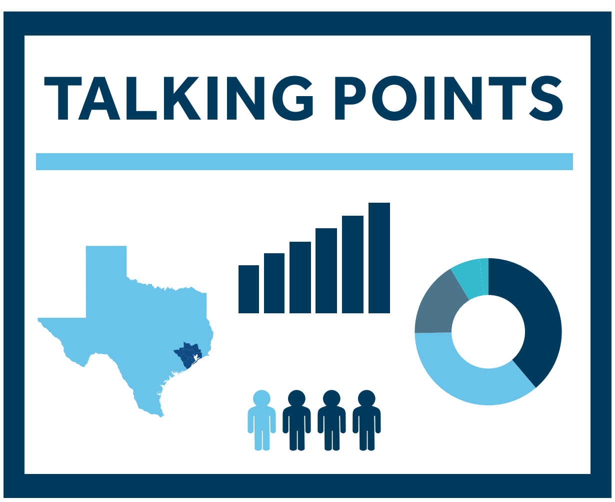

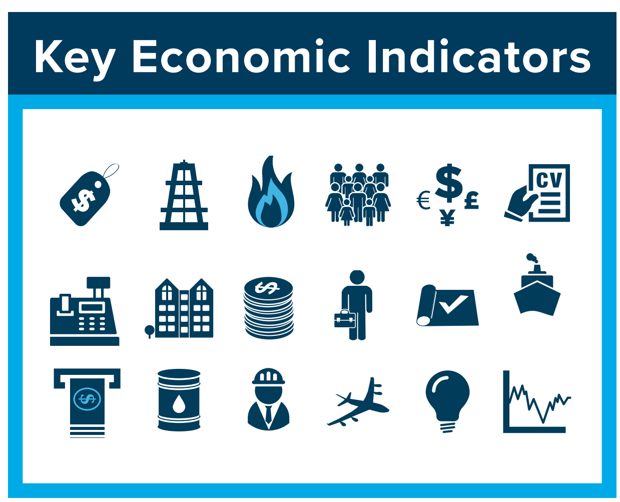

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