SCHOOL CONSTRUCTION

A LOCAL SNAPSHOT

GREATER HOUSTON BULLETIN SPRING 2020

A publication of AGC Houston and the A4LE Gulf Coast Chapter

AGC Houston
THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA
Quality People. Quality Projects.

ASSOCIATION FOR LEARNING ENVIRONMENTS
Enhancing the Educational Experience
Gulf Coast Chapter

About the Report

This school construction cost report is the result of a collaboration between members of the Associated General Contractors of America, Houston Chapter (AGC) and members of the Association for Learning Environments, Gulf Coast Chapter (A4LE).

The goal of this report is to provide information to assist local school districts in planning for their construction projects.

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Spring 2020

Highest Growth School Districts in Greater Houston

BY LAWRENCE DEAN, METROSTUDY
BOB TEMPLETON, TEMPLETON DEMOGRAPHICS

AN EXPANDING REGION SETS THE STAGE FOR SCHOOL DISTRICT GROWTH

Independent School Districts across the Houston area saw strong student growth over the course of 2019. Much of this was a function of the continued strong job growth and population growth achieved by the Houston area. The U.S. Census Bureau reports that the Houston-The Woodlands-Sugar Land, TX Metro Area saw a population growth of 1.3%, or 89,994 people between July 1, 2018 and July 1, 2019. During calendar year 2019, the greater Houston area achieved annual employment growth of 62,200 jobs. And finally, this strong population and employment growth resulted in 30,547 new (single family) home starts and 30,628 new (single family) home closings during calendar 2019. This growth in new homes (and resulting households and school attending families) happened throughout the Houston area. However, some school districts saw greater growth than others.

2019 SCHOOL DISTRICT GROWTH TRENDS

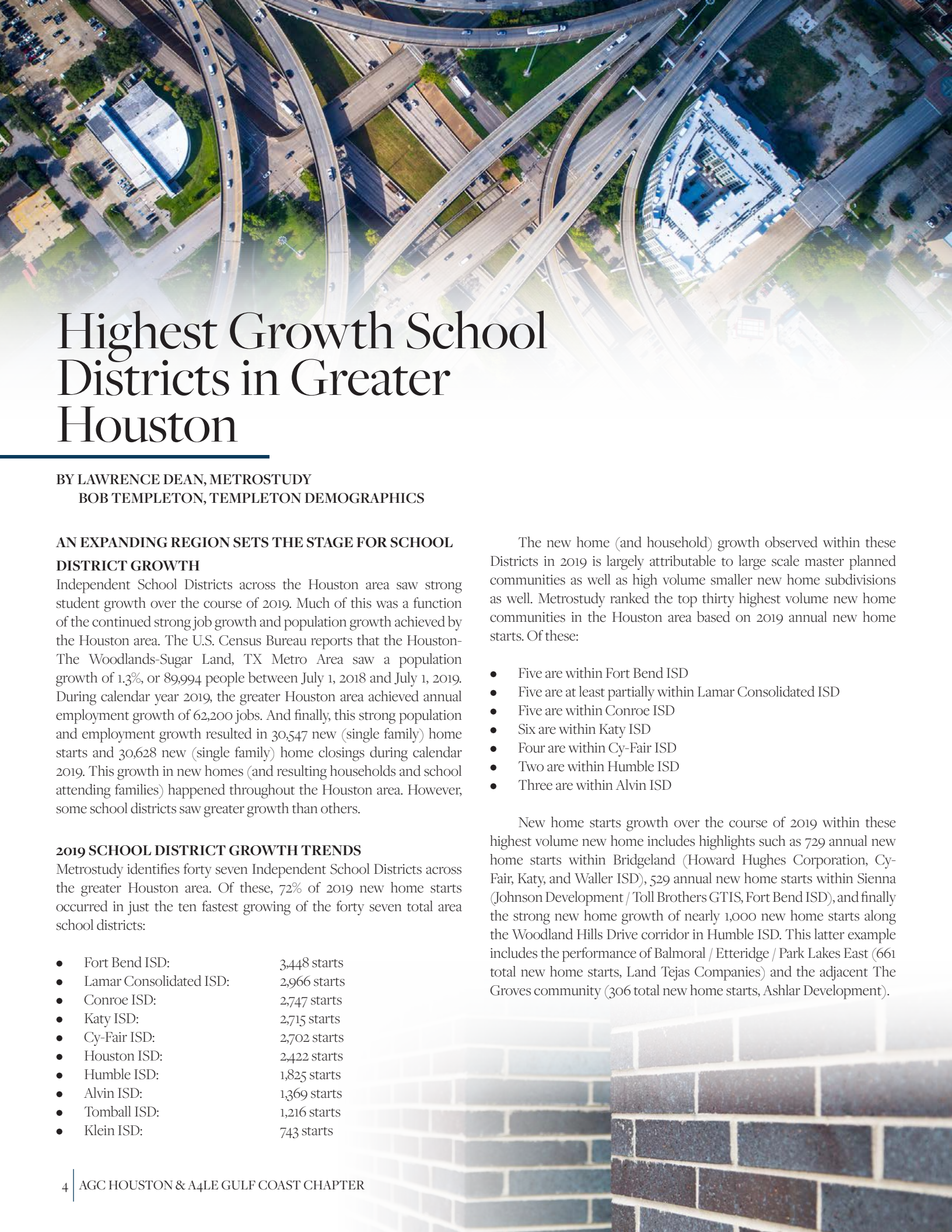
Metrostudy identifies forty seven Independent School Districts across the greater Houston area. Of these, 72% of 2019 new home starts occurred in just the ten fastest growing of the forty seven total area school districts:

- Fort Bend ISD: 3,448 starts
- Lamar Consolidated ISD: 2,966 starts
- Conroe ISD: 2,747 starts
- Katy ISD: 2,715 starts
- Cy-Fair ISD: 2,702 starts
- Houston ISD: 2,422 starts
- Humble ISD: 1,825 starts
- Alvin ISD: 1,369 starts
- Tomball ISD: 1,216 starts
- Klein ISD: 743 starts

The new home (and household) growth observed within these Districts in 2019 is largely attributable to large scale master planned communities as well as high volume smaller new home subdivisions as well. Metrostudy ranked the top thirty highest volume new home communities in the Houston area based on 2019 annual new home starts. Of these:

- Five are within Fort Bend ISD
- Five are at least partially within Lamar Consolidated ISD
- Five are within Conroe ISD
- Six are within Katy ISD
- Four are within Cy-Fair ISD
- Two are within Humble ISD
- Three are within Alvin ISD

New home starts growth over the course of 2019 within these highest volume new home includes highlights such as 729 annual new home starts within Bridgeland (Howard Hughes Corporation, Cy-Fair, Katy, and Waller ISD), 529 annual new home starts within Sienna (Johnson Development / Toll Brothers GTIS, Fort Bend ISD), and finally the strong new home growth of nearly 1,000 new home starts along the Woodland Hills Drive corridor in Humble ISD. This latter example includes the performance of Balmoral / Etteridge / Park Lakes East (661 total new home starts, Land Tejas Companies) and the adjacent The Groves community (306 total new home starts, Ashlar Development).



SUBURBAN SCHOOL DISTRICTS POISED FOR GROWTH

As the Houston MSA continues to grow, new home and new community growth is planned for school districts beyond just those that are currently experiencing strong growth. Both Metrostudy and Templeton Demographics monitor future single family lots planned for development within various ISDs, and see this as the most relevant key metric by which to understand potential for household and student growth. The previously mentioned 2019 highest growth school districts range in quantity of future planned lots from a low of 1,403 in the largely built out Klein ISD to a high of 24,787 in Lamar Consolidated ISD.

Significant future lots are planned within additional school districts beyond those that saw the greatest growth in 2019. Some of the school districts with the greatest runway of future planned lots and future growth include:

- Waller ISD: 25,502 future planned lots
- Magnolia ISD: 10,102 future planned lots
- Cleveland ISD: 6,910 future planned lots
- Willis ISD: 5,873 future planned lots
- New Caney ISD: 5,358 future planned lots
- Dickinson ISD: 4,995 future planned lots
- Montgomery ISD: 4,701 future planned lots

All of these school districts share the characteristics of being located within or just beyond current high growth corridors as well as being the home of large scale future planned communities.

The large number of future planned lots within Waller ISD include many of the remaining planned lots in the large Bridgeland MPC as well as other large planned developments by Johnson Development, Friendswood Development, and Concourse Communities. These future planned lots will generally be developed as market demand is sufficient for them. This can result in as long as a ten to fifteen year development timeframe.

Similarly, large scale planned communities are the driving factor behind future planned lots within Magnolia, Willis, and New Caney ISD. Most notably, the Howard Hughes Corporation's large The Woodland Hills community adds a large runway for future household and student growth within the Willis ISD.

URBAN REDEVELOPMENT ALSO DRIVES GROWTH

As the Houston region continues to grow, suburban school districts will continue to grow right along with it. However, it is not just suburban growth fueling this. Houston Independent School District in the heart of the metropolitan area, while largely built out, has 12,755 future planned lots as reported by Metrostudy. Similarly close in and urban Spring Branch ISD has 8,308 future planned lots. Redevelopment of existing land tracts in existing communities also drives growth and renewal within existing school districts and individual campuses. While this urban growth rarely generates sufficient demand for additional new schools to be opened, it frequently generates enough incremental additional demand to necessitate new and expanded facilities to be built serving existing campuses. The new buildings serving existing elementary school campuses in the southwestern portion of HISD as well as the expansion and new buildings currently under construction at Bellaire High School are examples of this redevelopment driven demand.

STRONG GROWTH POSSIBLE OVER THE NEXT DECADE

The Houston area has achieved an average of approximately 27,000 new single family home starts every year for the last ten years. Even in historical periods of economic decline and energy industry turbulence, Houston has achieved 18,000+ annual new single family home starts. Given this historical growth rate, and the MSA's current population of 7,066,141, it is very reasonable to anticipate at least 250,000 additional new single family home starts over the next decade. This housing growth and its aligned population and household growth will result in significant demand for new school district facilities both in emerging growth districts as well as established ones. ◄

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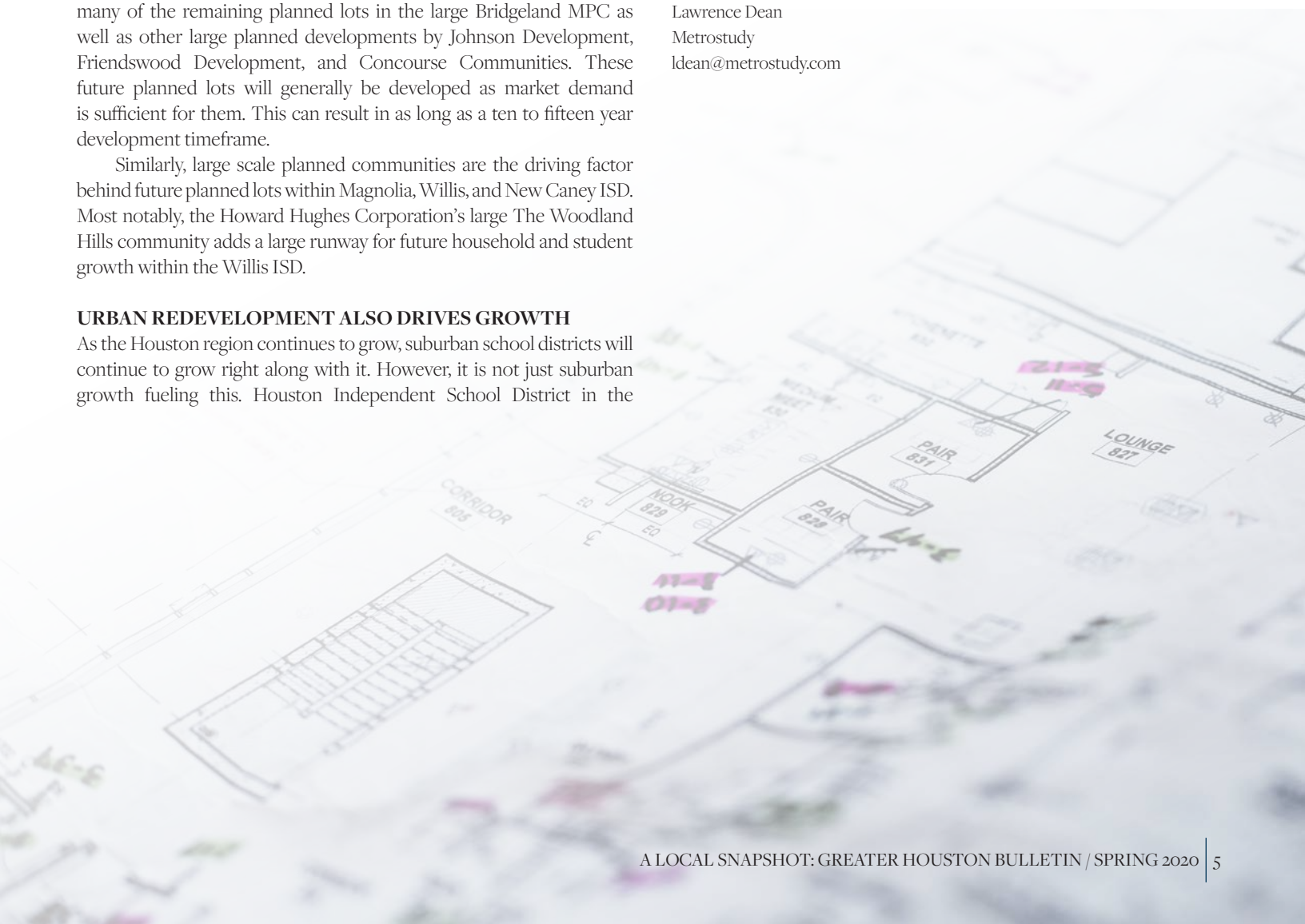

The Houston Construction Market: What's Ahead?

BY PAT KILEY, KILEY LITERARY LEGACIES, LLC

The construction industry outlook at the start of 2020 was positive for the Greater Houston area. FMI, a respected national consulting firm, projected that construction put-in-place in all markets (residential, commercial, industrial, highway) would approach $35.5 billion, an increase of about 3% from the 2019 projections. Highway work awarded by the Texas Department of Transportation is projected to be strong, approaching $9 billion. First quarter activity started very much in line with those forecasts with labor shortages still the dominant problem and technology-driven construction growing rapidly.

The commercial and light industrial market segments already had a mixed picture for 2020. The most troubled marketplace was general purpose office space. Vacancy rates for all classes, reached over 20% in late 2019, and the energy industry, Houston's leading tenant group in these buildings, still had not regained 40,000 of the 78,000 lost between 2014's peak and 2016's trough. In addition, this changing industry was projected to lose another 5,000 Houston-based jobs in 2020. These companies have learned to do more production with less people at the wellhead and in the office. The other major market segment where there was concern, but still no real clarity was in the light industrial market, the warehouses and completion centers or "last mile" facilities that support the online retail community. These huge structures have exploded along every highway leading in and out of Houston. There were 21 million square feet of this product under construction at the end of 2019. The education market, K-12 and higher education, appeared strong again, and church construction, with the trend toward ever larger sanctuaries, would remain steady. Interestingly, the hospitality markets (hotels, motels, restaurants) were projected to grow, adding more rooms and jobs. The real bright spot was to be health care, both patient care beds to handle the aging boomers and research facilities, part of TMC3, a research campus developing the future of medicine. A few commercial contractors build multifamily, projected to be decent again, perhaps 10,000 units, but also with some concerns of overbuilding. Occupancy was right at 90%, the historical decision metric. It is an owner's market when occupancy above 90% and a renter's market when it is below 90%. This level of work insured labor shortages would continue and exacerbate, if the industry could not get legal access to immigrants.

A bat in Wuhan, China completely disrupted this picture. A new virus with no antidote began travelling the globe and devastating normal life, requiring locking down daily life and shattering many parts of the economy. Houston and Harris County began official lockdown on March 24, 2020 and may ease by mid or late May. Fortunately, construction was deemed "essential," thanks to the rapid work of the industry advocate group coalition led by Jerry Nevlud of AGC Houston. Many projects in all segments have been affected, some delayed, others cancelled, particularly if they had not started. Some industries have been totally devastated such as airlines, hotels and retail stores. Neiman Marcus, J. Crew, J.C. Penny, and Hertz already declared bankruptcy.

These first of the year market projections have been significantly reduced by this virus and its consequences, a picture made worse by the puerile oil production fight between Russian President Vladimir Putin and Saudi Crown Prince Mohammed bin Salman. Oil related activity remains over 30% of Houston's economy. Global demand has fallen about 30 million barrels per day at the same time these two petulant dictators, both major producers, ramped up their output causing prices to plummet, even going negative for a few days. Oil is now stored in every feasible place on land and sea, which will slow recovery time for Houston.

What will the balance of 2020 look like for Houston construction? General purpose office space will be set back further, a year or two, and probably some of it will be repurposed for high-rise residential. The light industrial warehouses and completion centers may benefit if more shopping is done online and the city may be able to absorb a reasonable amount of what is being constructed. Only time will tell. The education market is currently funded by successful bond elections and should be okay. Higher education projects will raise more questions, especially those where state funding is involved that relies on taxes. This is where the oil downturn could punch the hardest. The oil industry is the major contributor to the State of Texas tax coffers. Churches, too, could struggle to raise building funds. The return to travel and to dining out will help the travel and hospitality industry, but construction projects will be delayed until the tempo is sustainable. Residential still has a measurable pulse with showroom traffic being described as "brisk" in starter home developments. A recent industrial information resources report shows, globally, the heavy industrial market is off 9.6% across 12 project categories. Highway construction, which is totally dependent on state and federal funding, is certain to suffer, but how to quantify it is premature. The anecdotal reports from commercial contractors for March and April would indicate volume will be down between 10% to 20% in 2020 and improve over the course of 2021. The estimates are predicated on the pattern of steady reopening over the next 60 to 90 days. If there is a second wave and lockdown, all bets are off.

The picture is not all bleak. Some general contractors have been given project awards since the lockdown began and some specialty contractors are looking to hire workers. Owners with funding realize this is an ideal time to negotiate their projects. The long-term projections of Dr. Ray Perryman, with the Perryman Group, will not change: The Greater Houston population will reach 10 million people; the gross area product over $1 trillion. This dynamic city will remain a true economic cluster for the energy industry and become one for bio-pharma companies. That designation means that any job in either of those industries will be available in Houston companies. It means jobs and brainpower for the city. Houston construction companies and the people who work for them have guts, grit and resilience in their DNA. These generational companies have survived wars, depressions, pandemics. Many founders of the newer companies have the same strengths. Most market-worthy construction companies will survive and rebound stronger than ever, and school construction will become a preferred marketplace. ◄

Houston construction companies and the people who work for them have guts, grit and resilience in their DNA.

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Historic Renovation of Schools

BY GARY WHITTLE, CBRE | HEERY

Undertaking any renovation of a school building is a monumental task that requires careful planning, heightened oversight, an experienced team, and clear expectations from all team members. Adding in a "historic" component to a renovation project raises the stakes even further. Having been involved in over a dozen such projects in the Gulf Coast Area in the last five years, representing more than $500M in taxpayer investment, we have gathered a number of lessons learned that we believe should be applied anytime a historic renovation project is being considered.

ASSUME NOTHING

As true in any renovation, the initial facility assessment is critical to proper planning. In historic buildings, nothing can be assumed. Typically, these buildings have been modified, renovated, expanded, and patched together for decades. Walls have been built over other walls, structural components have been buried under subfloors, and there may be multiple layers of ceilings covering abandoned piping, ductwork, and wiring. And most certainly, all those layers of walls, ceilings, and floors contain hazardous materials including asbestos, lead, and mold. Even abandoned underground piping from homes or previous buildings on the site can trigger careful remediation and are likely not shown on any as-built plans or surveys that still exist.

To fully understand the components of a building, a simple visual assessment is inadequate. Destructive and invasive testing and inspection is required, including opening up walls and ceilings, performing a structural analysis, reviewing conditions under the slab or crawlspace, tracing electrical and plumbing piping, and even taking moisture readings throughout the building as part of a comprehensive envelope study. It's also important to know the age of every component of the building, and to determine the era and scope of previous renovations. For example, if there was an addition to the building 50 years ago, did that include renovation of the older portion? Was it renovated again 20 years ago? If so, how much of the building was renovated, and what level of abatement was performed as part of that project? Was the scope only above ceiling or did walls move? How were utilities routed to each building? Having this information will help determine the areas that require further investigation.

These facility investigations can often be like pulling a thread on an old sweater. Every time you pull, the situation just becomes worse. As an example, if above-ceiling work was part of a previous renovation, was the plaster ceiling at the deck removed, or simply covered up with a new ceiling below? If only covered up, were holes punched through it to support new systems from the deck above? If so, to maintain a consistent fire/smoke barrier, those holes will either need to be patched or the entire plaster ceiling removed. Now consider that the plaster ceiling tested negative for asbestos but abandoned plumbing lines hidden above it were wrapped in asbestos insulation, and that insulation has deteriorated and fallen onto the plaster ceiling. Now the entire ceiling will have to be remediated and removed by a hazmat contractor at a much higher cost than standard demolition. This is a real-life example that would have cost the Owner hundreds of thousands of dollars without a creative solution from the project team. Instead, after a thorough review of the code, we proposed a solution with a fire-rated ceiling assembly and a closed plenum system that met the requirements for approximately half the cost.

DETERMINE THE RIGHT SCOPE & BUDGET

Once the history and condition of the building is fully understood, stakeholders should work together to determine the scope of the renovation. Is this just a "touch-up" with new finishes and life safety systems, or is it a demolition back to the structure and starting anew? How far between those two extremes? How much of the historic architecture is to be preserved or restored? What deferred maintenance items need to be incorporated into the project? Most importantly, how will the space be used to provide curriculum? Everyone with an interest in the building should be consulted, starting with instructors and including maintenance, technology, safety/security, administration, alumni, and the community. Every decision should be driven by how it benefits the students and should consider the long-term investment, remembering that the facilities maintenance department will be responsible for the building long after construction is complete.

Maybe the single most important decision is determining how to accommodate the staff and students during construction. Considerations should include student safety, maintaining a quality learning environment, availability of swing space, continuity of utilities and building systems, and separation of construction areas. We have performed heavy renovations in occupied buildings, but the cost and schedule impacts of phasing are typically cost-prohibitive compared to relocating students off-site or into temporary buildings. Either way, these are impacts that must be accounted for in the planning stage, keeping student outcomes as the primary focus.

Many scope decisions will be driven by code requirements, including TDLR/ADA, energy code, fire and life safety requirements. Some components that could otherwise be reused may no longer be compatible with new systems being installed. Other decisions may be determined by restrictions in place from historic preservation groups or other local organizations, especially with respect to the façade and site perimeter. If the facility is listed in the National Registry and/or with the Texas Historical Commission, there may be additional guidelines and documentation requirements, but there may also be additional funds available for the project.

Identifying available funds and setting a realistic budget must go hand-in-hand with scope determination. Depending on the scope of work and the restrictions in place, especially any requirements to maintain partial occupancy during construction, budgets for renovation projects can be wide ranging. On a recent high school project that included renovation of a 100-year old building, we compared the renovation cost to that of the new construction on the same campus. While the new construction was completed under $200/sf, the historic renovation component was more than $400/sf once final costs were tabulated. Not only are construction costs higher, but typically these projects increase costs for consultants, including higher fees for architects/engineers and more billable hours from hazmat, air quality, and envelope consultants. Even technology costs can be inflated, such as additional WiFi access points to penetrate thickened walls and slabs and installations that may require surface mounted raceways.

Just as important as establishing the initial budget is setting aside appropriate contingencies, both in the budget and the schedule. Regardless of how much planning goes into the project, there will be unforeseen items to be addressed, costing both time and money. Having a healthy contingency in place will mitigate the risk of having to reduce or defer scope to keep the project within budget and protects the Owner from spending more later to complete the same scope.

SET FIRM EXPECTATIONS

After consensus is reached and scope is determined, expectations need to be clearly communicated. There may be groups who would prefer a completely new building, and other groups who would prefer as much of the historic building be preserved as possible. Establishing an expectation of the final product and communicating it clearly to all stakeholders will help mitigate the inevitable disappointment of a vocal few.

Internally, the facilities departments should understand the implications of any systems being reused so they can plan accordingly and continue maintenance as needed. The procurement and accounting teams should be advised to expect a higher number of changes than usual, and that the contingency funds should be reserved until long after the project is complete to address any post-occupancy issues that may arise. Even the Administration and Board should be aware that schedule delays and cost increases are possible, even likely, and that they are expected and built into the contingency planning. There is no substitute for transparency with all involved.

There should also be firm expectations set with the design and construction team. This may seem intuitive on all projects, but particularly in more complex projects with design decisions happening constantly and often right up to production, it is important to carefully coordinate the plans and specifications to assure everything is captured. An example of something that could easily slip through design coordination is a late decision to replace the ceiling in a certain area being picked up on the reflected ceiling plan, but not noted on the electrical lighting plan, creating a scope gap that will have to be addressed during construction.

STICK TO THE PLAN AND COMMUNICATE OFTEN

It has been said that the only constant in construction is change. But while there is always a need for flexibility and adaptation to unexpected circumstances, it's important to keep the end goal in mind. It requires discipline to resist the urge to save pennies today that cost dollars tomorrow. There are numerous examples where the project team made well-intentioned decisions to save cost and time but was later unhappy with the final product.

Ultimately, the goal is to create an enriching educational environment for current and future students, while preserving valuable memories of previous generations. Finding the right balance between protecting taxpayer investment in the short run and providing an asset that every stakeholder can be proud of is the key to every successful project. ◄

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2020-2021 Cost Trends Survey

BY BOB RICHARDSON, DUROTECH, INC.

As part of the AGC/A4LE Joint Committee, Durotech conducts an annual survey of over 3,000 subcontractors and major design firms in the K-12 construction market within the Houston region. Respondents are asked to provide cost projections from their point of view based on how costs affect their specific trades. They are grouped into three categories: Labor Intensive (shell, concrete, masonry, earthwork, underground, etc.), Finish/Specialty (non-MEP interiors), and MEP (mechanical, electrical, plumbing, and data).

This year's survey received responses in January, February and through the last week in March, providing perspectives from both pre- and post- coronavirus impacts. The growing coronavirus impact on the construction industry was reflected in two groups of respondents: Earlier Results and Later Results. The table below summarizes three key concerns.

Survey Item	Earlier Results	Later Results
Concern about economy	30%+/-	Average now 10% higher, with some respondents at 100%
Concern about labor availability	25-60%	Much less a concern
Concern about competition	10-15%	Higher concern

As of the last week in March, raw materials spot market prices, which we use as verification, have not fallen as much as projected, especially since this is a global market. They are within 2-10% of their prices during the same period a year earlier, and other than the Baltic Dry Index, all are within 6% or less of their 3-year average price. Local subcontractor material responses indicate a slowing materials price increase in the 4-5% range in both 2019 and 2020. This spread reflects the differential between raw and finished materials. Due to pre-coronavirus national construction demand, domestic materials have been rising, with costs held down by lower raw costs.

Concerns regarding labor availability are likely due to uncertainty about the coronavirus impact on field personnel and there is an indication of concern about a flat-to-declining rate for labor productivity. Revenue and margins are rising for 2020, but margin increases will be inconsequential. Of particular interest is the finish/specialty trades (Div. 9-13). The data reflects a number of responses pointed to the use of contract or pieceworkers negatively impacting the companies employing direct labor. While heavier workflow is statistically apparent, as project phases advance in 2019 and 2020 through Divisions 9-13 and Divisions 21-28 (where revenues and margins are dramatically up as a whole), Divisions 9-13 have flat revenue and falling margins in 2019 and falling revenue with slight margin increase projections in 2020. This indicates intense price competition and an increased number of players entering these trade areas. The same impact is felt by some Division 3 respondents from new players appearing in the very robust tilt wall market.

Overall, 2020 subcontractor market projections anticipate moderate labor and materials cost increases accompanied by backlog-based revenue growth, with strong revenue growth primarily from MEP trades as work flows into their project cycle time. Subcontractors looking forward into 2020-22 show smaller year-over-year projected cost increases than in 2019, primarily as a result of coronavirus. However, when graphically demonstrated, the forward projections show an upward cost trend line. This would be in line with a national economy restart and a 2021-22 log jam of delayed projects starting and materials/labor costs rising.

Design professionals indicate by their responses a major concern with the availability of professional staff and a significantly rising concern with the need for longer construction schedules. The need for owners to lengthen design schedules produced an unprecedented 100% affirmative response to this concern. In addition, design professionals see very significant problems with permit receipt time (80%) and securing project utilities (80%). A poll of general contractors would probably produce the same experiential results for these and for construction schedules.

K-12 costs for elementary schools were deceptively flat in 2019, most likely due to an abnormal high to low annual cost differential on several elementary projects. This product type, at times, demonstrates significant cost variation for a variety of reasons. In 2019, junior high school/middle school costs increased at 5%, in line with 2019 projections of 4-6%. High schools did not have a sufficient universe of product to develop a reliable market-wide cost model. Going forward, we anticipate 2020 will show a cost drop in each of these product types, primarily occurring in the second half of 2020, with cost rises beginning in fourth quarter of 2021 and increasing in 2022.

The future is always unclear, and at this time it is more so. Houston has a double hit of both the coronavirus incident and a major disruption in a leading economic impactor, the energy sector. Both are temporary, with short and mid-term affects, but with also potentially longer-term impacts from the energy sector. Local economic projections, depending on the source, indicate for Houston either a recovery in-line with other parts of the country, or a slower recovery than other major metro areas due to energy industry financial damage and its collateral economic damage. Uncited in these projections is that energy industry negatives will affect the mentality and underwriting of new, uncommitted private commercial project lending for 12 to 18 months, with the possible exception of new warehouse/distribution centers which may be built in response to post-coronavirus corporate inventory changes and which may start to appear in late 2021. The impact of both coronavirus and the negative contango energy environment will lessen some commercial work and possibly drive some primarily private sector contractors into more public sector work. The negative cash flow impact of the virus and economic downturn may lead some general and subcontractors to pursue work at price levels deleterious to themselves and project owners. This pursuit could create a downward cost pressure for the next 12 to 20 months in the local construction market. ◄

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Specialty Contractor Major Concerns

Economy				Labor Availability				Labor Productivity				Competition				Schedule			
2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
37%	57%	32%	41%	27%	79%	28%	21%	17%	36%	13%	9%	16%	38%	18%	16%	-	-	7%	8%

Source: Annual Subcontractor Survey by Durotech, Inc.

Specialty Contractor Market Summary

	2018	2019	2020
Labor	Tightening	Tightening	Uncertain*
Labor Productivity	Flat	Flat	Flat
Materials	Increasing	Slower Rise	Slower Rise
Revenue	Falling	Rising	Rising*
Margins	Flat to Decreasing	Rising	Flat*

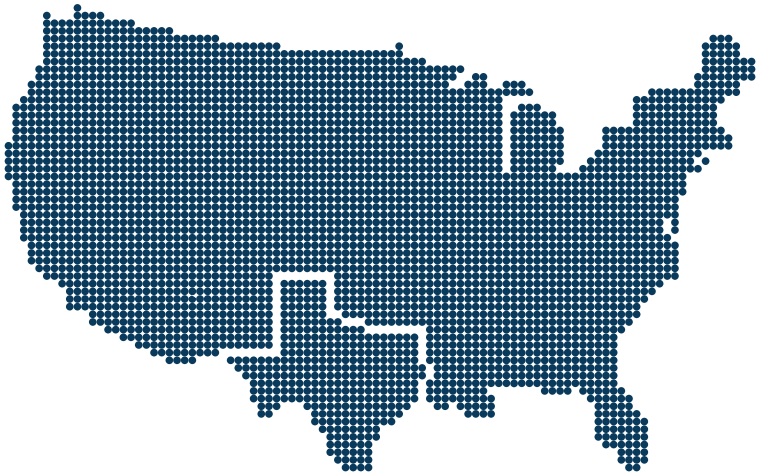
**There are large variations in the survey results. Division 9-13 revenue appears slightly higher, but margins are decreasing and are overall negative for those divisions indicating heavy price competition, possibly due to new company entrants. Division 3 also reports flatter number for the same reasons.*
Source: Annual Subcontractor Survey by Durotech, Inc.

Design Professional Average Future Cost Projections*

	2019	2020	2021
Elementary	$200-258/sf *(Avg. $229/sf)*	$195-255/sf *(Avg. $222/sf)*	$225-275/sf *(Avg. $247/sf)*
Middle/JHS	$210-280/sf *(Avg. $250/sf)*	$225-245/sf *(Avg. $231/sf)*	$230-285/sf *(Avg. $258/sf)*
High School	$245-305/sf *(Avg. $280/sf)*	$245-290/sf *(Avg. $267/sf)*	$250-310/sf *(Avg. $283/sf)*

**Costs vary in school types based on location, programs, scope, technology and finish requirements.*
Source: Annual Subcontractor Survey by Durotech, Inc.

Current Oil Rig Count (as of 5/22/2020)



UNITED STATES

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TEXAS

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Source: Baker Hughes

West Texas Intermediate Spot Market Price

	Apr. 2019	Apr. 2020	% Increase
Monthly Price	$63.86	$16.55	-74.1%
YTD Average Price	$57.09	$52.35	-8.3%

EIA forecasts that the United States will return to being a net importer of crude oil and petroleum products in the third quarter of 2020 and remain a net importer in most months through the end of the forecast period.

Source: US Energy Information Administration
Forecast as of 4/7/2020

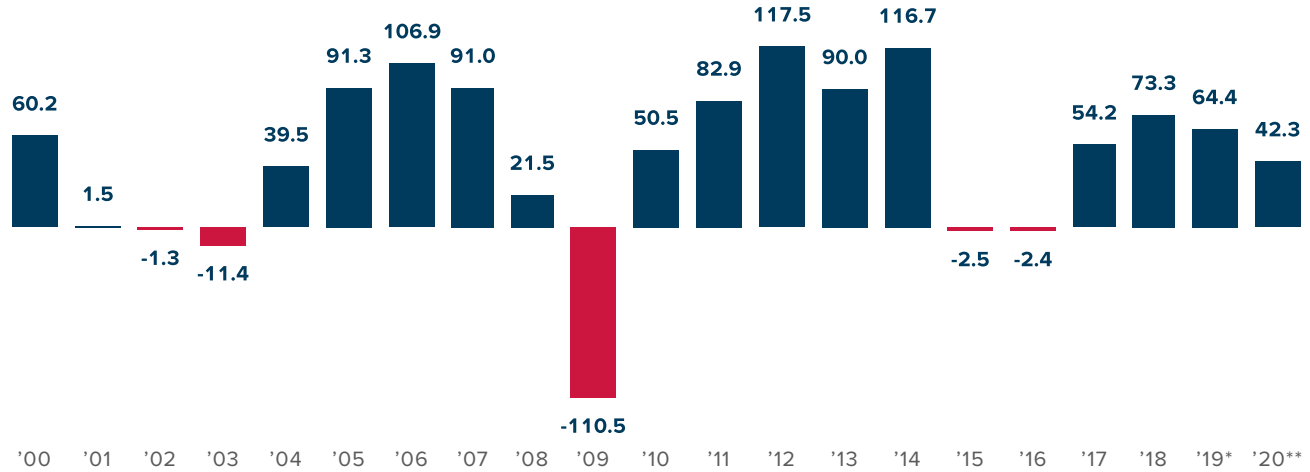
Henry Hub Natural Gas Price

	Apr. 2019	Apr. 2020	% Increase
Monthly Price	$2.65	$1.74	-34.3%
YTD Average Price	$2.85	$2.39	-16.1%

EIA expects Henry Hub natural gas spot prices will average $2.11/MMBtu in 2020 and the increase in 2021, reaching an annual average of $2.98/MMBtu because of lower natural gas production compared to 2020.

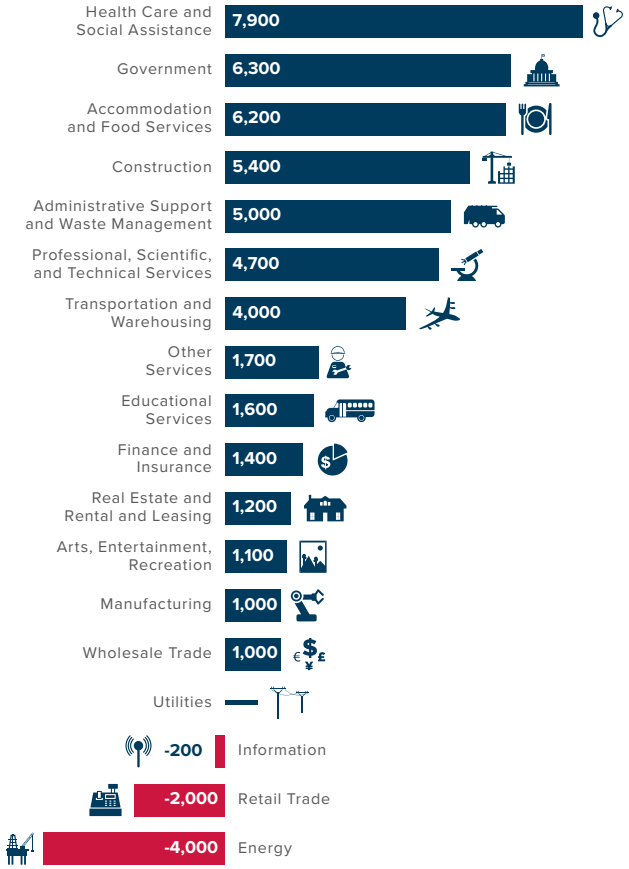
Source: US Energy Information Administration
Forecast as of 4/7/2020

Metro Houston Job Growth
December to December, (000s)



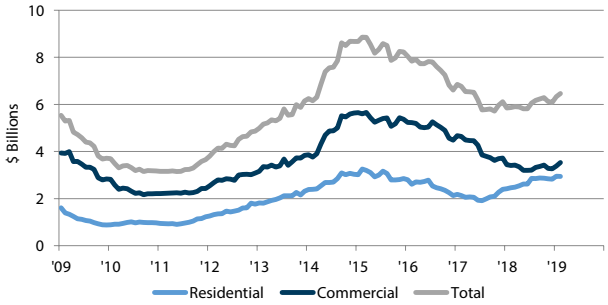
Source: Texas Workforce Commission & Greater Houston Partnership forecasts
**October YTD **Partnership's forecast*

Metro Houston, Forecast Job Gains
December '19 - December '20



Source: Greater Houston Partnership

City of Houston Building Permit Value
12-Month Total



Source: City of Houston & Greater Houston Partnership

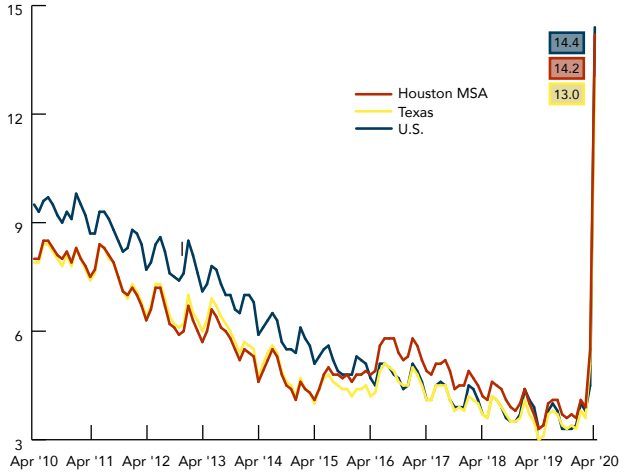
According to the City of Houston's Department of Public Works & Engineering Planning & Development Services, building permits for the 12 months ending February 2020 totaled $7.3 billion, up 12.6 percent from $6.5 billion for the same period a year ago. Residential permit values dropped 6.5 percent to $2.7 billion while commercial permit values increased 28.5 percent to $4.5 billion.

Unemployment Rate

Area Type	Apr. 2020
Houston - The Woodlands - Sugar Land	14.2%
Texas	13.0%
U.S.	14.4%

Source: Texas Workforce Commission (Not seasonally adjusted)

Unemployment Rates (NSA) - U.S., Texas, and Houston MSA, Apr. 2010 to Apr. 2020



Source: Texas Workforce Commission (Not seasonally adjusted)

PMI - Houston Indicators

	February 2019	February 2020	Percent Change
Monthly	52.5	50.2	-4.4%
YTD Average	56.1	51.4	-8.4%

Source: Purchasing Managers Index (ISM)

The PMI is a leading indicator of economic conditions for Houston. An index number below 50 represents a contracting economy; readings above 50 indicate an expanding economy. The region's PMI fell to 34.6 in April, the lowest reading in the series history and the previous low was in March 2009 when it fell to 39.0.

K-12 School Bonds Passed from 2018 to 2020 in Millions			
District	**2018**	**2019**	**2020**
Alvin ISD	$480.5	-	-
Barbers Hill ISD	-	-	$277.5
Brazosport ISD	-	$267	-
Channelview ISD	-	$195	-
Cleveland ISD	-	$198	-
Columbia-Brazoria ISD	-	$11.5	-
Conroe ISD	-	$653.6	-
Cypress-Fairbanks ISD	-	$1,762	-
Fort Bend ISD	$992.6	-	-
Galveston ISD	$31	-	-
Goose Creek CISD	-	$335	-
Humble ISD	$575	-	-
Sweeny ISD	-	$28	-
Texas City ISD	$136.1	-	-
Waller ISD	-	$295.2	-
Source: Texas Bond Review Board & Texas Comptroller			

Small Business Outlook

The Greater Houston Partnership has surveyed its small- and medium-sized members weekly since early April to gauge how they were managing the downturn. The major conclusions from Week 6 of the survey:

- 20.7% of respondents indicate their firm's short-term outlook improved in week six, compared to 7% in week one.
- 41.9% say their operations have been severely impacted, compared to 53.3% in week one.
- 41.9% are developing a reopening plan, 26.9% have a plan and are preparing to execute it, 8.6% have executed their plan, and 14% never closed or reduced operations.
- 3.3% have fully reopened since May 1st, 19.6% partially reopened, 22.8% have not reopened, and 54.3% never halted operations.

Source: May 2020 Houston: The Economy at a Glance, Greater Houston Partnership

Houston Real Estate Highlights in April

- Single-family home sales fell 19.1 percent year-over-year, with 6,199 units sold, ending nine consecutive months of positive sales;
- The Days on Market (DOM) figure for single-family homes was unchanged at 58 days;
- Total property sales dropped 21.6 percent, with 7,192 units sold;
- Total dollar volume dove 20.4 percent to $2.14 billion;
- The single-family home median price rose 2.4 percent to $251,000, reaching an April high;
- The single-family home average price was flat at $310,331;
- Single-family homes months of inventory was at a 3.6-months supply, down from 3.9 months last April but above the national inventory level of 3.4 months;
- Townhome/condominium sales plunged 37.5 percent, with the average price up 11.9 percent to $227,577 and the median price up 12.2 percent to $181,750;
- Lease properties staged a negative performance, as single-family home rentals fell 4.1 percent with the average rent down 1.7 percent to $1,765; Volume of townhome/condominium leases fell 9.5 percent with the average rent down 1.2 percent to $1,565.

Source: Houston Association of Realtors

Houston Housing Indicators

Categories	April 2019	April 2020	Change
Total Property Sales	9,168	7,192	-21.6%
Total Dollar Volume	$2,687,400,613	$2,138,293,566	-20.4%
Total Active Listings	40,967	41,151	0.4%
Single-Family Home Sales	7,666	6,199	-19.1%
Single-Family Average Sales Price	$310,416	$310,331	0.0%
Single-Family Median Sales Price	$245,000	$251,000	2.4%
Single-Family Months Inventory*	3.9	3.6	-0.3 mos.
Single-Family Pending Sales	8,645	7,125	-17.6%

**Months inventory estimates the number of months it will take to deplete current active inventory based on the prior 12 months sales activity. This figure is representative of the single-family homes market.*
Source: Houston Association of Realtors