HOUSTON, TEXAS

MARKET OVERVIEW

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Forward-Looking Statements

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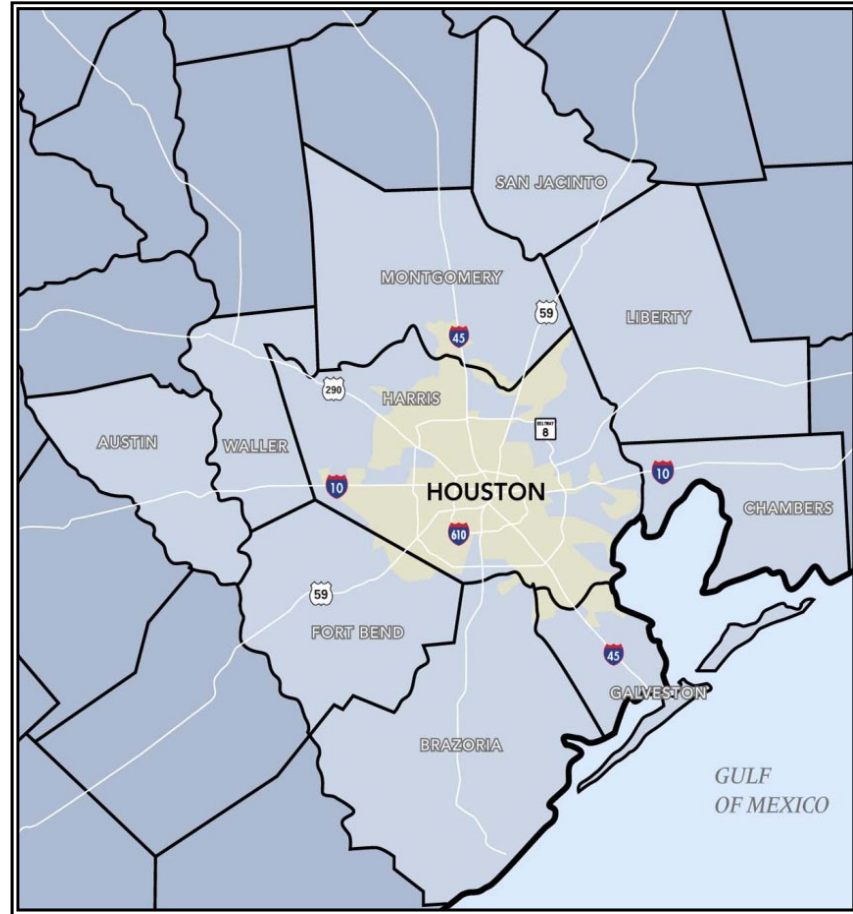
Industry and Market Data

In this presentation, we rely on and refer to information and statistics regarding economic conditions, trends, and our market in the sectors of that market in which we compete. In particular, we have obtained general industry information and statistics from certain third-party Source. We believe that these Source of information and estimates are reliable and accurate, but we have not independently verified them.

GEOGRAPHIC OVERVIEW

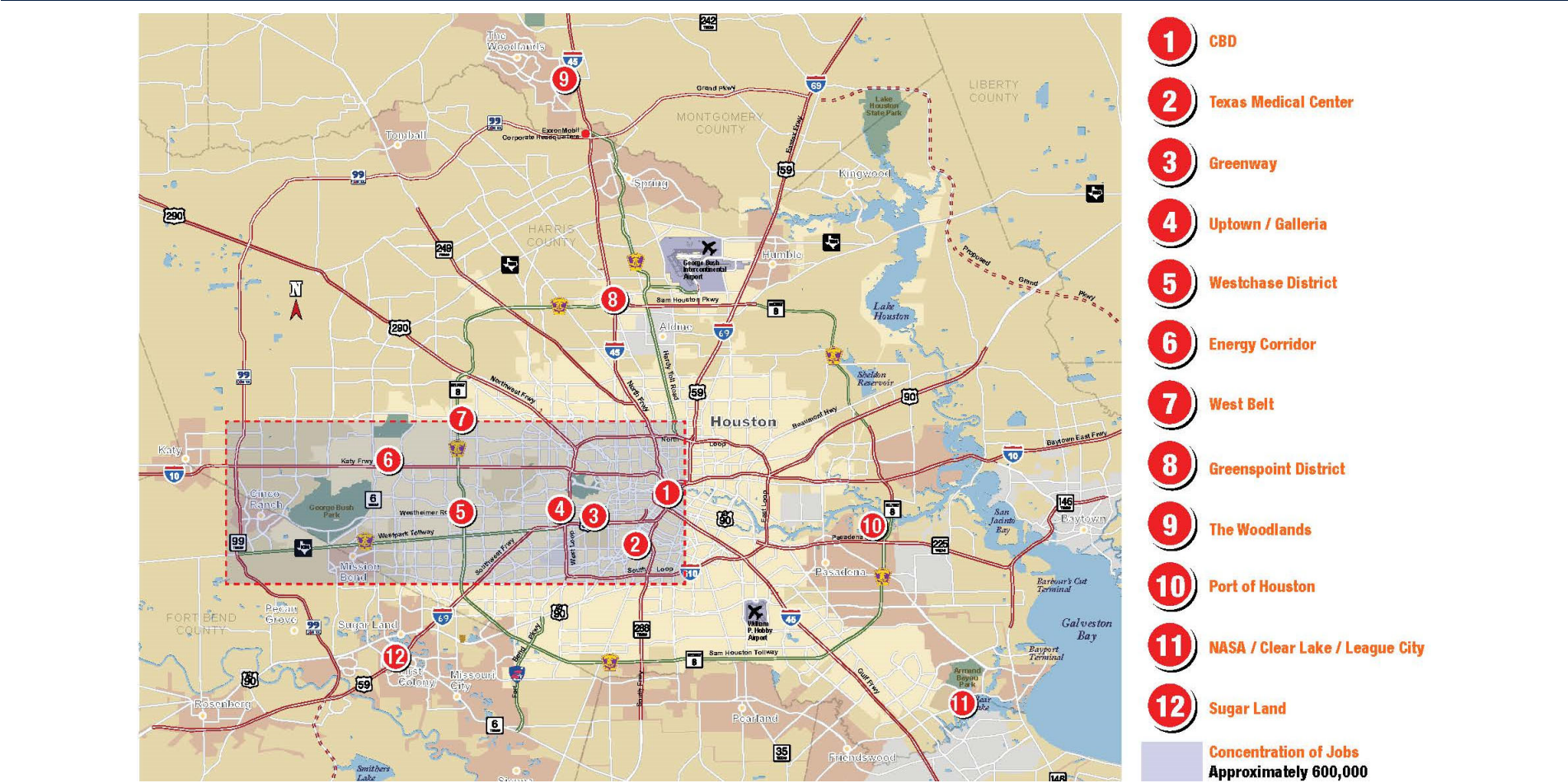## Houston – Global Commercial Center

- **4ᵗʰ-Most Populous City**
  (2.3 million citizens)

- **5ᵗʰ-Most Populous MSA**
  (6.9 million residents)

- **7ᵗʰ-Largest MSA Economy**
  ($490 B in 2017 GDP)

- **10,000+ Square Miles**

- **>3 Million Jobs**

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Houston's Major Employment Centers

1. CBD
2. Texas Medical Center
3. Greenway
4. Uptown / Galleria
5. Westchase District
6. Energy Corridor
7. West Belt
8. Greenspoint District
9. The Woodlands
10. Port of Houston
11. NASA / Clear Lake / League City
12. Sugar Land

Concentration of Jobs
Approximately 600,000

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HOUSTON HIGHLIGHTS

America's 7th Largest Metro Economy

If Houston were an independent nation, the region would have the 25th largest economy in the world, behind Belgium and ahead of Thailand

6. SAN FRANCISCO
$500 Billion

2. LOS ANGELES
$1.04 Trillion

3. CHICAGO
$680 Billion

8. PHILADELPHIA
$445 Billion

9. BOSTON
$439 Billion

1. NEW YORK CITY
$1.72 Trillion

5. WASHINGTON D.C.
$529 Billion

4. DALLAS $535 Billion

10. ATLANTA $386 Billion

7. HOUSTON $490 Billion

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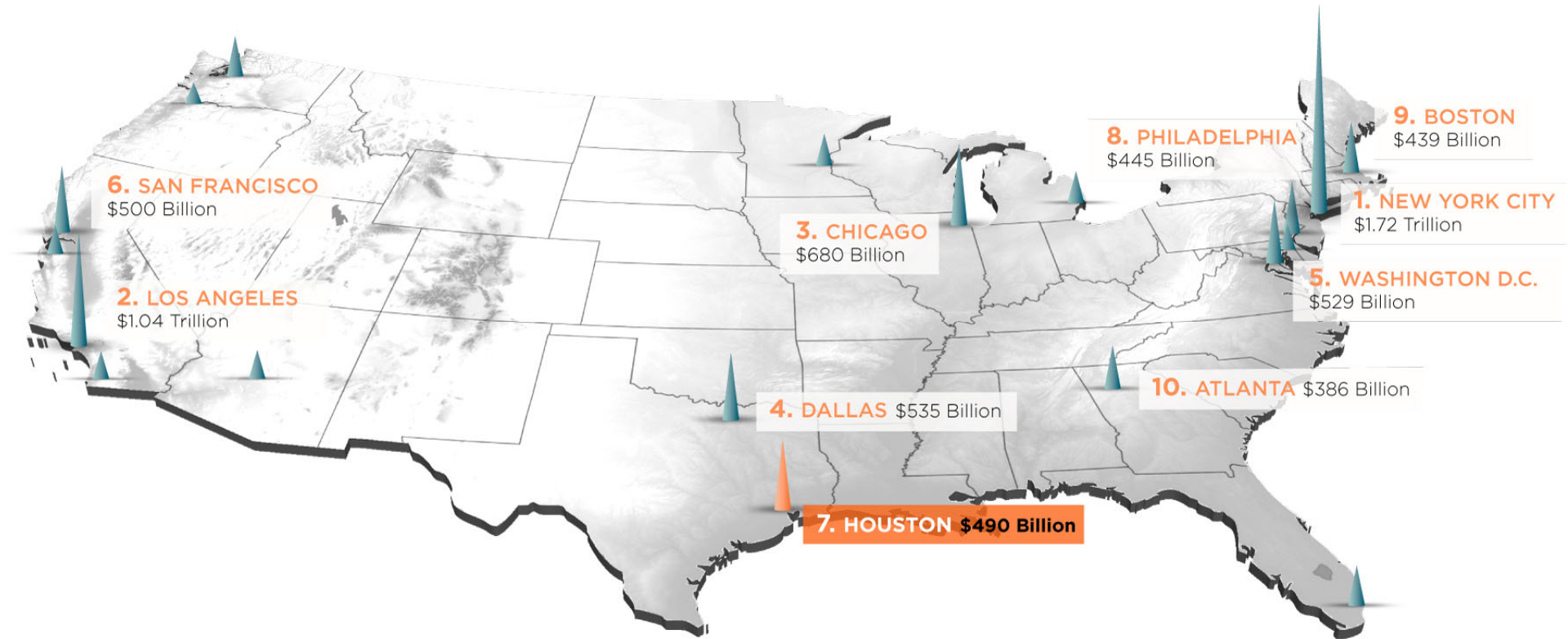
A Versatile Workforce

20.4%	Trade, Transportation, and Utilities
15.9%	Professional and Business Services
13.5%	Government
12.7%	Educational and Health Services
10.5%	Leisure and Hospitality
7.3%	Manufacturing
7.2%	Construction
3.3%	Finance and Insurance
2.6%	Mining and Logging (Upstream Energy)
1.9%	Real Estate and Rental and Leasing
1.1%	Information
3.6%	Other Services

Energy Capital of the World

39
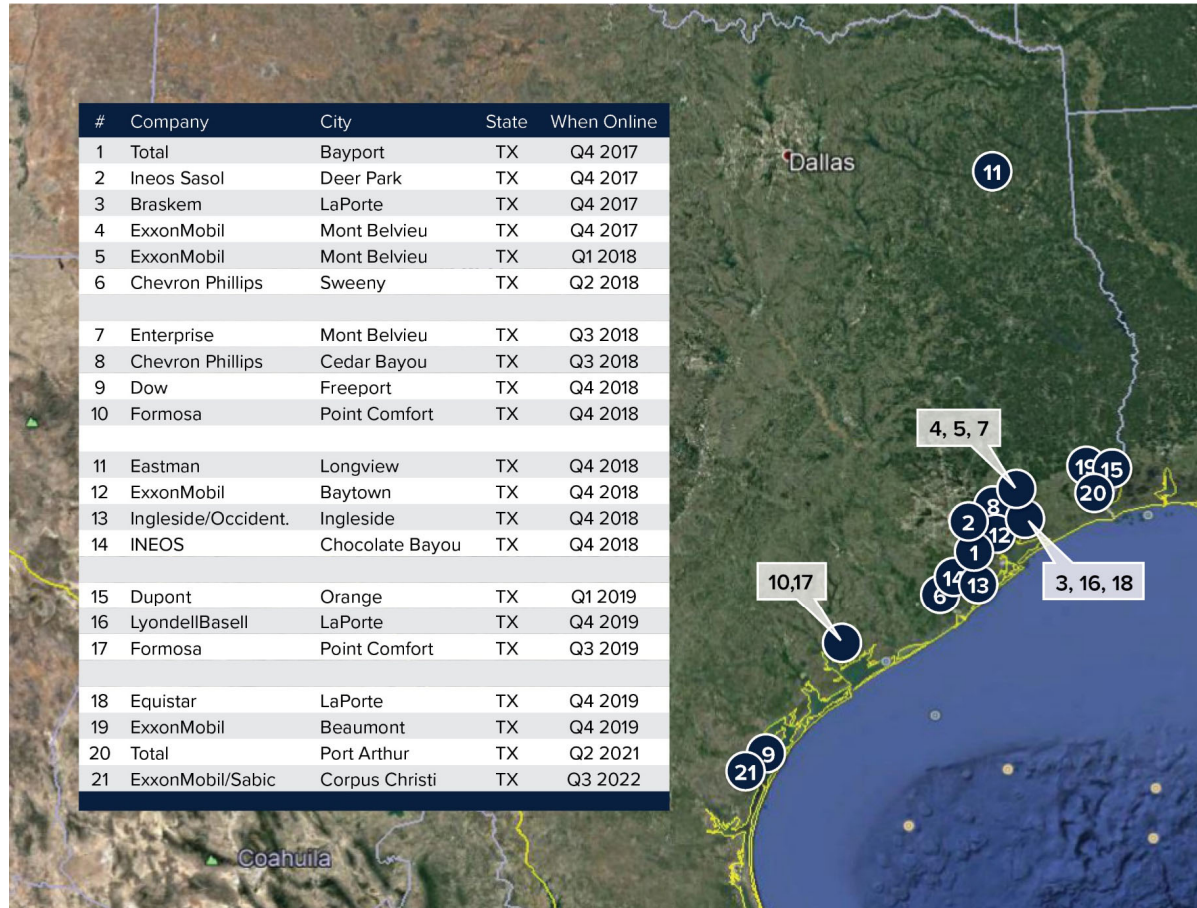of the 138 publicly-traded oil and gas exploration firms are housed in Houston

Houston employs 30% of the nation's oil and gas extraction jobs

Home to the largest petrochemical and refining complex in the Western Hemisphere

700
exploration and production firms

800
oil field service companies

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New and Recent Petrochemical Projects in Texas

#	Company	City	State	When Online
1	Total	Bayport	TX	Q4 2017
2	Ineos Sasol	Deer Park	TX	Q4 2017
3	Braskem	LaPorte	TX	Q4 2017
4	ExxonMobil	Mont Belvieu	TX	Q4 2017
5	ExxonMobil	Mont Belvieu	TX	Q1 2018
6	Chevron Phillips	Sweeny	TX	Q2 2018
7	Enterprise	Mont Belvieu	TX	Q3 2018
8	Chevron Phillips	Cedar Bayou	TX	Q3 2018
9	Dow	Freeport	TX	Q4 2018
10	Formosa	Point Comfort	TX	Q4 2018
11	Eastman	Longview	TX	Q4 2018
12	ExxonMobil	Baytown	TX	Q4 2018
13	Ingleside/Occident.	Ingleside	TX	Q4 2018
14	INEOS	Chocolate Bayou	TX	Q4 2018
15	Dupont	Orange	TX	Q1 2019
16	LyondellBasell	LaPorte	TX	Q4 2019
17	Formosa	Point Comfort	TX	Q3 2019
18	Equistar	LaPorte	TX	Q4 2019
19	ExxonMobil	Beaumont	TX	Q4 2019
20	Total	Port Arthur	TX	Q2 2021
21	ExxonMobil/Sabic	Corpus Christi	TX	Q3 2022

- By 2019, this construction activity will add millions of tons of polyethylene pellets.

- Exxon Mobil recently bought close to 100 acres in Baytown. Exxon CEO says the company plans to invest $50 billion in U.S. operations over the next five years

- A booming plastics industry that has benefited from an abundant supply of natural gas – thanks to the Fracking Boom – has spurred over $50 billion in new petrochemical plants and expansions.

- These pellets are exported to markets all over the world, and increasing volumes are creating demand for warehouse space in the Southeast submarket near the Port of Houston.

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Largest Export Market in the United States

1st

in U.S. import & export tonnage

2nd

in total tonnage in the U.S.

16th

busiest port in the world by tonnage

MORE THAN

8,000

ships visit annually

ECONOMIC IMPACT:

$260 billion

annually

LARGEST

Gulf Coast Container Port

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Flights to Over 60 International Destinations

54.1
million air passengers in 2017

CANADA
5 destinations

ASIA
3 destinations

U.S.
114 destinations

EUROPE
7 destinations

MIDDLE EAST
2 destinations

MEXICO
23 destinations

CARIBBEAN
9 destinations

CENTRAL AMERICA
10 destinations

AUSTRALIA & NEW ZEALAND
2 destinations

SOUTH AMERICA
7 destinations

New $1.5 Billion renovation of Terminal D at IAH

Rendering of the proposed spaceport at Ellington Airport

10th largest U.S. airport system for international air cargo

Airports contribute more than **$27 billion** to the local economy

One of **Six** US Cities with Two International Airports

Houston Airport's supports more than **230,000 jobs**
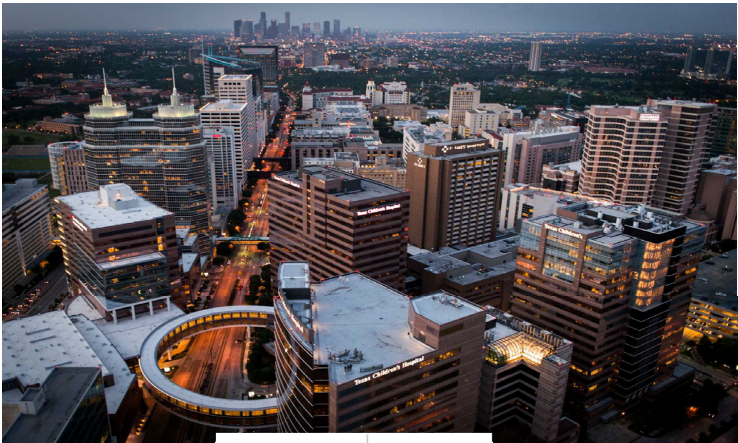
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World's Largest Medical Complex

180,000+
annual surgeries

$3 billion
In construction projects underway

10 million
annual patient visits

Home to the
WORLD'S LARGEST
CHILDREN'S HOSPITAL
Texas Children's Hospital

Home to the
WORLD'S LARGEST
CANCER HOSPITAL
MD Anderson Cancer Center

With 1, *C is the*

Bus *U.S.*

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Globally Renowned Arts & Entertainment

The Menil Collection [left]; renderings for the $450 million expansion of the Museum of Fine Arts, Houston [below right]; the Houston Museum of Natural Science [below left]

The Museum of Fine Arts Houston [top]; Minute Maid Park, home of the Houston Astros [right]

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HOUSTON
ECONOMY

Houston's Economy is Growing: Here is Why

December T12 Employment: +108,300
First time adding over 100,000 jobs since 2014

Houston Population Growth: +94,417
#2 in the U.S. July 2016 – July 2017

Business Cycle Index: 351.0
Up 4.8% in 2018

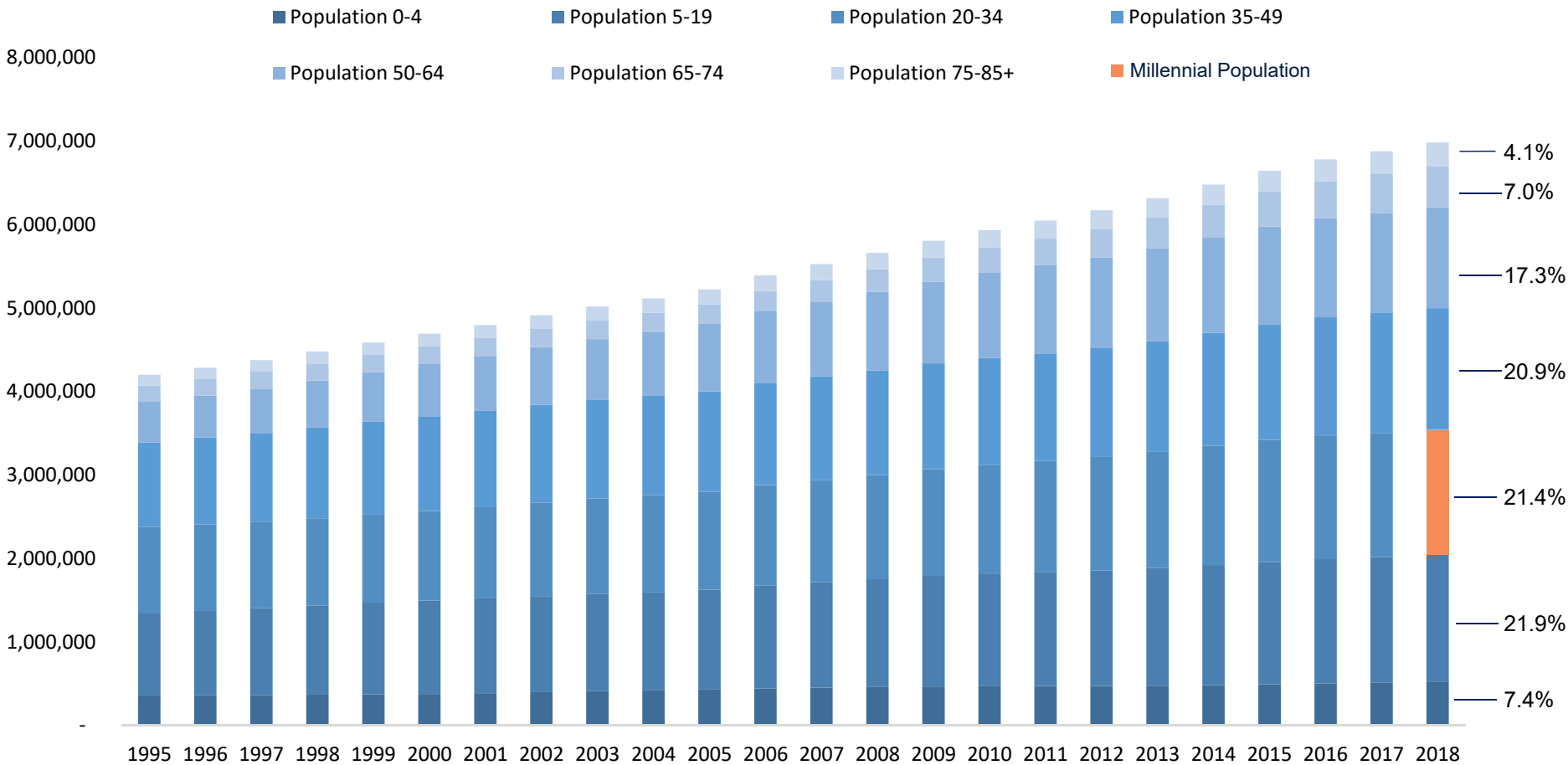## WTI Oil Price: Average $50.78
week of 01/11

Baker Hughes U.S. Rig Count: 1,050
Up more than double from a low of 316

Purchasing Managers Index: 54.9
Readings above 50 signal short-term economic expansion

Historical Houston Population Growth – 6.9 Million Residents

Legend:
- Population 0-4
- Population 5-19
- Population 20-34
- Population 35-49
- Population 50-64
- Population 65-74
- Population 75-85+
- Millennial Population

2018 percentages (top to bottom):
- 4.1%
- 7.0%
- 17.3%
- 20.9%
- 21.4%
- 21.9%
- 7.4%

Nation-Leading Population Growth

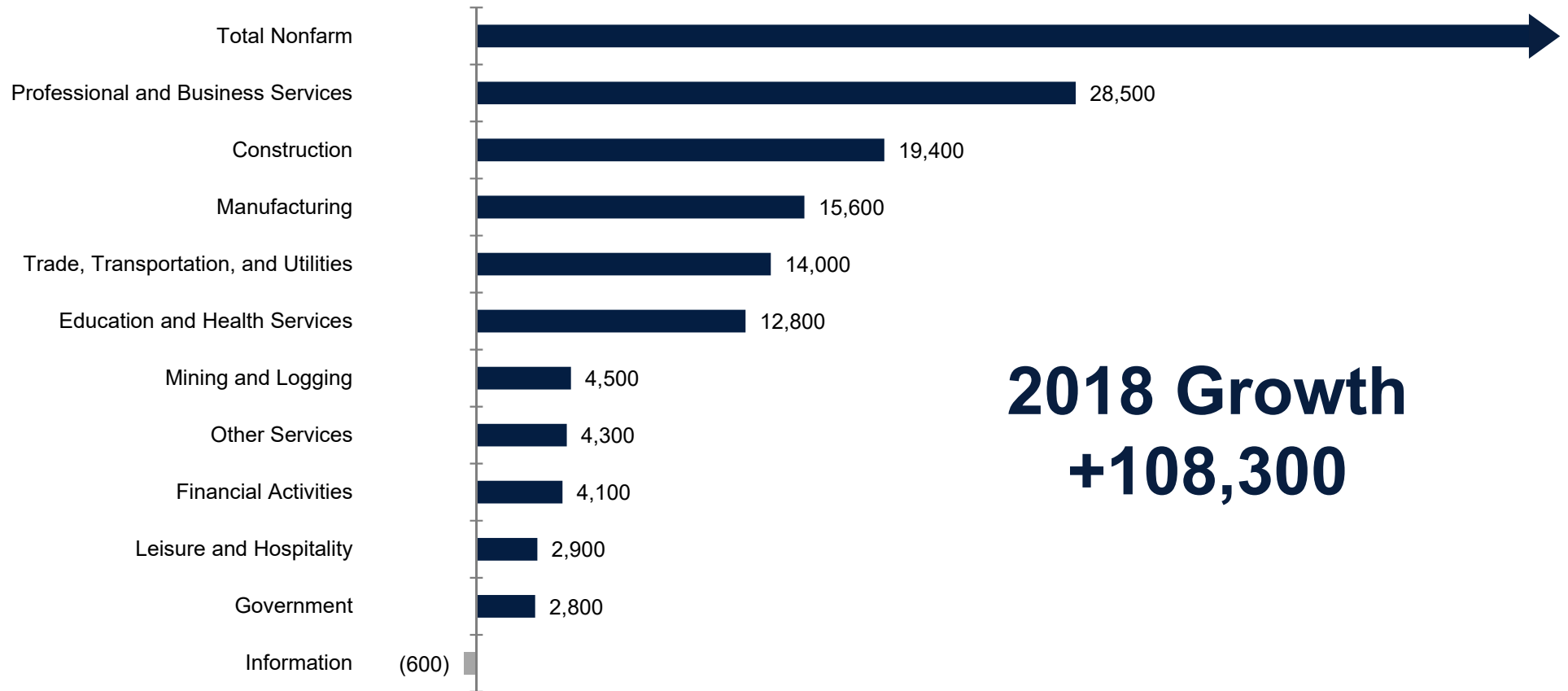| Rank	Metropolitan Statistical Area	Population Change July 2016-July 2017	10 Year Annual Growth Average
1	Dallas-Fort Worth-Arlington, TX	146,238	132,328
2	Houston-The Woodlands-Sugar Land, TX	94,417	132,567
3	Atlanta-Sandy Springs-Roswell, GA	89,013	82,896
4	Phoenix-Mesa-Scottsdale, AZ	88,772	74,596
5	Washington-Arlington-Alexandria, DC-VA-MD-WV	65,908	83,842
6	Seattle-Tacoma-Bellevue, WA	64,386	55,024
7	Riverside-San Bernardino-Ontario, CA	57,017	53,183
8	Orlando-Kissimmee-Sanford, FL	56,498	45,868
9	Austin-Round Rock, TX	55,269	53,887
10	Tampa-St. Petersburg-Clearwater, FL	54,874	37,335

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Historical Houston Employment Growth – 3.2 Million Jobs

Legend:
- Mining & Logging
- Construction
- Manufacturing
- Trade, Transportation & Utilities
- Information
- Financial Activities
- Professional & Business Services
- Education & Health Services
- Leisure & Hospitality
- Other
- Government
- Total Nonfarm

YoY Houston Employment Change (Thousands)

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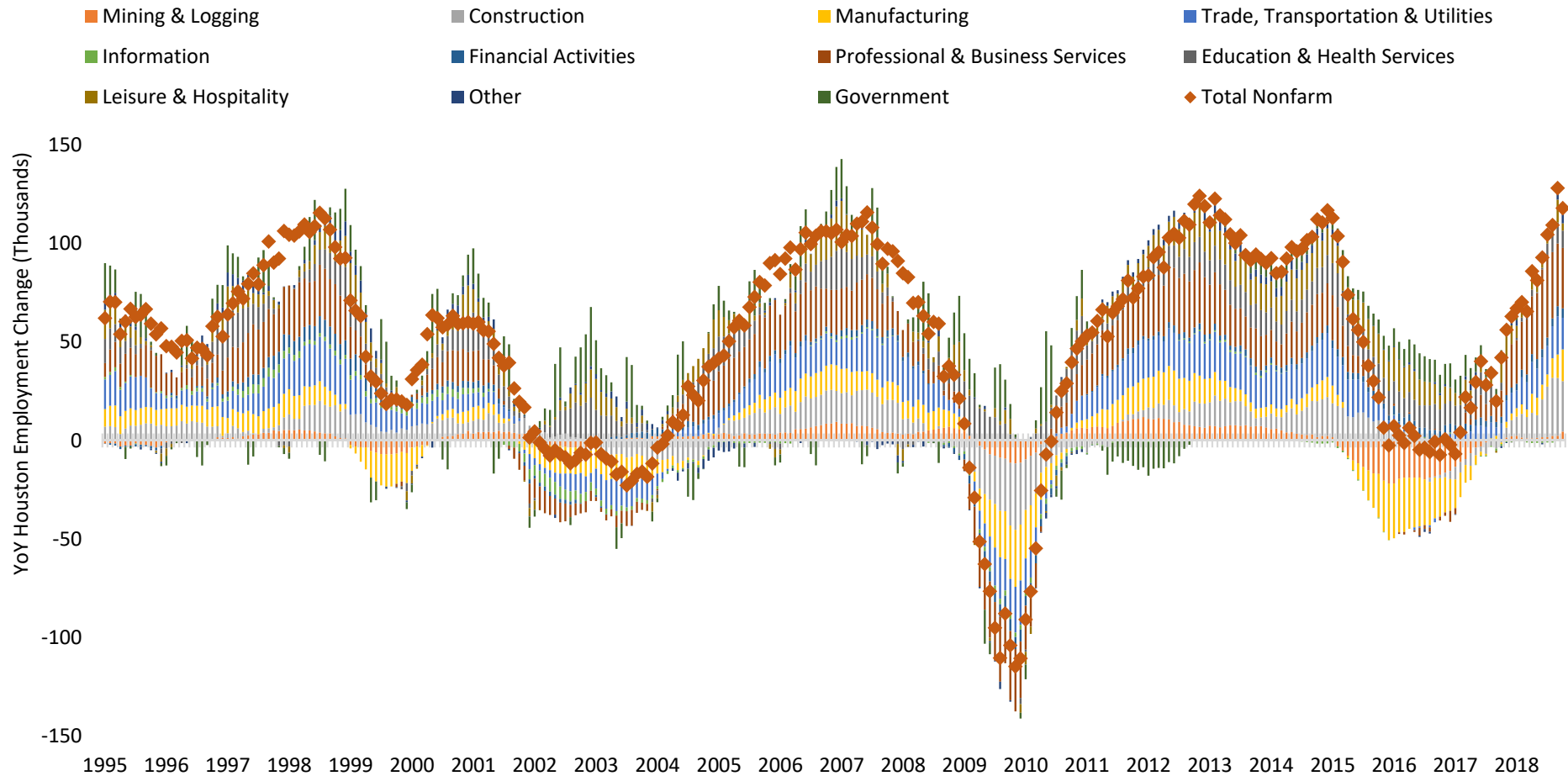
Nation-Leading Employment Growth – December T-12

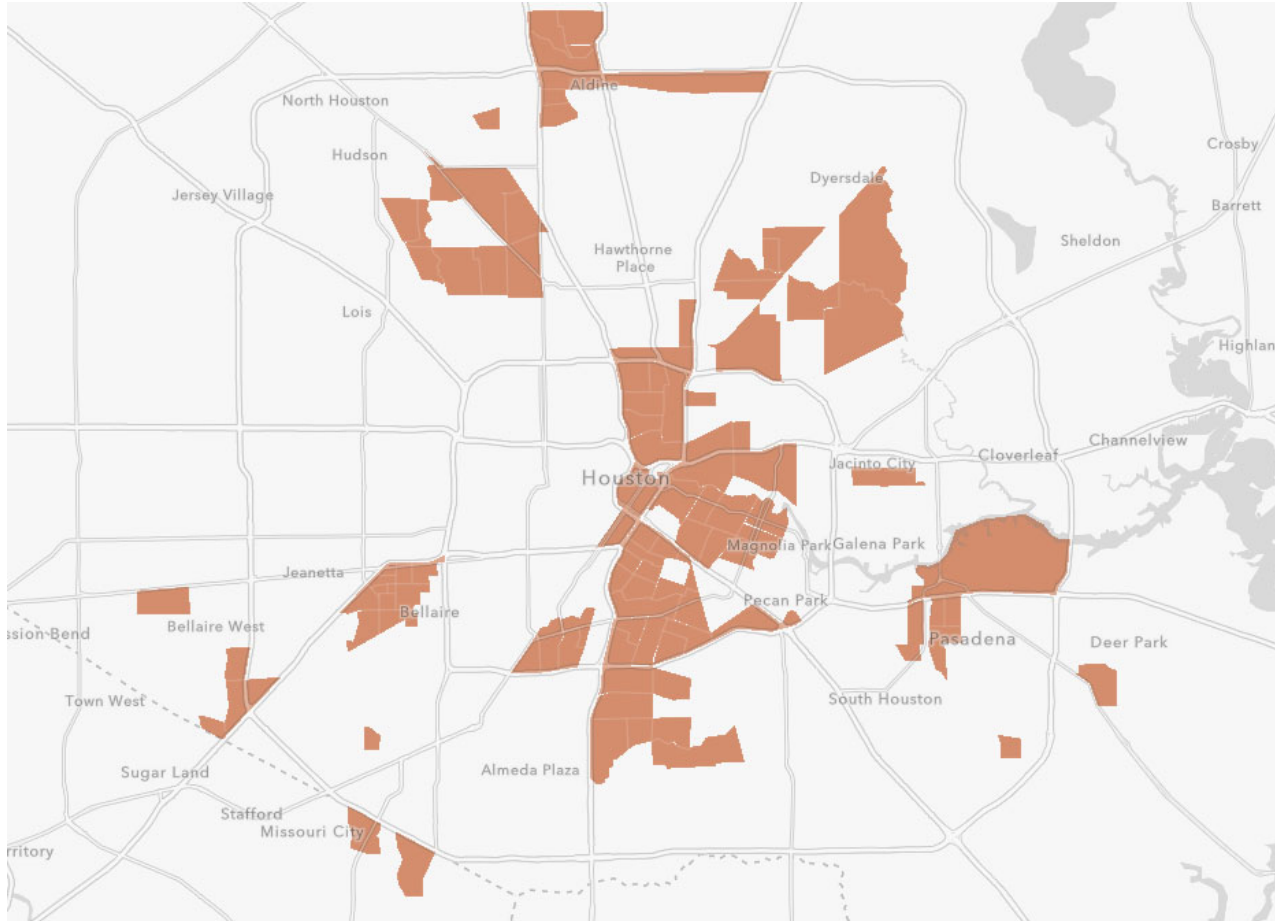| Rank	Metropolitan Statistical Area	Total Jobs		Total Change	
		December 2018	December 2017	Absolute	Percent
	National	151,190,000	148,530,000	2,660,000	1.76%
1	Dallas-Fort Worth-Arlington	3,783,200	3,666,800	116,400	3.17%
2	New York-Northern New Jersey-Long Island	9,953,700	9,838,200	115,500	1.17%
3	Houston-The Woodlands- Sugar Land	3,181,700	3,073,400	108,300	3.52%
4	Phoenix-Mesa-Scottsdale	2,165,300	2,088,400	76,900	3.68%
5	Atlanta-Sandy Springs-Marietta	2,836,300	2,767,000	69,300	2.50%
6	Seattle-Tacoma-Bellevue	2,103,100	2,035,800	67,300	3.31%
7	Chicago-Naperville-Joliet	4,789,300	4,730,900	58,400	1.23%
8	Miami-Fort Lauderdale-Pompano Beach	2,736,700	2,679,300	57,400	2.14%
9	Los Angeles-Long Beach-Santa Ana	6,225,800	6,169,000	56,800	0.92%
10	Philadelphia-Camden-Wilmington	3,005,800	2,950,900	54,900	1.86%

Houston Employment Changes – YoY December 2018

Category	Value
Total Nonfarm	
Professional and Business Services	28,500
Construction	19,400
Manufacturing	15,600
Trade, Transportation, and Utilities	14,000
Education and Health Services	12,800
Mining and Logging	4,500
Other Services	4,300
Financial Activities	4,100
Leisure and Hospitality	2,900
Government	2,800
Information	(600)

**2018 Growth
+108,300**

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Houston Employment Forecasts – Optimism & Pessimism

Houston Employment Forecasts (Thousands)

Legend: ■ Greater Houston Partnership ■ UH IRF ■ CoStar ■ Axiometrics ■ Oxford Economics ◆ Actual

Year End 2018: 108.3

Actual 2017: 62.9

Year	Greater Houston Partnership	UH IRF	CoStar	Axiometrics	Oxford Economics
2017	29.7	40.9	47.1	37.5	40.4
2018	45.5	39.5	98.1	71.2	70.9
2019	71.0	54.0	54.8	66.8	36.4
2020		62.2	39.5	59.4	25.5
2021		72.3	73.6	47.0	25.9
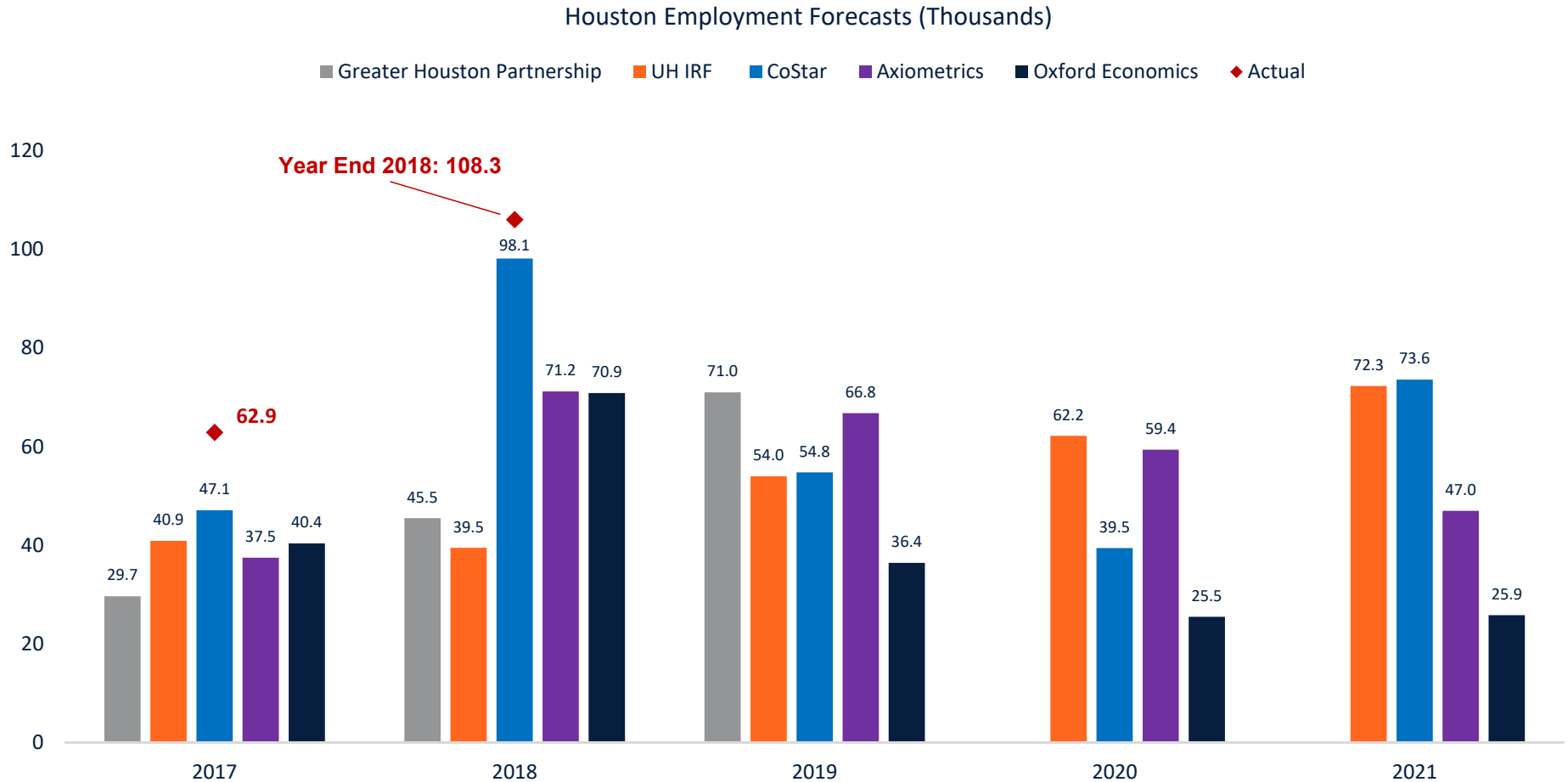
GAME
CHANGERS

Houston Opportunity Zones

- *The TCJA Act allows a tax payer 180 days in which to reinvest capital gains into a Qualified Opportunity Fund*

- *Reinvesting capital gains allows tax payers to defer capital gains tax until the "Recognition Date," the earlier of the date the Opportunity Zone property is disposed of, or December 31, 2026.*

- *Less than 5 years: Capital gains tax is deferred until the date the Qualified Opportunity Fund investment is sold*

- *Between 5 and 7 years: 10% step-up in basis on investment in the Qualified Opportunity Fund (tax paid on 90% of deferred capital gain).*

- *Between 7 and 10 years: 15% step-up in basis on investment in Opportunity Fund (tax paid on 85% of deferred capital gain)*

- *Impoverished areas will develop and improve and from invested capital*

TMC Innovation & TMC3

TMC3

A new translational biomedical research hub that will cluster researchers and industry experts together on a collaborative 30-acre campus. The campus will serve as the cornerstone for biomedical advancements in the TMC and beyond.

- 1.5 M SF Collaborative Campus
- 250,000 SF Core Labs & Amenities
- 30 Acre Research Hub
- $5.2 Billion Economic Impact (30,000 Jobs)

TMC Innovation

The TMC Innovation Institute is shaping the future of health care by uniting promising innovators with the best minds in academia, science and medicine. Our programs help startups streamline the development of therapeutic, diagnostic, medical device and digital health.

- 371 Customer Engagements
- $230 Million Total Funding Raised
- 111 Current & Alumni TMCx Companies
- 7 TMC Venture Fund Companies
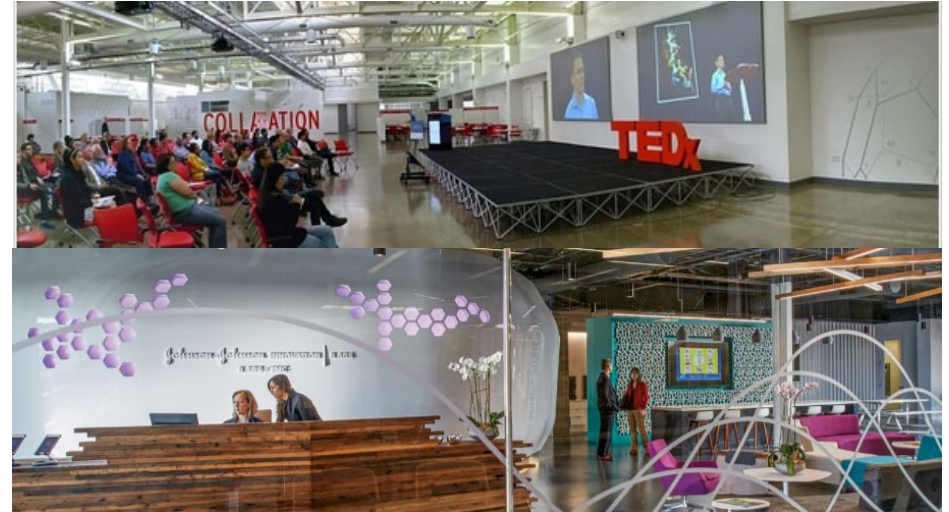
# Texas Central Railway – Bullet Train

Renderings: train renderings (top), proposed Houston station (bottom left), proposed Dallas station (bottom right)

- Privately-funded high-speed passenger rail system, which would be the first of its kind in the U.S., would connect Dallas-Forth Worth and Houston at speeds of 186-205 mph, with a travel time of less than 90 minutes.

- Construction could begin as early as 2019.

- Three Stations:
  - Houston
    - Northwest Mall
    - Connection to METRO Northwest Transit Center
  - Brazos Valley
    - Grimes County, equidistant between Bryan/College Station and Huntsville
  - Dallas
    - Cedars Neighborhood
    - Connection to DART light rail

- Nearly 50,000 commute between Texas's two largest cities weekly.

- Cost of $15-$18 billion

- Estimated $36 billion in economic benefits over the next 25 years, 1,000 direct jobs and $17-$51 billion in state and local taxes.

- The Federal Railroad Administration (FRA) released its Draft Environmental Impact Statement (DEIS) on December 15, 2017, and the public comment period consisting of 10 meetings in the affected counties was just completed.

The Boulevard Project

- *Uptown Transit Connector (High-Speed Bus Lane)*
  West Loop HOV / Northwest Transit Center
  Post Oak Boulevard Improvements
  Uptown Transit Center

- **Estimated Completion Date: Year-End 2018**

- *Total Cost: $192.5M*
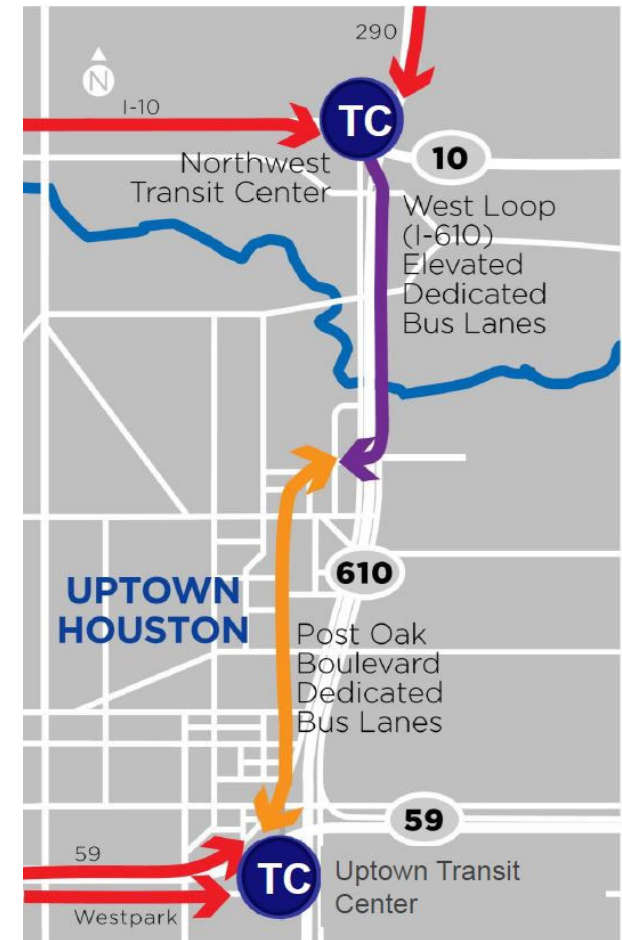
North Houston Highway Improvement Project

- *3 Segments*

- *Downtown Segment (Segment 3) already funded; construction scheduled to begin in 2020; cost of $3 billion and 12 miles of 24-mile total*

- *Total estimated completion date: 2028*

- *Total project cost: $7.5 billion*

EXISTING CONDITION

PROPOSED CONDITION

North Houston Highway Improvement Project

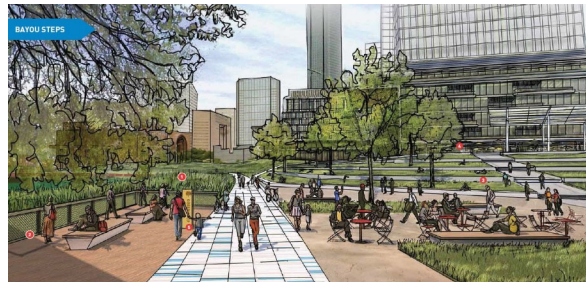## EaDo Cap Park

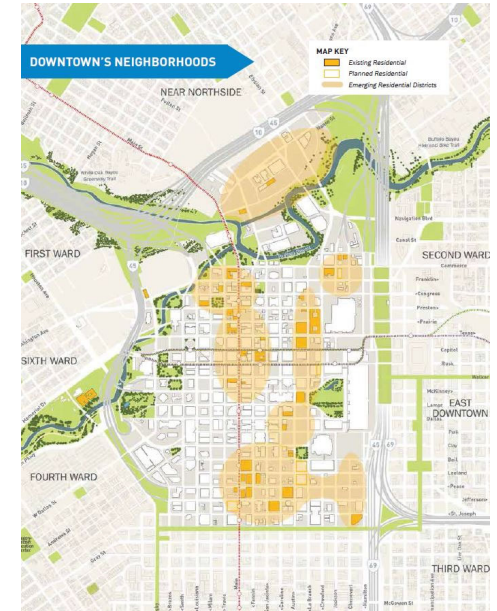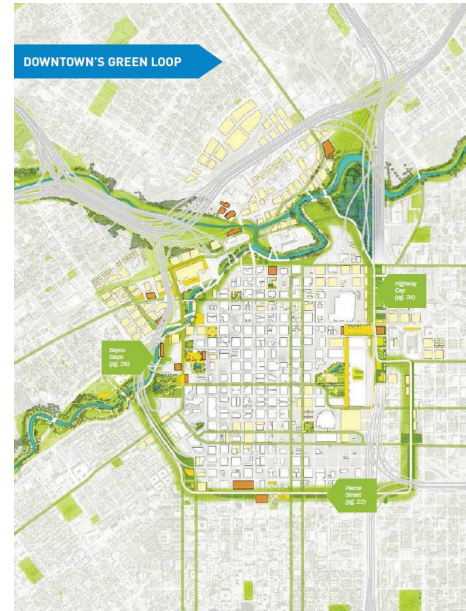## Pierce Elevated Park

## Buffalo Bayou Gateway

Midtown Cap Park

Plan Downtown - Converging Culture, Lifestyle & Commerce

- Enhance and expand Downtown's activities and attractions.

- Create Downtown's Green Loop.

- Enliven Downtown through enhanced walkability and engaging places.

- Support Downtown's existing businesses and promote corporate attraction.

- Build Downtown's innovation ecosystem and the office of the future.

- Catalyze Downtown's emerging neighborhoods.

- Support a comprehensive Central City Housing Plan.

- Capture the value of Downtown's central position.

- Implement a smart network of great streets.

- Be a national leader for connectivity innovation.

DOWNTOWN'S GREEN LOOP

DOWNTOWN'S NEIGHBORHOODS

MAP KEY
- Existing Residential
- Planned Residential
- Emerging Residential Districts

PIERCE STREET

BAYOU STEPS

HIGHWAY CAP

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Bayou Greenways 2020

- Transforming Houston into a healthier and more beautiful city

- Creating a network of connected parks and trails along Houston's major waterways

- Providing unprecedented access to 3,000 acres of greenspace along the bayous

- Adding more than 80 new miles of trails along the bayous within the city limits for a total of 150 miles

- Enhancing recreation, conservation and active transportation in Houston

- $77.1 million in physical + mental health benefits, $22.5 million environmental health benefits, $17.5 million economic health benefits

- 6-in-10 Houstonians will live within 1.5 miles of a bayou greenway trail

- Total Cost: $220 million ($207 million raised)

- Estimated Completion: 2020
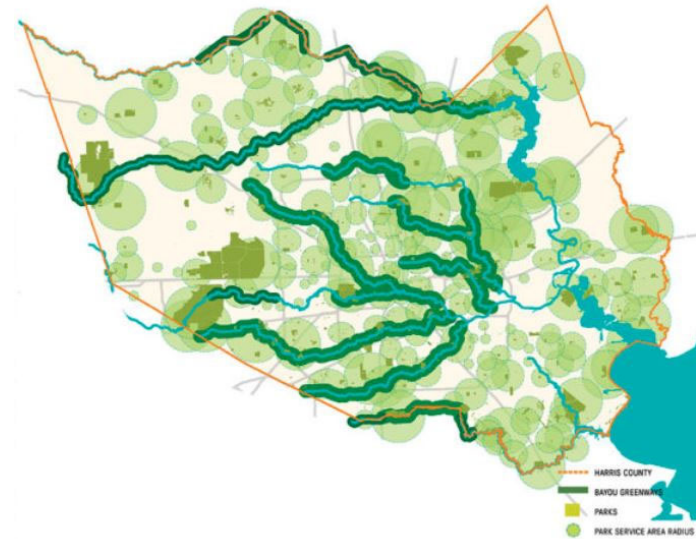
Buffalo Bayou Master Plan

Diversity of Revenue & Capital Expenditure

- 20-year Master Plan

- On December 7, 2015, the Memorial Park Conservancy, the Uptown Tax Increment Reinvestment Zone and Houston Parks and Recreation Department broke ground on the first major project – the Eastern Glades.

- Estimated Completion Date: 2035

- Total Cost of the Master Plan: $200 million

Flood Mitigation Projects

Plans:

- $12 billion Ike Dike / Coastal Spine Surge Protection System
- $1.26 billion to complete 6 bayou projects
- $500 to build 3rd reservoir – Cypress Creek
- Repair existing Addicks & Barker Reservoirs
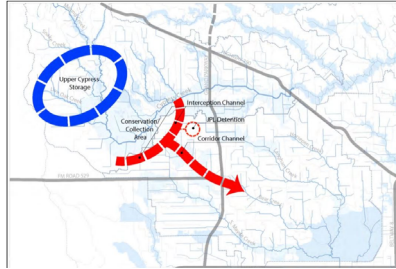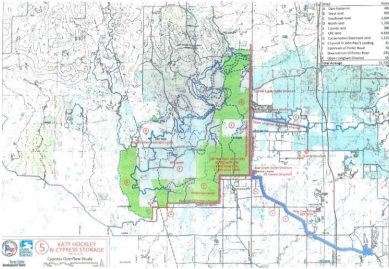
MULTI-HOUSING MARKET

Houston Multi-Housing State of the Market - Trends

Demand Drivers

108,300
Prelim 2018
Job Growth

$52/BBL
Current Oil Prices

$298,982
Avg Single-Family
Sales Price in 2018

Fundamentals

RENT RECOVERY
Renewal Pricing Power and
Return to Peak Shifts to 2019

CONSTRUCTION COSTS INCREASING
10% Projected in 2019

SUPPLY SURGE
5K Delivered in 2018,
10K Projected in 2019

Transactions

$7.7 BILLION
Prelim 2018
MH Transaction Volume

SIGNIFICANT LIQUIDITY
#4 MH Market in the US
for Transaction Volume

MORE DEBT OPTIONS
Beyond Agencies

What Buyers Want

PRODUCT
Limited Opportunities
Available Currently

REPLACEMENT COST VS YIELD
Varies by Product Type (A vs BC)
and Location (Recovery Status)

LOCATION
Core, Core Plus, and
Barriers-to-Entry Submarkets

#1 Buy Market in the U.S. in 2019

"In Houston, a resurgent energy sector is turbocharging the local economy and buoying apartment rents. ....Ten-X Commercial forecasts that Houston is likely to prove considerably more resilient during a modeled downturn than other markets, with NOIs likely to see 6.0 percent annual gains through 2021."

Ten-X, August 2018

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Houston Multi-Housing State of the Market – Class A+ Pricing

2018-2019 CLOSINGS

SLATE
2016 YOC | 271 Units
$48 Million | $178K/Unit
4.17% Cap Rate

MODERA SHEPHERD
2018 YOC | 245 Units
$60 Million | $245K/Unit
Portfolio Sale

CATALYST
2018 YOC | 359 Units
$133.5 Million | $372K/Unit
4.00% Stabilized Cap Rate

WATERWALL PLACE
2013 YOC | 322 Units
$89.5 Million | $278K/Unit
3.71% Cap Rate

GABLES WEST AVE
2008 YOC | 397 Units
$93 Million | $234K/Unit
4.19% Cap Rate

VENUE MUSEUM DISTRICT
2009 YOC | 224 Units
$73 Million | $325K/Unit
3.78% Cap Rate

MARQUIS LOFTS AT HERMANN PARK
2005 YOC | 380 Units
$66 Million | $174K/Unit
5.00% Cap Rate

SOLA UPTOWN RIVER OAKS
2014 YOC | 317 Units
$58 Million | $185K/Unit
3.50% Cap Rate

ALEXAN DOWNTOWN
2017 YOC | 285 Units
$81 Million | $285K/Unit
Off-Market

ALEXAN YALE STREET
2016 YOC | 378 Units
$100 Million | $265K/Unit

BROADSTONE TINSELY PARK
2017 YOC | 365 Units
$86 Million | $235K/Unit

21 ELEVEN
2015 YOC | 215 Units
$54 Million | $251K/Unit
3.75% Cap Rate

UNDER CONTRACT

2121 MIDLANE
2009 YOC | 329 Units
$70 Million | $213K/Unit
Direct

ARCHSTONE TOSCANO
2013 YOC | 474 Units
Confidential Pricing
4.45% Cap Rate

ALEXAN ASHFORD
2016 YOC | 312 Units
Confidential Pricing
3.50% Cap Rate

RECENTLY PRICED

STELLA AT RIVERSTONE
2017 YOC | 349 Units
$70 Million | $200K/Unit

HIGHBANK
2017 YOC | 284 Units
$51 Million | $180K/Unit

AURA MEMORIAL
2014 YOC | 288 Units
$47 Million | $166K/Unit

PORTICO KIRBY
1999 YOC | 263 Units
$44 Million | $175K/Unit

Houston Multi-Housing Fundamentals – 4Q18

Fundamentals by Classification

Classification	Total Units	Average Occupancy	Effective Rent/Month	Effective Rent/SF	T12 Rent Growth	T12 Net Absorption (units)
Class A	149,069	87.0%	$1,488	$1.57	0.4%	9,299
Class B	256,928	90.9%	$993	$1.14	0.9%	-619
Class C	197,483	90.1%	$793	$0.93	1.3%	-1,436
Class D	44,461	88.0%	$643	$0.75	-0.8%	722
Houston Totals	**647,941**	**89.6%**	**$1,022**	**$1.16**	**1.1%**	**7,966**

Classification Distribution

- Class A — 23%
- Class B — 40%
- Class C — 30%
- Class D — 7%
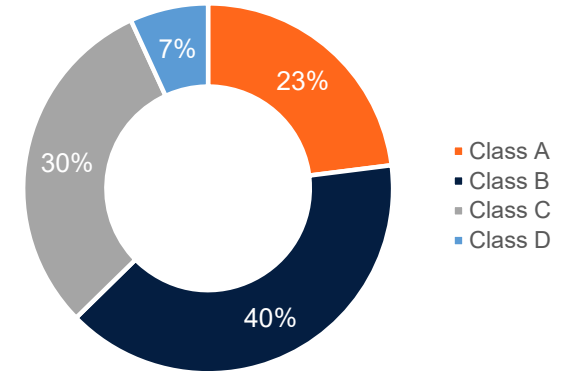
Performance Comparison

Occupancy: QoQ ↓ YoY ↑
Rents: QoQ ↓ YoY ↑
Absorption: QoQ ↓ YoY ↓
New Supply: QoQ ↑ YoY ↑
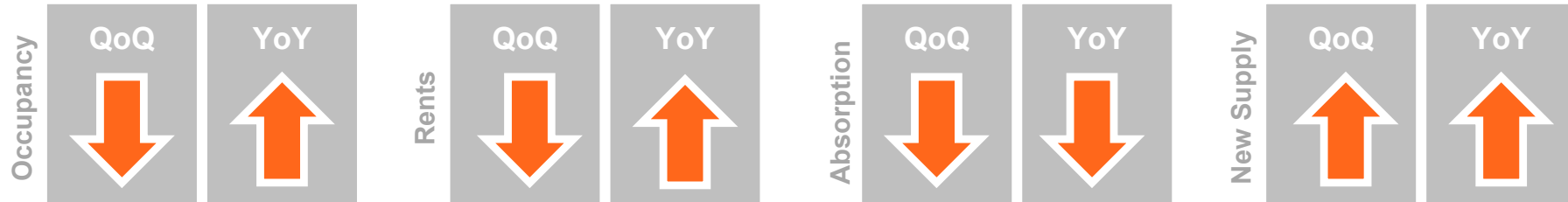
Houston Multi-Housing Fundamentals – 4Q18

Fundamentals by Area

Classification	Total Units	Average Occupancy	Effective Rent/Month	Effective Rent/SF	T12 Rent Growth	T12 Net Absorption (units)	Under Construction (units)
Central	94,945	89.0%	$1,481	$1.62	-0.2%	2,784	6,657
Southwest	174,125	89.6%	$923	$1.06	0.6%	579	672
Northwest	185,405	90.7%	$1,005	$1.11	1.5%	2,812	6,677
Northeast	64,966	87.6%	$864	$1.00	2.1%	1,636	1,510
Southeast	128,500	89.3%	$921	$1.07	1.6%	155	1,982
Central	94,945	89.0%	$1,481	$1.62	-0.2%	2,784	6,657
Suburban	552,996	89.6%	$943	$1.07	1.3%	5,182	10,841
Houston Totals	**647,941**	**89.6%**	**$1,022**	**$1.16**	**1.1%**	**7,966**	**17,498**

Area Distribution

- Central: 15%
- Southwest: 27%
- Northwest: 29%
- Northeast: 10%
- Southeast: 20%
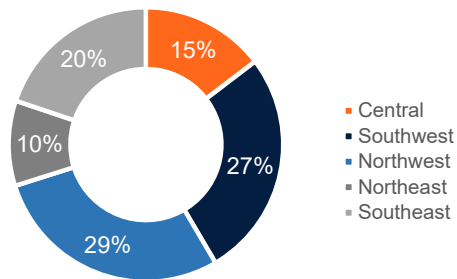
Absorption Distribution

- Central: 35%
- Southwest: 7%
- Northwest: 35%
- Northeast: 21%
- Southeast: 2%
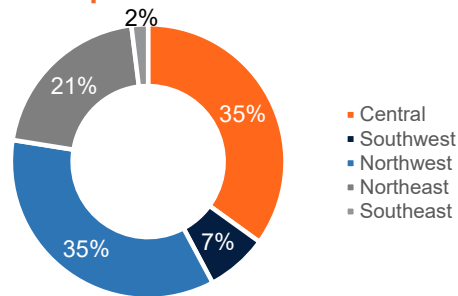
Construction Distribution

- Central: 38%
- Southwest: 4%
- Northwest: 38%
- Northeast: 9%
- Southeast: 11%
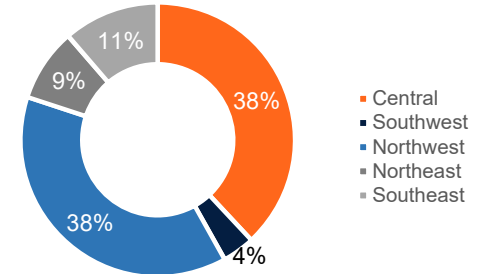
Houston Multi-Housing Market Submarket Rankings – 4Q18

Occupancy

Submarket	Occupancy
Jersey Village/Cypress	93.3%
Conroe N/Montgomery	93.2%
Friendswood/Pearland	92.8%
Bear Creek/Fairfield	92.7%
Richmond/Rosenberg	92.5%
FM 1960 East/IAH	92.5%
Sugar Land/Stafford	92.4%
Brookhollow/NW	92.3%
Highland Village/Kirby	91.7%
Westpark/Bissonnet	91.6%

Rental Rates

Submarket	Rental Rate
Downtown	$2.08
Montrose/Midtown	$1.81
Highland Village/Kirby	$1.75
Heights/Washington	$1.74
Med Center	$1.44
Galleria/Uptown	$1.42
Sugar Land/Stafford	$1.25
Woodlands/Conroe S	$1.24
Katy/Cinco Ranch	$1.22
Clear Lake	$1.20

Absorption

Submarket	Absorption
Energy Corridor	1,322
Downtown	1,111
Katy/Cinco Ranch	851
Tomball/Spring	790
I-10 E/Woodforest	762
Montrose/Midtown	713
Greenspoint	682
Woodlands/Conroe S	666
Conroe N/Montgomery	592
Bear Creek/Fairfield	582

Under Construction

Submarket	Under Construction
Katy/Cinco Ranch	3,579
Montrose/Midtown	2,459
Heights/Washington	2,215
Lake Houston/Kingwood	1,160
Tomball/Spring	982
Highland Village/Kirby	969
Memorial/Spring Branch	690
Sugar Land/Stafford	672
Bear Creek/Fairfield	612
Clear Lake	609

Deliveries Down in 2018 but Renewed Developer Interest Caused Spike in Proposed

— Leasing   — Construction   — Proposed

Units: 35,000 / 30,000 / 25,000 / 20,000 / 15,000 / 10,000 / 5,000 / 0

1Q13 2Q13 3Q13 4Q13 1Q14 2Q14 3Q14 4Q14 1Q15 2Q15 3Q15 4Q15 1Q16 2Q16 3Q16 4Q16 1Q17 2Q17 3Q17 4Q17 1Q18 2Q18 3Q18 4Q18

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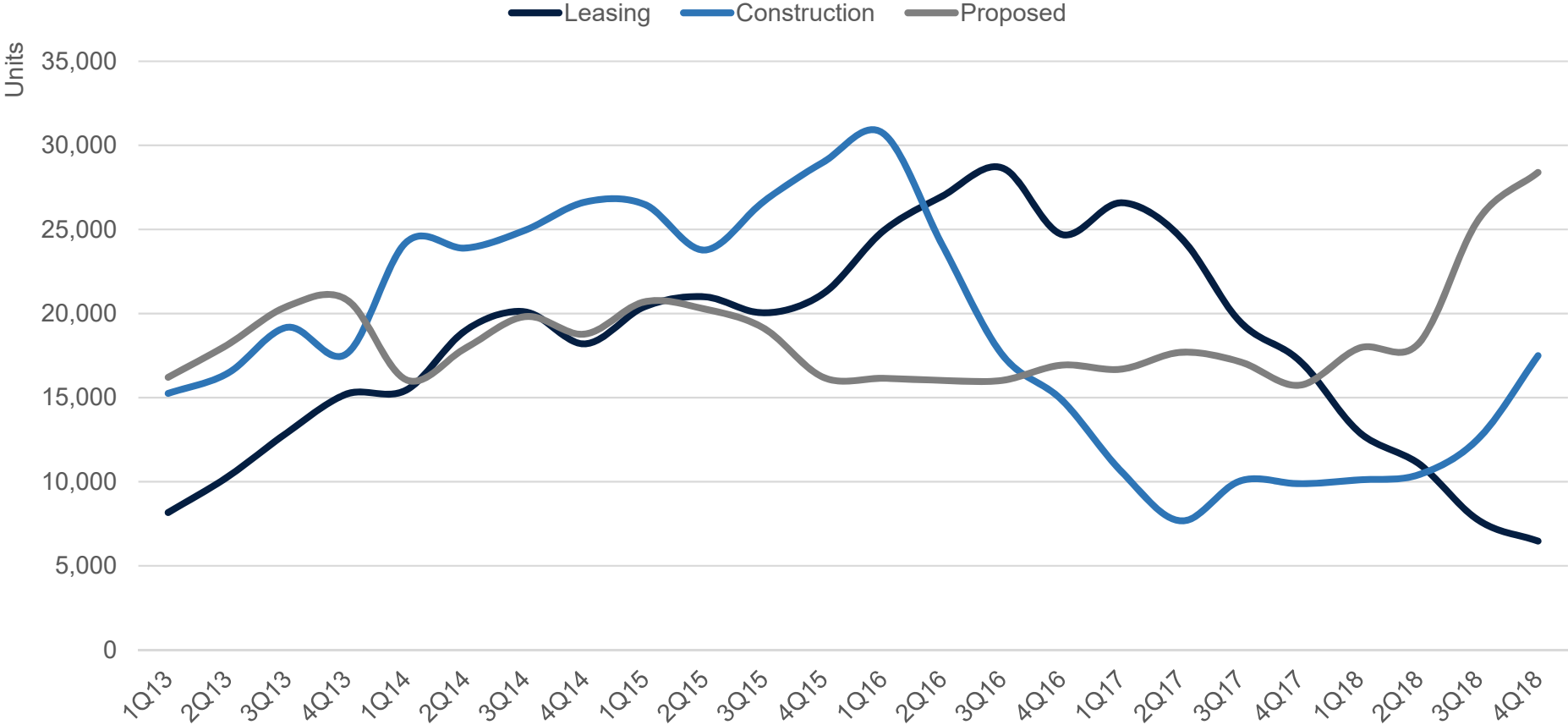
Only 5,000 Units Came Online in 2018

Historical and Scheduled Deliveries

Year	Units
2013	12,314
2014	17,035
2015	20,302
2016	21,386
2017	13,934
2018	5,075
2019	13,443
2020	3,737
2021	318

Units

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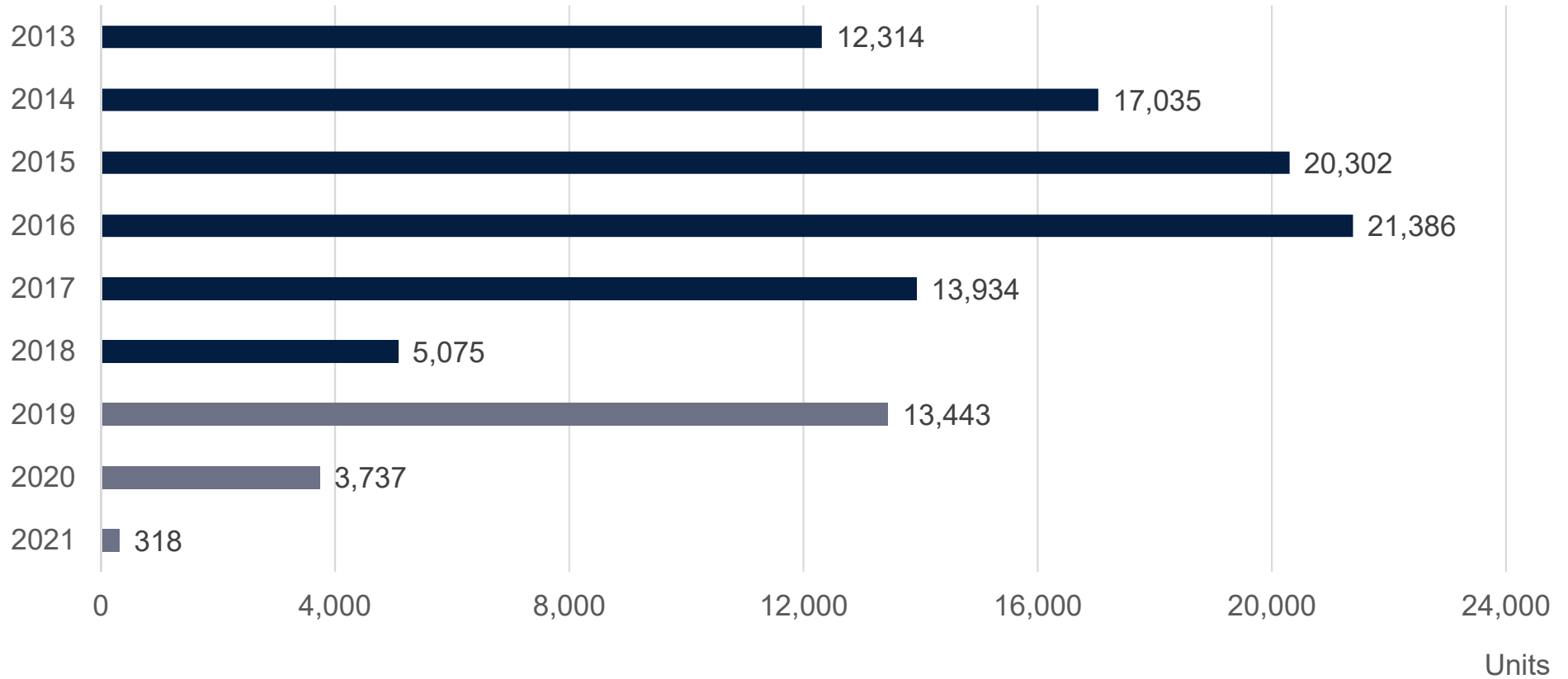
Heatmap of Units Added During 2013-2018 Construction Cycle

Submarket Key	Submarket Name	Existing Supply (Total Units)	Total Units Built Since 2013	% of Total Units
CENTRAL HOUSTON				
C1	Montrose/Museum/Midtown	13,618	6,514	47.8%
C2	Highland Village/Upper Kirby/West U	16,504	6,206	37.6%
C3	Med Center/Braes Bayou	23,507	4,810	20.5%
C4	Heights/Washington Ave	10,937	4,107	37.6%
C5	Downtown	5,952	3,859	64.8%
C6	Galleria/Uptown	24,148	4,679	19.4%
SOUTHWEST HOUSTON				
SW7	Woodlake/Westheimer	12,233	1,762	14.4%
SW8	Energy Corridor/CityCentre/Briar Forest	33,163	7,891	23.8%
SW9	Westchase	14,922	827	5.5%
SW10	Alief	26,978	81	0.3%
SW11	Sharpstown/Westwood	25,538	262	1.0%
SW12	Westpark/Bissonnet	16,897	0	0.0%
SW13	Braeswood/Fondren SW	21,786	0	0.0%
SW14	Almeda/South Main	4,770	124	2.6%
SW15	Sugar Land/Stafford/Sienna	12,896	2,133	16.5%
SW16	Richmond/Rosenberg	4,766	594	12.5%
NORTHWEST HOUSTON				
NW17	Brookhollow/Northwest Crossing	19,510	544	2.8%
NW18	Memorial/Spring Branch	22,084	1,163	5.3%
NW19	Inwood/Hwy 249	5,828	127	2.2%
NW20	Willowbrook/Champions/Ella	39,148	1,202	3.1%
NW21	Jersey Village/Cypress	15,281	482	3.2%
NW22	Bear Creek/Copperfield/Fairfield	16,622	3,623	21.8%
NW23	Katy/Cinco Ranch/Waterside	25,084	10,235	40.8%
NW24	Tomball/Spring	13,497	8,161	60.5%
NW25	Woodlands/Conroe South	19,702	6,574	33.4%
NW26	Conroe North/Montgomery	8,649	1,693	19.6%
NORTHEAST HOUSTON				
NE27	I-10 East/Woodforest/Channelview	11,980	627	5.2%
NE28	I-69 North	3,955	350	8.8%
NE29	Northline	6,672	456	6.8%
NE30	Greenspoint/Northborough/Aldine	17,187	0	0.0%
NE31	FM 1960 East/IAH Airport	8,778	653	7.4%
NE32	Lake Houston/Kingwood	12,674	1,988	15.7%
NE33	Northeast Houston/Crosby	3,278	218	6.7%
SOUTHEAST HOUSTON				
SE34	Hwy 288 South/Pearland West	12,167	2,796	23.0%
SE35	U of H/I-45 South	17,794	600	3.4%
SE36	Beltway 8/I-45 South	13,204	200	1.5%
SE37	Pasadena/Deer Park/La Porte	23,389	1,136	4.9%
SE38	Friendswood/Pearland East	5,458	63	1.2%
SE39	Clear Lake/Webster/League City	24,288	1,890	7.8%
SE40	Baytown	10,196	1,132	11.1%
SE41	Dickinson/Galveston	11,330	493	4.4%
SE42	Alvin/Angleton/Lake Jackson	10,672	812	7.6%

Submarket Heat Map Legend
- <10% of existing supply added from 2013-2018
- 10%-35%
- >35%

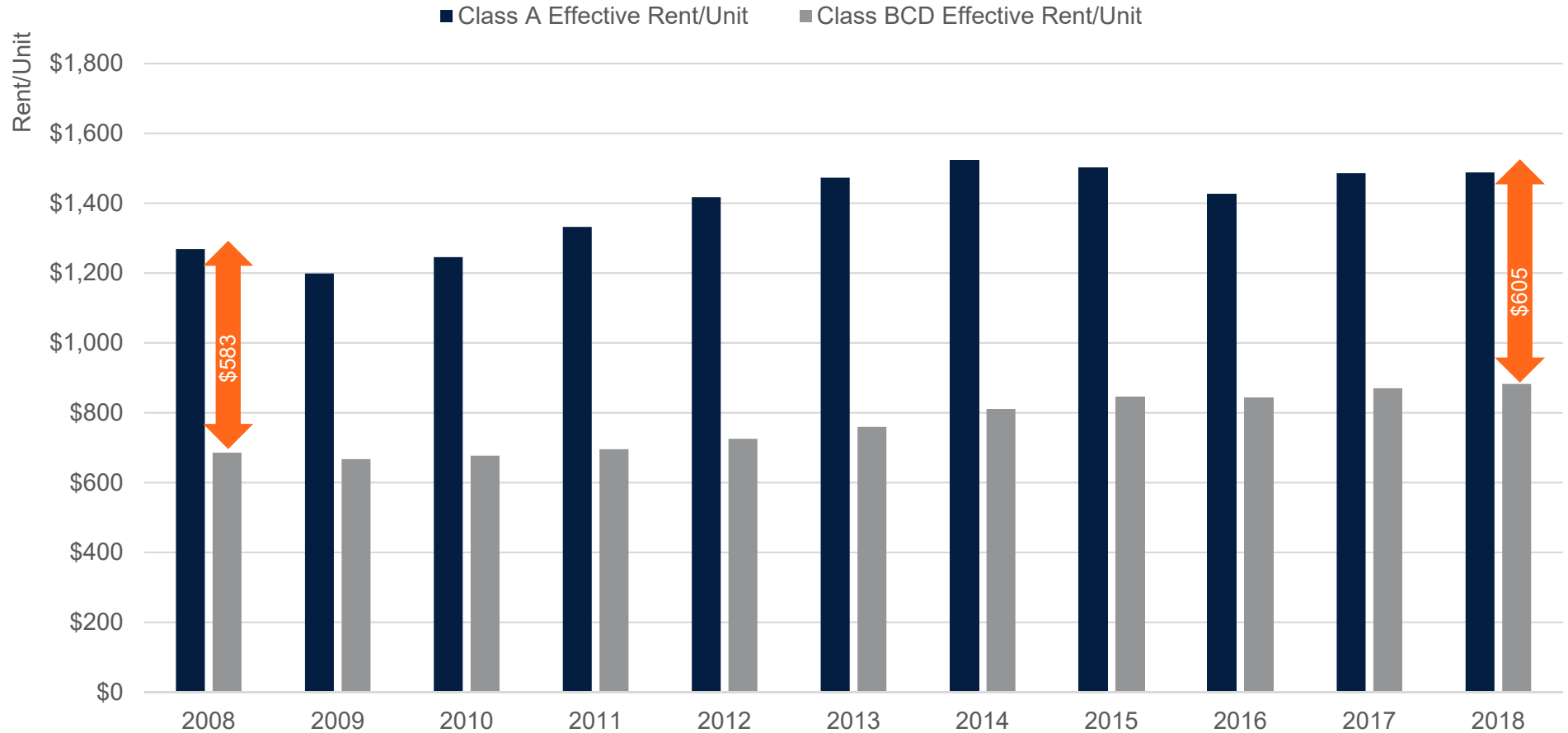*Source: Apartment Data Services, As of December 2018*

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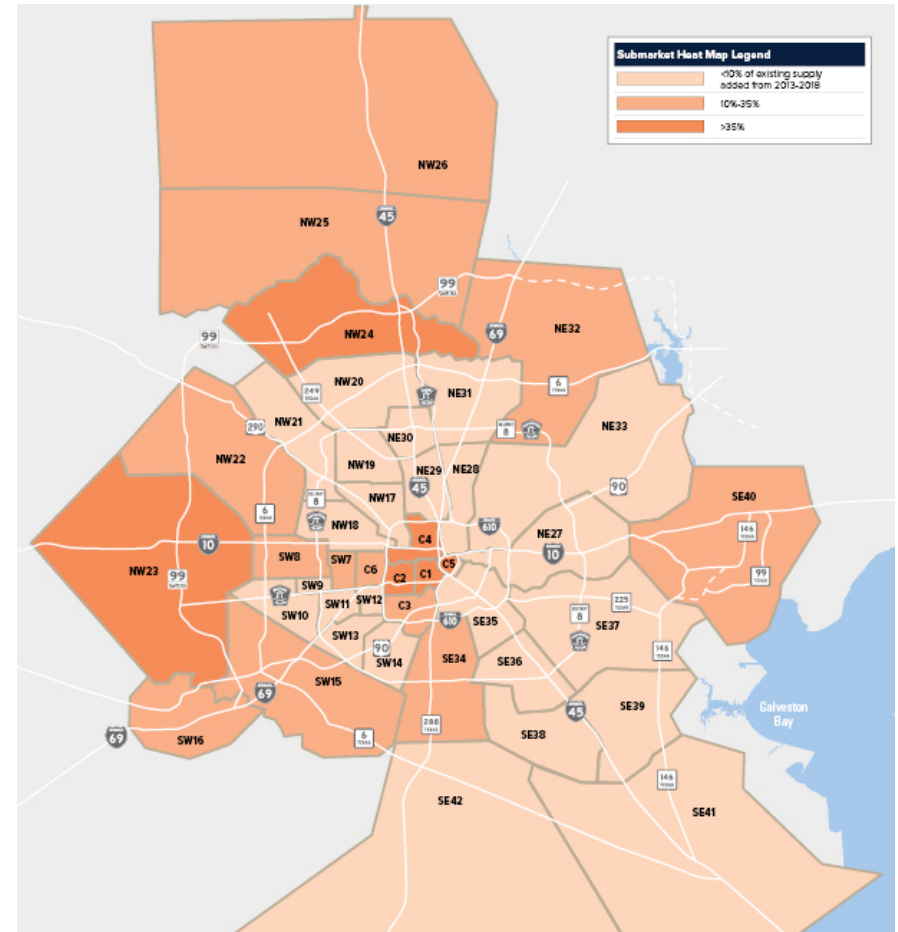
Houston's Most Active Submarkets from 2013-2018

Submarket Name	Existing Supply (units)	Total Units Built Since 2013	% of Total Units	Class A Absorption Since 2013 (units)	5Yr Absorption/ 5Yr Construction	Total Units Leasing	Total Units Under Construction	Current Class A Occupancy	Current Class A Eff Rent/SF	5Yr Eff Rent Growth
Central Houston										
Montrose/Museum/Midtown	13,618	6,514	47.8%	5,304	81.4%	1,088	2,234	87.4%	$1.89	2.6%
Highland Village/Upper Kirby/West U	16,504	6,206	37.6%	5,602	90.3%	490	969	92.1%	$1.83	8.6%
Med Center/Braes Bayou	23,507	4,810	20.5%	3,852	80.1%	1,293	462	90.0%	$1.60	6.7%
Heights/Washington Ave	10,937	4,107	37.6%	3,673	89.4%	433	2,099	91.0%	$1.79	6.6%
Downtown	5,952	3,859	64.8%	2,969	76.9%	1,597	271	84.0%	$2.11	16.6%
Galleria/Uptown	24,148	4,679	19.4%	3,982	85.1%	1,077	559	88.1%	$1.74	-0.2%
Southwest Houston										
Woodlake/Westheimer	12,233	1,762	14.4%	1,538	87.3%	387	0	88.8%	$1.49	-6.7%
Energy Corridor/CityCentre/Briar Forest	33,163	7,891	23.8%	6,250	79.2%	2,002	0	81.9%	$1.57	-14.3%
Sugar Land/Stafford/Sienna	12,896	2,133	16.5%	1,572	73.7%	198	672	85.8%	$1.51	51.3%
Northwest Houston										
Bear Creek/Copperfield/Fairfield	16,622	3,623	21.8%	3,030	83.6%	0	612	95.2%	$1.31	13.6%
Katy/Cinco Ranch/Waterside	25,084	10,235	40.8%	8,581	83.8%	1,152	3,218	86.7%	$1.29	6.6%
Tomball/Spring	13,497	8,161	60.5%	6,733	82.5%	1,340	982	85.5%	$1.32	22.4%
Woodlands/Conroe South	19,702	6,574	33.4%	5,115	77.8%	719	386	88.7%	$1.39	-7.9%
Conroe North/Montgomery	8,649	1,693	19.6%	1,529	90.3%	0	0	93.0%	$1.22	15.5%
Northeast Houston										
Lake Houston/Kingwood	12,674	1,988	15.7%	1,407	70.8%	318	1,160	81.5%	$1.27	17.5%
Southeast Houston										
Hwy 288 South/Pearland West	12,167	2,796	23.0%	2,091	74.8%	568	0	81.1%	$1.41	21.4%
Baytown	10,196	1,132	11.1%	914	80.7%	383	265	86.2%	$1.33	16.1%

Houston Historical and Projected Rent Growth

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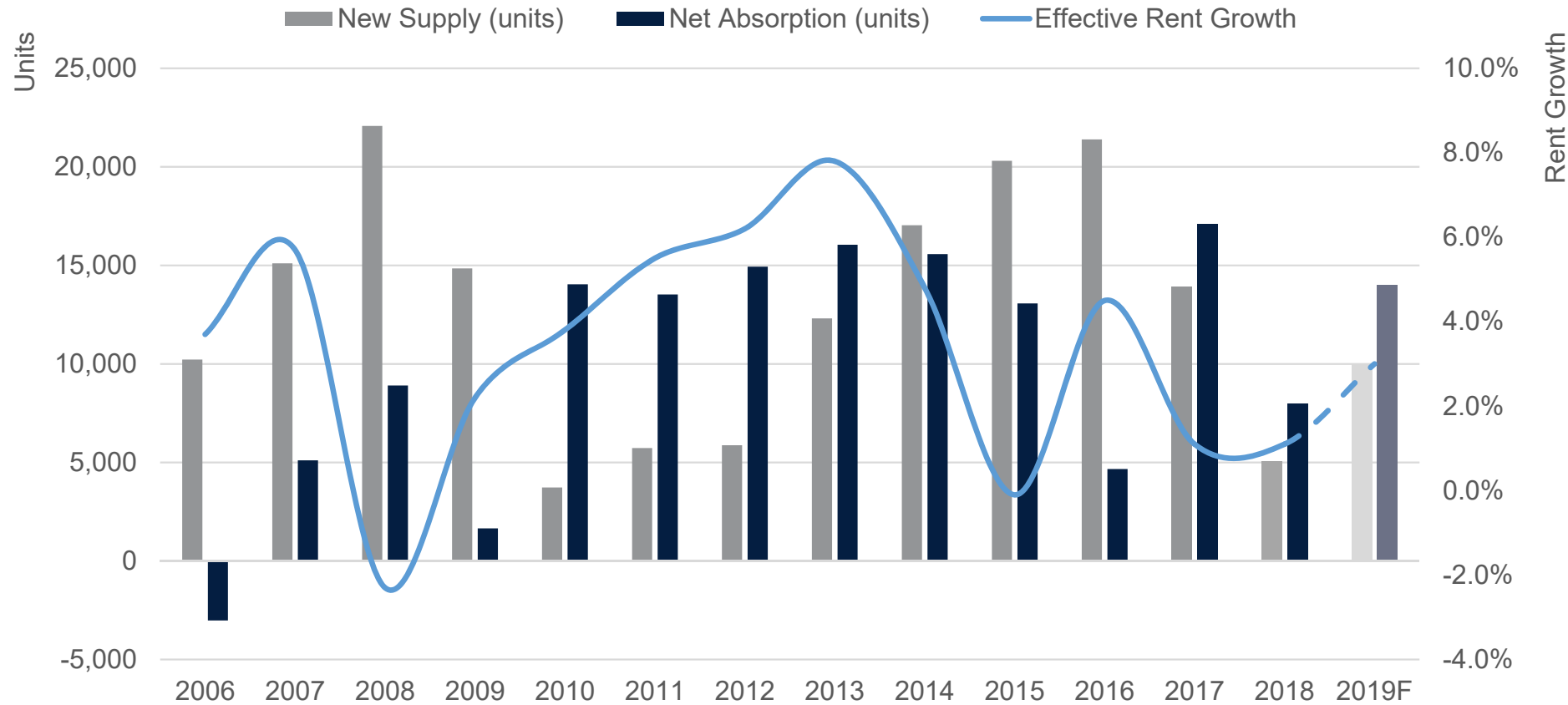
Houston Historical Rent Gap

Class A Effective Rent/Unit ■   Class BCD Effective Rent/Unit ■

Rent/Unit

$1,800	
$1,600	
$1,400	
$1,200	
$1,000	
$800	
$600	
$400	
$200	
$0	

$583

$605

2008   2009   2010   2011   2012   2013   2014   2015   2016   2017   2018

Declining Homeownership Indicative of Trends That Favor Renting

Houston MSA

■ Average Single-Family Home Sales Price — Homeownership Rate

U.S. Homeownership Rate: 64.2%

64.8%

58.1%
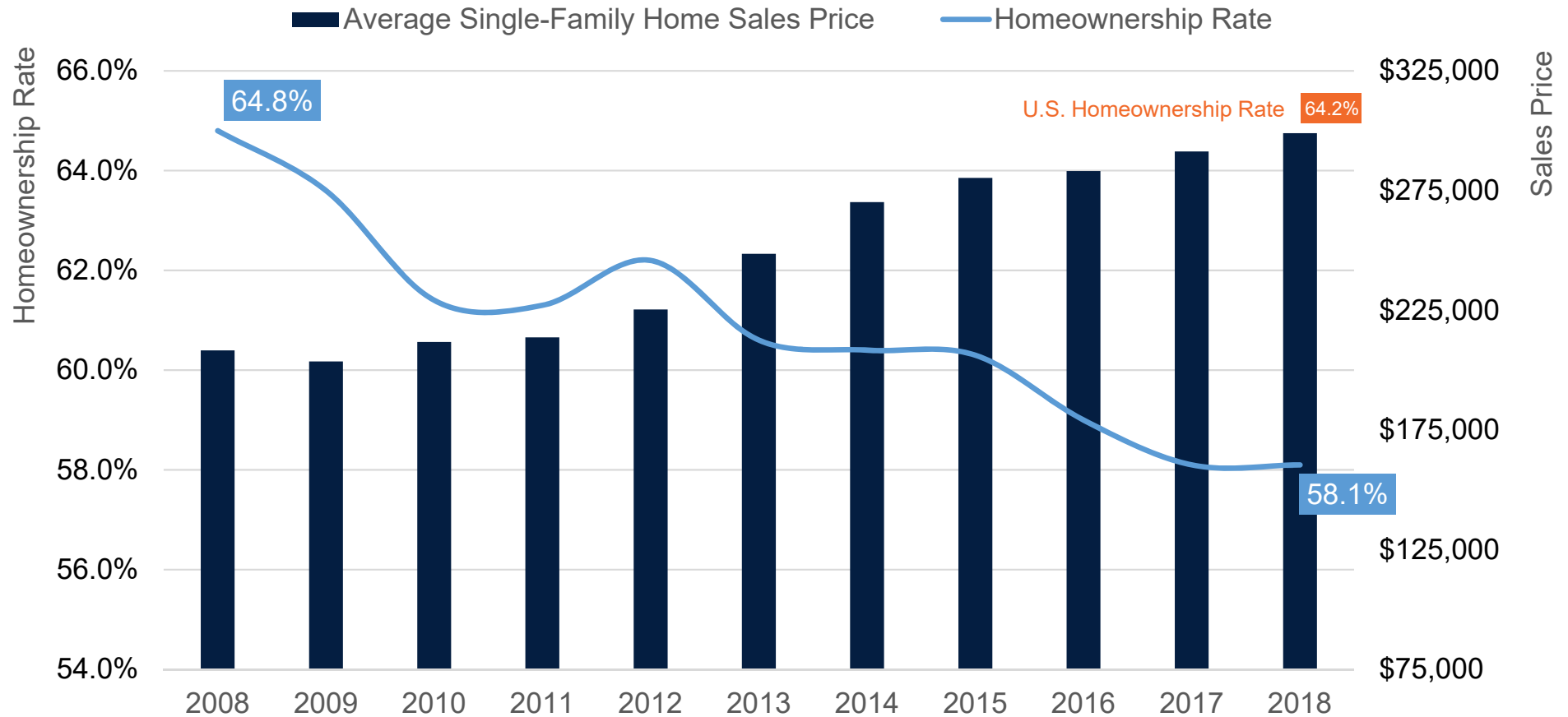
Houston Multi-Housing State of the Market - Trends

Top 10 Metros with Highest Demand Projected from 2018 to 2020
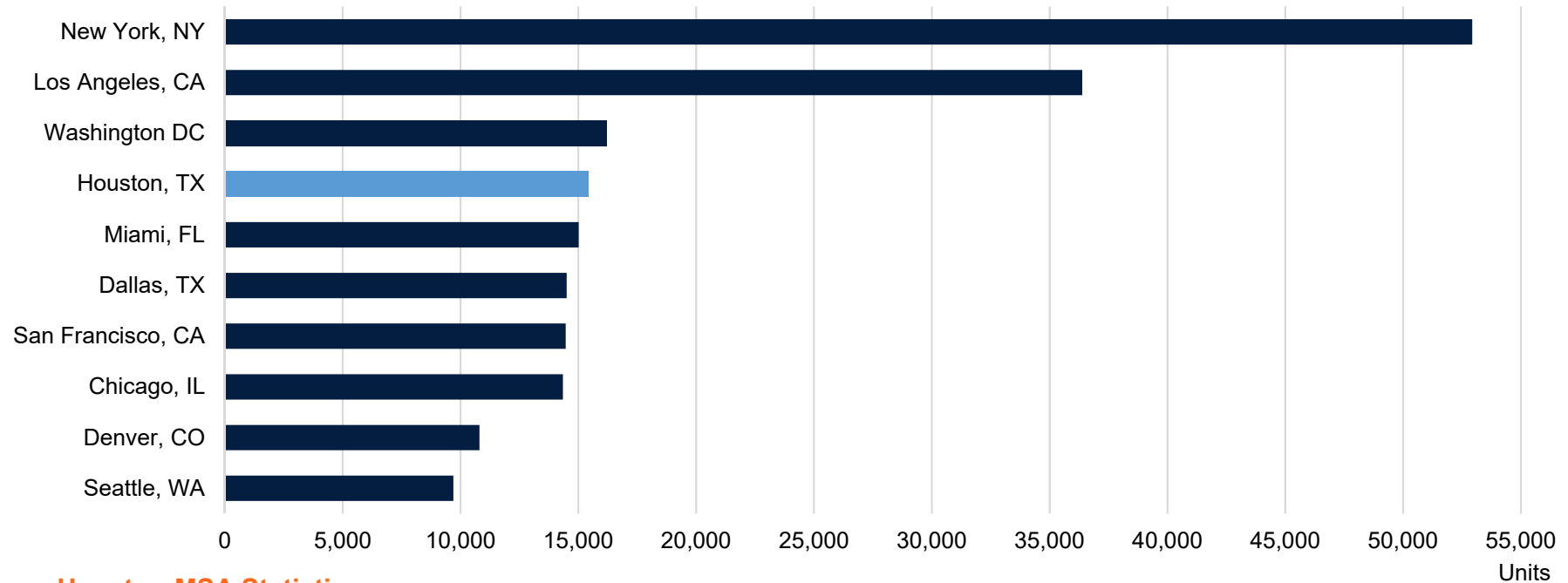
Houston MSA Statistics

#4	#5	Houston is one of a handful of metros where demand is expected to exceed supply by more than 1%.
2-Yr Demand Ranking	5-Yr Demand Ranking	

HFF

Houston MH Trade Volume Hit New Historical High in 2018

Bar chart showing Houston MH Trade Volume in Billions:
- 2009: $0.84
- 2010: $1.58
- 2011: $2.46
- 2012: $3.49
- 2013: $4.98
- 2014: $5.71
- 2015: $4.71
- 2016: $5.08
- 2017: $4.50
- Prelim 2018: $7.68

	2009	2010	2011	2012	2013	2014	2015	2016	2017	Prelim 2018
Volume ($)	$838,429,942	$1,584,118,971	$2,455,695,064	$3,488,404,186	$4,981,173,038	$5,711,113,002	$4,707,283,406	$5,081,294,152	$4,503,399,993	$7,681,268,236
Volume (Units)	18,983	27,895	46,915	56,889	68,297	73,752	62,579	61,609	47,064	69,985
Transactions (#)	76	101	157	201	252	296	229	250	193	280
Avg Deal Size ($)	$15,076,341	$20,082,686	$19,385,563	$21,704,147	$22,495,817	$22,429,281	$23,595,230	$24,212,556	$26,921,818	$34,106,260
Avg Deal Size ($/Unit)	$48,879	$60,351	$45,663	$72,741	$95,835	$97,425	$83,026	$71,309	$101,918	$121,636
Avg Cap Rate	7.28%	6.74%	6.02%	6.64%	7.18%	6.77%	6.62%	6.55%	6.21%	5.68%
# Deals > $50 M	0	7	3	13	11	21	15	12	14	38
# Deals > $75 M	0	0	1	2	7	4	1	5	2	9
Largest Deal ($)	$40,000,000	$70,000,000	$82,100,000	$87,560,000	$108,500,000	$106,180,000	$114,000,000	$101,625,000	$90,500,000	$133,500,000
Property	Gables Augusta	Boardwalk Town Center	Circle at Hermann Park	La Maison River Oaks	Camden Post Oak	Memorial Heights	33ThirtyThree	Windsor at West University	Hanover Hermann Park	Catalyst
Highest $/Unit (Central)	$185,417	$167,092	$195,476	$206,998	$304,775	$292,140	$272,000	$239,118	$227,273	$371,866
Property	Miramar	IMT Uptown Post Oak	Circle at Hermann Park	La Maison River Oaks	Camden Post Oak	M5250	Broadstone Post Oak	Windsor at West University	Hanover Hermann Park	Catalyst
Highest $/Unit (Suburban)	$103,209	$155,556	$133,179	$171,000	$174,167	$162,037	$175,505	$191,083	$181,000	$220,000
Property	Avana Sterling Ridge	Boardwalk Town Center	Regency First Colony	The Woodlands Lodge	Retreat at the Woodlands	The Plantation at the Woodlands	The Park at Resarch Forest	Millenium Six Pines	Telfair Lofts	Ascension on the Bayou

Most Active U.S. Multi-Housing Markets (Trade Volume)

2013	2017	2018	Market	Sales Volume ($m)		YOY
2	3	1	Los Angeles	9,265		37%
3	1	2	Dallas	9,259	-8%	
1	9	3	Manhattan	7,937		76%
4	8	4	Houston	7,681		62%
6	2	5	Atlanta	7,502	-4%	
7	13	6	NYC Boroughs	6,423		84%
9	7	7	Phoenix	6,411		33%
11	4	8	Denver	5,131	-23%	
13	5	9	Chicago	5,053		0%
8	6	10	Seattle	4,811	-1%	
16	12	11	Austin	3,753		6%
5	11	12	DC VA burbs	3,479	-7%	
17	10	13	Orlando	3,181	-19%	
18	24	14	Raleigh/Durham	3,176		60%
25	18	15	Tampa	2,943		16%
19	19	16	DC MD burbs	2,907		22%
14	35	17	San Francisco	2,810		106%
22	25	18	Charlotte	2,766		44%
27	26	19	Philadelphia	2,670		41%
26	22	20	San Antonio	2,506		15%
28	16	21	Las Vegas	2,201	-18%	
10	15	22	Boston	2,184	-25%	
24	14	23	No NJ	2,170	-28%	
23	33	24	Inland Empire	2,139		44%
29	28	25	Portland	2,127		25%

HFF Houston Recent Multi-Housing Transactions

√ Pebble Creek Ranch
YOC: 2004 | Units: 240
Submarket: Sugar Land
Cap Rate: 4.82%
Seller: CFH | Buyer: Greystar
Status: Closed Dec-18

√ Steepleway Downs
YOC: 1983 | Units: 224
Submarket: Jersey Village/Cypress
Cap Rate: 5.02%
Seller: HM Equity | Buyer: RealSource
Status: Closed Nov-18

Morningside Green
YOC: 1983 | Units: 176
Submarket: Jersey Village/Cypress
Cap Rate: 5.25%
Seller: Edgewood | Buyer: Madera
Status: Closed Oct-18

Edge at CityCentre
YOC: 1982 | Units: 284
Submarket: Med Center
Cap Rate: 5.14%
Seller: 29th Street | Buyer: ClearWorth
Status: Closed Oct-18

√ Villa Helena
YOC: 2007 | Units: 18
Submarket: Montrose/Midtown
Cap Rate: N/A
Seller: Nimes | Buyer: Atlas Bend
Status: Closed Oct-18

√ Catalyst
YOC: 2017 | Units: 359
Submarket: Downtown
Cap Rate: 3.75%
Seller: Ares | Buyer: Carlyle
Status: Closed Oct-18

√ WaterWall Place
YOC: 2013 | Units: 322
Submarket: Galleria/Uptown
Cap Rate: 3.71%
Seller: Hines | Buyer: Hasta
Status: Closed Sep-18

Gables West Ave
YOC: 2008 | Units: 397
Submarket: Highland Village/Upper Kirby
Cap Rate: 4.29%
Seller: Gables | Buyer: FPA
Status: Closed Sep-18

√ *indicates HFF financed the acquisition.* *Source: HFF Research, As of December 2018*

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