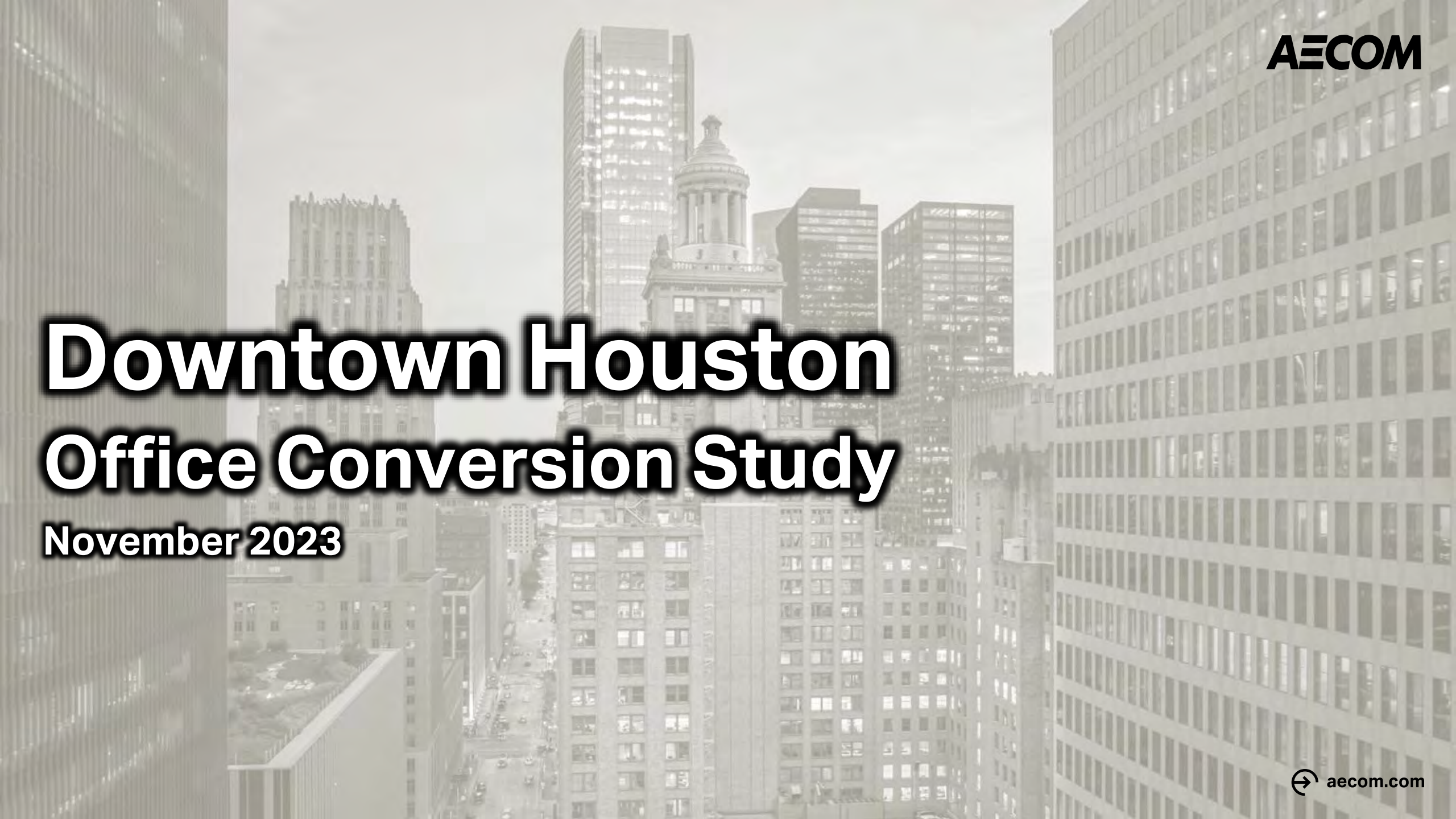


Downtown Houston
Office Conversion Study

November 2023

AECOM

aecom.com

Table of Contents

Section 1: Executive Summary

Executive Summary

Prior to the COVID-19 pandemic, Downtown Houston was one of the largest central business districts in the US, with over 50 million square feet of office space occupied by tenants representing a wide range of industries such as oil, gas, and energy; finance, insurance, and real estate; and legal and professional services, among others. Now, in 2023, Downtown Houston finds itself in a difficult moment.

The COVID-19 pandemic exacerbated the area's existing challenges, with increasing office building vacancies and struggling retail, restaurant, and hospitality sectors. It accelerated existing trends toward e-commerce and remote/hybrid work, two of the biggest threats to bricks-and-mortar office and retail markets nationwide. It also temporarily decimated the tourism industry and forced students towards online learning, both of which impacted a variety of establishments and real estate segments including hotels, retail stores, restaurants and bars, arts and cultural venues, tourist attractions, student and multifamily housing buildings, and others. Presently, establishments and real estate markets nationwide are in the midst of a remarkable rebound. For Downtown Houston in particular, this is a key moment to act. In order to be successful in the years ahead, Downtown Houston will need to diversify its land use and activity mixes to include more permanent resident housing, transient tourist accommodations, and leisure/entertainment attractions.

Today's prevalence of hybrid and remote work has proved especially problematic for Downtown Houston, causing real estate values to plummet, increasing retail vacancy, and diminishing the vibrancy of the area. Approximately 73% of built real estate in Downtown Houston is office space, and 24% of this office inventory is currently vacant. Within this context, many Downtown organizations and stakeholders see a tremendous opportunity to leverage Houston's most walkable and iconic neighborhood, laying vital groundwork for repositioning and revitalization.

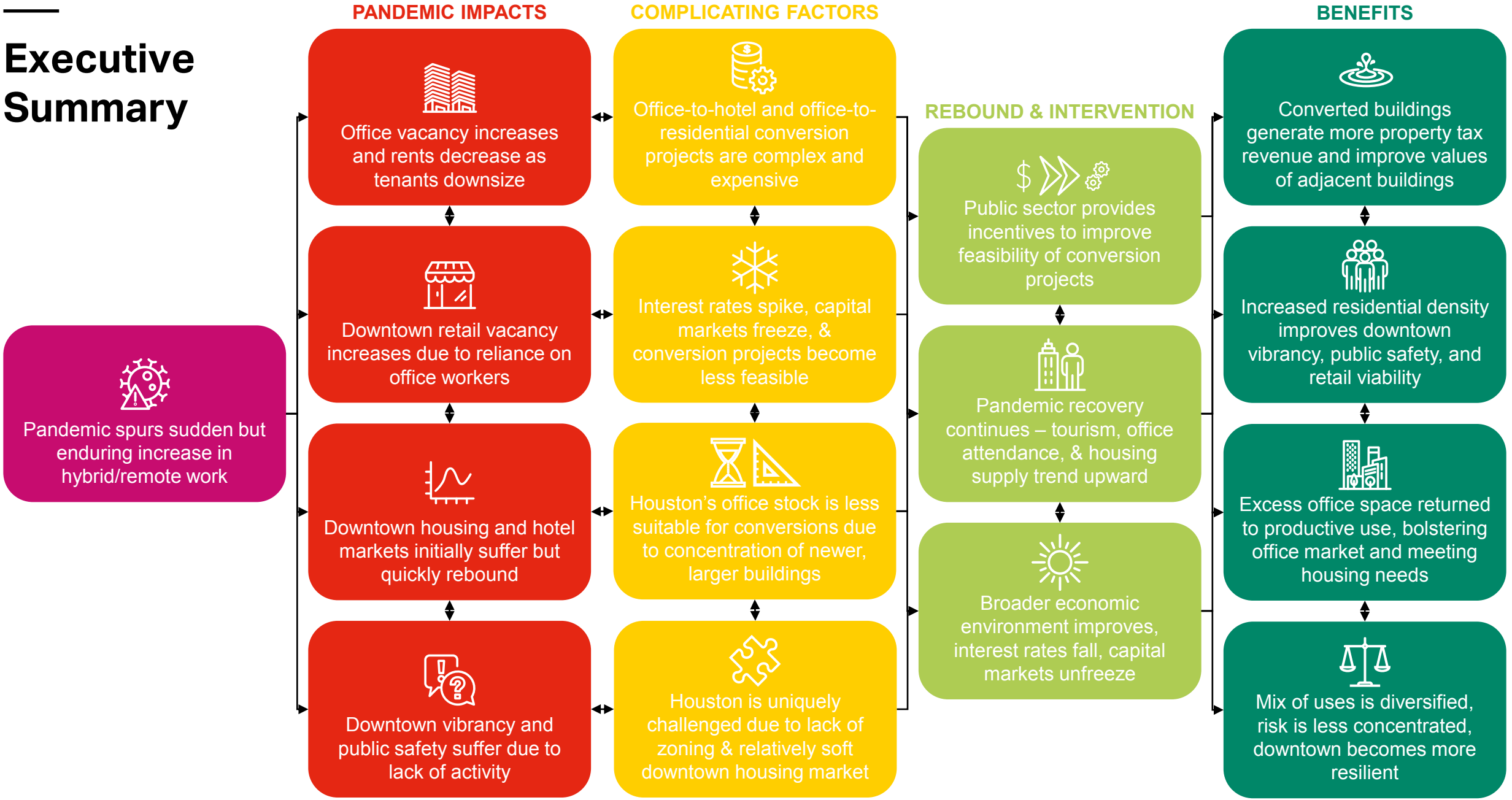
Central Houston and the Houston Downtown Redevelopment Authority engaged AECOM to conduct a comprehensive office conversion study that evaluates the feasibility and potential economic impact of office-to-residential and other types of conversions for large office buildings with high vacancy. These types of conversion projects promise to help to diversify the mix of uses Downtown, remedy high vacancy levels in the office market, respond to high demand for housing options in high opportunity areas, boost vibrancy and activity levels, improve ground floor retail viability, and boost real estate value in the area.

AECOM's approach combines market analysis, an in-depth evaluation of Downtown Houston's office stock, and broader best practices for office conversion projects to imagine redevelopment strategies that are as close to economically feasible as possible. The project's methodology employs the use of real estate market statistics, local and national case studies of other office conversion projects, hypothetical conversion scenarios for 3 buildings within the study area, estimated rehabilitation costs and financial pro forma, and projected incentives or subsidy mechanisms needed to render such projects feasible.

AECOM analyzed three buildings for potential office deconversion: 708 Main, 1021 Main, and 1415 Louisiana. The team met with management and/or ownership representatives, conducted tours, and obtained floorplans of each of the buildings, in order to understand the potential for adaptive reuse. The team crafted a reuse scenario for each building that were informed by existing conditions, real estate market analytics, feedback from Central Houston staff, and successful adaptive reuse case studies.

For each reuse scenario, AECOM estimated the total development costs and created financial pro forma that projected cash flows and the amount of traditional financing that could be supported by the project. From there, the team layered on additional funding sources and incentives applicable to the projects. This approach clarified whether such projects are feasible with existing policies and incentives alone, or if local government/economic development organizations would need to provide funding or devise new mechanisms to achieve feasibility. In its entirety, AECOM's process ensured a fair and thoughtful approach towards the revitalization of an essential part of Downtown Houston.

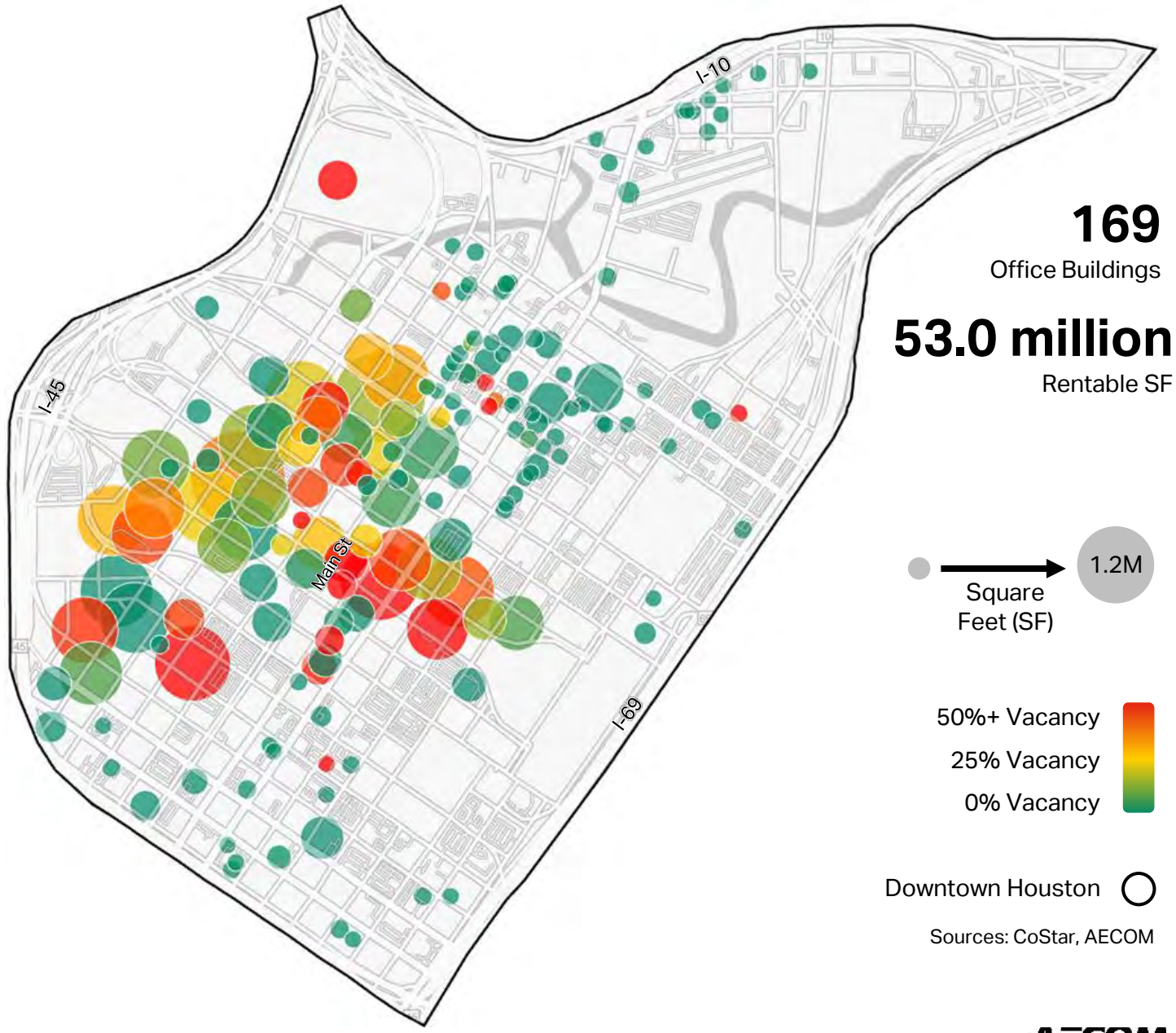
Executive Summary



Executive Summary

Office Market Context

- Commercial office market fundamentals in Downtown Houston are troubling and mirror challenges that are being seen in other cities and downtown districts across America
- **Vacancy rate of 24%*,** third highest among 35 largest downtowns in America, up from 9% in 2014
- **Availability rate of 30%*,** meaning space that is not yet vacant but nearing lease expiration without renewal
- Risk that downtown property tax revenue will **not just stagnate but significantly decrease** as office assessed values "catch up" to declining market values.
- Two illustrations of this are that since 2014, the tax assessed value for:
    - 1021 Main has decreased from $115M to $52M **(↓ 55%)**
    - 1415 Louisiana has decreased from $65M to $46M **(↓ 29%)**



Vacancy and availability figures include direct and sublet space

Executive Summary

What Are Other Cities Doing?

Some cities are publicly exploring or have already implemented programs to incentivize office-to-residential conversion projects, while Houston has the opportunity to leads amongst its peers throughout the southeastern region. Highlights of programs that have been implemented include:

National Survey of Office Conversion Incentives

Location	Program Status	Types of Incentives			Total Funding Allocated
		Property Tax Abatement	Grants	Soft Financing or Bonds	
Calgary	Active		$37-75 per SF		$153 million
Chicago	Active	30%, 30 years	Variable	Bonds	
Boston	Active	75%, 29 years			
State of California	Active		Variable	Soft Financing	$400 million
Philadelphia	Active	50%, 10 years			
District of Columbia	Active	Variable, 20 years			$50 million
Pittsburgh	Active		Up to $1-3M		
Portland	Active		Up to $3M		
Denver	Pending	TBD	TBD	TBD	TBD
San Francisco	Pending	TBD	TBD	TBD	TBD
Los Angeles	Pending	TBD	TBD	TBD	TBD
New York	Pending	TBD	TBD	TBD	TBD
Houston	Being Studied	TBD	TBD	TBD	TBD
Atlanta	Being Studied	TBD	TBD	TBD	TBD
Phoenix	No specific office conversion funding incentive				
Dallas	No specific office conversion funding incentive				
Austin	No specific office conversion funding incentive				

Regulation Relaxation

- Expedited permitting, streamlined approvals, increased allowable density, exemption from zoning restrictions and code requirements, etc.
- ***Less applicable for Houston due to less burdensome regulatory environment***

Technical Assistance & Solicitation

- Invitations for proposals, "concierge" services, technical assistance for developers, feasibility studies, building prioritization
- ***Potential to provide similar technical support to reduce risk and accelerate timelines***

Leveraging Existing Funding Incentives

- State & Federal Historic Credits, Low-Income Housing Tax Credits, specific state/local incentives
- ***Other funding sources unlikely to be widely available given Houston building characteristics***

Creating New Funding Incentives

- Property tax abatement, grants, tax exempt bonds/soft financing
- ***Tax incentives likely necessary due to expected funding gap with most typical office buildings***

Executive Summary

Challenges for Office-to-Residential Conversions in Houston

Houston has **specific challenges** affecting the feasibility of office-to-residential conversion projects in its Downtown, underscoring the magnitude of the problem in Downtown Houston and the importance of strategic, intentional policy interventions. The uniqueness of the Houston market and its downtown office stock require unique interventions that differ from solutions being implemented in other cities.

Newer Buildings

76% of office stock was built after 1970 - **11th lowest** among 35 largest downtowns in America – which **takes Historic Tax Credits off the table** for most of Houston's office buildings, a key tool that improves conversion feasibility for eligible buildings

Differences in Rent by Product Type

Class A office rent of **$40.48** per SF per year vs Class A apartment rent of **$29.76** per SF per year – this demonstrates why **the market has delivered surplus office space but a shortage of housing**

Large Building Size

81% of total office stock is in **buildings larger than 500,000 square feet**, leading to concerns with market's ability to absorb a full complement of residential units if fully converted.

Sticky Tenants

While many office buildings have seen drops in occupancy, only **16 of 169 office buildings are greater than 50% vacant**, which may result in a **high cost to buy out remaining tenants** for redevelopment

Low Residential Baseline

Despite recent growth with new multifamily product, **downtown Houston's population density is 10th lowest** among 35 largest downtowns in America - may impact prospective investors and resident interest despite being a **key ingredient of a healthy, vibrant downtown**

Urban Living Competition

Downtown Houston is **competing with other established submarkets** nearby for residents seeking urban living, including Midtown, Uptown, Greenway, Montrose, and Buffalo Bayou – ground-up, purpose-built multifamily development in these areas **offers similar price points** has **similar construction costs** to conversion

Fewer Local Precedents

There are **fewer local examples** and **less developer familiarity** with office-to-residential conversion projects in the Houston market compared to older markets in the Midwest and Northeast who have larger concentrations of "pre-war" buildings with shallower floorplates and Historic Tax Credit eligibility

Lack of Zoning

Zoning, land use, and density regulations are a tool in the toolkit of many cities looking to allow and incentivize office conversion projects, but are generally **not applicable in Houston** due to its lack of these types of regulations

Executive Summary

Opportunities for Office-to-Residential Conversions in Houston

Despite these challenges, there a several reasons for optimism in terms of the feasibility of office-to-residential conversion projects and the broader trajectory of Downtown Houston overall:

Organizational Framework

DRA, CHI are already in place and have tools available – DLI generated over **5,000 new units** since 2012

Regional Population Momentum

Houston Metro Area's population grew by **20%** between 2010 and 2020, **the highest** of any major metropolitan area

Visitor Rebound

Tourist visitation has recovered to **85%** of pre-pandemic levels, **14th highest** of 35 largest downtowns in America

Return to Office

Office worker visitation has recovered to **60%** of pre-pandemic levels, **15th highest** of 35 largest downtowns in America

Market Familiarity with Product

13th highest of 35 largest metro areas in America in terms of share of housing in 50+ unit structures

Multifamily Performance

Multifamily sector has stable occupancy, appealing rental rates, and high absorption rates attractive to investors.

Class B and C Performance

Class C office rent of **$25.90** per SF per year is below Class A apartment rent of **$29.76** per SF per year

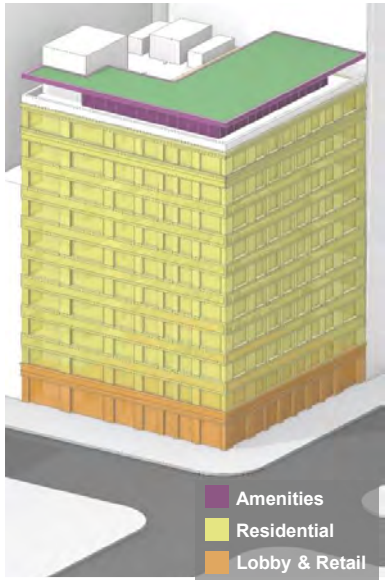
Nearing NRHP Eligibility

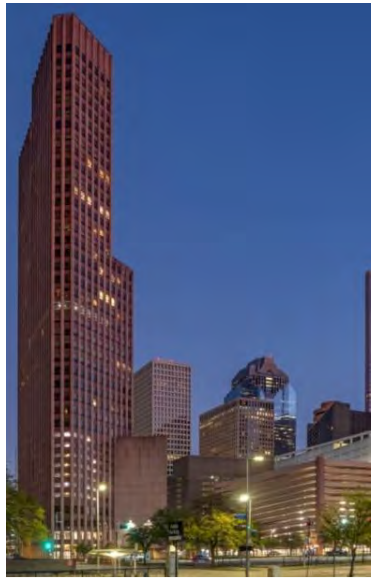
39% of buildings are 50+ years old today, but **81%** will be by 2036, which may open historic financing

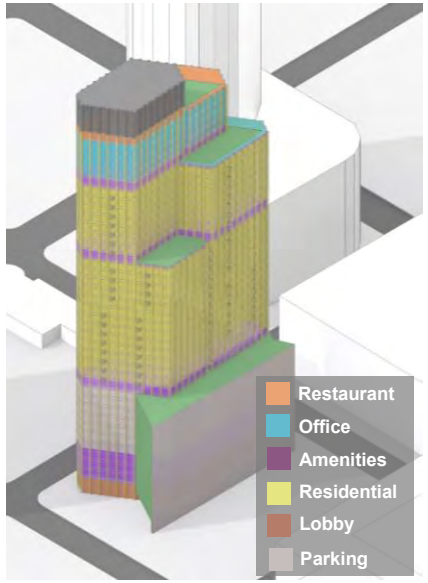
Executive Summary

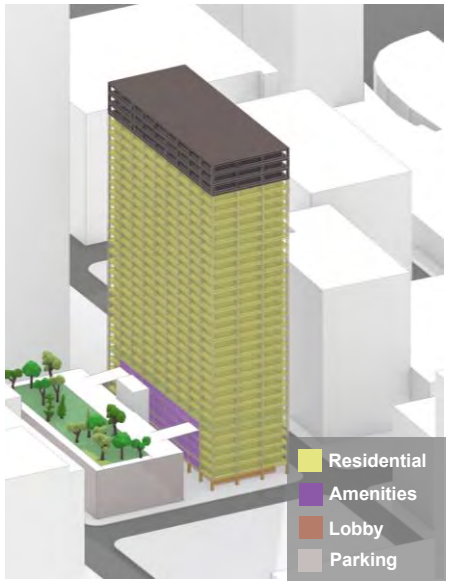
Conversion Concepts

AECOM developed conversion concepts for three buildings in Downtown Houston that were chosen according to their current performance as office buildings, the compatibility with their physical attributes for a residential program, and input from CHI. These concepts show hypothetical but market-driven conversion projects that are intended to be representative of broader market dynamics in Downtown Houston. These three concepts are basis for the economic feasibility analysis presented later in this report, and additional detail about each concept can be found in Section 5.







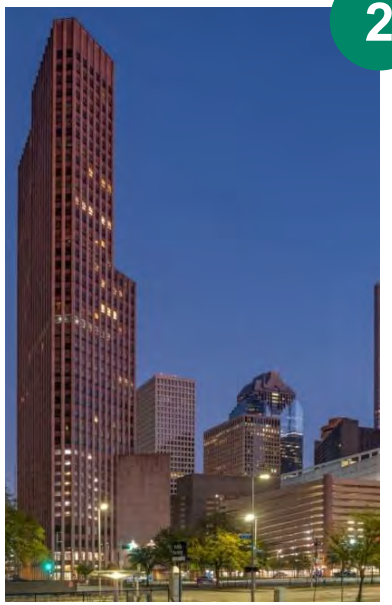


1	2	3
708 Main	**1415 Louisiana**	**1021 Main**
"The Houston Shoebox"	"The Typical Atypical"	"What's Old is New Again"
Small building	*Large building*	*Large building*
Small floorplates	*Large irregular floorplates*	*Large uniform floorplates*
Fully vacant	*Partially occupied*	*Partially occupied*

Executive Summary
Economic Feasibility

The table below summarizes the results of the economic feasibility analysis for each of the three Conversion Concept buildings. As shown:

- 708 Main is generally the most feasible followed by 1021 Main, while 1415 Louisiana seems to be less feasible.
- No Incentive and Basic Tax Reimbursement scenarios are unlikely to yield feasible conversion pathways for most buildings
- Enhanced Tax Reimbursement or Historic Tax Credits paired with a Basic Tax Reimbursement are more likely to provide feasible conversion pathways at scale



	708 Main "The Houston Shoebox"	**1415 Louisiana** "The Typical Atypical"	**1021 Main** "What's Old is New Again"
Factors affecting feasibility	• Min. decrease in efficiency • Low acquisition cost • Fully vacant • Lower construction complexity	• Poor layout efficiency • High acquisition cost • Partially occupied	• Poor layout efficiency • High acquisition cost • Mostly vacant

Scenario	Vacant Building	Lease Buyout	Vacant Building	Lease Buyout	Vacant Building	Lease Buyout
No Incentives	**Potentially**	**Potentially**	**Not Feasible**	**Not Feasible**	**Not Feasible**	**Not Feasible**
Basic Tax Reimbursement	**Potentially**	**Potentially**	**Not Feasible**	**Not Feasible**	**Potentially**	**Not Feasible**
Basic plus Historic Tax Credits	**Feasible**	**Feasible**	N/A	N/A	**Feasible**	**Feasible**
Enhanced Tax Reimbursement	**Feasible**	**Feasible**	**Potentially**	**Not Feasible**	**Feasible**	**Feasible**

* Including 100% of tax increment for 30 years with County participation
** Based on NRHP eligibility according to age and up to 20% federal/25% state funding; however, no buildings are currently listed or contributing

Executive Summary

Problem, Complications, and Recommendations

To mitigate future property tax losses, facilitate the creation of new housing downtown, and bolster downtown office and retail markets and vibrancy levels, the City of Houston and Central Houston, Inc. should create a suite of office-to-residential tools and incentives that builds upon the success of the previous Downtown Living Initiative. The findings of this stud indicate that most office-to-residential conversion projects in Downtown Houston will not be economically feasible by market forces alone – in order to achieve the benefits associated with these types of projects, intentional and strategic interventions must be made by the City and CHI. Specific details regarding AECOM's recommendations for an office-to-residential conversion incentive program and the next steps that will be necessary to implement such a program can be found in Section 7.

Problem

Post-pandemic telework and migration patterns have led to increasing office vacancy in downtown Houston, with 30% of square footage currently available; risk that property tax revenue will not just stagnate but **significantly decrease** as office values decline

Complications

Real estate market has not addressed these challenges due to several unique characteristics of downtown Houston office stock:

Larger buildings which result in unit counts difficult for the market to absorb

Newer buildings which cannot access historic tax credit funds

Larger floor plates which can limit efficiency of residential programs

Persistent office tenants which can result in higher acquisition and lease buy-out costs

Recommendations

The City and CHI should lead the charge and address current private funding gap for most office buildings by creating program with the following components:

- Offer annual reimbursement for **100% of incremental tax revenues for 30 years** based on **2023 or future year assessed value**
- Seek **Harris County participation** which increases available tax increment base from 28% to 51% of taxes, **significantly improving** the incentive's effectiveness
- Consider **integrating adjacent TIRZ districts** into shared program to facilitate larger downtown initiative
- Provide **technical assistance** to streamline permitting and access additional funding sources
- **Prioritize projects** that use incentive funding as **efficiently** as possible while also **providing public benefits** that contribute to local goals

Executive Summary

Policy & Program Recommendations

AECOM recommends that the City of Houston and CHI lead the charge in the creation of an office-to-residential conversion incentive program for Downtown Houston. The outcome of this study is an actionable framework upon which this program can be built, including a financial incentive structure that will foster economic feasibility for a larger number of projects than would be feasible by market forces alone, project selection criteria that can be used to prioritize projects and use public funding as efficiently as possible, and a technical assistance program that will provide additional support, guidance, and expertise for selected projects. Details for each of these three program elements are summarized below and in the following pages.

Financial Incentive Structure

Strategies to increase feasibility of private sector's execution of office-to-residential conversions:

- **Enhanced tax incentive program** that builds upon the success of the previous Downtown Living Initiative by offering a reimbursement of **100%** of incremental tax revenues for **30 years** based on the 2023 or future year baseline
- Increase the amount of funding available to the tax incentive program by **seeking participation from Harris County**, potentially other taxing units, and **adjacent TIRZs**
- Consider offering **tax exempt bonds** for lower-cost, upfront financing in lieu of private debt, especially for projects that include **affordable housing units**

Project Selection Criteria

Future conversion project solicitation process should seek to decrease the amount of public subsidy funding required to achieve feasibility and increase public benefits by prioritizing projects with:

- **Chronic, high availability** of **at least 75%** in the portion of the building being converted to reduce lease buyout cost
- **Low acquisition costs** and ownership/development teams with **residential and/or adaptive reuse experience**
- Potential **historic tax credit eligibility**
- Vibrant ground floor uses that fill downtown's gaps for **critical neighborhood amenities** like grocery stores, childcare facilities, and schools
- **Affordable housing units**, including additional affordable housing-related funding sources like LIHTC to offset income losses

Technical Assistance Program

Ways to reduce entitlement risk, provide expertise, and shepherd office-to-residential conversion projects to successful completion:

- Create new/identify existing FTE from within City to serve as **office-to-residential liaison** for prospective projects, helping to shepherd projects through various regulatory hurdles and funding application processes
- Streamline permitting process by **accelerating permit timelines** for office-to-residential conversions
- Increase potential access to historic tax credits by **facilitating historic nomination process** and **coordinating with State Historic Preservation Officer**; potential additional FTE
- Potential to **offset acquisition costs for buildings with prohibitive lease buyouts** with additional up-front incentive program

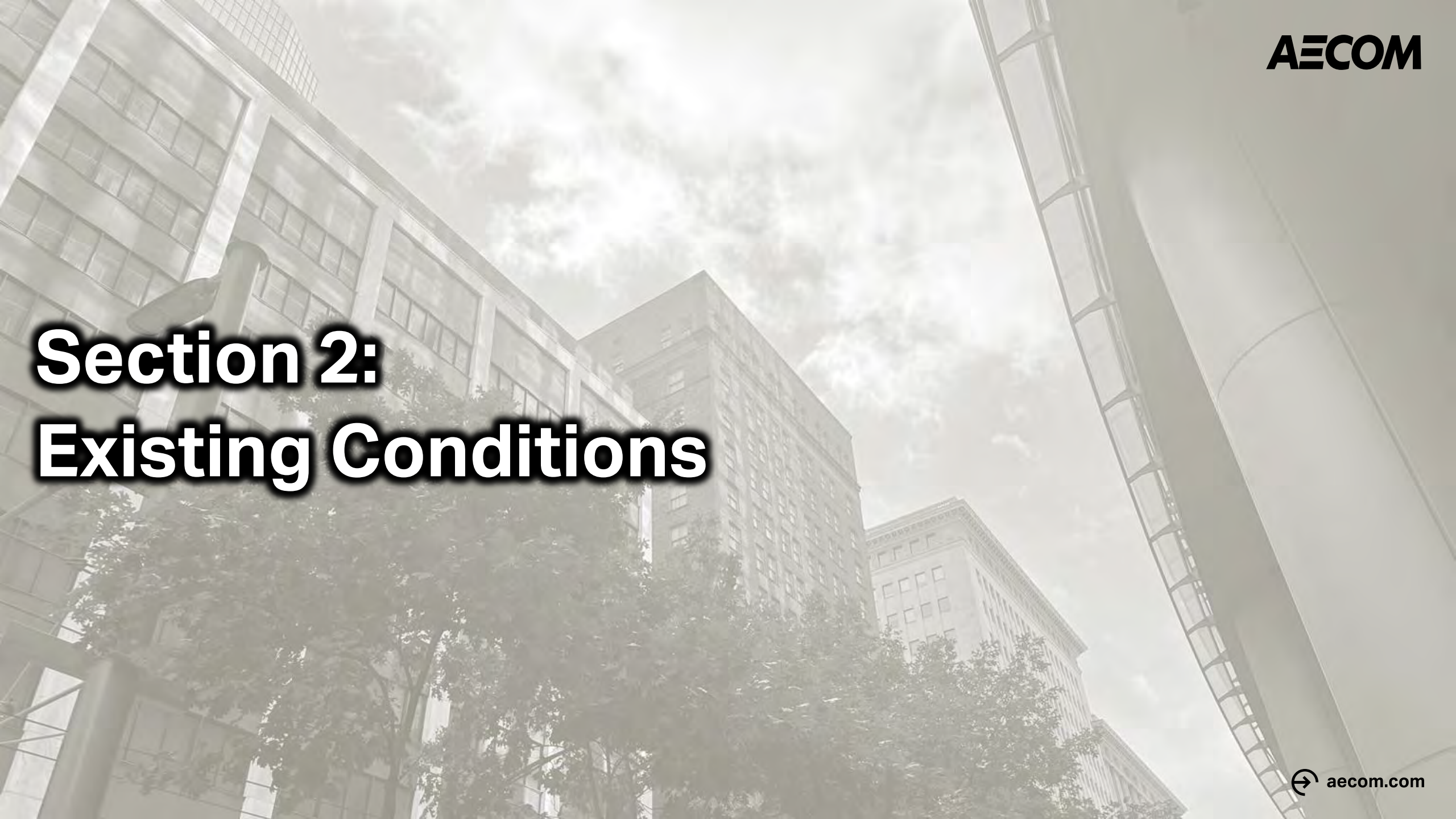
Executive Summary

Next Steps for Implementation

As the City of Houston, CHI, and other local stakeholders move toward the implementation of an office-to-residential conversion incentive program, AECOM has summarized several high-level next steps that could be taken. These next steps include coordination with a variety of other public entities that will need to be on board in order for the program to be effective, in addition to private entities that should be engaged as program details are finalized given that they will be responsible for the ultimate execution of the conversion projects. Certain specific topics may warrant additional study if they are deemed necessary to be included in the conversion incentive program, such as affordable housing requirements, other complementary programs, and the applicability and practicality of incorporating various federal programs that may facilitate the feasibility of conversion projects.

Next Steps

Public Entity Coordination	Private Entity Coordination	Additional Study
• **Communications:** Outreach to public entity partners to communicate the key findings and recommendations of this study • **Taxing Entity Participation:** Engage City, County, and ISD in potential program participation and discuss any additional requirements. • **TIRZ Participation:** Engage other TIRZs in potential shared program and discuss governance structure. • **Finalization and Implementation of Enhanced Tax Incentive:** Once governance structure is established, finalize the terms of the mechanism such as number of years, percentage of increment, geographic area of eligibility, etc.	• **Detailed Cost Estimate:** Identify "prototype project" partner to evaluate funding gap with detailed cost estimate. • **Market Sounding**: Once program details are finalized, meet with private sector stakeholders to generate interest, confirm feasibility, and collect feedback on terms. • **Formal Solicitation**: Once program details are finalized, draft the solicitation document, including application requirements for prospective projects and thresholds for participation. • **Solicitation Response Evaluation & Selection**: Once project proposals have been received, review submissions to ensure compliance with program terms and alignment with goals, then select projects to move forward	• **Affordable Housing:** Based on feedback from other public entities, evaluate impact of affordability requirements and 4% or 9% LIHTC tax credits on funding gap. • **Complementary Programs:** To address challenge of persistent low vacancy (i.e. remaining tenants), explore upfront funds towards acquisition costs for prospective investors considering purchasing an occupied office building for residential conversion. • **Federal Programs**: Further exploration of potential federal programs applicable to office-to-residential conversion projects (see appendix), including scale of funds, applicability, practicality, etc.



Section 2: Existing Conditions

Existing Conditions

Introduction

AECOM began by conducting a comprehensive analysis of the existing conditions of Downtown Houston in order to reinforce the district's prominent identity within the City of Houston and broader region, to emphasize the magnitude of the challenge currently facing the district, and to underscore the importance of efforts like office conversions which seek to alleviate such issues.

Using a variety of well-respected data sources, this section seeks to paint a picture of how Downtown Houston is performing today relative to its pre-pandemic baseline, as well as in comparison to other downtowns throughout America. These metrics elucidate the reasons why today's Downtown Houston feels quiet within the context of these comparisons and provides insight into how the district can attempt to improve public realm vibrancy, real estate occupancy, and broader public safety and wellbeing trends in the coming years.

Existing Conditions

Public Transit

The map on the left shows Downtown Houston in relation to public transit networks that connect to adjacent neighborhoods, key institutions and attractions, and suburban communities throughout the Houston Metro Area.

Houston's public transit network converges on Downtown, presenting opportunities for Downtown residents to take alternative modes of transportation. Increasing population density by promoting office-to-residential conversions near these transit networks can reduce traffic congestion and greenhouse gas emissions caused by overdependence on private vehicular transportation.

Public Transit Access

- Metrorail Red Line
- Metrorail Purple Line
- Bus Route

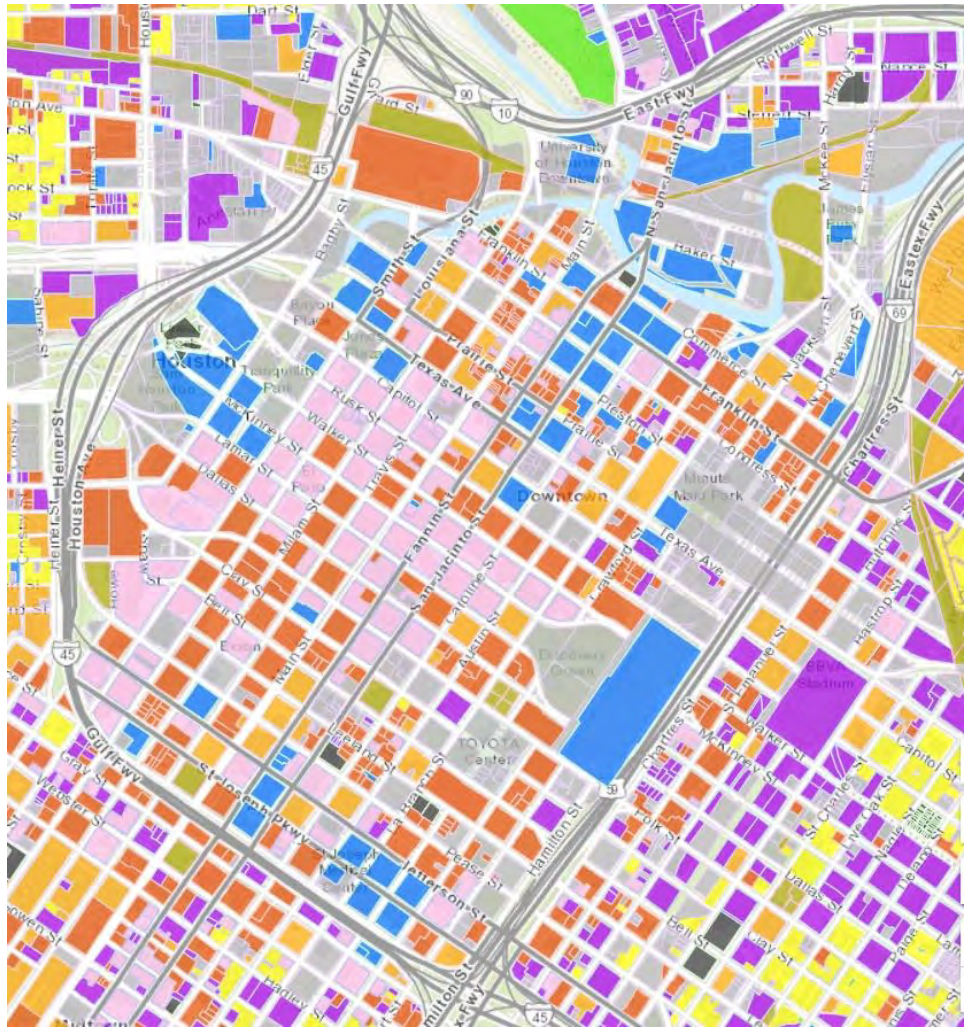
Existing Conditions

Land Use

There is approximately 73.1 million square feet of built real estate in Downtown Houston. Approximately 73% of this space is office space, and 24% of that office space is currently vacant. Each of these figures is problematic for Downtown Houston.

73% is a very high share of building area to be used for a single use type, which devastates the area if that use type should become distressed (as we saw with the COVID-19 pandemic) – this dramatic of an office monoculture effectively concentrates Downtown Houston's risk in the office market.

24% vacancy in Downtown Houston's office market is high for any office market, but the effects are particularly severe when that use type accounts for nearly three quarters of Downtown real estate. Lack of office workers also has cascading effects on the retail market downtown as well – fewer customers in the area means fewer businesses can survive, perpetuating the vacancy problem.



Space Type	Subcategory	Building Area	Units	Vacancy Rate
Office		52,998,509 SF		24%
Commercial	Retail	2,090,536 SF		9%
	Hospitality	9,086,955 SF	10,482 Rooms	-
Multi-Family		8,891,145 SF	7,413 Units	17%

Source: Costar, City of Houston

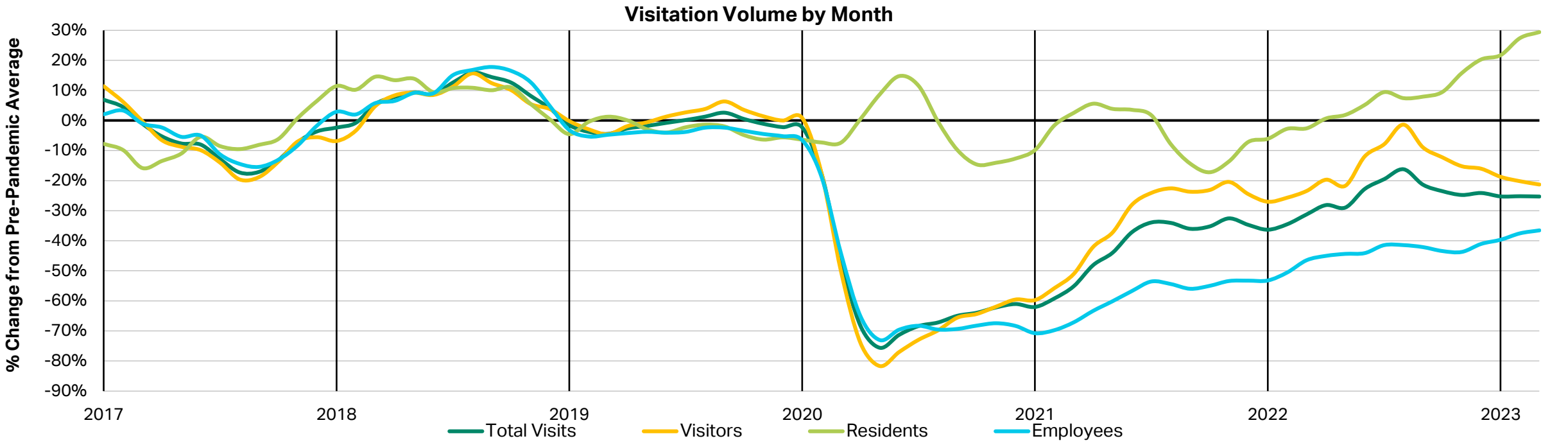
Existing Conditions
Visitation

The charts below and on subsequent pages use cellphone location data to provide insight into trends in visitation volume within Downtown Houston between 2017 and 2023. This data is provided by Placer.ai. Like any data source, these numbers are accompanied by a certain degree of uncertainty and should not be interpreted as exact values. Rather, they are meant to elucidate broader trends and observations.

The chart below depicts monthly visitation volumes relative to the pre-pandemic average (2017 through 2019) for that same month. Visitation is shown for Downtown Houston residents, employees, and visitors, highlighting the differences between the three types of people who come Downtown:

- **Visitors:** plummeted to 82% below pre-pandemic levels in spring 2020, rebounded to just 1% below in summer 2022, then fell again to 21% below as of March 2023
- **Residents:** held much steadier than visitors/employees during the pandemic years, and has increased to 30% above pre-pandemic levels as of March 2023
- **Employees:** plummeted to 73% below pre-pandemic levels in spring of 2020, has since rebounded to 37% below pre-pandemic levels as of March 2023

Although the growth in resident population is encouraging, these visits still account for a small fraction of total visitation to Downtown compared to visitor and employee visits. As a result, **total visitation** to Downtown Houston has remained 15-25% below pre-pandemic levels since the summer of 2022.



Existing Conditions
Visitation

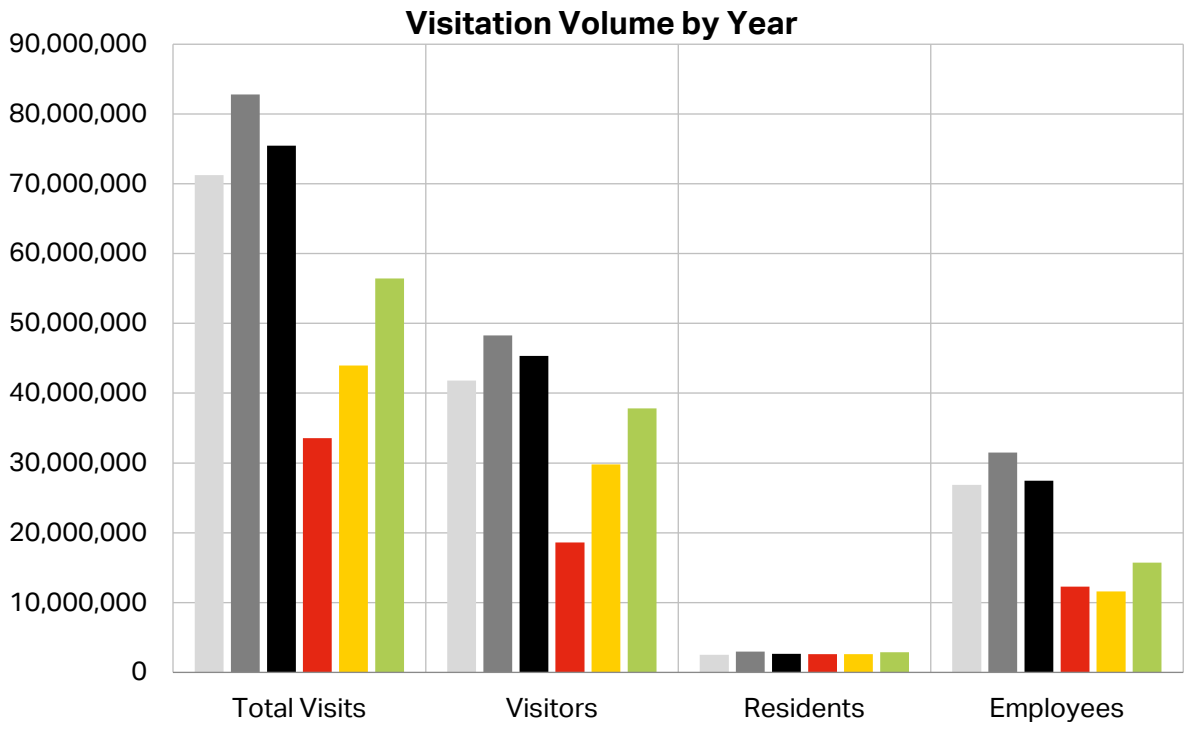
2017 2018 2019 2020 2021 2022 2023 YTD

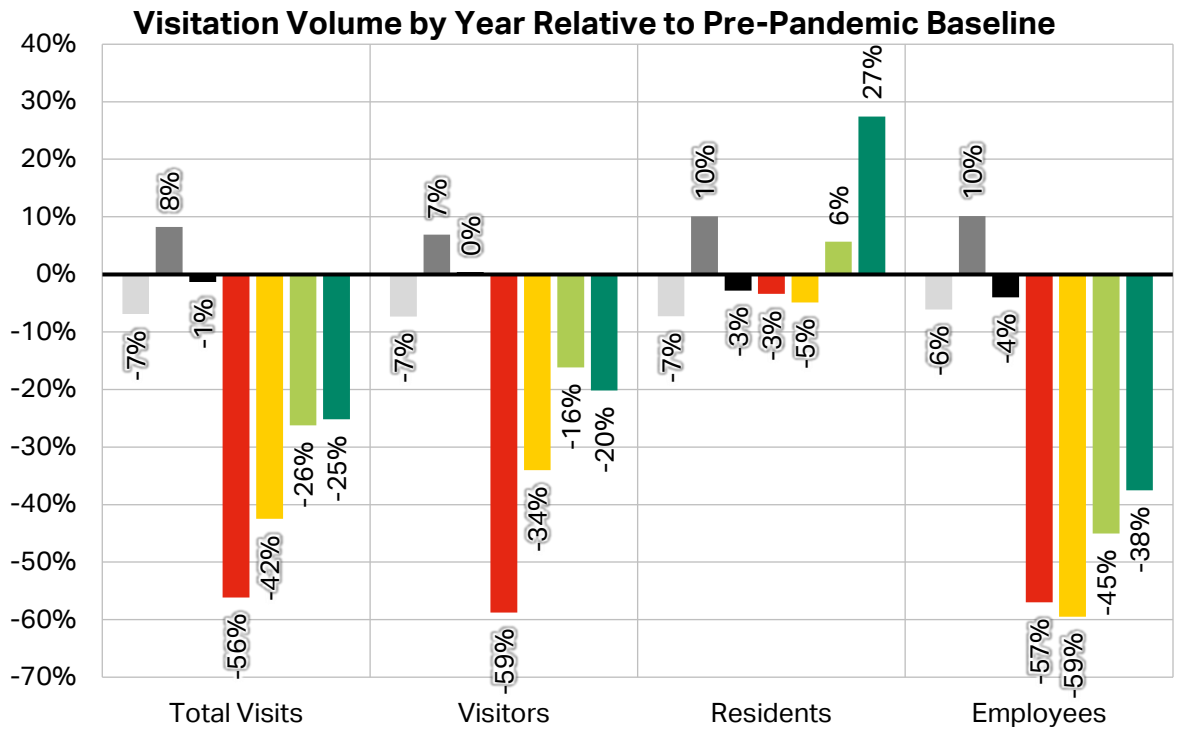
2023 YTD is January – March
Sources: Placer.ai, AECOM
Includes Downtown Houston Residents, Employees, & Visitors

The charts below present the same visitation data (including residents, employees, and visitors to Downtown), but on an annual basis. On the bottom left, visitation is shown in absolute terms. On the bottom right, visitation is shown relative to the pre-pandemic baseline (an average of visitation in 2017-2019).

Annual downtown visitation trends are as follows:

- **Visitors:** plummeted to **59% below** pre-pandemic levels in 2020, rebounded to **16% below** pre-pandemic levels in 2022
- **Residents:** held much steadier than visitors/employees during the pandemic years, and has increased to **27% above** pre-pandemic levels in 2023 YTD
- **Employees:** plummeted to **57% and 59% below** pre-pandemic levels in 2020 and 2021 respectively, rebounded to **38% below** pre-pandemic levels in 2023 YTD





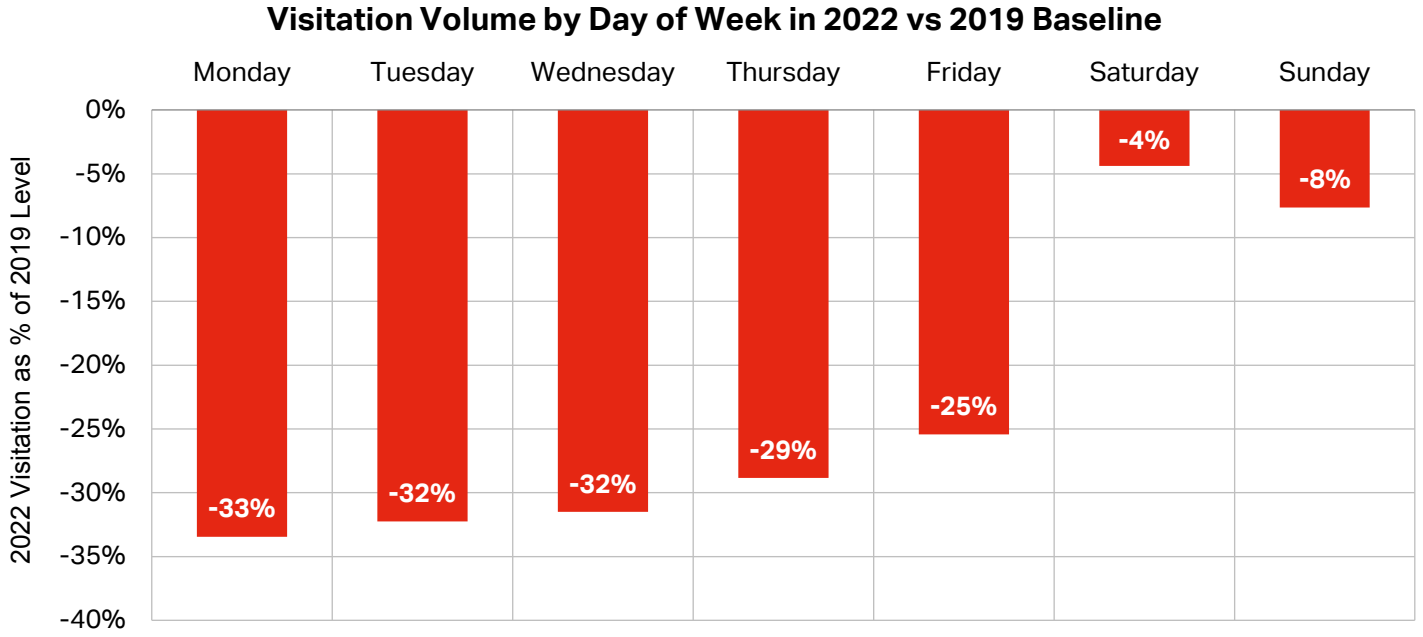
Existing Conditions
Visitation

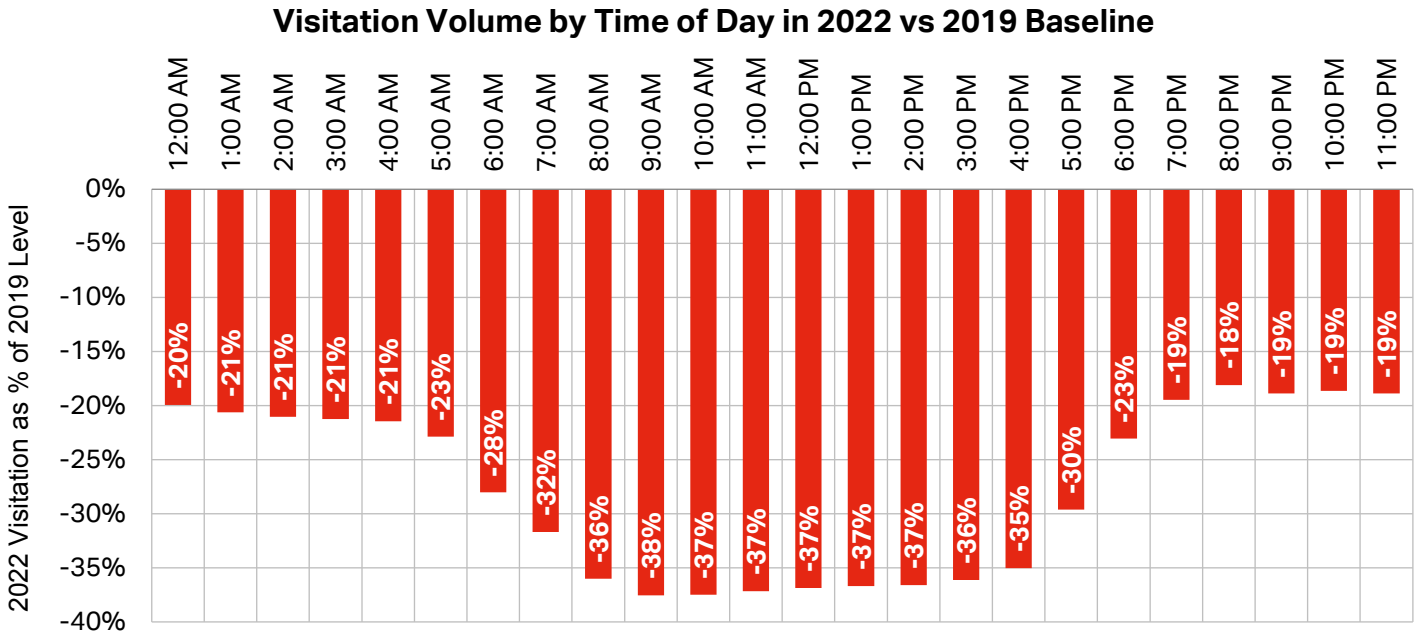
As a product of Downtown Houston's heavy reliance on employee visitation, change in total visitation levels have experienced uneven shifts since the pandemic in terms of day of the week and time of the day.

The chart on the top right shows typical visitation by day of week in 2022 compared to 2019, showing that weekdays were more severely affected than weekends. Monday – Friday visitation was down 25-33%, while Saturday and Sunday were within 4% and 9% of 2019 levels respectively.

The chart on the bottom right shows typical visitation by time of day in 2022 compared to 2019, showing that "9 to 5" visitation was most severely affected. As shown, hourly visitation between 9 AM and 5 PM was 30-38% below 2019 levels, while visitation before 6 AM and after 7 PM was 18-23% below 2019 levels.

These trends underscore the need for additional efforts to increase visitor and resident activity levels to help offset decreased employee visitation, which is unlikely to return to pre-pandemic levels anytime soon.





Sources: Placer.ai, AECOM
Includes Downtown Houston Residents, Employees, & Visitors

Existing Conditions

Urban Core Benchmarking

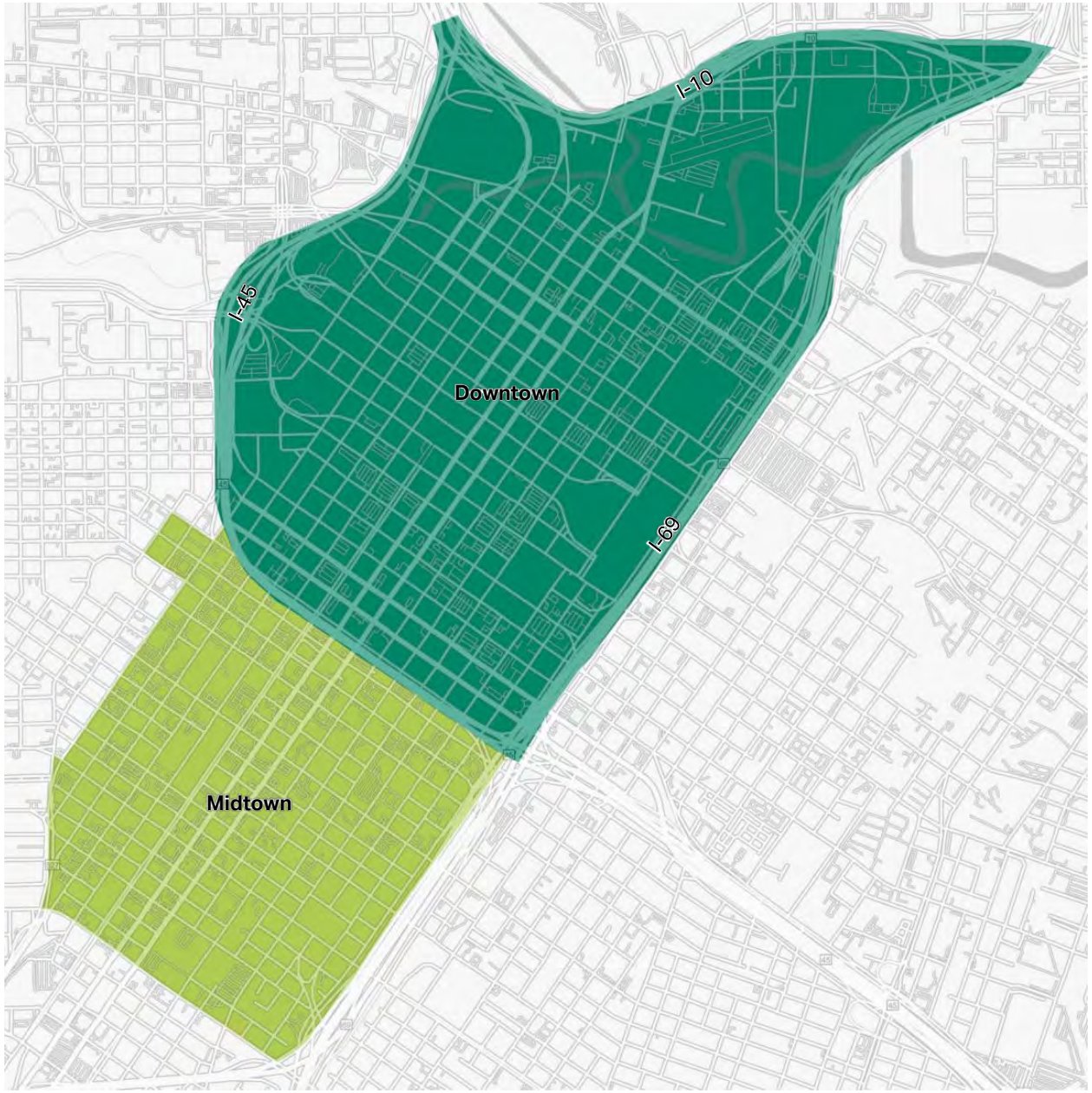
Over the past several years, AECOM has constructed and maintained a database that tracks several key demographic, economic, and real estate indicators for urban cores throughout the nation.

It should be noted that this exercise defines the "Houston Urban Core" more broadly than "Downtown Houston," which is typically limited to the areas within the highway loop shown in **green** in the map on the right. Midtown (shown in **light green**) is also included in Houston's urban core.

The purpose of this broader definition is to capture wider trends that show the strength of the submarkets just beyond the traditional "downtown" or "central business district" and to harness that strength as we advocate for more housing and other mixed-use development within the traditional downtown. Every effort has been made to provide as close to an "apples to apples" comparison as possible.

Each urban core boundary was drawn based on a variety of factors, including:

- Local definitions of downtowns, central business districts, central areas, and other similar measures of urban centrality
- Census Tract boundaries and distribution of population/job density
- Character of land use and built environment, specifically including areas with concentrations of moderate to high density office and residential buildings
- Natural and man-made barriers like bodies of water, topography, highways, other infrastructure, etc.



Existing Conditions

Visitation – Urban Core Benchmarking

The chart on the right benchmarks Houston's urban core's pandemic recovery in terms of total visitation volume against other urban cores across America. Visitation is broken down into visitors (people who do not live or work in the urban core), employees (people who work in the core), and residents (people who work in the core). These metrics are expressed for the most recent 12 months for which data was available (May 2022 – April 2023) as a percentage of the pre-pandemic annual average, which includes 2017, 2018, and 2019. The 35 urban cores are sorted in descending order based on their total visitation recovery figure.

As shown, Houston's urban core ranks 22nd out of these 35 urban cores, with total visitation at 78% of its pre-pandemic average. Regarding the 3 main segments of visitation:

- **Visitors**: Houston's urban core ranks **14th** out of the 35 urban cores at **85%** of pre-pandemic levels
- **Employees**: Houston's urban core ranks **15th** out of the 35 urban cores at **60%** of pre-pandemic levels
- **Residents**: Houston's urban core ranks **30th** out of the 35 urban cores at **104%** of pre-pandemic levels

This data underpins the importance of office-to-residential and other types of conversions in creating diversified, mixed-use urban cores that are less dependent on office workers for vibrancy. Office workers have not, and are not likely to, return to offices at the same frequency that they were doing so pre-pandemic. Meanwhile, all but 2 of the 35 urban cores have added residential population since the pandemic began – indicating that appeal of urban living persists despite workers' ability to work hybrid/remotely. This relationship is explored further on the following page.

Comparison of Selected Urban Cores in the U.S.

Pandemic Recovery - Visitation Volume in Last 12 Months

	Visitors	Rank	Employees	Rank	Residents	Rank	Total	Rank
Nashville	101%	1	70%	6	105%	29	94%	1
Miami	94%	2	79%	1	103%	31	92%	2
Milwaukee	90%	6	73%	3	127%	6	90%	3
San Diego	91%	5	71%	5	114%	14	90%	4
NYC-Downtown	81%	21	75%	2	112%	17	87%	5
Boston	89%	9	67%	8	121%	10	86%	6
St. Louis	87%	13	67%	9	119%	11	84%	7
Charlotte	91%	4	63%	12	109%	26	84%	8
Kansas City	92%	3	56%	24	103%	32	82%	9
Richmond	87%	12	59%	18	140%	3	82%	10
Philadelphia	80%	26	66%	10	133%	5	82%	11
Orlando	87%	11	62%	14	97%	34	81%	12
Los Angeles	84%	17	64%	11	109%	24	80%	13
Atlanta	82%	20	57%	21	148%	2	80%	14
Phoenix	88%	10	58%	20	106%	27	80%	15
Cincinnati	90%	7	56%	23	113%	16	80%	16
San Antonio	81%	23	72%	4	91%	35	79%	17
Dallas	85%	16	60%	16	113%	15	79%	18
Pittsburgh	89%	8	55%	25	134%	4	79%	19
NYC-Midtown	80%	27	67%	7	112%	19	78%	20
Cleveland	83%	19	59%	17	121%	9	78%	21
Houston	**85%**	**14**	**60%**	**15**	**104%**	**30**	**78%**	**22**
Indianapolis	83%	18	56%	22	127%	7	77%	23
Austin	85%	15	55%	26	101%	33	77%	24
Sacramento	81%	22	51%	33	110%	23	75%	25
Chicago	80%	24	59%	19	116%	13	75%	26
Baltimore	74%	33	63%	13	117%	12	75%	27
Denver	80%	25	52%	32	109%	25	75%	28
Seattle	78%	31	53%	29	111%	21	73%	29
Washington DC	78%	29	54%	28	112%	18	72%	30
Detroit	78%	30	55%	27	111%	20	72%	31
San Francisco	72%	34	53%	31	110%	22	71%	32
Portland	71%	35	53%	30	124%	8	71%	33
Minneapolis	78%	32	49%	34	106%	28	71%	34
Columbus	80%	28	46%	35	157%	1	69%	35

Sources: 2000-2022 U.S. Census Bureau, Esri, CoStar, Placer.ai, AECOM

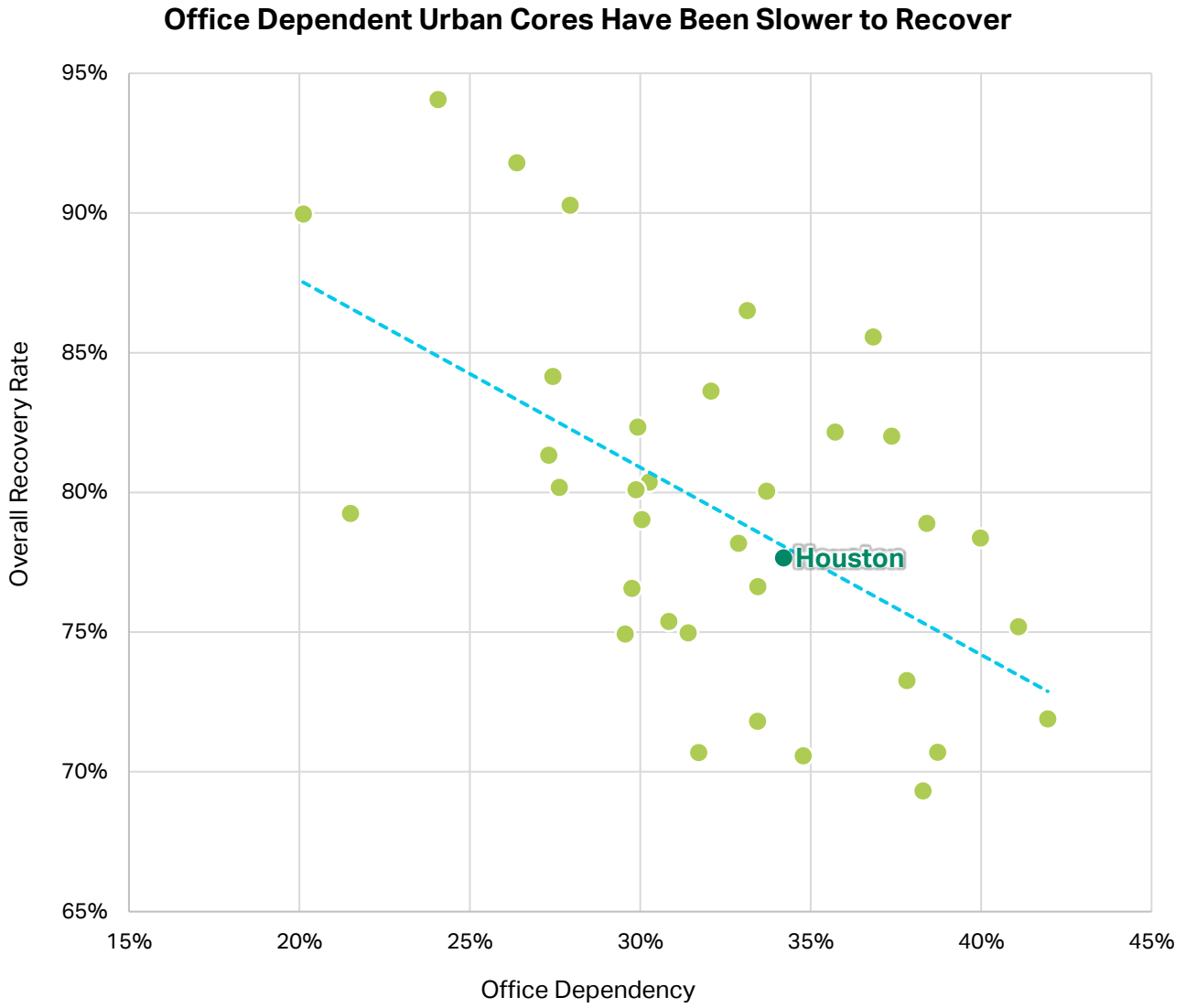
Existing Conditions

Visitation – Urban Core Benchmarking

The chart on the right explores the relationship between two of the key urban core metrics presented on the previous two pages – employee visitation as a share of total visitation ("office dependency") and total visitation within the last 12 months as a percentage of pre-pandemic averages ("overall recovery rate").

As shown, the two variables exhibit an inverse relationship with one another – as office dependency increases, pandemic recovery rate tends to decrease. The correlation coefficient between these two variables is -0.564 (n=35), indicating a moderately strong relationship.

This trend reveals additional justification for the promotion and incentivization of office-to-residential and other types of conversion projects in urban cores across America. This data shows that virtually every urban core in America has 10-30% fewer visitors on any given day than it did pre-pandemic – and areas with more office monoculture are more likely to fare worse by this metric. Fewer people in these areas causes retail, dining, and entertainment businesses to close and creates public safety issues. Converting vacant and underutilized office buildings to housing, hotels, and other types of uses brings people back to the area – improving vibrancy, public safety, and the performance of commercial, institutional, and cultural establishments. **Although office conversion projects are not a panacea, they are one piece of a larger puzzle of solutions that will reshape our urban cores in a way that's more resilient, sustainable, and diversified than they are today.**



Existing Conditions

Population – Urban Core Benchmarking

Even before the COVID-19 pandemic, urban cores across America had begun a transformation from office-centric, "9-to-5" destinations for commuters to vibrant, "24/7" mixed-use neighborhoods. This trend was both in response to and a driver of significant demographic and economic changes in these districts. Urban cores have capitalized on resident desires for walkability, transit access, shorter commutes, and proximity to dining, entertainment, and cultural amenities. Now, as the pandemic subsides, it is reasonable to expect these trends to continue.

Resident population density is crucial for urban cores, especially in the post-COVID-19 era, as it fosters "24/7" vibrancy and improves the economic viability of other commercial activity like retail, dining, nightlife, and entertainment.

The table on the right highlights residential household population (excluding populations living in group quarters such as college dorms, jails/prisons, and other similar institutions) and population density for these areas as of 2022.

As shown, Houston's urban core ranks 27th out of the 35 districts in terms of household population, with under 16,000 residents. It also ranks 25th in terms of density, with 5,971 residents per square mile. On one hand this is surprising given that Houston is the 5th largest metropolitan area by population, but on the other hand it is expected given that Houston boomed after World War II in an era defined by auto-oriented development patterns and suburban-style living preferences.

This finding could have various implications on the subject of this study – market demand and economic feasibility for office-to-residential conversions in Downtown Houston. Perhaps Houstonians do not have as much of an appetite for urban living as their counterparts in other cities throughout America. Or, perhaps Downtown Houston is behind the curve on this trend and has lots of room to grow in terms of urban housing options. These potential hypotheses will be further explored in the coming pages.

Comparison of Selected Urban Cores in the U.S.

	Area	Population			
	Sq. Mi.	Population	Rank	Density	Rank
NYC-Downtown	4.8	363,204	1	75,198	1
NYC-Midtown	4.2	282,455	2	68,061	2
Chicago	4.2	153,295	3	36,326	3
San Francisco	4.5	152,621	4	33,916	4
Boston	5.1	134,740	5	26,681	6
Washington DC	7.2	124,771	6	17,281	10
Miami	4.7	108,891	7	23,168	8
Seattle	3.8	105,345	8	28,092	5
Philadelphia	4.1	105,260	9	25,673	7
Los Angeles	4.5	67,457	10	14,990	12
Denver	2.9	48,504	11	16,554	11
Minneapolis	3.5	42,245	12	12,245	14
Portland	3.5	40,724	13	11,569	16
San Diego	2.1	40,347	14	19,491	9
Atlanta	3.6	36,164	15	9,935	17
Milwaukee	3.6	33,273	16	9,294	19
Sacramento	4.1	32,907	17	7,987	23
Dallas	2.8	32,781	18	11,877	15
Baltimore	1.6	23,529	19	14,892	13
Charlotte	2.7	22,600	20	8,278	21
Nashville	4.0	22,119	21	5,475	27
St. Louis	3.7	18,657	22	5,056	30
Indianapolis	3.9	18,081	23	4,613	33
Kansas City	3.3	17,540	24	5,315	28
Phoenix	3.5	16,591	25	4,740	31
Richmond	1.8	15,728	26	8,548	20
Houston	**2.6**	**15,704**	**27**	**5,971**	**25**
Austin	2.4	15,316	28	6,303	24
San Antonio	4.5	15,309	29	3,417	35
Detroit	2.9	15,195	30	5,294	29
Cincinnati	1.9	14,870	31	7,995	22
Cleveland	3.2	13,678	32	4,261	34
Pittsburgh	2.4	13,481	33	5,688	26
Orlando	1.3	13,043	34	9,734	18
Columbus	2.1	9,972	35	4,682	32

Sources: 2000-2022 U.S. Census Bureau, Esri, CoStar, AECOM

Existing Conditions

Urban Living – Urban Core Benchmarking

Comparison of Selected Urban Cores in the U.S.

	Metrowide Urban Living					
	Urban Center Tapestry	Rank	Housing in 3+ Unit Structures	Rank	Housing in 50+ Unit Structures	Rank
NYC-Downtown	39%	1.5	46%	1.5	19%	1.5
NYC-Midtown	39%	1.5	46%	1.5	19%	1.5
San Francisco	27%	3	36%	5	11%	6
Boston	21%	4	35%	6	9%	14
Los Angeles	20%	5	39%	4	11%	8
Washington DC	20%	6	33%	8	14%	4
Chicago	15%	7	33%	9	9%	10
San Diego	13%	8	34%	7	10%	9
Seattle	13%	9	32%	10	11%	7
Austin	12%	10	30%	12	9%	12
Denver	11%	11	30%	11	9%	11
Philadelphia	10%	12	21%	28	7%	20
Houston	**10%**	**13**	**28%**	**14**	**9%**	**13**
Dallas	10%	14	29%	13	8%	17
Atlanta	9%	15	23%	21	6%	21
Portland	8%	16	27%	17	8%	15
Miami	7%	17	44%	3	17%	3
Baltimore	6%	18	23%	22	6%	22
Milwaukee	6%	19	28%	15	7%	18
Minneapolis	6%	20	25%	19	11%	5
Sacramento	6%	21	21%	27	5%	24
Phoenix	5%	22	22%	24	7%	19
Columbus	5%	23	26%	18	4%	32
Charlotte	5%	24	20%	32	4%	31
Richmond	4%	25	20%	29	5%	27
Nashville	4%	26	22%	26	5%	23
Kansas City	3%	27	20%	30	4%	30
St. Louis	2%	28	19%	33	4%	33
Pittsburgh	2%	29	17%	35	5%	28
Indianapolis	2%	30	20%	31	3%	35
Orlando	2%	31	27%	16	5%	25
San Antonio	2%	32	24%	20	5%	26
Cleveland	2%	33	22%	25	8%	16
Cincinnati	2%	34	22%	23	3%	34
Detroit	1%	35	18%	34	4%	29

Sources: 2000-2022 U.S. Census Bureau, Esri, CoStar, Placer.ai, AECOM

Dovetailing on the ideas presented on the previous page, the chart on the left touches on 3 different metrics for preferences for "urban living" and housing arrangements:

- **Urban Center Tapestry:** This metric indicates the share of households throughout each urban core's broader metropolitan area that is categorized within Esri's "Principal Urban Center" Urbanization Group. This psychographic category is characterized as households living in the densest neighborhoods of America's largest cities. Additional detail on Esri's Tapestry methodology can be found here.
- **Housing in 3+ Unit Structures:** This metric reflects the share of each metropolitan area's housing stock that is within structures with 3 or more units. This is based on American Community Survey data provided by the U.S. Census Bureau.
- **Housing in 50+ Unit Structures:** This metric reflects the share of each metropolitan area's housing stock that is within structures with 3 or more units. This is based on American Community Survey data provided by the U.S. Census Bureau.

The Houston Metropolitan Area ranks 13th or 14th by each of these metrics – much higher than its urban core's ranking of 25th among other urban cores in terms of population density on the previous page. **This suggests that Houstonians are more open to "urban living" (or, at least, multi-unit housing) than the previous page would suggest, and that its urban core's lack of population density is more a product of its poly-centric urban fabric than its residents' preferences.**

It should be noted that existing housing stock is not necessarily reflective of resident preferences, as zoning and other regulations have historically suppressed multi-unit housing development throughout much of recent history. In addition, housing choices are often driven by affordability, and multi-unit housing options are typically more affordable than comparable single-unit alternatives.

Existing Conditions

Employment – Urban Core Benchmarking

Despite recent trends towards mixed-use development and urban housing, America's urban cores will continue to serve as economic powerhouses, employment centers, and hubs for commerce. This is true even with the increased prevalence of hybrid and remote work in this post-COVID-19 era. People who work in these areas will continue to boost activity levels, patronize businesses, and attend events in the areas around where they work.

Houston's urban core performs better relative to other urban cores in terms of employment than it does for resident population. As shown on the right, Houston's urban core is home to the jobs of over 182,000 employees – the 10th largest job market of the 35 urban cores included in this analysis. This equates to a density of 69,331 employees per square mile – the 6th densest urban core by this metric. This is despite the fact that Houston has a relatively polycentric office market, with multiple other nodes that compete with its urban core such as Galleria/Uptown, Greenway Plaza, the Energy Corridor, and several suburban office parks.

It should be noted that these numbers are derived from Bureau of Labor Statistics data, which does not factor in remote/hybrid working schedules, meaning that the actual number of workers commuting to jobs in each urban core on any given day is likely smaller than the numbers shown in this data.

The size and density of Houston's urban core as an employment center bodes well for the market demand potential for office-to-residential conversions. One of the primary drivers of the urban population boom over the past couple of decades is peoples' desire to live near where they work.

Although we cannot be certain that this trend will continue in a post-pandemic world since many of those workers are now hybrid or remote, initial population estimates and housing market indicators suggest that there is still strong demand for urban housing. In addition to proximity to work, urban core residents also enjoy proximity to many other attractive things like retail, entertainment, dining, nightlife, parks, and arts and cultural attractions.

Comparison of Selected Urban Cores in the U.S.

	Area	Jobs			
	Sq. Mi.	Jobs	Rank	Density	Rank
NYC-Midtown	4.2	1,149,533	1	276,996	1
NYC-Downtown	4.8	603,605	2	124,970	3
Chicago	4.2	566,438	3	134,227	2
Washington DC	7.2	479,556	4	66,420	7
Boston	5.1	459,219	5	90,934	4
San Francisco	4.5	371,686	6	82,597	5
Philadelphia	4.1	255,827	7	62,397	11
Atlanta	3.6	240,466	8	66,062	8
Seattle	3.8	228,574	9	60,953	12
Houston	**2.6**	**182,340**	**10**	**69,331**	**6**
Los Angeles	4.5	180,815	11	40,181	19
Minneapolis	3.5	164,673	12	47,731	15
Denver	2.9	143,953	13	49,131	14
Pittsburgh	2.4	139,382	14	58,811	13
Indianapolis	3.9	136,052	15	34,707	24
Miami	4.7	134,911	16	28,704	26
Portland	3.5	129,145	17	36,689	22
Cincinnati	1.9	117,656	18	63,256	10
Sacramento	4.1	112,028	19	27,191	27
Austin	2.4	107,255	20	44,138	16
Baltimore	1.6	102,088	21	64,613	9
Nashville	4.0	101,495	22	25,123	29
Dallas	2.8	101,475	23	36,766	21
Columbus	2.1	89,065	24	41,815	17
Detroit	2.9	86,498	25	30,139	25
Phoenix	3.5	85,953	26	24,558	30
Cleveland	3.2	81,202	27	25,297	28
San Antonio	4.5	79,504	28	17,746	35
Milwaukee	3.6	78,823	29	22,018	32
Richmond	1.8	76,722	30	41,697	18
San Diego	2.1	73,479	31	35,497	23
St. Louis	3.7	72,900	32	19,756	34
Kansas City	3.3	70,345	33	21,317	33
Charlotte	2.7	62,826	34	23,013	31
Orlando	1.3	51,035	35	38,086	20

Sources: 2000-2022 U.S. Census Bureau, Esri, CoStar, AECOM

Section 3:
Real Estate Market Forces

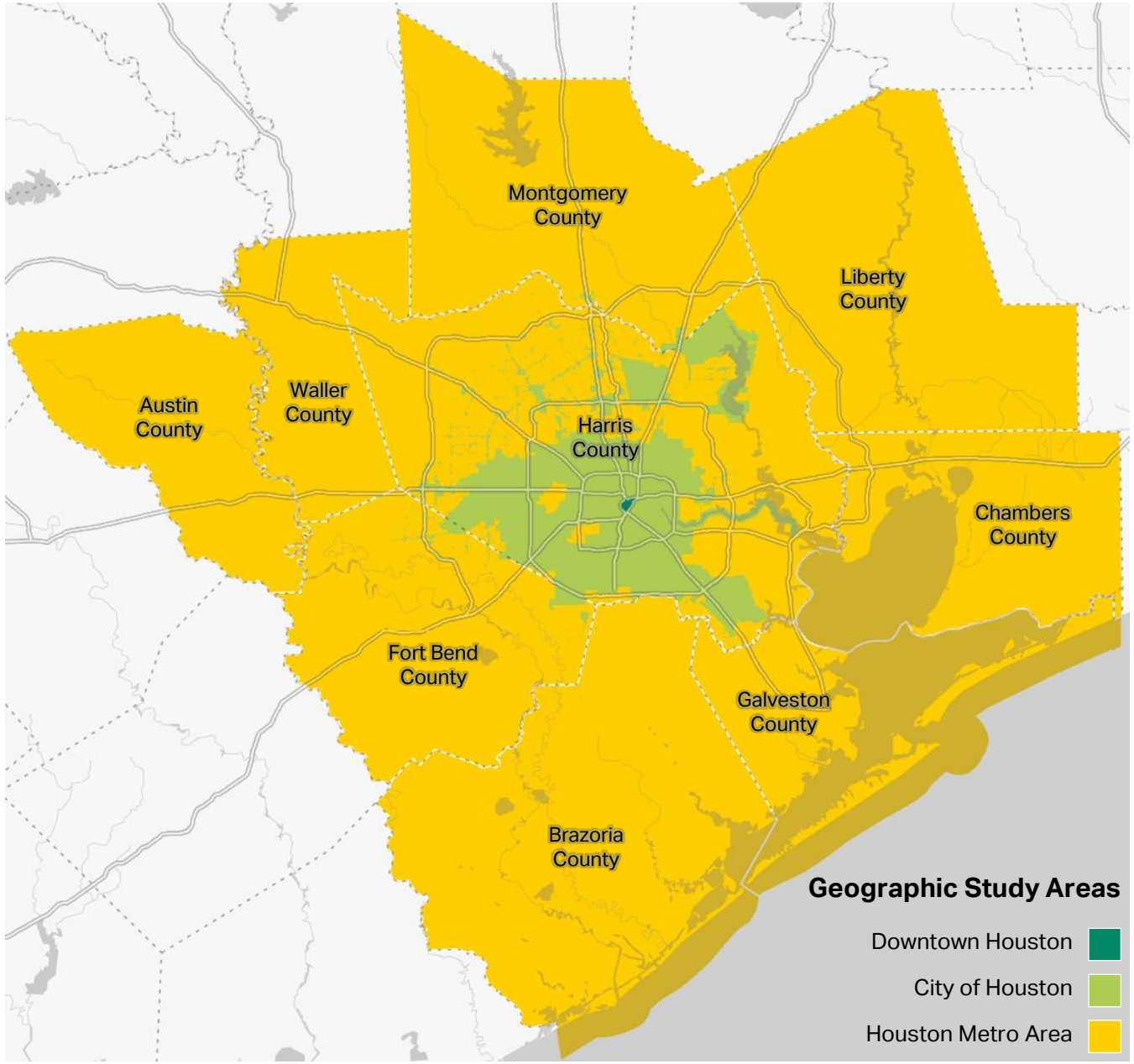
Real Estate Market Forces

Introduction

In this section, AECOM evaluates real estate market supply and demand dynamics to best forecast future potential for Downtown Houston. This analysis includes broader pre- and post-pandemic market forces and more granular data indicating the trajectory of Downtown Houston relative to other similar submarkets throughout the United States.

From a market perspective, the most promising elements of a conversion program appear to be renter-occupied, multi-unit residential, retail (primarily dining and entertainment concepts with supporting shops and storefronts), hotels, and arts, cultural, and tourism-oriented attractions.

This section contains data for this analysis' study area of Downtown Houston as well as the City of Houston and Houston Metro Area for comparison. These geographic units are shown in the map on the right.



Real Estate Market Forces

Regional Context

It's important to consider the broader economic and demographic contexts within which Downtown Houston operates.

The table on the right shows high-level population and gross domestic product (GDP) metrics for the 20 largest metropolitan areas in the United States, sorted in order by population.

As shown, the Houston Metro Area ranks 5th in terms of population size and 7th in terms of economic size.

In terms of growth since 2010, Houston has led the pack in population growth but ranked 15th for economic growth.

Houston is poised to remain a top-tier market for the foreseeable future, but it will need to make intentional, strategic investments in order to maximize competitiveness and support future prosperity.

Top 20 Metropolitan Areas in the U.S. by Population

Metro Area	Population				Economy (GDP)			
	2020	Rank	Growth 2010-2020	Rank	2021 ($ millions)	Rank	Growth 2010-2021	Rank
New York City, NY	20,140,470	1	7%	14	$1,992,779	1	19%	16
Los Angeles, CA	13,200,998	2	3%	18	$1,124,682	2	27%	12
Chicago, IL	9,618,502	3	2%	20	$764,583	3	15%	19
Dallas, TX	7,637,387	4	20%	2	$598,333	6	46%	3
Houston, TX	**7,122,240**	**5**	**20%**	**1**	**$537,066**	**7**	**21%**	**15**
Washington D.C.	6,385,162	6	13%	8	$607,629	5	17%	17
Philadelphia, PA	6,245,051	7	5%	17	$477,581	10	12%	20
Miami, FL	6,138,333	8	10%	10	$417,148	12	31%	9
Atlanta, GA	6,089,815	9	15%	6	$473,823	11	42%	6
Boston, MA	4,941,632	10	9%	13	$531,672	8	30%	10
Phoenix, AZ	4,845,832	11	16%	5	$316,091	13	42%	5
San Francisco, CA	4,749,008	12	10%	11	$668,678	4	72%	1
Riverside, CA	4,599,839	13	9%	12	$213,183	19	32%	7
Detroit, MI	4,392,041	14	2%	19	$283,660	15	21%	14
Seattle, WA	4,018,762	15	17%	3	$479,966	9	66%	2
Minneapolis, MN	3,690,261	16	11%	9	$296,969	14	24%	13
San Diego, CA	3,298,634	17	7%	15	$267,974	16	30%	11
Tampa, FL	3,175,275	18	14%	7	$190,709	20	32%	8
Denver, CO	2,963,821	19	17%	4	$253,399	17	45%	4
Baltimore, MD	2,844,510	20	5%	16	$222,967	18	17%	18

Sources: U.S. Census Bureau, U.S. Bureau of Economic Analysis, AECOM

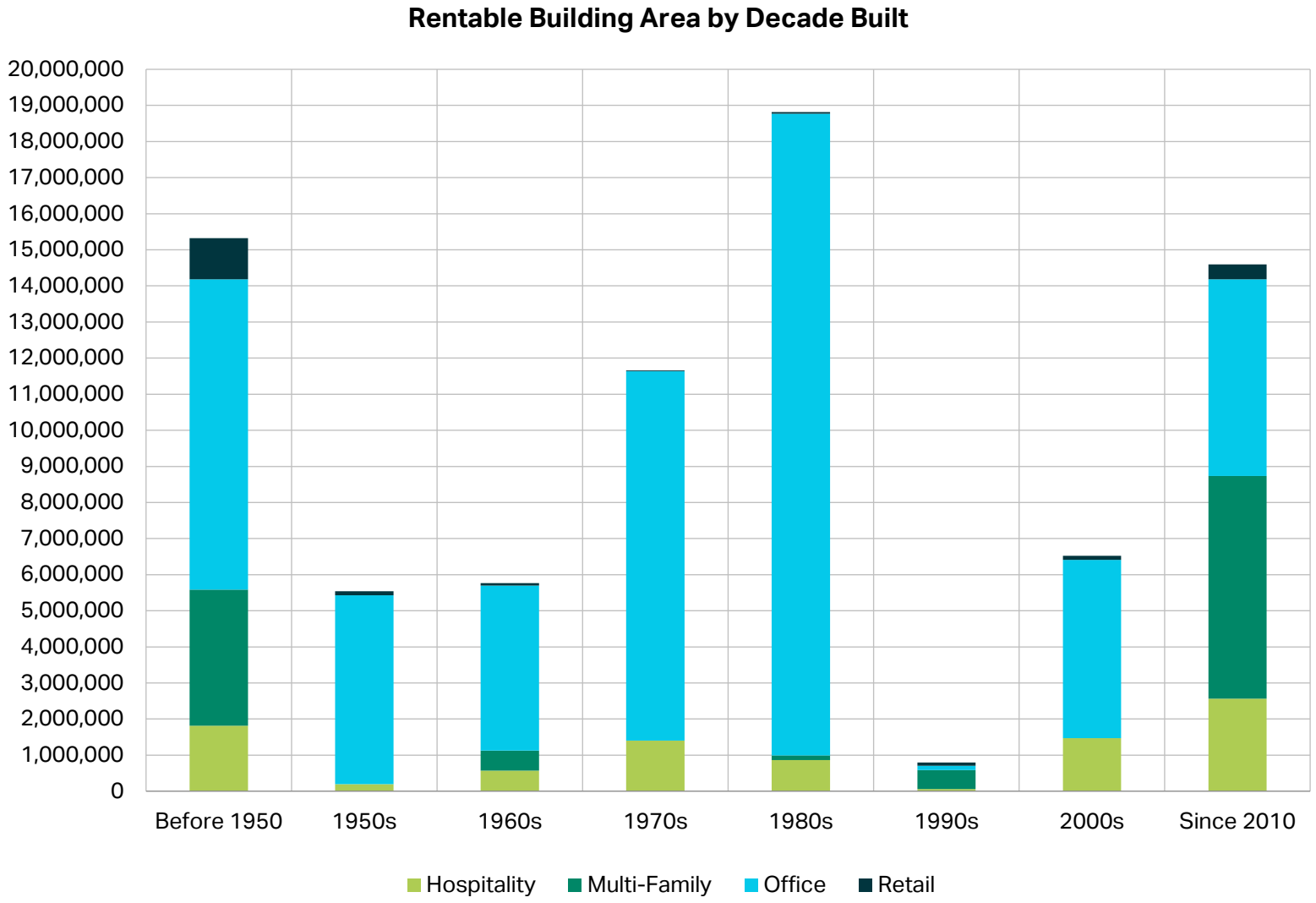
Real Estate Market Forces

Downtown Context

The chart on the right provides several key insights into the built environment of Downtown Houston by showing existing real estate by decade of construction. Overarchingly, development activity ebbed and flowed in alignment with broader economic trends, with large building booms in the 1970s and 1980s, early 2000s, and late 2010s. Most of the development that has occurred since 2010 has been multi-family residential and hospitality, while demand for office space had plateaued and begun to contract as a result of the COVID-19 pandemic.

Like many "post-war" sunbelt cities, the vast majority of downtown Houston's office space was built in the 1970s and 80s. By this time, the market was delivering buildings with floorplates designed to be highly efficient for office space, with minimum building dimensions of 120-130 feet or more. These deep floorplates create challenges for office-to-residential or office-to-hotel conversions, which require windows in every unit/room for light and air penetration. "Pre-war" cities like New York, Chicago, Boston, and Philadelphia have more older office stock, which tends to have 1) shallower floorplates that are more conducive to conversions and 2) rents that are lower than newer buildings, which makes conversion projects more economically feasible. **In this way, cities like Houston face a particularly difficult challenge in making office conversion projects work.** Potential solutions are further explored later in this report.

Sources: CoStar, AECOM



Real Estate Market Forces

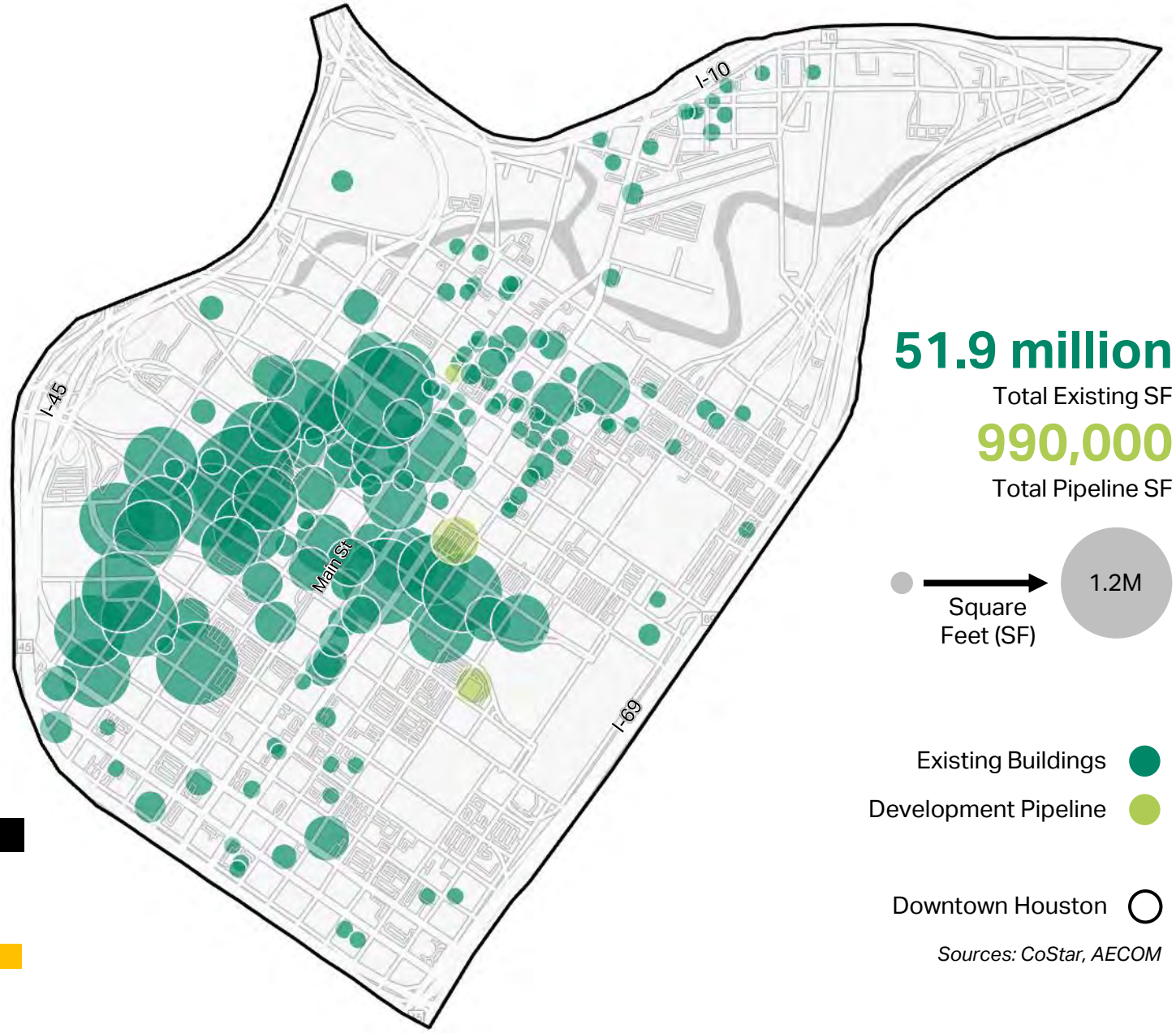
Office Market

Downtown Houston is home to approximately 166 existing office properties accounting for about 51.9 million square feet of existing office space. There are an additional 3 office buildings currently in the pipeline, which could add up to 990,000 million additional square feet of office space in the coming years.

The map on the right illustrates the distribution of office properties throughout the planning area, with circles sized according to the rentable square footage of the building. As shown, office space is primarily concentrated in the central and western portions of Downtown Houston within the aptly named "Skyline District."

Houston is unique in that its office market is rather polycentric, with several other nodes of concentrated office space such as the Energy Corridor, Galleria / Uptown, Greenway Plaza, and several other suburban office parks. As shown below, these submarkets create additional intraregional competition and have contributed to elevated office vacancy in Downtown Houston.

The following pages provide insight into the performance of Downtown Houston's office market by comparing it to broader averages and trends.



Comparison of Office Submarkets in Houston

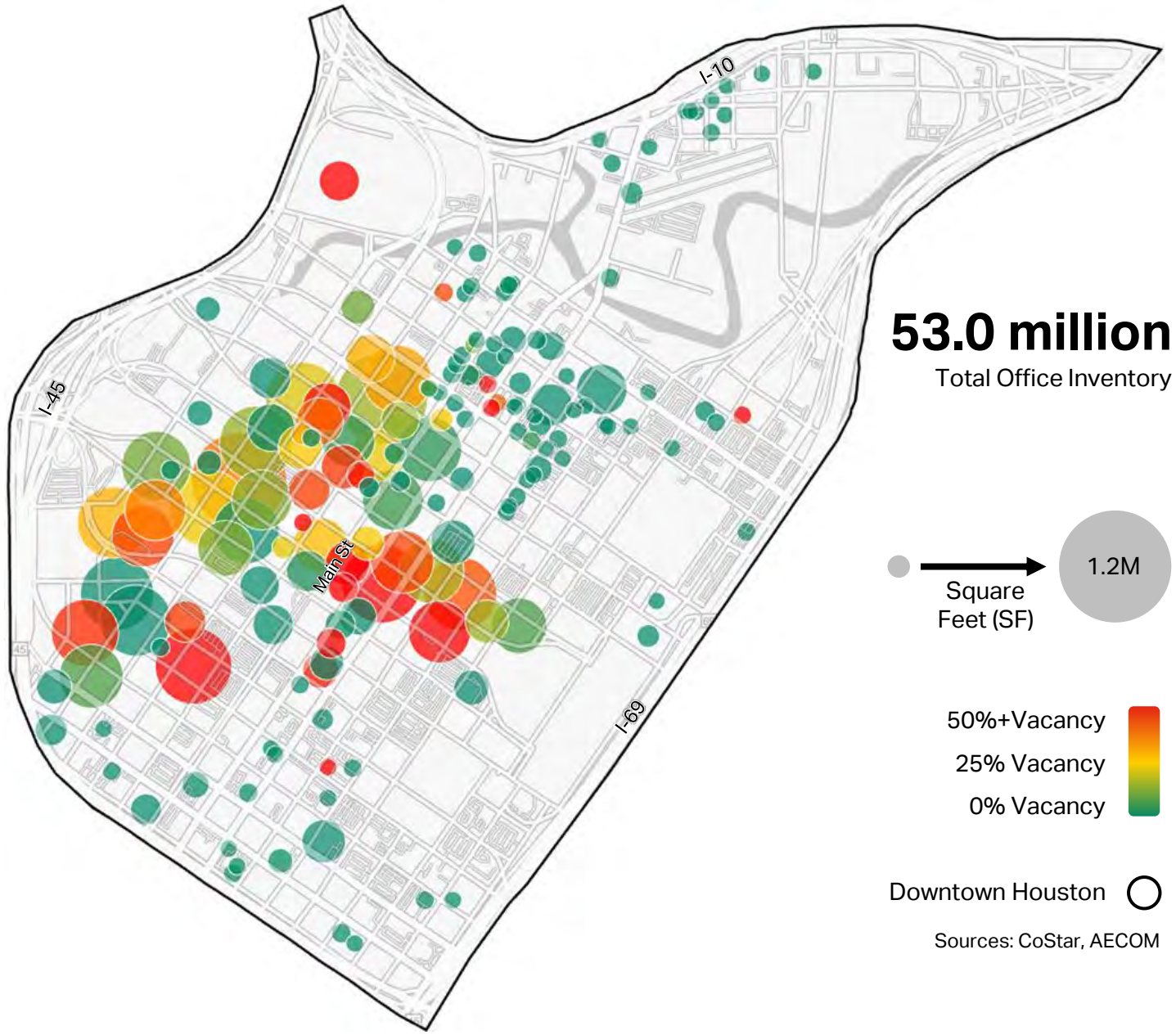
	Total Square Feet	Average Rent	Vacancy
Downtown Houston	51,949,922	$26.03	24.1%
Energy Corridor	20,626,934	$20.17	20.0%
Galleria / Uptown	16,774,081	$22.14	31.3%
Greenway Plaza	13,124,363	$21.54	18.7%

Sources: CoStar, AECOM

Real Estate Market Forces

Office Market

There are 169 office buildings comprising 53.0 million square feet of office space in Downtown Houston. As of Spring 2023, the area's office market had a vacancy rate of 24% (equating to over 12.5 million square feet of vacant space) and an availability rate of 30% (equating to an additional 6%, or 2.4 million square feet of space, that is not yet vacant but is nearing the end of a lease and has not yet been re-leased). On a building-by-building basis, 32% of office buildings in the corridor have vacancy rates of more than 30%.



Source: Costar, Spring 2023

Real Estate Market Forces

Office Market

Middle-Aged Buildings Have Higher Vacancy Rates

As shown in the table below, office buildings constructed between 1950 & 1969 and 1970 & 1989 comprise more than two thirds of the total office inventory within Downtown Houston and have very high vacancy and availability rates ranging from 27-30% and 34-35%, respectively. These "middle aged" buildings are often too old to have modern amenities that are essential for attracting office tenants in today's market, but too new to have sufficient historical character that would qualify them to pursue Historic Preservation Tax Credits – a key funding source that can help office-to-residential conversion projects to achieve feasibility. The general rule of thumb is that a building must be at least 50 years old to begin to think about pursing historic designation, meaning some buildings in the 1950-1969 category may qualify but most buildings in the 1970-1989 category do not. Many of these "middle-aged" buildings have little to no viability as office space in the foreseeable future and would need tens or hundreds of millions of dollars' worth of renovation and modernization work in order to be desirable for any type of use. However, Downtown Houston would benefit in several ways if some of this vacant office space was converted.

As shown on the right, Downtown Houston has a smaller share of its office stock that was built before 1970 compared to 35 other urban core districts throughout America. This indicates that office-to-residential feasibility may be particularly challenging in Downtown Houston because a large portion of its office stock does not qualify for the aforementioned Historic Preservation Tax Credits and may not have a path to financial feasibility within the current funding landscape as a result. This data also underscores the severity of Houston's office vacancy problem – at 24%, Downtown Houston has the 3rd highest office vacancy rate among the set.

All Downtown Houston Office Stock

Year Built	Total Inventory	Share of Inventory	Vacancy Rate	Availability Rate
Pre-1950	4,977,331	9%	16%	17%
1950-1969	7,418,965	14%	30%	35%
1970-1989	29,108,059	55%	27%	34%
1990-Present	10,504,202	20%	16%	16%
Pipeline	989,952	2%	0%	87%
Grand Total	**52,998,509**		**24%**	**30%**

Comparison of Selected Urban Cores in the U.S.

	Office Market			
	Built before 1970	Rank	Vacancy	Rank
NYC-Midtown	65%	1	10%	26
NYC-Downtown	63%	2	12%	23
Cleveland	60%	3	10%	29
Cincinnati	52%	4	9%	31
Milwaukee	52%	5	10%	28
San Antonio	51%	6	9%	34
Detroit	49%	7	11%	25
Philadelphia	49%	8	13%	21
Kansas City	49%	9	18%	9
San Diego	47%	10	14%	19
Pittsburgh	46%	11	14%	18
Baltimore	46%	12	9%	30
Portland	44%	13	22%	4
Seattle	44%	14	17%	13
Chicago	39%	15	19%	7
Los Angeles	37%	16	16%	16
Columbus	36%	17	9%	33
Richmond	35%	18	6%	35
Indianapolis	35%	19	10%	27
Boston	33%	20	12%	22
Minneapolis	29%	21	18%	11
Orlando	26%	22	11%	24
Nashville	24%	23	16%	14
Houston	**23%**	**24**	**24%**	**3**
Atlanta	**23%**	**25**	**18%**	**10**
Washington DC	23%	26	16%	15
Denver	**21%**	**27**	**21%**	**5**
St. Louis	21%	28	17%	12
San Francisco	21%	29	34%	1
Sacramento	19%	30	9%	32
Miami	18%	31	14%	20
Dallas	**17%**	**32**	**29%**	**2**
Phoenix	**15%**	**33**	**16%**	**17**
Austin	14%	34	18%	8
Charlotte	13%	35	19%	6

Sources: 2000-2022 U.S. Census Bureau, Esri, CoStar, Placer.ai, AECOM

Real Estate Market Forces

Office Market

Source: CoStar, Spring 2023

Larger Buildings Have Higher Vacancy Rates

Office buildings larger than 500,000 square feet, and particularly those larger than 1,000,000 square feet, comprise contain the vast majority of Downtown Houston's vacant office space. 80% of Downtown Houston's office space is within buildings with 500,000 or more square feet, and 44% is within buildings with 1 million or more square feet. This is especially pronounced in the segment of buildings built between 1970 and 1990, in which these two numbers increase to 86% and 65%, respectively. These larger buildings also tend to have higher vacancy/availability rates than their smaller counterparts, indicating that many of the buildings that are most in need of office-to-residential conversion solutions are in these larger size categories.

This is problematic because the "sweet spot" for residential buildings in Downtown Houston is 300-350 units – large enough to justify the amenity packages that are essential for rentability, but small enough to avoid flooding the relatively small housing submarket, extending lease up timeframes, and decreasing feasibility. A 300–350-unit residential program certainly occupies less than 500,000 square feet of gross building area. This means that the vast majority of Houston's office buildings, especially "middle aged" properties that are most in need of redevelopment, are too large to be fully converted to housing in one phase, necessitating the following alternative conversion approaches:

- **Vertical mixed-use program** in which part of the building remains as office space (which may or may not attract tenants) or gets converted to other use(s) like hotel, retail, cultural/institutional, educational, additional amenities, storage, parking, or likely a mix thereof
- **Multi-phased office-to-residential conversion approach** where one portion of the building is converted in the first phase and other portion(s) are converted in future phase(s) upon stabilization of the first phase

Both alternative approaches to conversion increase complexity, therefore lengthening the conversion timeline, adding to total project cost, and decreasing overall feasibility.

All Downtown Houston Office Stock

Building Size	Total Inventory	Share of Inventory	Vacancy Rate	Availability Rate
100,000 SF or Less	2,041,990	4%	11%	14%
100,000 - 250,000 SF	2,638,925	5%	15%	18%
250,000 - 500,000 SF	5,642,847	11%	14%	25%
500,000 - 750,000 SF	10,214,903	19%	22%	35%
750,000 - 1,000,000 SF	8,956,551	17%	24%	27%
1,000,000 SF or More	23,503,293	44%	29%	33%
Grand Total	**52,998,509**		**24%**	**30%**

Downtown Housing Office Buildings Built 1970-1990

Building Size	Total Inventory	Share of Inventory	Vacancy Rate	Availability Rate
100,000 SF or Less	193,798	1%	0%	0%
100,000 - 250,000 SF	951,439	3%	27%	29%
250,000 - 500,000 SF	2,903,963	10%	15%	27%
500,000 - 750,000 SF	2,469,808	8%	39%	60%
750,000 - 1,000,000 SF	3,790,964	13%	38%	39%
1,000,000 SF or More	18,798,087	65%	25%	31%
Grand Total	**29,108,059**		**27%**	**34%**

Real Estate Market Forces

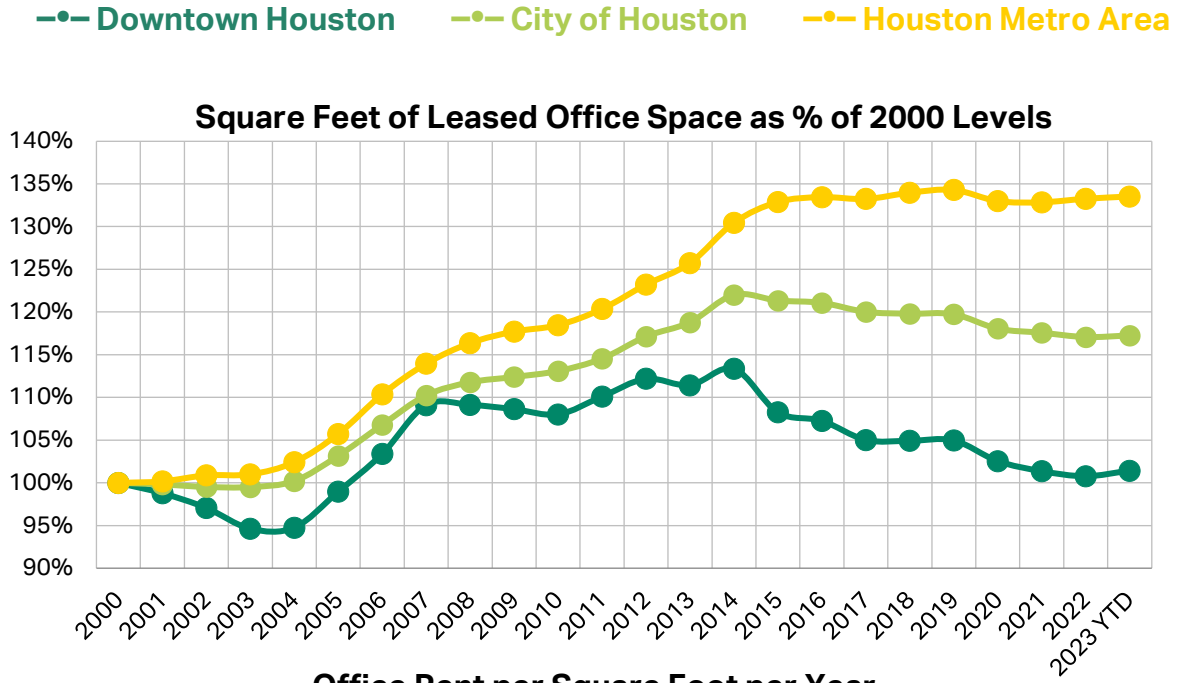
Office Market

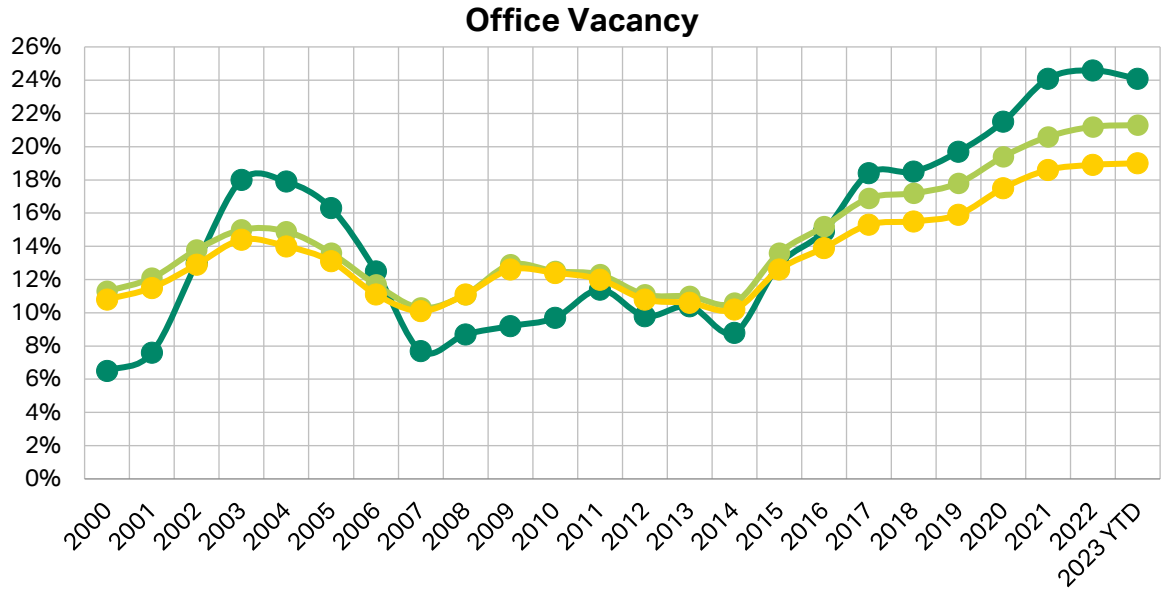
Downtown Houston is home to nearly 20% of the City of Houston's office space.

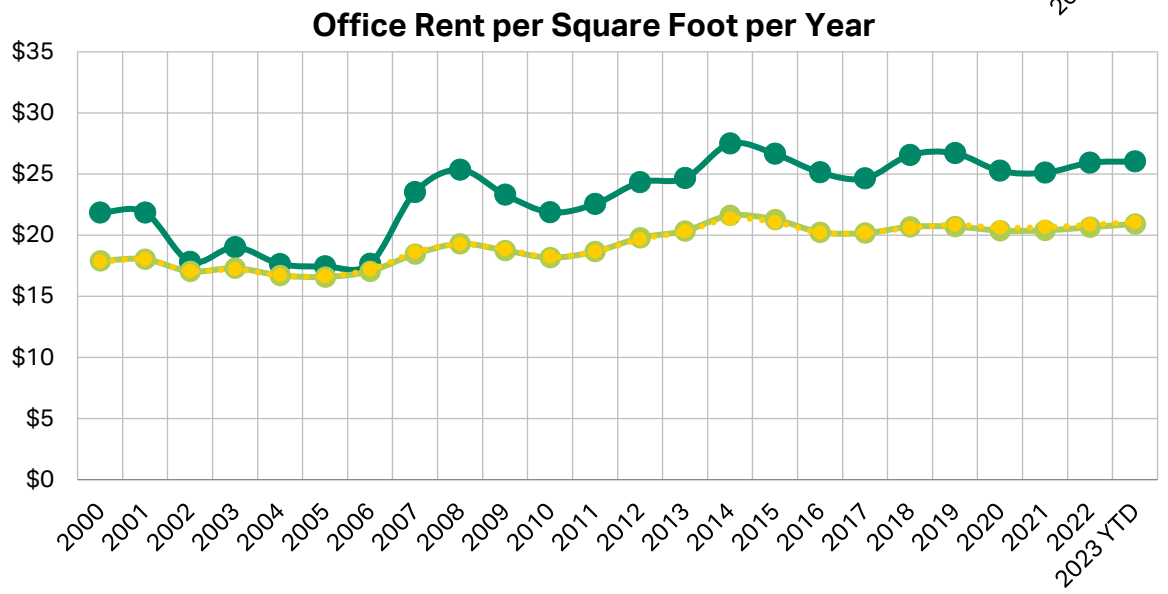
The volume of leased office space in Downtown Houston peaked in 2014 and has since contracted to about 39.5 million square feet (just 1.4% above 2000 levels). Citywide and metrowide trends reveal that office space has been decentralizing, with less occupied space downtown and more being added in suburban areas.

Office vacancy rates have increased to very high levels above 24% Downtown, 21% citywide, and 19% metrowide as the volume of leased space has remained stagnant while new supply has continued to be added.

Office rents downtown hovered between $25 and $27 per square foot in recent years compared to $20 to $21 per square foot throughout the city and metro.







Sources: CoStar, AECOM

Real Estate Market Forces

Retail Market

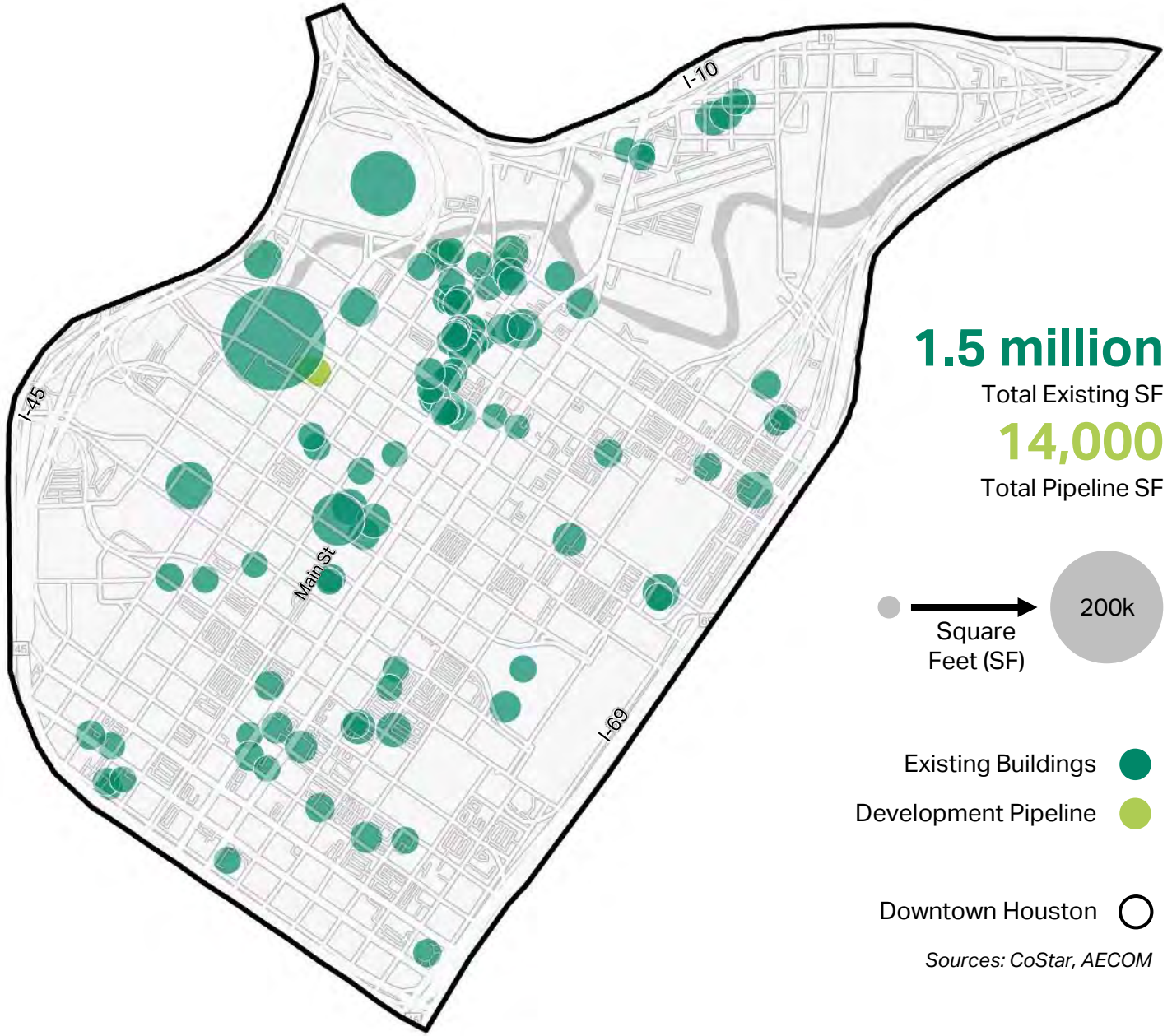
Downtown Houston is home to approximately 103 existing retail properties, accounting for nearly 1.5 million square feet of existing retail space. In addition, there are 2 properties in the pipeline accounting for 14,000 square feet of space that could be available in the market. The map on the right illustrates the distribution of retail properties throughout the study area, with circles sized according to the rentable square footage of the building.

As shown, retail space is primarily concentrated near Market Square, with additional ground-floor retail inventory in buildings that are primarily used as office, hotel, or housing throughout the rest of Downtown Houston.

Retail (including restaurants, bars, and traditional retail stores) thrives in areas close to resident population density, employment density, student population density, tourism density, and other types of activity generators and demand drivers.

Historically, the primary driver of retail demand in Downtown Houston was employment density. However, due to today's prevalence of hybrid/remote work, Downtown retailers will rely more heavily on resident population and tourism.

The following slides provide insight into the performance of Downtown Houston's retail market by comparing it to broader averages and trends.



Sources: CoStar, AECOM

Real Estate Market Forces

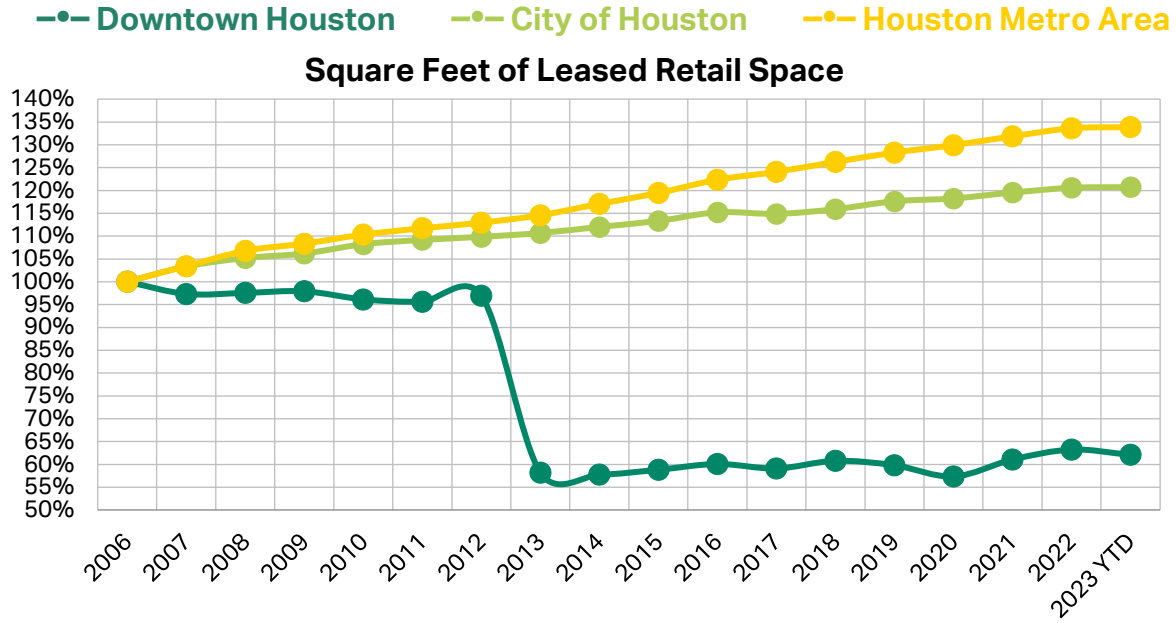
Retail Market

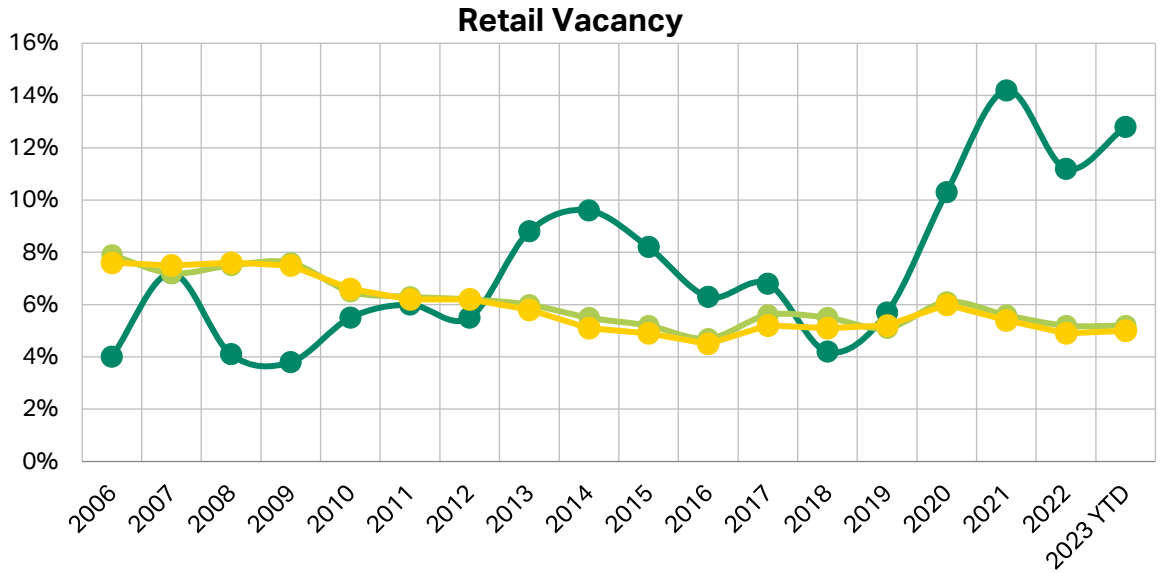
Downtown is home to approximately 0.6% of the City of Houston's retail space.

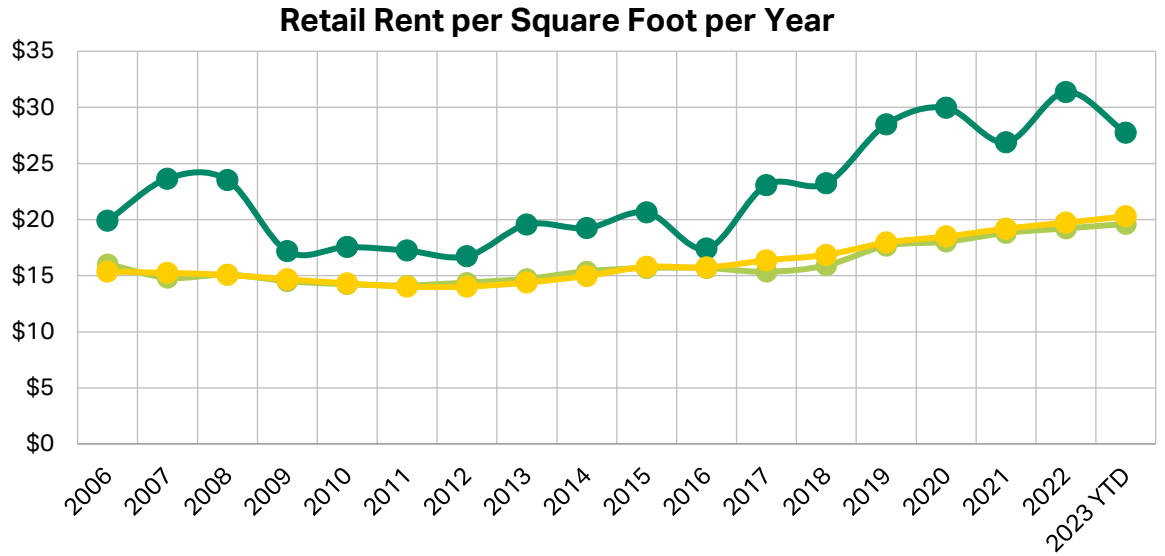
Since 2006, the volume of leased retail square footage in Downtown Houston has remained relatively flat despite citywide and metrowide growth, with the exception of a large decrease in 2013 when the former Macy's building at 1110 Main was demolished. AECOM spot-checked CoStar's retail data and removed buildings that were deemed not to be market rate retail space, such as arts and cultural institutions and community facilities.

Retail vacancy rates in Downtown Houston oscillated around citywide averages until the onset of the COVID-19 pandemic in 2019, when they increased to 13% as of YTD 2023.

Retail rental rates in Downtown Houston tracked above citywide and metrowide averages and have also grown faster. Since 2006, Downtown rents have increased by 40% compared to 22% citywide and 32% metrowide.







Sources: CoStar, AECOM

Real Estate Market Forces

Retail – Urban Core Benchmarking

AECOM used annual spending data to compare the non-office commercial markets for urban cores across the United States, including the following key sectors:

- **Retail:** Houston's urban core generates approximately **$187 million** per square mile annually, which ranks **22nd** among the 35 urban cores included in this analysis.
- **Restaurants & Bars:** Houston's urban core generates approximately **$131 million** per square mile annually, which ranks **19th** among the 35 urban cores in this analysis.
- **Entertainment, Arts, & Recreation:** Houston's urban core generates approximately **$110 million** per square mile annually, which ranks **15th** among the 35 urban cores in this analysis.

The implications of this data on the broader purpose of this study are twofold:

- The sectors represented by these three types of spending are potential tenants for ground floor retail space in office-to-mixed use conversion projects in Downtown Houston. Economic activity in these sectors suggests that Houston's urban core could be an attractive location for these types of businesses to locate.
- The presence of these types of establishments and activities helps to maximize Downtown Houston's attractiveness as a place to live, therefore improving the market demand and economic feasibility of office-to-residential conversion projects.

Comparison of Selected Urban Cores in the U.S.

	Area	Annual Spending per Sq. Mi. ($000)					
	Sq. Mi.	Retail	Rank	Restaurant & Bar	Rank	Entertainment	Rank
NYC-Midtown	4.2	$5,870,996	1	$1,043,514	1	$986,893	1
NYC-Downtown	4.8	$2,133,021	2	$655,392	2	$307,705	4
Chicago	4.2	$1,695,613	3	$397,595	3	$132,069	13
San Francisco	4.5	$1,291,254	4	$297,910	5	$262,091	5
Boston	5.1	$919,034	5	$346,139	4	$145,744	11
Los Angeles	4.5	$815,176	6	$140,845	16	$130,095	14
Seattle	3.8	$515,763	7	$217,174	8	$154,293	9
Philadelphia	4.1	$502,218	8	$195,891	9	$132,865	12
Portland	3.5	$487,480	9	$131,380	18	$68,113	19
Miami	4.7	$467,613	10	$121,686	20	$59,948	22
San Diego	2.1	$376,078	11	$243,317	6	$154,469	8
Austin	2.4	$357,726	12	$175,761	11	$58,284	24
Denver	2.9	$334,353	13	$182,935	10	$32,115	29
Charlotte	2.7	$300,952	14	$95,414	21	$63,160	21
Washington DC	7.2	$282,223	15	$221,910	7	$59,532	23
Dallas	2.8	$259,279	16	$165,909	13	$203,818	6
Baltimore	1.6	$252,390	17	$143,377	15	$49,053	27
Atlanta	3.6	$242,851	18	$158,094	14	$77,144	17
Nashville	4.0	$216,758	19	$90,901	23	$68,497	18
Minneapolis	3.5	$212,221	20	$134,344	17	$162,171	7
Sacramento	4.1	$188,727	21	$73,788	28	$15,173	33
Houston	**2.6**	**$186,984**	**22**	**$131,254**	**19**	**$110,021**	**15**
Columbus	2.1	$184,968	23	$65,115	31	$29,461	30
Orlando	1.3	$180,457	24	$174,836	12	$109,779	16
Indianapolis	3.9	$169,123	25	$70,095	30	$46,631	28
Richmond	1.8	$165,920	26	$73,161	29	$13,983	34
Pittsburgh	2.4	$153,807	27	$94,101	22	$55,605	25
Cincinnati	1.9	$125,735	28	$87,292	24	$148,224	10
Milwaukee	3.6	$123,297	29	$81,430	25	$16,857	31
San Antonio	4.5	$118,698	30	$79,637	26	$13,970	35
Kansas City	3.3	$94,992	31	$45,432	34	$15,850	32
Detroit	2.9	$94,259	32	$79,474	27	$452,229	2
Phoenix	3.5	$91,870	33	$63,280	32	$65,790	20
Cleveland	3.2	$68,944	34	$56,398	33	$334,466	3
St. Louis	3.7	$58,705	35	$44,669	35	$53,111	26

Sources: 2000-2022 U.S. Census Bureau, Esri, CoStar, Placer.ai, AECOM

Real Estate Market Forces

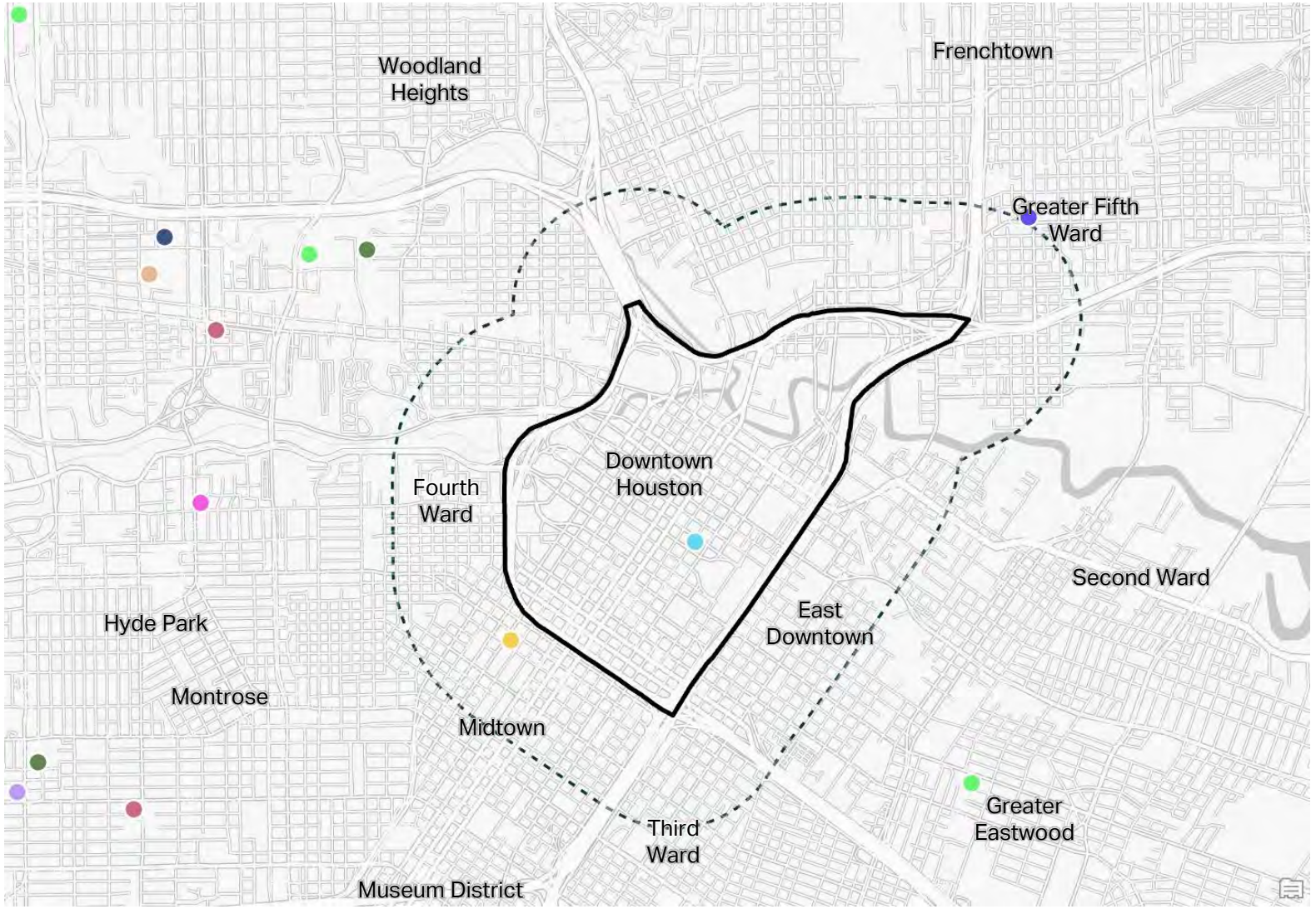
Retail Market – Grocery Stores

The map on the right shows the location of grocery stores within and around Downtown Houston.

As shown, there is just one grocery store within Downtown (Phoenicia) and one additional grocery store (Randall's) within walking distance of the Downtown boundary. Most of the grocery stores are located in the more densely populated, higher income areas of Houston to the west of downtown.

Grocery stores and residential development tend to be a "chicken and egg" situation – housing isn't attractive without grocery stores access, but grocery stores won't survive without sufficient residential density nearby.

Sources: Google, AECOM



Real Estate Market Forces

Retail Market – Attractions & Entertainment

Downtown Houston is home to more than 100 tourism and cultural attractions and entertainment venues, including restaurants and hospitality, civic and institutional buildings, museums, libraries, sports and entertainment venues, shopping centers, parks and recreation areas, and tours. These types of uses show the broad range of tenants that can occupy ground floor retail and commercial spaces downtown, in addition to traditional retail stores.

The geographic concentration of this type of tourism and cultural ecosystem contributes to Downtown Houston's reputation as a destination for tourists and local visitors, as well as its reputation as a high-quality place to live for permanent residents. As Downtown Houston's tourism and residential markets continue to grow, demand for these types of facilities will also increase. This trend will help to fill retail vacancies and catalyze new development.

OVER 100 SIGHTS TO SEE

With a fusion of culture, lifestyles and commerce, life around here is anything but typical. Look up and discover soaring skyscrapers designed by icons like Philip Johnson and I.M. Pei. Turn a corner and bump into Houston's historic past or uncover a piece of contemporary public art. Major league sports, world-class theater, innovative chefs, funky hotspots, movies in the park, sidewalk cafes, outdoor festivals, pontoon boat tours and more. Welcome to Downtown Houston!

NEIGHBORHOODS/DISTRICTS

- Historic Market Square
- Ballpark
- Convention District
- Skyline District
- Shopping District
- Civic
- Theater District
- Southern
- Warehouse District
- County

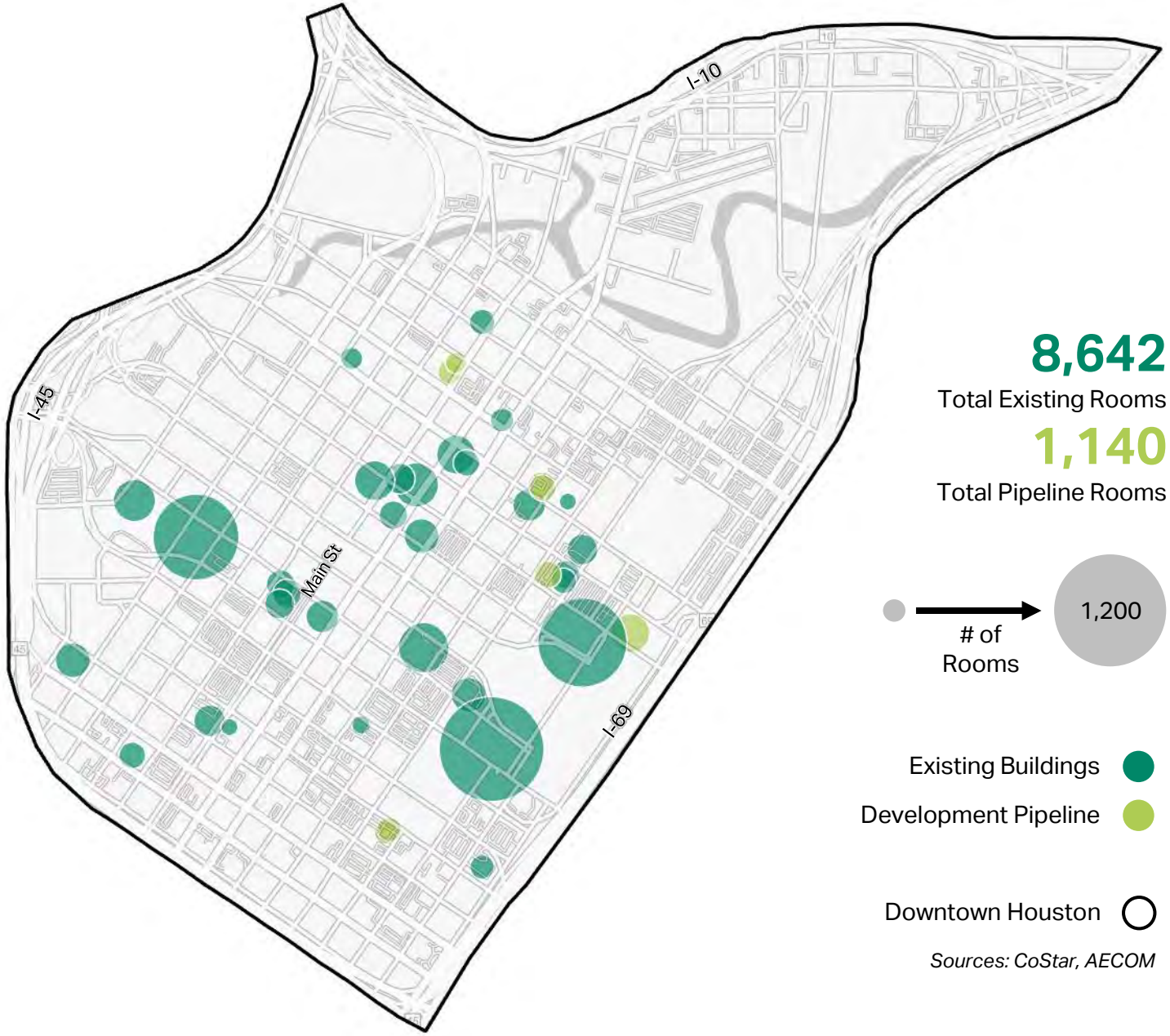
Real Estate Market Forces

Hotel Market

Downtown Houston is home to 31 existing hotels accounting for over 8,600 rooms. The map on the right illustrates the distribution of hotel properties throughout the study area, with circles sized according to the number of rooms and colored by building status. As shown, there are 8 additional hotels currently in the development pipeline, which could bring as many as 1,140 additional hotel rooms to the downtown submarket upon completion.

As shown, hotels are concentrated in the central and eastern portions of downtown – close to big event venues, tourist destinations, and demand generators like the Toyota Center, Discovery Green, Minute Maid Park, and the Convention Center.

The following slides provide insight into the performance of Downtown Houston's hotel market by comparing it to broader averages and trends.



Sources: CoStar, AECOM

Real Estate Market Forces

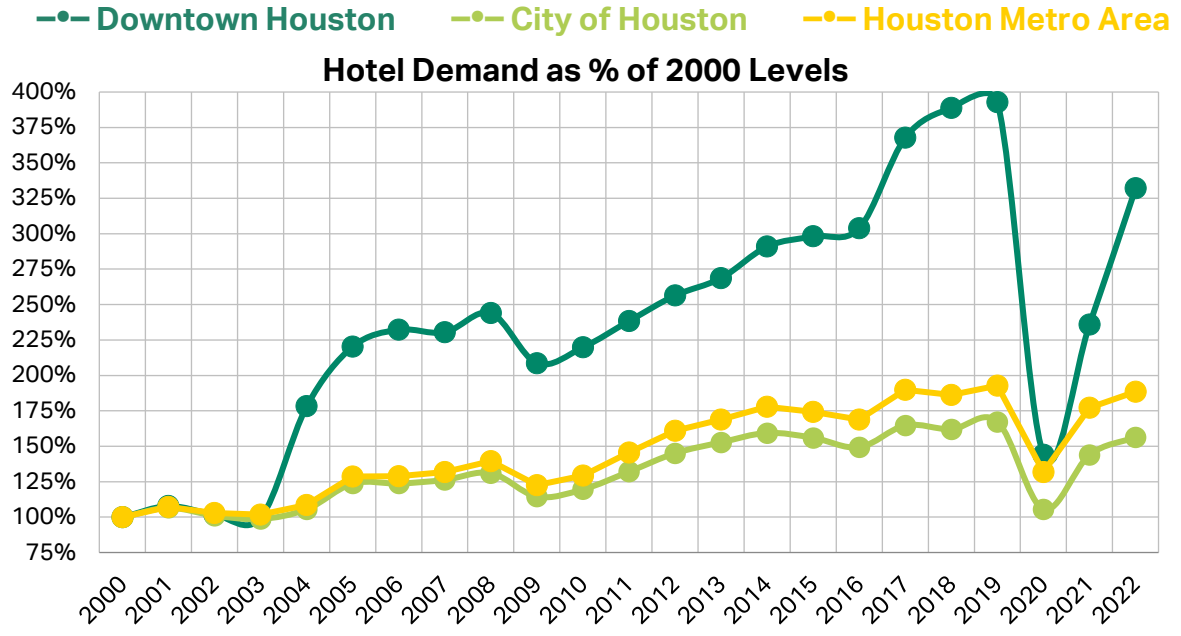
Hotel Market

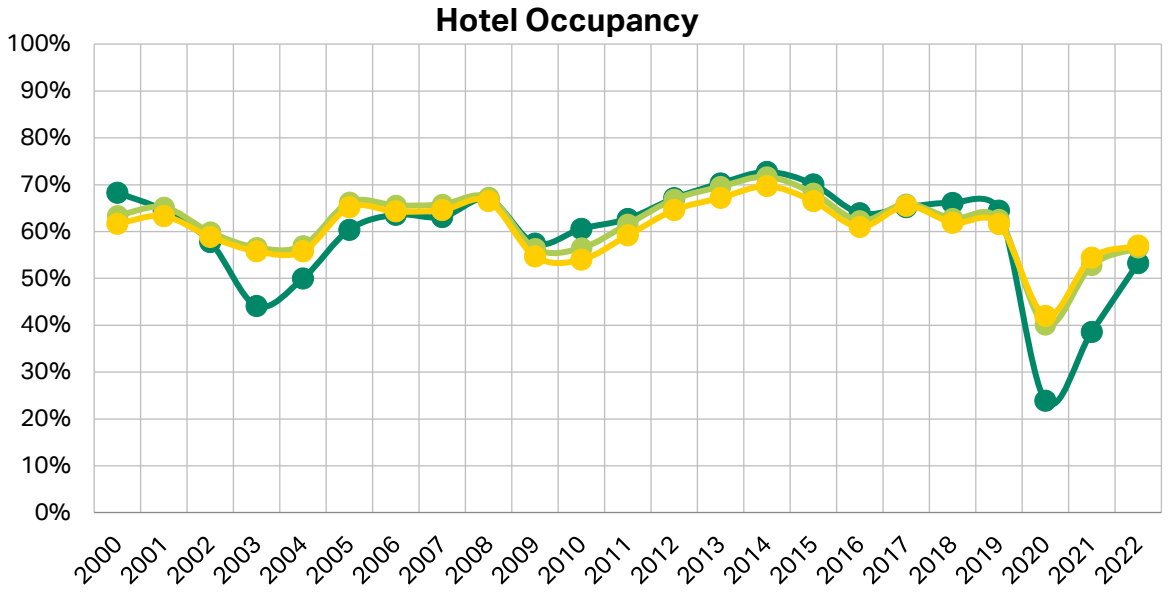
With over 8,600 rooms, Downtown is home to nearly 13% of the City's hotel rooms. The supply of hotel rooms downtown has increased by 303% since 2000 compared to 73% citywide and 100% throughout the metro area.

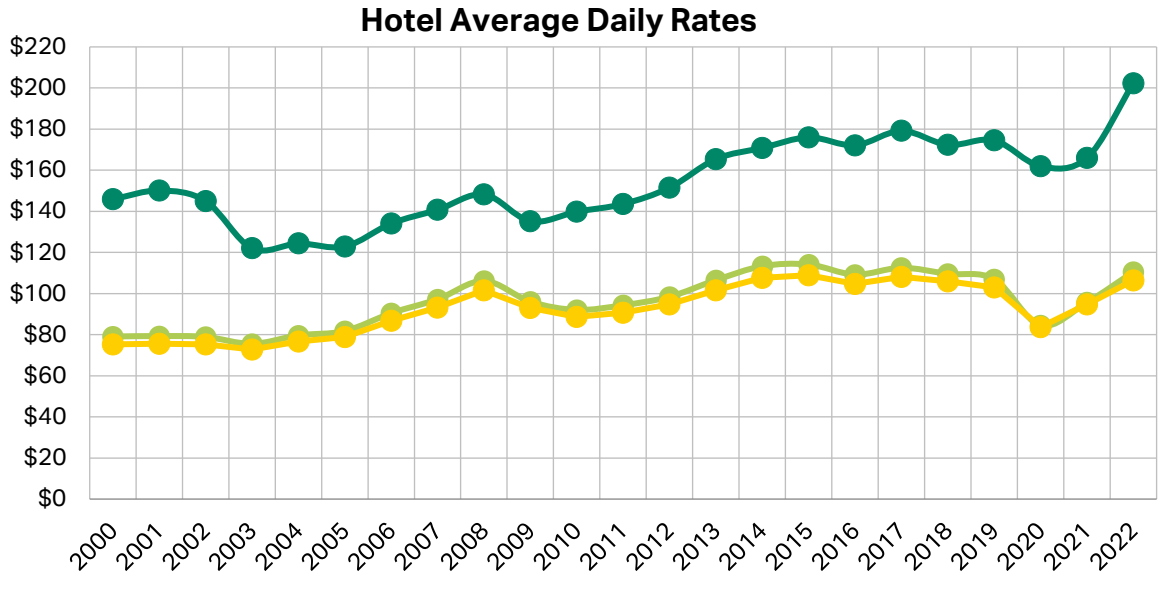
Hotel demand in Downtown Houston has skyrocketed – 2019 demand (# of rooms sold) was 393% of 2000 levels, compared to 167% citywide and 193% metrowide.

Downtown hotel occupancy mostly tracked citywide/metrowide levels between 60% and 73% since 2010 but has been slower to recover from the pandemic.

Hotel average daily rates downtown tracked well above citywide/metrowide averages and reached a record high of $202 per night in 2022 after having remained relatively stable between $170 and $180 per night since 2014.







Sources: CoStar, AECOM

Real Estate Market Forces

Hotel & Tourism – Pandemic Recovery

The chart on the right takes a more detailed look at the pandemic recovery trajectory for the hotel and tourism industry by presenting data on a month-by-month basis.

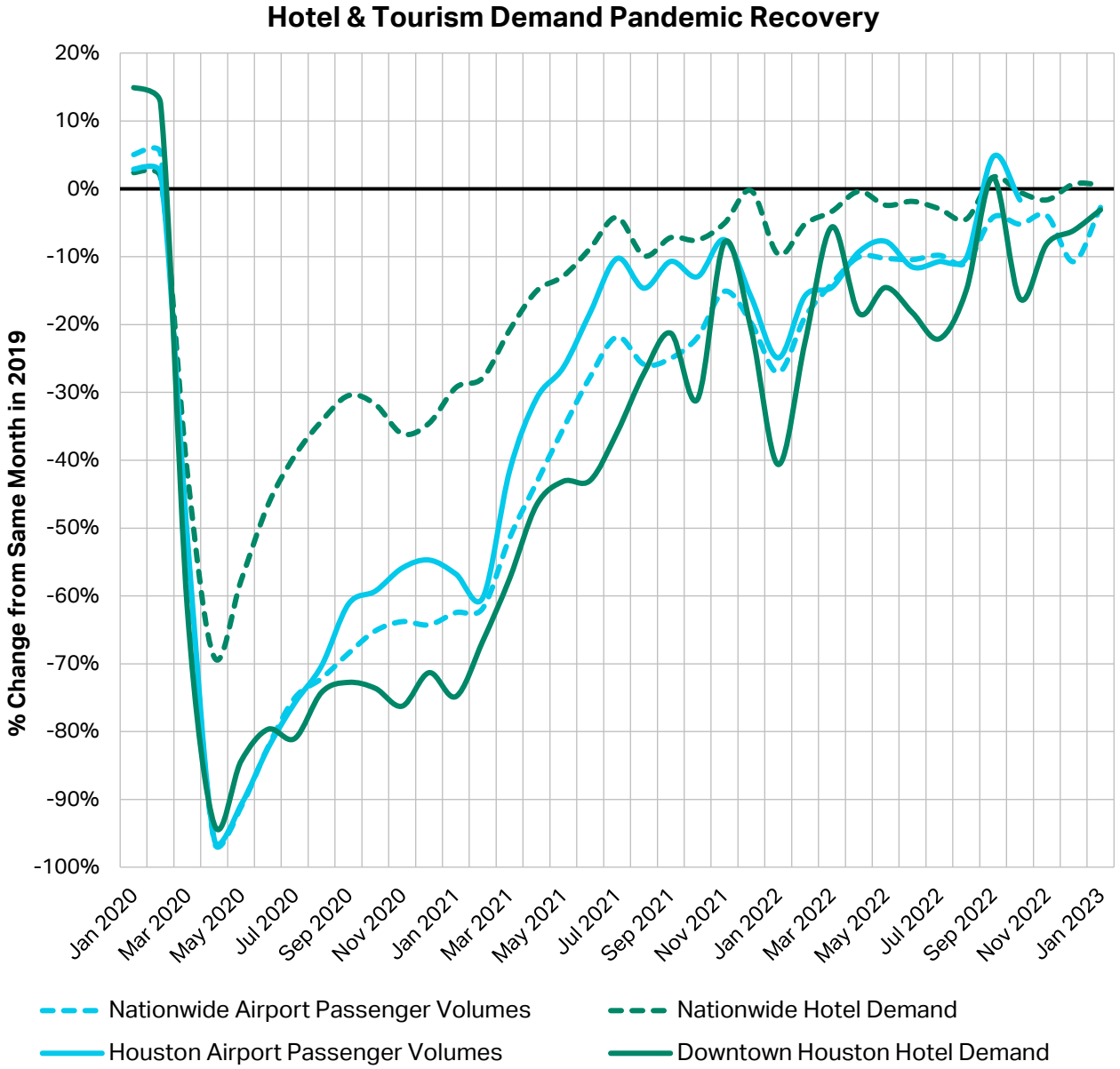
As shown, hotel room demand in Downtown Houston (number of rooms sold) plummeted in April of 2020, but has since hovered at or slightly below 2019 levels since the fall of 2022. Downtown Houston's hotel demand tracked well below national averages for the majority of the pandemic, but these metrics have converged in recent months.

Another interesting metric is airport passenger volume, represented on the right in terms of passenger volumes at Bush and Hobby airports. Like hotel demand, airport passenger volume in Houston dropped in April 2020 and has since recovered to near pre-pandemic levels. However, unlike downtown hotel demand, airport passenger volumes tracked above national averages for virtually all of 2020/2021, before converging in 2022.

Throughout the tourism industry, leisure travel has a very strong future outlook and has rebounded much faster than business travel – the business segment remains below pre-pandemic levels, and many experts believe that it may much longer to fully recover.

Business travel concerns are particularly problematic for hotel submarkets like Downtown Houston, which relies upon a significant volume of such business visitors to support its hotel properties.

Overall, this data suggests that tourist attraction demand (which rely more on leisure travelers) are mostly recovered, while hotel properties in Downtown Houston (which are more affected by business travel) will take a bit longer to fully recover.



Sources: CoStar, Bureau of Transportation Statistics, AECOM

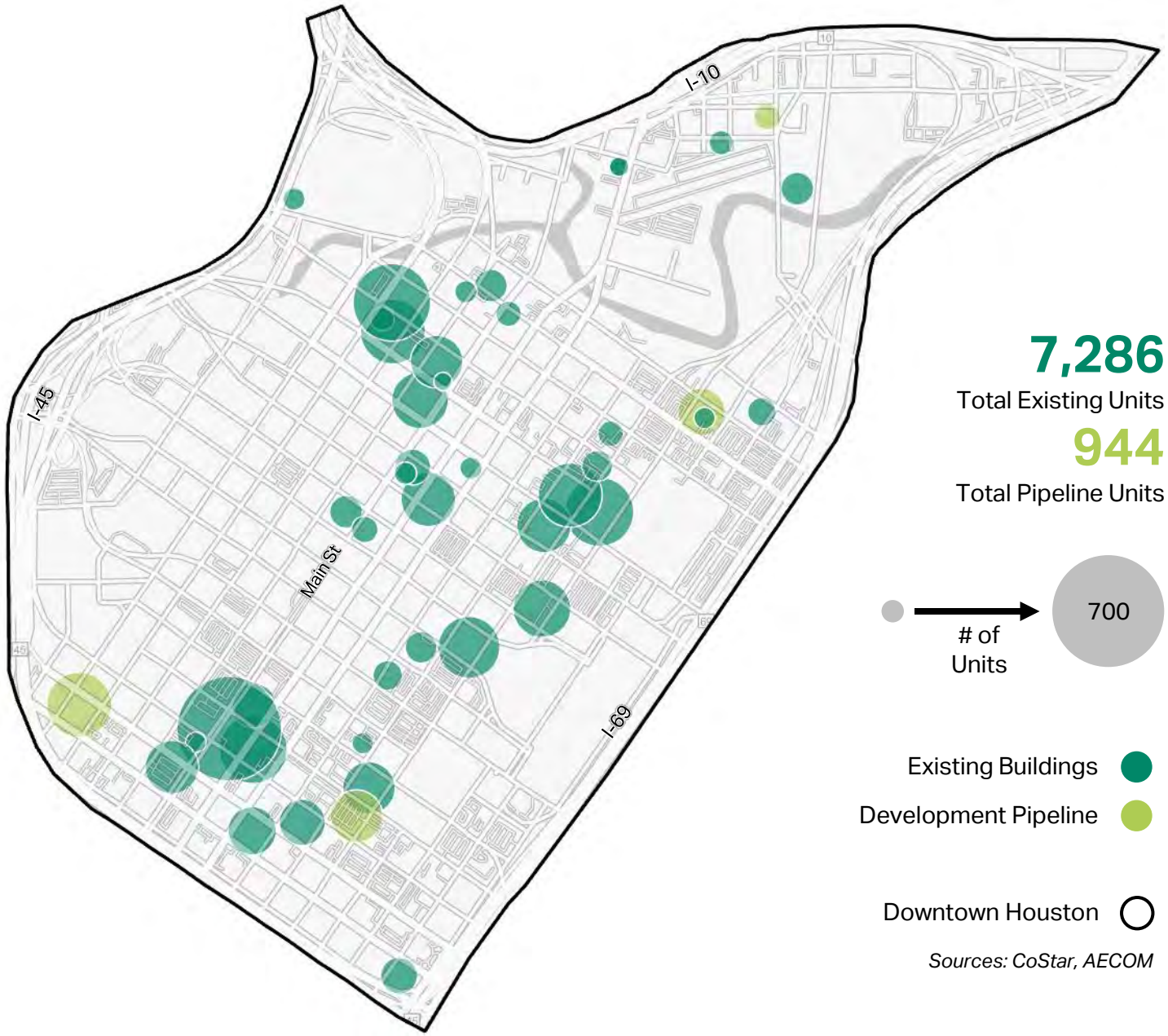
Real Estate Market Forces

Housing Market

Downtown Houston is home to approximately 41 existing multi-unit housing buildings accounting for nearly 7,300 housing units. The map on the right illustrates the distribution of multi-unit housing properties throughout the study area, with circles sized according to the number of units and colored by building status. As shown, there are 4 additional multi-unit housing buildings currently in the development pipeline, which could bring as many as 944 additional units to the downtown submarket upon completion.

As shown, multi-unit housing is distributed relatively evenly except for the very office-heavy areas of the Skyline District in the central and western portions of Downtown Houston.

The following slides provide insight into the performance of Downtown Houston's rented and owned housing market by comparing it to broader averages and trends.



Sources: CoStar, AECOM

Real Estate Market Forces

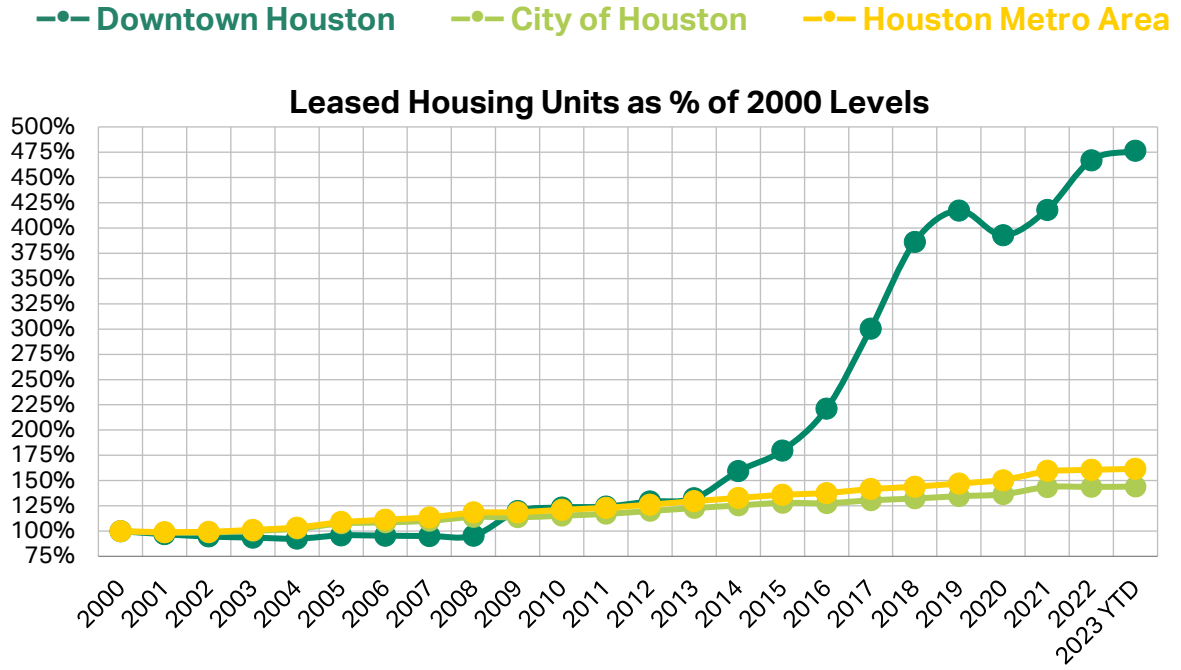
Rented Housing Market

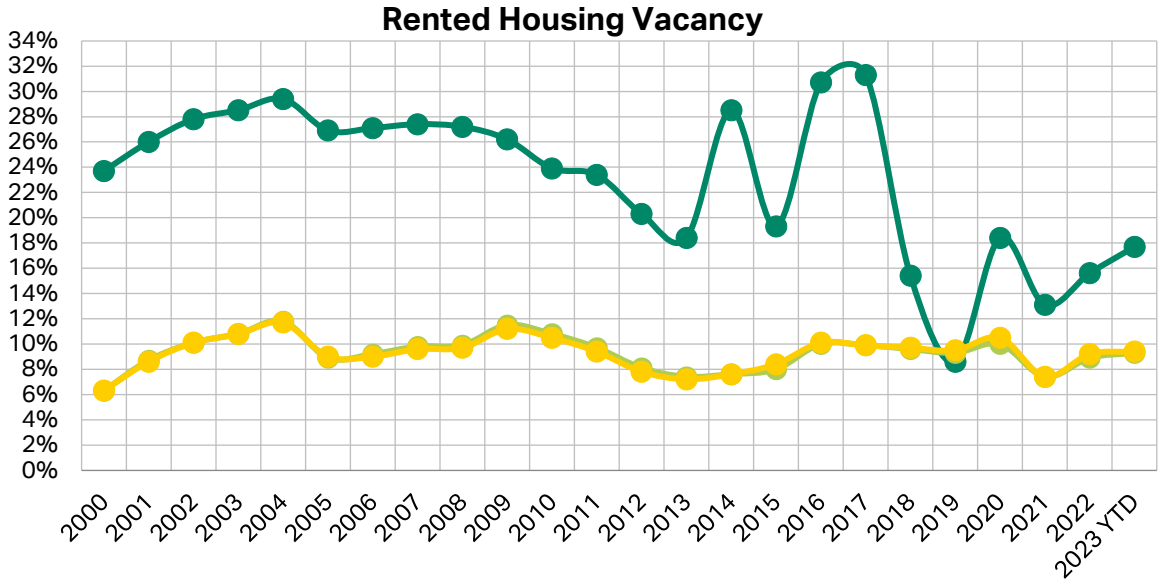
Downtown Houston is home to approximately 1.1% of the City of Houston's leased housing units.

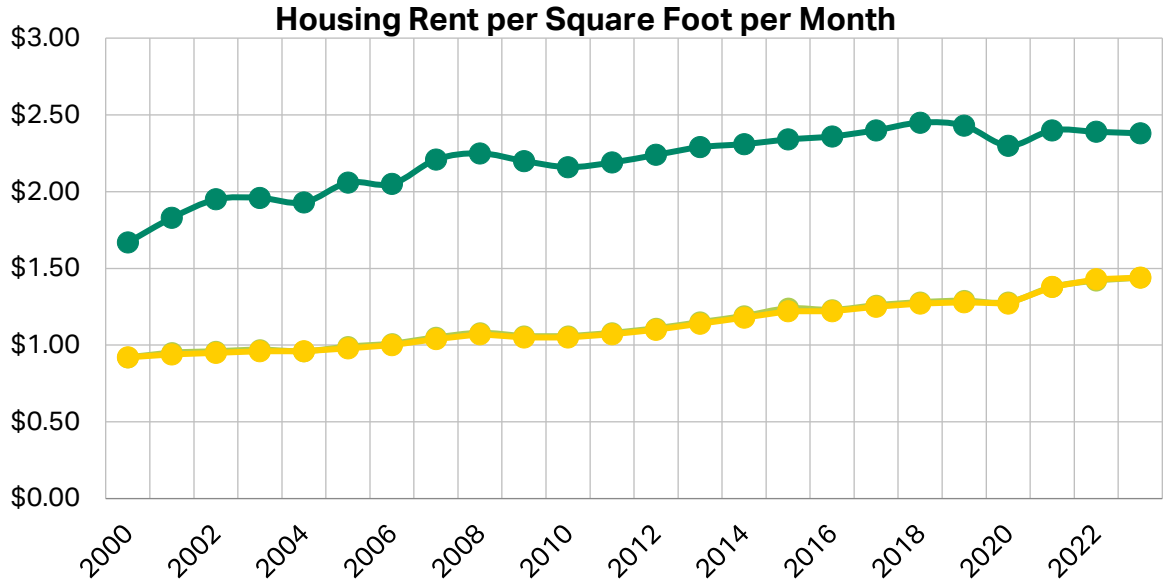
The number of leased housing units in Downtown Houston has increased to 476% of 2000 levels compared to 144% citywide and 162% metrowide.

Rented housing vacancy downtown mostly tracked above citywide/metrowide levels, but this is due to rapid supply growth rather than a lack of demand.

Apartment rents downtown tracked well above citywide/metrowide levels, averaging between $28 and $29 per square foot per year in recent years. Since the onset of the pandemic, downtown rents have decreased slightly while citywide/metrowide rent growth has accelerated.







Sources: CoStar, AECOM

Real Estate Market Forces

Rented Housing – Urban Core Benchmarking

AECOM used American Community Survey data to compare the rented housing market for urban cores across the United States, including the following key statistics:

- **Percent of Households that Rent: 83%** of households in Houston's urban core are renters, which ranks **13th highest** among the 35 urban cores included in this analysis. This figure aligns with many other urban cores throughout the country, suggesting that most of the new housing in office-to-residential conversion projects should be rented.
- **Median Monthly Rent:** The median rent for households in Houston's urban core is **$1,770** per month, which ranks **12th highest** among the 35 urban cores included in this analysis. This figure informs rental assumptions in the feasibility models presented later in this report.
- **Percent of Households that are Cost-Burdened: 35%** of renter households in Houston's urban core are cost-burdened (meaning that they spend more than 30% of their income on housing-related costs), which ranks **29th highest** among the 35 urban cores in this analysis. This figure also informs the forthcoming feasibility models.
- **Average Number of Cars per Household:** Renter households in Houston's urban core have **1.2 cars** on average, which ranks **2nd highest** among the 35 urban cores in this analysis (only lower than Dallas's urban core). This data suggests that **office-to-residential conversion projects in Houston's urban core will need more parking** than would be necessary in other markets, which will have a **negative effect on the economic feasibility** of these projects.

Comparison of Selected Urban Cores in the U.S.

	Rented Housing Market							
	% Renters	Rank	Median Rent	Rank	% Cost Burden	Rank	Avg # of Cars	Rank
Cleveland	95%	1	$1,276	26	29%	35	0.9	22
Richmond	93%	2	$1,241	28	50%	5	1.0	11
Detroit	91%	3	$997	33	45%	10	0.7	25
Los Angeles	88%	4	$2,026	7	50%	4	0.9	23
Dallas	87%	5	$1,777	11	34%	31	1.3	1
Nashville	85%	6	$1,767	13	51%	2	1.1	6
Sacramento	85%	7	$1,216	30	42%	16	1.0	12
Kansas City	84%	8	$1,313	25	35%	28	1.1	8
St. Louis	84%	9	$909	34	42%	15	0.9	17
San Antonio	84%	10	$846	35	45%	9	0.9	21
Portland	83%	11	$1,373	22	48%	6	0.6	28
Baltimore	83%	12	$1,351	24	43%	12	0.8	24
Houston	**83%**	**13**	**$1,770**	**12**	**35%**	**29**	**1.2**	**2**
Seattle	82%	14	$1,959	10	38%	25	0.6	27
Pittsburgh	81%	15	$1,269	27	38%	24	0.7	26
Denver	81%	16	$1,726	15	40%	21	1.0	15
San Francisco	80%	17	$1,665	16	41%	18	0.4	33
Columbus	80%	18	$1,112	31	37%	26	0.9	16
Milwaukee	79%	19	$1,094	32	39%	22	1.0	13
Charlotte	79%	20	$1,612	18	34%	30	1.2	4
Orlando	79%	21	$1,513	19	42%	13	1.1	9
San Diego	78%	22	$2,025	8	51%	3	1.0	14
NYC-Downtown	78%	23	$2,049	6	41%	20	0.2	34
Indianapolis	77%	24	$1,362	23	35%	27	1.2	3
Cincinnati	77%	25	$1,237	29	31%	33	0.9	18
Miami	75%	26	$1,995	9	54%	1	1.1	10
Minneapolis	73%	27	$1,419	20	41%	19	0.9	20
NYC-Midtown	73%	28	$2,462	1	42%	17	0.1	35
Boston	72%	29	$2,360	2	44%	11	0.5	31
Washington DC	71%	30	$2,211	5	39%	23	0.5	30
Philadelphia	71%	31	$1,759	14	42%	14	0.5	29
Phoenix	70%	32	$1,405	21	47%	8	1.1	7
Austin	67%	33	$2,283	3	31%	34	1.1	5
Atlanta	62%	34	$1,638	17	47%	7	0.9	19
Chicago	60%	35	$2,223	4	34%	32	0.5	32

Sources: 2000-2022 U.S. Census Bureau, Esri, CoStar, AECOM

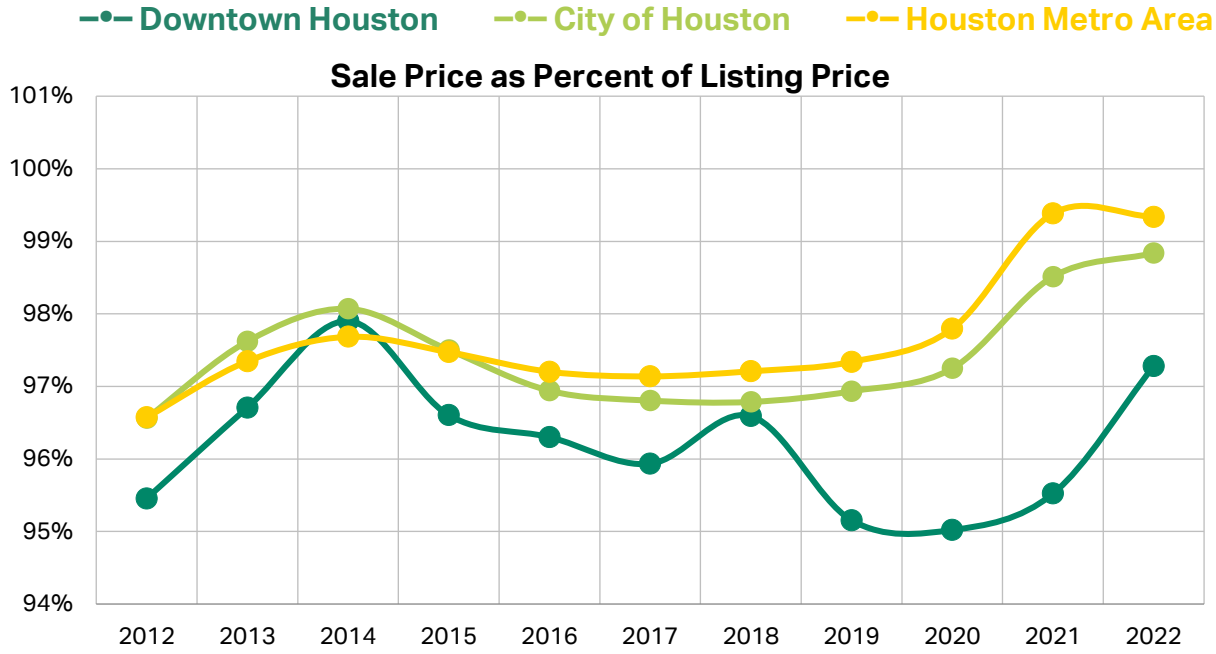
Real Estate Market Forces

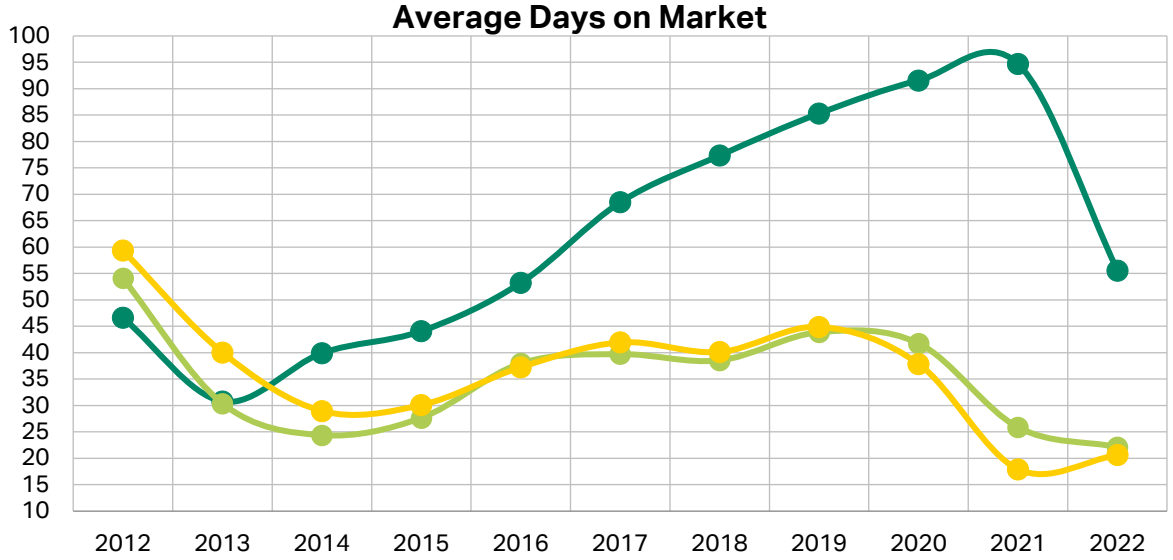
Owned Housing Market

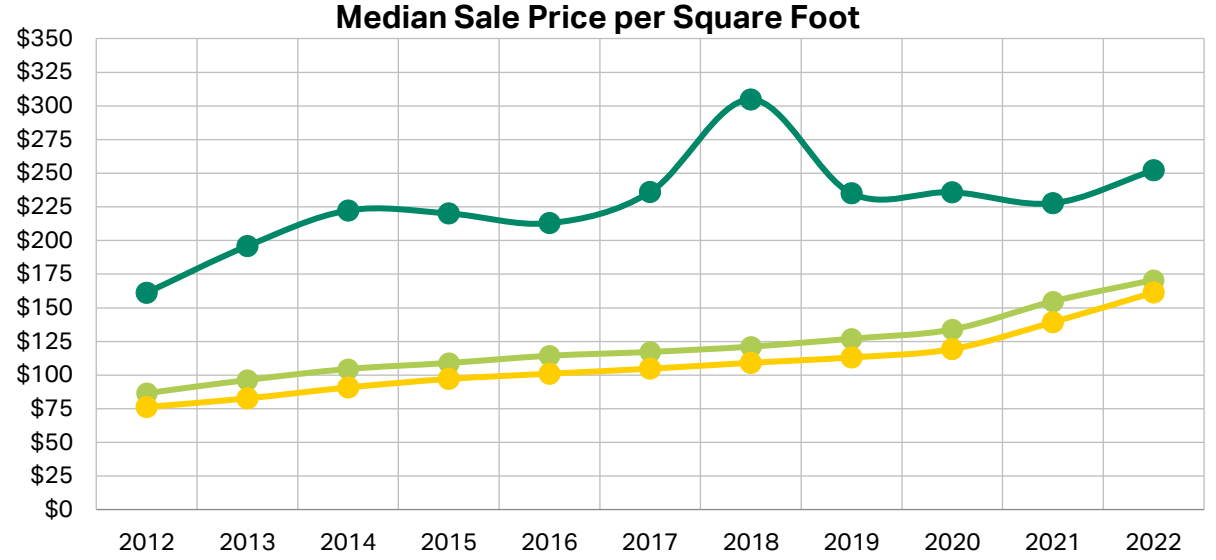
Sale prices as a percent of list prices (sale-to-list ratios) in Downtown Houston have tracked below citywide/metrowide figures. This gap widened during the pandemic, as suburban housing markets got hotter while urban markets remained more stable, but the gap has begun to converge again in the wake of the pandemic.

The average number of days a home was on the market before selling trended upward in Downtown Houston every year between 2013 and 2021 but fell dramatically in 2022.

Median sales prices per square foot in Downtown Houston tracked above citywide/metrowide averages, but have not grown as quickly. As of 2022, median sales prices per square foot were $252 downtown, $171 citywide, and $161 metrowide. There has been only one new condo building delivered in Downtown Houston since 2000 (Marlowe, 94 units, completed in 2018). This project was able to achieve sales prices in the ballpark of $450 per square foot – well above the Downtown median – but beyond that, the Downtown condo market is relatively untested.







Sources: Redfin, AECOM

Real Estate Market Forces

Owned Housing – Urban Core Benchmarking

AECOM used American Community Survey data to compare the owned housing market for urban cores across the United States, including the following key statistics:

- **Percent of Households that Own: 17%** of households in Houston's urban core are renters, which ranks **23rd highest** among the 35 urban cores included in this analysis. This figure aligns with many other urban cores throughout the country, suggesting that most of the new housing in office-to-residential conversion projects should be rented.
- **Median Home Value:** The median home value in Houston's urban core is over **$351,000**, which ranks **27th highest** among the 35 urban cores included in this analysis. This figure informs pricing assumptions in the feasibility models presented later in this report.
- **Percent of Households that are Cost-Burdened: 17%** of owner households in Houston's urban core are cost-burdened (meaning that they spend more than 30% of their income on housing-related costs), which ranks **23rd highest** among the 35 urban cores in this analysis. This figure also informs the forthcoming feasibility models.
- **Average Number of Cars per Household:** Owner households in Houston's urban core have **1.4 cars** on average, which ranks **14th highest** among the 35 urban cores in this analysis. This data suggests that **office-to-residential conversion projects in Houston's urban core will need more parking** than would be necessary in other markets, which will have a **negative effect on the economic feasibility** of these projects.

Comparison of Selected Urban Cores in the U.S.

	Owned Housing Market							
	% Owners	Rank	Median Home Value	Rank	% Cost Burden	Rank	Avg # of Cars	Rank
Chicago	40%	1	$473,549	15	23%	7	0.9	31
Atlanta	38%	2	$373,684	25	18%	17	1.3	22
Austin	33%	3	$567,268	11	15%	25	1.4	11
Phoenix	30%	4	$438,832	17	17%	21	1.7	2
Philadelphia	29%	5	$483,470	14	16%	24	0.9	32
Washington DC	29%	6	$719,687	8	17%	22	0.8	33
Boston	28%	7	$950,224	4	22%	10	1.0	29
NYC-Midtown	27%	8	$1,032,639	3	13%	31	0.4	35
Minneapolis	27%	9	$433,630	18	13%	32	1.3	19
Miami	25%	10	$449,772	16	23%	8	1.2	25
Cincinnati	23%	11	$408,263	19	18%	16	1.7	1
Indianapolis	23%	12	$334,986	28	25%	5	1.6	3
NYC-Downtown	22%	13	$1,307,202	1	13%	33	0.4	34
San Diego	22%	14	$774,177	5	30%	3	1.4	13
Orlando	21%	15	$403,154	20	20%	13	1.3	21
Charlotte	21%	16	$380,800	23	14%	30	1.5	9
Milwaukee	21%	17	$334,453	29	20%	12	1.4	15
Columbus	20%	18	$372,238	26	15%	28	1.4	17
San Francisco	20%	19	$1,188,819	2	26%	4	1.0	30
Denver	19%	20	$588,530	9	18%	18	1.4	16
Pittsburgh	19%	21	$313,522	31	8%	35	1.3	20
Seattle	18%	22	$760,365	6	17%	20	1.0	28
Houston	**17%**	**23**	**$351,475**	**27**	**17%**	**23**	**1.4**	**14**
Baltimore	17%	24	$375,764	24	15%	26	1.2	26
Portland	17%	25	$554,683	12	24%	6	1.1	27
San Antonio	16%	26	$289,352	33	20%	11	1.6	4
St. Louis	16%	27	$238,889	35	12%	34	1.5	10
Kansas City	16%	28	$275,335	34	15%	29	1.4	18
Sacramento	15%	29	$574,519	10	19%	14	1.5	5
Nashville	15%	30	$389,194	22	19%	15	1.5	8
Dallas	13%	31	$520,262	13	22%	9	1.5	6
Los Angeles	12%	32	$733,713	7	33%	2	1.3	23
Detroit	9%	33	$317,600	30	18%	19	1.3	24
Richmond	7%	34	$399,157	21	40%	1	1.5	7
Cleveland	5%	35	$301,449	32	15%	27	1.4	12

Sources: 2000-2022 U.S. Census Bureau, Esri, CoStar, AECOM

Real Estate Market Forces

Summary & Key Takeaways

The table below summarizes the takeaways of this section of the analysis, including a high-level assessment of market-driven demand potential for each of the conversion program elements envisioned for Downtown Houston. As shown, from a market demand perspective, the most promising elements of a conversion program appear to be multi-unit residential (primarily for-rent options with some for-sale potential), retail (primarily dining and entertainment concepts with supporting shops and storefronts), and hotels. Less market demand is foreseen for traditional retail stores and office space. These insights will inform the conversion program scenarios presented later in this report, as well as various inputs to the economic and financial feasibility models for each conversion scenario.

Use Type	Key Takeaways for Downtown Houston	Market Demand
Rented Housing	Small but growing existing inventory, stable rents, needed to support "round the clock" vibrancy	High
Retail – Food & Drinks	Relatively small existing inventory, better market dynamics than other retail, more residential density needed	Medium/ High
Retail – Attractions & Entertainment	Leisure tourism almost fully recovered, close proximity to other attractions and adequate hotel accommodations	Medium/ High
Hotel	Strong pre-pandemic trends, not yet fully recovered from pandemic, healthy leisure segment despite business concerns	Medium/ High
Owned Housing	Small existing inventory, moderate price appreciation, only one project delivered since 2000, relatively untested market	Medium
Retail – Traditional Stores	Small existing inventory, broader headwinds from trend toward e-commerce, more residential density needed to support	Medium
Office	Large but shrinking inventory, broader headwinds due to hybrid/remote, bad for "24/7" vibrancy, "flight to quality" potential	Low

Section 4:
Conversion Case Studies & Best Practices

Conversion Case Studies & Best Practices

Introduction

In this section, AECOM compiled research and developed key findings from other conversion projects from Houston and throughout the nation. This content helps to demonstrate the premise of office conversion, to document various challenges associated with the practice, and to illustrate potential solutions to those challenges that have been successful in other projects.

Selected buildings include conversions of vacant or underutilized office space to market rate and mixed-income housing, hotels, and other mixed-use elements. Parallels can be drawn between these successfully executed projects and potential future conversion projects in Downtown Houston – the lessons learned in these projects were used to inform the content presented in the Conversion Concepts and Financial & Economic Feasibility sections of this report.

Conversion Case Studies & Best Practices

Conversion Project Benchmarking

AECOM compiled a dataset of over 30 office conversion projects from throughout the U.S. These projects provide a variety of key insights regarding cost, program, building attributes, and common challenges and solutions pertaining to office conversion projects. The table below summarizes all data points that were collected for each of the conversion benchmarking projects, with Houston projects highlighted in green. Key takeaways are summarized on the next page.

Project	Location	# of Stories	Min. Depth	Selective Demolition	Year Built	Year Converted	Converted To	Residential / Hotel Type	Units/ Rooms	Retail / Office SF	Housing / Hotel SF	Total GSF	Pre-Conv. Sale Price ($2022)	Sale Price / SF.	Conversion Cost ($2022)	Conversion Cost / SF	Total Project Cost ($2022)	Total Project Cost / SF
One Wall Street	New York, NY	58	100	No	1930	2022	Mixed-Use	Market Rate, Rented	524	444,000	756,000	1,200,000	$710,500,000	$592	$789,500,000	$658	$1,500,000,000	$1,250
Tribune Tower	Chicago, IL	36	100	No	1925	2023	Housing + Retail	Market Rate, Owned	162	50,000	687,000	737,000	$285,900,000	$388	$205,900,000	$279	$491,800,000	$667
Esperson Buildings	Houston, TX	27	60	No	1927/41	TBD	Mixed-Use	Market Rate, Rented	100	500,000	99,107	599,107	$120,500,000	$110	$50,000,000	$505	$170,500,000	$614
105 W Adams (Reimagine)	Chicago, IL	40	60	No	1927	TBD	Housing + Retail	Mixed-Income, Rented	247	0	320,000	320,000	$28,500,000	$89	$159,600,000	$499	$188,100,000	$588
208 S LaSalle	Chicago, IL	22	85	No	1914	TBD	Housing + Retail	Mixed-Income, Rented	280	6,900	208,700	215,600	$44,500,000	$206	$81,468,539	$378	$125,968,539	$584
The Draper	Chicago, IL	11	100	Yes	1965	2019	Housing + Retail	Market Rate, Rented	177	22,000	148,000	170,000	$19,500,000	$115	$76,200,000	$448	$95,700,000	$563
111 W Monroe Hotel	Chicago, IL	23	180	Yes	1910	TBD	Hotel + Retail	TBD	226	18,600	197,700	216,300	$24,000,000	$111	$91,000,000	$421	$115,000,000	$532
Randolph Tower City	Chicago, IL	43	65	No	1929	2012	Housing + Office	Mixed-Income, Rented	312	22,000	342,000	364,000	$30,000,000	$82	$163,322,415	$449	$193,322,415	$531
JW Marriott	Houston, TX	18	75	No	1910	2014	Hotel	Luxury	328	0	206,334	206,334	$4,092,383	$20	$101,973,338	$494	$106,100,000	$514
JW Marriott	Chicago, IL	22	85	No	1916	2010	Hotel + Retail	Luxury	610	27,000	338,000	365,000			$181,000,000	$496	$181,000,000	$496
111 W Monroe Residences	Chicago, IL	23	180	Yes	1910	TBD	Housing + Retail	Mixed-Income, Rented	349	0	384,390	384,390	$76,000,000	$198	$104,000,000	$271	$180,000,000	$468
Millennium on LaSalle	Chicago, IL	14	75	No	1900	2021	Housing	Market Rate, Rented	214	0	168,000	168,000	$15,500,000	$92	$61,100,000	$364	$76,600,000	$456
Hyatt Centric	Chicago, IL	21	90	No	1927	2015	Hotel + Retail	Upper Upscale	257	9,000	152,000	161,000	$15,900,000	$99	$54,600,000	$339	$70,500,000	$438
AC Hotel	Houston, TX	10	60	No	1914	2019	Hotel	Upscale	195	0	150,100	150,100	$11,827,828	$79	$53,652,005	$357	$65,500,000	$436
LondonHouse	Chicago, IL	22	100	No	1923	2016	Hotel + Retail	Upper Upscale	452	24,000	376,000	400,000	$65,000,000	$163	$109,000,000	$273	$174,000,000	$435
The National	Dallas, TX	52	80	No	1965	2020	Mixed-Use	Market Rate, Rented	543	80,000	1,120,000	1,200,000	$25,500,000	$21	$494,653,000	$412	$520,153,000	$433
The Alfred	Chicago, IL	14	100	No	1925	2019	Housing	Market Rate, Rented	176	0	137,000	137,000	$17,000,000	$124	$38,300,000	$280	$55,300,000	$404
30 N LaSalle	Chicago, IL	44	150	No	1975	TBD	Mixed-Use	Mixed-Income, Rented	432	603,070	435,020	1,038,090	$18,273,933	$42	$155,883,308	$358	$174,157,241	$400
Residence Inn	Chicago, IL	35	60	No	1916	2015	Hotel + Retail	Upscale	381	9,000	300,000	309,000	$45,400,000	$147	$75,700,000	$245	$121,100,000	$392
The LaSalle Chicago	Chicago, IL	5	85	No	1924	2022	Hotel	Upper Upscale	232	0	125,000	125,000			$46,900,000	$375	$46,900,000	$375
Franklin Tower	Philadelphia, PA	24	90	No	1980	2017	Mixed-Use	Market Rate, Rented	549	213,000	398,000	611,000	$52,200,000	$85	$167,700,000	$274	$219,900,000	$360
Kimpton Gray	Chicago, IL	15	55	No	1893	2016	Hotel + Retail	Upper Upscale	293	11,000	212,000	223,000	$26,600,000	$119	$52,500,000	$235	$79,100,000	$355
135 S LaSalle	Chicago, IL	44	100	No	1934	TBD	Mixed-Use	Mixed-Income, Rented	430	450,000	750,000	1,200,000	$32,103,500	$43	$226,378,010	$302	$258,481,510	$345
Flashcube Luxury Apartments	Kansas City, MO	9	100	No	1974	2020	Housing	Market Rate, Rented	184	0	207,000	207,000					$71,238,355	$344
Cambria Hotel	Houston, TX	21	50	No	1926	2019	Hotel	Upscale	226	6,000	192,240	198,240	$18,000,000	$91	$50,000,000	$252	$68,000,000	$343
1111 Rusk Street	Houston, TX	16	110	No	1915	2017	Housing + Retail	Market Rate, Rented	286	8,000	342,000	350,000					$113,423,238	$324
Residences at 150 Bagley	Detroit, MI	16	60	No	1935	2023	Housing + Retail	Mixed-Income, Rented	148	10,535	242,599	253,134					$80,839,324	$319
Century Tower	Chicago, IL	28	80	No	1930	2001	Housing + Retail	Market Rate, Rented	293	17,000	193,000	210,000	$10,800,000	$51	$55,500,000	$264	$66,300,000	$316
Terminal Tower	Cleveland, OH	52	95	No	1930	2010, 2018	Mixed-Use	Market Rate, Rented	297	300,000	281,000	581,000	$45,900,000	$79	$119,300,000	$205	$165,200,000	$284
Crosstown Concourse	Memphis, TN	10	170	Yes	1927	2017	Mixed-Use	Mixed-Income, Rented	260	600,000	275,000	875,000					$244,755,409	$280
1801 Smith Street	Houston, TX	20	95	No	1972	2023	Housing	Market Rate, Rented	372	0	450,000	450,000	$22,200,000	$49	$100,000,000	$222	$122,200,000	$272
Metro Tower Lofts	Lubbock, TX	20	60	No	1955	2023	Housing	Mixed-Income, Rented	99		100,000	100,000					$26,000,000	$260
Santander Tower	Dallas, TX	50	140	No	1986	2023	Housing	Market Rate, Rented	228	900,000	500,000	1,400,000						
800 Bell	Houston, TX	45	130	No	1962	TBD	Housing	Market Rate, Rented	TBD	0	1,314,350	1,314,350	$64,800,000	$49				
The Curtis	Philadelphia, PA	11	240	Yes	1910	2017	Mixed-Use	Market Rate, Rented	86	822,000	90,000	912,000	$151,800,000	$166				
Bayou Lofts	Houston, TX	9	75	No	1910	1997	Housing + Retail	Market Rate, Owned	108	20,000	102,472	122,472						
Octave 1320	Silver Spring, MD	8	60	No	1963	2015	Housing + Retail	Affordable, Owned	102	20,000	61,600	81,600	$7,648,000	$94				
Legacy West End	Washington D.C.	9	100	No	1989	2018	Housing + Retail	Mixed-Income, Rented	198	10,000	188,405	198,405						
Mason Square Apartments II	Springfield, MA	5	50	No	1890	2023	Mixed-Use	Mixed-Income, Rented	199	0	252,030	252,030						
Aloft Hotel	Houston, TX	10	115	No	1913	2016	Hotel	Upscale	168	0	121,850	121,850	$9,000,000	$74				

All dollar amounts have been escalated to $2022

Conversion Case Studies & Best Practices

Conversion Project Key Takeaways

AECOM drew the following key takeaways from the conversion benchmarking projects:

- Projects were all primarily used as office space pre-conversion.
- Projects represent a variety of building sizes and original construction time periods, but all have converted within the last 25 years.
- Most projects had floorplates with minimum dimensions of 80-100 feet or less, which is "shallower" than many modern office buildings which have minimum dimensions of 120 feet or more.
- Office-to-hotel projects were more likely to have shallower floorplates while there were more examples of deeper floorplate buildings in the office-to-residential category – this makes sense considering that many office-to-residential projects receive public subsidy funding or are a product of an intentional policy/planning initiative, while office-to-hotel projects are usually a product of market forces alone.
- Some projects with deeper floorplates were able to employ selective demolition techniques to add courtyards or carve-outs in their buildings in order to maximize light and air penetration, creating a post-conversion floorplate that is more favorable for housing/hotel layouts.
- Post-conversion, projects range in size from about 100 to over 500 housing units (average of 263 units), 168 to 610 hotel rooms (average of 299 rooms), and a few thousand to several hundred thousand square feet of commercial (retail/office) space.
- Office-to-hotel projects included upscale, upper upscale, and luxury hotel products but no midscale or upper midscale products, suggesting that higher price points are required in order to make these types of conversion projects feasible.
- "Total Project Cost" is calculated by adding "Pre-Conversion Sale Price" and "Conversion Cost."
- All cost metrics are presented in 2022 dollars.
- Average sale price per square foot was just shy of $100 per square foot, excluding outliers that were higher due to their iconic historic status and/or market-related price disparities such as Chicago's Tribune Tower.
- Average conversion cost was in the ballpark of $360 per square foot.
- Average total project cost was just under $430 per square foot.

Conversion Case Studies & Best Practices

Conversion Project Challenges & Solutions – Policy & Market

Policy & Market Challenges:	Potential Solutions:
Some projects aren't feasible without public subsidies/incentives	Creation of dedicated public subsidy/incentive programs for conversion projects and/or utilization of existing programs
Lack of critical neighborhood amenities and services like schools, grocery stores, parks and recreation, and other similar features	Establishing the first tranche of residential population, which then becomes more self-sustaining once a critical mass has been reached
	Using the conversion project to directly establish service/amenity (grocery store or school on ground floors, etc.)
Mismatch between political/community desires (affordable housing, services/amenities, etc.) and economic realities (limited funding, high costs, etc.)	Outreach and engagement efforts to find a balance
Office building owners often specialize in the office market and less comfortable with executing residential, mixed-use, or conversion projects	Facilitate relationships between developers that have residential, mixed-use, and/or conversion experience and owners that may not
Historic designations can inhibit demolition/significant alteration	Prioritize historic properties within subsidy/incentive programs and providing technical assistance with existing programs (state/federal historic credits, etc.)
Zoning and land use regulations may cap the number of residential units or residential floor area that can be created	Relaxation of zoning and land use regulations broadly, or targeted incentives for office-to-residential projects or office-centric districts specifically
Office rents per square foot may be higher than residential rents, which diminishes the feasibility of office-to-residential conversions	Prioritization of Class B and C office buildings with high vacancy and/or low rental rates for conversion to maximize residential rent differential

Conversion Case Studies & Best Practices

Conversion Project Challenges & Solutions – Physical & Structural

Physical & Structural Challenges:	Potential Solutions:
Deep floorplates of many existing office buildings make it difficult to achieve typical residential/hotel lease spans that allow for adequate light/air penetration	Selective demolition to reduce depth, improve light/air penetration, and increase efficiency (creating courtyards, cutaways, setbacks, etc.)
	Using “dark” core areas as unique amenity spaces (storage lockers, children’s play areas, gyms, lounges, game rooms, theater rooms, remote work rooms, etc.)
Sheer size of many modern office buildings exceeds 1 million square feet, which may be too large to fully convert at one time depending on market strength	Partial conversion where part of the building remains as office and a block of floors is selected for conversion based on elevator banks, existing vacancy, etc.
	Vertical mixed-use conversion program including housing, hotels, office, retail, educational, cultural, or institutional spaces
	Phased conversion where part of the building is selected to convert first and other parts are converted in later phases upon stabilization of the first phase
Structural challenges of modern office buildings such as inoperable windows, column placement, excess elevators, sprinklers, means of egress, etc.	Evaluating structural compatibility of buildings with residential/hospitality-focused programs and prioritizing those that are most compatible
	Modification of building codes, zoning, and/or land use regulations that may be antiquated or overly burdensome for office-to-residential conversions

Conversion Case Studies & Best Practices

The Monroe Residences & Hotel – 111 W Monroe, Chicago, IL

Challenge: The building's minimum floorplate dimension of 180 feet plus a directly abutting building (115 S LaSalle) make light/air penetration requirements for housing units difficult. This is a zoning/regulatory concern (as Chicago requires light/air penetration for every bedroom) as well as a marketability concern (as most prospective tenants want units with more ventilation and natural light).

Solution: This project proposes cutting a courtyard down the center of the existing building in order to allow for light/air penetration and therefore more efficient residential/hotel layouts, reducing the amount of "dark" or "dead" space in the core of the building that would not generate rental income.

Height: 23 stories

Minimum Floorplate Dimension: 180 feet

Year Built / Converted: 1910 / 2024

Converted from Office to: Housing, Hotel, Retail

Housing Type: Mixed-Income, Rented

Hotel Type: TBD

Number of Housing Units: 349

Number of Hotel Rooms: 229

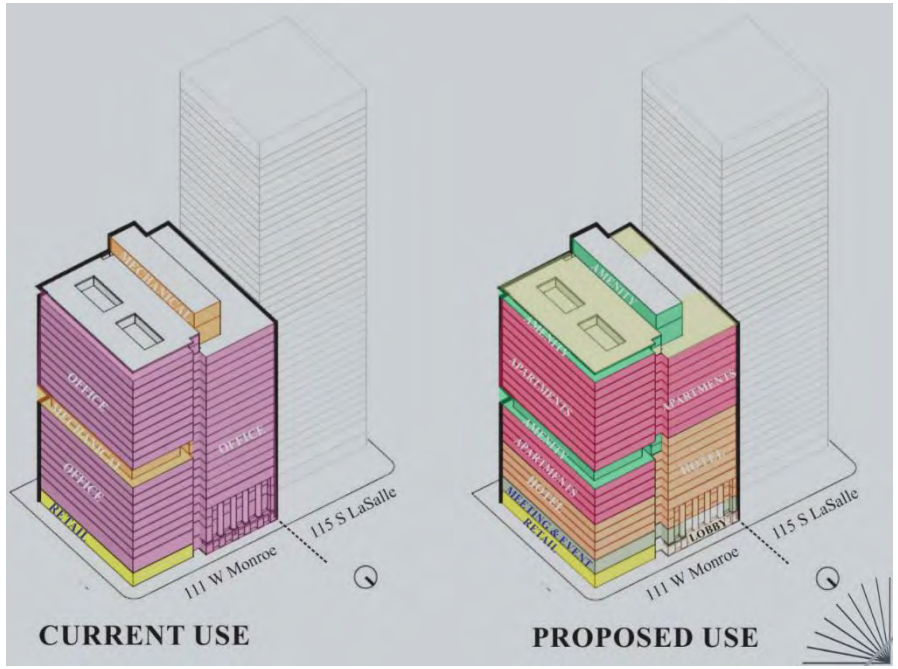
Remaining Commercial Space: 6,000

Total Building Area: 603,800

Pre-Conversion Sale Price: $126 per SF

Conversion Cost: $363 per SF

Total Project Cost: $489 per SF



Conversion Case Studies & Best Practices

The National – 1401 Elm Street, Dallas, TX

Challenge: Many modern office buildings are simply too large to undergo a full building conversion to housing, especially in markets with a small downtown housing stock that can't absorb a larger number of units within a feasible lease up period.

Solution: This project employed a vertical mixed-use conversion model to convert an underperforming office building into a mix of apartments, hotel, retail, and renovated office space. This allows for the full building to be reactivated without flooding the market with too much new housing, hotel rooms, or commercial space.

Height: 52 stories

Minimum Floorplate Dimension: 80 feet

Year Built / Converted: 1965 / 2020

Converted from Office to: Housing, Hotel, Office, Retail

Housing Type: Market Rate, Rented

Hotel Type: Luxury

Number of Housing Units: 324

Number of Hotel Rooms: 219

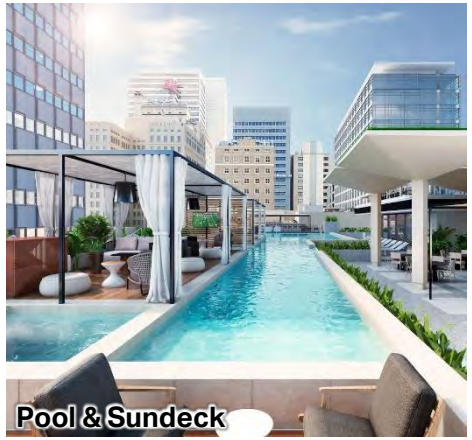
Remaining Commercial Space: 80,000

Total Building Area: 1,200,000

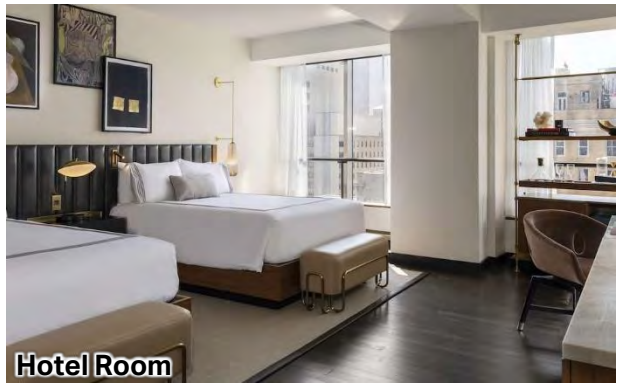
Pre-Conversion Sale Price: $21 per SF

Conversion Cost: $412 per SF

Total Project Cost: $433 per SF


Pool & Sundeck


Terrace


Hotel Room


Apartment Unit

Conversion Case Studies & Best Practices

The Field Building – 135 S LaSalle, Chicago, IL

Challenge: Many central business districts like Downtown Houston lack critical "neighborhood amenities" like grocery stores, schools, parks, etc., since they have historically been office-centric and did not have many permanent residents. This lack of services and amenities makes these districts less desirable places to live and therefore decreases the feasibility of office-to-residential conversion projects.

Solution: Chicago's targeted approach of offering financial incentives only within the LaSalle Street Corridor (rather than throughout the entire downtown) is projected to create over 1,600 new housing units within the area, helping to establish the critical mass of permanent residents needed to support a new grocery store. The ground floor of 135 S LaSalle will include a 20,000 square foot grocery store upon completion.

Height: 44 stories

Minimum Floorplate Dimension: 100 feet

Year Built / Converted: 1934 / 2024

Converted from Office to: Housing, Retail, Parking

Housing Type: Mixed-Income, Rented

Number of Housing Units: 430

Remaining Commercial Space: 450,000

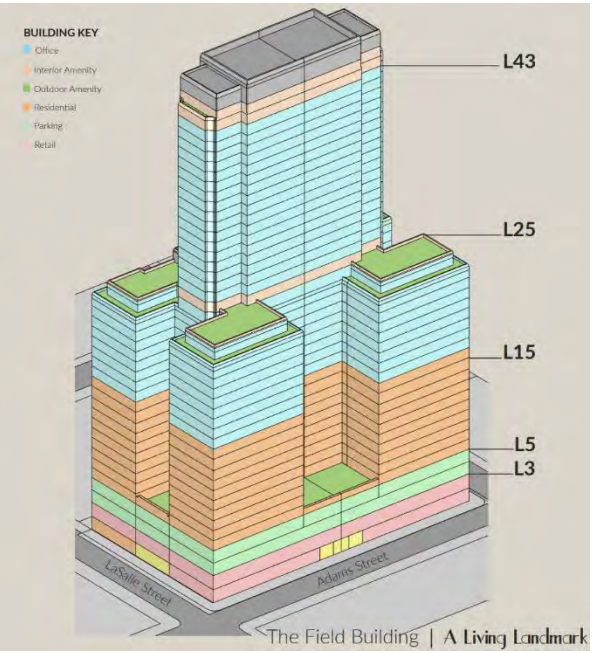
Total Building Area: 1,200,000

Pre-Conversion Sale Price: $43 per SF

Conversion Cost: $302 per SF

Total Project Cost: $345 per SF

- **L43-L44:** 22,000 RSF "Field Apartment"
- **L27-L42:** 210,000 RSF office with 60% leasing
- **L25-L26:** 20,000 SF indoor + 16,000 SF outdoor amenity
- **L16-L24:** Mostly vacant office (former BofA space)
- **L5-L15:** ~430 residential units
- **L3-L4:** 180 Parking Stalls
- **L2-Lower Level:** +80,000 SF Retail & Event Activation



Conversion Case Studies & Best Practices

Franklin Tower – 200 N 16th Street, Philadelphia, PA

Challenge: Many modern office buildings have deeper floorplates (120+ feet) than what is ideal for residential/hotel buildings (60-90 feet). This creates inefficient floorplates with "dark" spaces in the core that don't have access to windows for air or light (which are often required in order to use the space as a housing unit or hotel room).

Solution: If selective demolition (creating a central courtyard or carving out pieces of the building) is structurally and/or financially infeasible, developers and architects can get creative. This project uses a two-pronged approach: 1) "dark" core spaces were turned into unique amenities such as children's play areas and fitness centers in order to maximize marketability and achievable rents (shown on the right), and 2) the building was re-skinned to create larger windows so that units could take full advantage of limited exterior wall space (shown below).

Height: 24 stories

Minimum Floorplate Dimension: 120 feet

Year Built / Converted: 1980 / 2017

Converted from Office to: Housing, Office, Retail

Housing Type: Mixed-Income, Rented

Number of Housing Units: 549

Remaining Commercial Space: 213,000

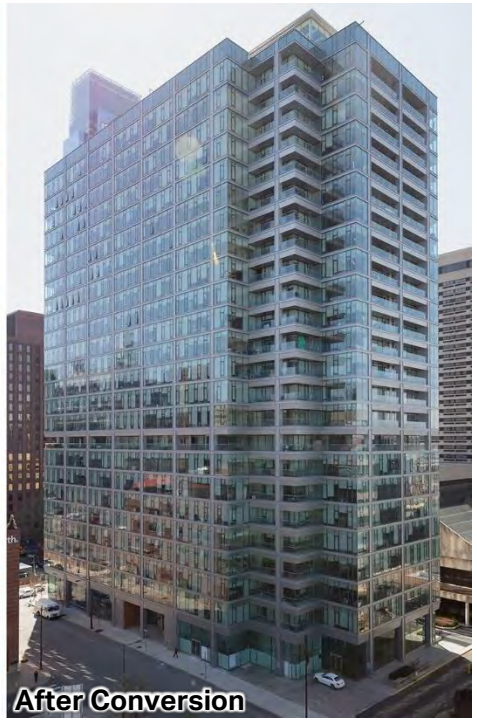
Total Building Area: 611,000

Pre-Conversion Sale Price: $85 per SF

Conversion Cost: $274 per SF

Total Project Cost: $360 per SF


Before Conversion


After Conversion


Indoor Children's Play Area


Fitness Center

Indoor Children's Play Area

Conversion Case Studies & Best Practices

Randolph Tower City – 188 W Randolph, Chicago, IL

Challenge: Many office-to-residential conversion projects are not financially feasible without public subsidies or incentives.

Solution: Randolph Tower City's conversion occurred before Chicago's designated office-to-residential incentive program was established, so it employed a variety of creative financing strategies that were unlocked by the inclusion of affordable housing, its designation as a historic building, and its location within an existing TIF district. Together, these subsidies and incentives were combined with private investment by the developer to create a capital stack that achieved financial feasibility as shown in the table below.

Height: 43 stories

Minimum Floorplate Dimension: 65 feet

Year Built / Converted: 1929 / 2012

Converted from Office to: Housing

Housing Type: Mixed-Income, Rented

Number of Housing Units: 312

Remaining Commercial Space: 22,000

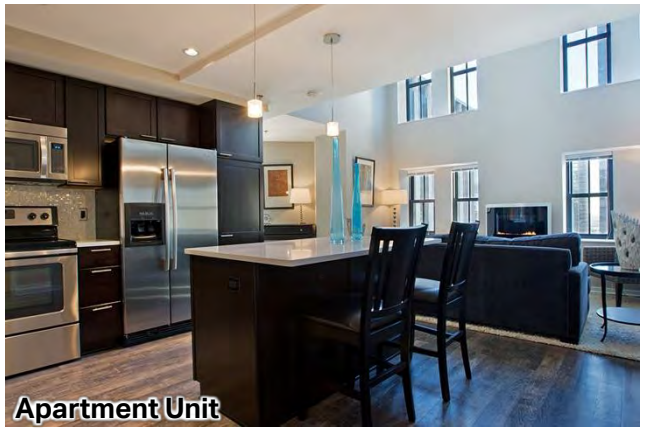
Total Building Area: 364,000

Pre-Conversion Sale Price: $82 per SF

Conversion Cost: $449 per SF

Total Project Cost: $531 per SF

Sources	
Private / Soft Financing	$66.7M
Federal Historic Tax Credits	$29.0M
Tax-Increment Financing	$33.4M
Low-Income Tax Credits	$7.3M
Other	$8.7M
Total	**$145.1M**
Uses	
Acquisition	$22.1M
Hard Costs	$84.1M
Soft Costs	$35.6M
Development Fee	$3.3M
Total	**$145.1M**


Apartment Unit


Pool


Lounge

Section 5:
Conversion Concepts

Conversion Concepts

Introduction

AECOM conducted a conversion scoring analysis of all 165 office buildings in Downtown Houston that filters and prioritizes certain buildings that could be the best candidates for conversion based on a variety of attributes – the methodology of which is summarized in this section.

Based on this scoring analysis and input from Central Houston Inc., AECOM selected the three buildings on the right as "Conversion Concepts," which are used throughout the remainder of this study. These 3 buildings are intended to be a representative sampling of various characteristics of Downtown Houston's office stock, including building history, size, typology, location, and current conditions. These "Conversion Concepts" help to demonstrate potential challenges and opportunities for Downtown Houston as it seeks to adapt to the Future of Work and achieve the "live, work, play" vision that many downtowns strive for.

The remainder of this section explores the existing conditions and hypothetical conversion programs for these 3 buildings. AECOM devised the programs for each of these scenarios within the context of the findings from the preceding sections of this report, and with feedback from Central Houston, Inc. In addition, these Conversion Concepts serve as the basis for the economic feasibility analysis in the following section of this report.

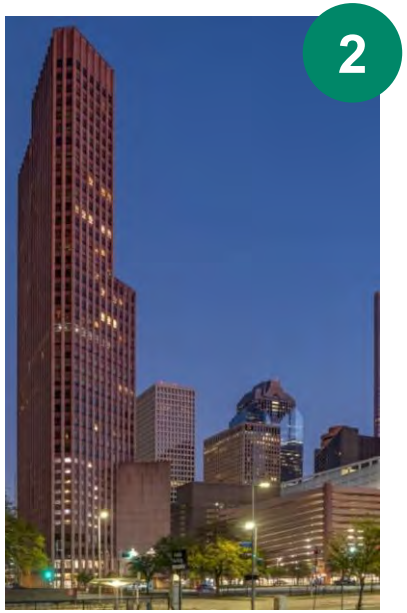
708 Main

"The Houston Shoebox"

Small building

Small floorplates

Fully vacant



1415 Louisiana

"The Typical Atypical"

Large building

Large irregular floorplates

Partially occupied

1021 Main

"What's Old is New Again"

Large building

Large uniform floorplates

Partially occupied

Conversion Concepts

Building Conversion Scoring

In order to select 3 conversion concept buildings that provide insights into a range of factors and challenges facing Houston's downtown office inventory, AECOM began by looking at all 165 office buildings in Downtown Houston. These buildings were put through a 3-step process outlined below:

1) Initial Filtering – using data obtained from CoStar, AECOM filtered out all buildings that didn't meet the 3 criteria below. After this initial filtering, 37 buildings remained.

- 50,000 square feet or larger
- Built before 2000
- At least 20% vacant/available

2) Building Conversion Scoring – the remaining 37 buildings were then scored on a rubric of 1 – 5 based on the 7 criteria shown in the table below, with 1 being the "worst" (least conducive to convertibility) and 5 being the "best" (most conducive to convertibility). This system resulted in a "total score" for each building, with a maximum of 31 points possible.

3) Conversion Concept Building Selection – the "shortlist" of 37 buildings was then broken down further to arrive at a list of 3 conversion concept buildings that are used throughout the remainder of this study. These factors are described on the following pages.

Building Conversion Scoring Methodology

	Scoring Criteria	Floorplate	Vacancy / Availability	Building Quality	Office Rent	Contiguous Space	Parking	Transit
	Metric & Unit	*Minimum Floorplate Dimension*	*% of Building that is Vacant / Available*	*5-Star CoStar Rating System*	*Average Office Rent per SF*	*Max Contiguous Vacant Space*	*# of Parking Spaces per 1,000 SF*	*Distance from Nearest Transit*
Favorable ↑	**5 points**	60 feet or less	80% or more	1 star	$20 or less	200,000 SF or more	N/A	N/A
	4 points	60 – 80 feet	60 – 80%	2 stars	$20 - $25	150,000 – 200,000	N/A	N/A
	3 points	80 – 100 feet	40 – 60%	3 stars	$25 - $30	100,000 – 150,000	1 or more	0.25 miles or less
	2 points	100 – 120 feet	20 – 40%	4 stars	$30 - $35	50,000 – 100,000	0.5 – 1	0.25 – 0.5 miles
↓ Unfavorable	**1 point**	120 feet or more	20% or less	5 stars	$35 or more	50,000 SF or less	0.5 or less	0.5 miles or more

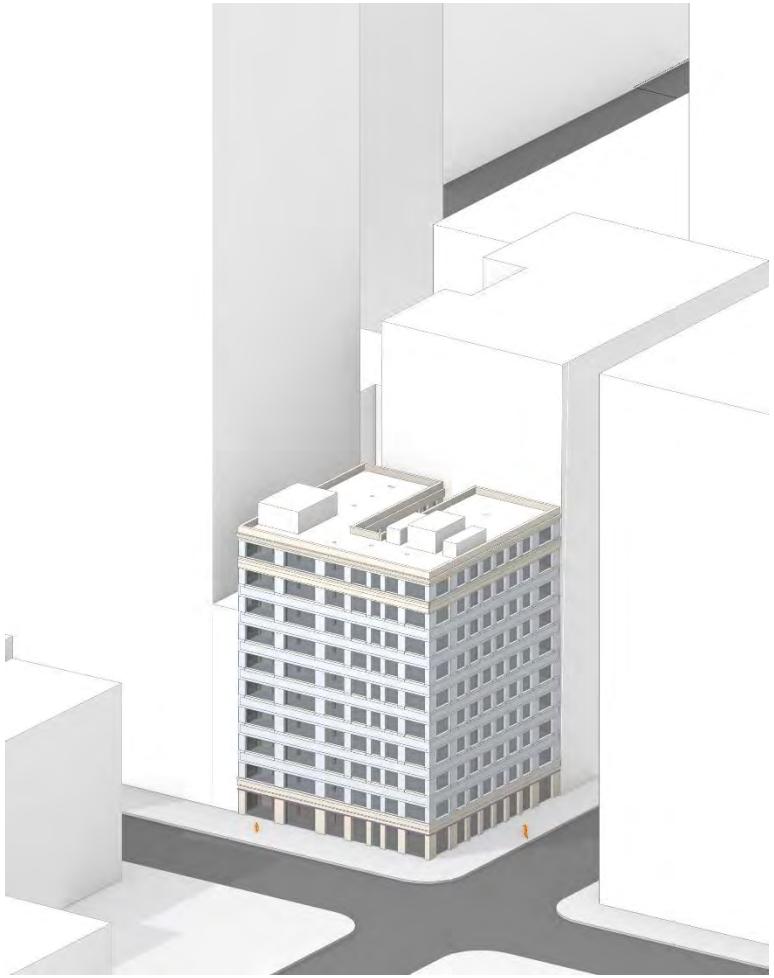
Conversion Concepts

Building Conversion Scoring

Property Address	Built	RBA (SF)	Floorplate Score	Vacancy/Availability Score	Building Quality Score	Office Rent Score	Contiguous Space Score	Parking Score	Transit Score	Total Score
1021 Main St	1960	608,660	3	5	3	5	4	3	3	26
919 Milam St	1956	542,078	4	4	3	5	5	1	3	25
708 Main St	1923	98,253	5	5	4	4	2	1	3	24
808 Travis St	1941	599,107	4	3	4	5	2	2	3	23
1415 Louisiana St	1983	520,602	3	3	3	5	2	3	3	22
800 Bell St	1962	1,314,350	1	5	4	1	5	3	3	22
700 Milam St	1975	694,021	2	5	3	4	5	1	2	22
1001 Texas Ave	1982	119,436	3	2	4	5	1	3	3	21
1010 Lamar St	1981	277,991	2	4	4	4	1	3	3	21
1600 Smith St	1984	1,098,399	2	3	1	5	5	3	2	21
1301 Fannin St	1983	369,486	2	3	3	5	2	3	3	21
1001 McKinney St	1947	375,440	3	2	3	5	1	3	3	20
440 Louisiana St	1983	379,382	3	2	3	5	1	3	3	20
1331 Lamar St	1983	985,896	3	3	3	4	3	2	2	20
1315 St Joseph Pky	1984	170,554	2	3	4	3	1	3	3	19
601 Jefferson St	1973	1,047,748	1	2	3	5	3	3	2	19
711 Louisiana St	1975	666,762	2	3	3	4	4	1	2	19
801 Louisiana St	1978	105,145	3	3	4	5	1	1	2	19
1001 Louisiana St	1962	937,003	1	2	3	5	3	1	3	18
1221 McKinney St	1977	1,065,215	1	3	3	2	5	1	3	18
1301 Fannin St	1983	882,539	2	2	3	5	1	2	3	18
401 Franklin St	1962	114,650	1	5	3	1	3	3	2	18
1200 Smith St	1978	986,229	2	3	3	3	4	1	2	18
1001 Fannin St	1981	1,385,212	1	3	1	3	5	1	3	17
801 Travis St	1981	222,192	1	3	3	5	1	1	3	17
909 Fannin St	1974	1,024,956	1	3	3	3	3	1	3	17
430 Lamar St	1928	60,369	1	3	4	5	1	1	2	17
712 Main St	1929	794,186	2	2	4	4	1	1	3	17
1100 Louisiana St	1980	1,327,882	1	2	3	3	4	1	2	16
1801 Main St	1957	219,054	2	1	3	4	1	1	3	15
1301 McKinney St	1982	1,247,061	1	3	3	3	2	1	2	15
1111 Bagby St	1986	1,149,635	2	2	1	2	3	3	2	15
333 Clay St	1980	1,193,697	1	2	3	3	2	2	2	15
500 Dallas St	1972	975,306	1	2	3	3	2	2	2	15
1000 Louisiana St	1982	1,721,242	1	2	1	3	3	1	3	14
811 Louisiana St	1970	588,423	1	2	3	3	1	1	2	13
700 Louisiana St	1983	1,281,007	1	2	1	3	3	1	2	13

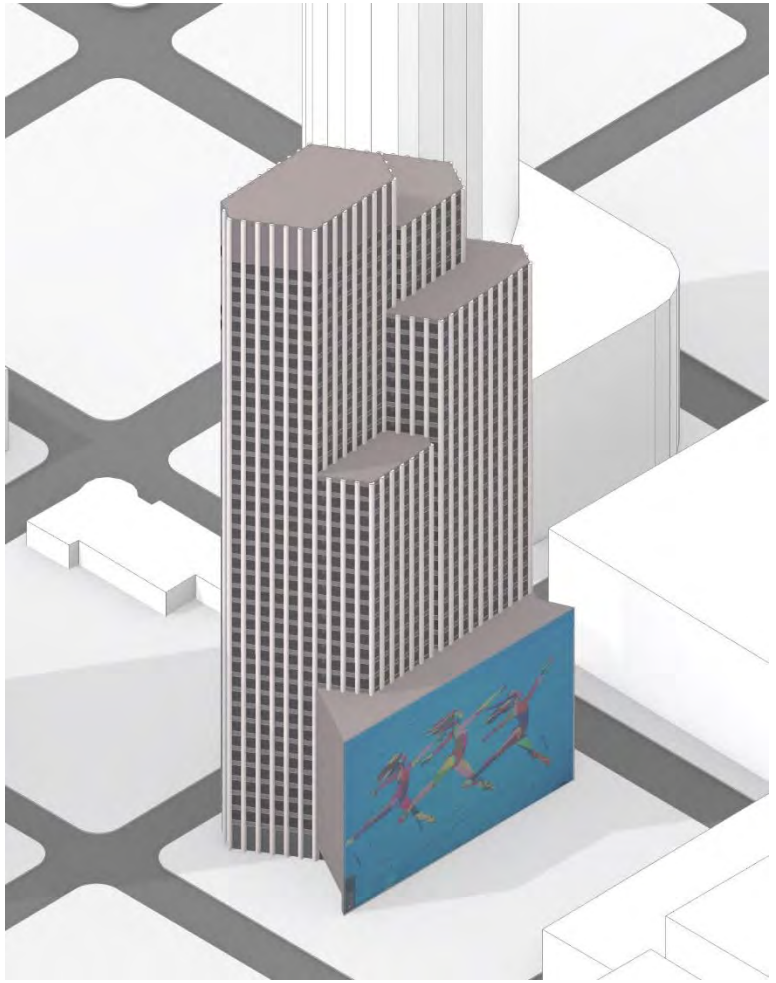
Conversion Concepts

The 3 Conversion Concept Buildings



708 Main
"The Houston Shoebox"

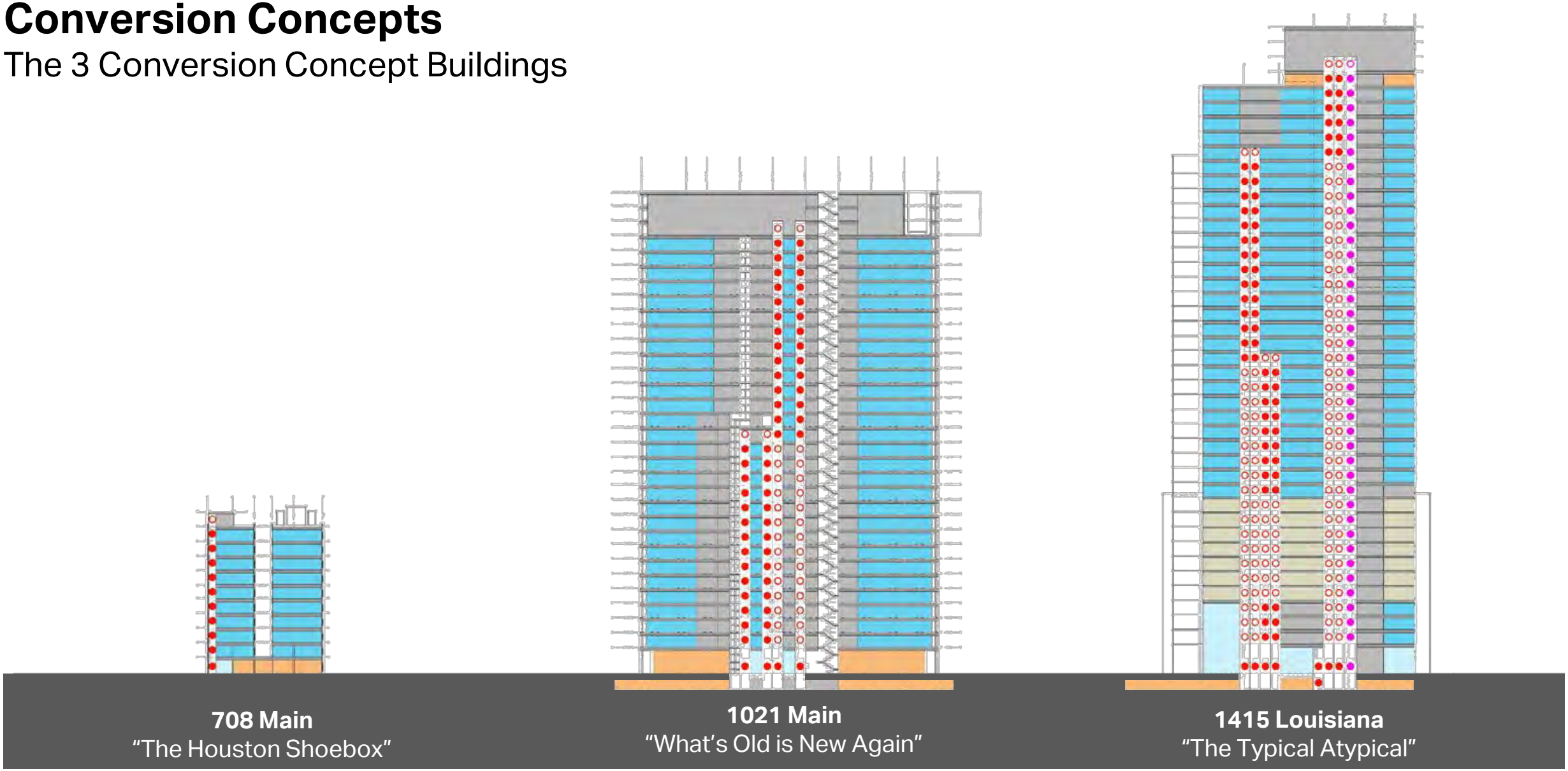
1021 Main
"What's Old is New Again"



1415 Louisiana
"The Typical Atypical"

Conversion Concepts

The 3 Conversion Concept Buildings



708 Main
"The Houston Shoebox"

1021 Main
"What's Old is New Again"

1415 Louisiana
"The Typical Atypical"

Conversion Concepts

708 Main: "The Houston Shoebox" – Existing Conditions

1

BUILDING PROFILE

OWNER: Lionstone Partners

LEASING COMPANY: CBRE

YEAR BUILT / RENOVATED: 1923 / 2002

VACANT / AVAILABLE: 88% / 88%

CURRENT RENTS: $24 PSF

RENTABLE BUILDING AREA: 98,000 SF

TYPICAL FLOOR SIZE: 8,600 SF

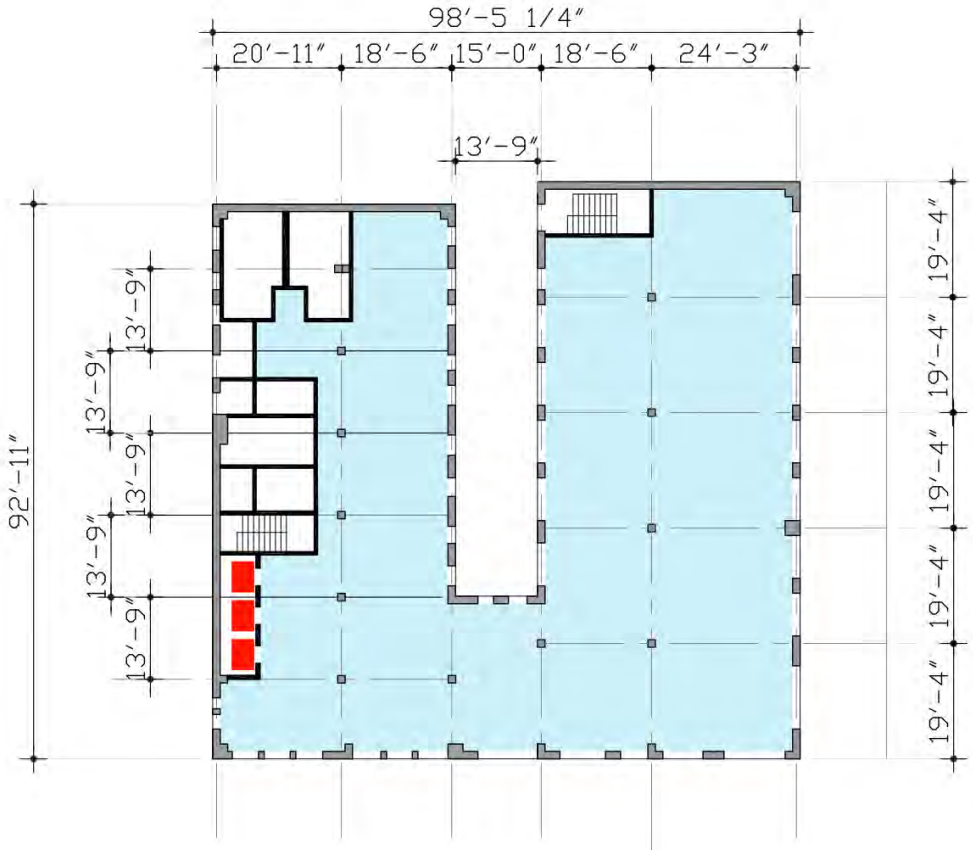
STORIES: 10

MINIMUM FLOORPLATE DEPTH: 45 feet

LAST SALE : Not Disclosed, January 2015

CURRENT FINANCIALS: Not Listed

PARKING: None on-site



Conversion Concepts

708 Main: "The Houston Shoebox" – Conversion Program

1

Program

Residential	59,417 SF	95%
Office	0 SF	0%
Retail	2,803 SF	5%
Total RBA	**62,220 SF**	**100%**

Building-Level Unit Mix

Unit	Count	% Total	Average SF
Studio	22 units	41%	764 SF
1-Bedroom	23 units	43%	987 SF
2-Bedroom	9 units	17%	1,475 SF
3-Bedroom	0 units	0%	N/A
Total Units	**54 units**	**100%**	**977 SF**

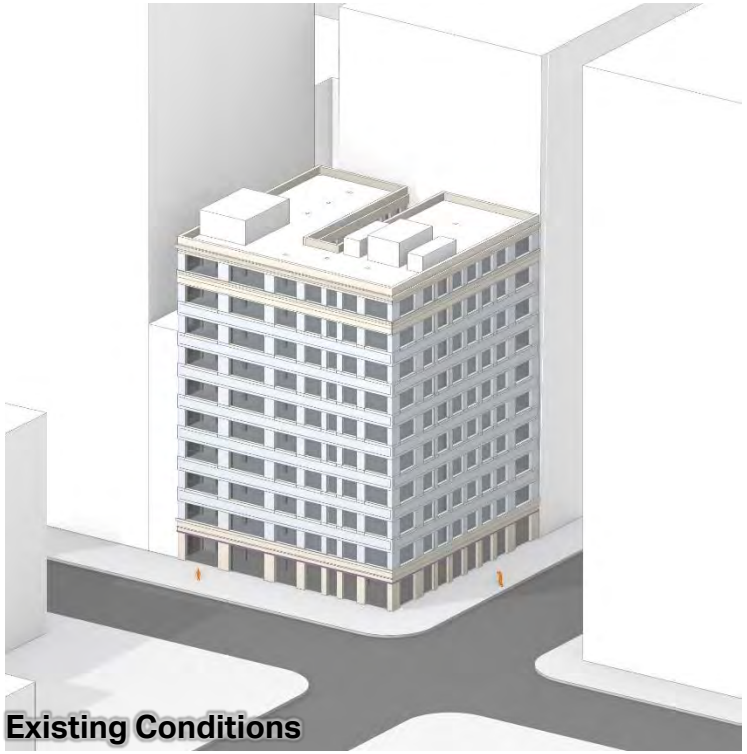
Building Efficiency

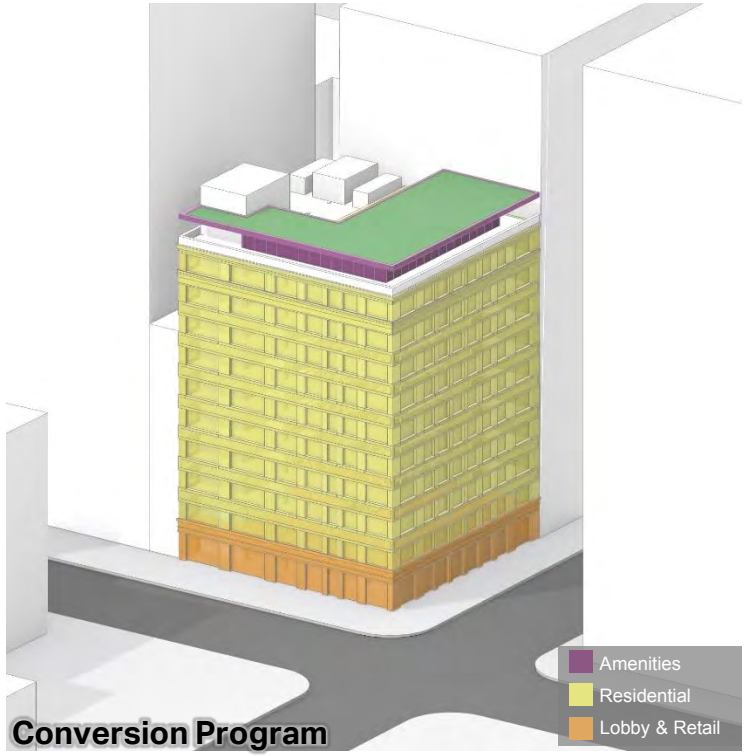
54
Residential Units

81,567
GSF

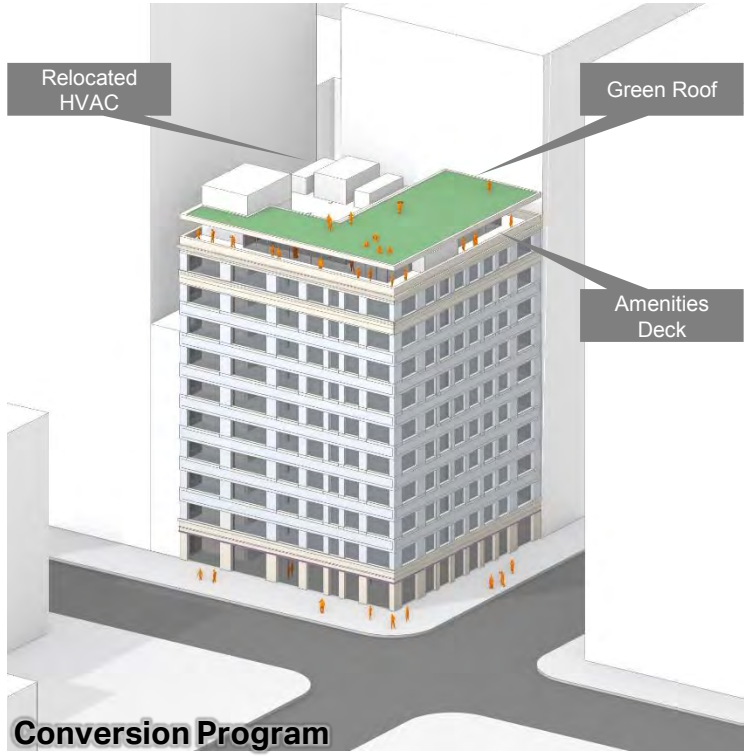
977
Avg. Unit Size

68%
Building Efficiency


Existing Conditions



Conversion Program

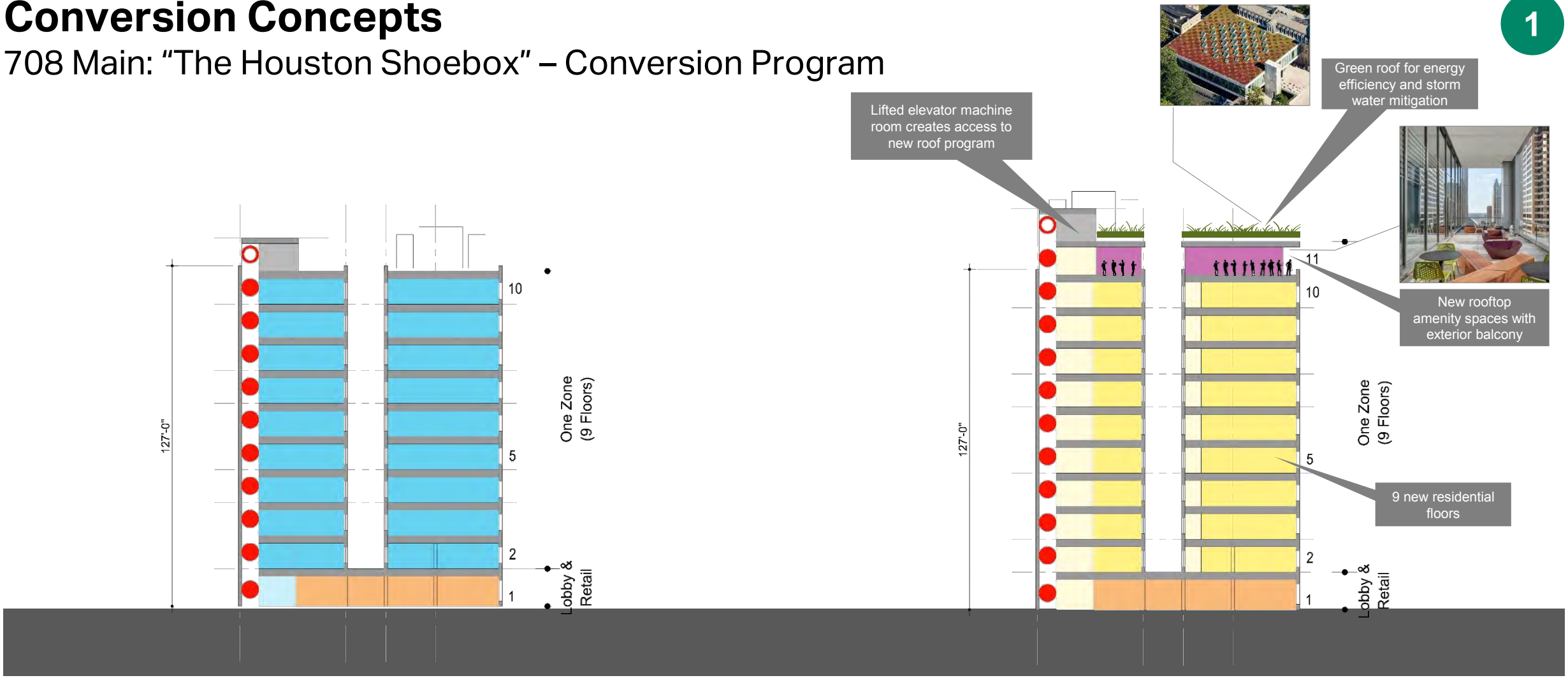


Conversion Program

Conversion Concepts

708 Main: “The Houston Shoebox” – Conversion Program

1



Pre-Conversion

Post-Conversion

Conversion Concepts

708 Main: “The Houston Shoebox” – Typical Floors

1

Floors 2 - 5

UNIT MIX

STUDIO	3
1 BR	2
2 BR	1
3 BR	0
TOTAL	6

Floors 6 - 10

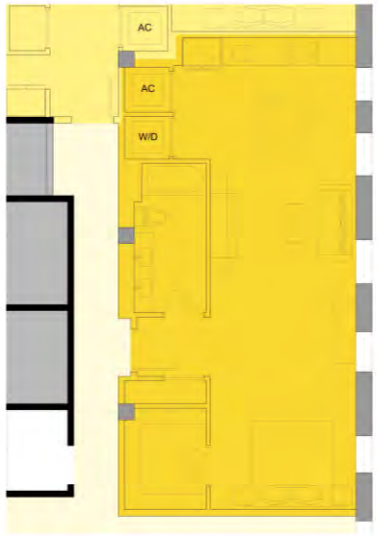
UNIT MIX

STUDIO	2
1 BR	3
2 BR	1
3 BR	0
TOTAL	6

Conversion Concepts

708 Main: “The Houston Shoebox” – Typical Units

1



STUDIO

UNIT: 638 SF

1 BEDROOM

UNIT: 946 SF

1 BEDROOM

UNIT: 1021 SF

2 BEDROOM

UNIT: 1475 SF

Conversion Concepts

1415 Louisiana: “The Typical Atypical” – Existing Conditions

2

BUILDING PROFILE

OWNER: Wedge Commercial Properties

LEASING COMPANY: Cushman & Wakefield

YEAR BUILT / RENOVATED: 1983 / 2022

VACANT / AVAILABLE: 43% / 44%

CURRENT RENTS: $19.55 PSF

RENTABLE BUILDING AREA: 521,000 SF

TYPICAL FLOOR SIZE: 12,000 – 18,000 SF

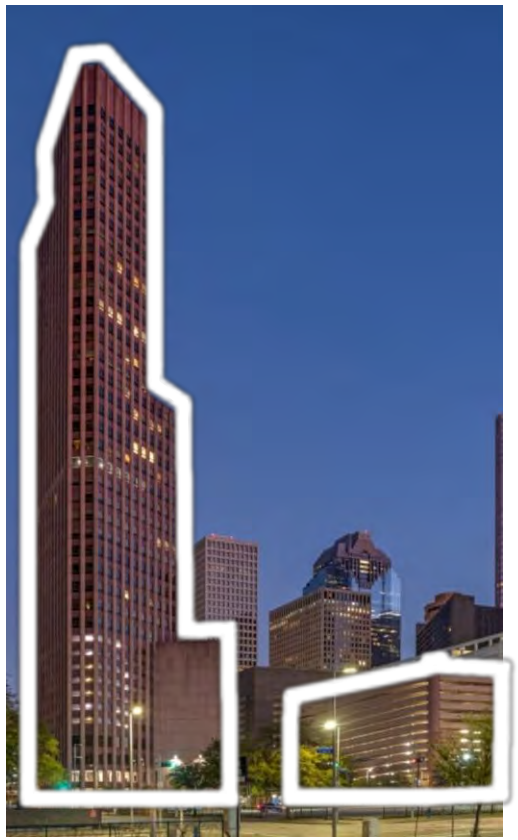
STORIES: 43

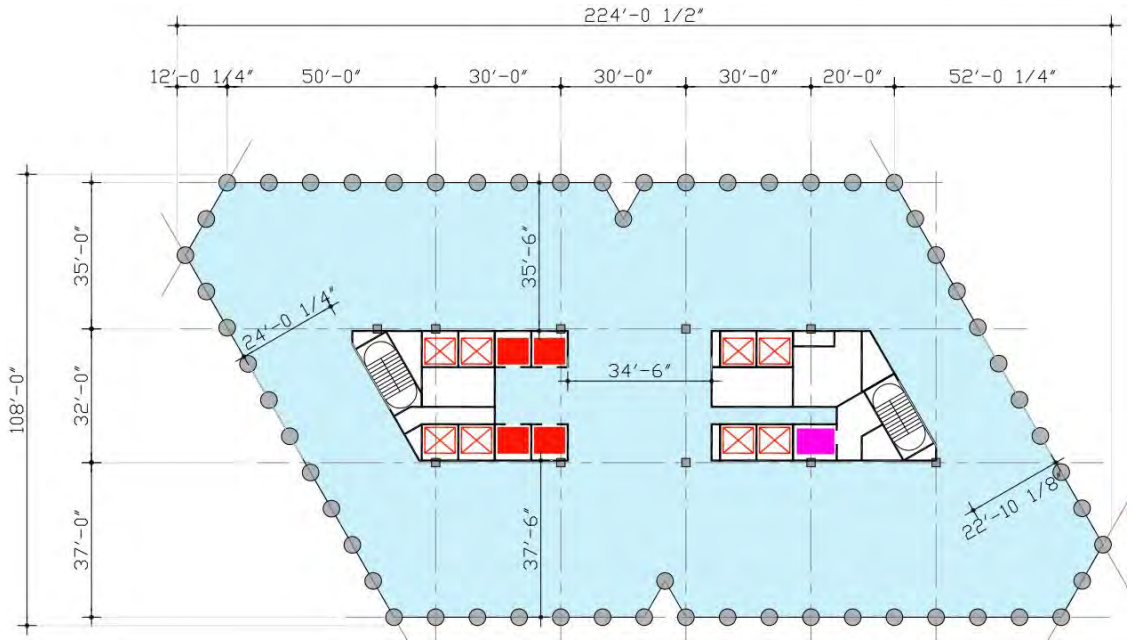
MINIMUM FLOORPLATE DEPTH: 90 feet

LAST SALE : Not Listed

CURRENT FINANCIALS: Not Listed

PARKING: 1,604 spaces (3.1 spaces per 1,000 SF)





Conversion Concepts

1415 Louisiana: "The Typical Atypical" – Conversion Program

2

Program

Residential	262,124SF	70%
Office	44,025 SF	12%
Retail	7,396 SF	2%
Parking	59,562 SF	16%
Total RBA	**373,107 SF**	**100%**

Building-Level Unit Mix

Unit	Count	% Total	Average SF
Studio	34 units	18%	812 SF
1-Bedroom	102 units	55%	1,066 SF
2-Bedroom	42 units	23%	1,818 SF
3-Bedroom	8 units	4%	2,241 SF
Total Units	**186 units**	**100%**	**1,240 SF**

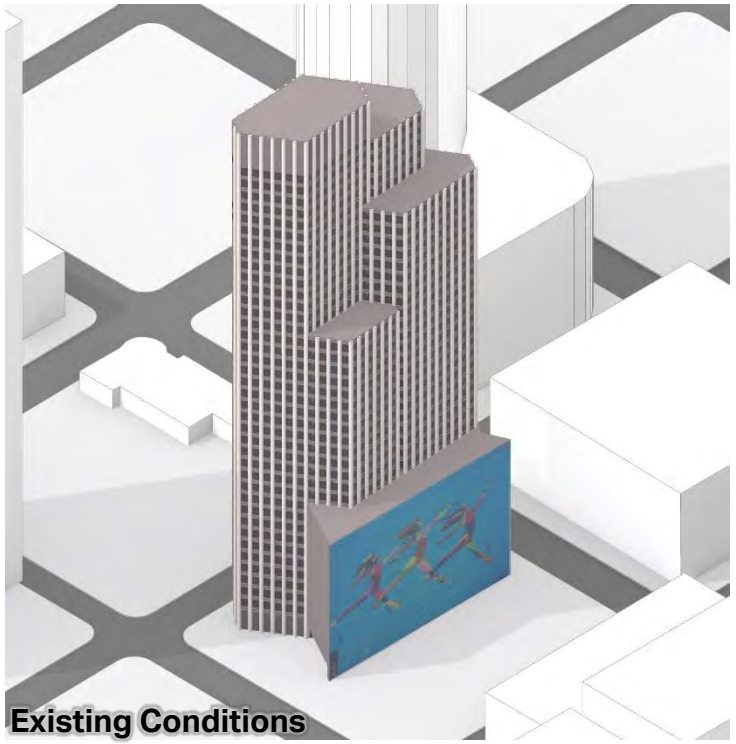
Building Efficiency

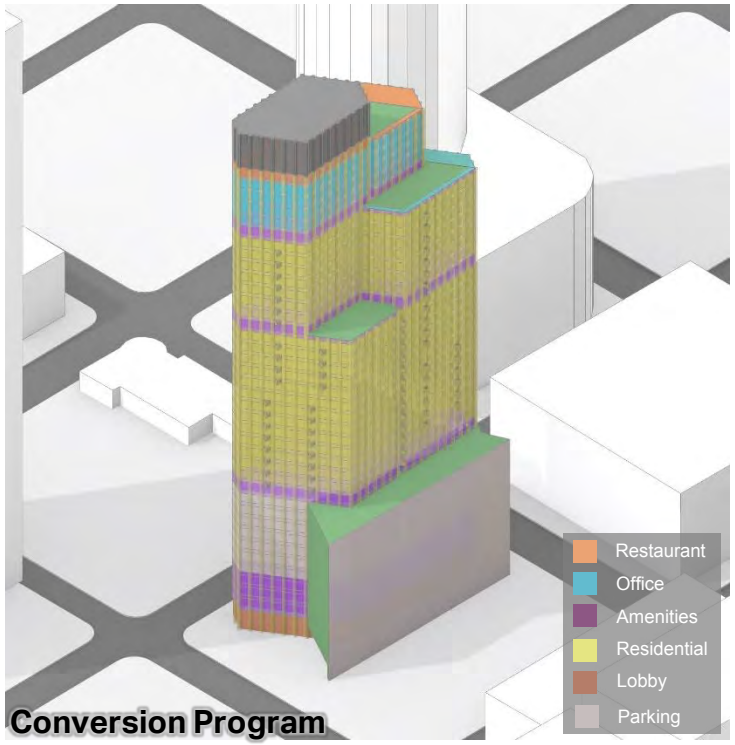
186
Residential Units

520,602
GSF

1,240
Avg. Unit Size

54%
Building Efficiency


Existing Conditions



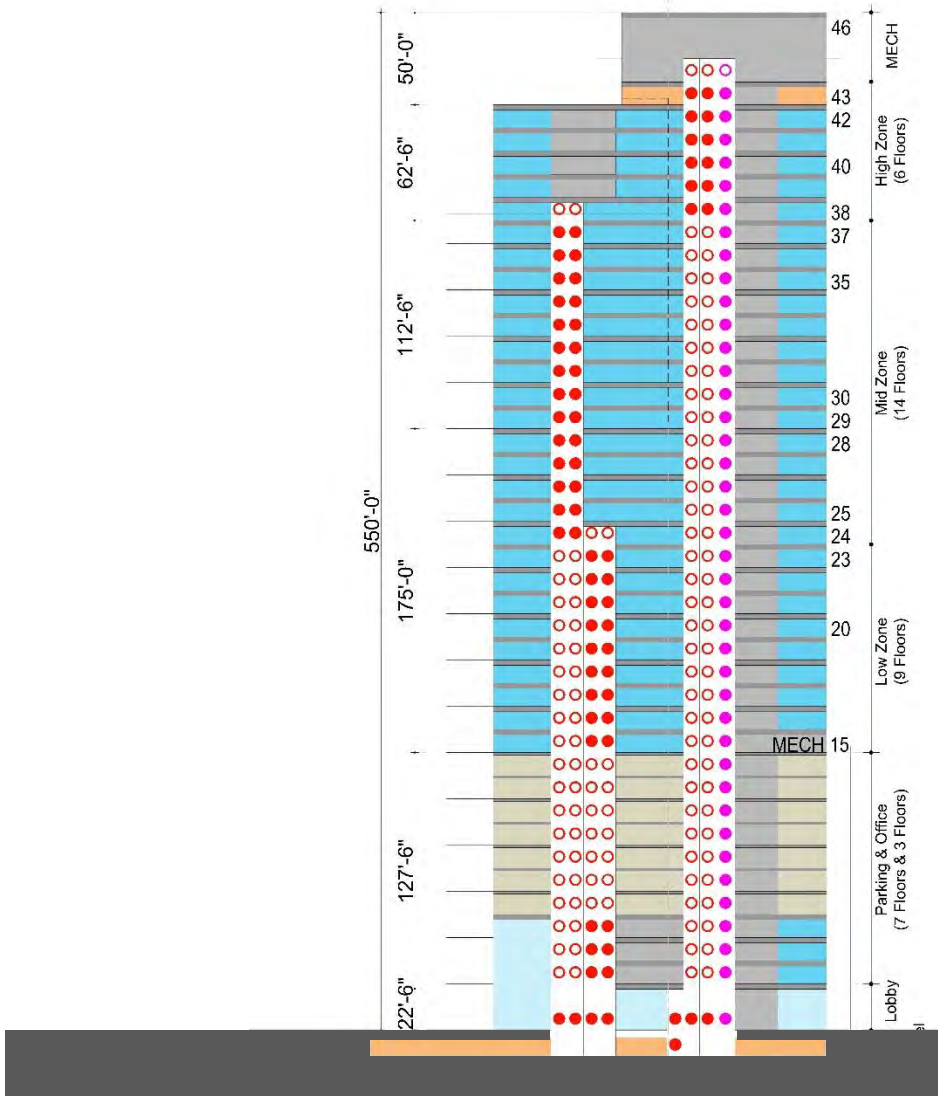
Conversion Program

Conversion Program

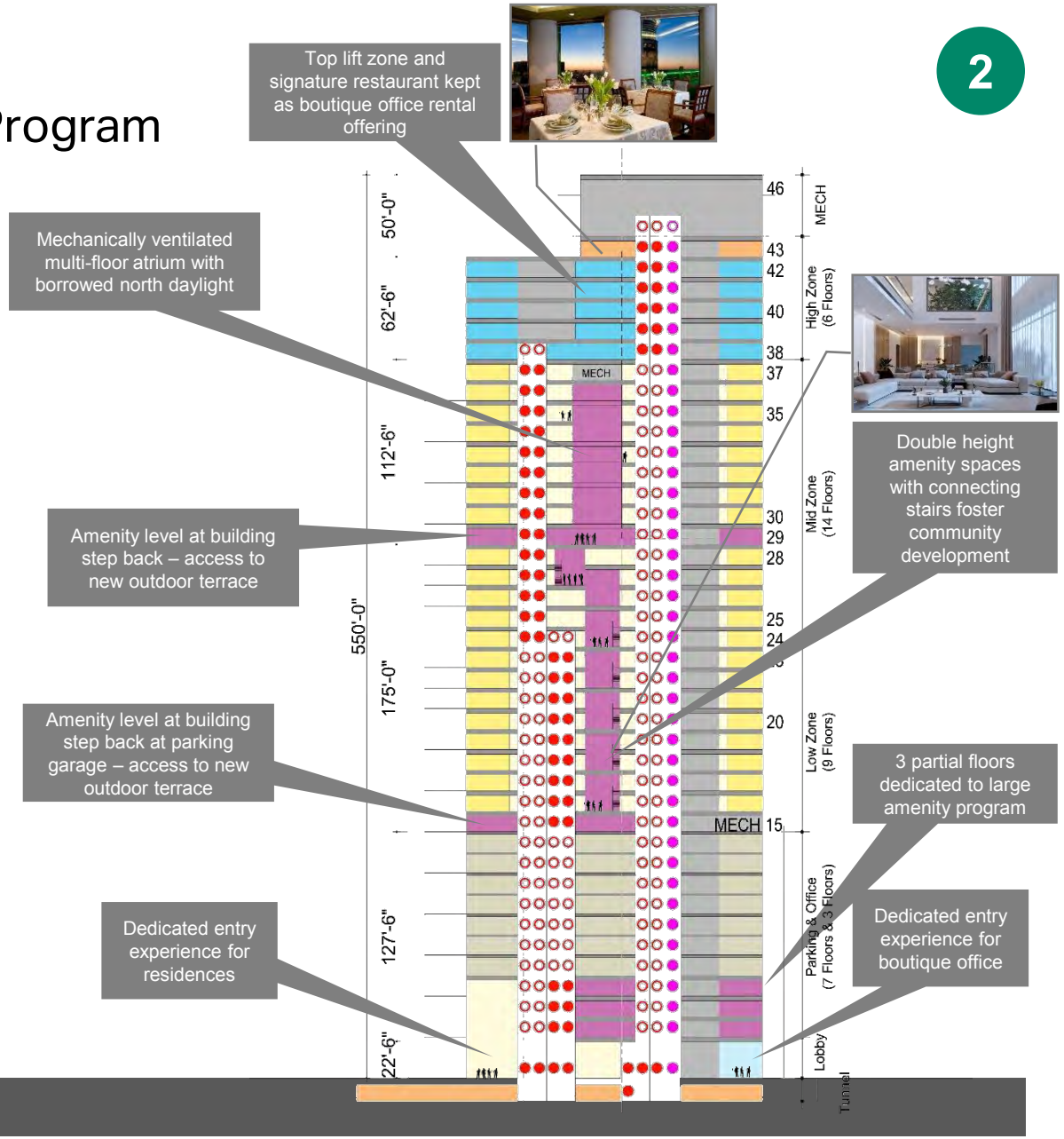
Conversion Concepts

1415 Louisiana: “The Typical Atypical” – Conversion Program

2



Pre-Conversion



Post-Conversion

Conversion Concepts

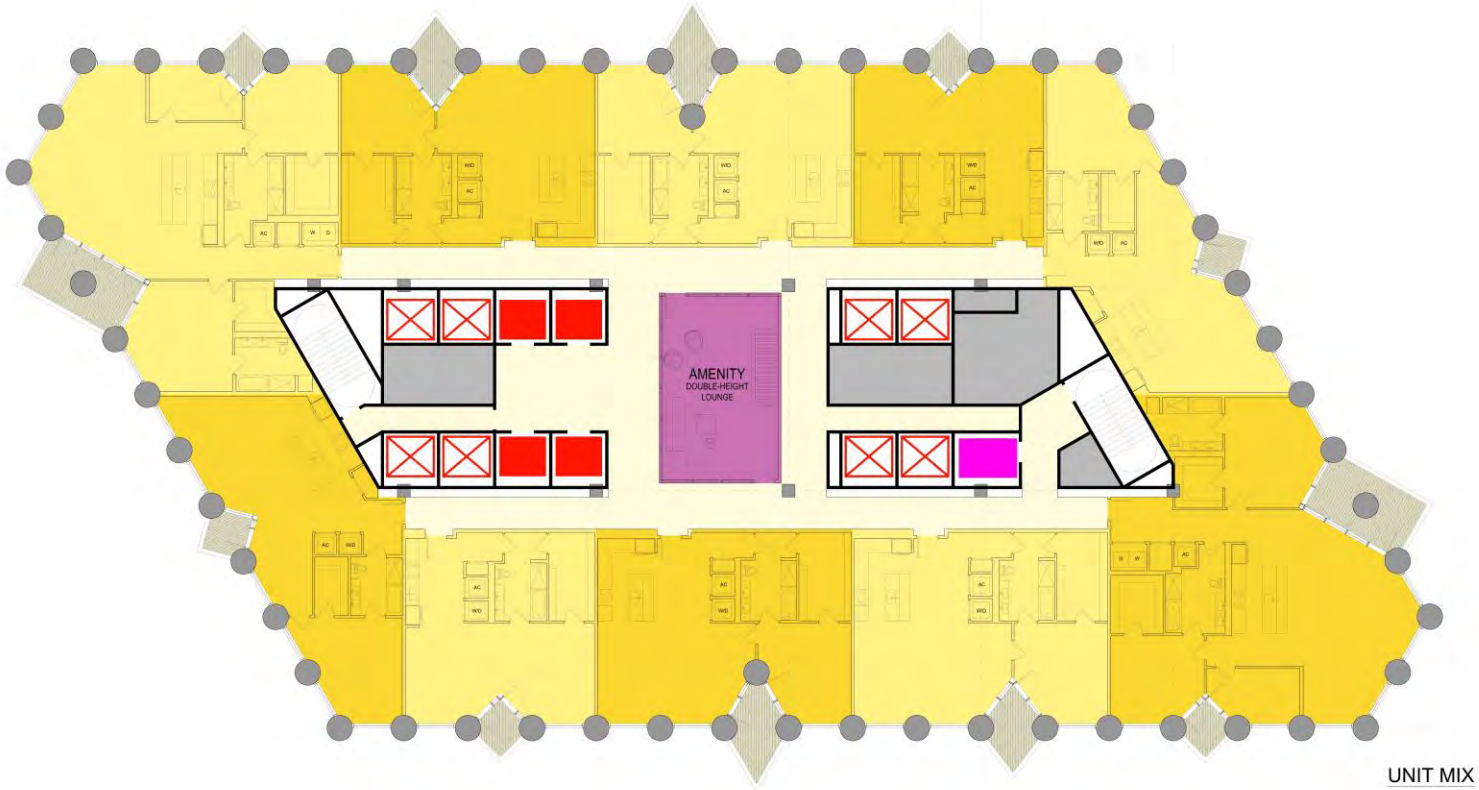
2

1415 Louisiana: “The Typical Atypical” – Conversion Program

Conversion Concepts

1415 Louisiana: “The Typical Atypical” – Typical Floors, 16 - 28

2



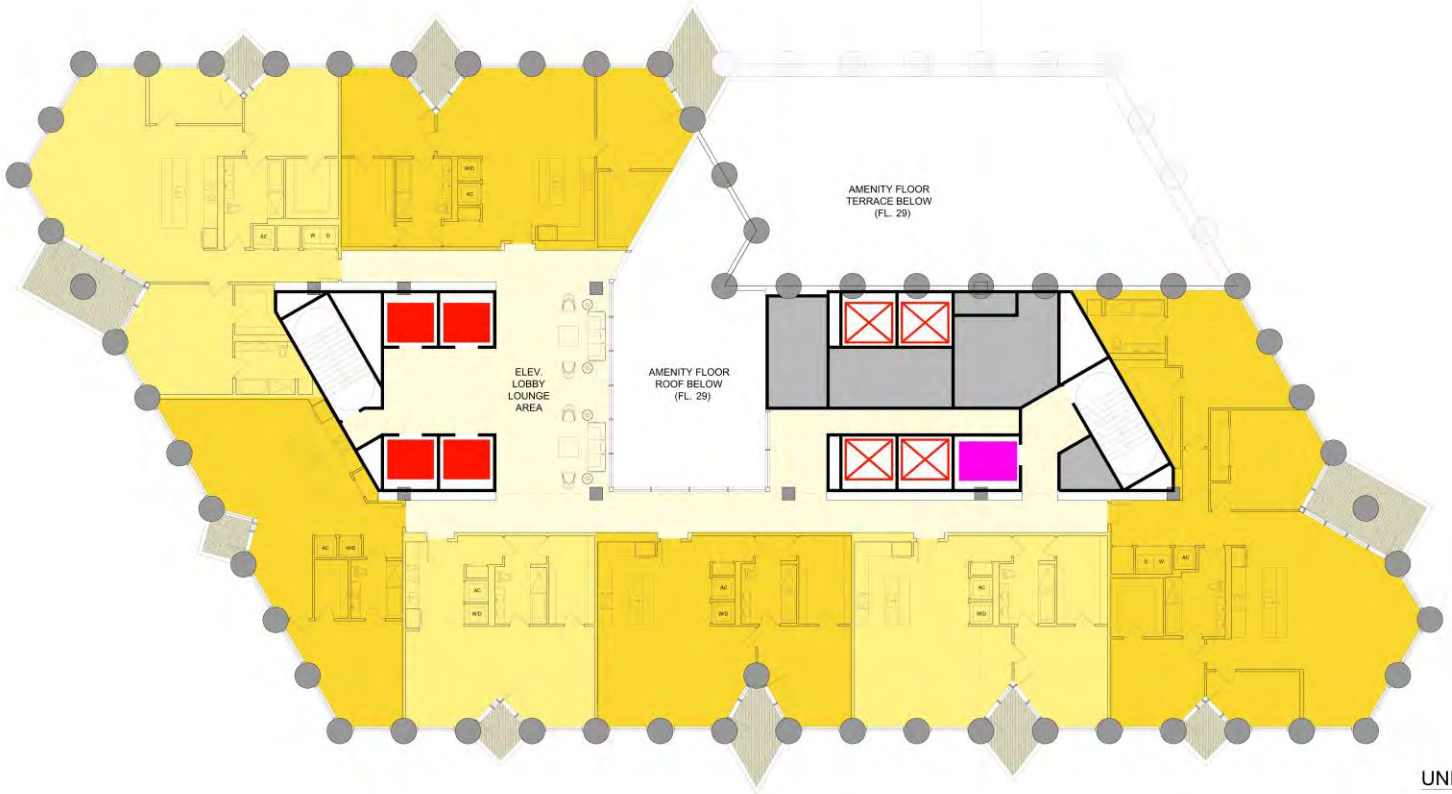
UNIT MIX

STUDIO	2
1 BR	6
2 BR	2
3 BR	0
TOTAL	10

Conversion Concepts

2

1415 Louisiana: “The Typical Atypical” – Typical Floors, 30-37

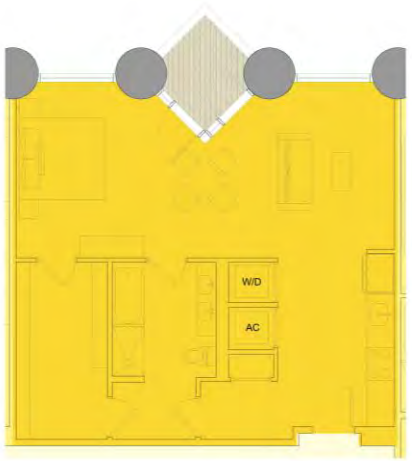


UNIT MIX

STUDIO	1
1 BR	3
2 BR	2
3 BR	1
TOTAL	7

Conversion Concepts

1415 Louisiana: “The Typical Atypical” – Typical Units

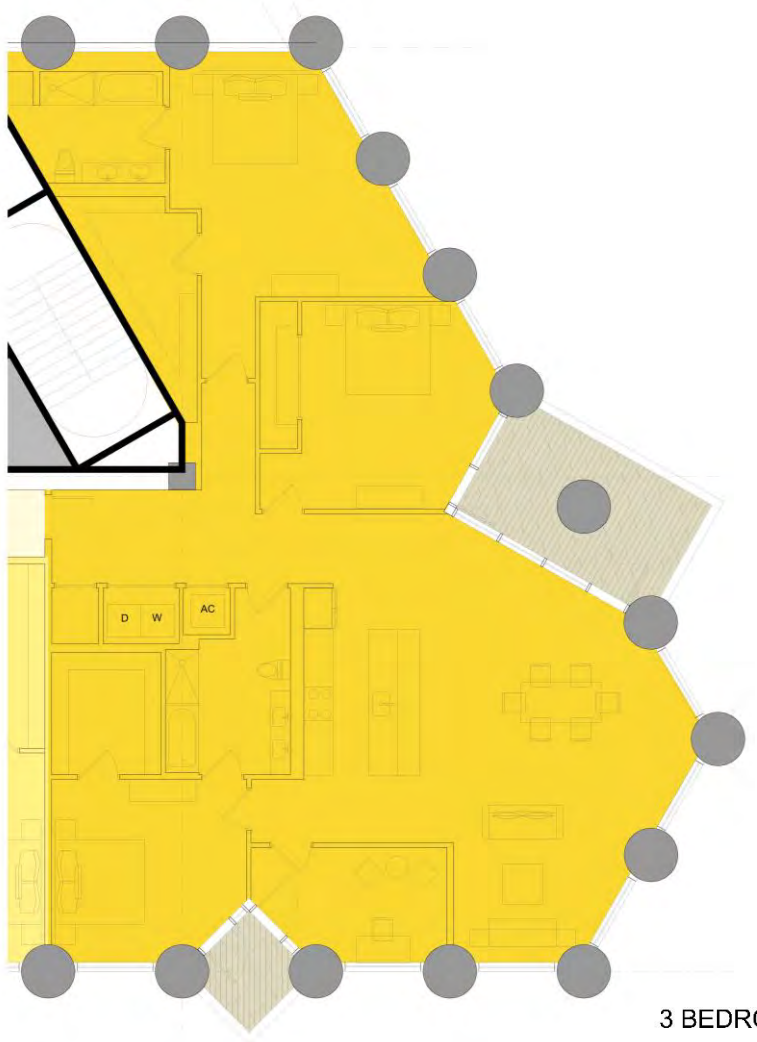


STUDIO

UNIT: 782 SF
BALCONY: 37 SF

1 BEDROOM

UNIT: 1030 SF
BALCONY: 76 SF

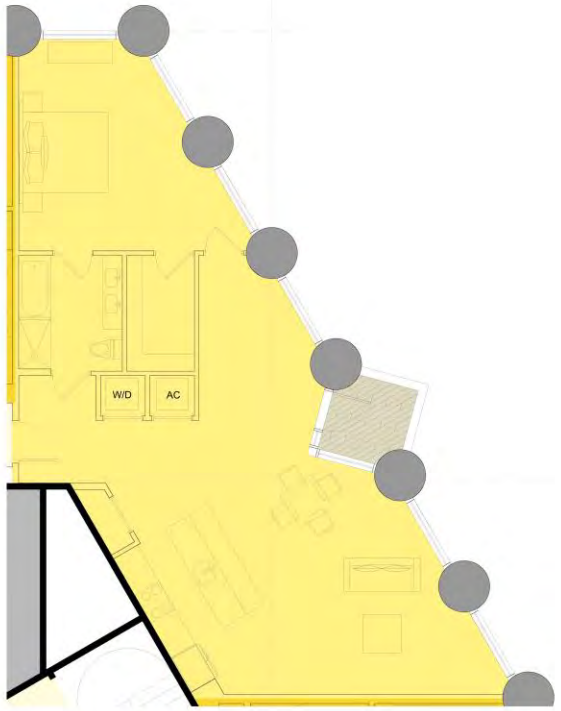


3 BEDROOM + OFFICE

UNIT: 2241 SF
BALCONY: 154 + 37 SF (191 SF)

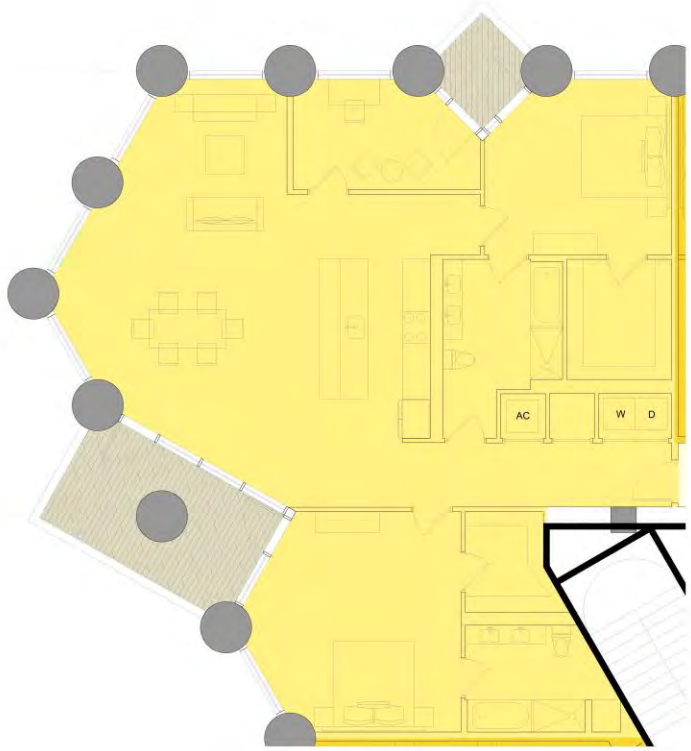
Conversion Concepts

1415 Louisiana: “The Typical Atypical” – Typical Units



1 BEDROOM

UNIT: 1042 SF
BALCONY: 37 SF



2 BEDROOM + OFFICE

UNIT: 1817 SF
BALCONY: 154 + 37 SF (191 SF)

Conversion Concepts

1021 Main: “What’s Old is New Again” – Existing Conditions

3

BUILDING PROFILE

OWNER: Accesso Partners

LEASING COMPANY: Avison Young

YEAR BUILT / RENOVATED: 1960 / 2010

VACANT / AVAILABLE: 72% / 93%

CURRENT RENTS: $18.06 PSF

RENTABLE BUILDING AREA: 609,000 SF

TYPICAL FLOOR SIZE: 21,000 SF

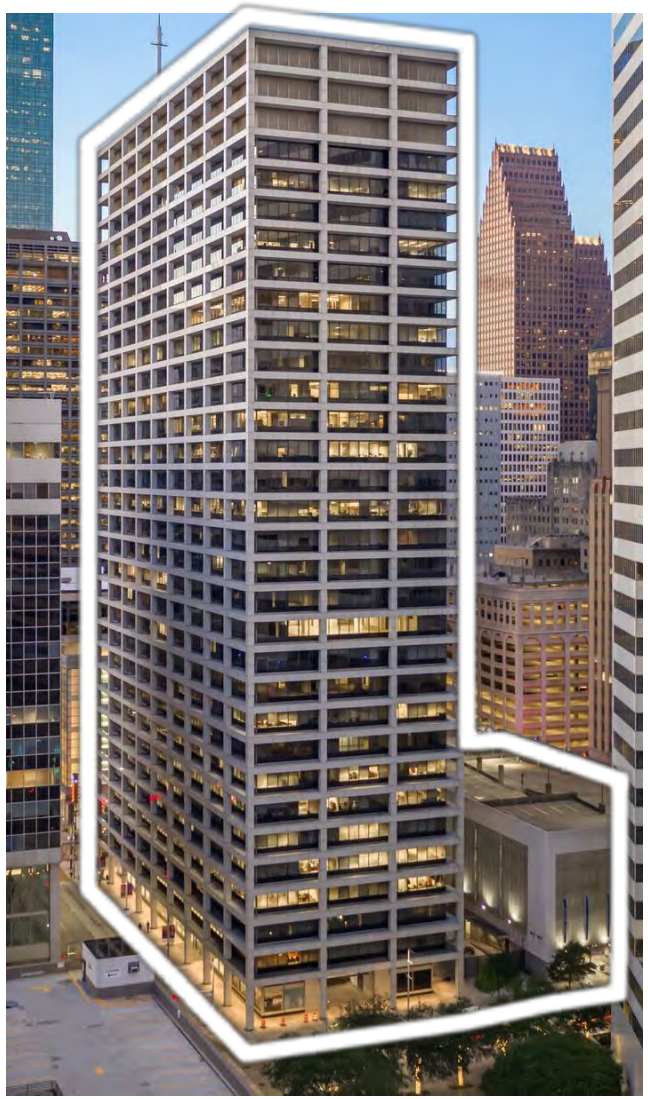
STORIES: 29

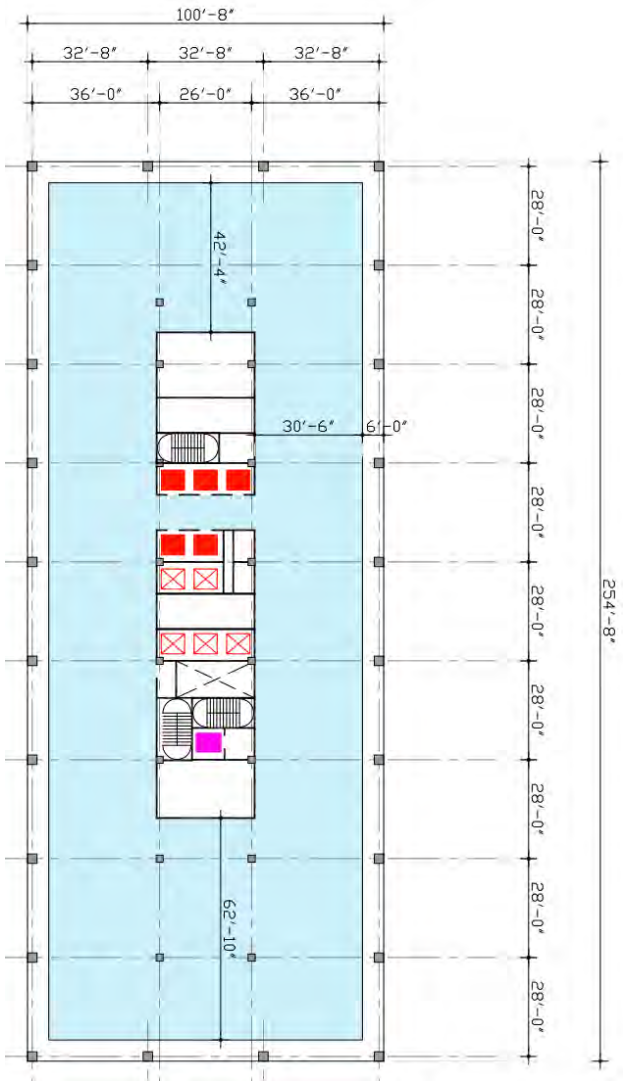
MINIMUM FLOORPLATE DEPTH: 90 feet

LAST SALE : $131M, $215 PSF, 8.2% Cap Rate, September 2012

CURRENT FINANCIALS: -$1.14M NOI, -0.48 DSCR

PARKING: 1,300 spaces between 2 decks (2.1 spaces per 1,000 SF)





AECOM

Conversion Concepts

1021 Main: "What's Old is New Again" – Conversion Program

3

Program

Residential	407,877 SF	94%
Office	0 SF	0%
Retail	25,528 SF	6%
Total RBA	**433,405 SF**	**100%**

Building-Level Unit Mix

Unit	Count	% Total	Average SF
Studio	51 units	16%	747 SF
1-Bedroom	149 units	48%	998 SF
2-Bedroom	54 units	17%	1,472 SF
3-Bedroom	56 units	18%	1,799 SF
Total Units	**310 units**	**100%**	**1,184 SF**

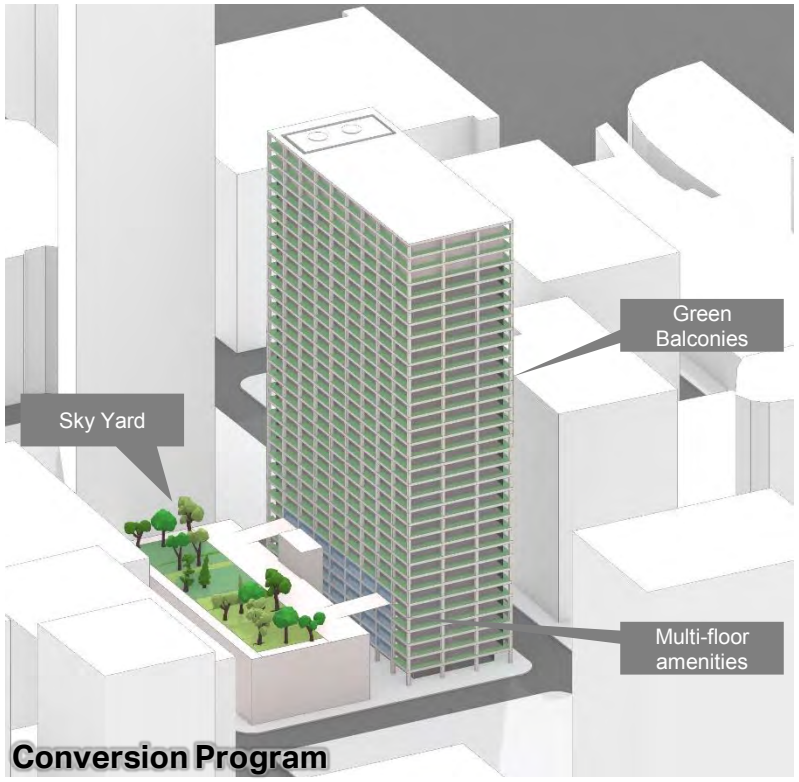
Building Efficiency

310
Residential Units

608,660
GSF

1,184
Avg. Unit Size

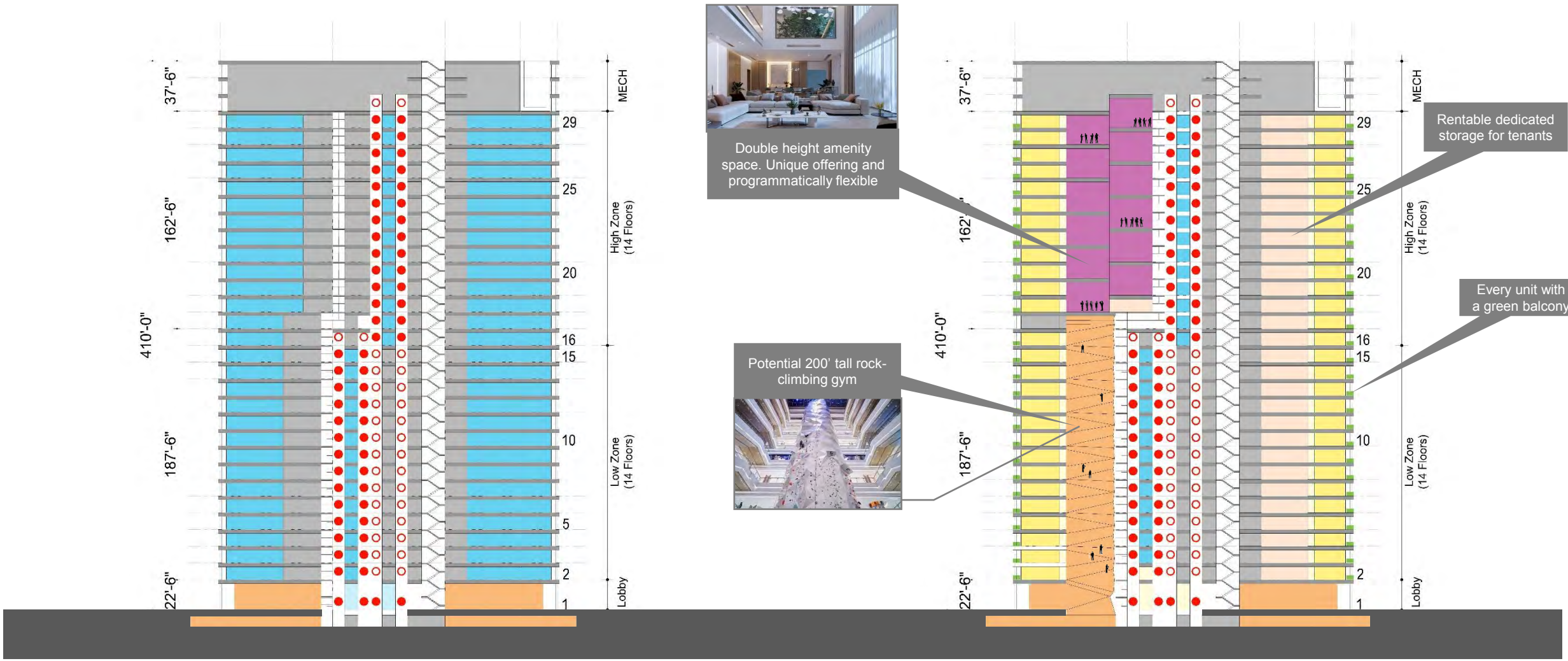
64%
Building Efficiency



Conversion Concepts

1021 Main: “What’s Old is New Again” – Conversion Program

3



Pre-Conversion

Post-Conversion

AECOM

Conversion Concepts

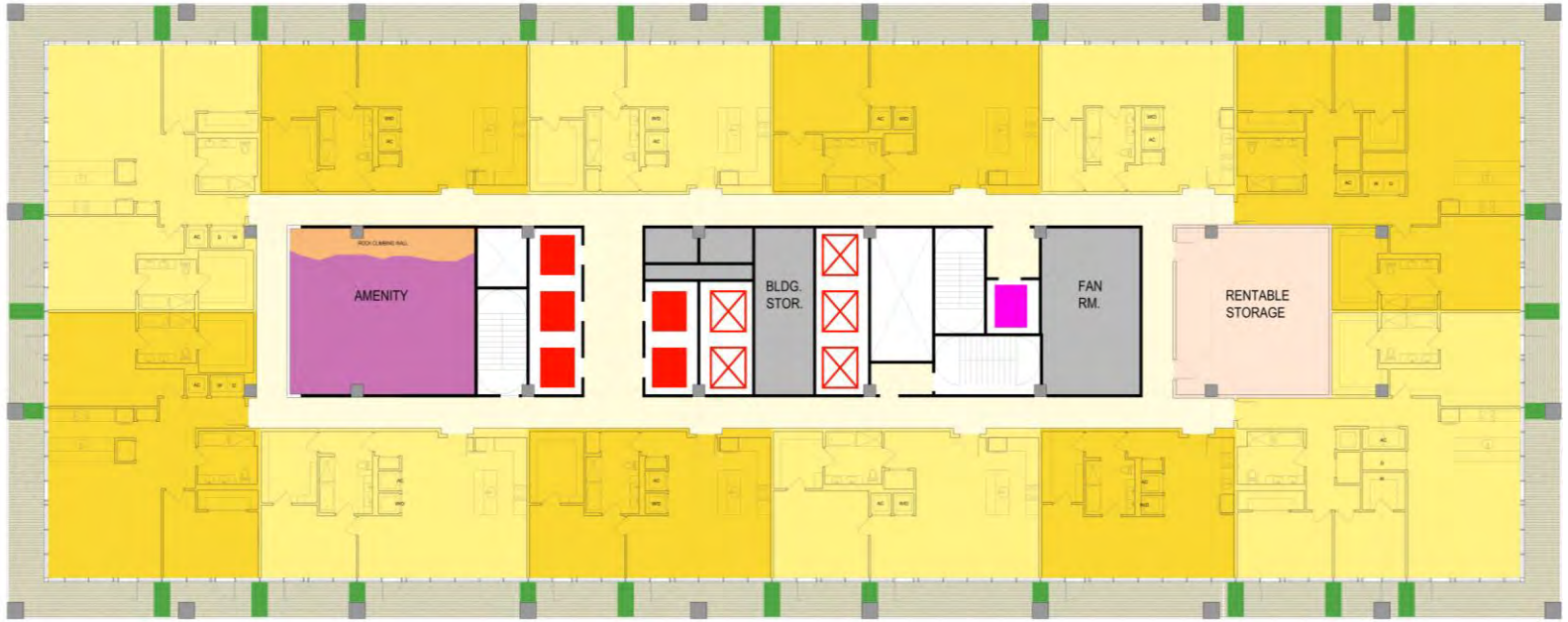
1021 Main: “What’s Old is New Again” – Typical Floors, 2-16

3

UNIT MIX

STUDIO	2
1 BR	6
2 BR	2
3 BR	2
TOTAL	12

Floors 2 - 16



Conversion Concepts

1021 Main: “What’s Old is New Again” – Typical Floors, 18-29

3

UNIT MIX

STUDIO	2
1 BR	6
2 BR	2
3 BR	2
TOTAL	12

Floors 18 - 29

Conversion Concepts

1021 Main: “What’s Old is New Again” – Typical Units

STUDIO

UNIT: 747 SF
TERRACE: 184 SF

1 BEDROOM

UNIT: 1030 SF
TERRACE: 253 SF

1 BEDROOM

UNIT: 1030 SF
TERRACE: 253 SF

1 BEDROOM

UNIT: 935 SF
TERRACE: 230 SF

Conversion Concepts

1021 Main: “What’s Old is New Again” – Typical Units

2 BEDROOM

UNIT: 1472 SF
TERRACE: 491 SF

3 BEDROOM

UNIT: 1799 SF
TERRACE: 560 SF

Section 6: Economic Feasibility

Economic Feasibility

Introduction

AECOM economists developed real estate pro forma models based on the office-to-residential and mixed-use programs illustrated in the preceding Conversion Concepts section. These models elucidate the economic feasibility of these hypothetical conversion projects by estimating total development costs required for the execution of each project, projecting rental income from the new housing units and refreshed commercial spaces in the converted building, and calculating the maximum amount of debt and equity that could be supported by those cash flows.

The alignment between the total development costs and maximum supportable financing translates to a general assessment of project feasibility, ranging from feasible (no funding gap) to potentially feasible (smaller funding gap) to not feasible (larger funding gap) as shown on the right. AECOM modeled several potential scenarios related to the current occupancy of the existing office building at the time of conversion as well as four potential incentive structures as described on the right. The remainder of this section details the results of our feasibility analysis, which feeds into our recommendations in the following section.

Feasibility Test

Feasible	No funding gap
Potentially	Funding gap is less than 10% of total development costs
Not Feasible	Funding gap is greater than 10% of total development costs

Occupancy Scenarios

Vacant Building	Assuming investor redevelops vacant building
Existing Lease Buyout	Assuming investor redevelops with current rent roll and subsequent lease buyout costs

Incentive Levels

No Incentives	Baseline private sector feasibility with no public support or tax incentives
Basic Tax Reimbursement	Incentive structure that reimburses 75% of tax increment for 15 years
Basic Tax Reimbursement plus Historic Tax Credits	If building were to achieve state and federal tax credit eligibility *(Note: No concept buildings are currently historically designated or contributing)*
Enhanced Tax Reimbursement	Incentive structure that reimburses 100% of tax increment for 30 years with County participation

Economic Feasibility

708 Main: "The Houston Shoebox"

1

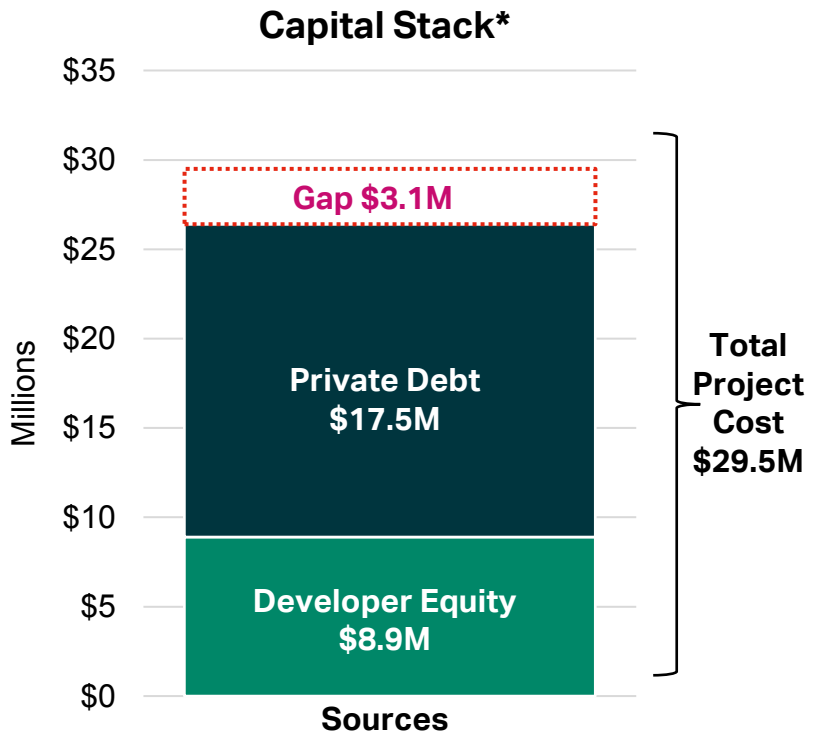
Feasibility Results

- 708 Main is **FEASIBLE** under enhanced tax reimbursement (100% of tax increment for 30 years with County involvement)
- 708 Main is **POTENTIALLY FEASIBLE** under status quo, and particularly if it were to access historic tax credits in the future
- Building is currently fully vacant besides retail tenants

Feasibility by Scenario

Scenario	Vacant Building	Lease Buyout
No Incentives	Potentially	Potentially
Basic Tax Reimbursement	Potentially	Potentially
Basic plus Historic Tax Credits	Feasible	Feasible
Enhanced Tax Reimbursement	Feasible	Feasible

Factors affecting feasibility	• Min. decrease in building efficiency • Low acquisition cost • Fully vacant • Lower construction complexity



* Status Quo scenario (no public support) with acquisition and lease buyout costs

Economic Feasibility

1415 Louisiana: "The Typical Atypical"

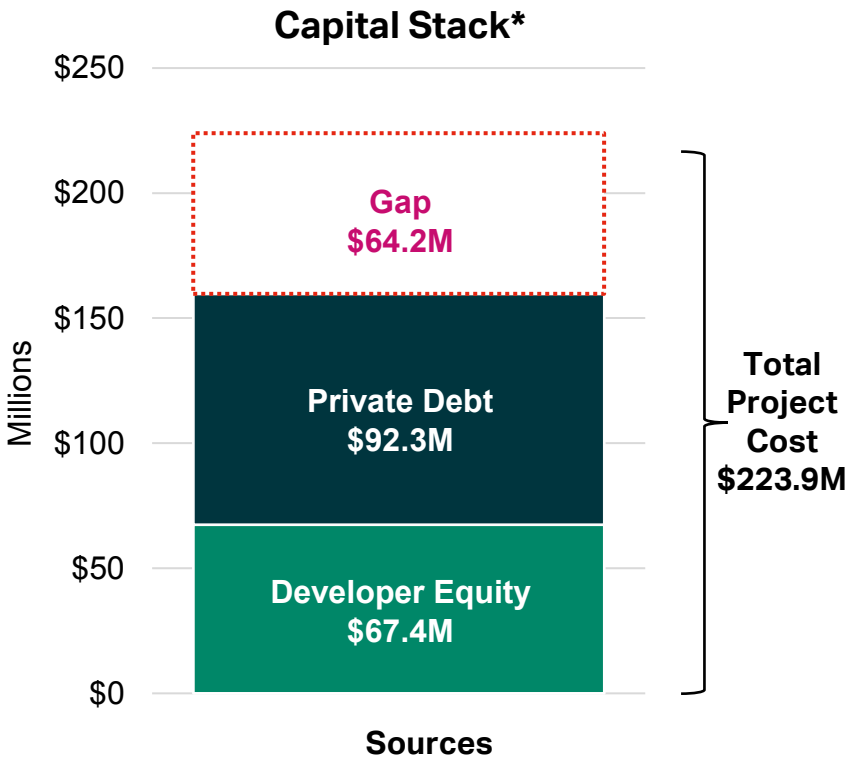
2

Feasibility Results

- 1415 Louisiana is **POTENTIALLY FEASIBLE** after enhanced tax reimbursement (100% for 30 years with County involvement) if fully vacant
- 1415 Louisiana is **NOT FEASIBLE** under all other scenarios; not historically eligible, so not evaluated for historic tax credits

Feasibility by Scenario

Scenario	Vacant Building	Lease Buyout
No Incentives	Not Feasible	Not Feasible
Basic Tax Reimbursement	Not Feasible	Not Feasible
Enhanced Tax Reimbursement	Potentially	Not Feasible
Factors affecting feasibility	• Poor layout efficiency • High acquisition cost • Partially occupied	



* Status Quo scenario (no public support) with acquisition and lease buyout costs

Economic Feasibility

1021 Main: "What's Old is New Again"

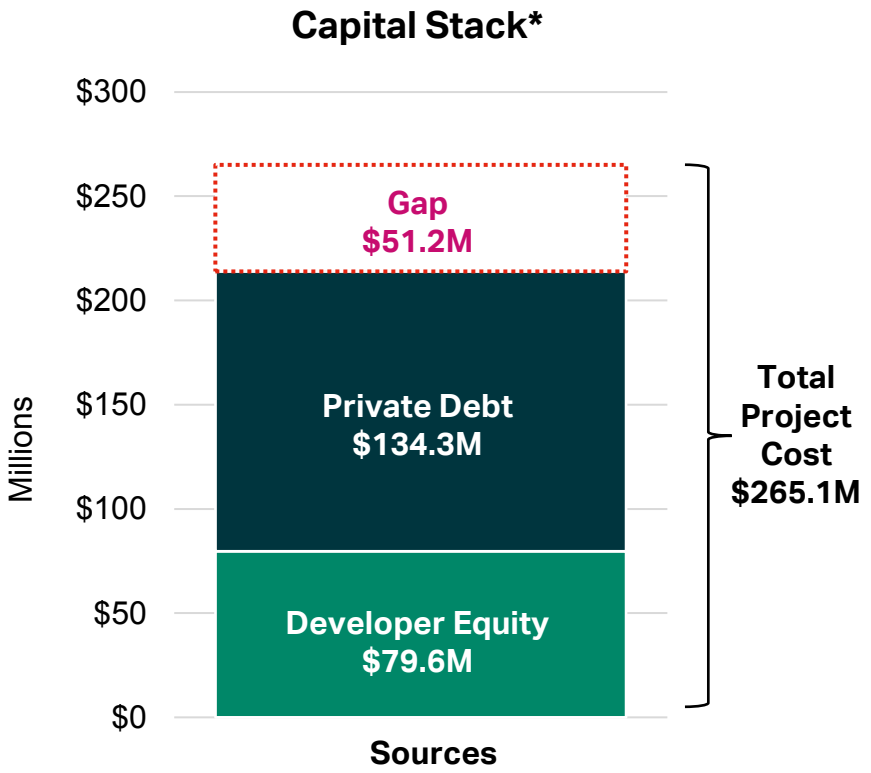
3

Feasibility Results

- 1021 Main is **FEASIBLE** enhanced tax reimbursement (100% of tax increment for 30 years plus County involvement)
- 1021 Main is **POTENTIALLY FEASIBLE** under basic tax reimbursement (75% of tax increment for 15 years)
- 1021 Main is **NOT FEASIBLE** under status quo or current occupancy with basic tax reimbursement

Feasibility by Scenario

Scenario	Vacant Building	Lease Buyout
No Incentives	Not Feasible	Not Feasible
Basic Tax Reimbursement	Potentially	Not Feasible
Basic plus Historic Tax Credits	Feasible	Feasible
Enhanced Tax Reimbursement	Feasible	Feasible
Factors affecting feasibility	• Poor layout efficiency • High acquisition cost • Mostly vacant	



* Status Quo scenario (no public support) with acquisition and lease buyout costs

Economic Feasibility

Assumptions & Takeaways

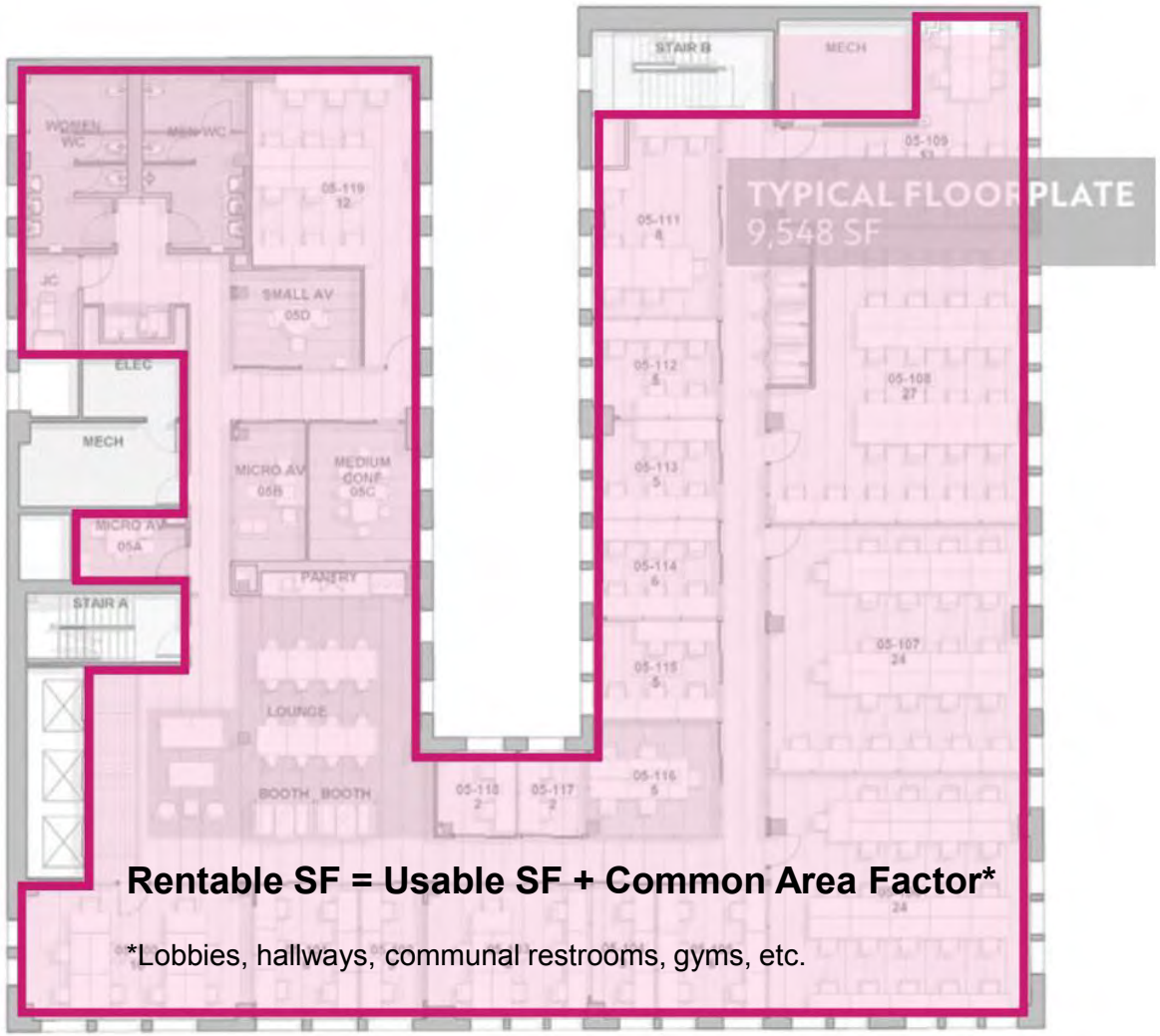
Throughout the course of the Economic Feasibility analysis, the AECOM team made data-driven assumptions based on extensive market research, comparable office conversion projects, broader industry trends and rules of thumb, conversations with Downtown Houston real estate developers, and input from CHI. These assumptions feed into and affect the results of our analysis and will be further explored and clarified through eventual developer applications to the office-to-residential conversion incentive program. Several key assumptions and takeaways from our analysis are summarized below.

	Building Program & Efficiency	Construction Costs	Acquisition Costs	Current Tenant Lease Buyouts	Operating Projections
Assumption Methodology	Based on architectural test fits and market comps	Based on cost benchmarks with % increase/decrease based upon project-specific factors	Based on comparable distressed office building and conversion project sales in Houston and nationwide	Based on occupancy and rent rolls for existing buildings, and estimated move/fit-out costs	Based on local market data obtained from CoStar and conversations with Downtown Houston residential developers
Key Takeaways	• Residential floor plates are possible, but **more efficient in smaller buildings** • These floor plates can also result in **larger average unit size** compared to typical new construction • Concern over **market's ability to absorb units** for larger buildings	• **Conversion/renovation costs are similar to ground-up development**; both approximately $200-250 PSF in hard costs • **More detailed cost estimates are required** for each project to firmly assess feasibility	• **Basis from building acquisition** is the largest contributor to funding gap • Sale price is expected to be far below historic averages, at $50-70 PSF • While buildings that do not change ownership would reduce funding gap, **current owners may not have capability for residential conversion** which requires equity interest/partnership	• Owners would also need to **buy out remaining office leases** • Expected to be difference in market rent plus move and fit-out costs	• Apartment rents were assumed to be **slightly below top-of-market** for Downtown Houston given larger unit sizes and less efficient floorplates • Larger and more complicated floor plates lead to **high load factor** (i.e. non-rentable SF), which reduces financial performance

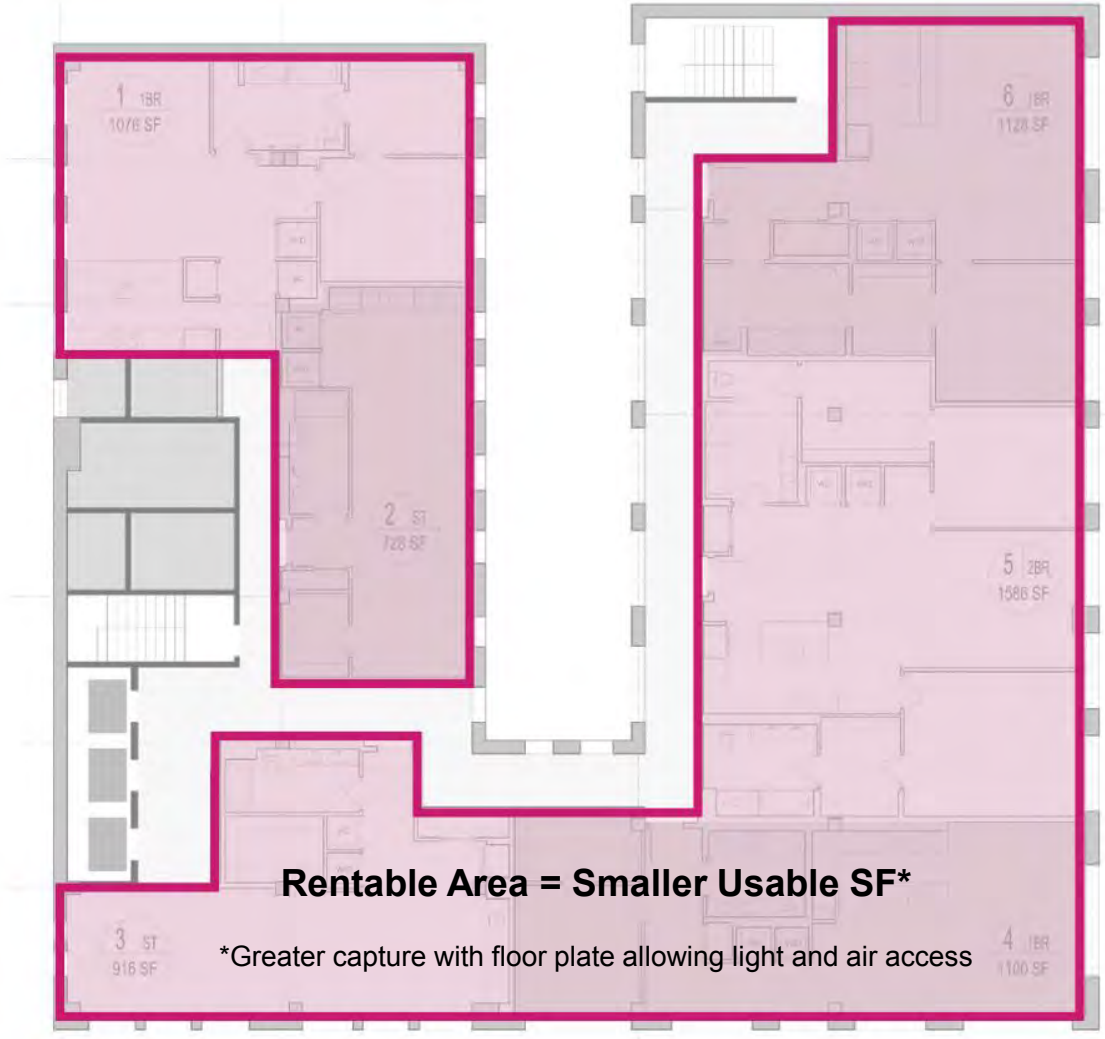
Economic Feasibility

Office vs Residential Floorplate Impact on Rentable Square Footage

Revenue capture



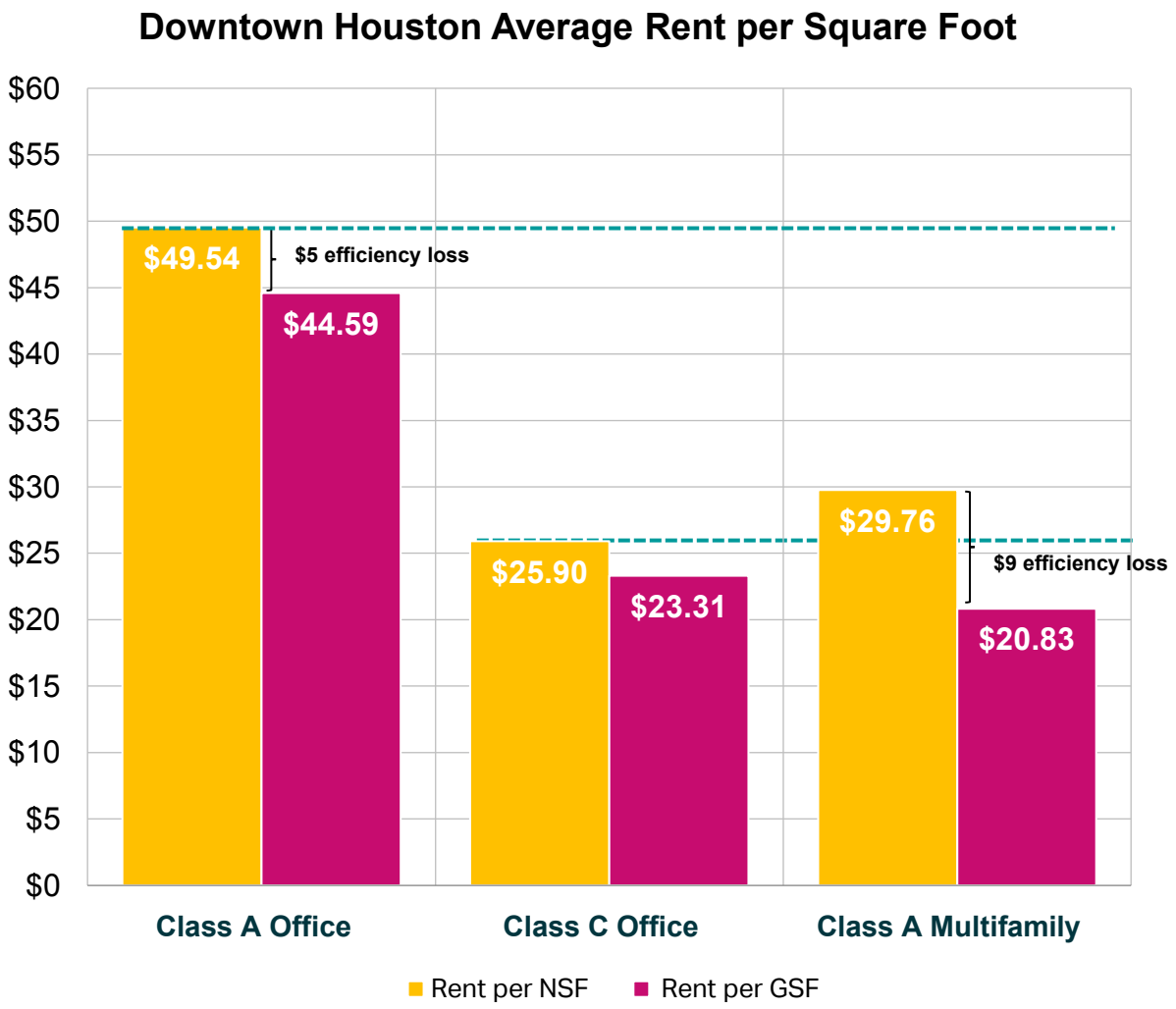
Office Floor Plate



Residential Floor Plate

Economic Feasibility

Office vs Residential Floorplate Impact on Rentable Square Footage



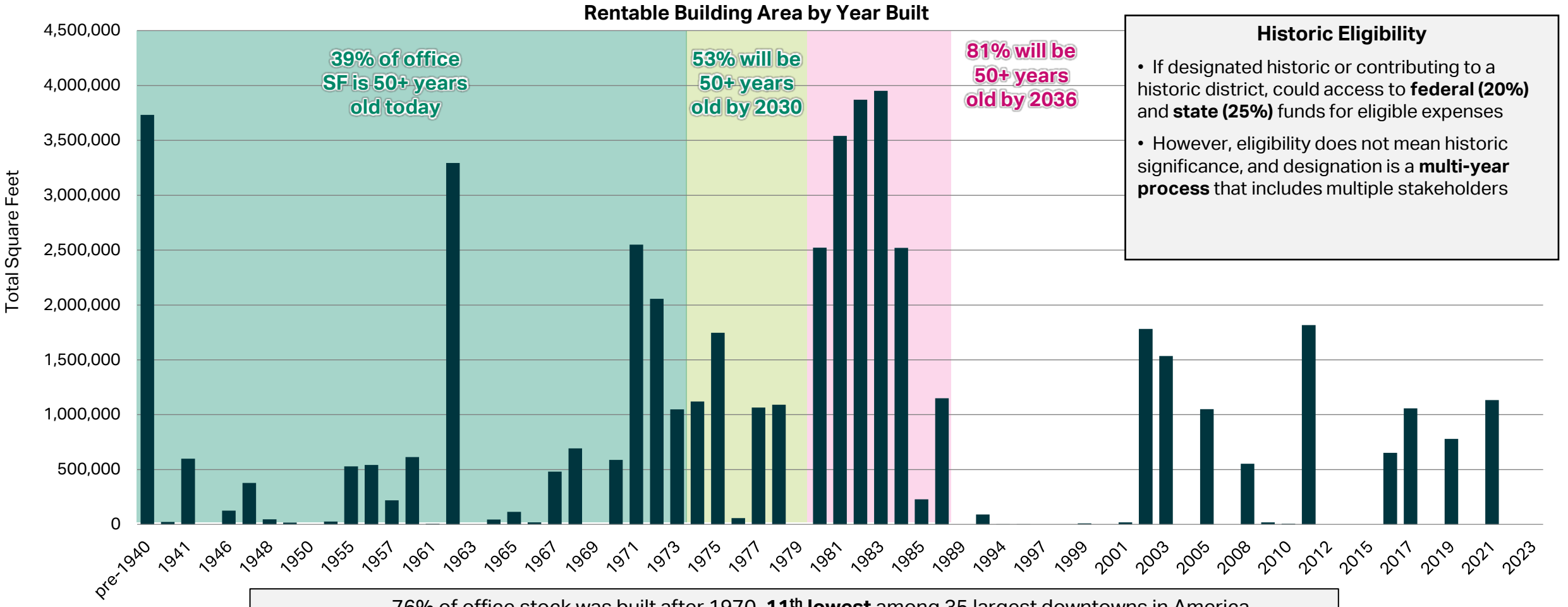
As shown on the following slide and the chart on the left, the feasibility of office-to-residential conversion projects is driven by differing abilities to capture rentable square footage from gross square footage. Office floorplates inherently result in more rentable square feet given their ability to capture rents from circulation, common, and core areas that would be unrentable in a residential floorplate. Additional factors affecting the office versus residential feasibility dynamics are summarized below.

- Given limited land use restrictions, acquisition values in Houston are based upon office as highest and best use
  - Office also allows owners to capture revenue from higher portion of the building's square footage
  - Office Class A rent is **$49.54** per SF per year
  - Apartment Class A rent is **$29.76** per SF per year
- As evidence of this calculus, recent office reinvestments include:
  - Houston Center: $300M renovation by Brookfield Properties
  - Memorial City Plazas: $25M by MetroNational
- However, office investors are all competing for top of the market:
  - Rental rates for Class A residential start to exceed Class B and Class C office on a per SF basis
  - Fully occupied Class A residential can also be expected to outperform partially occupied Class A office in revenue

Economic Feasibility

Potential Historic Tax Credit Eligibility on the Horizon

Downtown Houston office buildings are generally younger compared to most other downtown districts across America. However, an increasing number are nearing their 50th birthday, making them eligible to pursue designation on the National Register of Historic Places and potentially access Federal and State Historic Tax Credits.



Historic Eligibility

- If designated historic or contributing to a historic district, could access to **federal (20%)** and **state (25%)** funds for eligible expenses
- However, eligibility does not mean historic significance, and designation is a **multi-year process** that includes multiple stakeholders

76% of office stock was built after 1970, **11th lowest** among 35 largest downtowns in America

Economic Feasibility

Why Basic Tax Reimbursement is Insufficient

- Downtown Living Initiative, which focused on new multifamily construction, provided reimbursement for the lesser of **$15,000 per unit** or **75% of the tax increment for 15 years** based upon assessed value the year the building was incorporated into the Downtown TIRZ
- When compared in present value terms, an annualized reimbursement based on this tax incentive covers a **small portion of total development costs (see below)**, which is not enough to cover funding gap
- Requires longer timeframe, larger reimbursement percentage, and/or participation from other taxing entities
- However, historically eligible buildings would be feasible under a basic reimbursement scenario

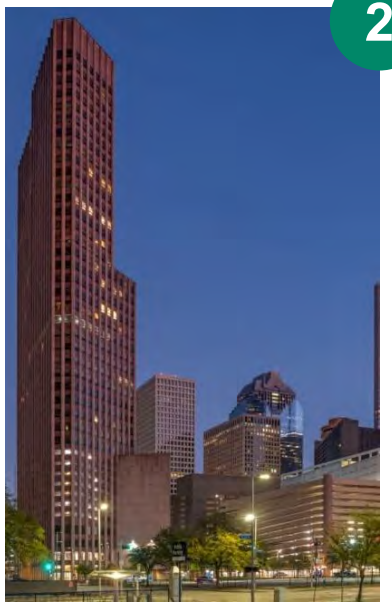
Impact of Basic Tax Reimbursement based on DLI

75% of incremental over 15 years			
	708 Main	**1415 Louisiana**	**1021 Main**
Annual Reimbursement (Average)	$54,000	$186,000	$310,000
Up-Front Value (NPV)	$608,000	$2,400,000	$4,000,000
Total Development Costs	$29.5 M	$223.9M	$265.1M
% of Total Development Costs	**2.1%**	**1.1%**	**1.6%**

Economic Feasibility
Summary

The table below summarizes the results of the economic feasibility analysis for each of the three Conversion Concept buildings. As shown:

- 708 Main is generally the most feasible followed by 1021 Main, while 1415 Louisiana seems to be less feasible.
- No Incentive and Basic Tax Reimbursement scenarios are unlikely to yield feasible conversion pathways for most buildings
- Enhanced Tax Reimbursement or Historic Tax Credits paired with a Basic Tax Reimbursement are more likely to provide feasible conversion pathways at scale



	708 Main "The Houston Shoebox"	**1415 Louisiana** "The Typical Atypical"	**1021 Main** "What's Old is New Again"
Factors affecting feasibility	• Min. decrease in efficiency • Low acquisition cost • Fully vacant • Lower construction complexity	• Poor layout efficiency • High acquisition cost • Partially occupied	• Poor layout efficiency • High acquisition cost • Mostly vacant

Scenario	Vacant Building	Lease Buyout	Vacant Building	Lease Buyout	Vacant Building	Lease Buyout
No Incentives	**Potentially**	**Potentially**	**Not Feasible**	**Not Feasible**	**Not Feasible**	**Not Feasible**
Basic Tax Reimbursement	**Potentially**	**Potentially**	**Not Feasible**	**Not Feasible**	**Potentially**	**Not Feasible**
Basic plus Historic Tax Credits	**Feasible**	**Feasible**	N/A	N/A	**Feasible**	**Feasible**
Enhanced Tax Reimbursement	**Feasible**	**Feasible**	**Potentially**	**Not Feasible**	**Feasible**	**Feasible**

* Including 100% of tax increment for 30 years with County participation
** Based on NRHP eligibility according to age and up to 20% federal/25% state funding; however, no buildings are currently listed or contributing

Feasibility gap may be further bridged by other public funding sources that can supplement or replace traditional private debt and equity

Source	Considerations	Share of Funds	Applicability: 708 Main	Applicability: 1415 Louisiana	Applicability: 1021 Main
Federal and State Historic Tax Credits (HTC)	Buildings must be listed or a contributing resource within historic district. Both federal (20%) and state (25%) programs. Buildings are eligible for historic review once they are 50 years old.	20-45%	Possible, if designated	Not Eligible	Possible, if designated
Federal Low-Income Housing Tax Credits (LIHTC)	Affordable projects may receive non-competitive 4% credits. 9% is typically reserved for new construction. However, rent limitations may limit overall feasibility.	30%	Yes, if affordable	Yes, if affordable	Yes, if affordable
Tax-Exempt Bonds	Cities may offer access to tax-exempt bonds (i.e. below-market financing) for affordable housing or other policy objectives in lieu of developer placing private debt.	40-60%	Possible, if offered	Possible, if offered	Possible, if offered

In addition to funding, public entities may also reduce risk and corresponding development costs (funding gap) through:

- Entitlement support
- Streamlined permitting process
- Reduced or waived impact fees
- Reduced or waived transfer taxes

Section 7: Policy & Program Recommendations

Policy & Program Recommendations

Introduction

Overarchingly, the conclusion of this study is that the state of the office market in Downtown Houston, like many central business districts nationwide, shows cause for concern. Office-to-residential conversions are one potential remedy that have shown promise in addressing several challenges facing Downtown Houston:

- ***Providing much needed housing options in high-resource areas with proximity to employment opportunities***
- ***Alleviating high vacancy in the office market and returning underutilized buildings to productive use***
- ***Protecting against further erosion of the tax base from underperforming office buildings***
- ***Boosting overall vibrancy and improving the viability of downtown retail, dining, and entertainment establishments***
- ***Adaptively reusing existing buildings rather than demolishing and building new, which preserves the history and character of Downtown Houston and reduces the amount of construction-related embodied carbon generated***

Based on the findings of the preceding sections of this study and iterative feedback from CHI and other stakeholders, AECOM developed a framework of recommendations and next steps for the implementation of an office-to-residential conversion incentive program in Downtown Houston. This framework is intended to be informative and strategic as opposed to overly prescriptive, as many specifics of the program will need to continue to evolve as future conversations are had with both public and private-sector stakeholders. However, the volume of conversion projects that is necessary to truly move the needle and achieve these goals is unlikely to be economically feasible by market forces alone, without the implementation of an office-to-residential conversion incentive program.

Policy & Program Recommendations

What are other cities doing?

AECOM's recommendations and next steps for the **creation of an office-to-residential conversion incentive program** were based upon the findings from the findings of this study, input from CHI and other key stakeholders, and our understanding of what other cities are doing to incentivize these types of projects. The national landscape is changing on a weekly basis as more cities release plans and studies, roll out policy details, issue developer solicitations, and open application periods. The table below summarizes the current state of these programs nationwide, with additional details provided in the Appendix.

National Survey of Office Conversion Incentives

Location	Program Status	Types of Incentives			Total Funding Allocated
		Property Tax Abatement	Grants	Soft Financing or Bonds	
Calgary	Active		$37-75 per SF		$153 million
Chicago	Active	30%, 30 years	Variable	Bonds	
Boston	Active	75%, 29 years			
State of California	Active		Variable	Soft Financing	$400 million
Philadelphia	Active	50%, 10 years			
District of Columbia	Active	Variable, 20 years			$50 million
Pittsburgh	Active		Up to $1-3M		
Portland	Active		Up to $3M		
Denver	Pending	TBD	TBD	TBD	TBD
San Francisco	Pending	TBD	TBD	TBD	TBD
Los Angeles	Pending	TBD	TBD	TBD	TBD
New York	Pending	TBD	TBD	TBD	TBD
Houston	Being Studied	TBD	TBD	TBD	TBD
Atlanta	Being Studied	TBD	TBD	TBD	TBD
Phoenix	No specific office conversion funding incentive				
Dallas	No specific office conversion funding incentive				
Austin	No specific office conversion funding incentive				

Some cities are publicly exploring or have already implemented programs to incentivize office-to-residential conversion projects, while Houston has the opportunity to leads amongst its peers throughout the southeastern region. Highlights of programs that have been implemented include:

Regulation Relaxation

- Expedited permitting, streamlined approvals, increased allowable density, exemption from zoning restrictions and code requirements, etc.
- ***Less applicable for Houston due to less burdensome regulatory environment***

Technical Assistance & Solicitation

- Invitations for proposals, "concierge" services, technical assistance for developers, feasibility studies, building prioritization
- ***Potential to provide similar technical support to reduce risk and accelerate timelines***

Leveraging Existing Funding Incentives

- State & Federal Historic Credits, Low-Income Housing Tax Credits, specific state/local incentives
- ***Other funding sources unlikely to be widely available given Houston building characteristics***

Creating New Funding Incentives

- Property tax abatement, grants, tax exempt bonds/soft financing
- ***Tax incentives likely necessary due to expected funding gap with most typical office buildings***

Policy & Program Recommendations

Core Measure: Creation of Office-to-Residential Conversion Incentive Program

AECOM recommends that the City of Houston and CHI lead the charge in the creation of an office-to-residential conversion incentive program for Downtown Houston. The outcome of this study is an actionable framework upon which this program can be built, including a financial incentive structure that will foster economic feasibility for a larger number of projects than would be feasible by market forces alone, project selection criteria that can be used to prioritize projects and use public funding as efficiently as possible, and a technical assistance program that will provide additional support, guidance, and expertise for selected projects. Details for each of these three program elements are summarized below and in the following pages.

Financial Incentive Structure

Strategies to increase feasibility of private sector's execution of office-to-residential conversions:

- **Enhanced tax incentive program** that builds upon the success of the previous Downtown Living Initiative by offering a reimbursement of **100%** of incremental tax revenues for **30 years** based on the 2023 or future year baseline
- Increase the amount of funding available to the tax incentive program by **seeking participation from Harris County**, potentially other taxing units, and **adjacent TIRZs**
- Consider offering **tax exempt bonds** for lower-cost, upfront financing in lieu of private debt, especially for projects that include **affordable housing units**

Project Selection Criteria

Future conversion project solicitation process should seek to decrease the amount of public subsidy funding required to achieve feasibility and increase public benefits by prioritizing projects with:

- **Chronic, high availability** of **at least 75%** in the portion of the building being converted to reduce lease buyout cost
- **Low acquisition costs** and ownership/development teams with **residential and/or adaptive reuse experience**
- Potential **historic tax credit eligibility**
- Vibrant ground floor uses that fill downtown's gaps for **critical neighborhood amenities** like grocery stores, childcare facilities, and schools
- **Affordable housing units**, including additional affordable housing-related funding sources like LIHTC to offset income losses

Technical Assistance Program

Ways to reduce entitlement risk, provide expertise, and shepherd office-to-residential conversion projects to successful completion:

- Create new/identify existing FTE from within City to serve as **office-to-residential liaison** for prospective projects
- Streamline permitting process by **accelerating permit timelines** for office-to-residential conversions
- Increase potential access to historic tax credits by **facilitating historic nomination process** and **coordinating with State Historic Preservation Officer**; potential additional FTE
- Potential to **offset acquisition costs for buildings with prohibitive lease buyouts** with additional up-front incentive program

Policy & Program Recommendations

Enhanced Tax Incentive Program

As detailed in the Economic Feasibility section of this report, the findings of this study made clear that a new conversion incentive program that used the same key terms of the previous Downtown Living Initiative program would not be sufficient to achieve feasibility for the vast majority of Downtown Houston office buildings. As a result, AECOM recommends an "**Enhanced Tax Incentive Program**" that builds upon the success of the DLI program and offers greater tax benefits that respond to the increased complexity of adaptive reuse projects within our current market context, while also balancing the need for this type of incentive program with the fiscal interests and responsibilities of Houston's various taxing entities. The details of such a program are proposed below, although final details can be solidified as the City and CHI move forward through the implementation process.

	Basic Tax Incentive	Enhanced Tax Incentive
Frequency of Reimbursement	Annual	Annual
Percentage of Tax Increment	75%	100%
Number of Years	15 years	30 years
Assessed Value Baseline	2023	2023
Per Unit Cap	$15,000	No Limit
Participating Entities	City of Houston (Downtown Redevelopment Authority), Houston Downtown Management District	City of Houston (DRA), Houston Downtown Management District, Harris County, Harris Co. Flood Control District, Harris Co. Hospital District, Port of Houston Authority

With CHI input, AECOM has also identified **3 additional opportunities** to increase the magnitude and effectiveness of the incentive program and potentially reduce the tax reimbursement term or percentage required to sufficiently incent the private market. This could help to spread the burden of funding this program among more taxing entities while making the program more effective at catalyzing office conversion projects in Downtown Houston. These 3 additional measures are described on the following pages.

Policy & Program Recommendations

Additional Measure #1: Enlist Additional Taxing Entities

The City of Houston and CHI should approach Harris County and its four sub-units to **increase the amount of funding available to the office-to-residential conversion incentive program** and **reduce all taxing entities' exposure to declining office values that will result in erosion of the property tax base**.

- With Harris County's participation, there is **potential to capture up to 51% of the total increment instead of just 29% with only the DRA/City and HDMD's participation –** this could potentially lessen the percentage of the reimbursement required to achieve feasibility and/or the timeframe of the office-to-residential tax abatement program
- If other taxing unit(s) agree to participate, the entities would need to **execute an Interlocal Agreement** that stipulates several conditions/limitations pertaining to each unit's participation

Property Tax Contribution by Jurisdiction

Entity	Jurisdictions	2022 Rate*	% Total
City	CITY OF HOUSTON (C/O DOWNTOWN REDEV AUTH)	$0.5336	22.9%
County	HARRIS COUNTY	$0.3437	14.8%
	HARRIS CO FLOOD CNTRL	$0.0306	1.3%
	HARRIS CO HOSP DIST	$0.1483	6.4%
	HARRIS CO EDUC DEPT	$0.0049	0.2%
	PORT OF HOUSTON AUTHORITY	$0.0080	0.3%
Local Agencies	HOUSTON ISD	$1.0372	44.5%
	HOU COMMUNITY COLLEGE	$0.0956	4.1%
District	HOUSTON D'TOWN MGMT D	$0.1275	5.5%
Total		**$2.3294**	**100.0%**

** $ per $100*

29%
DRA and HDMD

51%*
DRA and County

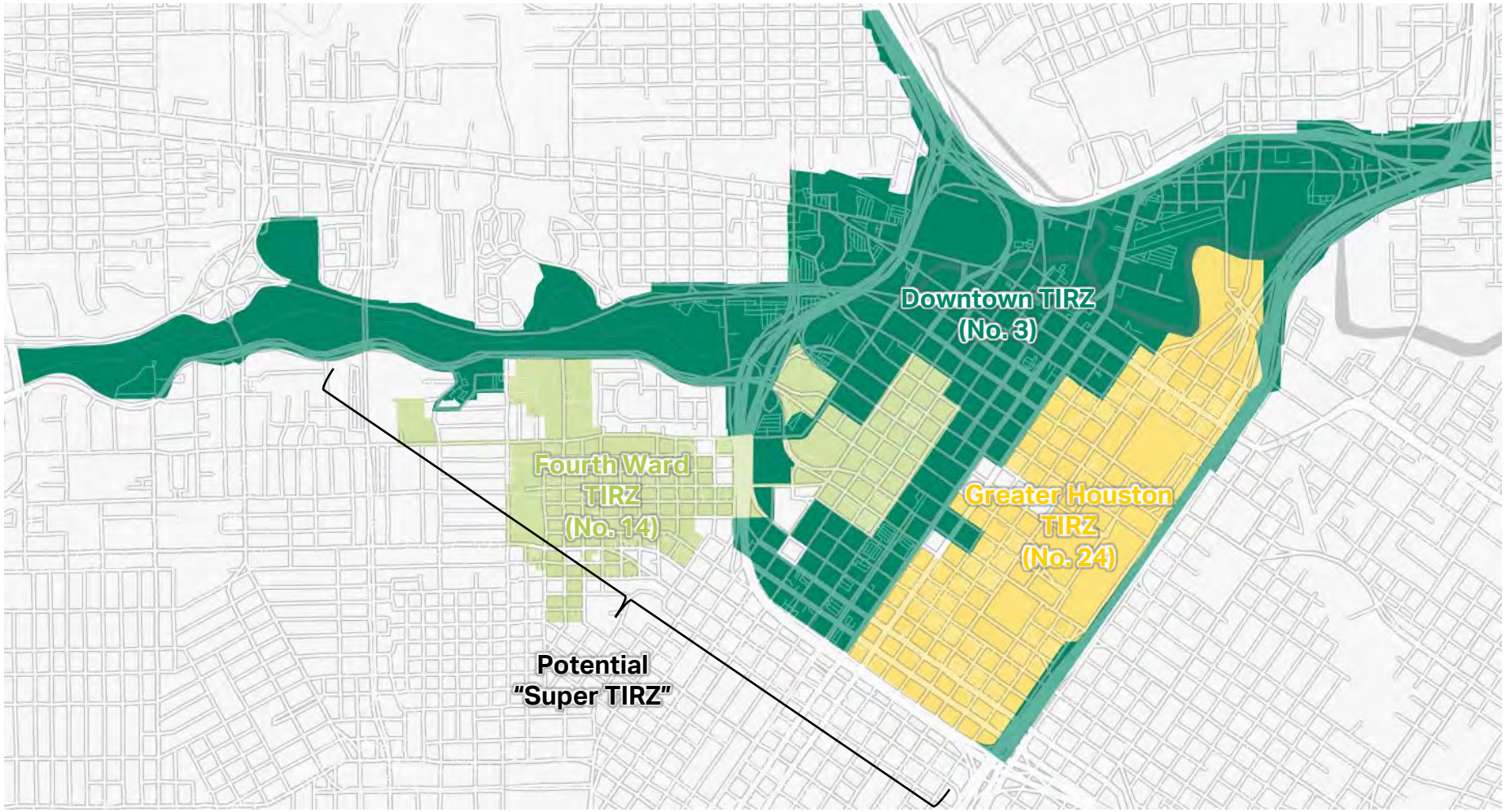
*Modeled in the "Enhanced Tax Abatement" scenario

Policy & Program Recommendations

Additional Measure #2: Enlist Adjacent TIRZs

The City of Houston and CHI should **seek participation from other TIRZ districts that comprise portions of Downtown Houston**, including the Greater Houston and Fourth ward TIRZs as shown in the map on the right.

- This would **expand the catchment area** for the office-to-residential conversion incentive program and **increase the amount of funding** that would be available to the program.
- In addition to the City, County, and other taxing units, each of these TIRZs is **exposed to risk** stemming from the decreasing value of Houston's downtown office buildings and associated property tax impacts, which **could be mitigated** by the successful facilitation of office-to-residential conversion projects.

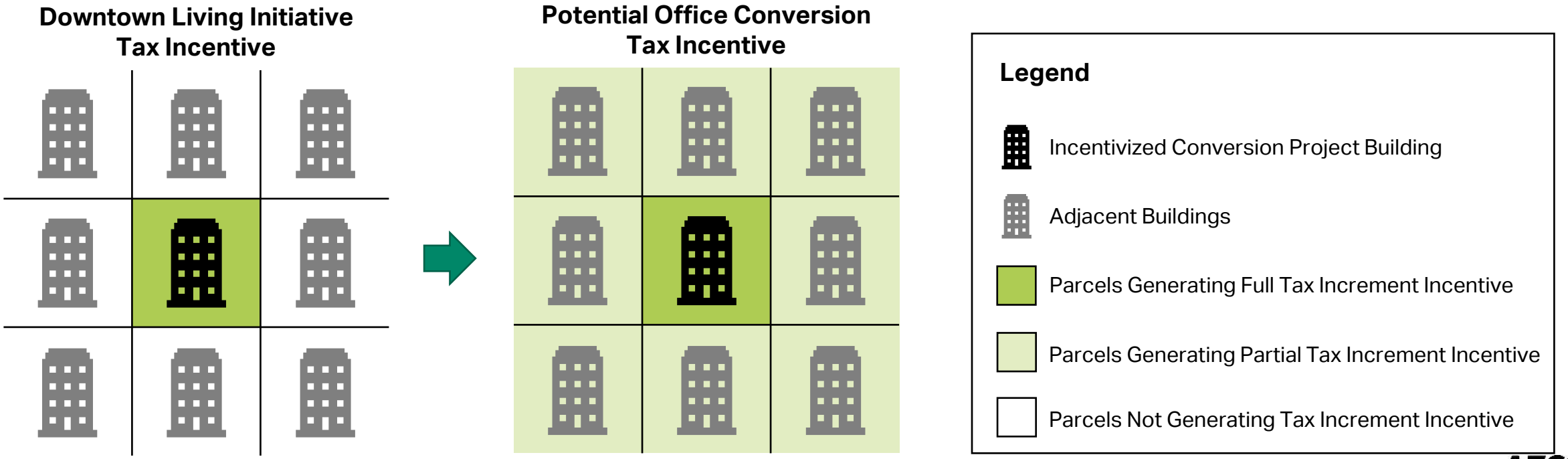


Policy & Program Recommendations

Additional Measure #3: Capture Increment from Adjacent Parcels

The City of Houston and CHI should explore the possibility of structuring the tax incentive mechanism in a way that **captures increment from parcels adjacent to the conversion project** in addition to the increment generated by the conversion parcel itself.

- Parcels that are **directly adjacent** to the conversion building and/or other parcels that are **within a specified geographic distance** could be included
- The greatest tax benefits would be seen by the **"first movers"** who carry out their conversion projects sooner so as to capture the largest increment
- The incentive could be structured in a way that captures a **higher portion of the increment** from the conversion parcel itself and a **lower portion of the increment** from adjacent parcels – the latter of which could be limited to cover costs related to **certain specified public benefits** like affordable housing units or ground floor amenities like grocery stores
- There is **precedent** for this type of structure in other peer cities like Chicago, which is incentivizing conversion projects with TIF funds that are collected from increments generated **throughout the entire TIF district,** although legal ramifications and political considerations should be factored into these decisions



Section 8: Fiscal Impact and Next Steps

Fiscal Impact & Next Steps

DRA Budgeting by Tax Abatement & Participation Scenario

While a more detailed budget study is required, AECOM has estimated the amount of reimbursement funds that would be allocated for each property based on expected assessed value increases. The top table is expected annual tax reimbursement at property stabilization, while the bottom table expands that out to 15 year or 30 years in total, based on the incentive program selected (either basic or enhanced). Please note that these are nominal values and would be significantly lower in net present value if discounted to the present day.

	708 Main		1415 Louisiana		1021 Main	
Annual Tax Reimbursement at Stabilization (In 2028)						
Scenario	**Basic Tax Reimbursement** (15 yrs, 75%, City/HDMD, $15K cap)	**Enhanced Tax Reimbursement** (30 yrs, 100%, City/ HDMD/County, No cap)	**Basic Tax Reimbursement** (15 yrs, 75%, City/HDMD, $15K cap)	**Enhanced Tax Reimbursement** (30 yrs, 100%, City/ HDMD/County, No cap)	**Basic Tax Reimbursement** (15 yrs, 75%, City/HDMD, $15K cap)	**Enhanced Tax Reimbursement** (30 yrs, 100%, City/ HDMD/County, No cap)
Applicable Property Taxes	$265,000		$1,200,000		$2,700,000	
Projected Tax Reimbursement *	**$57,000**	**$136,000**	**$260,000**	**$624,000**	**$571,000**	**$1,368,000**
City/DRA	$46,000	$61,000	$210,000	$280,000	$461,000	$614,000
Combined County Entities	$0	$60,000	$0	$277,000	$0	$607,000
HDMD Assessment	$11,000	$15,000	$50,000	$67,000	$110,000	$147,000

Long-Term Tax Reimbursement (Length of Program)						
Scenario	**Basic Tax Reimbursement** (15 yrs, 75%, City/HDMD, $15K cap)	**Enhanced Tax Reimbursement** (30 yrs, 100%, City/ HDMD/County, No cap)	**Basic Tax Reimbursement** (15 yrs, 75%, City/HDMD, $15K cap)	**Enhanced Tax Reimbursement** (30 yrs, 100%, City/ HDMD/County, No cap)	**Basic Tax Reimbursement** (15 yrs, 75%, City/HDMD, $15K cap)	**Enhanced Tax Reimbursement** (30 yrs, 100%, City/ HDMD/County, No cap)
Aggregated Total Property Taxes	$8,300,000	$21,800,000	$44,900,000	$122,600,000	$74,600,000	$196,700,000
Projected Tax Reimbursement *	**$800,000**	**$7,700,000**	**$2,800,000**	**$38,900,000**	**$4,700,000**	**$74,400,000**
City/DRA	$600,000	$3,400,000	$2,300,000	$17,400,000	$3,800,000	$33,400,000
Combined County Entities	$0	$3,400,000	$0	$17,200,000	$0	$33,000,000
HDMD Assessment	$200,000	$800,000	$500,000	$4,200,000	$900,000	$8,000,000

* Illustrative calculations only; more detailed budget study required for final incentive program

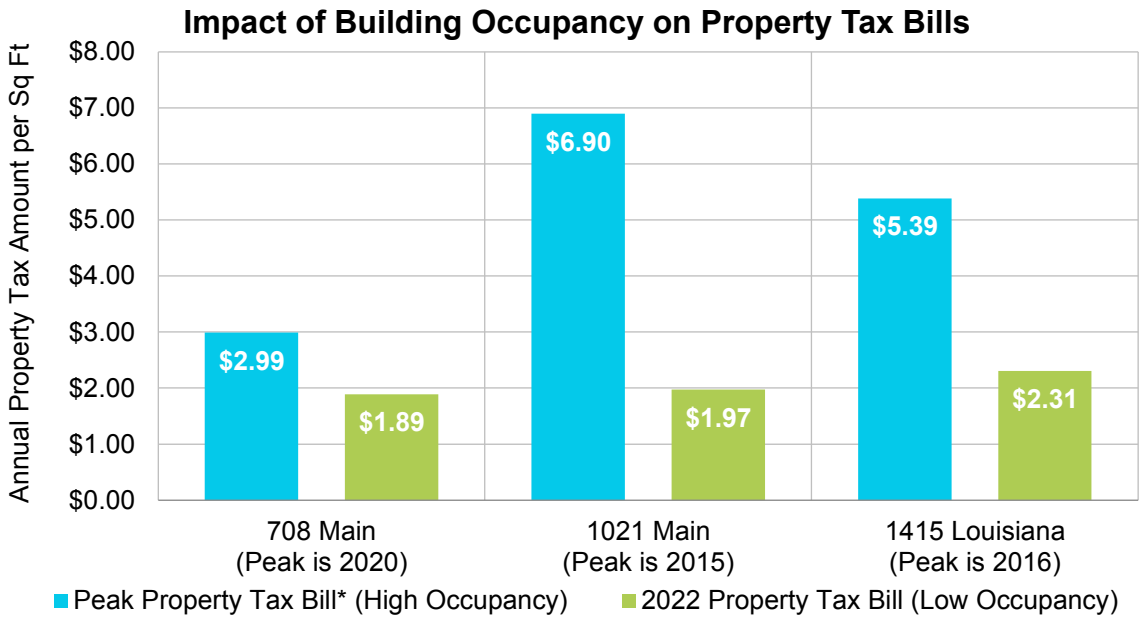
Fiscal Impact & Next Steps

Cost of the "Do Nothing" Scenario

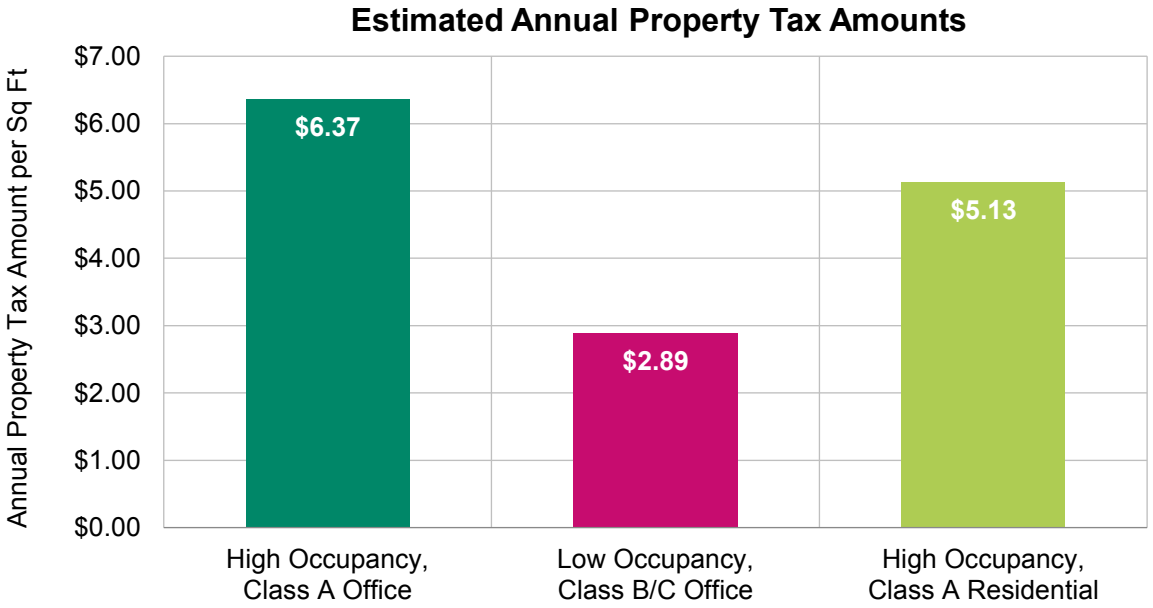
A key argument in favor of implementing an incentive program to encourage office-to-residential conversion projects in Downtown Houston is the cost of not doing so.

As the occupancy levels in office buildings declines, their values also decline. Less valuable buildings generate less property tax revenue. This trend has already begun to materialize as illustrated by the chart on the top right, which shows the current annual property tax bills per square foot for the three conversion concept buildings that were evaluated in this analysis. As shown, these buildings are generating far less property tax revenue now that their occupancies have fallen compared to what they were generating when their occupancies were healthier.

Although the cost of incentivizing office-to-residential conversion projects is significant, the long-term boost to future property tax revenue is likely to partially or entirely offset these costs. The chart on the bottom right illustrates that although healthy residential buildings do not generate as much property tax revenue as healthy office buildings, they generate significantly more property tax revenue than a lower quality office building with high vacancy. This increment between the estimated annual property tax amounts for Low Occupancy, Class B and C office properties (pre-conversion) and High Occupancy, Class A residential buildings (post-conversion) will help to offset the costs of incentivizing these office-to-residential conversion projects. Although some or all of this increment will be used to provide the incentive funding during the 15-to-30-year term of the incentive mechanism, the increment will bolster the future property tax base in the long-term.



** Peak property tax bills have been escalated to $2022 to allow for accurate comparison to 2022 property tax amounts*



Sources: HCAD, CoStar, AECOM

Fiscal Impact & Next Steps

Next Steps for Implementation

As the City of Houston, CHI, and other local stakeholders move toward the implementation of an office-to-residential conversion incentive program, AECOM has summarized several high-level next steps that could be taken. These next steps include coordination with a variety of other public entities that will need to be on board in order for the program to be effective, in addition to private entities that should be engaged as program details are finalized given that they will be responsible for the ultimate execution of the conversion projects. Certain specific topics may warrant additional study if they are deemed necessary to be included in the conversion incentive program, such as affordable housing requirements, other complementary programs, and the applicability and practicality of incorporating various federal programs that may facilitate the feasibility of conversion projects.

Next Steps

Public Entity Coordination	Private Entity Coordination	Additional Study
• **Communications:** Outreach to public entity partners to communicate the key findings and recommendations of this study • **Taxing Entity Participation:** Engage City, County, and ISD in potential program participation and discuss any additional requirements. • **TIRZ Participation:** Engage other TIRZs in potential shared program and discuss governance structure. • **Finalization and Implementation of Enhanced Tax Incentive:** Once governance structure is established, finalize the terms of the mechanism such as number of years, percentage of increment, geographic area of eligibility, etc.	• **Detailed Cost Estimate:** Identify "prototype project" partner to evaluate funding gap with detailed cost estimate. • **Market Sounding**: Once program details are finalized, meet with private sector stakeholders to generate interest, confirm feasibility, and collect feedback on terms. • **Formal Solicitation**: Once program details are finalized, draft the solicitation document, including application requirements for prospective projects and thresholds for participation. • **Solicitation Response Evaluation & Selection**: Once project proposals have been received, review submissions to ensure compliance with program terms and alignment with goals, then select projects to move forward	• **Affordable Housing:** Based on feedback from other public entities, evaluate impact of affordability requirements and 4% or 9% LIHTC tax credits on funding gap. • **Complementary Programs:** To address challenge of persistent low vacancy (i.e. remaining tenants), explore upfront funds towards acquisition costs for prospective investors considering purchasing an occupied office building for residential conversion. • **Federal Programs**: Further exploration of potential federal programs applicable to office-to-residential conversion projects (see appendix), including scale of funds, applicability, practicality, etc.

Section 9: Appendix

Appendix

What are other cities doing?

Location	Name of Program	Status	Funding Mechanisms	Funding Magnitude	Regulation Relaxation	Affordable Requirements
Atlanta	TBD	Being Studied	TBD	TBD		TBD
Boston	Downtown Office to Residential Conversion Pilot	Approved	Property Tax Abatement	75% reduction for 29 years	Streamlined permitting, density bonus, as of right zoning	17% of units @ 60% AMI + 3% of units at FMR for voucher holders (typical inclusionary)
Calgary	Downtown Calgary Development Incentive	Operational	Grants	$37-75 per SF, up to $153 million in total		None
California	Office to Housing Conversion Act	Operational	Grants	$400 million in total		10% of units @ 60% AMI
Chicago	LaSalle Street Reimagined Initiative	Operational	TIF Grant, Property Tax Abatement, 4% LIHTC, Bonds, Historic Credits	TIF TBD, 30-year Tax Abatement		30% of units @ 60% AMI (inclusionary is 20%)
Denver	Upper Downtown Adaptive Reuse Pilot	Approved	TBD	TBD		Typical inclusionary
Houston	TBD	Being Studied	TBD	TBD		TBD
Los Angeles	Adaptive Reuse Ordinance	Pending	N/A	N/A	Streamlined approvals, reduced zoning restrictions	Typical inclusionary
New York	Office Conversion Accelerator	Pending	TBD	TBD	Streamlined approvals, reduced zoning restrictions	TBD
Philadelphia	10-Year Residential Tax Abatement	Operational	Property Tax Abatement	~50% reduction on building portion for 10 years		None
Pittsburgh	Pittsburgh Downtown Conversion Program	Operational	Grants or Soft Financing	$60-100k per unit up to $1-3 million		20% of units @ 50-80% AMI
Portland	Converting Office Space to Residential Units	Operational	Impact Fee Abatement or Seismic Upgrade Grant	Up to $3 million		Typical inclusionary
San Francisco	Adaptive Reuse of Commercial Buildings	Operational	Impact Fee Abatement, Tax Incentives, TIF	TBD	Streamlined approvals, increased allowable volume, reduced inclusionary	TBD
Washington D.C.	Housing in Downtown Program	Approved	Property Tax Abatement	20 years, capped at $2.5M (FY24-26), $6.8M (FY27), $41M (FY28)	Exemption from TOPA, First Source requirements	10-18% of units @ 60-80% AMI (inclusionary is 8-10%)

Appendix

Federal Programs for Office-to-Residential Conversion Projects

On October 27, 2023, the White House issued a fact sheet with a host of information and guidance regarding federal resources that can support commercial to residential conversion projects nationwide, most notably including a guidebook with comprehensive information on over 20 federal programs that are applicable to such projects. A summary of these programs is included below, with more detailed information available within the guidebook document. Additional study is required to evaluate the applicability and practicality of these programs to office-to-residential conversion projects in Downtown Houston.

Agency	Program Type	Program Name	Summary
DOE	Loans, loan guarantees	Title 17 Clean Energy Financing Program	Loans and loan guarantees for clean energy projects
DOI/UST	Tax credits	Rehabilitation Tax Credit	Tax credit for rehabilitation of historic buildings
DOT	Loans, loan guarantees	Transportation Infrastructure Finance and Innovation Act	Below-market interest rate loans and guarantees for transit-oriented development
DOT	Loans, loan guarantees	Railroad Rehabilitation & Improvement Financing	Below-market interest rate loans and guarantees for transit-oriented development
DOT	Technical assistance	Thriving Communities Program	Technical assistance to advance transportation activites, including housing
DOT	Grants	Neighborhood Access & Equity Program	Grants for projects that improve transportation and associated land use
EPA	Grants, loans*	GGRF: Solar for All	Grants and loans for solar for low-income communities
EPA	Grants, loans*	GGRF: National Clean Investment Fund	Grants and loans for projects including energy-saving retrofits and clean energy
EPA	Grants, loans*	GGRF: Clean Communities Investment Accelerator	Grants and loans for projects including energy-saving retrofits and clean energy
HUD	Loan guarantees	Section 221(d)(4): Mortgage Insurance for Rental Housing	Loan guarantee for projects involving substantial rehabilitation or construction
HUD	Loan guarantees	Section 220: Mortgage Insurance for Rental Housing for Urban Renewal and Concentrated Development Areas	Loan guarantee for new construction or rehabilitation of multifamily housing located in urban renewal and concentrated development areas
HUD	Grants^	HOME Investment Partnerships	Formula grants for buying, building, and rehabilitating affordable housing
HUD	Grants^	Housing Trust Fund	Grants for states for the construction or rehabilitation of extremely low-income housing
HUD	Grants^	Community Development Block Grants (CDBG)	Formula grants for community development activities
HUD	Loan guarantees	Section 108 Community Development Loan Guarantee	Low-cost long-term financing for community development activities
HUD	Technical assistance	Thriving Communities Technical Assistance Program	Technical assistance, including for conversions and housing supply efforts
USDA	Loans	Business & Industry Guaranteed Loan Program	Loans supporting various uses, including temporary or workforce housing
UST	Grants*	State and Local Fiscal Recovery Funds	Formula grants for various uses, including development of affordable housing
UST	Tax credits	New Energy Efficient Home Credit (45L)	Tax credit for energy efficient homes, including multifamily housing
UST	Tax deductions	Energy Efficient Commercial Buildings Deduction (179D)	Tax deduction for energy improvements to commercial buildings, including multifamily buildings greater than 3 stories
UST	Tax credits	Investment Credit (48, 48E)	Tax credit for investment in eligible renewable energy projects (48); technology-neutral tax credit for facilities that generate clean electricity and energy storage (48E)

**Federal funding is awarded to third parties (e.g., city, state, lender, etc.) that then award grants, loans, or other financial products to other entities*

^Federal formula grants funding is awarded to State and/or localities that then may award funding in the form of grants, loans, or other instruments to other entities such as nonprofits, developers, and smaller units of government

Appendix

Financial Assumptions

Model included the below simplifying assumptions; these financials inputs would be clarified through eventual developer TIF applications

- **Program assumptions** (SF, unit size/count) from architectural test fits based on available floor plans
- **Revenue and cost** assumptions based on local market data for market-rate housing
- **Acquisition costs** based on comparable sales for distressed assets sold for residential conversion, with assumption that current owner will seek to dispose asset to residential developer
- **Additional acquisition costs (lease buyout)** include estimated cost to buy out existing tenant leases, based on occupancy and estimated move/fit-out costs (no breakage fee assuming tenant paying above market rent)
- **Construction costs** based on cost benchmarks with % increase/decrease based upon known project factors; results may be highly sensitive to this input
- **Capital stack** assumes 1.25x DSCR for loan sizing with 5.25% interest rate assuming some fed loosening and 2.0x equity multiple required by the developer; any funding gap is placed in developer equity or public incentives

Appendix

Cost Assumptions

Costs Summary	Site 1: 708 Main St	Site 2: 1415 Louisiana St	Site 3: 1021 Main
Building Gross Building Area	96,960	626,322	688,544
1 - Conversion Costs (Hard Costs, Soft Costs, and Contingency)			
Hard Cost Assumption ($ per gross SF)	$200	$220	$220
Total Conversion Costs*	**$23,700,000**	**$145,800,000**	**$196,400,000**
$ per Gross SF	***$244***	***$233***	***$285***
2 - Acquisition Costs (Acquire Land/Bldg and Buy Out Leases)			
Land & Bldg Purchase Price	$2,900,000	$45,600,000	$42,400,000
$ per Gross SF	*$30*	*$70*	*$55*
Lease Buyout	$0	$15,000,000	$2,800,000
$ per Gross SF	*$0*	*$23*	*$4*
Total Acquisition Costs	**$2,900,000**	**$60,600,000**	**$45,200,000**
$ per Gross SF	***$30***	***$93***	***$59***
3 - Other Development Costs (Financing Costs and Leasing Costs)			
Leasing Costs	$300,000	$3,600,000	$2,400,000
Financing Costs	$2,600,000	$13,900,000	$21,200,000
Total Other Costs	**$2,900,000**	**$17,500,000**	**$23,600,000**
$ per Gross SF	***$30***	***$28***	***$34***
Total Project Costs (1 + 2 + 3)	**$29,500,000**	**$223,900,000**	**$265,200,000**
$ per Gross SF	***$304***	***$357***	***$385***

** Assuming minimal construction costs are incurred for the office portion*

*With added soft cost and contingency assumptions; 1415 Louisiana assumes limited construction costs incurred for the office portion

** Acquisition costs calculated for market value of distressed office asset based on comparable projects

*** Lease buyout calculated as difference in rent compared to market over assumed remaining lease term plus fit-out and move costs

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