

RED FIELDS TO
green fields

Parks Solve
the Urban Real Estate Crisis





Introduction

A “Red Field” property can be physically or financially distressed, or both, and has negative value -- civically, environmentally, and economically. Red Fields can also be brownfields -- sites impacted by the environmental concerns, such as asbestos containing materials, underground storage tanks, or contaminated soil or water. Houston is part of a national study exploring the opportunities to convert Red Fields into interconnected green spaces (Green Fields) and parks with restored use of some of the Red Field properties.

Houston, the fourth largest city in the U.S., encompasses an area of 620 square miles and is well-known for its diverse population and many energy, transportation, and medical industries. One of the main contributors to the city’s success is its location near Galveston Bay and the Gulf of Mexico. In addition to the opportunity to convert 8,800 acres of Red Fields to healthy re-use, the city has the potential to offer its residents a vast array of parks and green space along the waterways which feed into the Gulf. Many communities and retail spaces, along with one half of the city’s population, are within 1.5 miles of the major bayous. Economic downturns and natural disasters have negatively impacted commercial and property values throughout the city making it possible to acquire land at or below the historical market rates.

Like many cities throughout the United States, Houston was impacted by the recent downturn in the economy. In the past four years, commercial real estate values have fallen 58 percent and construction levels are down to the lowest values in the last 30 years. In the downtown area, one out of four businesses is vacant. To make matters worse, the flat, low-lying prairie terrain makes Houston susceptible to flooding.

There are two significant opportunities identified as part of the Red Fields to Green Fields conversion. The first is to add equitably distributed parks throughout the greater Houston area by converting distressed properties. The second is to complete varying widths of continuous greenways along Houston's major bayous. The Bayou Greenway program involves numerous private and public partners with the goal of creating an interconnected system of parks and trails along the city’s major waterways. Nearly one half of the proposed Red Fields to Green Fields acres are also along these bayous and offer the perfect opportunity for collaboration between the two projects. Converting Red Fields to Green Fields will add nearly 5,000 acres of green space, greatly improve the health and economy of the city and help reduce the risk of flooding.

Parks and trails along the major bayous in Houston will increase the overall health of city by improving the water and air quality, along with promoting a healthy lifestyle among the city’s many waterfront communities.



Problem #1:

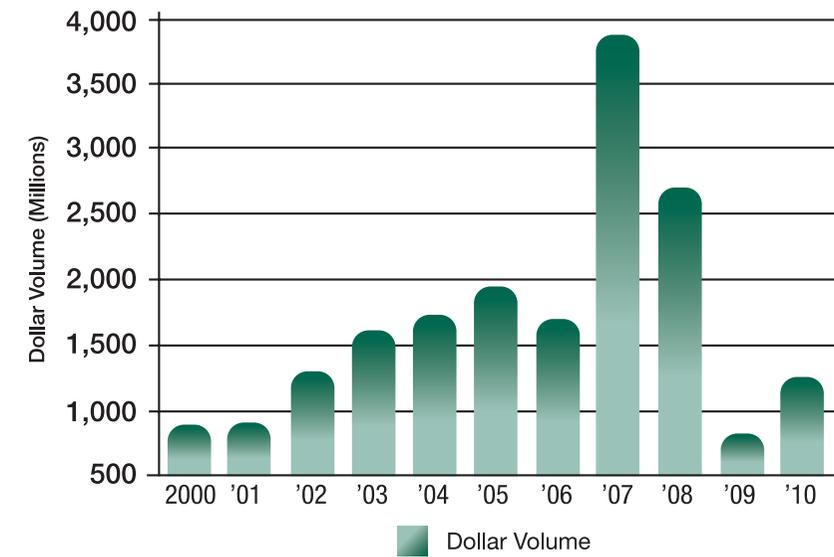
Construction Is Down To Lowest Level In 30 Years

Construction: Decline in Retail Space

- Construction of retail buildings was much lower in 2010 than the average level over the last 30 years (0.6 million square feet versus 6.2 million square feet) and lower than the amount in any one of those years. This translates into fewer construction jobs, and ripples throughout the community as reduced spending.
- Transaction dollar volumes have fallen 58 percent since 2007.
- Retail, industrial, and multi-family sales remain depressed.

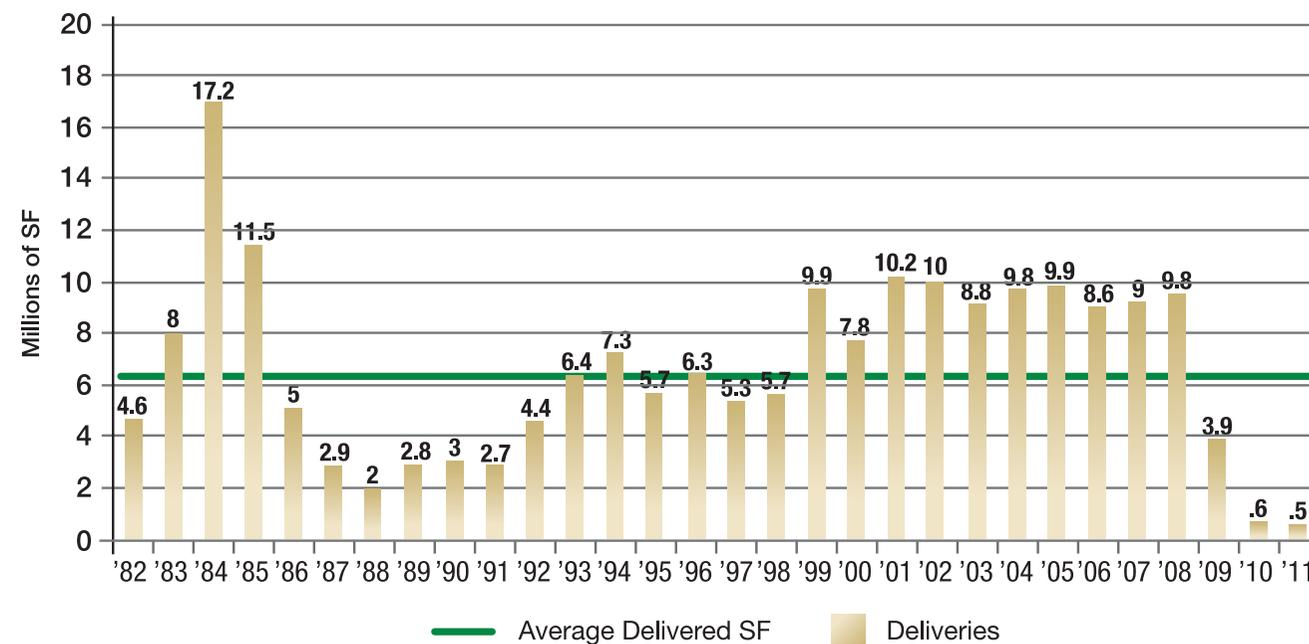
Sales Transaction Volume

Sales Volume; Houston-Sugar Land-Baytown (TX)



Historical Deliveries

1982-2011

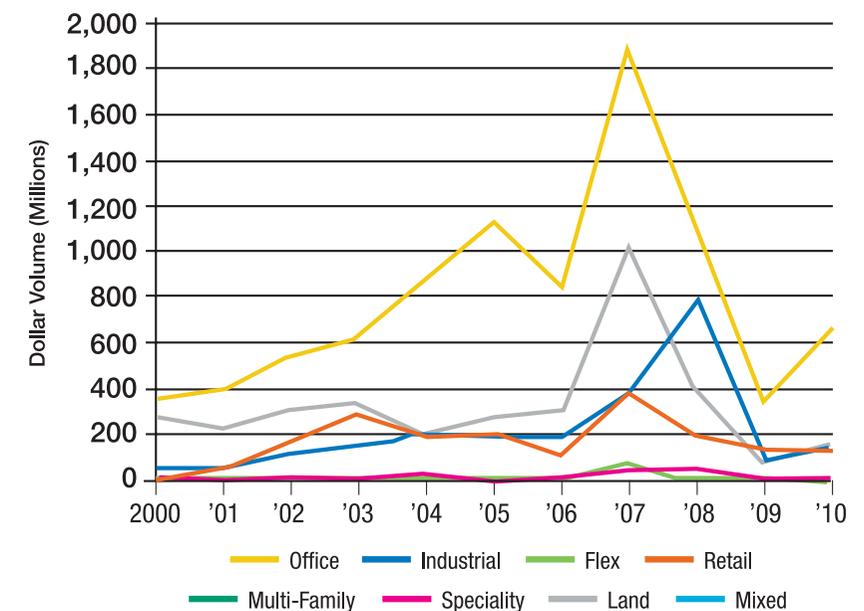


Source: CoStar Property®

*Future deliveries based on current under construction buildings.

Property Transaction Volume

Sales Volume by Property Type; Houston-Sugar Land-Baytown (TX)



Construction: Real Estate Summary (Houston CoStar Statistics)

- Commercial real estate transaction volume decreased by 62% from a 2007 peak of over 500 properties.
- The number of properties being sold in 2010 was 35% lower than the average levels since year 2000 (191 versus the average of 292).

Vacancy Rates

Industrial – 6.2%
Office – 13.4%
Retail – 7.2%

Cap Rates

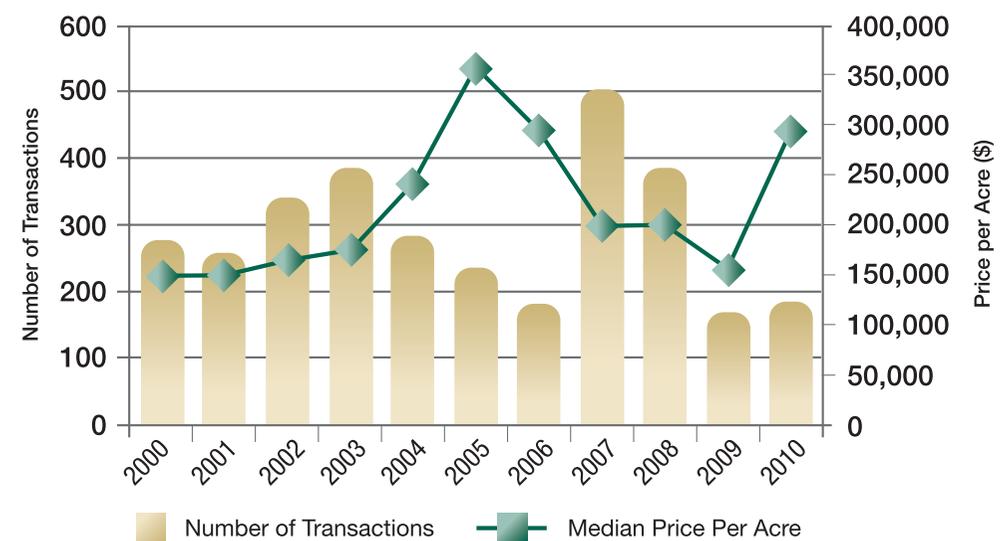
Industrial – 8.17%
Office – (see graph)
Retail – 8.96%

Net Absorption

Industrial – pos. 0.3 MM sq. ft. in 1Q 2011
Office – pos. 1.2 MM sq. ft. in 1Q 2011
Retail – pos. 0.6 MM sq. ft. in 1Q 2011



Houston-Sugar Land-Baytown Transaction Volume & Median Price Per Acre



Construction: High CAP Rates (Houston CoStar Statistics)

- Cap rates may be thought of as a metric for how high or low the prices of properties being sold are relative to the total income on all of their leases. Cap rates are similar to interest rates in that they roughly reflect the financial returns required by investors for income-producing real estate properties. Higher cap rates indicate that investors perceive higher risks related to purchasing a property. Investors tend to adjust the price that they'll offer to purchase a property downward when they think there's more risk involved, in order to ensure that there will be a higher reward for taking on that additional risk. In that case, the result would be lower purchase prices on properties and higher cap rates.

—The cap rate is the ratio between the net operating income produced by an asset and the original price paid to buy the asset.

- Cap rates for office space in Houston have tended to be as high or higher than the national average since 2007. By comparison, offices in Los Angeles tended to have lower cap rates than Houston and the U.S. as a whole. Phoenix offices also tended to have cap rates that were as low or lower than the U.S.
- Changes in Houston's office employment levels and the amount of total office space that is available for lease have been trending in opposite directions over the last 5 years. Employment has shrunk by 3% during this period, resulting in less demand for office space. At the same time, the amount of total office space available has increased at an even faster rate (7.7%). As a result, the total negative impact of these trends is captured by a metric that combines the two, showing a negative 10.7 percent impact.

Office Employment Growth

Cumulative Growth in Office Jobs Over the Past 15 Years

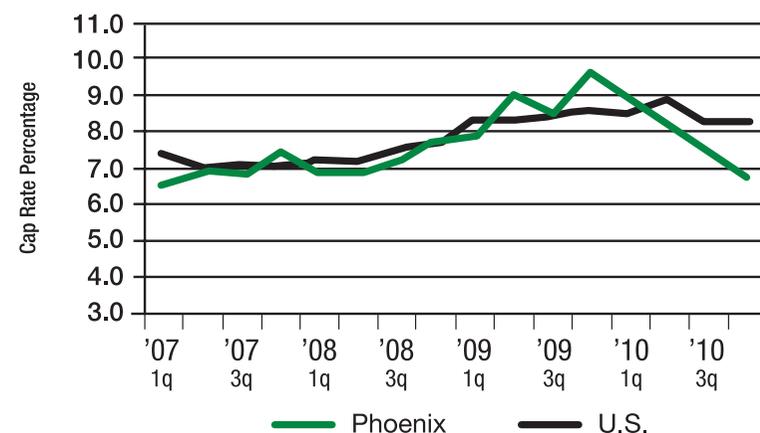
	Employment Growth	Inventory Growth	Difference
Atlanta	-9.40%	6.10%	-15.50%
Boston	-4.40%	2.70%	-7.10%
Chicago	-9.10%	3.60%	-12.70%
Dallas/Ft. Worth	0.00%	6.50%	-6.50%
Denver	-4.20%	4.80%	-9.00%
Los Angeles	-11.20%	2.80%	-14.00%
New York City	-2.90%	1.50%	-4.40%
Seattle/Puget Sound	-5.10%	9.30%	-14.40%
Tampa/St. Petersburg	-14.10%	6.70%	-20.80%
Washington	-1.40%	7.20%	-8.20%
Houston	-3.40%	7.70%	-10.70%

Source: Department of Labor, Bureau of Statistics

Phoenix

U.S Cap Rate Comparison

(Based on Office Building Sales of 15,000 SF & Larger)

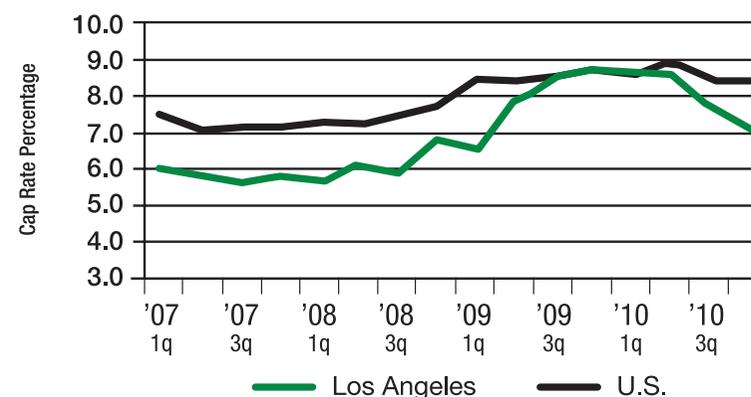


Source: CoStar COMPS®

Los Angeles

U.S Cap Rate Comparison

(Based on Office Building Sales of 15,000 SF & Larger)

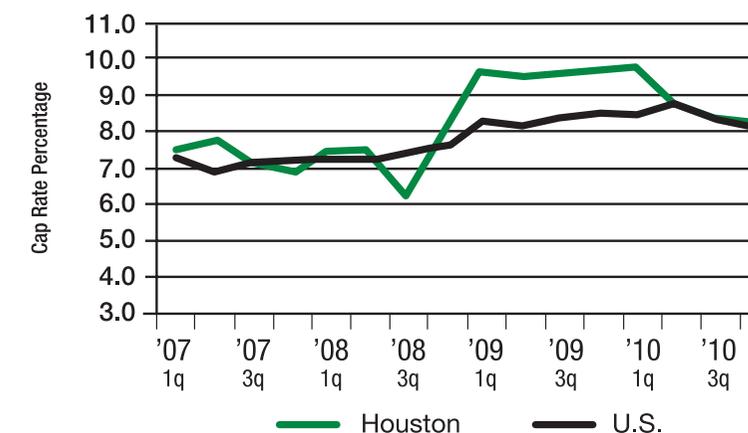


Source: CoStar COMPS®

Houston

U.S Cap Rate Comparison

(Based on Office Building Sales of 15,000 SF & Larger)



Source: CoStar COMPS®

Problem #2:
Flooding In Houston and Harris County



2001 photo

Credit: Harris County Flood Control District

Flooding: Harris County Flood Control District

- Harris County Flood Control District is a county-wide overlay district charged with flood prevention and management.
- The annual 5-year Capital Improvement Program for flood improvement work currently calls for more than \$975 million in projects, which comes from a combination of local and Federal funds.
- Practically speaking, preventing all flooding in Harris County is virtually impossible, but every project helps the community cope with flooding by helping to reduce the risk and frequency of damages.
- This balancing act of providing effective flood damage reduction, with respect to the greater Houston-Harris County area and its natural surroundings, is a continual challenge in what is now the third most populous county in the United States.
- Nature also challenges Harris County with flat terrain, clay soils that do not absorb water very well and an average annual rainfall of 48 inches. The flooding problems in the community are severe. Flooding is Harris County's natural disaster! Several hundred thousand homes and businesses are in the identified floodplain (not all flooding areas are mapped), to reduce the risk of flooding are estimated in the billions of dollars.

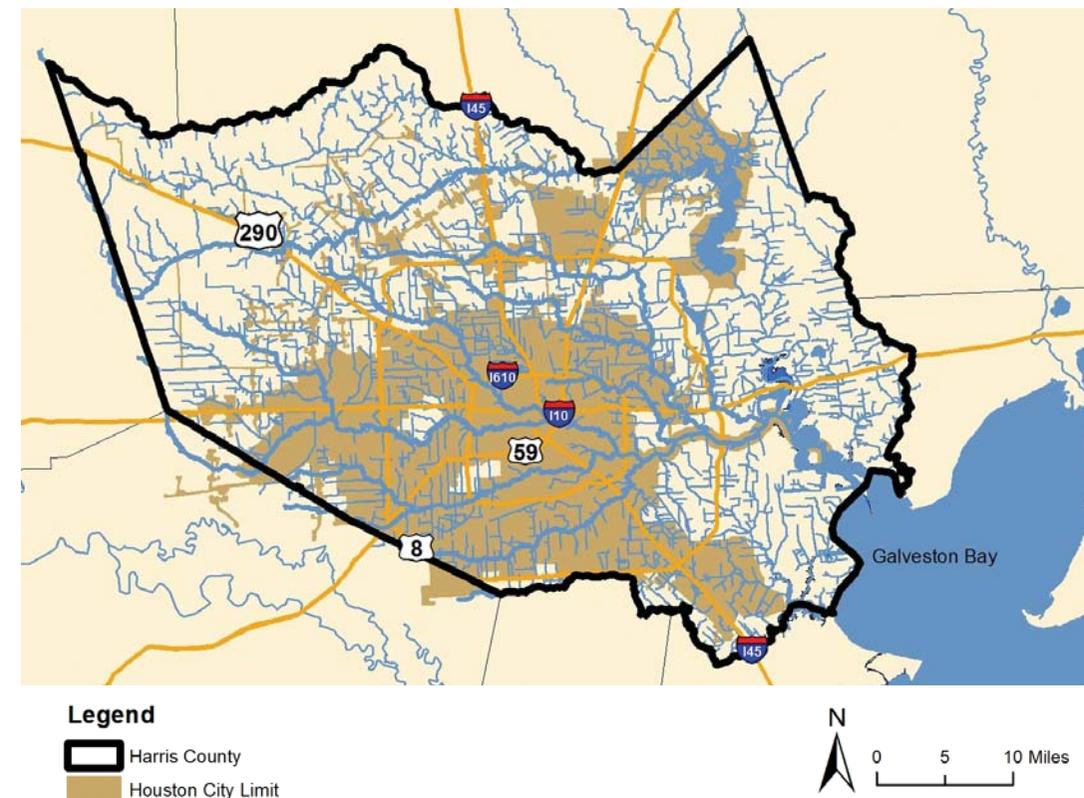
Retention areas and detention basins clean water through natural filtration, reducing the bacterial contamination of our water while improving flood control.

1935 Flooding



Credit: Harris County Flood Control District

Open Channel Network



More than 1,500 channels in Harris County totaling about 2,500 miles in length (the same distance from New York to Los Angeles).

Source: <http://www.hcfdc.org/overview.html>



Problem #3:
Derelict Properties

Building Vacancies

The recently released 2010 census results show one out of four buildings in Houston downtown's two census tracts is vacant, higher than the city's average vacancy rate of 12 percent.

“Abandoned, dangerous buildings are a huge drag on the economy of the area, it's hard to redevelop other properties, it's hard to get apartment residents and get profitable rents,” said Andy Teas of the Houston Apartment Association. “We would like to see them rehabbed.”

Source: <http://www.chron.com/disp/story.mpl/chronicle/7555826.html#ixzz1MvpnlDFk>

Vacancy Rates

Industrial – 6.2%

Office – 13.4%

Retail – 7.2%



“Whether they are located downtown or anywhere else in the city, rundown and derelict properties have negative impacts on the neighborhoods surrounding them.”

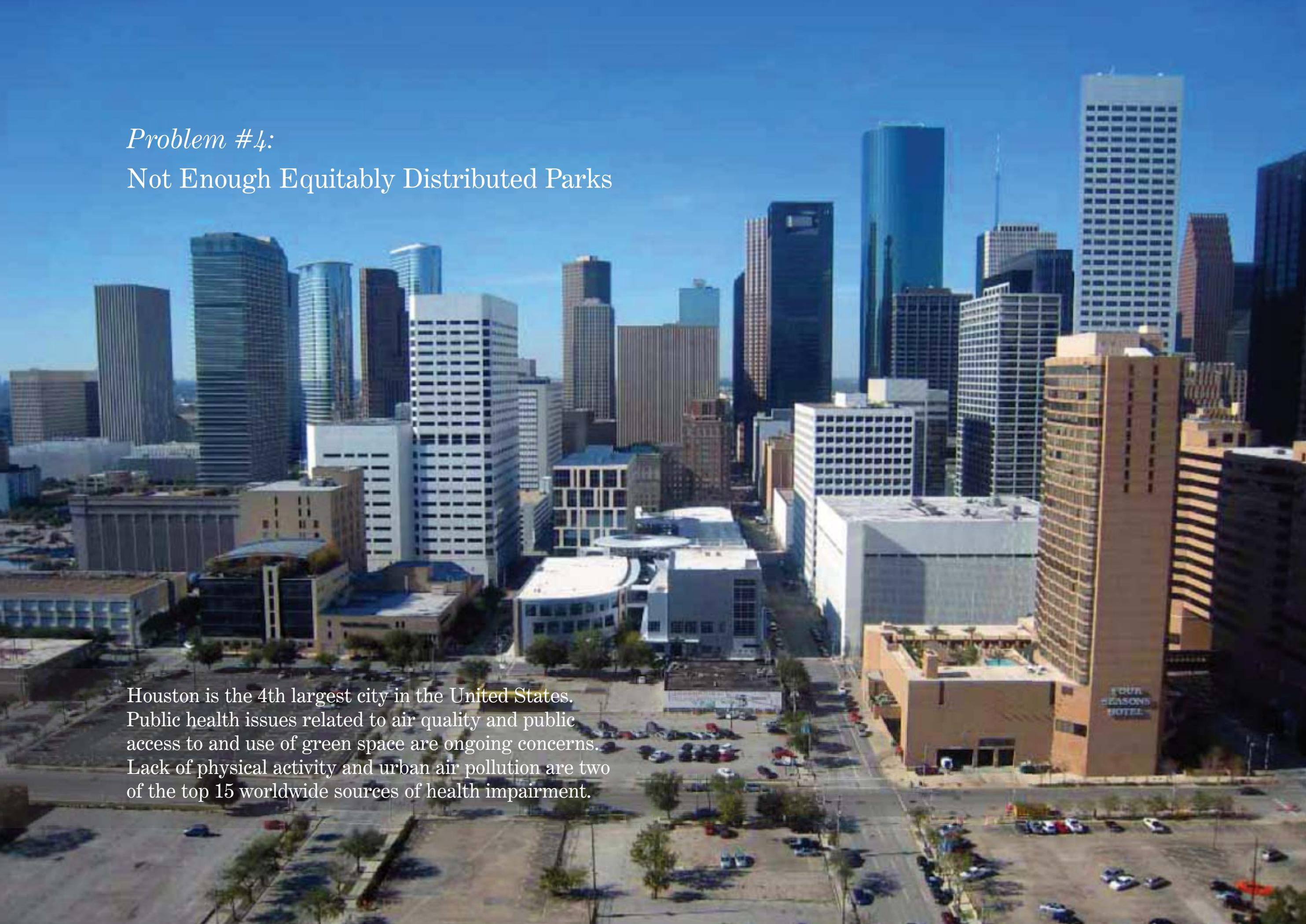
Catherine Flowers

Director of Neighborhood Services for the City of Houston

Problem #4:

Not Enough Equitably Distributed Parks

Houston is the 4th largest city in the United States. Public health issues related to air quality and public access to and use of green space are ongoing concerns. Lack of physical activity and urban air pollution are two of the top 15 worldwide sources of health impairment.



Parks: Lack of Green Space

Many opportunities exist to create urban parks and open spaces in the City of Houston and Harris County, which are unquestionably in short supply for residents. According to the Houston Parks Board, the Houston park system needs at least 79 new and equitably distributed park sites and needs to expand 20 existing parks to bring Houston up to national standards.

“Houston needs thousands of acres of new parks to serve the additional million people expected to move to Houston by 2025, and to remain competitive with other cities. New detention areas keep water in natural areas and out of homes, businesses, and streets, while also serving as park space. This is the fastest, most cost effective way to meet the growing demand for both.”

Trust for Public Land, Conservation Finance Feasibility Study, May 2011

In a 2009 report by the Center for Houston’s Future, park experts show that as the Houston region expanded, the addition of new green space did not keep pace.

Parks: Lack of Funding

“Houston is one of the fastest growing cities in the United States, so we need to keep acquiring, improving, and protecting land to keep pace with the needs of our citizens.”

Thomas Bacon, President, Houston Parks Board (2010 Annual Report)

“Houston’s first park master plan, created almost 100 years ago, envisioned an “emerald necklace” system of parks linked by the city’s natural bayous. Our goal is to acquire adjoining properties along the bayous to protect them as permanent public parkland and, if applicable, convert them from existing industrial or commercial use to greenspace to create a continuous greenbelt.”

HPB 2010 Annual Report

“By acquiring and improving land adjacent to ten major bayous, we will establish an interconnected system of parks and trails linking people, places and green space, while enhancing air and water quality, reducing flooding, and stimulating economic development.”

HPB 2010 Annual Report

Despite the need for parks in the City of Houston, funding to acquire and maintain park and open space properties is scarce.

Trust for Public Land, Conservation Finance Feasibility Study, May 2011

Existing Space

	Acres/1000 Residence (National Avg.=20)	Accepted Walking Distance (% of Pop in 1/4 Mile)
	2008	2008
Ft. Bend County	14.23	35
Sugar Land	13.1	56
Harris County	14.05	30
Houston	15.39	40
Montgomery County	4.35	24





Problem #5:
Air Quality

Air Quality

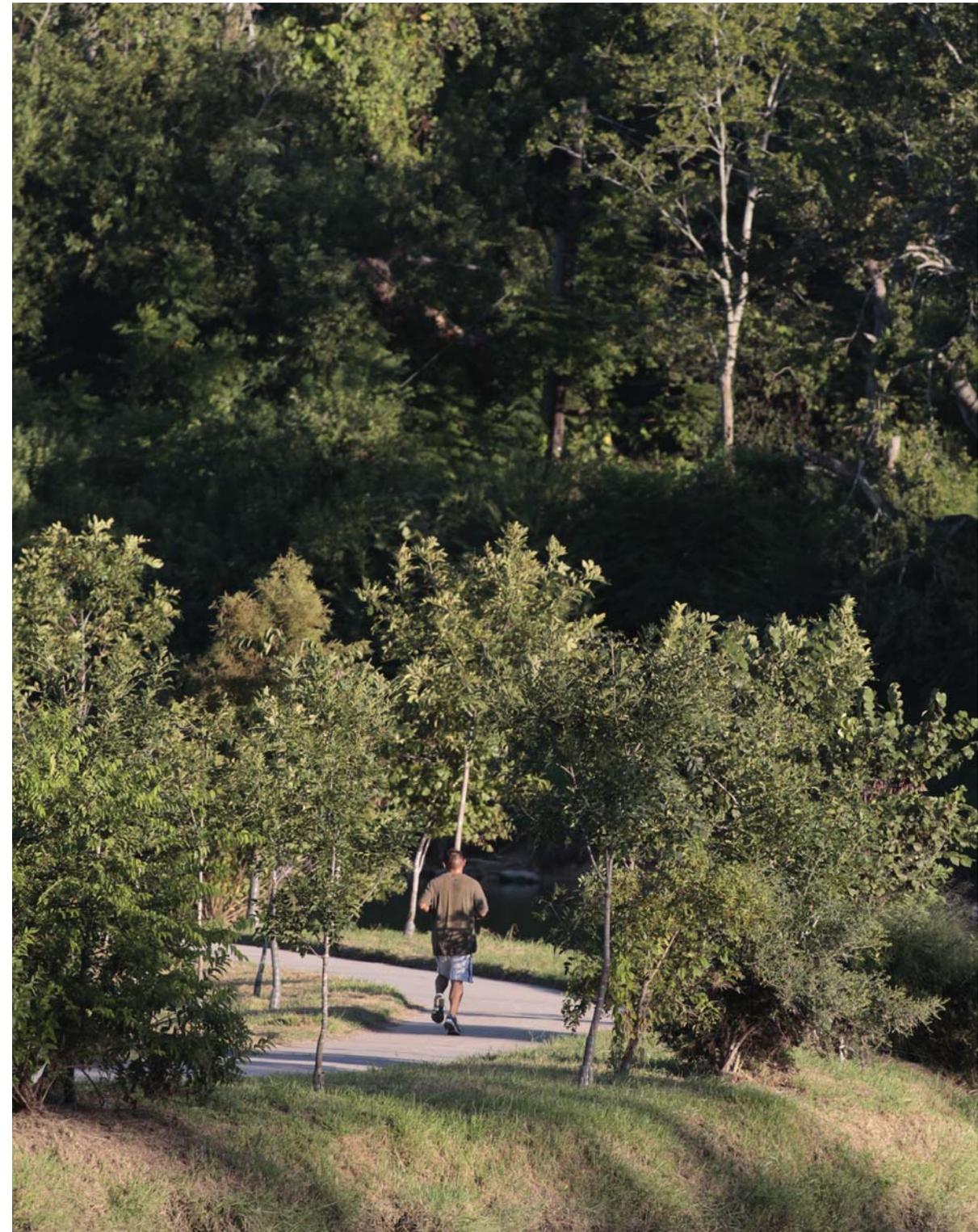
- On days when ozone levels are high, breathing can be difficult and exercising outdoors is usually discouraged. Research has found that breathing in gaseous pollutants that cause increased ozone levels, year in and year out, can lead to chronic and deadly lung disease.
- A study of nearly half a million people found that the risk of dying from lung disease went up as much as 50 percent in cities with the highest levels of ozone. Repeated daily exposures to even moderate levels of ozone proved far worse than occasional exposure to high levels.
- Top 5 worst cities for Ozone in 2008:
 - Los Angeles
 - Bakersfield
 - Visalia
 - Houston
 - Fresno

Trees and other plants make their own food from carbon dioxide (CO₂) in the atmosphere, water, sunlight and a small amount of soil elements. In the process, they release oxygen (O₂) for us to breathe.

Trees, which will be a significant component on all of Houston's Green Fields:

- Help settle out, trap and hold particle pollutants (dust, ash, pollen and smoke) that can damage human lungs.
- Absorb CO₂ and other dangerous gasses and, in turn, replenish the atmosphere with oxygen.
- Produce enough oxygen on each acre for 18 people every day.
- Absorb enough CO₂ on each acre, over a year's time, to equal the amount you produce when you drive your car 26,000 miles. Trees remove gaseous pollutants by absorbing them through the pores in the leaf surface. Particulates are trapped and filtered by leaves, stems and twigs, and washed to the ground by rainfall.

Source: <http://www.dnr.state.md.us/firests/publications/urban2.html>







What if we invest \$5.4 billion
in Houston to convert
Red Fields to Green Fields?



We could restore the Houston bayou corridors, and convert 3,800 acres of distressed property to park land and greenspace, thereby serving numerous neighborhoods throughout the city.



What is the Vision?

To establish an interconnected system of parks and trails linking people, places, and green space, while enhancing air and water quality, reducing flooding, and stimulating economic development.

Source: Buffalo Bayou Partnership's Master Plan, *Buffalo Bayou and Beyond*, 2002, prepared by Thompson Design Group

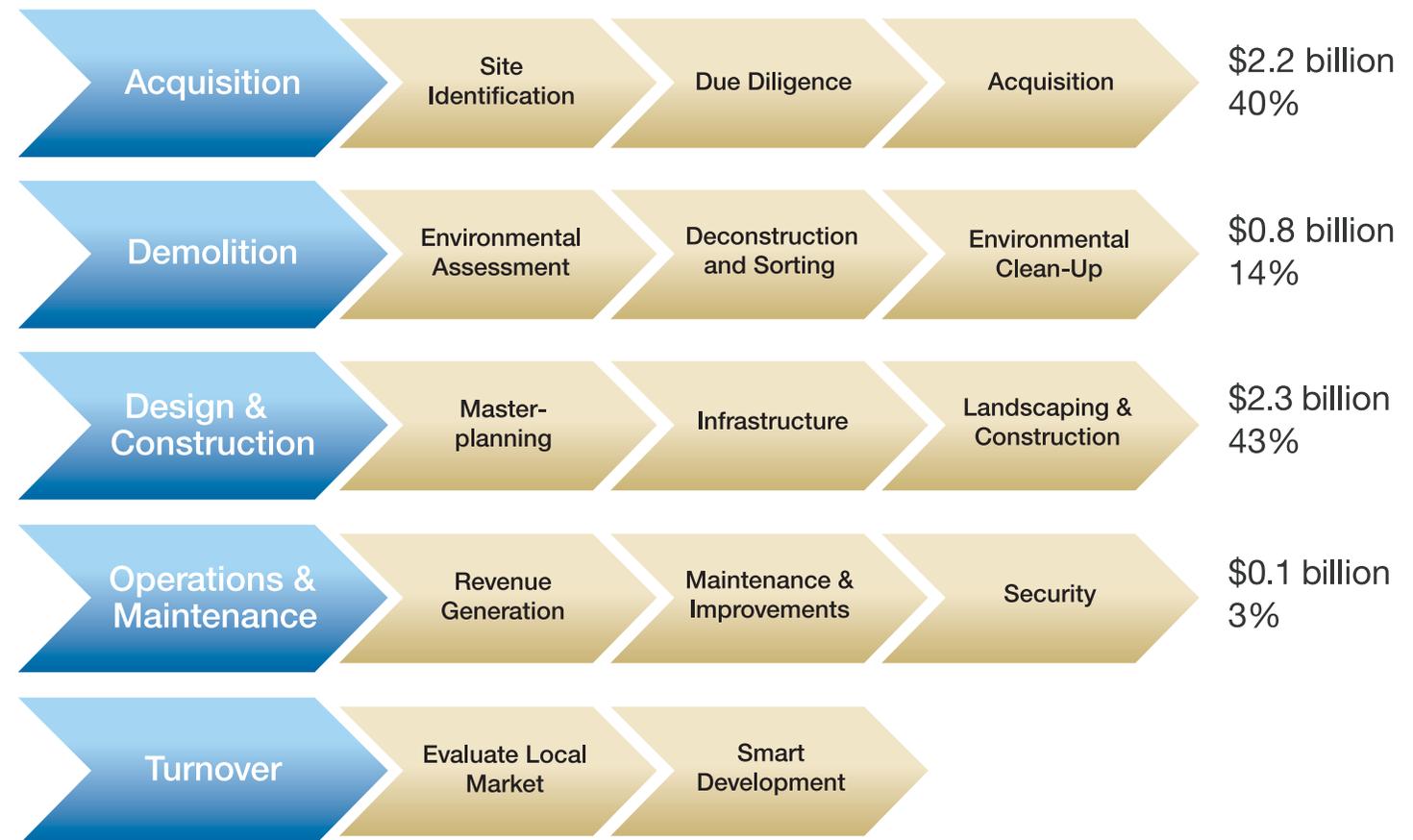
Process

A budget was developed to estimate all costs associated with implementing the vision, including: acquisition, demolition, design, construction, operations and maintenance for twenty-five years. The budget is meant to be a broad estimate to gauge the magnitude of potential costs and to estimate job creation and other economic benefits.

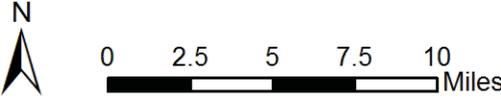
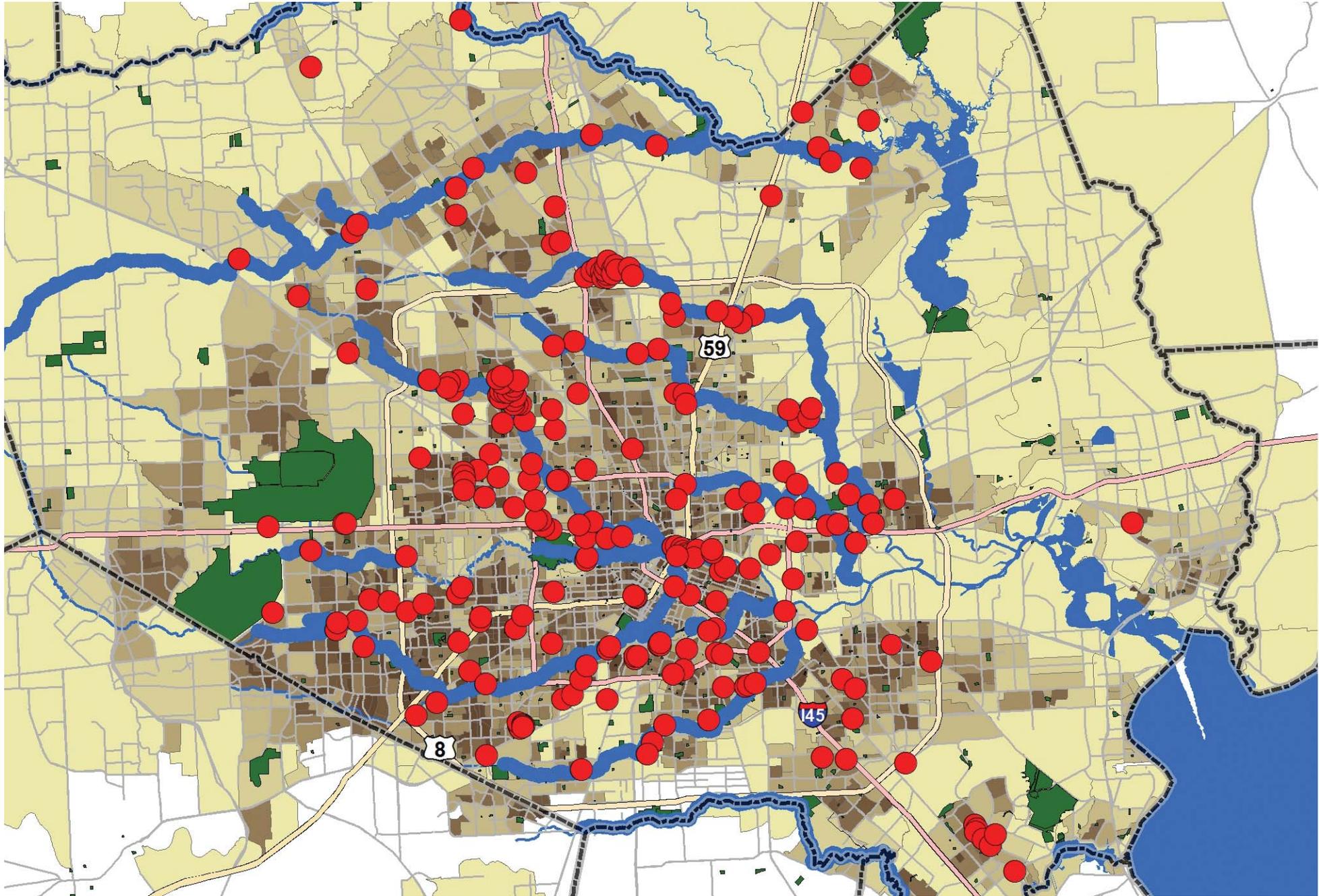
A conceptual budget of \$5.4 billion was allocated for the City of Houston for the Red Fields to Green Fields National Research Program.

» If \$2.2 billion of the \$5.4 billion is allocated for property acquisition, we could purchase **8,800 acres** of properties equitably distributed throughout Houston, including nearly 5,000 acres along the Bayou corridors.

Implementing the Vision: Funding Strategy



Proposed Project Locations



Benefits of Using the Bayous

- Currently, the bayous are under-utilized as an amenity and the parks along them are not connected.

“The backbone of a park system for Houston will be in bayou and creek valleys, which readily lend themselves to trails and parks and cannot so advantageously be used for any other purpose.”

Arthur Comey, 1913





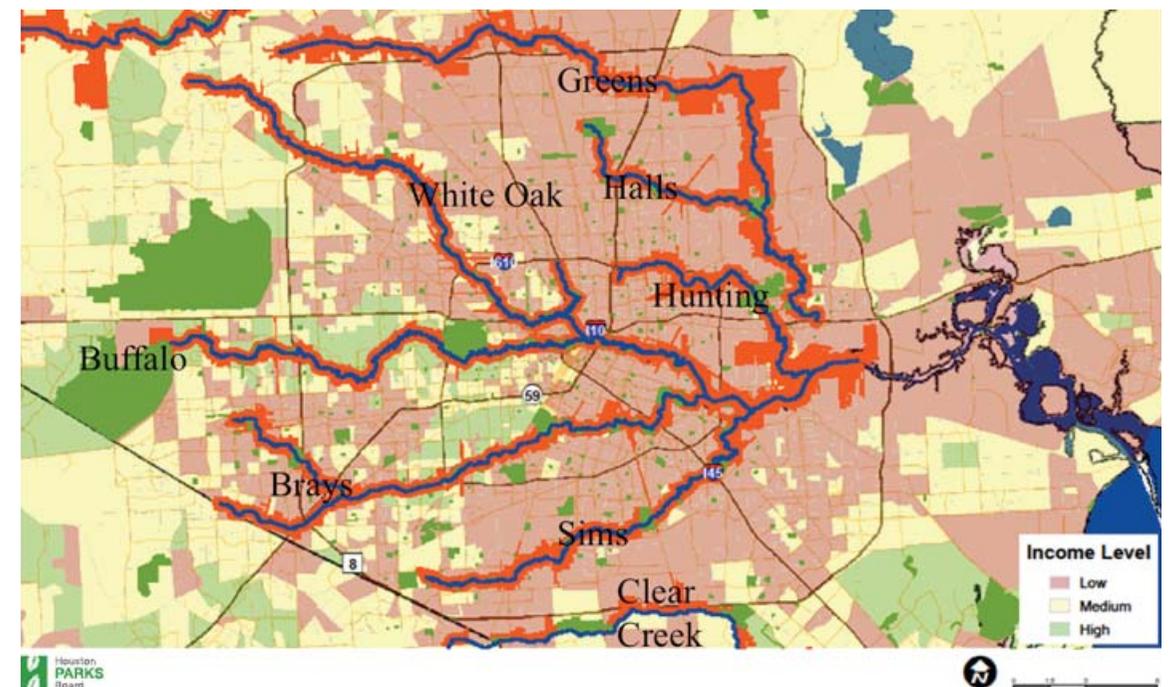
Houston's Proposed Red Fields to Green Fields Projects

1. Conversion of city-wide derelict properties not directly located along a bayou
 - Acquire 3,800 acres
 - Set aside portion for future redevelopment
 - Develop remaining portion into first-class parks and complimentary healthy uses
2. Completion of continuous greenways along ten of Houston's major bayous
 - 300 miles of trails
 - 1,600 acres of linear greenways connecting parks and community gathering place
 - 3,200 acres of parks and storm-water detention sites

Benefits:

- Enhance economic development
- Improve flood control
- Create natural water filtration
- Provide environmental improvements
- Promote increased health and wellness
- Increase property values
- Encourage tourism and recreational use
- Foster environmental and ecosystem protection and conservation

This builds upon and leverages city, county, state, and federal water quality, flood control, and environmental investments to create world-class trails and parks at significantly less than the cost of traditional acquisition and development methods.





Flood Control Case Studies Show Value of Turning Lands Back to Wetlands

- “Whenever possible, the best way to manage floods is with a natural floodplain,” said Terrence Salt, the U.S. Army’s deputy assistant secretary overseeing the Corps of Engineers’ water-resource policy.



Credit: www.charleskruvand.squarespace.com



Parks enhance the quality of urban life by providing safe, well-maintained areas and offering affordable programs for the community.

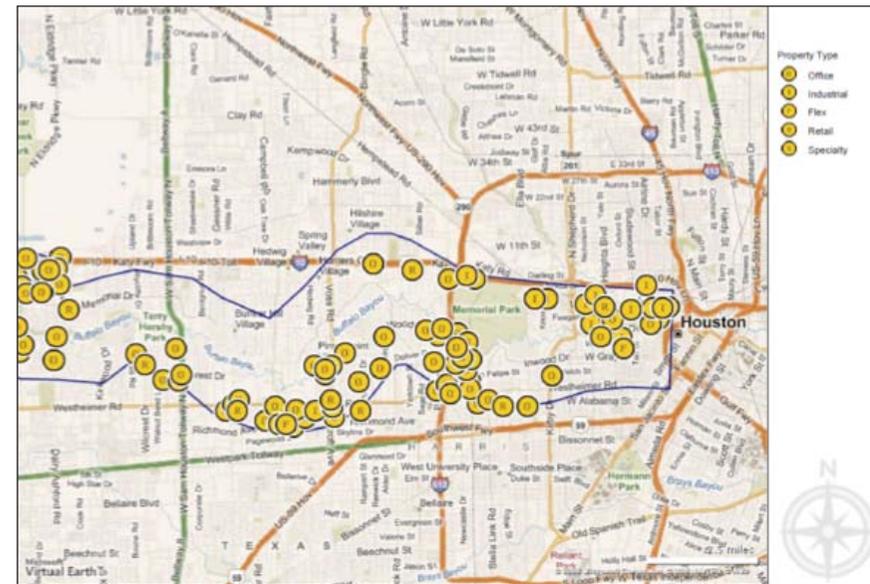


Property Statistics

Properties on or around Buffalo Bayou

- 10-Year historical:
 - Median price per acre \$3.8 million
- Current for sale:
 - Average asking price per acre \$1,412,000 (for those which CoStar listed asking price)
 - Total acres for sale: 132 (CoStar 5/13/2011)

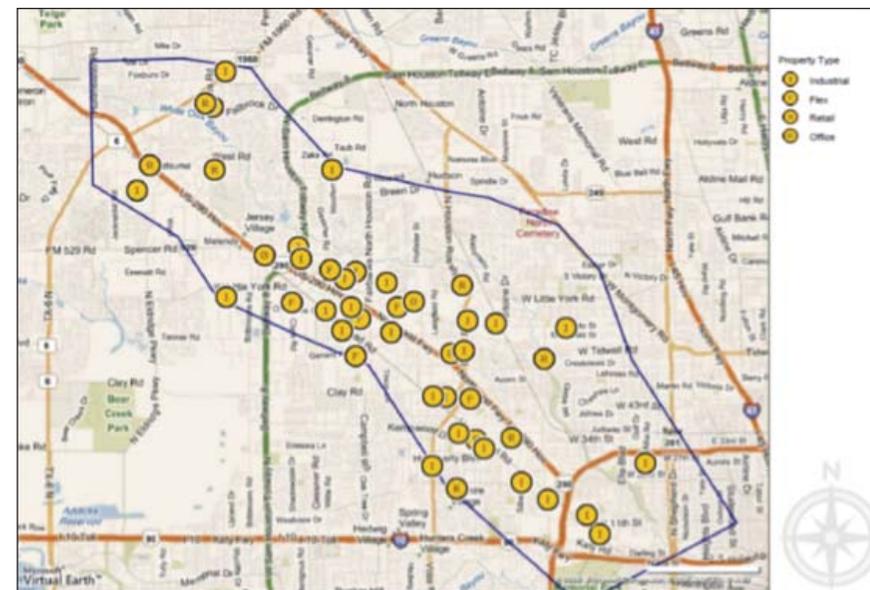
Buffalo Bayou Sold Properties (5-13-2011)



Properties on or around White Oak Bayou

- 10-Year historical:
 - Median price per acre \$528,000
- Current for sale:
 - Average asking price per acre \$672,000 (for those which CoStar listed asking price)
 - Total acres for sale: 197

White Oak Bayou For Sale Map (5-13-2011)

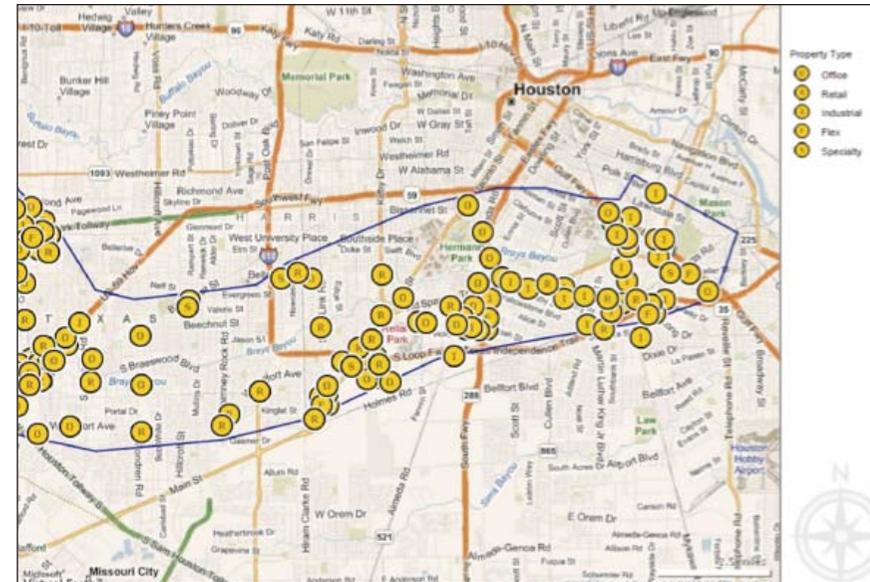




Properties on or around Brays Bayou

- 10-Year historical:
 - Median price per acre \$764,000
- Current for sale:
 - Average asking price per acre \$804,000 (for those which CoStar listed asking price)
 - Total acres for sale: 244 (CoStar 5/13/2011)

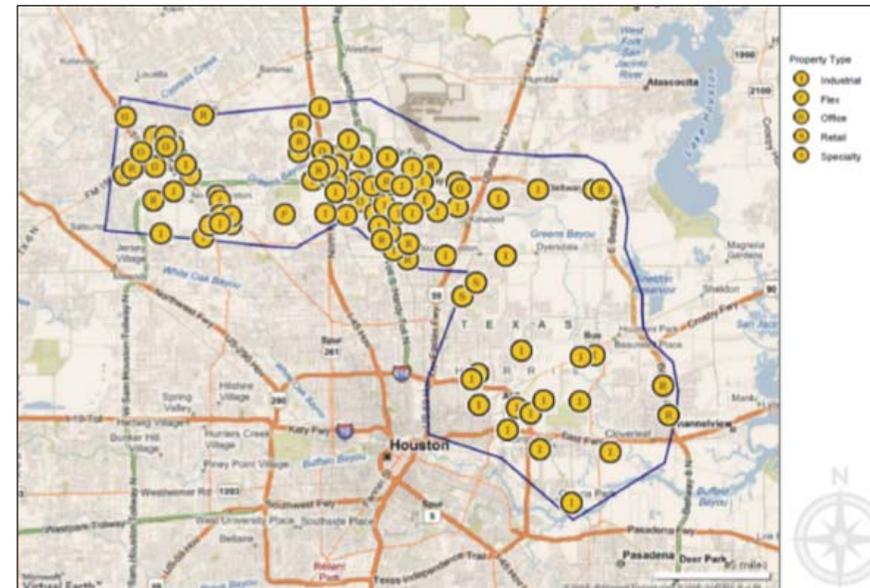
Brays Bayou Sold Properties (5-13-2011)



Properties on or around Hunting, Halls and Greens Bayous

- 10-Year historical:
 - Median price per acre \$383,000
- Current for sale:
 - Average asking price per acre \$494,000 (for those which CoStar listed asking price)
 - Total acres for sale: 614

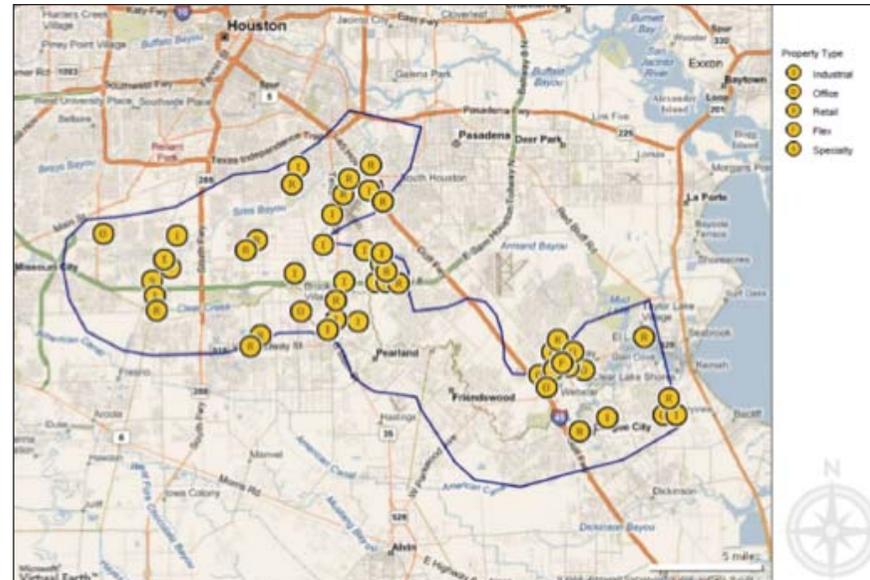
Hunting, Halls and Greens Bayous For Sale Map (5-13-2011)



Properties on or around Sims Bayou and Clear Creek

- 10-Year historical:
 - Median price per acre \$394,000
- Current for sale:
 - Average asking price per acre \$485,000 (for those which CoStar listed asking price)
 - Total acres for sale: 244 (CoStar 5/13/2011)

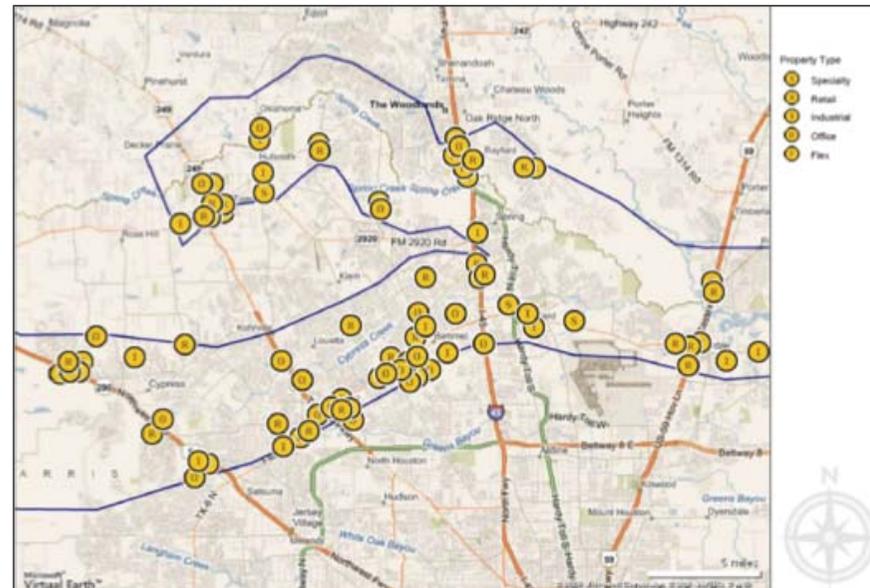
Sims Bayou and Clear Creek For Sale Map (5-16-2011)



Properties on or around Cypress and Spring Creeks

- 10-Year historical:
 - Median price per acre \$481,000
- Current for sale:
 - Average asking price per acre \$537,000 (for those which CoStar listed asking price)
 - Total acres for sale: 488

Cypress and Spring Creeks For Sale Map (5-16-2011)







An extraordinary important factor of quality of place is the amount and location of parks and trails. They provide the visual and mental relief from a developed landscape that, in this region, is associated with vast freeways, street grids, housing development, high rises, commercial spaces and generally unattractive strip centers. Moreover, when parks and greenspaces are readily accessible to our residents, they contribute mightily to their health and well-being and the land on which they reside.

Source: Center for Houston's Future, 2009 Report



Discovery Green Park

Before



After



In April, 2008, a new, first-class 12 acre downtown park, named Discovery Green, was created via a public-private partnership between the City of Houston and the non-profit Discovery Green Conservancy.

Land for the park was acquired in 2004 and design work commenced in 2005. Its impact in revitalizing the adjacent area was dramatic.

Year	Average Value per Square Foot of Adjoining Properties	Value Increase Since Announcement
2004 (Announcement of proposed park)	\$87	-
2008 (Park completed)	\$133	53%
2011	\$350	400%

More importantly, despite a weak real-estate market, development in the Discovery Green area took off. The park has become an anchor for \$500 million in downtown development, with three significant projects having been built on the adjoining properties since the park was completed. In its first three years, the park welcomed more than three million visitors and hosted more than 800 public and private events.



Red Fields to Green Fields

Red Fields to Green Fields can enable Houston to bring its green space vision to reality -- now, when the economy and our citizens need jobs, and our infrastructure needs refurbishing. By acquiring vacant commercial tracts and making connections along the bayou corridors via trails, parks, green space, and improved waterways, Houston can once again be a growth model for the country.

Potential Impacts - IMPLAN:

- In Houston, an investment of \$5.4 billion yields:

Effect	Employment	Labor Income	Value Added	Output
Direct Effect	34,000	\$1.6 billion	\$2.8 billion	\$4.8 billion
Indirect Effect	10,000	\$0.6 billion	\$1.1 billion	\$2.0 billion
Induced Effect	11,000	\$0.5 billion	\$1.0 billion	\$1.7 billion
Total Effect	55,000	\$2.7 billion	\$4.9 billion	\$8.5 billion

- Creating over 55,000 jobs
- Direct Effect
 - Changes made to the economy that are a direct result of the project.
- Indirect Effect
 - Secondary employment opportunities due to the additional input needs of industries directly responsible for the project.
- Induced Effect
 - Changes in household spending due to the employment generated by both direct and indirect effects.



Source: Buffalo Bayou Partnership's Master Plan, *Buffalo Bayou and Beyond, 2002*, prepared by Thompson Design Group

Acknowledgements

Project Team

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