HOUSTON COMMUNITY SUSTAINABILITY

The Quality of Life Atlas

Conclusion

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Houston Community Sustainability:

The Quality of Life Atlas

Conclusion

Super Neighborhoods have the potential to be a more useful secondary level of governance below Council Districts in Houston. Every year the city updates its Capital Improvement Plan (CIP), and creates opportunities for public stakeholders to identify needs and wants for their communities. The Super Neighborhoods, are an efficient vehicle for community stakeholders to identify their needs and present them to the city for inclusion in the CIP plan. Super Neighborhoods are representative of communities in Houston composed of several smaller neighborhoods. Neighborhoods in Houston are also known as subdivisions.

This conclusion presents a comparative analysis of the Super Neighborhoods according to their performance on the sustainable development indicators. Data reduction analysis was performed to determine if groups of indicators shared common trends with regards to how various Super Neighborhoods performed according to these groups[i]. Five strong groups were identified which represent clusters of indicators. Next, Super Neighborhoods were ranked according to a single score for each of the five groups. The groups can thus be explained as representative of urban development typologies in Houston, where Super Neighborhoods rank high or low according to their performance on these groups. The groups were defined as: Wealthy; Walkable, Growth Communities, Hispanic Engagement, Mixed Use Communities.

Wealthy		Walkable		Growth		Hispanic Engagement		Mixed Use	
Income	.95	VMT	-.89	Water Use	.87	Hispanic	-.78	Mix Land Use	.77
Health Care	.93	Bus Stops	.83	Pop Growth	.82	Voting	.69	Poor Streets	.53
Poverty	-.89	Open Space	-.77	Pop Density	.81	Black	.54	Housing Costs	-.48
Housing & Transport costs	.87	Street Intersections	.74	Pop close Waste Sites	.40				
House Value	.83	Food Desert	-.72	The numbers represent the degree of importance of each indicator to its group. Negative values indicate that particular indicators are decreasing while the positive ones are increasing. NB. This set of indicators, for this set of Super Neighborhoods, for this point in time 2010 are particular to the grouping presented above. Any changes may or may not yield different groups and subsequent rankings.					
White	.83	High Intensity Development	.72						
Masters Degree	.80	Distance to CBD	-.67						
Unemployment	-.69	House in Business Center	.65						
Transit Use	-.53	Pop close Park	.62						

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Super Neighborhood ranking showing top ten and bottom ten performers in the Wealth group.

	Wealthy Group
1	AFTON OAKS / RIVER OAKS AREA
2	UNIVERSITY PLACE
3	LAKE HOUSTON
4	MEMORIAL
5	KINGWOOD
6	GREENWAY / UPPER KIRBY AREA
7	GREATER UPTOWN
8	BRAESWOOD PLACE
9	CLEAR LAKE
10	WASHINGTON AVENUE COALITION / MEMORIAL PARK
79	SUNNYSIDE
80	GREATER GREENSPOINT
81	GULFTON
82	SETTEGAST
83	INDEPENDENCE HEIGHTS
84	OST / SOUTH UNION
85	GREATER THIRD WARD
86	WESTWOOD
87	GREATER FIFTH WARD
88	KASHMERE GARDENS

Table 3: Wealthy group of Super Neighborhoods

The benefit of this analysis is that we can identify the indicators, which along with *Income*, serve to define wealthy areas in Houston. Those indicators are *Health care spending*; *Home Values*; Percent of income spent on *Housing and Transportation Costs*; *Percent of White Persons*; *Percent of persons with Master's Degrees*. Low *Poverty*, low *Unemployment* and low *Transit Use* also help to define this group. Further benefits are the capability to define those communities on the opposite side. In order to improve those neighborhoods the City of Houston can use this analysis to identify which of the key indicators should be targeted.

Increasing the number of university graduates, in particular graduate level education, would help, but there is also a need to increase education and training for technical careers. Strong policies and programs to combat poverty and unemployment are essential to raise the profile of those neighborhoods in the bottom of the list for this group in Houston.

Super Neighborhood ranking showing top ten and bottom ten in the Walkable Communities group.

	Walkable Communities Group
1	MIDTOWN
2	FOURTH WARD
3	DOWNTOWN
4	MUSEUM PARK
5	NEARTOWN / MONTROSE
6	GREATER EASTWOOD
7	GULFTON
8	ASTRODOME AREA
9	SECOND WARD
10	GREENWAY / UPPER KIRBY AREA
79	GREATER HOBBY
80	ACRES HOME
81	SOUTH ACRES / CRESTMONT PARK
82	CLEAR LAKE
83	EL DORADO / OATES PRAIRIE
84	KINGWOOD
85	MINNETEX
86	LAKE HOUSTON
87	IAH / AIRPORT AREA
88	HUNTERWOOD

Table 4: Walkable Communities Group of Super Neighborhoods

The above table shows groupings of indicators here defined as representative of Super Neighborhoods that are the most walkable in Houston. Those indicators are: Proximity to Bus Stops; Street Intersections; High Intensity Development; Houses in Business Centers; and the Population close to Parks. Vehicle miles travelled; Open space; Population in the Food Desert; and Distance to the Central Business District help to define this group in terms of negative correlation. Meaning as the positive indicators increase, the negative ones decrease.

For the Super Neighborhoods in the top ten, the performance in this group of indicators are all positive trends towards sustainable development.

For the Super Neighborhoods in the bottom of this list, Increases in street intersection density signals reductions in commute times. Increasing park, supermarket, jobs, and bus stops accessibility are key to improving quality of life.

Super Neighborhood ranking showing top ten and bottom ten performers in the Growth Community group.

Growth Communities Group	
1	ALIEF
2	SHARPSTOWN
3	KINGWOOD
4	BRAYS OAKS
5	CLEAR LAKE
6	GULFTON
7	ELDRIDGE / WESTOAKS
8	GREATER GREENSPOINT
9	CENTRAL SOUTHWEST
10	MID WEST
79	MINNETEX
80	EL DORADO / OATES PRAIRIE
81	CARVERDALE
82	HUNTERWOOD
83	AFTON OAKS / RIVER OAKS
84	LAWNDALE / WAYSIDE
85	ADDICKS PARK TEN
86	CLINTON PARK TRI-COMMUNITY
87	PLEASANTVILLE
88	MEDICAL CENTER

Table 5: Growth community ranking of super neighborhoods

This ranking of Super Neighborhoods is characterized by a strong relationship between the indicators Water Usage; Population Growth; Population Density; and Population Close to Waste Sites. The Growth Communities in Houston have positive and negative traits with regards to sustainable development and improvements in quality of life.

The positive benefits of ranking high in this group, include high population growth and density. More dense areas can be a benefit to consolidation of economic development enterprises such as restaurants, and other services required by residents. Supermarkets also require certain thresholds of people, to justify locating close by.

The negative issues are the high water use and the fact that these neighborhoods also happen to be the ones with the environmental issue of people living in close proximity to waste sites. Most of the population growth in Houston is attributed to the Hispanic Community. The city should consider this a major public policy issue to use studies like this to predict the places, where growth will occur and ensure that social, economic and environmental issues are mitigated.

Super Neighborhood ranking showing top ten and bottom ten performers in the Hispanic Engagement Community group.

Hispanic Engagement Communities Group	
1	MACGREGOR
2	SOUTH ACRES / CRESTMONT PARK
3	SUNNYSIDE
4	SETTEGAST
5	OST / SOUTH UNION
6	GREATER THIRD WARD
7	KASHMERE GARDENS
8	ACRES HOME
9	EAST LITTLE YORK / HOMESTEAD
10	TRINITY / HOUSTON GARDENS
79	LAKE HOUSTON
80	WILLOWBROOK
81	LANGWOOD
82	DENVER HARBOR / PORT HOUSTON
83	MAGNOLIA PARK
84	GULFGATE RIVERVIEW / PINE VALLEY
85	EDGEBROOK AREA
86	PECAN PARK
87	ADDICKS PARK TEN
88	HUNTERWOOD

Table 6: Hispanic Engagement communities group

This ranking of Super Neighborhoods is characterized by a strong relationship between the indicators Voting Participation; and Percentage of African Americans. The group is also negatively related to Percentage of Hispanic Persons. What this group shows alludes to an issue of non-participation in the electoral process in Houston by the Hispanic community; and a separation of the two largest minority group communities. The Hispanic population has increased tremendously over the last 30 years and it is not clear if new persons moving to the city are locating in already established Hispanic neighborhoods. Or, whether the African American population is concentrating itself more in established African American communities. Both of the above scenarios could possibly lead to the type of correlation in the data displayed above.

Once again, it is incumbent in the city to pre-plan for the large Hispanic population increase and ensure that appropriate and group specific efforts are made to engage this group in the electoral process. Race and ethnicity relations is also a sensitive topic, which should certainly be a priority in a city undergoing demographic changes.

Super Neighborhood ranking showing top ten and bottom ten performers in the Mixed Use Community group.

Mixed Use	Communities Group
1	FOURTH WARD
2	SOUTH PARK
3	FORT BEND / HOUSTON
4	MIDTOWN
5	LAKE HOUSTON
6	KINGWOOD
7	SOUTH ACRES / CRESTMONT
8	HUNTERWOOD
9	PECAN PARK
10	GREATER THIRD WARD
79	BRAESWOOD PLACE
80	SOUTH MAIN
81	FAIR BANKS / NORTHWEST CROSSING
82	LAZY BROOK / TIMBERGROVE
83	BRAEBURN
84	WESTBRANCH
85	WILLOWBROOK
86	CARVERDALE
87	MEDICAL CENTER
88	ASTRODOME

Table 7: Mixed Use communities group

This ranking of Super Neighborhoods is characterized by a strong relationship between the indicators lower Land Use Mix; Poor Streets; and lower Housing Costs. Communities that score high in this group include low income neighborhoods and higher income neighborhoods

The top ranked communities in this group are more affordable, but they also have poorer streets and low variation in land use types.

The following table summarizes some of the findings contained in this report. It lists the indicators, city level performance, and Super Neighborhood level performance for comparative purposes. The indicators are accompanied by a green, amber or red icon, symbolizing good progress towards sustainability, moderate progress towards sustainability, or major intervention needed respectively. These ratings were developed, for the purpose of peer review, by a team of approximately 27 experts and development practitioners over the course of three workshops and three surveys in 2012. We hope the report will be used by citizens, city staff, and local decision makers to better understand the sustainable development of Houston.

Summary Findings		
Indicator	**City Performance**	**District Performance**
 **1. Population Growth**	Population in Houston is currently growing at an average annual rate of approximately 1.42%.	From 1990 – 2010, six Super Neighborhoods gained over 20,000 persons. In contrast 25 Super Neighborhoods lost population between 1990 – 2010.
 **2. Education Attainment**	33% of persons over 25 in Houston have a university or college degree.	Ten Super Neighborhoods have less than 10 percent of persons with college or university degrees. Six neighborhoods have more than 75% of persons with university degrees.
 **3. Voter Participation**	Only 7% of the population voted in the local election of 2011.	Thirty-two Super Neighborhoods had voting participation rates of under 5%. The highest voting participation rate was just under a quarter of voters in the Pleasantville Super Neighborhood in 2011.
 **4. Indicator – Income Inequality**	Income inequality must be addressed in Houston since the median top 20% earned $140,000; median earnings were $43,000; and the bottom 20% earned a median income of $10,000.	Afton Oaks/ River Oaks and University Place were the two Super Neighborhoods with median income over $100,000. Six Super Neighborhoods had below $25,000 in median income.
 **5. Poverty Rate**	The percentage of persons below poverty was 23% (474,346) in 2010. This metric is increasing, which is not a sustainable trend.	Twelve Super Neighborhoods had below 10% of persons below poverty. Seventeen Super Neighborhoods had 30% or more of persons in poverty.

6. Health Coverage	30% of persons had no health insurance in Houston in 2010. Houston has the largest medical center in the world, and boasts many jobs in this sector. However, access to health insurance in Houston is a problem.	Healthcare spending, including medical care and health insurance ranged from an average of $1,551 in Westwood to $9,621 in Afton Oaks/ River Oaks.
7. Affordability	30% of Houstonians spent more than 30% of their income on housing in 2010.	Four Super Neighborhoods spent less than 20% of income on housing costs on average. Those are Gulfton, Fondren Gardens, Lazy Brook and Eldorado. In Alief and Hunterwood, residents on average spent more than 40% income on housing costs.
8. Accessibility of Public Spaces	44% of the population lives within a quarter mile of a public park. This number needs to increase to ensure accessibility to quality of life in Houston.	Five Super Neighborhoods have less than 10% of persons within a ¼ mile to public parks. Five Super Neighborhoods have more than 75% of persons within ¼ mile to public parks. Those Super Neighborhoods are Lawndale/ Wayside, Washington Avenue, Medical Center, Addicks, and Fourth Ward.
9. Food Deserts	36% of the population lives within a Food Desert. That is, they live more than 1 mile from a grocery store or supermarket that sells fresh fruit and vegetables.	Twelve Super Neighborhoods have less than 5% of residents in Food Deserts. Eighteen Super Neighborhoods have more than 75% of person in a Food Desert.
10. Waste Generation and Exposure	The city of Houston collects waste for single family households but private haulers are contracted for multifamily apartments and businesses. Although these haulers report the content of waste they collect, they do not report the source of the waste and hence data on waste generation is estimated. This is a policy issue that complicates development of a robust sustainability strategy to target waste reduction in Houston.	Thirty-three Super Neighborhoods have zero population within ¼ mile to waste sites. Thenty-seven neighborhoods have over 1,000 persons each living within ¼ mile to waste sites.

11. Employment Status	The unemployment rate for Houston was 10% in 2010. For the white cohort it was 6.2% and for African Americans it was 16.5%. This means disproportionate hiring or employment stability occurs in Houston.	Two Super Neighborhoods have over 20% unemployment, those are Minnetex and El Dorado/ Oates Prairie. The unemployment rate is under 5% in 20 Super Neighborhoods in Houston.
12. Primary Jobs and Green Jobs	Medical jobs in Houston are increasing while industrial jobs are decreasing as an absolute percentage of all jobs. Together, industrial and manufacturing jobs make up 23% of all jobs and are considered primary jobs for Houston. Less than 7% of all jobs in Houston are green jobs.	Twenty-nine Super Neighborhoods in Houston have less than 10% of all Jobs as Primary jobs. Westbrach and Medical Center are the two Super Neighborhoods with more than 50% of all jobs as Primary Jobs.
13. Jobs/ Housing Balance	28% of all housing units in Houston are located within ¼ mile of business centers. In a survey of Harris County residents in 2010, 80% called for redevelopment of older urban areas for mixed use development (Klineberg, 2010). However, in a 2005 survey, Anglos preferred neighborhoods that do not have high percentages of African American or Hispanic people (Klineberg, 2005). This cultural practice, complicates the rational location choice theory of maximizing income to find housing close to jobs. It also explains why some inner city neighborhoods, such as the Houston Third Ward and parts of the Fifth Ward, have large supplies of vacant and underused property, despite their close proximity to the central business district.	Forty-four Super Neighborhoods have no housing within ¼ mile to business centers. Six Super Neighborhoods have 100% housing units within ¼ mile of business centers. These Super Neighborhoods are Fourth Ward, Greenway/ Upper Kirby Area, Lazy Brook/ Timbergrove, Medical Center, Midtown, and Museum Park.
14. Infrastructure Condition	For the first time ever, there is a General Fund line item of $2.5 million in the proposed City of Houston 2014 budget. This represents approximately 2% of the average annual Capital Improvement Plan for Public Improvement Programs for infrastructure maintenance, renewal and replacement and will be applied to improvements of city facilities. 20% of all streets in Houston have a poor assessment rating.	Twenty-one Super Neighborhoods have under 10% of all streets rated poor. Four Super Neighborhoods have over 50% of all streets rated poor. Those are Fort Bend/ Houston, Briarforest, Spring Branch North, and Fourth Ward.
15. Access to Transit	As of 2010, 68.5% of people in Houston live within a quarter of a mile to a bus stop.	Six Super Neighborhoods have less than 5% of persons living within ¼ mile to a transit stop. Eighteen Super Neighborhoods have more than 90% of persons living within ¼ mile to bus stops.

16. Vehicle Miles Travelled	Annual VMT is projected to increase in Houston. The average annual VMT per household is currently 17,534. Persons living in suburban areas and working in Houston would have much larger travel times and VMT, this contributes quite significantly to the degree of wear and tear on Houston roads and environmental pollution from auto use.	Super Neighborhoods in Houston range from 11,688.86 annual miles in Museum Park to 26,660.74 annual miles in Lake Houston.
17. Travel Choice	A higher percentage of people in Houston were travelling alone using private cars in 2010 than in 2000. In 2000 28% of persons used alternative travel sources. The number dropped to 25% in 2010. The number of persons who took bike to work was 3,758, which represents 0.4% of the workforce.	Twelve Super Neighborhoods have less than 1% of persons taking transit to work. Thirteen Super Neighborhoods have over 10% of persons taking transit to work.
18. Ambient concentrations of air pollutants	Houston has attained federal standards for all criteria pollutants except for Ozone. The Houston region is in marginal non-attainment for the federal standard for Ozone.	In 2010, Settegast Super Neighborhood had the lowest ozone concentration. Braeburn had the highest ozone concentration.
19. Water Use	The City of Houston Municipal water use is 346,393 acre-feet per year. Unless this trend is reversed, water consumption will increase disproportionally with population growth, a trend that is not sustainable.	Household water use in Houston ranges from 1,000 acre/ft/year in 23 Super Neighborhoods to over 5,000 acre/ft/ year in 5 Super Neighborhoods.
20. Flooding	One quarter of the City of Houston is at risk of flooding.	Thirty Super Neighborhoods have less than 10% of their populations in the 100 year flood zone. Seven Super Neighborhoods have more than 50% of populations in the Flood zone. Those Super Neighborhoods are Lake Houston, Eldridge, Braeswood, Kashmere, Addicks, Braeburn, and Meyerland.

21. Land Cover Change	The highest increase in land cover between 2001 and 2006 was for medium intensity development. This was an increase from 150 square miles to 160 square miles. Medium intensity development accounts for the highest land coverage type in Houston and most commonly include single family housing units. 16% of the land in Houston is used for High intensity development. These are areas that have impervious surfaces representing 80% to 100% land cover.	Sixteen Super Neighborhoods have less than 10% of land area devoted to High intensity development. Six Super Neighborhoods have more than 50% of land area devoted to High intensity development. Those Super Neighborhoods are Second Ward, Greenway, Astrodome, Midtown, Gulfton, and Downtown.
22. Land Use Mix	The land use mix index for Houston is 1,255, which represents an unconcentrated index or relative mixing of uses.	Six neighborhoods show a high degree of land use mixing by scoring less than 1000 on the HHI. Those are Downtown, Lake Houston, Museum Park, Fondren Gardens, Greater Greenspoint. Pleasantville Area, Addicks Park Ten and Fort Bend Houston score the highest on the HHI signifying little land use mixing.


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Houston Community Sustainability:

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Glossary

Accessibility: The degree to which a product, device, service, or environment is available to as many people as possible.

Acre-feet: a unit of volume commonly used in the United States in reference to large-scale water resources. Equal to 325,851 gallons.

Affordable Care Act: A United States federal statute signed into law by President Barack Obama on March 23, 2010.

Agglomeration: An extended city or town area comprising the built-up area of a central place and any suburbs linked by continuous urban area.

Ambient concentration: Amount of the particulate or gas pollutant per volume unit of air.

Attainment gap: The observed and persistent disparity on a number of educational measures between the performance of groups of students, especially groups defined by gender, race/ethnicity, and socioeconomic status.

CMSA: Consolidated Metropolitan Statistical area. Houston Region CMSA is an 8 county region. Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, Waller.

CO2 emissions: The release of carbon dioxide gas into the atmosphere.

Contiguous estuaries: Mixed fresh and salt water bodies that are connected or adjacent to each other.

Employment status: Refers to the three recognized work schedules of full-time, part-time and temporary.

Flood plain: A floodplain or flood plain is a flat or nearly flat land adjacent a stream or river that stretches from the banks of its channel to the base of the enclosing valley walls and experiences flooding during periods of high discharge.

Food Desert: Any area more than 1 mile from a grocery store that sells fresh fruits and vegetables.

Fragile lands: Land that is sensitive to degradation when disturbed; such as with highly erodible

soils, soils where salts can and do accumulate, and soils at high elevations.

GHG: A greenhouse gas (sometimes abbreviated GHG) is a gas in an atmosphere that absorbs and emits radiation within the thermal infrared range.

Globalization: Globalization is the process of international integration arising from the interchange of world views, products, ideas, and other aspects of culture.

GPCD: Unit for the water usage of an area, in gallons per capita per day.

Green jobs: Work in agricultural, manufacturing, research and development (R&D), administrative, and service activities that contribute(s) substantially to preserving or restoring environmental quality.

HGAC Region: 13 county region administered by Houston Galveston Area Council. The HGAC region is composed of 13 counties: Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Harris, Liberty, Matagorda, Montgomery, Walker, Waller, Wharton.

Housing affordability: Relates to the ability of individual households to meet their monthly rent or mortgage payments within a reasonable threshold of their income.

kwh: Kilowatt-hour; a unit of energy commonly used for electricity purposes.

Land cover: Land cover is the physical material at the surface of the earth. Includes grass, asphalt, trees, bare ground, water, etc.

Medium intensity development: Includes areas with a mixture of constructed materials and vegetation.

MSA: Metropolitan Statistical Area. The Houston MSA is composed of 10 counties: Austin, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, San Jacinto, Waller.

Municipal Solid Waste (MSW): A waste type consisting of everyday items that are discarded by the public.

Mwh: Megawatt-hour; one thousand kilowatt-hours; a unit of energy commonly used for electricity purposes.

National Ambient Air Quality Standards (NAAQS): Standards established by the United States Environmental Protection Agency under authority of the Clean Air Act that apply for outdoor air throughout the country.

Natural resources: Resources occurring naturally within environments that exist relatively undisturbed by mankind.

Personal Income: Refers to an individuals total earnings involving wages, investment enterprises,

and other ventures.

PM 2.5, 10: Particulate matter of 2.5 or 10 micrometers; tiny pieces of solid or liquid matter associated with the Earth's atmosphere.

PMSA: Primary Metropolitan Statistical Area. The Houston PMSA is composed of 6 counties: Chambers, Fort Bend, Harris, Liberty, Montgomery, Waller.

Poverty line: the minimum level of income deemed adequate in a given country.

ppb: Parts per billion; a unit of concentration of chemical compounds in the atmosphere.

ppm: Parts per million; a unit of concentration of chemical compounds in the atmosphere.

Primary jobs: A primary job is a job which brings in new capital (money) to an area.

Street intersection density: The number of street intersection per unit area in a metropolitan area.

Subsidence from groundwater extraction: The sinking of land resulting from groundwater extraction.

Vehicle Miles Traveled (VMT): A measure of the extent of motor vehicle operation within a specific geographic area over a given period of time.

Urbanized Area (UA): Densely settled territory which consists of core census block groups or blocks that have a population density of at least 1,000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile. Less densely settled territory may be part of each UA as well.

Water availability: Describes the amount of water available for irrigation or consumption per person, per year in a region.

Wetland: Land area that is saturated with water, either permanently or seasonally, such that it takes on the characteristics of a distinct ecosystem.

µg: Microgram; unit of weight often used for small concentrations of contaminants.

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Appendix A – Experts and Advocacy Groups

RICE UNIVERSITY Shell Center for Sustainability

Experts and Advocacy Groups- City of Houston

Social Development Experts

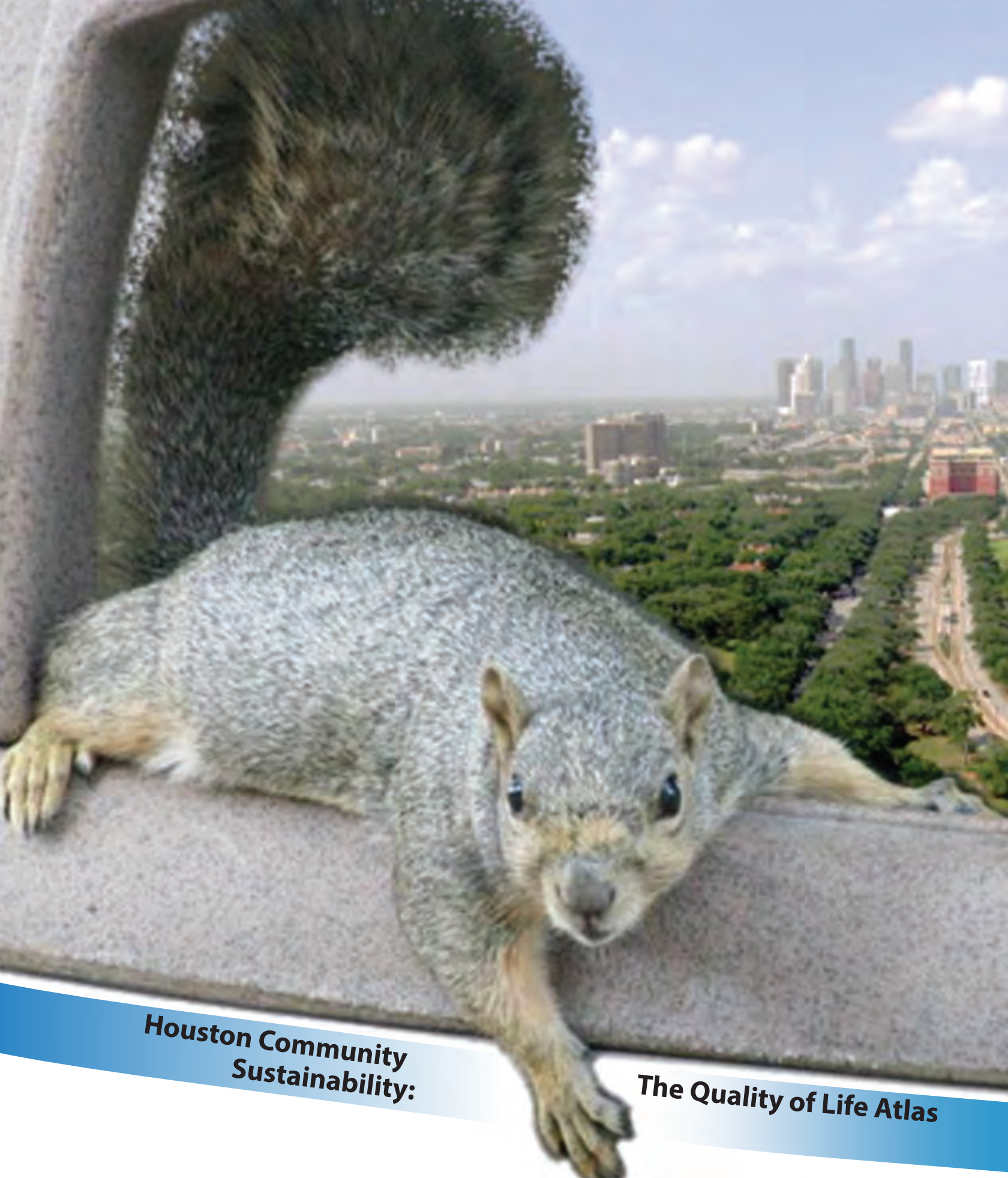
Michael Emerson, PhD	Rice University
Peter Brown	Former City Council
Robert Bullard, PhD	Texas Southern University
David Crossley	Houston Tomorrow
Marlene Gafrick	City of Houston Planning Director
Rocaille Roberts, PhD	Healthy Living Matters
Diane Schenke	Greater East End Management District
Laura Solitare, PhD	Texas Southern University

Economic Development Experts

Theresa DeBose	Centerpoint Energy
Gavin Dillingham, PhD	Houston Advanced Research
George Granias	METRO, Chief Executive
Carol Lewis, PhD	Texas Southern University
Qisheng Pan, PhD	Texas Southern University
Laura Spanjian	Houston Sustainability Director
Fred Welch	Greater Houston Partnership, VP

Environmental Development Experts

John Anderson, PhD.	Rice University
Phil Bedient, Ph.D.	Rice University
Jun Chang	City of Houston Public Works Deputy Director
Thomas Colbert	University of Houston
Aston Hinds, Ph.D.	Port of Houston Environmental Director
Jim Lester, Ph.D.	Houston Advanced Research
Brandt Mannchen	Sierra Club
Martin Melosi, Ph.D.	University of Houston
Jeff Taebel	Houston Galveston Area Council
Matt Tejada, Ph.D.	Air Alliance Houston



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