HOUSTON COMMUNITY SUSTAINABILITY

The Quality of Life Atlas

Executive Summary

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LESTER KING, PhD.


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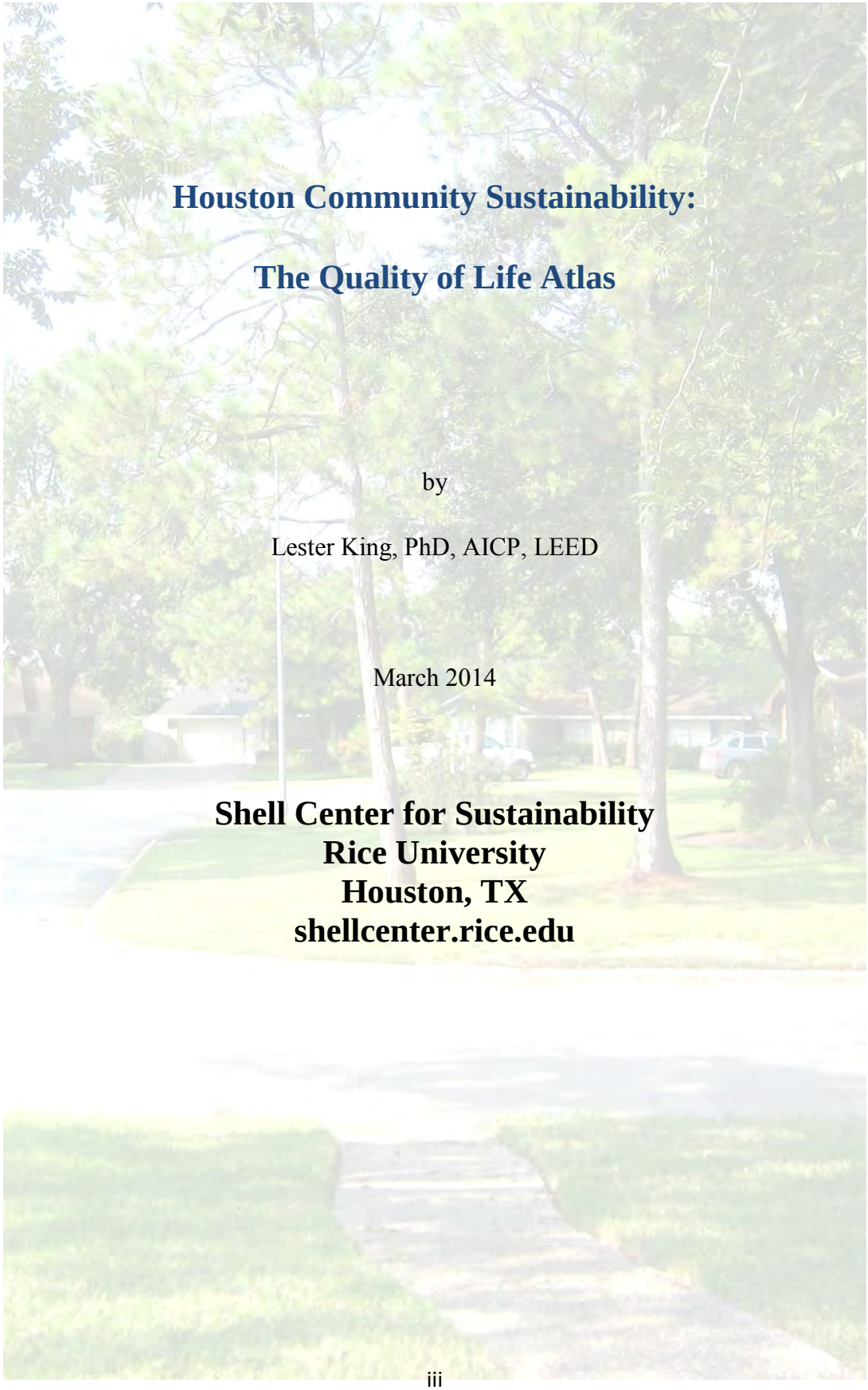
Hattie Mae White Educational Support Center
HOUSTON INDEPENDENT SCHOOL DISTRICT



Houston Community Sustainability:

The Quality of Life Atlas

by

Lester King, PhD, AICP, LEED

March 2014

Shell Center for Sustainability
Rice University
Houston, TX
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THE SHELL CENTER FOR SUSTAINABILITY, RICE UNIVERSITY

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Front cover illustration:

The cover features 27 elementary school kids walking home from school on a beaten path without a sidewalk. Some of them are pulling wheeled bags, so on rainy days, their bags and shoes will probably become muddied. These students have to cross a gas station, avoiding incoming and outgoing cars. Programs such as 'Safe Routes to School', help to ensure that routes leading to and from school have kids in mind if they have to navigate dangerous and inhospitable land uses. Somethings as simple as adding sidewalks, goes a long way in keeping our kids safe.

In the background is the beautiful skyline of downtown Houston where students may eventually find lucrative jobs. At the very least an Associate's degree may be the required threshold for entry into white collar jobs to be found in downtown Houston , such as clerical staff. Therefore 18 of those kids pictured on the front cover will not hold white collar jobs such as to be found in downtown Houston (Pg 13). Of these 18 kids not working in downtown Houston, six of them will be in poverty (Pg. 25).

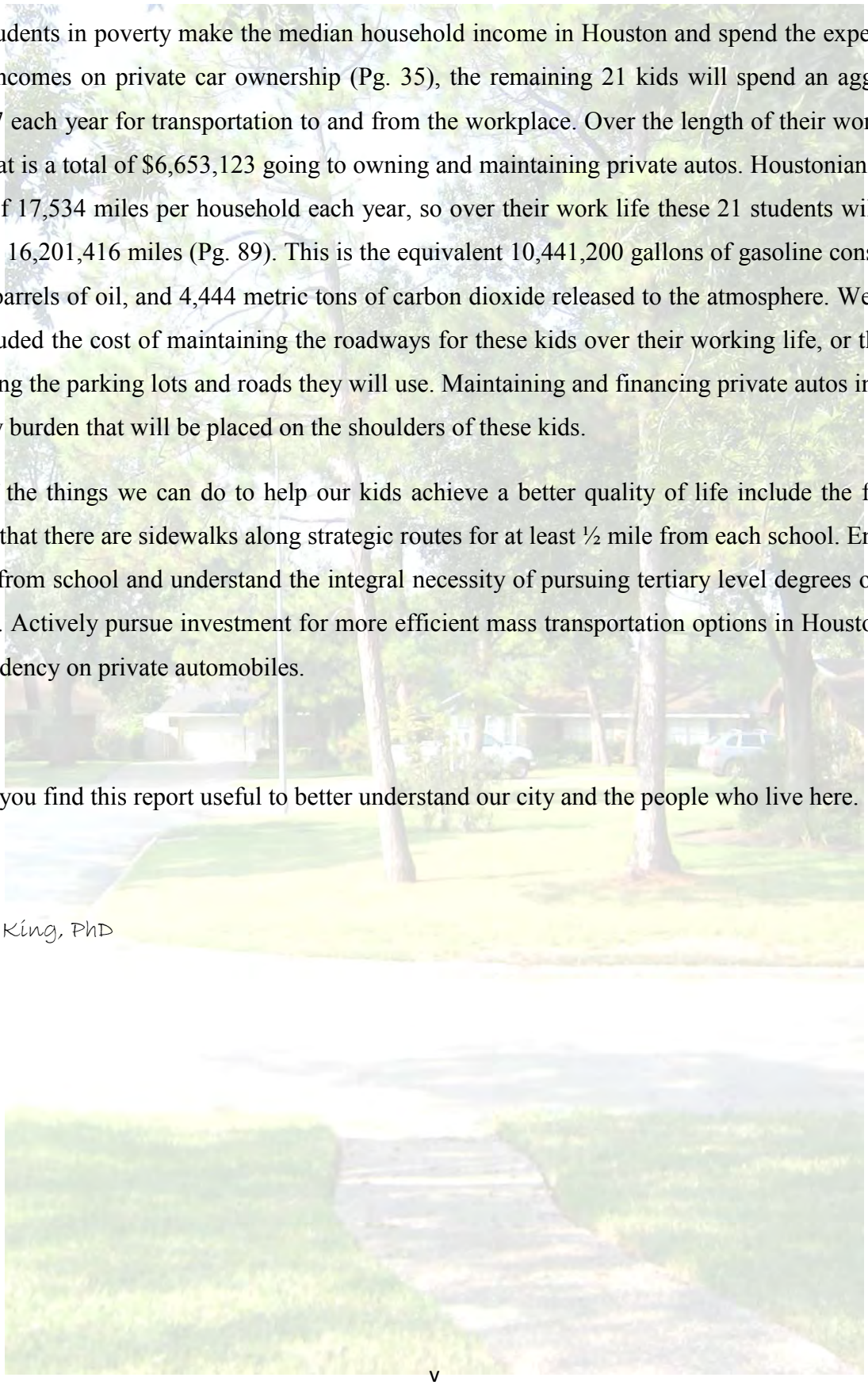
Of the 27 students in the prior photograph, only 1 will take public transportation to work (Pg. 93), although according to local survey results 12 of them would prefer public transit. Assuming all except

the six students in poverty make the median household income in Houston and spend the expected 17% of their incomes on private car ownership (Pg. 35), the remaining 21 kids will spend an aggregate of $151, 207 each year for transportation to and from the workplace. Over the length of their work life (44 years), that is a total of $6,653,123 going to owning and maintaining private autos. Houstonians drive an average of 17,534 miles per household each year, so over their work life these 21 students will drive in aggregate 16,201,416 miles (Pg. 89). This is the equivalent 10,441,200 gallons of gasoline consumed, or 216,216 barrels of oil, and 4,444 metric tons of carbon dioxide released to the atmosphere. We have not even included the cost of maintaining the roadways for these kids over their working life, or the cost of maintaining the parking lots and roads they will use. Maintaining and financing private autos in Houston is a heavy burden that will be placed on the shoulders of these kids.

A few of the things we can do to help our kids achieve a better quality of life include the following. Ensuring that there are sidewalks along strategic routes for at least ½ mile from each school. Ensure they graduate from school and understand the integral necessity of pursuing tertiary level degrees or training programs. Actively pursue investment for more efficient mass transportation options in Houston to curb the dependency on private automobiles.

We hope you find this report useful to better understand our city and the people who live here.

Lester O. King, PhD

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Acknowledgements

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Executive Summary

In order for citizens, analysts and elected officials to successfully pursue the sustainable development of the City of Houston, a robust set of indicators are needed to identify those issues that are integral to sustainable development and measure progress toward managing those issues. Sustainable development indicators, by definition, are distinct from traditional performance metrics in that they are value laden with sustainability principles and themes and a growing sustainability knowledge base.

Sustainability principles and themes include: ensuring balance among the pillars of sustainability (social, economic and environmental awareness); comprehensiveness; reliability and validity, timeliness and sensitivity. The interconnectedness of the various systems of city development is also an important principle of sustainability.

Super Neighborhoods in Houston are administrative areas similar in composition to what would more universally be referred to as communities. These communities are composed of several neighborhoods, called subdivisions in Houston (Subdivisions in Houston are exclusively composed of houses, with very few exceptions). The Super Neighborhood is an excellent model in Houston for planning purposes, since they capture housing, services, transportation and other local land uses in one area. Therefore analysis of sustainable development at the Super Neighborhood level is representative of the types of social, economic and environmental patterns throughout various communities in Houston. Analyzing the city at this level, brings the effects and impacts closer to the residents and captures the dynamics of community development. Breaking the issues into a community by community analysis creates more opportunities for empowerment of residents who require resources to aid in the articulation of their needs.

Indicator measures used in this study were analyzed to determine whether there were correlation patterns of significance. Significant correlations between indicators were identified as groups and referenced in the report. These groups represent social, economic and environmental interrelations among the Super Neighborhoods in Houston. The groups can be described as representing related processes and phenomena of sustainable development and as such are a reliable way to identify the 'Big Trends' in Houston. Super Neighborhoods were ranked according to these groups as a useful measure of performance on how Super Neighborhoods compare to the 'Big Trends' in the city. These rankings are presented in the conclusion of the report.

The study is primarily intended to assist citizens, staff analysts, and decision makers to address the question, ***'How are Houston Super Neighborhoods developing with regards to sustainability?'***

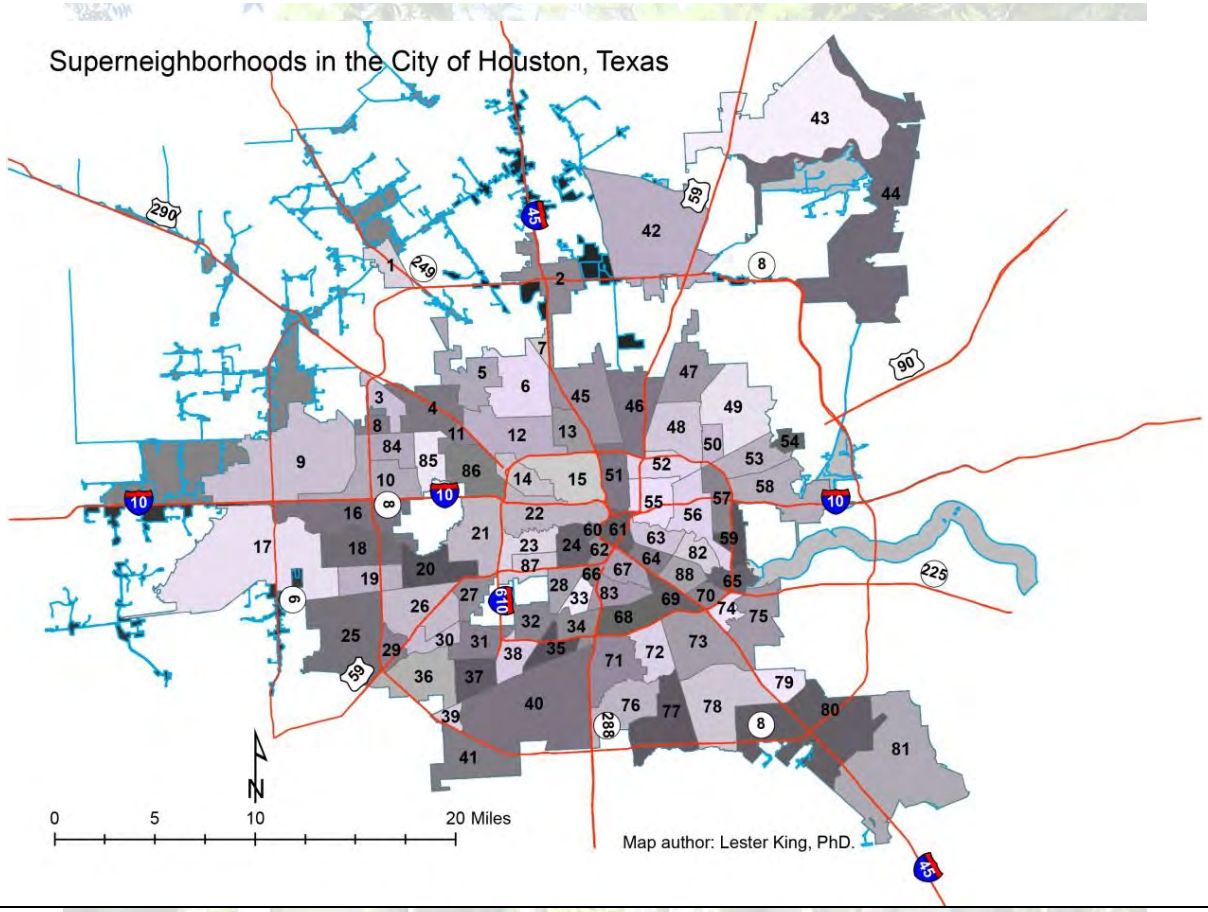
Other titles in this series on sustainable development indicators published by the Shell Center for Sustainability:

- Sustainable Development of Houston Districts: The Health of the City (King, 2013)
- Houston Sustainability Indicators: A Comprehensive Development Review for Citizens, Analysts and Decision Makers (King, 2012).
- Measuring City Sustainability: Project Houston (Blackburn, 2010).

Table 1: Super Neighborhoods Ranking: Table shows the top 5, bottom 5 and average performing Super Neighborhoods. Green to red indicates High rank to Low rank in sustainability. The Min score is either High rank or Low rank in sustainability based on the indicator. Example is Min score for 'Poverty' is High rank in sustainability vs Min 'Voting' score is Low rank in sustainability.

Measure		Super Neighborhood Performance				O	O	O	O	O	O	O	O	O	O	O
		Min	Average	Max		Green High Rank	⇐				City Average			⇒		Red Low Rank
Social Development						**Super Neighborhood ID #s (Check Pg.xi for names)**										
PopGrowth	%	-5	1	32		77	52	51	48	82	30	17	81	2	40	43
Graduate Degrees	%	0.3	8	32		56	50	46	45	70	12	23	32	87	34	28
Voting	%	0.1	7	24		41	9	29	27	1	67	76	28	83	31	57
Poverty	%	4	23	48		23	43	16	28	87	34	50	52	67	55	29
Ave Spending on Health	$	1,551	3,496	9,621		29	2	27	55	52	83	44	43	28	16	23
HousingCost > 30%Income	%	13	30	44		27	39	14	53	31	62	2	77	41	25	54
Pop 1/4 mile to Parks	%	0	41	100		54	1	42	78	77	47	88	22	33	9	60
Pop in Food Deserts	%	0	36	100		87	62	34	32	79	33	54	43	39	77	50
Economic Development						**Super Neighborhood ID #s (Check Pg.xi for names)**										
Unemployment	%	1	10.0	26		66	23	39	28	34	40	71	50	76	77	53
Primary Jobs	%	2	19	55		60	7	50	18	39	10	66	34	3	8	33
Median Household Income	$	18,386	42,355	106,079		67	55	77	13	52	34	44	16	43	23	28
Housing 1/4 mile to Jobs*	%	0	26	100		6	40	59	56	49	15	87	60	33	62	66
Poor Streets	%	2	20	57		59	39	77	54	47	51	8	41	18	84	60
Pop 1/4 mile to Bus Stops	%	0	68	100		54	44	43	9	79	72	83	27	60	62	24
Vehicle Miles Traveled	#	11,689	17,974	26,661		66	62	33	28	60	13	53	42	54	43	44
Pop using Transit	%	0	5	19		54	42	53	39	7	56	52	61	50	34	67
Environmental Development						**Super Neighborhood ID #s (Check Pg.xi for names)**										
** Air - AQI - Ozone	#	72	78	81		50	48	49	53	78	34	20	31	26	27	30
Water-Household (ac ft/y)	#	154	1,953	7,205		8	39	54	53	57	29	81	17	26	21	25
Flooding-Pop in FloodZone	%	0	20	86		64	62	66	35	68	80	32	52	9	30	31
Land: High Intensity**	%	0	23	67		44	54	9	43	76	67	87	34	62	27	61
Land Use Mix (index)	#	523	1,854	9,222		61	44	66	39	2	49	17	42	57	9	41
Land - Commercial	%	0	6	30		8	54	60	41	44	79	29	27	87	1	7
Land - MultiFamily	%	0	6	30		8	41	59	50	74	10	60	19	29	20	27
Land - SingleFamily	%	0	23	51		60	35	41	34	1	75	37	23	12	18	31

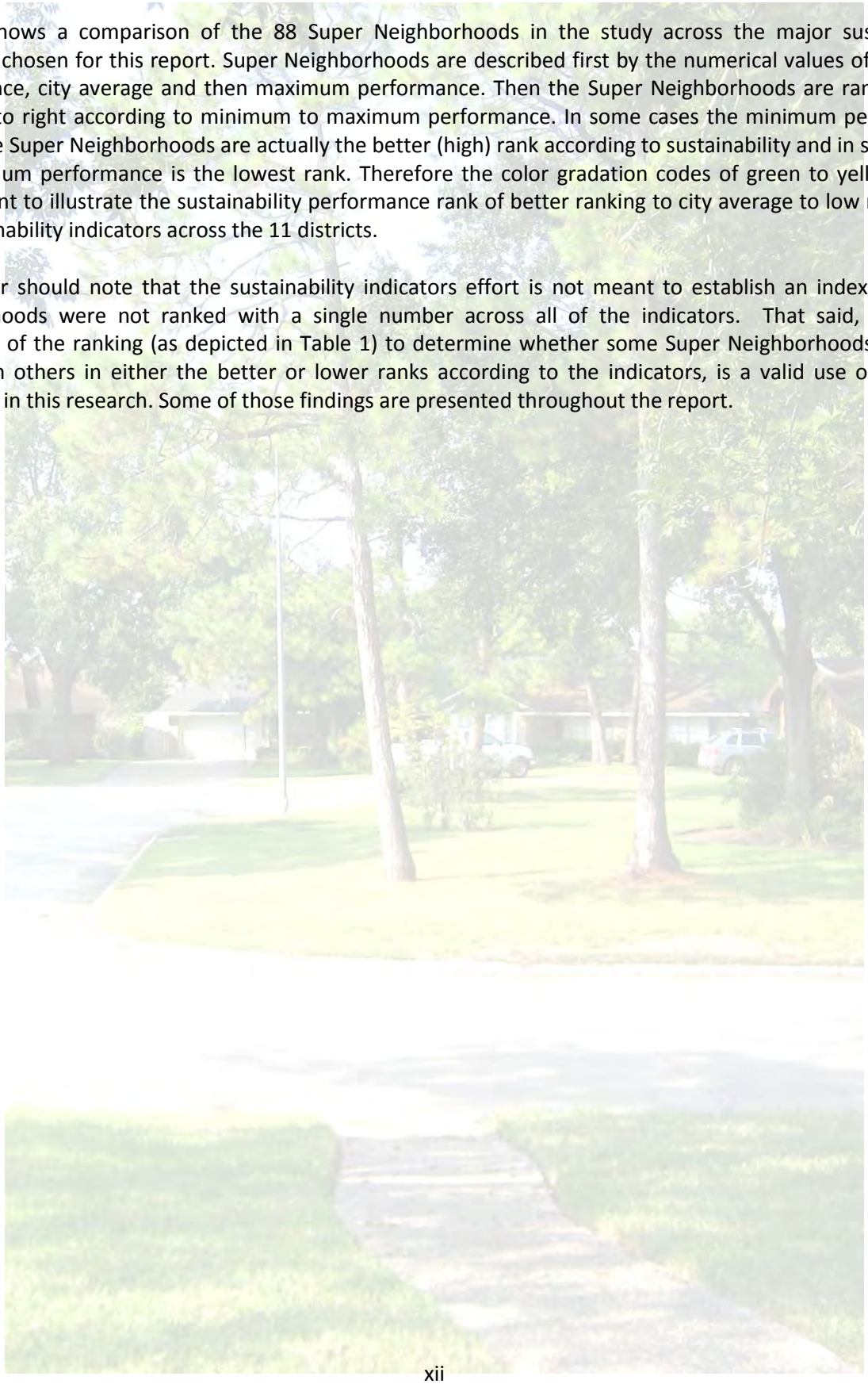
*Forty-one neighborhoods had 0 housing units in business centers ***Unclear whether the high percentages on this indicator are good or bad trend towards sustainability.



Super Neighborhoods in Houston					
1	WILLOWBROOK	31	MEYERLAND AREA	61	DOWNTOWN
2	GREATER GREENSPOINT	32	BRAESWOOD PLACE	62	MIDTOWN
3	CARVERDALE	33	MEDICAL CENTER AREA	63	SECOND WARD
4	FAIRBANKS / NORTHWEST CROSSING	34	ASTRODOME AREA	64	GREATER EASTWOOD
5	GREATER INWOOD	35	SOUTH MAIN	65	HARRISBURG / MANCHESTER
6	ACRES HOME	36	BRAYS OAKS	66	MUSEUM PARK
7	HIDDEN VALLEY	37	WESTBURY	67	GREATER THIRD WARD
8	WESTBRANCH	38	WILLOW MEADOWS / WILLOWBEND AREA	68	OST / SOUTH UNION
9	ADDICKS PARK TEN	39	FONDREN GARDENS	69	GULFGATE RIVERVIEW / PINE VALLEY
10	SPRING BRANCH WEST	40	CENTRAL SOUTHWEST	70	PECAN PARK
11	LANGWOOD	41	FORT BEND / HOUSTON	71	SUNNYSIDE
12	CENTRAL NORTHWEST	42	IAH / AIRPORT AREA	72	SOUTH PARK
13	INDEPENDENCE HEIGHTS	43	KINGWOOD AREA	73	GOLFCREST / BELLFORT / REVEILLE
14	LAZY BROOK / TIMBERGROVE	44	LAKE HOUSTON	74	PARK PLACE
15	GREATER HEIGHTS	45	NORTHSIDE/NORTHLINE	75	MEADOWBROOK / ALLENDALE
16	MEMORIAL	46	EASTEX - JENSEN AREA	76	SOUTH ACRES / CRESTMONT PARK
17	ELDRIDGE / WEST OAKS	47	EAST LITTLE YORK / HOMESTEAD	77	MINNETEX
18	BRIARFOREST AREA	48	TRINITY / HOUSTON GARDENS	78	GREATER HOBBY AREA
19	WESTCHASE	49	EAST HOUSTON	79	EDGEBROOK AREA
20	MID WEST	50	SETTEGAST	80	SOUTH BELT / ELLINGTON
21	GREATER UPTOWN	51	NORTHSIDE VILLAGE	81	CLEAR LAKE
22	WASHINGTON AVENUE COALITION / MEMORIAL PARK	52	KASHMERE GARDENS	82	MAGNOLIA PARK
23	AFTON OAKS / RIVER OAKS AREA	53	EL DORADO / OATES PRAIRIE	83	MACGREGOR
24	NEARTOWN - MONTROSE	54	HUNTERWOOD	84	SPRING BRANCH NORTH
25	ALIEF	55	GREATER FIFTH WARD	85	SPRING BRANCH CENTRAL
26	SHARPSTOWN	56	DENVER HARBOR / PORT HOUSTON	86	SPRING BRANCH EAST
27	GULFTON	57	PLEASANTVILLE AREA	87	GREENWAY / UPPER KIRBY AREA
28	UNIVERSITY PLACE	58	NORTHSHORE	88	LAWNDALE / WAYSIDE
29	WESTWOOD	59	CLINTON PARK TRI-COMMUNITY		
30	BRAEBURN	60	FOURTH WARD		

Table 1 shows a comparison of the 88 Super Neighborhoods in the study across the major sustainability indicators chosen for this report. Super Neighborhoods are described first by the numerical values of minimum performance, city average and then maximum performance. Then the Super Neighborhoods are rank ordered from left to right according to minimum to maximum performance. In some cases the minimum performance among the Super Neighborhoods are actually the better (high) rank according to sustainability and in some cases the minimum performance is the lowest rank. Therefore the color gradation codes of green to yellow to red were meant to illustrate the sustainability performance rank of better ranking to city average to low ranking on the sustainability indicators across the 11 districts.

The reader should note that the sustainability indicators effort is not meant to establish an index, so Super Neighborhoods were not ranked with a single number across all of the indicators. That said, the visual inspection of the ranking (as depicted in Table 1) to determine whether some Super Neighborhoods fall more often than others in either the better or lower ranks according to the indicators, is a valid use of the data presented in this research. Some of those findings are presented throughout the report.

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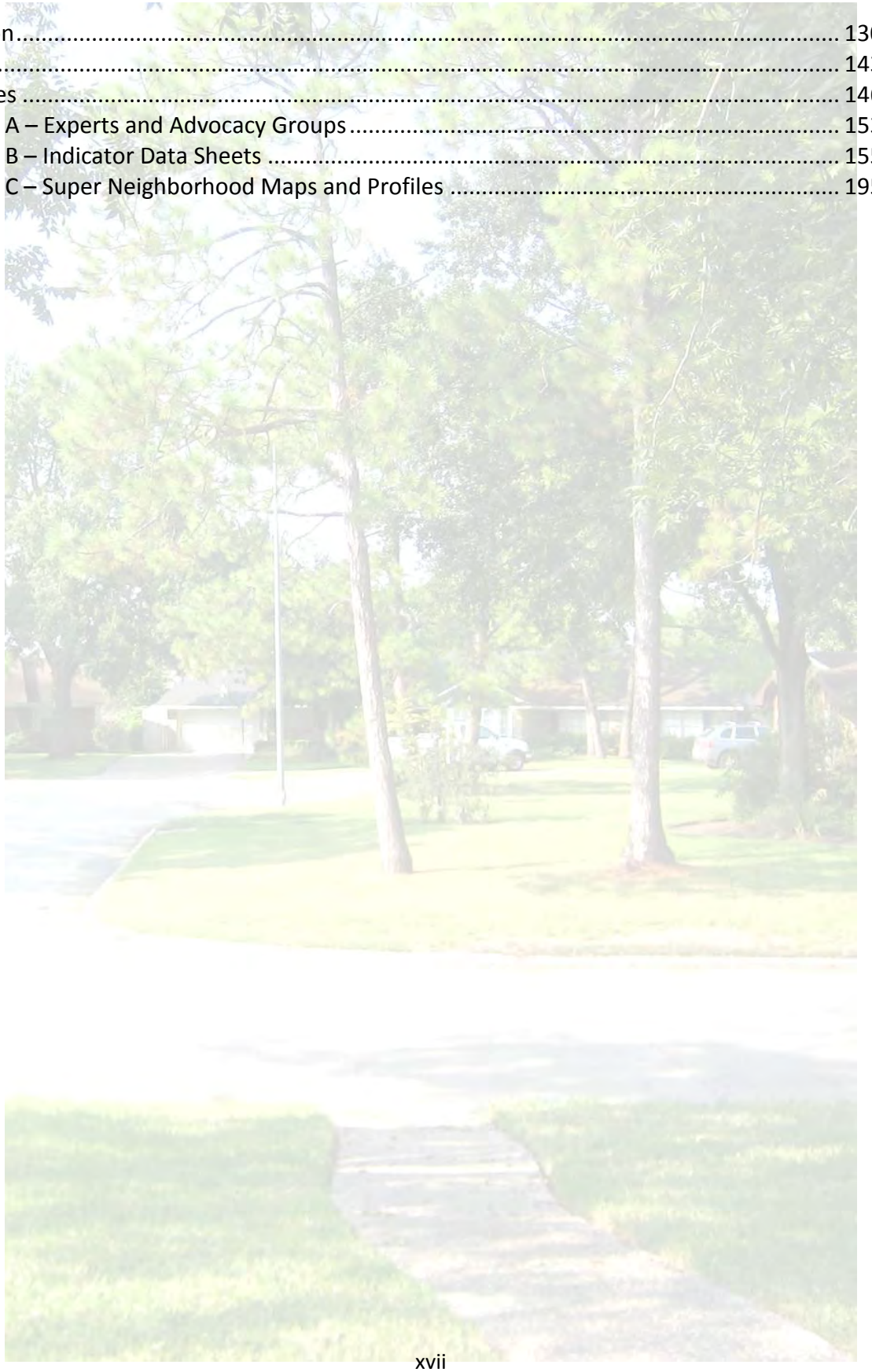

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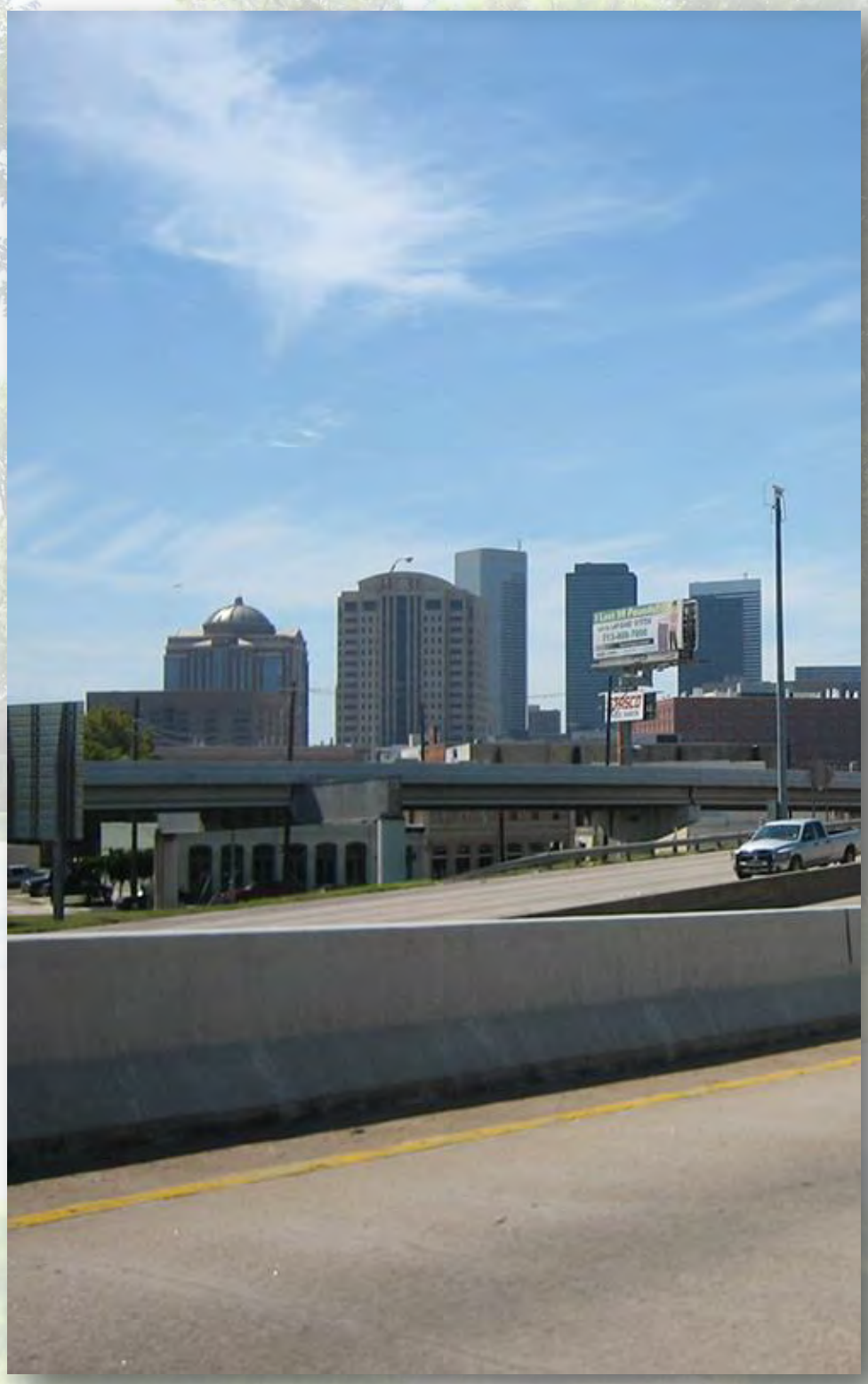

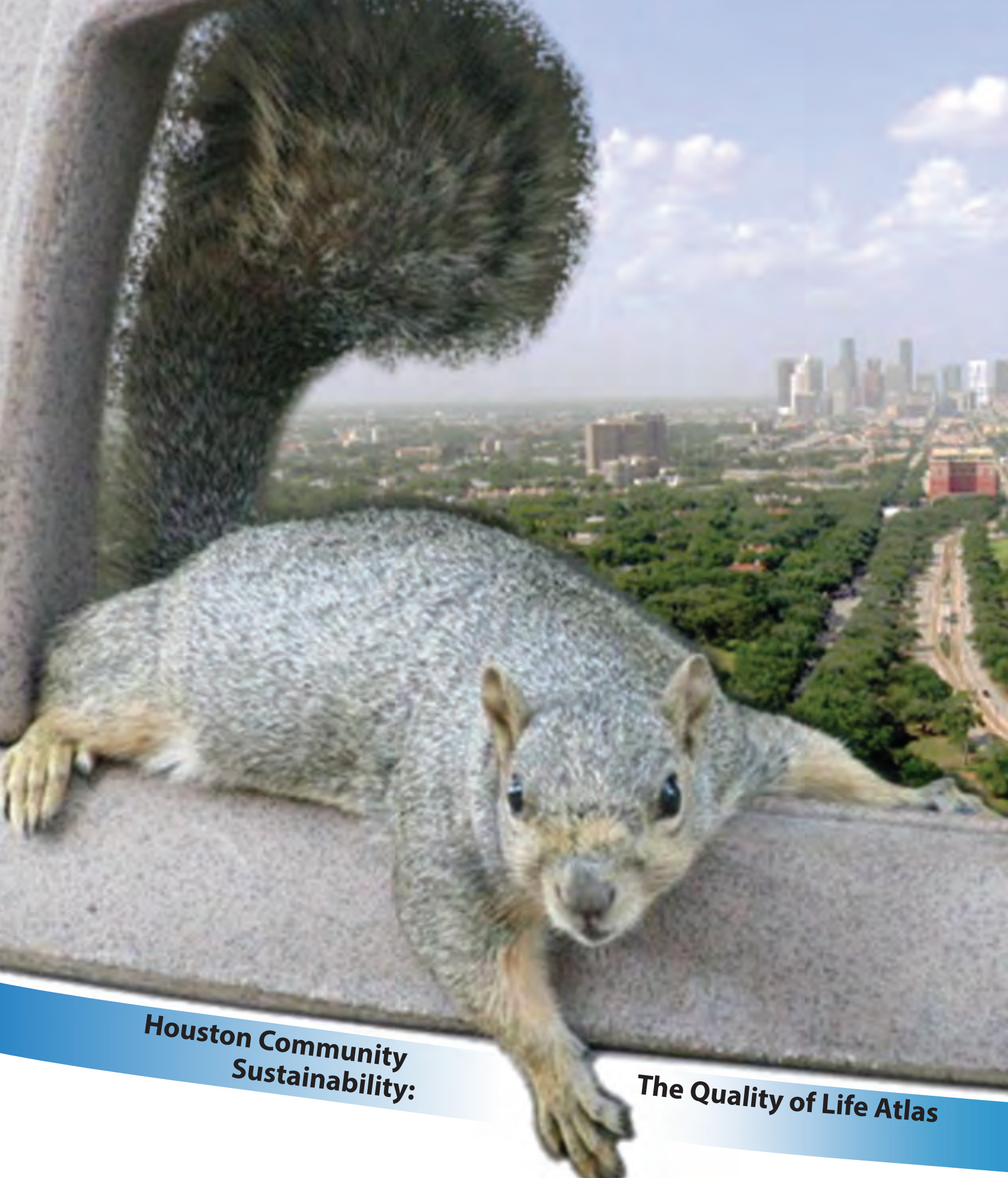

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