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## IS HOUSTON TURNING GREEN?

DOI: <http://dx.doi.org/10.2478/v10089-009-0008-z>

**ABSTRACT.** Houston metropolitan area is ranking now the 6th largest in the US, with a growth of 1 million people in 8 years. Despite its success story, Houston suffers from a long-standing environmental bad press. The city is well known for its lack of zoning. However, Houston officials display considerable efforts to “green” their city and improve its reputation. This new policy orientation raises interesting research questions about its effective adaptive capacity to the emerging pattern of sustainable development. This paper aims at assessing the strength and weaknesses of Houston metro area in the framework of the requirements of sustainable development.

**KEY WORDS:** Houston, booming city, sustainable development, urban sprawl.

### INTRODUCTION

Houston, TX is often fabled as the “no-planning” city in the existing urban planning literature of the US. Though, this reputation is not completely deserved, Houston is puzzling professional Geographers and Urban planners for long. Under Saskia Sassen deep influence (Sassen, 2001), the conventional wisdom in urban studies focuses nowadays on “amenities”, upscale development, “New Urbanism”, “global cities” and the “creative class”; all aspects that do not particularly qualify Houston. However, in the current economic downturn and at the difference of universally praised-places like San Francisco, Houston seems to be immune to the economic woes that afflict most other US metropolises. Joel Kotkin coined the concept of “Opportunity Urbanism” (2007) to describe the policy mix that is supposed to underlie this success. The first and most obvious fact about Metro Houston, is that it added 1 million people to its population from 2000 to 2008, reaching the 6<sup>th</sup> rank on the US CBSA list. That is only the

latest episode of a success-story starting with its foundation in 1836. Since 1901, Oil is the main ingredient of its growth recipe. The city “where government’s business is business” (Klineberg, 2002) has long suffered from an ill repute of poor amenities and low environmental standards. Elected in 2003 and serving currently his 3<sup>rd</sup> and final term, democratic mayor “Bill” White has put the emphasis on environment, particularly since his first re-election in 2005. Surfing on the increased environmental public awareness, Mayor White is committed to “green” its city. The main goal of this paper is to discuss this policy and its underlying basics, how far it succeeded, and to what extent the city has changed so far. We put forth the argument that Houston falls far from the mark to become a Sustainable City. The first and foremost reason of these shortcomings is related to the booming population growth that requires constant new urban developments and infrastructures. Nevertheless, Houston manages to be a liveable city, avoiding the pitfalls of the housing bubble and burst that afflicted most American metropolises in recent years. But this has a price: an unlimited sprawl which thwart the current “greening” policy. Nowadays, the economic bright side of the Houston’s coin is balanced by worrying environmental concerns.

### THE BOOMING “ENERGY CAPITAL” OF THE USA

Texas was a remote and scarcely populated northern province of the Spanish American empire until the Mexican independence of 1821. In an attempt to attract settlers and develop the province’s economy, the Mexican government granted land to foreign “empresarios” after 1824. Yankee cotton-planters settled the eastern Texas plains in a few years and eventually rebelled against the Mexican rule (1829). Houston was founded on the Buffalo Bayou banks by the Allen brothers in 1836, just 45 miles inland from the Gulf of Mexico. The new city was named after Sam Houston, the Texan leader who won the battle of San Jacinto, which was fought in the vicinity against the Mexican army. Being the temporary capital of the short-lived Republic of Texas, Houston managed to become the railway node of Eastern Texas between the State’s incorporation into the USA (1845) and the outbreak of the Civil War (1861). The city’s prosperity grew with the trade of cotton in the second half of the 19<sup>th</sup> century. Houston reached a population of nearly 45,000 according to the 1900 census. But Houston was still in concurrence with Galveston City, the nearby deep-draft sea port (37,000 inhabitants in 1900) until the September 1900 hurricane.

The turn of the 20<sup>th</sup> century saw Houston taking benefit from the early Texan oil boom with the first oil-rig in Spindletop, near Beaumont (1901). After Galveston was devastated, President T. Roosevelt approved the opening of the Houston

Ship Channel, a deep-draft canal opening the port of Houston to sea-vessels. The channel was finally inaugurated in 1914, and Houston stole Galveston most of its port activity, strengthening its prominent role as the trade and transportation hub of Eastern Texas. Approaching 300,000 people in 1930, Houston ranked 26<sup>th</sup> in the US city’s list. Its economic base relied mostly on the Oil industry, which proved resilient to the Great Depression. Houston ranked 21<sup>st</sup> among US cities in 1940, and the ½ million people mark was overtaken shortly after the war. About the same time, Houston began to spread outside the city limits. As the US Census Bureau defined the metropolitan areas, Houston ranked already 16<sup>th</sup> in 1960 among US metropolises with over one million inhabitants (1,140,000). The oil boom peaked in the 1970’s with Houston attracting migrants from all over the USA. Metro Houston ranked 11<sup>th</sup> in 1980 with over 2.4 millions inhabitants. The oil bust of the 1980’s put temporarily a stop to this unbridled growth. However, growth resumed in the 1990’s, and Houston ranked 10<sup>th</sup> among the US metropolises in the 2000 census with little less than 4.7 millions inhabitants.

During the recent decades, Houston shifted from a commodity-trading based economy to a more diversified “knowledge-based” economy (Klineberg, 2002) and from a typical Anglo-Texan biracial southern city to a multicultural world-city. After an explosive growth during the entire 20<sup>th</sup> Century, the city has been entirely remodelled in the automobile age. Most of Houston’s urban fabric still rely on the Oil boom era legacy: small government, low taxes, business driven policies, no zoning, minimal transit. The result is a sprawling low-density urban pattern connected by freeways. At the turn of the Century, Houston’s sprawl index ranked 4<sup>th</sup> among the US. large cities according to the Surface Transportation Policy Project (US. Department of Transportation 1999), before the 1<sup>st</sup> light rail transit line was inaugurated in 2004.

### THE SUCCESS STORY OF AN “ELASTIC CITY”

Houston is viewed as a “conservative’s dream”: it works despite its unplanned explosive growth! This paradox is particularly sensible nowadays as the economic crisis seems to spare Houston. As Houston is growing, it is also changing rapidly, and is becoming an emerging multicultural society in less than a few decades.

#### *Explosive population growth*

Houston metropolitan area’s population grew at an average rate of +2.4% per year since the last decennial census (US average +1%). Migrations contribute to half of the population growth in recent years (Table 1).

Table 1. Population growth estimates by county 2000 – 2008

County	CENSUS 2000	Population estimates 2008	Natural increase rate	International migration rate	Domestic migration rate	Avg annual growth rate
Harris (inc. Houston)	3,400,578	3,984,349	1.3%	0.8%	-0.3%	1.8%
Fort Bend	354,452	532,141	1.2%	0.4%	3.7%	5.3%
Montgomery	293,768	429,953	1.0%	0.3%	3.6%	4.9%
Brazoria	241,767	301,044	1.1%	0.3%	1.6%	3.0%
Galveston	250,158	288,239	0.7%	0.3%	1.0%	2.0%
Liberty	70,154	75,333	0.5%	0.1%	0.2%	0.8%
Waller	32,663	35,995	0.8%	0.3%	0.1%	1.2%
Chambers	26,031	29,356	0.6%	0.2%	0.8%	1.6%
Austin	23,590	26,851	0.3%	0.2%	1.1%	1.6%
San Jacinto	22,246	24,882	0.2%	0.1%	1.1%	1.4%
<b>TOTAL CBSA</b>	<b>4,715,407</b>	<b>5,728,143</b>	<b>1.2%</b>	<b>0.7%</b>	<b>0.5%</b>	<b>2.4%</b>

Source: US Census Bureau, American Community Survey

The high natural increase rate (+1.2%/year vs. a national average of +0.6%) can be explained by the relative youth of Houston's population. Only 8.3% of the present population is over 64 years-old in the Houston metropolitan area versus a national average of 12.8% (Table 2). That's another consequence of decades of massive in-migration. Relatively high fertility rates in the Hispanic community (34% of Houston's population, national average of 15%) might be another component of the high birth rate.

Table 2. Houston ageing rates by county 2008

County	Pop estimates 2008	seniors over 65	ageing rate
Harris	3,984,349	316,399	7.9%
Fort Bend	532,141	35,277	6.6%
Montgomery	429,953	40,955	9.5%
Brazoria	301,044	27,714	9.2%
Galveston	288,239	30,858	10.7%
Liberty	75,333	8,298	11.0%
Waller	35,995	3,651	10.1%
Chambers	29,356	2,808	9.6%
Austin	26,851	3,910	14.6%
San Jacinto	24,882	4,136	16.6%
<b>Total CBSA</b>	<b>5,728,143</b>	<b>474,006</b>	<b>8.3%</b>

Source: US Census Bureau, American Community Survey

Even though the figure is dropping during the decade, international migrations bring between 40,000 and 30,000 new inhabitants to metro Houston every year, more than 85% of which settle in Houston City proper. The relative importance of international migration in the population change decreases for the least populated suburban counties. Domestic migration rates display a continued transfer of population from Houston City to the surrounding suburban counties. Fort Bend to the south-west and Montgomery to the north are the favourites destinations of these new suburbanites. On the whole, Houston metropolitan area is still attractive for US residents. The gain is over 190,000 people between 2000 and 2008, but about half of this figure came in a few months after Hurricane Katrina devastated New Orleans, LA. Houston displays a surplus of nearly 89,000 in his domestic migration figure between July,1 2005 and July,1 2006. This net transfer of population was not followed by an equivalent return-migration to New Orleans in the consecutive years. Local officials consider that more than 75,000 New Orleans' evacuees, mostly African-Americans have resettled in Houston, made a living and are about to stay. Houston's economics was dynamic enough to absorb this sudden influx of population without too much problems at this time.

#### *Towards a multicultural world-class urban society*

Houston is one of the major gateways of foreign immigration into the USA. At the difference of the Oil boom era of the 1960's and 1970's, Houston no longer attracts mostly Anglo-Americans from other regions of the USA, but lures an increasing number of Latinos, and some Asian newcomers since the 1980's. By 1980, only 15% of Harris County population (2.4 millions) was Hispanics and only 2% Asian. By 2008, these two minority groups approached 45% of the 4 million inhabitants (Table 3). In the early years of the 21<sup>st</sup> Century, Houston has joined world-class cities like New York, Los Angeles, Chicago or Miami to become one of America's premiers multi-cultural metropolises.

Table 3. Harris County population broken by "communities"

CENSUS	c1960	c1970	c1980	c1990	c2000	2008e	2008e index (1980=100)
Total Population	1,243,258	1,741,912	2,409,547	2,818,199	3,400,578	3,984,349	165
Non-hispanic whites	73.9%	69.2%	62.6%	53.7%	42.5%	36.0%	95
Non-hispanic blacks	19.8%	20.1%	19.6%	19.2%	18.3%	17.9%	151
Hispanics	6.0%	9.0%	15.3%	22.8%	32.9%	39.3%	424
Non-hispanic asians	0.3%	0.8%	2.1%	4.1%	5.2%	5.4%	425

Source: US Census Bureau, decennial censuses SF1, American community survey (2008 estimates)

The main question related to this increasing diversity is how far minorities gain access to higher education and well paid jobs. Houston has to avoid economic polarization along ethnic lines. That implies enforcing targeted education policy to reduce the minorities' educational gap, particularly for the large group of new Hispanic immigrants.

Suburban counties display less diversity because they were first settled by Anglos filtering out of Houston City (Fig. 1). However, the larger the urban growth, the more diverse becomes the population, as one can observe southwest of Houston in Fort Bend county nowadays. The Anglo dominance is also shrinking in the suburbs.

*Relative economic performance*

After the second full year of continuous economic recession, three years after the outbreak of the subprime crisis and one year after the financial meltdown of September 2008, large swaths of the Sunbelt, particularly metropolitan areas in Florida, Arizona, Nevada, and California, have suffered severe employment, output, and home value declines over the past year due to the broader housing fallout. Yet parts of the Southwest and Deep South—including metro areas in New Mexico, Texas, Oklahoma, Arkansas, and Louisiana—have performed relatively well, experiencing less severe job losses, relatively large wage gains, and modest home price increases. Specializations in energy and government, large amounts of federal hurricane recovery funding for the Gulf Coast, and smaller increases in housing prices during the early and mid-2000's may all help to account for their better performance. Houston is one of these leading metropolises that manage to “ride out” the economic crisis so far. With an unemployment rate of 8% in June 2009 versus a national average of 9.7%, Houston manages to curb the worst effects of recession and ranks nowadays in the top-tier of US metropolises.

**POLICY CHALLENGES FOR HOUSTON**

According to some Texan observers, the secret recipe of Houston's resilience to the economic crisis is plenty of land available for growth and little or no planning regulations. We have to investigate deeper this point. Naturally, transportation woes is the weak spot of such an unbridled urban expansion. David Rusk (1995) used Houston as an example of the “elastic city”, which is supposed in his view to cope with the urban crisis related to sprawl. We will examine also this other important point.

*Real estate and housing market.*

Houston has a longstanding tradition of low taxes and inexpensive housing (Fig. 2). As the population grew over the years, construction met demand, making Houston one of the most affordable major metropolis in the US. According to the

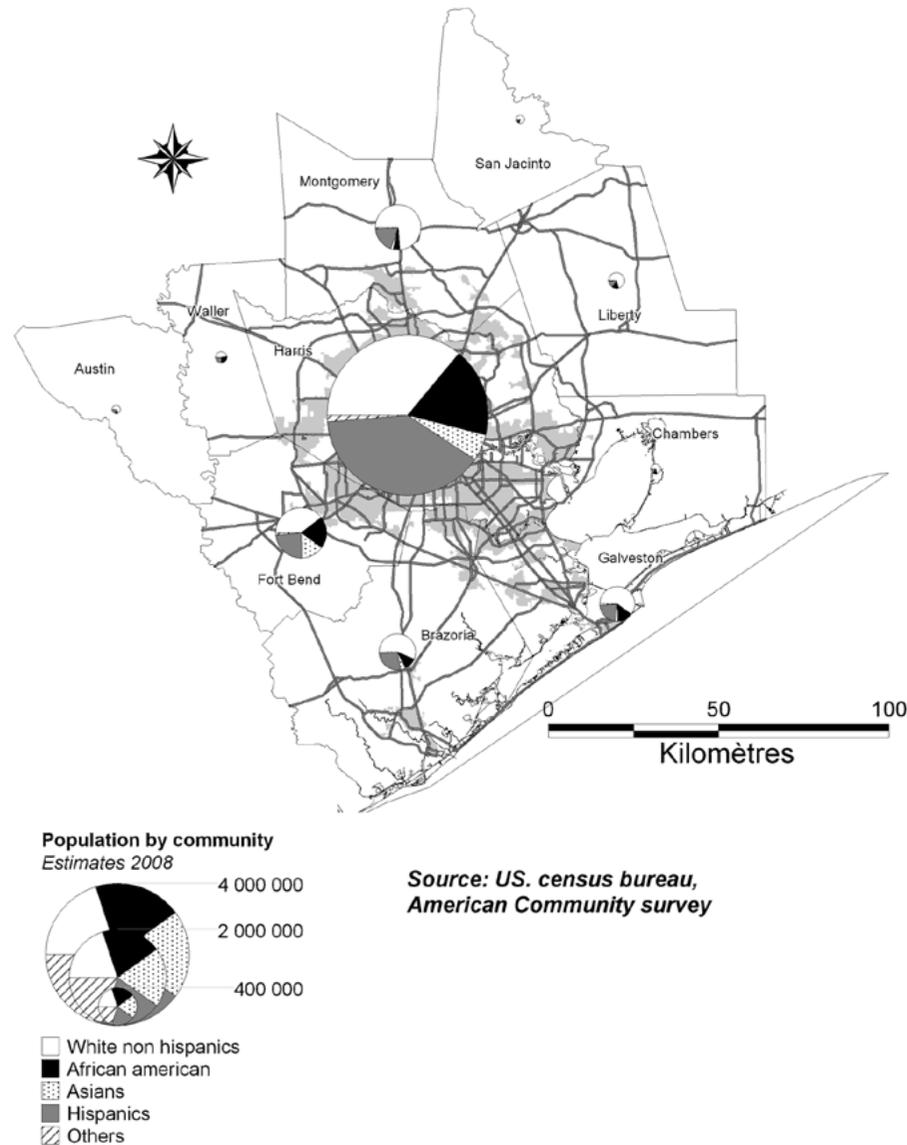


Fig. 1. Houston population estimates July 2008

decennial census, Houston's average owner-occupied home value for 1999 was only 72% of the national metro's average (compare with San Francisco 280%!). From 2000 to 2006, the housing bubble raged nationwide, fuelled by subprime mortgages. Prices more than doubled, except in a few metropolises in the South and in the Rustbelt. The increase was only +35% in Houston between January 2000 and May 2006 versus a national average over +106%. As the housing bubble was beginning to deflate, Houston's prices kept rising until June 2008, before turning down moderately in the second semester of 2008. A slight increase can be observed in the first semester of 2009.

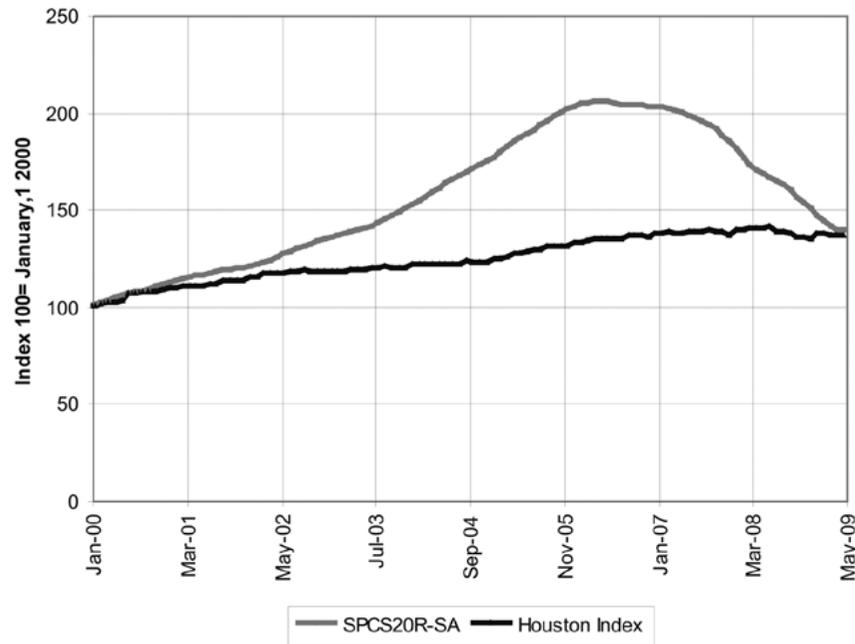


Fig. 2. Detached one-family home average price index (Housing price history 2000–2009)

Sources: Standard & Poors & Houston Association of Realtors

Nowadays, Houston is still the most affordable of the top 20 US metropolises, According to our own calculation based on the S&P composite 20 index, which does not include Houston, and data published by the *Houston Association of Realtors*. In May 2008, a report from the Federal Reserve Bank of Dallas argued that Houston succeeded because of its lack of zoning. From an economic perspective, this report argues, zoning laws work as a constriction of supply,

which played a role in the outbreak of the current economic crisis, when the housing bubble was followed by the collapse of the mortgage market. This report was widely publicized, and fuelled a renewed local controversy about urban planning. For many Texans, the current Californian economic woes make proof that their small government, free enterprise spirit and urban *laissez-faire* tradition is right. However, this overlooks some basic facts: housing markets were always cheaper in the South than on the Pacific Coast. There are no major geographical constraints for development in the Houston's plains at the difference of San Francisco bay for instance. Texan households purchasing power is much lower than Californian's. In 1999, the median household income in Houston stood only 75% of the national average versus 104% in San Francisco. Sprawl is an unintended consequence of the combination of population growth, and urban *laissez-faire* (Lewyn, 2005). From 2000 to 2008, the housing stock has increased of +23% in Houston metropolitan area. The growth is of +21% in Harris County (where is located 71% of the metropolitan area's total housing stock) and the figure reaches +34% in Fort Bend county. We have no estimate for the current vacancy rate, but we can compare the total population growth to the housing stock growth. Population rose +26% as the Housing stock rose of +16% from 1990 to 2000. Population rose +21% as the Housing stock rose +23% from 2000 to 2008. This leads inevitably to urban sprawl, because Houston actually enforces building regulations. Although the city of Houston does not have zoning, it does regulate land use in a variety of ways including minimum lot sizes, and other directives that have a profound impact on land use patterns. Until 1998, Houston's city code provided that the minimum lot size for detached single-family dwellings was 5,000 square feet, which means that single-family areas in Houston could have no more than 8.7 houses per acre.

Until 1998, Houston's government made it virtually impossible for developers to build large numbers of non-detached single-family homes such as townhouses, by requiring townhouses to sit on at least 2,250 square feet of land. That is a very large tract of land (e.g. Toronto 390 sq. ft, Dallas 647 sq. ft.). This regulation has been changed nowadays to adapt to the neighbourhood existing density inside the I-610 loop. That is the minimum lot size standard currently met by at least 70% of the application area. Applications from City designated Historic Districts use the slightly lower threshold of 60%. By establishing this standard, lots cannot be subdivided below the "special minimum" lot size in the designated area. This leads to a slight intensification of land-use in recent years. This regulation has been further relaxed for some new condominium development programs. The success of these new condominium development ignited a controversy over the violation of the minimum lot size ordinance.

### *Transportation*

Houston deserves its longstanding reputation of small-government, that means minimum taxes and minimum services. Public transportation is a weak spot of Houston's region. The density profile of the metropolitan area is very flat with 12 inhabitants/ha in the city-centre and only 11 inhabitants/ha for the entire city according to the 2000 census, very far from the profitability threshold for light public transportation of 30 inhabitants/ha. Public transit thus accounted for a mere 3.8% of person trips in the 2000 census. Urban mobility relies almost exclusively on the network of freeways and highways. Houston's freeway system includes 575 miles (926 km) of freeways and expressways in the 10-county metro area. The Greater Houston area has a radial and beltway freeway structure with multiple loops. The innermost is I-610, forming approximately a 10-mile diameter loop around downtown. The next loop is constituted of Sam Houston Tollway, at a diameter of roughly 25 miles. A proposed project, "The Grand Parkway", would form a third loop outside of Houston. Currently, only a portion of it is completed north of Sugar Land. This new highway construction triggers new waves of sprawl westward. The State of Texas spent over \$5 billion on Houston area highways between 2002 and 2007. Houston freeways are heavily travelled and often under construction to meet the demands of continuing growth.

Local government try to encourage carpooling with dedicated HOV (1) lanes, but this is not enough to absorb the ever growing traffic. A recent report released by the Texas Transportation Institute stated that Houstonians wasted an average of 56 hours stuck in traffic annually, against a national average of 51 hours in the 14 largest metropolitan areas. This figure does not include the time for the driver's trip under conditions without traffic tie-ups. The situation is going worse every year. Average yearly individual wasted time in congestion in the vicinity of Houston amounted only 29 hours in 1982, and 39 hours in 1997. Similar national figures for the 14 top-metropolises are 21 and 43 hours. Nationwide, Los Angeles took the top spot for most traffic jams, followed by Washington and Atlanta. Houston ranked fourth. Houston metro area local governments do not address this issue adequately. They spent \$300 millions in 2007 to fix road traffic problems and increase road capacity against a national average of \$325 millions in the 14 largest metropolitan areas, but only \$100 millions in Public transportation improvement against a national average of \$850 millions in the 14 largest metropolitan areas.

Transit is a fairly new priority in Houston's officials agenda. The METRO transit authority started operating the first light-rail transit service in 2004. The 8-mile red line connects Downtown Houston to the Texas Medical Center and Reliant Park. A park-and-ride facility is located at the southern-end of the line

near an I-610 interchange. This line is travelled by about 45,000 people daily, but covers a very small part of the City. The transit ridership is still very low in Houston.

Following a successful referendum held locally in 2004, METRO is currently in the design phases of a 10-year expansion plan to add five more sections to connect to the current rail system. An 8 mile expansion has been already approved to run the service of the East-West "University line" from Uptown to the University of Houston campus. The 2012 light rail expansion plan is supposed to add further 22 miles of light-rail transit lines. Houston city is aggressively pushing this plan in order to resist job filtering out of downtown to the suburbs, and to support new condominium housing development near the projected transit stations in order to attract at least part of the expected population growth inside the I-610 loop in the next decades. Even with these investments, planners do not expect public transportation to improve its share in the modal split in the next decades, because exurban sprawl will overwhelmingly absorb the expected metropolitan growth.

### *Government and planning*

Despite sprawling development, Houston city manages to avoid the worst consequences that suburbanization caused to other US cities (Zaninetti, 2009). According to D. Rusk's view, it is related to the fact that Houston is an "elastic" city. Each American metropolitan area has its own unique institutional arrangement. According to the Texas laws, the Local Government Code defines a city's rights and responsibilities regarding properties within its boundaries and the area immediately surrounding its boundaries (called extraterritorial jurisdiction). This Code is where cities are given authority to change their boundaries either by annexation or disannexation. Houston's extraterritorial jurisdiction (ETJ) is essentially a five-mile band around the City's general-purpose boundaries, with the exception of instances when that buffer zone intersects another municipality and its ETJ.

Annexation is the other key authority a city has within its ETJ. From 1948 to 1998, Houston expanded its city limits to 8 time its pre-war size (192 sq. km in 1940, 1,505 sq. km in 2000) despite repeated local resistances. The annexation rate slowed down after the painful 1996 Kingwood annexation lawsuits and the subsequent change in the Texas law. The Houston ETJ is larger than the state of Rhode Island and extends already beyond the county line. Houston city does not plan any general purpose annexation until 2011.

Houston is fabled as a city without zoning. Actually, Houston is a region with little zoning. Pay-to-grow provisions like Minimum lot size, Parking requirements, Impact fees and Adequate Public Facility Ordinances, however,

illustrate how the city's land use is far from being completely unregulated, despite the lack of any formal zoning ordinance. Some other smaller incorporated cities in the Houston Metropolitan Area have adopted zoning ordinances, but it is usually to limit density to less than 8 dwellings per acre. Recently, one has witnessed a renewed controversy about zoning in Houston. The opinion is split between zoning-enthusiasts, who cite examples such as Portland, OR and point out that zoning will be required to accommodate a projected 3 million people growth in the next 25 years, and no-zoning supporters, who advocate nowadays the Houston's business-friendly model, in stark contrast to cities such as Boston and San Francisco, which have enforced strict zoning codes.

### THE ENVIRONMENT COMES TO THE FORE

In a resource-based economy, urban amenities were considered frivolous, and Houston did little to improve its quality of life. Nowadays, the economy is less and less dependent on natural resources, and more and more dependent on human resources. Highly skilled members of the so-called "creative class" are voicing concern about the environment and their quality of life. Houston "greening" policy turn embodied in Mayor White's policy since 2004 is to be understood as an attempt to address this emerging public awareness and keep Houston attractive to environmentally-conscious businesses. Running his 3<sup>rd</sup> and last term, Mayor White has put environment to the fore in local politics. Since 2008, Houston was chosen as one of the US cities in the *Solar America Cities program* designed to increase the use of solar technology. Other greening policies aim at developing transit, encouraging energy conservation, recycling litter, and reducing air pollution by putting pressure on local factories, and encouraging transit ridership or carpooling. Air pollution is a real concern in Houston after it won the dubious distinction in 1999 of most polluted city in the United States (Fig. 3). Present statistics are encouraging and seem to indicate a significant drop in the number of polluted days in recent years.

Floods and storms are other major concerns. The Houston area has an especially high risk for flood damage. The city is in an area that is at risk for hurricanes that can bring storm surges and very high levels of rainfall. The elevation of the city is close to sea level. The ground is mainly composed of clay that does not absorb water well. The terrain is very flat and is subsiding slowly. Extensive building, roads and parking acreages have overextended impervious surfaces. Artificialized bayou streams and drainage channels that pass through Houston, and the existing sewage system is not large enough for heavy rains that

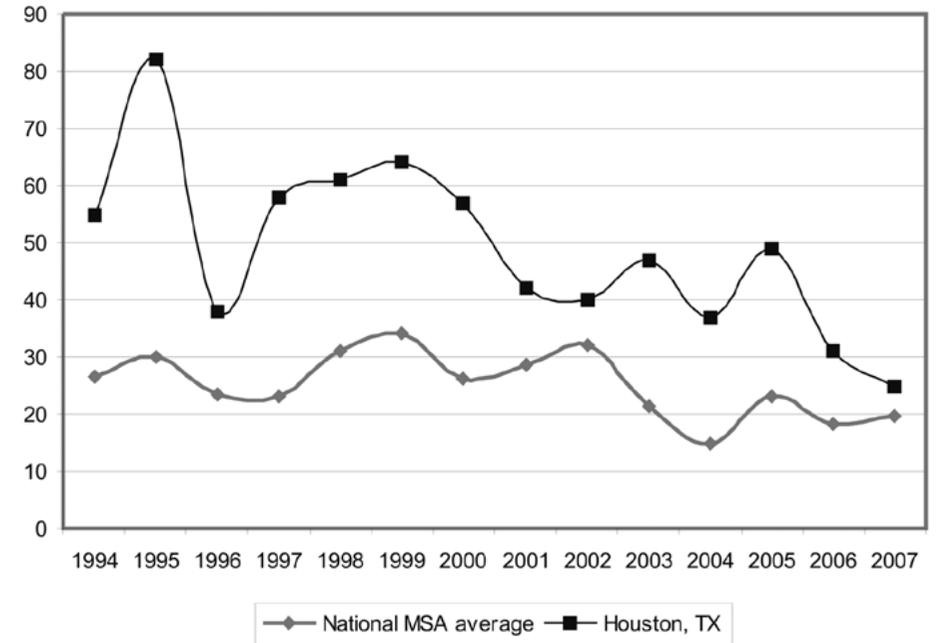


Fig. 3. Number of days with unhealthy air quality (AQI over 100) per year 1994–2007, comparison between Houston, Atlanta and Philadelphia.

Source: US. Environmental Protection Agency

cause recurrent floods. Changing weather patterns from global warming and other factors may result in more intense weather events in the future. Houston lies in the hurricane-prone Gulf Coast area. The Great Hurricane of 1900 razed nearby Galveston. Hurricane Carla hit the city directly in 1961, causing major damage. In 1983, the city experienced a direct hit from Hurricane Alicia, causing \$1 billion of damage to the city. Another destructive and costly natural disaster was Tropical Storm Allison of 2001, which completely overwhelmed the area's flood control system and caused over \$6 billion of damage and incapacitated a large part of the Medical Center. In 2005, Hurricane Rita, a category 5 storm threatened the city, prompting mass evacuation. Hurricane Ike brought considerable flood damage to the region's vulnerable south-eastern flank in September 2008. Damages from Ike are still being tallied, although estimates suggest that the total could reach into the tens of billions of dollars, including \$8.5 billion in housing damages in Harris county. Of course, worries are rising with climate change and the subsequent sea-level rise, which threaten to submerge Galveston Island and other cities along Galveston Bay with storm-surges.

## CONCLUSION – HOUSTON IS FAR FROM THE MARK OF SUSTAINABILITY

Summarizing the above finding, we can conclude that Houston's new greening strategy is more a make-up policy aiming mostly at improving the city attractiveness than a fundamental change. Urban sprawl is the main obstacle to achieving sustainability. Sprawl is driven by explosive growth and land-use regulations that rule out any substantial density increase except for selected Downtown gentrifying enclaves like Westheimer. Houstonians are not unanimous in their support to most environmental preservation measures. The current economic downturn even reduces public support to eco-friendly policies as priorities focus on the economy. Even the recession brings a temporary relief to road congestion. In his latest edition of the "Houston Area Survey", Stephen Klineberg observes that environmental awareness is receding this year. In 2007, 44% of respondents gave the lowest possible rating ("poor") to the efforts to control air and water pollution in the Houston area. In 2009, only 29% thought those efforts were "poor." Only 39% in this year's survey believed that air pollution in the Houston area has generally "gotten worse" over the past 3 years, down from 43% in 2007 and 45% in 2005. In 2009, 63% said traffic in the Houston area has "gotten worse", compared to 66% in 2007; 15% in this year's survey (9.5% in 2007) thought the traffic had "gotten better". At the same time, 82% said they drive alone to work. Also in the 2009 survey, 54% agreed that, "Even if public transportation were much more efficient than it is today, I would still drive my car to work." Nevertheless, 41% disagreed with this statement, suggesting some potential for transit. The recent argument about urban planning warns us that there is still limited support in Houston for stronger land-use regulation and no support at all for big government and higher taxes. Houstonians only pay lip-service to Sustainability.

The city is totally oil-dependent and energy-hungry, including the pervasive use of air-conditioning required by the excessively hot climate. With its carbon dioxide-intensive economy, Houston's prosperity is borrowed to the futures generations. It has an overgrown ecological footprint. Like most Americans, Houstonians are accustomed to pick free meals on the environment for more than one century now, and they will probably not change their way of life for the next few decades.

## NOTE

(1) HOV – High occupancy vehicle

## REFERENCES

- Klineberg, S.** 2002–2009: *Houston Area Survey*. Houston, Rice University, Reports available online at URL: <http://houstonareasurvey.org/>
- Kotkin, J.** 2007: *Opportunity Urbanism. An Emerging Paradigm for the 21<sup>st</sup> Century*. Houston, Greater Houston Partnership.
- Lewyn, M.** 2005: How Overregulation Creates Sprawl (Even in a City without Zoning), *Wayne Law Review* (50) pp. 1171–1191.
- Rusk, D.** 1995: *Cities without Suburbs*. Washington DC, Woodrow Wilson Center Press, 2<sup>nd</sup> revised edition.
- Sassen, S.** 2001: *The Global City: New York, London, Tokyo*. Princeton, Princeton University Press, 2<sup>nd</sup> revised edition.
- Zaninetti, J.M.** 2009: *Sustainable Development in the USA*. London – New York, ISTE – J. Wiley.

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