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How Houston Neighborhoods' Built Environment Shapes Mobility and Health

Where people live matters. Houston neighborhoods differ not only in built environment quality, but in how well they support mobility, health, and resilience–especially for vulnerable populations. Based on results from the April wave of the SPACE City Panel this report examines how residents perceive and prioritize built environment features, how households adapt to the built environment through mobility choices, and how these dynamics intersect with health and demographic vulnerabilities, offering insights to inform equitable and resilient neighborhood investments across Houston.

SPACE CITY PANEL

Center for Public Policy
Hobby School of Public Affairs

Key Takeaways

1. **Built environment:** Residents express strong satisfaction with neighborhood features such as food access, green spaces, and recreational infrastructure, but perceive major shortcomings in transportation-related infrastructure. These perceptions vary across neighborhoods, with East Houston and parts of Liberty and Waller counties reporting the greatest deficits.
2. **Mobility:** Limited walkability, bikeability, and transit access leave the Greater Houston area heavily dependent on private vehicles. Among the 93.1% of households that own a gas-powered car, 31.9% have one, 37.9% have two, and 23.3% have three or more–turning car ownership into a necessity rather than a preference.
3. **Health:** Nearly three in ten households (29.4%) include someone with a chronic illness, and 18.9% include someone with a disability; these are groups for whom gaps in the built environment translate into real barriers to mobility and care. Chronic illness is most prevalent among low-income (45%), older (40%), and female (36%) respondents, the same groups least able to compensate for poor neighborhood conditions.

Introduction

As one of the fastest-growing metropolitan areas in the United States, Houston is defined by both its economic dynamism and its spatial disparities. The region's development pattern–characterized by rapid expansion, limited zoning, and a strong reliance on automobile travel–has produced an uneven built environment across neighborhoods. While some communities benefit from well-maintained infrastructure, access to green space, and proximity to essential services, others face persistent gaps in basic features such as sidewalks, safe crossings, public transportation, and nearby food and amenities.

These disparities shape how residents experience daily life. The availability and quality of neighborhood infrastructure influence mobility choices, access to opportunities, and exposure to environmental and health risks. Households often compensate for deficiencies in walkability or transit access by relying on private vehicles. However, this adaptation strategy is not equally accessible to all residents and may impose financial and logistical burdens, particularly on lower-income households.

As Houston continues to face pressure from recurring climate-related events, including extreme heat and flooding, the role of neighborhood features such as green space, tree canopy, and stormwater infrastructure play a critical role in shaping community resilience.

This report examines how residents across the Greater Houston area perceive key elements of their neighborhood built environment, how those perceptions align with the importance they place on those features, and how households adapt to gaps in the built environment through mobility and other adaptive choices.

The analysis further explores how these behaviors intersect with the presence of health- and age-related vulnerabilities within households. By linking neighborhood conditions to mobility patterns and population needs, this analysis aims to provide a more comprehensive understanding of disparities in Houston and to inform policy interventions that promote more equitable, accessible, and resilient communities.

Perceptions of the built environment

The survey asked respondents to rate features of the built environment in their neighborhood across three domains: mobility (bikeability, walkability, public transportation, and road infrastructure); green space (trees and vegetation, recreational sites and structures, and butterfly, rain garden, and songbird habitats); and the food environment (access to grocery stores, convenience stores, and farmers markets).

In general, features associated with neighborhood quality of life–especially food access, green space, and recreational infrastructure–received the strongest ratings. Figure 1 shows that more than three-fourths of respondents rated the food environment positively (87.9%), while 79.7% rated green spaces, trees, and vegetation positively, and 79.4% rated recreational sites and structures positively.

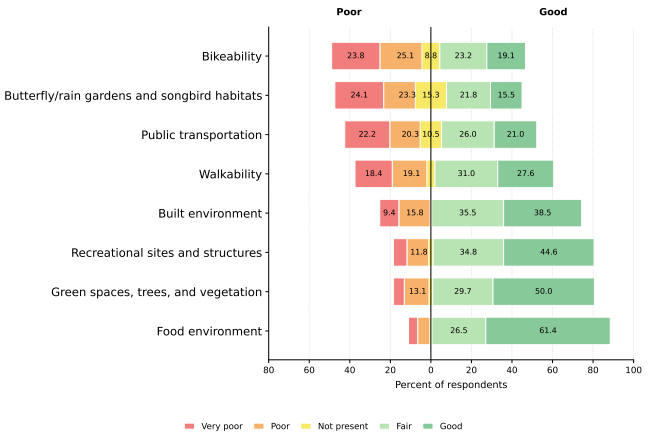

Figure 1 How would you rate the following built environment features in your neighborhood?

By contrast, mobility-related features were rated less favorably: only 42.3% rated bikeability positively, compared with 47% for public transportation and 58.6% for walkability. Other features, such as butterfly and rain gardens and songbird habitats, were viewed positively by 37.3% of respondents, but 15.3% reported that these features were not present in their neighborhoods.

To understand possible gaps between residents expectations and neighborhood performance, the survey also asked how important respondents thought built environment features in their neighborhoods were. Among the features listed in Figure 2, Houston residents strongly value access to food-related amenities, and they largely feel their neighborhoods meet this expectation: 78.4% think it is very important and 61.4% think its availability in their neighborhood is good. Residents also seem to care deeply about neighborhood green spaces and generally believe their neighborhoods perform well in this area: 60% think it is a very important feature and 50% rate their neighborhood's green spaces as being good.

However, when it comes to bikeability, walkability, and public transportation, respondents think they are important but rate their neighborhoods as underperforming. For example, nearly 60% think walkability is important, but only 27.8% say walkability in their neighborhood is good.

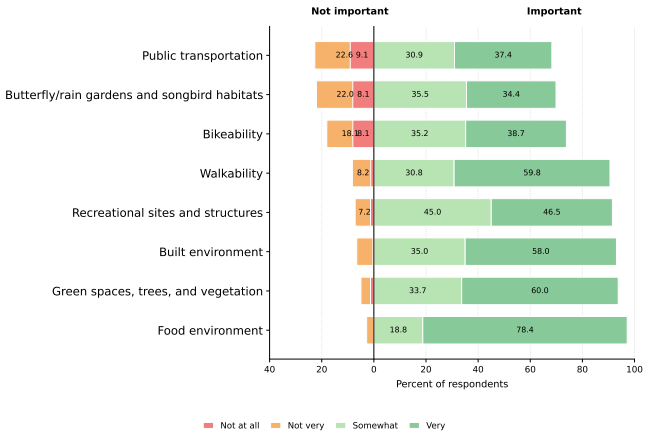

Figure 2 How important are the following built environment features in your neighborhood?

Figure 3 maps the percentage of respondents reporting the availability of green spaces–trees and vegetation, recreational sites and structures, butterfly, rain gardens and songbird habitats–in their neighborhoods as poor, very poor, or not present. Around 60% reported at least one green space feature as poor very, poor, or not present, but we do not observe specific spatial pattern on this dimension.

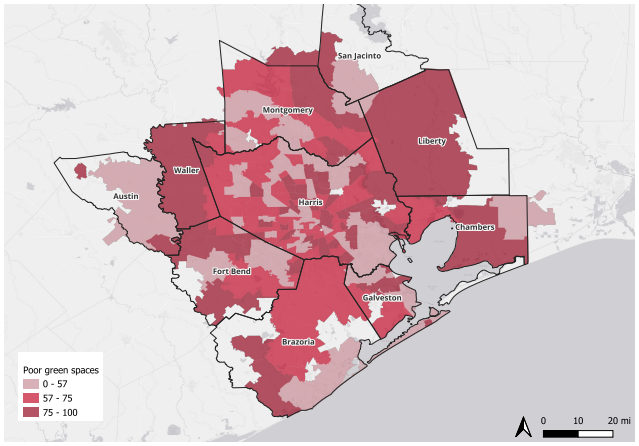

Figure 3 Percent of respondents reporting poor green spaces

Figure 4 shows the spatial distribution of poor food environments, including access to grocery stores, convenience stores, and farmers markets. Figure 5 maps poor mobility, including bikeability, walkability, public transportation, and road infrastructure types.

Just under 12% of respondents reported either poor, very poor, or not present food environments in their neighborhoods. However, most of this group is concentrated in specific areas, including East Houston, Liberty County, and Waller County, where access to food environments remain limited (Figure 4).

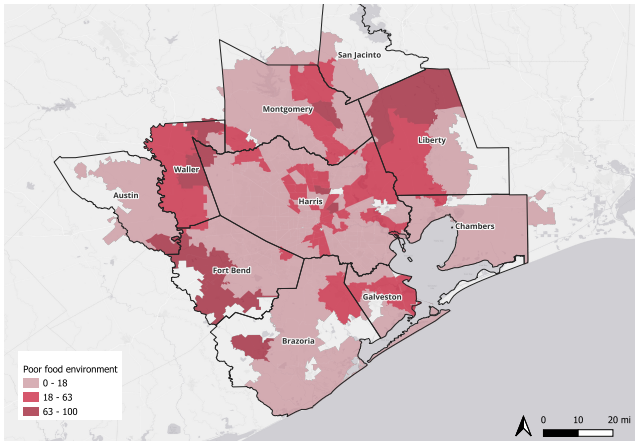

Figure 4 Percent of respondents reporting poor food environments

When it comes to mobility, more than 56% of respondents report poor mobility across the Houston MSA, with the exception of some neighborhoods withing the city of Houston and and parts of Fort Bend and Montgomery counties (Figure 5).

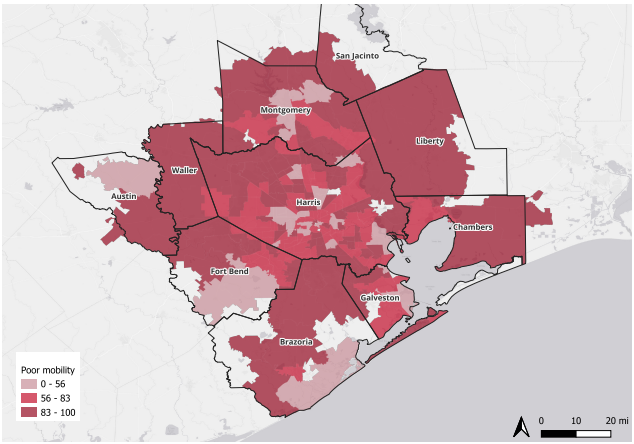

Figure 5 Percent of respondents reporting poor mobility

Overall, the maps show that while residents consistently rate mobility, green space, and food access as highly important, perceived availability across neighborhoods is uneven.

Mobility patterns

While Houstonians are satisfied with most neighborhood amenities, such as food access, green spaces, recreation, there is consensus on the lack of multimodal mobility infrastructure that supports accessibility beyond car dependence.

In neighborhoods with limited walkability and transit access, households rely more heavily on multiple vehicles, primarily gas-powered, suggesting structural dependence on private mobility. This turns car ownership into a necessity rather than a preference. The survey finds that fewer than 1 in 10 respondents do not own a car. Of those that own a car, 95.5% report vehicle ownership, 93.1% have gas-powered vehicles: 31.9% own one vehicle, 37.9% own two, and 23.3% own three or more (see Figure 6). These figures are slightly higher than national estimates by the American Community Survey (5-year estimates, 2020-2024), where nearly 92% of households own a vehicle, and 50% own two or more.

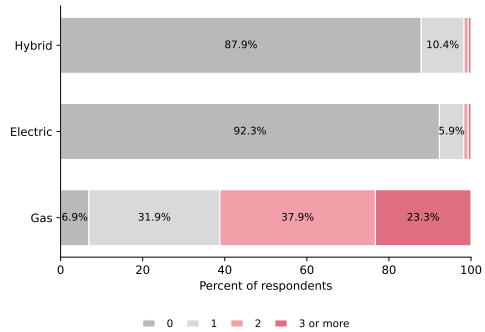

Figure 6 How many cars are there in your household?

Health and vulnerability

The built environment can either support or constrain health, especially for residents whose daily mobility depends on accessible, reliable, and nearby neighborhood resources. Older adults, people with chronic illnesses, and individuals with disabilities may face greater barriers when sidewalks are incomplete, crossings are unsafe, transit service is limited, or parks, grocery stores, and other essential services are not located nearby. For these households, gaps in the built environment are not simply inconveniences; they can restrict access to care, reduce opportunities for physical activity and social connection, and increase reliance on private vehicles or caregivers.

Health-related vulnerability is common across Greater Houston. Overall, 29.3% of respondents report that they or someone in their household has a chronic illness, and 18.9% report having a disability. The chronic illness measure should be interpreted as a household-level indicator of vulnerability because it captures not only the respondent's own health status, but also the care and mobility needs that shape household decisions.

Figure 7 shows that household chronic illness varies substantially across demographic groups. The strongest differences appear by income, age, and region. Respondents with household incomes below $30,000 report the highest rate of household chronic illness at 45%, compared with 26 to 27% among higher-income categories.

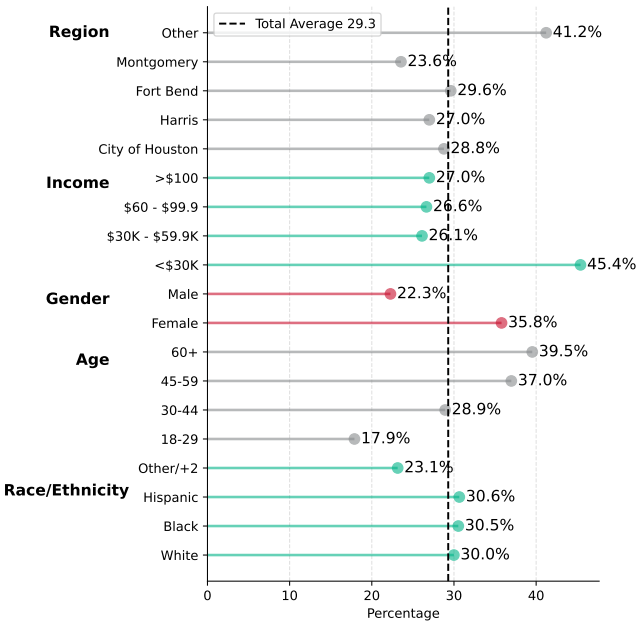

Figure 7 Do you or anyone in your household have a chronic illness? Results by demographic group.

Chronic illness also rises with age, from 18% among respondents ages 18–29 to 40% among those ages 60 and older. Regional differences are also notable. Respondents

living outside the three largest counties report higher rates of household chronic illness (41%) than those in Houston (29%), Harris County (27%), Fort Bend County (30%), and Montgomery County (24%). Figure 8 further shows that chronic illness is geographically uneven and significant variation exists within regions. For example, in east Harris County, rates of household chronic illness are higher than in western parts of the county.

Gender differences are also notable: 36% of female respondents report household chronic illness, compared with 22% of male respondents. By race and ethnicity, White, Black, and Hispanic respondents are close to the regional average, while respondents identifying as another race or two or more races report lower rates.

This spatial variation is important to policy because health vulnerability can compound the consequences of poor neighborhood infrastructure. Households managing chronic illness or disability may be less able to compensate for missing sidewalks, unsafe crossings, limited transit, poor food access, or inadequate recreational space.

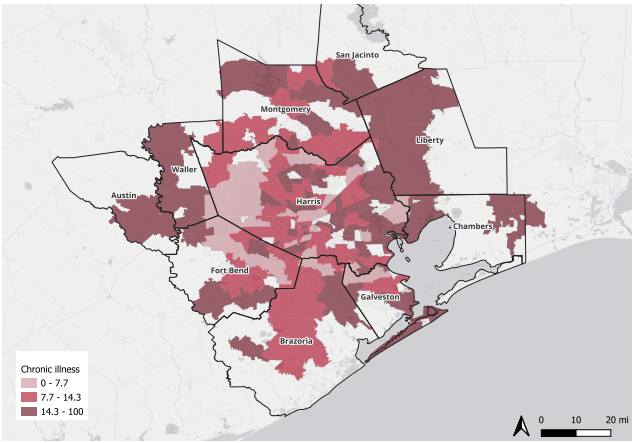

Figure 8 Share of respondents reporting that they or someone in their household has a chronic illness

These findings underscore the need to treat accessibility as health-supporting infrastructure. Investments in sidewalks, safe crossings, transit access, nearby food options, parks, tree canopy, and green infrastructure should be prioritized in areas where health vulnerability and built-environment deficits overlap. Targeting investments can reduce mobility burdens, support independent living, and improve quality of life for residents most affected by neighborhood conditions.

Conclusion

Responses to the latest wave of the Hobby School of Public Affairs' SPACE City Panel reveal variation in how Houston residents experience their neighborhood's built environments. While features such as walkability, green space, and access to food are consistently rated as highly important, their availability and condition remain uneven across communities. In response, many households rely heavily on private vehicles, often maintaining multiple gas-powered cars to meet daily needs. This dependence is particularly consequential for households that include older adults, individuals with chronic illnesses, or people with disabilities, who face greater challenges navigating environments that lack accessible infrastructure.

Together, these findings highlight how gaps in the built environment translate into mobility constraints and health-related vulnerabilities, underscoring the need for more equitable neighborhood investments across Houston. Investments in mobility features like sidewalks, safe crossings, bike lanes, expanding transit access, and expanded transit access may improve mobility across the Greater Houston area, particularly for vulnerable populations. While food environments are generally well rated, some communities experience a limited access, particularly those in east Houston and in counties like Waller and Liberty counties.

Methodology

Sample & data collection. *SPACE City Panel, Wave 4, April 2026*; $N = 1{,}525$; mode: *online*. *MOE*: $\pm 3.53\%$ for whole sample.
Weights. *Post-stratified to age, sex, race/ethnicity, education, county*. Missing demographics imputed.
Percentages: Unless otherwise noted in the text or figure, percentages calculated over the total of respondents.
Exclusions: *Don't knows* and *Skipped* responses excluded from figures or analyses.

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