

Public Health Benefits

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Improving community health is one of the main goals of livable centers studies. The 2020 Behavioral Risk Factor Surveillance System (BRFSS) found that South Houston has significantly higher rates of physical inactivity and poor physical health compared to Houston and Harris County. Some of this may be due to factors like income, time poverty, proximity to environmental pollutants like the highway, the airport, and industrial uses like concrete batch plants. However, it is also likely that some of this disparity in health stems from a lack of infrastructure that supports physical activity and physical health, like sidewalks, access to parks and recreation centers, access to trails, and access to public transportation.

The project team worked closely with Harris County Public Health to identify the health benefits that each recommendation would bring to South Houston. These range from environmental health factors like heat and air pollution to infrastructural health factors like access to recreation and road safety to social health factors like housing and mental health.

Reduced Heat

Higher temperatures in cities can exacerbate heat-related illnesses such as heat stroke, heat exhaustion, and dehydration, particularly in vulnerable populations such as children and older adults and those with pre-existing medical conditions. Managing urban heat through tree plantings, shade structures, and increased access to green spaces can help reduce exposure to heat and improve heat-related health outcomes in urban populations.^{1,2}

Reduced Air Pollution

Air pollution can have significant negative impacts on health. Traffic is one of the most significant sources of indoor and outdoor air pollution. People who live, work, or attend school near major roads are at a higher risk of developing asthma, bronchitis, lung cancer, and cardiovascular disease from exposure to air pollutants and particulate matter.³ Long-term exposure to air pollution has been linked to cognitive decline and mental health issues as well. In areas with heavy traffic and close proximity to industry, fewer people tend to walk for transportation or recreation and experience higher levels of stress and anxiety.^{4,5,6} Increasing access to pedestrian and bicycle infrastructure to reduce reliance on vehicles can decrease traffic congestion and improve air quality conditions in addition to improving physical and mental health.

Increased Access to Nature

Access to parks and green spaces has a positive impact on physical and mental health. Parks provide free opportunities for physical activity, recreation, and social interaction, which can help reduce stress, improve mental health, and increase physical fitness. They also provide a safe and attractive environment for people to spend time outdoors, which can promote healthy habits and improve overall well-being. Exposure to nature and outdoor physical activity can benefit mental health by reducing stress and anxiety.⁷ The presence of green space and natural environments can also help reduce air pollution. Conversely, a lack of park access or poor park quality can reduce park use and negatively impact population health, especially in communities with limited recreational options.⁸ Overall, investing in the quality of parks and greenspace, and increasing safety and accessibility to parks could help encourage park usage and improve the health and well-being of a community.

Increased Physical Activity

Pedestrian and bicycle infrastructure, such as sidewalks, pedestrian crossings, and dedicated bike lanes provide safe spaces for pedestrians and bicyclists to navigate a community. Having safe and accessible pedestrian and bicycle infrastructure to nearby parks, schools, work, or retail is vital to facilitate walking or biking. These modes of transportation promote health by integrating physical activity into daily life, thereby reducing the risk of chronic conditions like obesity, cardiovascular diseases, and diabetes, and improving mental health.⁹

Improved Accessibility

Well-connected and accessible neighborhoods allow pedestrians to access essential services such as healthcare facilities, schools, workplaces, and recreational areas. They are particularly crucial for older adults and people with disabilities. Well-maintained sidewalks, curb ramps, and wheelchair-accessible crossings enable those with mobility impairments to move around independently and safely.¹⁰

Improved Community Safety at night

Dark or poorly lit areas in a community can be perceived as unsafe and discourage use during evenings and early mornings. Adequate lighting provides a greater sense of personal security by enhancing visibility and allowing people to see their surroundings. As a result, lighting can help deter criminal activity and encourage communities to gather at night in parks and public spaces. Well-lit pathways

and community spaces can also improve wayfinding by making it more accessible for pedestrians, bicyclists, and persons with visual impairments to navigate their surroundings and find their way.^{11,12}

Better Pedestrian & Bicycle Safety

Well-designed and connected active infrastructure can enhance pedestrian and bicyclist safety by minimizing the potential for accidents with vehicles. Sidewalks, protected bike lanes, marked crosswalks, pedestrian and bicycle signals, and traffic calming measures help reduce the risk of collisions and improve overall road safety. Streetlights also increase the visibility of pedestrians and bicyclists and improve safety in low light conditions such as evenings and early mornings. These infrastructure elements are crucial for protecting pedestrians from vehicular traffic and ensuring their safety while traveling.^{13,14}

Pedestrian safety is critical in school zones where children are walking to and from school. Sidewalks, crosswalks, traffic-calming measures, and reduced vehicle speeds help protect children and families and encourage active transportation to school. Students who walk or bike to and from school experience health benefits from regular physical activity as well as improved academic performance. Students who actively commute to school arrive ready to learn, have increased focus, better problem-solving capability, and perform better on tests.¹⁵

Improved Quality of Housing

Poor housing quality directly impacts the health and safety of residents. Poor indoor air quality, limited access to air conditioning and heating, and pests can all contribute to the development of chronic diseases, such as asthma, COPD, and other negative health outcomes.¹⁶ Exposure to mold and allergens from dust mites, cockroaches, and rodents in the home is associated with childhood asthma, while lead-based paint exposure is linked to impaired cognitive development and reduced impulse control.¹⁷ Rehabilitating and updating homes to improve housing quality could improve the health of some residents, specifically young children.

More Affordable Housing

Housing affordability has indirect impacts on health. Households spending 30% or more of their income on housing costs are referred to as housing-cost-burdened households. Lack of affordable housing can have a significant negative impact on quality of life, leading to several health and social problems.

Individuals and families who spend a large portion of their income on housing may have difficulty affording other necessities such as food, healthcare, and transportation, leading to increased financial stress and insecurity.¹⁸

Access to affordable housing can improve quality of life by providing stability, security, and improved living conditions. It can also reduce stress and financial burdens and provide greater access to educational and employment opportunities, leading to improved health outcomes and overall well-being. Therefore, increasing access to affordable housing is important for addressing health disparities and promoting health and well-being.

Increased Economic opportunity

Economic opportunity is critical to health and quality of life. Communities with access to equitable opportunities for economic growth are more likely to have access to jobs, essential goods and services, a livable income, and health insurance. Individuals report better mental, physical, and overall health in communities with greater economic opportunity.¹⁹

Communities with greater population density, mixed land uses, and a connected street network encourage walking and cycling and support the use of public transportation.^{20,21} Multimodal transportation also has a number of economic benefits as walkable and bikeable communities have been shown to improve the resale value of homes, attract new businesses, and increase retail sales.²²

Improved Sense of Community (Art and Placemaking)

Enhancing community spaces through art and culture, or placemaking, that draws on the unique characteristics of the community is a way to connect people and places, create a sense of belonging, and build community pride.²³ Placemaking can improve social interactions and connectedness which can positively impact physical and mental health. Strong social ties lower the risk of social isolation which helps to increase life expectancy and reduce rates of depression and chronic diseases.²⁴ Community art can also serve as destinations that attract visitors, create places that people want to be, and spur economic development. Overall, integrating art into community spaces builds social cohesion, improves health, and enhances quality of life.

Improved Education

Early childhood education sets the foundation and trajectory for educational success which has a demonstrated positive impact on long term health outcomes and employment.^{25,26} Head Start and other early childhood programs provide resources to develop healthy habits and behaviors from a young age such as being active, healthy, and coping with stress and emotions.²⁷ Educational attainment opens access to better job opportunities with health-promoting benefits, including health insurance, paid leave, and retirement benefits.²⁸ In the long term, opportunities for quality education from pre-kindergarten through higher education benefit both community health and the economy.

Improved Flood Resilience

Flood events impact all facets of a community, from infrastructure and commercial industries to residential homes and belongings. The effects of flooding can be expansive and destructive; consequently, flooding events pose a number of physical and mental health risks to affected communities. Exposure to flood waters can result in skin rashes and infected wounds from exposure to bacterial and industrial contaminants, while post-flood exposures can result in gastroenteritis, respiratory illness, vector-borne disease, and poor mental health from heightened stress and anxiety.^{29,30,31}

For more information go to the harris county website:
<https://publichealth.harriscountytexas.gov>

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