

Safe Crossings Project



G A L E N A P A R K

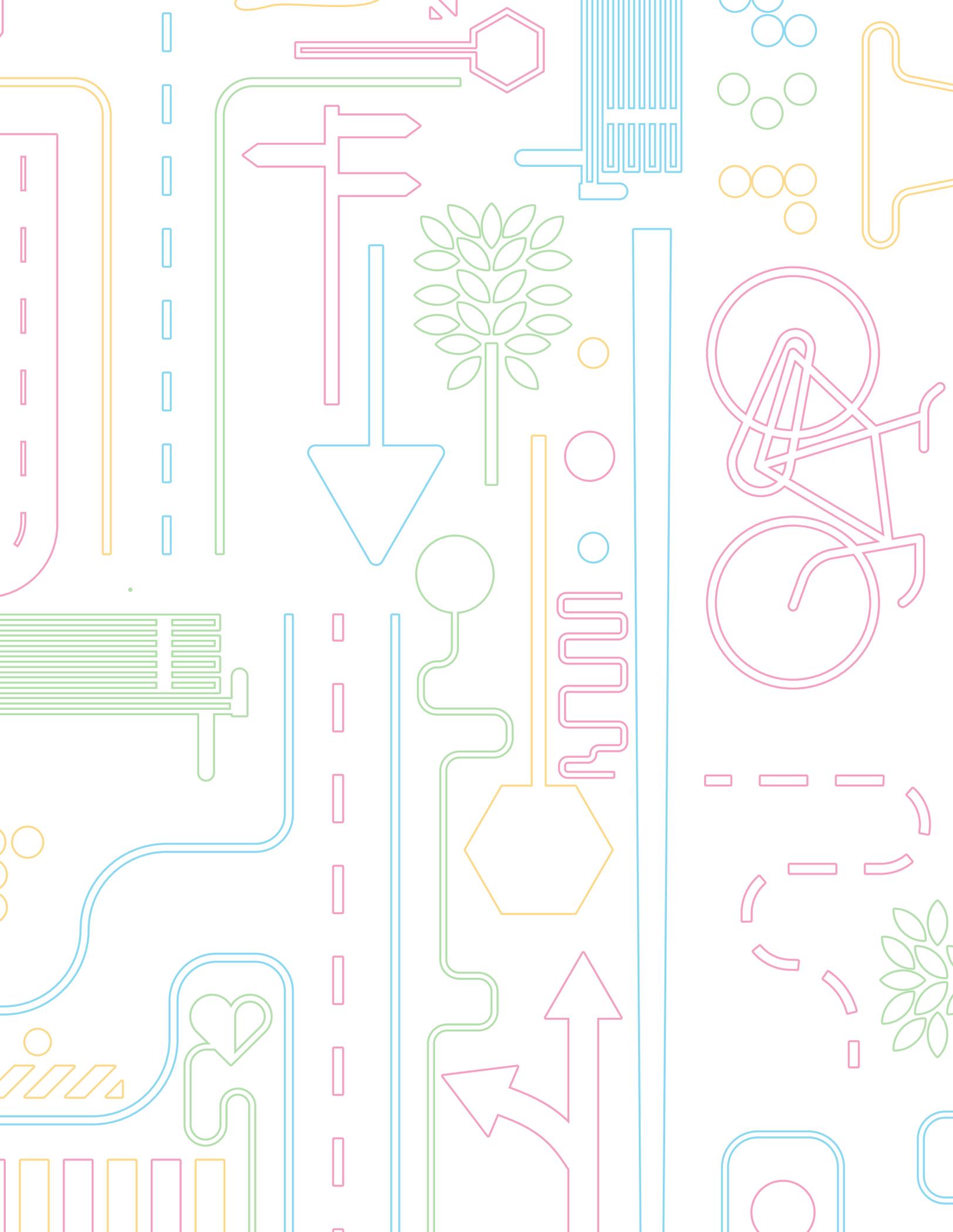


Table of Contents

<i>Executive Summary.....</i>	<i>6</i>
<i>Safe Crossings Project</i>	<i>8</i>
<i>Built Environment and Health</i>	<i>9</i>
<i>About Galena Park</i>	<i>12</i>
<i>Project Methods.....</i>	<i>15</i>
<i>Community Engagement Results and Priorities</i>	<i>18</i>
<i>Intersection Site Profile.....</i>	<i>21</i>
<i>Recommendations</i>	<i>21</i>
<i>References</i>	<i>29</i>

EXECUTIVE SUMMARY

The Safe Crossings Project was led by the Built Environment Unit (BE Unit) at Harris County Public Health Environmental Health Division with funding from the Urban Land Institute (ULI). The project aimed to improve pedestrian and bicyclist safety by identifying improvements to streets and intersections that pose a risk for increased injury in Galena Park. The project encompassed these goals:

- 1. Improve pedestrian and bicyclist safety by identifying improvements to streets and intersections that pose significant risk for increased injury**
- 2. Engage local community and stakeholders**
- 3. Improve health equity by focusing on areas of higher need**

The Safe Crossings Project incorporated multi-sector stakeholder engagement including professionals from public health, transportation, engineering and urban planning as well as local community residents and organizations. The project utilized quantitative data, such as pedestrian and bicyclist crash data, and qualitative data from resident surveys and community engagement efforts to inform what specific areas the project should focus and what improvements would benefit the community residents.

The report provides multiple recommendations for the intersection of Clinton Drive and Main Street including but not limited to:

- **Rebuilding traffic signal**
- **Creating directional ADA ramps on all four corners**
- **Installing pedestrian signal heads**
- **Installing raised concrete pavement surfaces to provide improved landing areas**
- **Refreshing pavement markings**
- **Creating an artistic crosswalk**
- **Installing sidewalks along each of Clinton Drive and Main Street**
- **Installing pedestrian-scale lighting**
- **Installing Accessible Pedestrian Signals and Pedestrian Push Buttons**
- **Encourage pedestrian friendly development of vacant lands**

The initial estimate of potential range of total cost to implement the recommendations is at minimum \$450,000 to more than \$750,000. Implementation of the recommendations are subject to a variety of factors including availability of necessary funds, procurement of necessary approvals and documents, traffic and drainage studies, right of way limitations and execution of all necessary due diligence.

The initial estimate of total time needed to implement all recommendations is more than one year.

The concepts and recommendations included in this report are the culmination of engaging the community to understand their needs and desires for a safer, more walkable community, in addition to expert input from ULI members, Harris County Engineering Department and Asakura Robinson on best practices.

The recommendations serve as a conceptual vision for the community to spur dialogue around safe active transportation among Galena Park decision-makers as the community grows.

ACKNOWLEDGEMENTS

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SPECIAL THANKS

The BE Unit would like to thank the Steering Committee for their support and contributions to the Safe Crossings Project. Their input and expertise was invaluable throughout the project.

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SAFE CROSSINGS PROJECT

The Safe Crossings Project was initiated in the spring of 2018 by the Harris County Public Health (HCPH) Built Environment (BE) Unit with funding from the Urban Land Institute (ULI) Building Healthy Places Initiative. The project aimed to improve pedestrian and bicyclist safety by identifying improvements to streets and intersections that pose a risk for increased injury in the city of Galena Park. The project encompassed the following goals:

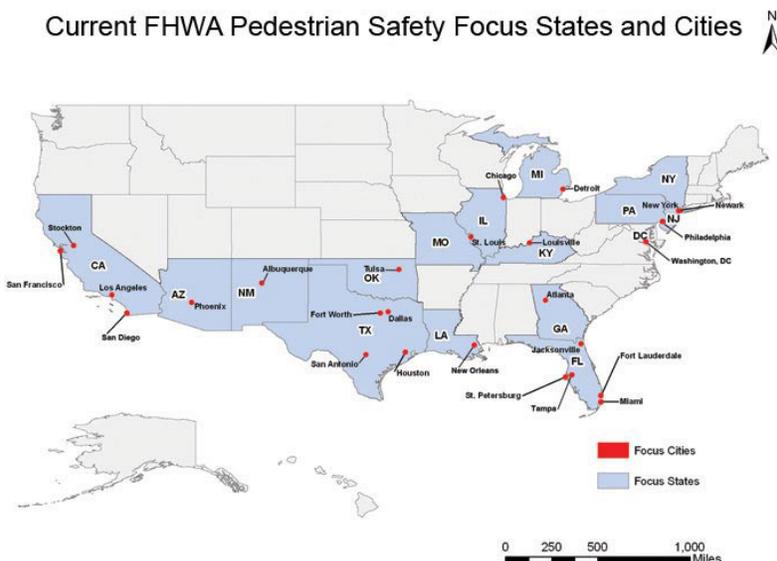
1. Improve pedestrian and bicyclist safety by identifying improvements to streets and intersections that pose significant risk for increased injury
2. Engage local community and stakeholders
3. Improve health equity by focusing on areas of higher need

The Safe Crossings Project incorporated multi-sector stakeholder engagement including professionals from public health, transportation, engineering and urban planning as well as local community residents and organizations. The project utilized quantitative data, such as pedestrian and bicyclist crash data, and qualitative data from resident surveys and community engagement efforts to inform what specific areas the project should focus and what improvements would benefit the community residents.

Across the country, pedestrian deaths increased by 27% from 2007-2016 and Texas was ranked 9th highest with a pedestrian fatality rate of 2.44 per 100k in 2016. Locally, Harris County was the 3rd highest county in number of pedestrian fatalities with 128 pedestrian deaths, just behind Maricopa and Los Angeles counties.¹ The Federal Highway Safety Administration (FHWA) has identified Texas and the City of Houston as focus areas to improve pedestrian safety. Additionally, there have been local efforts to improve pedestrian and bicyclist safety, including the Houston Bike Plan, Bayou Greenways Plan, and others across the county.

As HCPH strives to improve community health across the county through health promotion and disease prevention efforts, improving the built environment using upstream solutions has the potential to impact a large proportion of the population. Through the Safe Crossings Project, the BE Unit aims to reduce pedestrian and bicyclist injuries and deaths by creating a safer environment to walk and bicycle throughout the community.

Figure 1:



U.S. Department of Transportation: Federal Highway Administration. (2012). Map of Pedestrian Safety Focus States and Cities. Retrieved from Pedestrian and Bicycle: https://safety.fhwa.dot.gov/ped_bike/pedforum/2012/winter/largemap.cfm

BUILT ENVIRONMENT AND HEALTH

“We know that the transportation choices we make play an important role in building and maintaining healthy communities. For example, safer roadways and traffic patterns reduce crashes. Streets where walkers and bikers are protected from motor vehicles encourage people to get more exercise as part of their daily routines. Increasing the transportation options available in a community helps reduce congestion and air pollution even as it ensures that communities have access to necessary services like full-service grocery stores and doctors’ offices.”

- Former Transportation Secretary Ray LaHood

The Centers for Disease Control and Prevention (CDC) defines the built environment as “the human-made physical places and spaces in which people live, work, recreate, and travel on a day-to-day basis, including buildings, streets and roads, transportation systems, parks and public spaces.” Promoting active transportation through the built environment has become a key element in combating chronic diseases, as physical activity is a contributing factor in preventing heart disease, diabetes, stroke, and obesity.² Because the built environment has a significant impact on the health of individuals and can strengthen and connect communities, it is essential to look at upstream solutions that improve the built environment by providing streets and spaces that are clean and attractive.²⁻³ For example, sidewalks and bicycle trails not only provide opportunities for recreation and exercise, they provide destination access that promotes active transportation. Coupled with improved road design and traffic engineering, the risk of injury for pedestrians and bicyclists can be reduced.² Trails that run through both urban and natural areas are more likely to be utilized because they provide numerous access points to community destinations like parks, retail and employment.⁴ In addition, active transportation also leads to improvements in social and mental health as a result of exposure to nature and benefits of physical activity.² Factors that limit active transportation include weather, cleanliness, noise, crime and perception of safety, as well as location and accessibility.⁴⁻⁶ Currently, approximately 1 in 3 adults meets the recommendations for regular moderate physical activity, defined as at least 150 minutes a week, highlighting the need to improve health behaviors and physical activity to positively impact health outcomes.²

Healthy People 2020 is a U.S. Department of Health and Human Services national initiative that establishes a set of 10-year goals and objectives to improve the health of all groups by providing measurable goals that are applicable at the national, state, and local levels. The importance of active transportation in the built environment is highlighted by some of the goals of Healthy People 2020 including:⁷

- **“Increase proportion of trips made by walking”**
- **“Increase the proportion of trips made by bicycling”**
- **“Increase legislative policies for the built environment that enhance access to and availability of physical activity opportunities”**

Attaining the goals outlined in Healthy People 2020 requires pursuing opportunities such as the Safe Crossings Project. The Safe Crossings Project facilitates pedestrian and bicyclist safety by recommending improvements to streets and intersections that pose a risk for increased injury in low to moderate income and minority communities in Harris County. The project incorporated upstream solutions by engaging key decision makers early on, as well as a panel of subject area experts coupled with data on existing infrastructure conditions and pedestrian and bicyclist crash data.

IMPACTS OF THE BUILT ENVIRONMENT

INFRASTRUCTURE

Physical inactivity is reduced by designing street networks and infrastructure that promote walking and bicycling.³ Common pedestrian and bicycle infrastructure include bicycle lanes, curb extensions, lighting, sidewalks, shared-lane markings, high visibility signage and designated crosswalks.⁸ The presence of these elements has been shown to increase walking and bicycling, thereby lowering an individual's risk of being obese or overweight, while reducing vehicular usage over time.⁹⁻¹⁰



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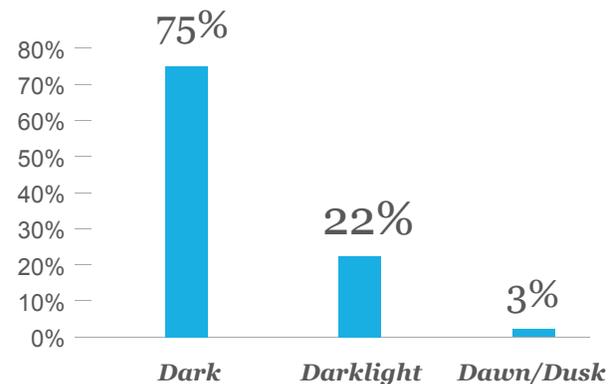
www.pedbikeimages.org / Dan Burden

SAFETY

The built environment impacts an individual's actual safety as well as perception of safety through elements of roadway design and lighting, both of which affect usage of outdoor space.¹¹ The presence of lighting can increase pedestrian and bicyclist comfort and safety and promote active transportation.⁴ Improved lighting increases visibility of motorists and pedestrians in low-light conditions, leading to reductions in the number of vehicle and pedestrian crashes. According to the Governors Highway Safety Administration, the majority of pedestrian fatalities in 2016 occurred in the dark.¹ In Texas, specifically, 80% of pedestrian fatalities between 2014-2016 occurred in the dark.

Roadway design plays an important role in shaping interactions between vehicles, pedestrians, and bicyclists along streets and at intersections. There are number of proven roadway design interventions and countermeasures that have been shown to reduce pedestrian injuries through crash reduction.¹²⁻¹³ The US Department of Transportation Federal Highway Safety Administration has a resource on proven safety countermeasures for transportation agencies that enhance safety on all types of roads and are effective in reducing the risk of pedestrian and bicycling collisions.¹⁴

Figure 2: 2016 Pedestrian Fatalities by Light Level



Source: Governors Highway Safety Administration, 2017

CRIME

Crime is inversely related to the use of outdoor space and therefore can negatively impact health and health outcomes within a community. Perceived lack of safety is associated with poorer health and limited physical activity while long-term exposure to crime is associated with higher BMI, especially among vulnerable groups such as women and children.¹⁵⁻¹⁶ For minority groups, who are already at a higher risk for obesity and associated negative health outcomes and who often live in low-income neighborhoods, violent crime limits opportunities to be physically active.¹⁷⁻¹⁸ The built environment can be designed to minimize opportunities for crime through the use of lighting and other features allowing for improved physical activity.¹⁹

EQUITY

Historically, communities of color and lower socioeconomic status face inequities in the quality of the built environment in which they live and work. Many of the communities face additional barriers to adequate transportation and healthcare access. There are more than 10 million American households without access to a vehicle and the percentage is higher among African Americans (20%) and Latinos (12%), as compared to Whites (6%).²⁰ Racial disparities can be seen among the low-income population as well.²¹ A third of low-income African Americans lack access to a car in comparison to 12% of low-income whites.²² These communities that have limited access to a personal vehicle or rely on available, and sometimes limited, public transportation must use active transportation to access education, employment, and community resources. Often times, due to lack of investment within these communities, the built environment plays a significant role in the negative health outcomes of the community. For example, the presence and quality of sidewalks, crosswalks, and other pedestrian infrastructure is generally poorer in communities with lower socioeconomic status, thus creating barriers for active transportation and further contributing to health inequities in those neighborhoods.²³

POLICY

Local, state, and federal policies promoting health and safety in the built environment facilitate physical activity and create more resilient communities. A multi-disciplinary approach coordinated on all levels of government can result in built environment improvements and complex behavioral changes within communities.²⁴ Policy-related elements that effect the built environment include zoning codes, building codes, street standards, and strategic planning.²⁴ Planning processes and policies that incorporate healthy community design into active transportation policies can result in increased usage as well as promote positive health outcomes. For example, zoning laws can separate manufacturing and industrial businesses from residential areas or facilitate higher building density to create more walkable and bikeable areas, local and state governments can pass bonds that pay for improvements to the built environment and the federal government can regulate built environment elements such as wastewater management and pollutants.²⁵ Overall, as shown in the figure below, policy and regulatory mechanisms play a significant role in shaping the built environment and the resulting health outcomes of the community.

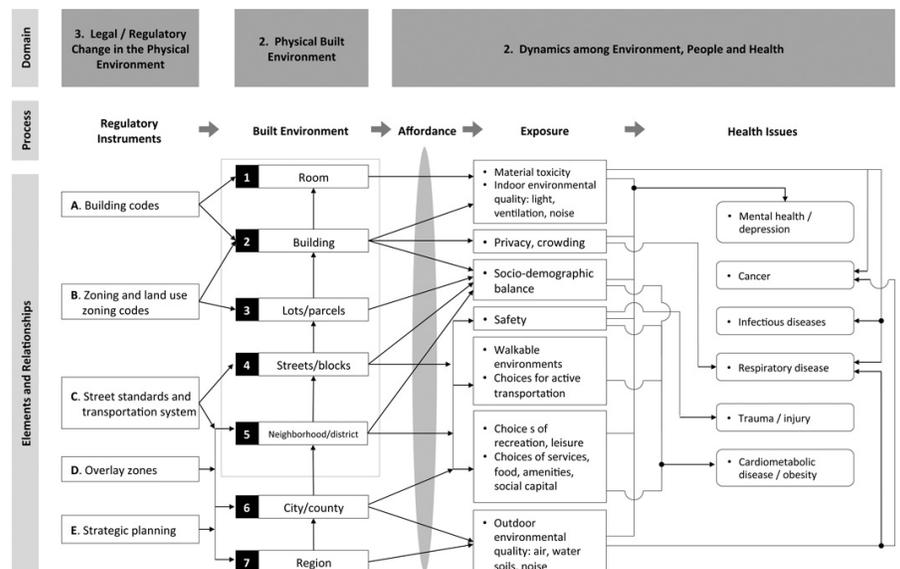


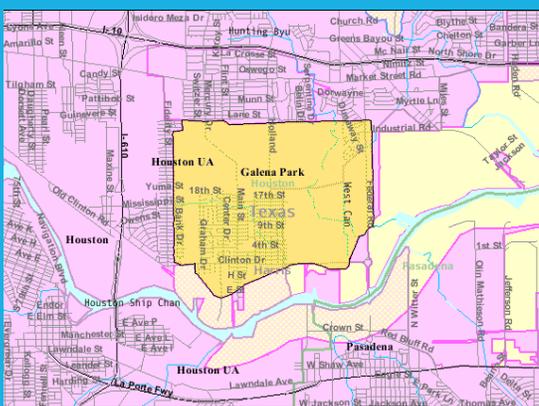
Figure 3: Built Environment Change Framework
Source: Berke, Vernez-Moudon 2014

About Galena Park

The City of Galena Park (City) is located east of Houston and north of the industrial Houston Ship Channel in Harris County Precinct 2. Galena Park is 5 square miles of mostly residential properties surrounded by freeways, railways, and heavy industry connected to the Ship Channel. Located in the center of the city is the main Galena Park that houses the Alvin D. Baggett Community Center, the public library, and local public pool. Surrounding Galena Park are 4 schools: Galena Park Elementary, MacArthur Elementary, Galena Park Middle School and Galena Park High School. This area central to the city serves as an important hub for the community for education and recreation opportunities.

The Safe Crossings Project focused on the physical environment within a 1/2 mile radius of Galena Park, hereafter referred to as the Study Area.

Figure 4: Galena Park, TX



Source: US Census, American Fact Finder

Galena Park is a small community of 11,095 residents who are mostly Hispanic (84%) and under the age of 35 (64%). Among those aged 25 years or older, Galena Park residents have lower rates of educational attainment beyond completing high school compared to their counterparts in Harris County (28% vs 57%) (Figure 5).

The unemployment rate in Galena Park is higher than that of Harris County (8.3% vs 7.0%) and the average household income is lower (\$53,575 vs \$83,156). Approximately 22% of the population in Galena Park lives in poverty compared to 17.4% of the population in Harris County. In Galena Park, approximately one-third of the population (32%) lack healthcare coverage and are uninsured compared to 22% in Harris County. Both Galena Park and the county share similar Medicare coverage rates (10%).

The majority of Galena Park households have access to a vehicle, with 37% having access to one car and 59.7% having access to two or more cars. Because over one-third of households have access to one vehicle, other family members must rely on other means of transportation, such as walking, bicycling or carpooling, to access resources and destinations as there is no public transportation available within the city limits.

Figure 5: Education Attainment

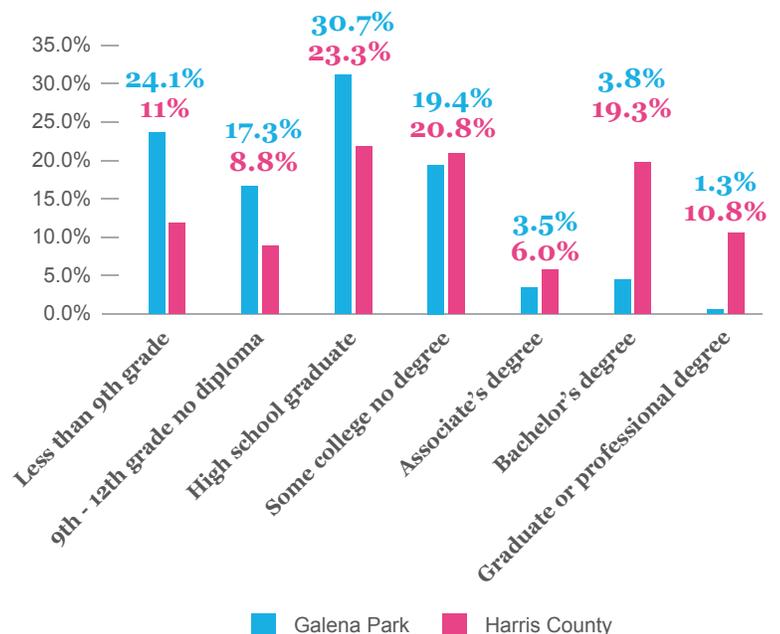


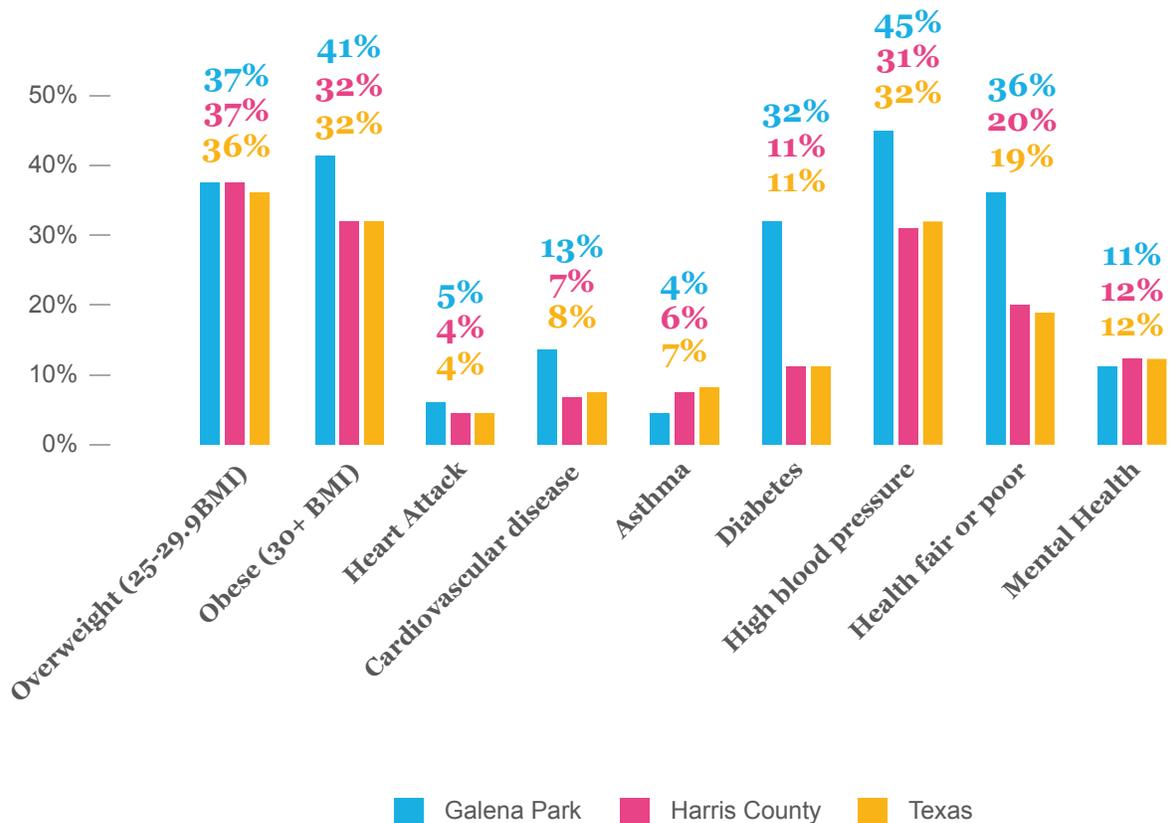
Figure 5: United States Census Bureau. (2018). 2012-2016 5 Year Estimates American Fact Finder Tool: Table S1501. Retrieved from American Community Survey.

BASELINE HEALTH CONDITIONS

According to the chart below (Figure 6), a higher percentage of the population in Galena Park have been diagnosed as overweight or obese. Almost 41% of the residents are obese, which is higher than Harris County (32%) and Texas (32%), and suggests there may be a need for systemic obesity reduction efforts in the area. Additionally, 32% of Galena Park residents have been diagnosed with diabetes, 45% have high blood pressure, and 36% of residents have self-reported fair or poor health, indicating that there may be additional public health needs to address in Galena Park to improve overall quality of life. Given the population and area of Galena Park is small in proportion to Harris County and Texas, these findings may not be significant but they still highlight the burden of chronic diseases and poor health in the community.

In 2015, five of the top ten causes of death in Harris County were attributed to chronic diseases,²⁶ with heart disease remaining as the leading cause of death in the U.S. since 1921.²⁷ Chronic diseases related to physical activity and nutrition continue to remain a significant public health threat throughout the state and Harris County. Accidents are ranked as the 3rd leading cause of death in Harris County, highlighting the need to examine and address issues around pedestrian and bicyclist safety.²⁶ In Galena Park, in 2014, accidents are ranked as the 3rd leading cause of death, behind heart disease and cancer (Appendix A, Community Health Profile).

Figure 6: Galena Park Health Profile



*Note: The zip codes used for this data in Galena Park (77015, 77029, 77547) extend beyond the city boundaries, thus containing a sample size larger than the actual population residing within the city of Galena Park. The following estimates for Galena Park had relative standard errors of greater than 30% and should be taken with caution: heart attack, cardiovascular disease, asthma, mental health. Source: Texas Department of State Health Services, Center for Health Statistics, Texas Behavioral Risk Factor Surveillance System, 2011-2017. (TDSHS b, 2011-2017)

PEDESTRIAN AND BICYCLE COLLISIONS

Between 2013 and 2017 there were a total of 12 collisions in the Study Area involving pedestrians or bicyclists. Of these, there was one bicyclist fatality, 6 injuries, and 5 with no injuries.

VIOLENT CRIME

Violent crime in this data is defined as either assault, assault with a weapon, robbery, homicide or sexual assault. Between 2013 and 2017 there were 56 incidents of violent crime in Galena Park. The majority were assault (45), followed by assault with a weapon (5), sexual assault (4), and robbery (2)

PEDESTRIAN AND BICYCLE CONDITIONS

Galena Park has limited complete sidewalks and no bicycle infrastructure, reducing mobility and making walking and bicycling dangerous at times. The built environment conditions make pedestrians and bicyclists vulnerable to injuries and fatalities.



Figure 7: Students walking without sidewalks

PROJECT METHODS

Data was collected for the Safe Crossings Project through a variety of methods, including an environmental scan, pedestrian and bicycle collision data, demographic data, resident surveys and key informant interviews. Additionally, a community stakeholder event was held to better understand the local resident needs and concerns.

The American Community Survey 2016 five-year estimate data was used to ascertain demographic information of the community. Data on pedestrian and bicyclist collision data was obtained from the Texas Department of Transportation (TxDOT) and violent crime from the Harris County Sheriff's office was collected for the years 2013-2017.

QUANTITATIVE DATA COLLECTION

Environmental Scan Tool

The Environmental Scan Tool (EST) was utilized to examine the physical environment within a 1/2 mile radius of Galena Park. This data was collected in June 2018 with the assistance of student volunteers from the University of Houston. The data collected included detailed information on the pedestrian, bicycle, and vehicular environment along each full street segment segment (e.g., road condition, sidewalk availability, sidewalk condition, presence of street trees, bicycle infrastructure, etc.), as well as the collection of Global Positioning System (GPS) coordinates for certain street elements and traffic control devices (e.g., bus stops, stop signs, ADA ramps, pedestrian crossing signals, etc.).

Volunteers were paired into teams of two and assigned a specific area to assess. Each team completed one paper tool for each street segment. Upon completion, a percentage of completed paper tools were randomly selected and those street segments were evaluated by the BE Unit to ensure the validity of responses. If there were significant differences in responses and the environment, the segment was reassessed by the BE Unit. The survey data was then entered into the online database and entries were reviewed by another staff member for validity.

Pedestrian and Bicycle Collision Data

The Texas Department of Transportation's (TxDOT) Crash Records Information System (CRIS) includes information about pedestrian- and bicycle-vehicle collisions that occurred in Harris County and Galena Park from 2013-2017. Collisions were weighted based off of the U.S Department of Transportation Value of Statistical Life (VSL).²⁸ To identify the top 5 dangerous intersections in Galena Park, a 150ft buffer was mapped around each intersection and the total number of collisions within this buffer was examined and ranked by highest to lowest VSL. One limitation to this method is that mid-block collisions were not included (Appendix C).

Crime

The data used for analysis of crime in Galena Park was obtained from the Harris County Sherriff's Office and included all crime incidents that occurred in the area from January 1, 2013 to January 31, 2017. Types of violent crime that may potentially harm pedestrians and bicyclists, including assaults, robberies, and murder, were extracted from the dataset. A limitation for this dataset was that it did not include all types of violent crime (Appendix D).

QUALITATIVE DATA COLLECTION

Key Informant Interviews:

Key informant interviews were conducted to obtain detailed information from local leaders and residents of Galena Park, as well as content experts, on their knowledge, attitudes, and beliefs about the status of pedestrian and bicycle infrastructure in the district, as well as desired locations in need to safety improvements. Interview questions were decided upon as a team and collaboratively revised to ensure all relevant topics were comprehensively addressed.

Interviews began with an introductory explanation of the Safe Crossings project and its objectives, as well as a description of the project's outcome and interview ground rules. Consent forms were reviewed and signed prior to continuing with the interview process. A terminology sheet, maps of the interviewee's respective community for visual identification of problem areas, and an answer sheet for Likert scale-based questions were also provided to reference during the interview. Prior to starting the interview consent to record was confirmed and an opportunity for interviewees to ask any clarifying questions was given.

Two team members were present for each interview, with one serving as an active interviewer and the other as note taker. During the interview, the key informant was allowed to take a break at any time or request to end the interview at any time. Recorded interviews were downloaded, transcribed, and reviewed by another BE Unit staff member for accuracy. All files were saved with no identifying information to maintain the confidentiality of the key informant. Following review, themes were extracted from the content of the interviews using NVivo Transcription software.

Resident Survey

Resident surveys were created to obtain community input on areas where residents frequently walk or bicycle and their perception of safety in these areas. The surveys included a questionnaire in English and Spanish along with maps for residents to mark specific intersections and/or streets. The survey was administered during a monthly senior luncheon and the local Galena Park community center in July 2018. Results were analyzed and mapped in ArcGIS to examine trends in responses.

Community Engagement

In addition to the qualitative data collection methods listed above, community outreach was initiated and established through a community stakeholder workshop, led by the BE Unit and Asakura Robinson. Stakeholders were identified with the assistance of local leaders from the city and ULI members. Prospective attendees for the Galena Park community workshop included school administrative officials and Galena Park ISD staff, Galena Park Police Department, City officials and representatives, Harris County Engineering Department representatives, members of ULI, and local residents.

A presentation explaining the objectives of the project was presented for community stakeholders at the event, detailing the project's goals, current progress, future plans, and prospective identified intersections within the community. Community stakeholders were divided into focus groups for two scheduled breakout sessions and a prepared guide of Safe Crossings-related questions was distributed to stimulate discussion and exchange of ideas. Questions included:

1. What does a safe crossing mean to you?
2. Who are we designing for?
3. Which design features are essential?
4. How would people benefit?

Participants were also asked to rate the priority of specific pedestrian infrastructure features and improvements (Appendix E) that they would like to see in the community. Responses were recorded by a scribe and results were analyzed by the Asakura Robinson team with consultation from the BE Unit.



Picturing Crossings



ENVIRONMENTAL SCAN TOOL RESULTS

PEDESTRIAN AND BICYCLE CONDITIONS

Data on the pedestrian and bicycle environment in the Study Area was collected using the BE Unit's Environmental Scan Tool (EST). The tool provided data on the walking and bicycling environment including sidewalk characteristics, street characteristics, crossing aids and signage, land use, and services and amenities (Appendix B).

Most segments examined consisted of single-family homes. Other land uses within the segments were multi-family housing, offices, schools or churches, commercial retail or restaurants, industrial, recreation or parks, utilities, and vacant or undeveloped lots.

Most of the segments did not have sidewalks (74%), and of the few segments that did, 40% of the sidewalks continued to the end of the block on at least one side of the road. A majority of the sidewalks were concrete (89%), 3-4 feet (75%) wide and in good condition (63%) (i.e. rated very few bumps or cracks or unkempt landscaping). Only a small percentage (13%) of the sidewalks were rated to be safe and accessible for people of all abilities, raising concern for individuals with additional mobility needs.

Few pedestrian crossing aids or signage were present in Galena Park, including painted crosswalks with and without pedestrian signals, pedestrian signs, and ADA ramps at intersections. There were, however, many stop signs and speed bumps in the residential streets and traffic speeds were generally 30 mph or less.

In terms of comfort of the environment, the streets were clean and absent of litter or graffiti (72%) and some shade trees were present on over half (63%) of the streets assessed. Street oriented lighting was present on approximately half (51%) of the segments, presenting a safety issue in low-light or dark conditions.

Lastly, there were no bicycle facilities present in Galena Park in terms of shared or dedicated bicycle lanes, and no bus stops due to the absence of public transportation.

The data supports concerns of an unsafe walking and bicycling environment around Galena Park and in accessing the community's resources due to the limited pedestrian and bicycle infrastructure, inaccessible sidewalks, and limited supporting infrastructure such as crosswalks, lighting, and signage. The traffic calming measures on residential streets may improve the resident's sense of safety but crossing and walking along the busier roadways may prove to be more uncomfortable and inaccessible to some.

COMMUNITY ENGAGEMENT RESULTS AND PRIORITIES

KEY INFORMANT INTERVIEWS

Major themes around pedestrian and bicyclist safety identified for the city of Galena Park were separated into safety and accessibility concerns and infrastructure barriers with contributing factors around behavioral norms and barriers to health equity. There was overlap between the two major themes, indicating that issues and concerns around safety and accessibility and infrastructure are interrelated.

For infrastructure barriers, the issue of sidewalks was most frequently cited as a barrier for pedestrians. There is a general lack of sidewalks on major streets in Galena Park, such as Holland Avenue and Clinton Drive. However, many of the collector and residential streets do contain sidewalks but they may be in need of repair or updates. The City has been successful in utilizing Community Development Block Grant funds to repair and install sidewalks in the community, but they are aware that the need outweighs the current financial resources. In addition to sidewalks, there is a general lack of investment in the roadways which receive heavy wear and

tear due to the heavy truck traffic in the area and there is no bicycle infrastructure located in the City. There are few crosswalks in the community, as most are located near the schools, and as a result there is an issue with jaywalking, especially along the major streets that contain more vehicles and heavy truck traffic. The City has installed speed bumps in residential streets to slow traffic but recognizes there is a need for additional traffic calming to address concerns around speeding. Lastly, there is a need for drainage improvements, as street flooding impacts residents' ability to travel throughout Galena Park.

For safety and accessibility concerns, sidewalks were also heavily cited as a safety concern, specifically on the major streets. The age and condition of existing sidewalks present an accessibility concern for residents with disabilities, families with young children, and the elderly. Additionally, there is a need for crosswalks with ADA compliant curb ramps to ensure accessibility for all users. Given a number of pedestrians have to walk due to limited vehicle ownership and the absence of public transportation in Galena Park, key informants expressed concerns about the presence of industry and heavy truck traffic impacting actual safety and the perception of safety. Dangerous behaviors among pedestrians and drivers were discussed as major safety concerns, including jaywalking, distracted driving, and speeding. Informants discussed that this could be due to a lack of awareness of traffic laws or limited understanding from language barriers. To combat these behaviors, key informants discussed the need to provide education around safe driving and walking in English and Spanish coupled with better enforcement of traffic laws. Lastly, there is no bicycle infrastructure in the city to provide safe and accessible bicycle access for cyclists.

Contributing to infrastructure and safety and accessibility concerns are the barriers to health equity due to the low socioeconomic status of the community and its residents, the limited financial resources of the city to support all needs and services, limited community resources, such as a full-service grocery store and healthcare, and additional language barriers.

As a result, needed improvements discussed by the key informants could be separated into two categories: 1) Investments in pedestrian and roadway infrastructure and 2) Opportunities for community education and awareness.

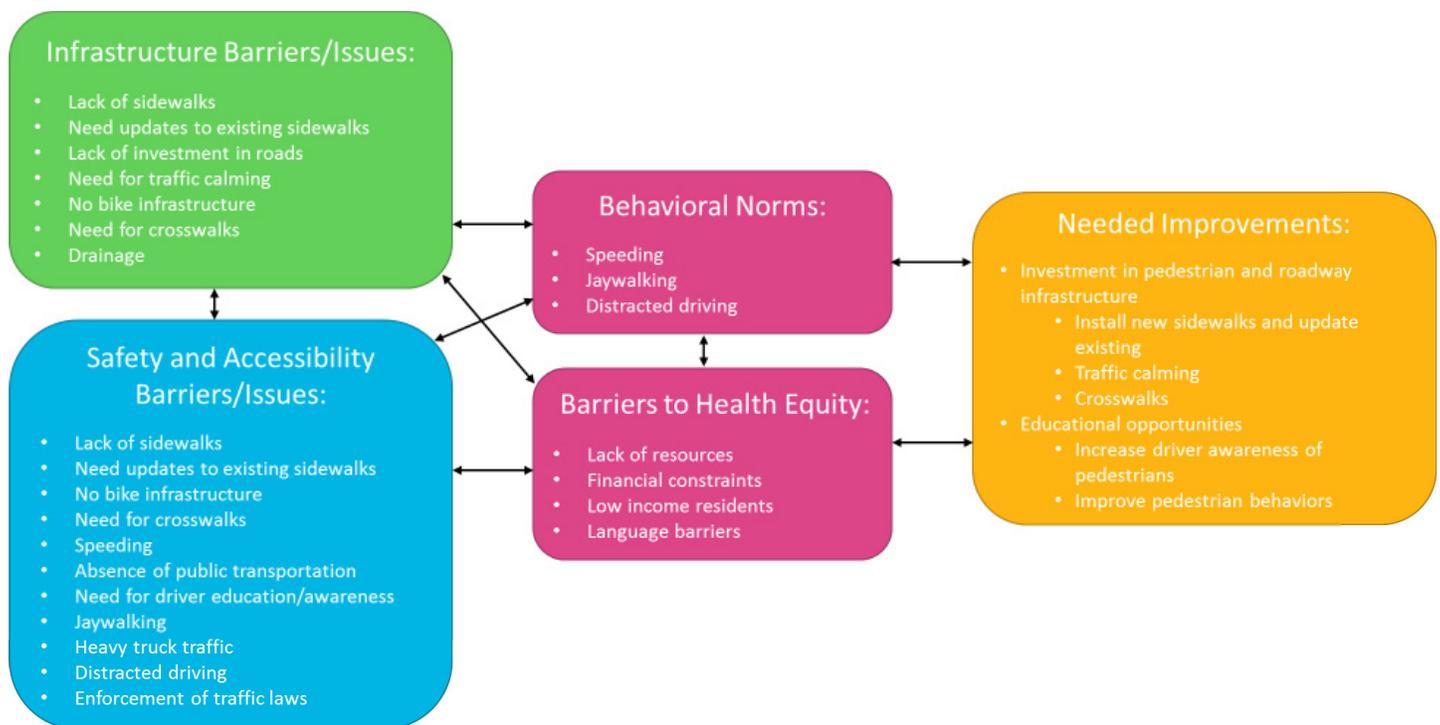


Figure 8: Galena Park Key Informant Interview Analysis

RESIDENT SURVEY

Twenty-seven resident surveys were completed at a monthly senior luncheon at the Galena Park community center in July 2018. Majority of respondents (70%) indicated they do walk in Galena Park for either transportation, exercise, or recreation, and they typically see other people walking in Galena Park (81%). Just over half (56%) of the respondents felt the sidewalks and roads were unsafe for walking. The main themes identified from survey responses were the need for more sidewalks and safety improvements. The residents expressed the need for sidewalks on busier streets, such as Holland Avenue and Main Street, as well updates to the existing sidewalks. Many felt the existing sidewalks were not wide enough and the condition and presence of cracks made travel more difficult for them. To improve safety, the residents indicated the need for street lighting to improve visibility of and for the pedestrians and traffic calming to reduce vehicle speeds.

When asked what streets were uncomfortable to walk or bicycle on, Holland Avenue, 7th Street, Keene Street, and 16th Street were mentioned most frequently. Holland Ave was described as difficult to cross and unsafe for students walking to and from school due to the speed of traffic and lack of signalized intersections and crosswalks. Many of the community amenities are centrally located in Galena Park and serve as hubs for pedestrian activity. Residents expressed concern in trying to navigate the busier streets on foot to access the parks, schools, and other resources in the area. Limitations to the survey include the small sample size and the responses may skew towards the needs of the elderly survey population.

COMMUNITY ENGAGEMENT

The community stakeholder event in Galena Park was held in November 2018 at the Galena Park Community Center. The event was attended by 16 stakeholders representing local community leaders, residents and content experts from the City of Galena Park, Galena Park High School, Galena Park Library, Galena Park Police Department, Houston-Galveston Area Council, Houston Parks Board, Harris County Engineering Department, and ULI members. Major themes and needs were examined and analyzed by Asakura Robinson with consultation from the BE Unit.

When asked “What does a safe crossing mean to you?” four themes emerged around 1) visibility and awareness of pedestrians, 2) design for pedestrians, 3) education opportunities, and 4) a desire for safety. Respondents discussed the need for lighting to improve visibility of pedestrians in low-light conditions as well as other physical cues to slow traffic and increase driver awareness of pedestrians. Similarly, they discussed the need for both driver and pedestrian education on safe behaviors when crossing the street and to improve driver behavior and awareness of pedestrians. In addition to education, they would also like to see improvements in the design of infrastructure to benefit pedestrians, whether this be signalized crossings or given more time to cross an intersection, to even designing to prevent harmful behavior like jaywalking. Overall, respondents discussed the desire for safety improvements in the community.

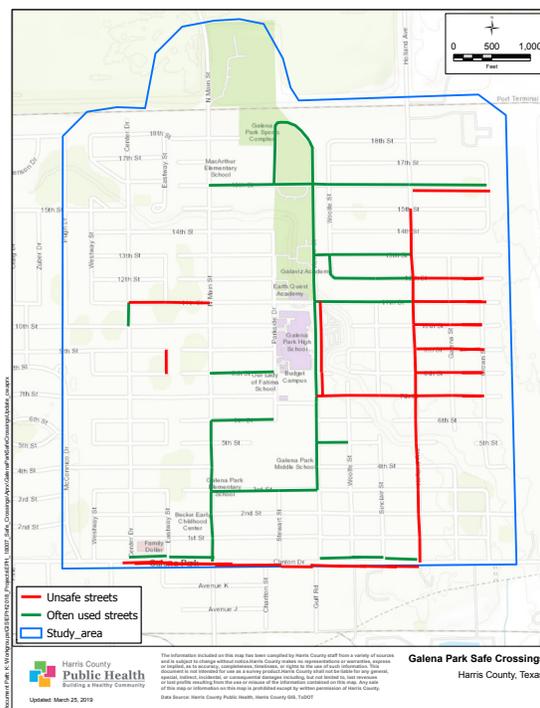


Figure 9: Galena Park Resident Survey Map

Throughout the remainder of the discussion, participants discussed how they would like to see community designs that are inclusive for everyone – both pedestrians and drivers. They acknowledged that there is no public transportation in Galena Park and there are many families that share one vehicle, thus there are a number of residents – children, adults, and elderly - that must walk for transportation.

In order to improve safety and create a sense of pride in the community, stakeholders discussed the need to include more prominent crosswalk markings and extended curbs to shorten the crossing distance. Textured and colored material can significantly improve nearside visibility of pedestrians, children, and people on mobility devices for motorists by bringing the line of sight closer to where people are crossing rather than farther down the road. Raised crosswalk treatments and improved traffic signal functionality that prioritizes pedestrian movement was also discussed, as well as improved lighting conditions, wider sidewalks, and speed control on the major thoroughfares through the city.

Lastly, the final goal of the stakeholder engagement was to gain consensus on a preferred location that would benefit from engineering improvements and recommendations. Consensus emerged on the Main Street at Clinton Drive intersection, over Holland at 16th that was suggested by the BE Unit. Participants referenced the potential expansion of civic facilities on Clinton toward Main Street which would connect with the schools on Main Street -- a safer intersection would be ideal in this location. In addition, students frequently cross to the McDonalds and families walk their children daily to school.

INTERSECTION SITE PROFILE

CLINTON DRIVE AND MAIN STREET

This is a popular intersection for pedestrians, specifically for families that live south of the intersection who walk their children to school and for students who frequent the McDonald's after school. Clinton Drive is a 4-lane roadway with 8 ft. shoulders on each side that serve as a main thoroughfare for heavy truck traffic transporting from local industries and refineries in the area to nearby highways. There are no sidewalks on Main Street and only a small segment of sidewalk on the Northeast corner of intersection on Clinton Drive in front of the existing church building. The existing traffic signal was constructed in the mid-1980s, which only included pedestrian ramps and facilities on the southeast and southwest corners. There are no pedestrian ramps on the northeast and northwest corners of the intersection. Both the pavement markings and pedestrian ramps are worn down and difficult to see.

There are 2 documented collisions between 2013-2017 at this intersection involving a young pedestrian under the age of 18 and an elderly pedestrian over 65 years. Both resulted in possible injuries, neither of which were incapacitating.

RECOMMENDATIONS

In Galena Park, there is a strong desire by the community to improve the safety and accessibility for residents who walk and/or bicycle throughout the community. This is a low-income, minority community who relies heavily on vehicles or active transportation to travel throughout the city as there is no METRO service in Galena Park. There is limited vehicle ownership per household, thus many residents must rely on walking or bicycling to their destinations. There are also a number of seniors and residents who walk to the park, community center, and community pool for recreation and exercise.

The City of Galena Park has been successful in utilizing Community Development Block Grant funds to install new sidewalks and update existing sidewalks in the city. It is recommended that the city continue these efforts to provide safe and accessible sidewalks on city streets. There is an expressed need for sidewalks on the major streets that run through the city that are county-owned and maintained, like Holland Drive and Clinton Drive. These are busier streets that serve as thoroughfares through the city with heavier traffic volumes and truck traffic, however they are also lined with community business and resources, and separate residential neighborhoods from the schools and community resources located central in the city. In addition to updating the intersection at Clinton Drive and Main Street, it is recommended that the city and county work together to identify additional intersections in need of improvements that serve as important crossing locations on Clinton Drive and Holland Avenue to further advance safe crossings for Galena Park residents. This is considered a long-term effort that will likely require the involvement of additional traffic studies and infrastructure improvements, and engage multiple stakeholders to implement, but one that could have a positive and long-lasting effect on the quality of life for Galena Park residents.

In addition, a Safe Routes to School (SRTS) plan may provide additional insight into the walking and bicycling perceptions and behaviors of families and children in the community. This plan could provide a pathway to improve education and awareness around safe walking and bicycling that is needed in the community, in addition to identifying additional infrastructure barriers to safely walk and bicycle to school. Lastly, having a Safe Routes to School plan in place may provide access to additional funding streams that support SRTS and active transportation, specifically. The creation of a SRTS plan would require buy-in and engagement from the schools, Galena Park ISD, the city, and local families.

The recommendations below are site specific to the identified intersection described in the report. The table below outlines the recommendations, the population impacted by the specific recommendation, as well as the anticipated health benefit(s). Recommendations in the table are sorted by priority based on community feedback.

Intersection at Clinton Drive and Main Street

- Rebuild traffic signals and bring the intersection to Harris County’s current standards, which will include installation of ramps on all four corners, pedestrian push buttons, and pedestrian heads.
- Install raised concrete pavement on the northeast, northwest, and southeast corners to provide an improved landing area for pedestrians.
- Refresh pavement striping at the intersection and approximately 250 feet in each direction.
- Install artistic crosswalks at the intersection to improve visibility of the crosswalk and reinforce the strong culture of community present in the City.
- Update existing curb ramps to create directional ADA ramps to provide an improved landing space for pedestrians, to create a pedestrian refuge, and improve accessibility for mobility-impaired users.

- Incorporate a Leading Pedestrian Interval into pedestrian crossing times to allow pedestrians a ‘head start’ into the crosswalk before movement of vehicles. Feasibility of incorporating this feature will be based on the results of a traffic signal operation study.
- Install sidewalks along both sides of Clinton Drive and Main Street to provide safe and accessible pedestrian walkway to students and residents who currently walk along these roadways .
- Place sidewalks to continue seamlessly across driveways at the same elevation.
- Explore opportunities to add pedestrian-scale lighting to increase visibility.
- Accessible Pedestrian Signals (APS) and Pedestrian Pushbuttons with audible and braille features are installed to allow people with visual and audible impairments to make use of push buttons and crosswalks.
- Examine opportunities to improve the placement of the pedestrian push buttons to provide enhance accessibility for mobility impaired users.
- Currently on the southwest corner of the intersection, there is undeveloped vacant City property. One optional recommendation is to encourage development that includes a safe pedestrian environment that encourages walking including features such as a public plaza, green infrastructure and/or street furniture. An example is provided but there are several designs that could be considered.



Figure 10: Northeast corner of intersection, sidewalks present, no ADA ramps, pedestrian signals, or crosswalk



Figure 11: Southeast corner of intersection. No sidewalks, ADA ramps, or pedestrian signals

Recommendation	Category	Vulnerable Population	Health Benefit	Community Priority	Phasing*	Cost**
Rebuild traffic signals and bringing intersection to Harris County's current standards, which includes the installation of ramps on all four corners, pedestrian push buttons, and pedestrian heads.	Traffic Signals	Anyone walking; People with Physical Impairments	Improved Accessibility	High	Long	High
Refresh pavement markings.	Crosswalk	Anyone walking; People with Physical Impairments and Children	Improves accessibility for visually impaired; Improved visibility	High	Short	Low
Install artistic crosswalks.	Crosswalk	Anyone walking	Improves crosswalk visibility, Provides sense of place and community	High	Short	Low
Update existing curb ramps to Directional Curb ramps, install curb ramps where there are currently none, and create a pedestrian refuge and landing space at each corner.	Ramps	Anyone walking; People with Physical Impairments and Children	Improves directionality for visually impaired; Aligns with crosswalk	High	Short	Low
Incorporate Leading Pedestrian Interval at traffic signals.	Traffic Signals	Anyone walking	Reduces pedestrian vehicle collisions as much as 60%. ¹	High	Short	Low
Install sidewalks along Clinton Drive.	Sidewalk	Anyone walking; People with Physical Impairments	Reduces risk of pedestrian injury by 65-89%. ² Improved Accessibility	High	Long	High
Install sidewalks Main Street, north and south of Clinton Drive.	Sidewalk	Anyone walking; People with Physical Impairments	Reduces risk of pedestrian injury by 65-89%. ² Improved Accessibility	High	Long	High
Install pedestrian-scale lighting.	Lighting	Anyone walking; People with Physical Impairments and Children	Improved visibility. Improved pedestrian safety and prevents crime. ³	High	Short	Medium
Install Accessible Pedestrian Signals and Detectors with audible and braille features that allow people with visual and audible impairments to make use of push buttons and crosswalks.	Traffic Signals	People with Visual and Hearing Impairments	Improves accessibility for visually impaired	Medium	Short	Low
Encourage development of vacant City property that includes a safe pedestrian environment with features such as public plaza, green infrastructure and/or street furniture.	Sidewalk and Development	Anyone walking	Improved accessibility; Improved pedestrian comfort	Medium	Long	High
Sidewalks are recommended to continue seamlessly across driveways at the same elevation or "level".	Driveways	People with Physical Impairments	Improved accessibility; Improved pedestrian comfort	Low	Long	Medium-High

*Phasing timeline: Short-term is defined as less than 1 year (< 1 year) and long-term is defined at more than 1 year (> 1 year) for implementation

**Cost: Low = \$0-\$75,000, Medium = \$75,000 - \$150,000, High = \$150,000

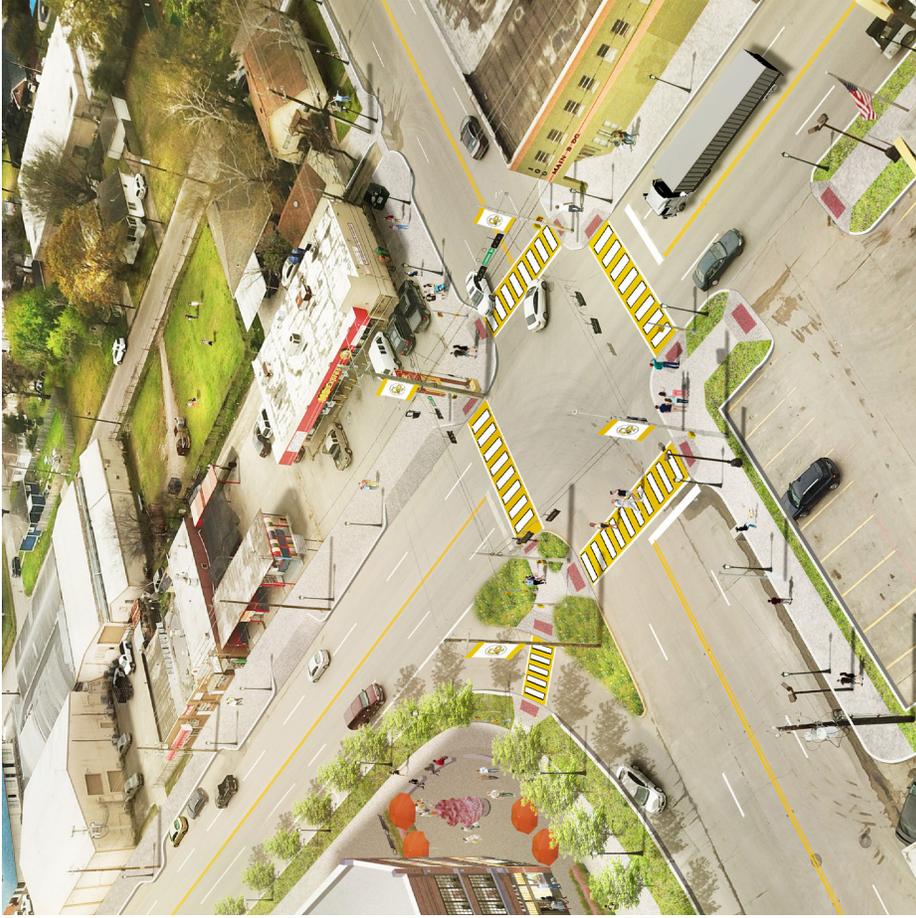
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The SW corner is property of the City of Galena Park. The site is currently vacant and City officials expressed interest in strengthening walkability through future development plans. The concept illustrated here extends the City Hall complex west to this intersection with a civic office building that includes groundfloor retail and an enhanced public realm that reinforces safe walking between the civic uses and the schools north on Main Street.

GALENA PARK
RECOMMENDATION RENDERING





The SW corner is property of the City of Galena Park. The site is currently vacant, and City officials expressed interest in strengthening walkability through future development plans. The concept illustrated here extends the City Hall complex west, to this intersection with a civic office building that includes ground-floor retail and an enhanced public realm that reinforces safe walking between the civic uses and the schools north on Main Street.

GALENA PARK

RECOMMENDATION RENDERING - BEFORE / AFTER

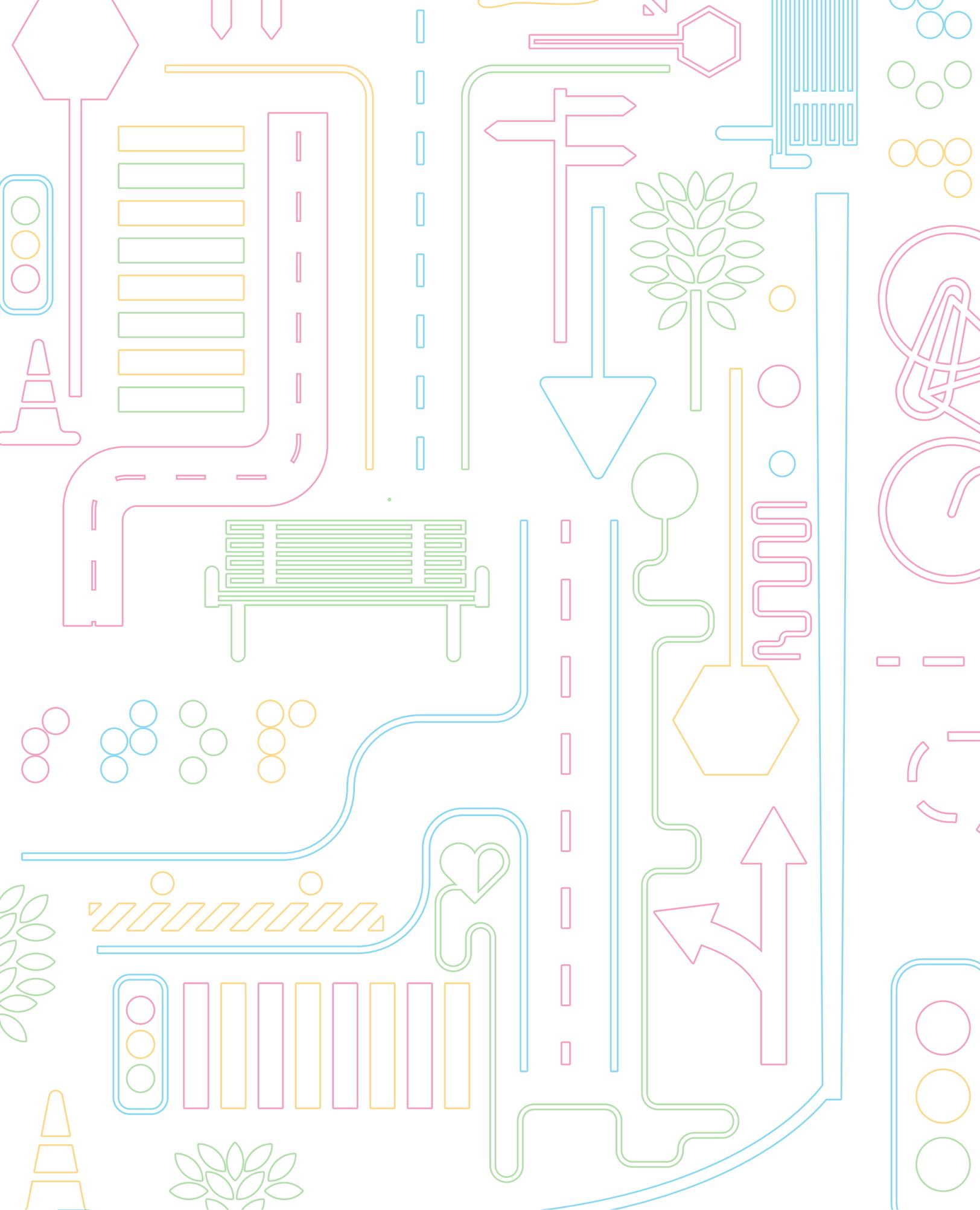


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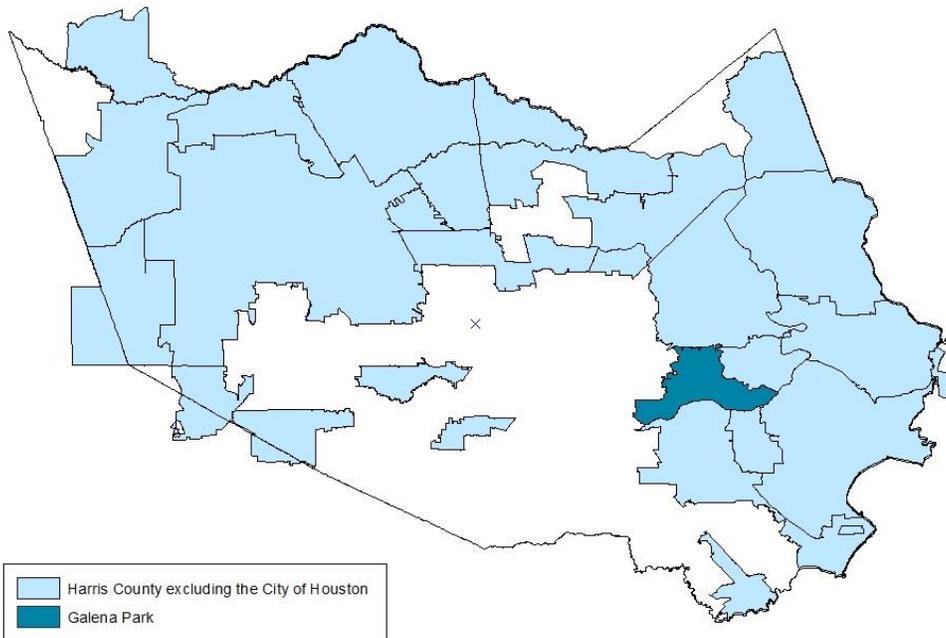
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Appendix A



COMMUNITY HEALTH PROFILE



2014

Galena Park

Galena Park at a Glance

Harris County Public Health and Environmental Services (HCPHES) developed 22 community-specific health profiles to describe and monitor the health of residents in Harris County.

The following community health profile provides an overview of health status for the Galena Park area in Harris County, Texas. The profile identifies opportunities for health improvement by comparing the health indicators of Galena Park area with those of Harris County excluding Houston (HCxH) overall.

- The percent of adults without health insurance is higher in the Galena Park area than in HCxH.
- Adults in the Galena Park area are more likely to evaluate their own health as "fair or poor" and more often likely to be in poor physical health than adults in HCxH.
- The percent of current smokers is higher in the Galena Park area than in HCxH.
- Some areas within Galena Park have limited access to healthy food and is identified as a "food desert."
- The teen birth rate is higher in this community than in overall HCxH.

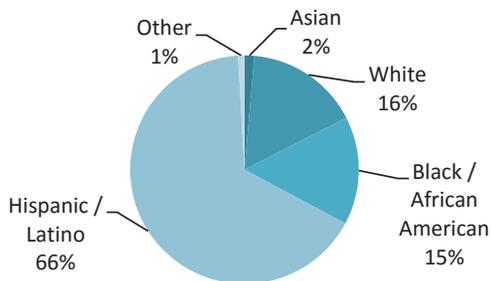
This profile provides important information about the health of Galena Park residents, however, it does not address all health issues and their causes.

Community Health Profile: Galena Park Area

Demographics

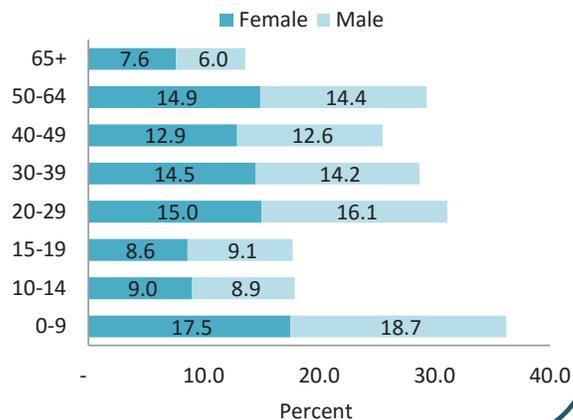
The Galena Park area includes the zip codes 77015 and 77547,¹ which account for a total population of 63,356 individuals.² The Median Household Income is \$44,214, compared to \$67,794 for Harris County excluding the City of Houston (HCxH).^{3,4}

Race / Ethnicity²



Gender by Age

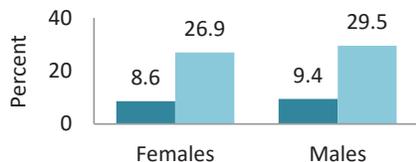
Percent of females and males by age group²



Social Determinants

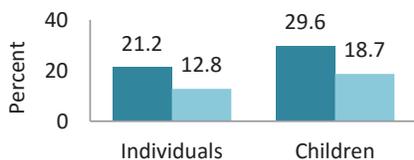
Education

Percent of population age 25+ with four year college degree or higher³



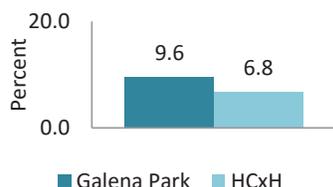
Poverty

Percent of individuals (all ages) and children (<18) living below the poverty line³



Unemployment

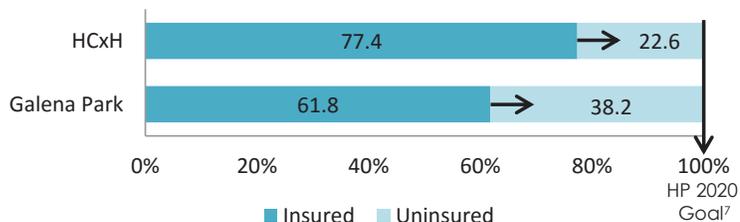
Percent of population age 16+ unemployed but seeking work³



Access to Care

Insurance Status

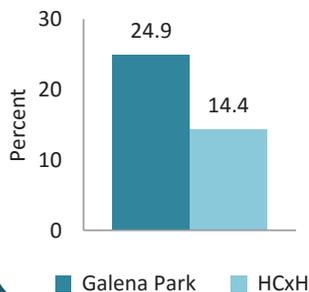
Percent of individuals (18+) with and without insurance coverage.⁵ The Galena Park community is a health professional shortage area.⁶



Overall Health

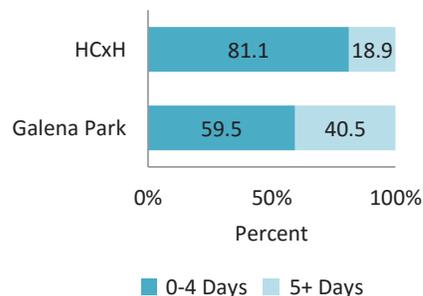
Self-Reported Health Status

Percent of adults (18+) reporting fair or poor health⁸



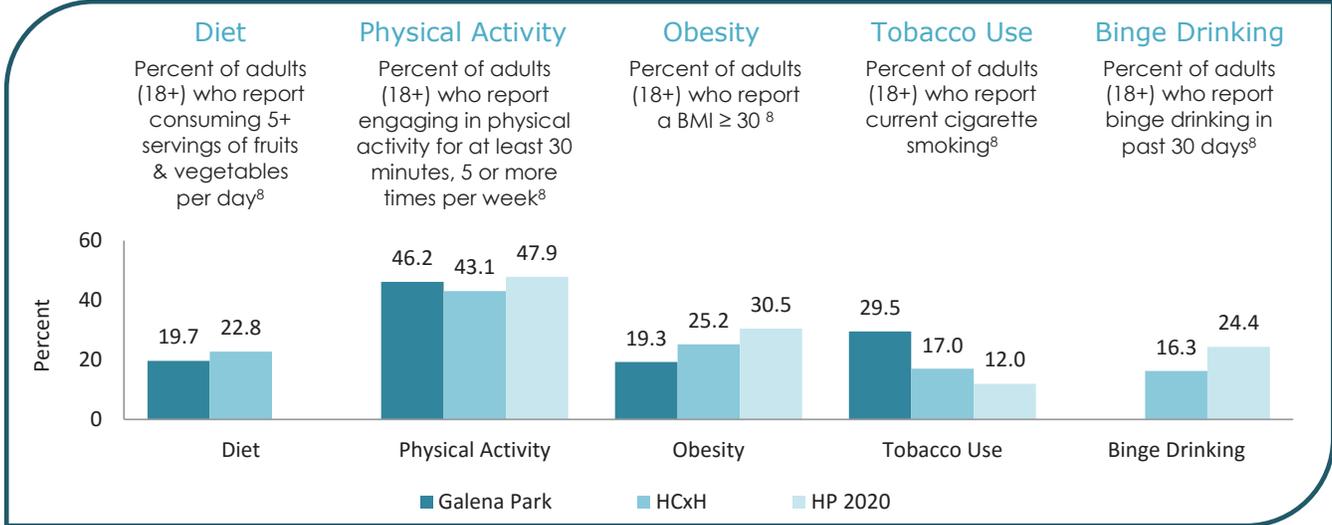
Physically Healthy Days

Percent of adults (18+) reporting poor physical health 0 to 4 or 5+ days per month⁸



Health Behaviors

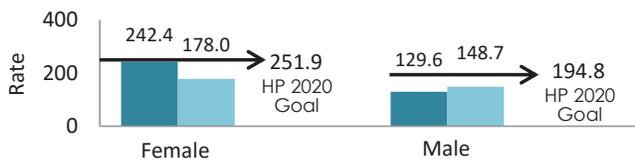
Lifestyle Factors



Sexual Health

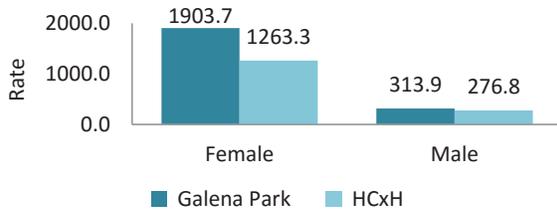
Gonorrhea Incidence

Gonorrhea case rate among ages 15-44 per 100,000 population⁹



Chlamydia Incidence

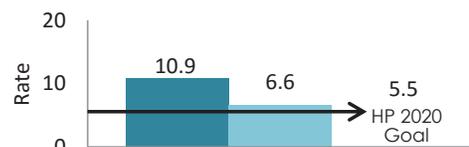
Chlamydia case rate among ages 15-44 per 100,000 population⁹



Public Safety

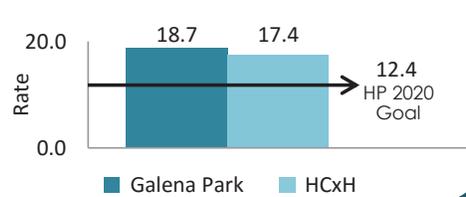
Homicides

Homicide rate per 100,000 population¹⁰



Motor Vehicle Deaths

Motor Vehicle death rate per 100,000 population¹⁰



Built Environment

The **built environment** includes all of the natural and human-formed conditions that impact our quality of life. The CDC defines healthy places as, "those designed and built to improve the quality of life for all people who live, work, worship, learn, and play within their borders." Healthy community design can improve people's health by increasing physical activity, reducing injury, and increasing access to healthy food, among others.¹¹

Access to Healthy Food

Some communities have limited access to healthy food and are referred to as "food deserts." Limited access to fresh fruits and vegetables reduces opportunities to practice healthy eating, which can improve health outcomes. The United States Department of Agriculture (USDA) has identified food deserts throughout the U.S. by census tracts. The following communities in HCxH have census tracts that have been identified as food deserts: Aldine, Clear Creek, **Galena Park**, Humble, La Porte, North Forest, Sheldon and Spring.¹²

Health Status

Leading Causes of Death

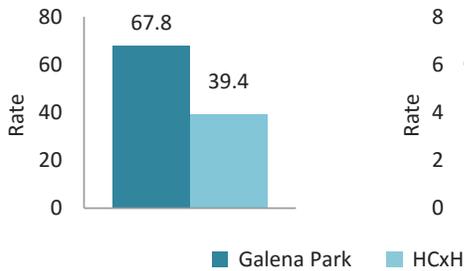
Galena Park's leading cause of death is **heart disease**, followed by cancer, accidents, stroke, and chronic lower respiratory disease. These top five causes account for 64.5% of all deaths in the Galena Park area.^{10,13}

Heart Disease	Cancer	Accidents	Stroke	Lower Resp.	Diabetes	Homicide	Septicemia	Kidney-Related	Suicide	All Other
25.8%	22.7%	7.2%	5.0%	3.8%	3.6%	2.1%	2.3%	1.9%	1.8%	23.8%

Maternal & Child Health

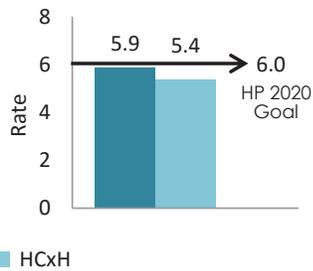
Births to Teens

Live births per 1,000 females aged 15 to 19 years¹⁴



Infant Deaths

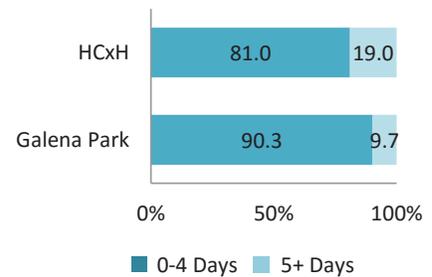
Infant (newborn to 1 year) death rate per 1,000 live births¹⁵



Mental Health

Mentally Healthy Days

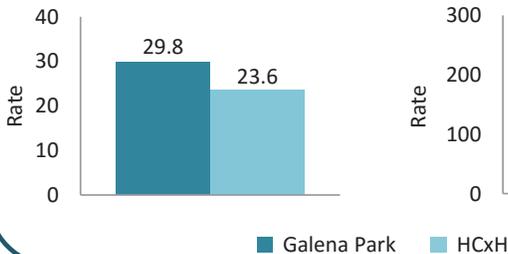
Percent of adults (18+) reporting not good mental health 0 to 4 or 5+ days per month⁸



Chronic Disease

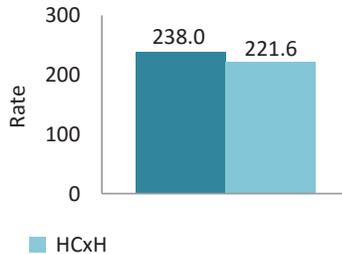
Diabetes

Diabetes-related death rate per 100,000 population¹⁰



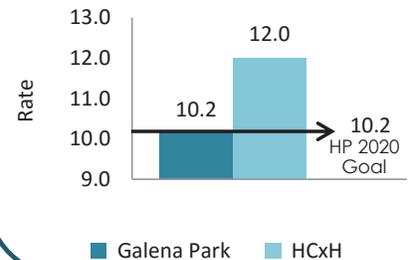
Heart Disease

Heart disease death rate per 100,000 population¹⁰



Suicide

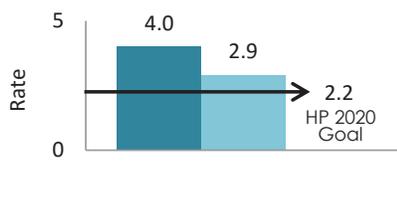
Suicide rate per 100,000 population¹⁰



Cancer

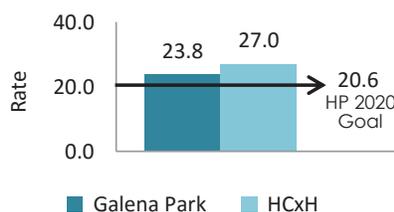
Cervical Cancer

Cervical cancer death rate per 100,000 female population¹⁰



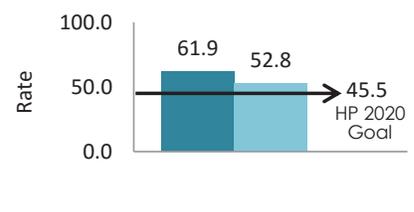
Breast Cancer

Breast cancer death rate per 100,000 female population¹⁰



Lung Cancer

Lung cancer death rate per 100,000 population¹⁰

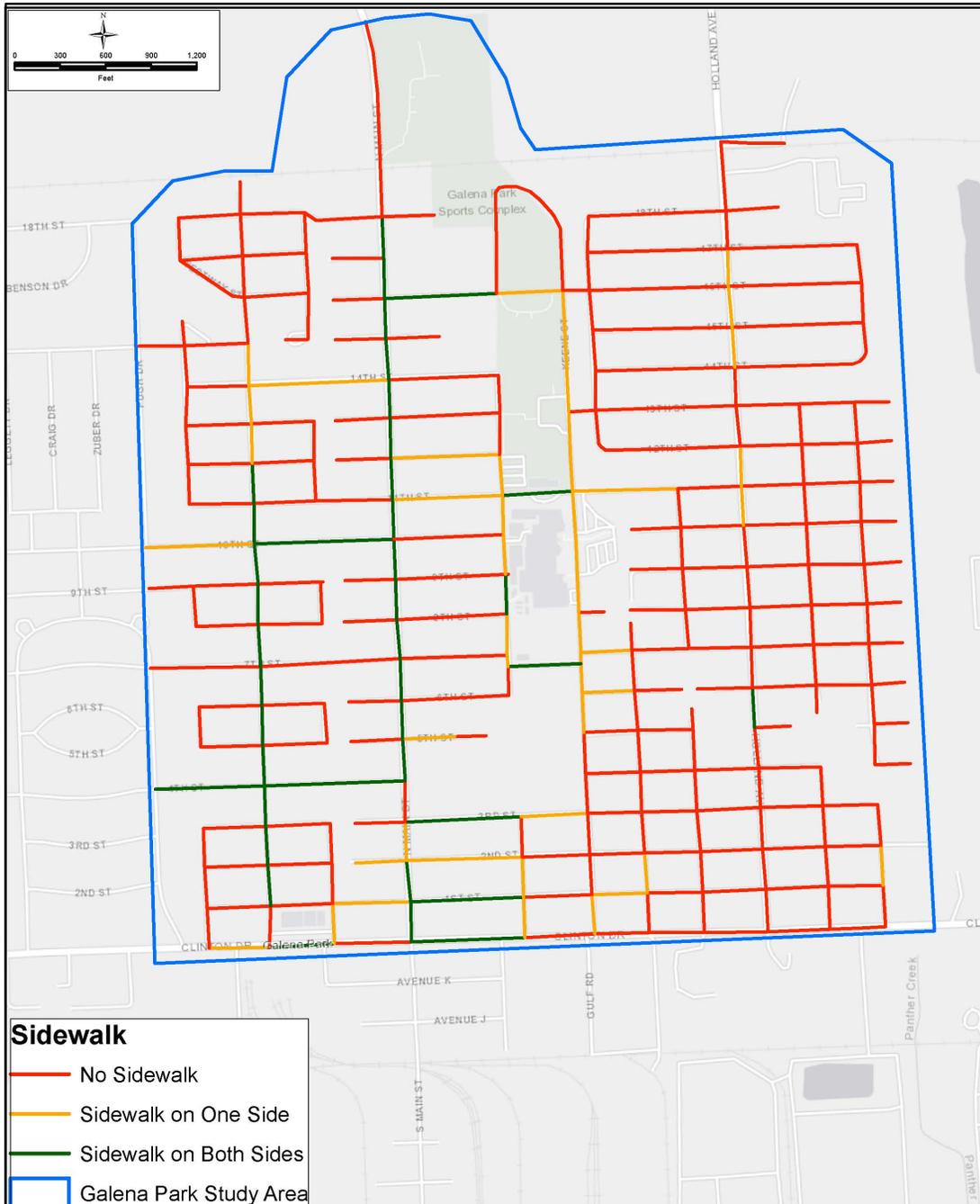


End Notes

Sources

- ¹ The community areas were developed using 59 zip codes, excluding the City of Houston. For more information, please contact the Office of Policy and Planning at opp@hcuphes.org.
- ² Census Bureau 2010
- ³ American Community Survey 2007-2011
- ⁴ Throughout the profiles, the jurisdiction of Harris County excluding the City of Houston is abbreviated as HCxH.
- ⁵ UT School of Public Health, Health of Houston Survey, 2010
- ⁶ Federally designated Health Professional Shortage Areas (HPSAs) lack a sufficient ratio of primary medical care, dental or mental health providers to the population. Find further information at <http://www.hrsa.gov/shortage/>.
- ⁷ The abbreviation HP2020 stands for Healthy People 2020. Further information can be found at www.healthypeople.gov.
- ⁸ Texas Department of Health Services, Center for Health Statistics, Behavioral Risk Factor Surveillance System 2004-2010. Galena Park's binge drinking data not reported due to insufficient sample size.
- ⁹ Texas Department of Health Services, HIV and STD Program, 2010
- ¹⁰ Texas Department of Health Services, Center for Health Statistics, 2001-2008 Average Age-Adjusted Rates. Kidney-related refers to nephritis, nephrotic syndrome, and nephrosis.
- ¹¹ To learn more about the built environment and healthy places, visit <http://www.cdc.gov/healthyplaces/about.htm>.
- ¹² For more information about USDA defined food deserts, visit <http://www.ers.usda.gov/data-products/food-desert-locator.aspx>.
- ¹³ Note that the 'Leading Causes of Death' percentages may not sum exactly to 100% due to rounding error.
- ¹⁴ UT School of Public Health, Prevention Research Center, 2011
- ¹⁵ Texas Department of Health Services, Center for Health Statistics, 2000-2008

Appendix B: Environmental Scan Results (2018)



Sidewalk

- No Sidewalk
- Sidewalk on One Side
- Sidewalk on Both Sides
- Galena Park Study Area

Document Path: K:\Workgroups\GIS\EPH\2018_Projects\EPH_L_18007_Safe_Crossings\Map\Galena Park_EST\GalenaPark_EST_Sidewalk.mxd

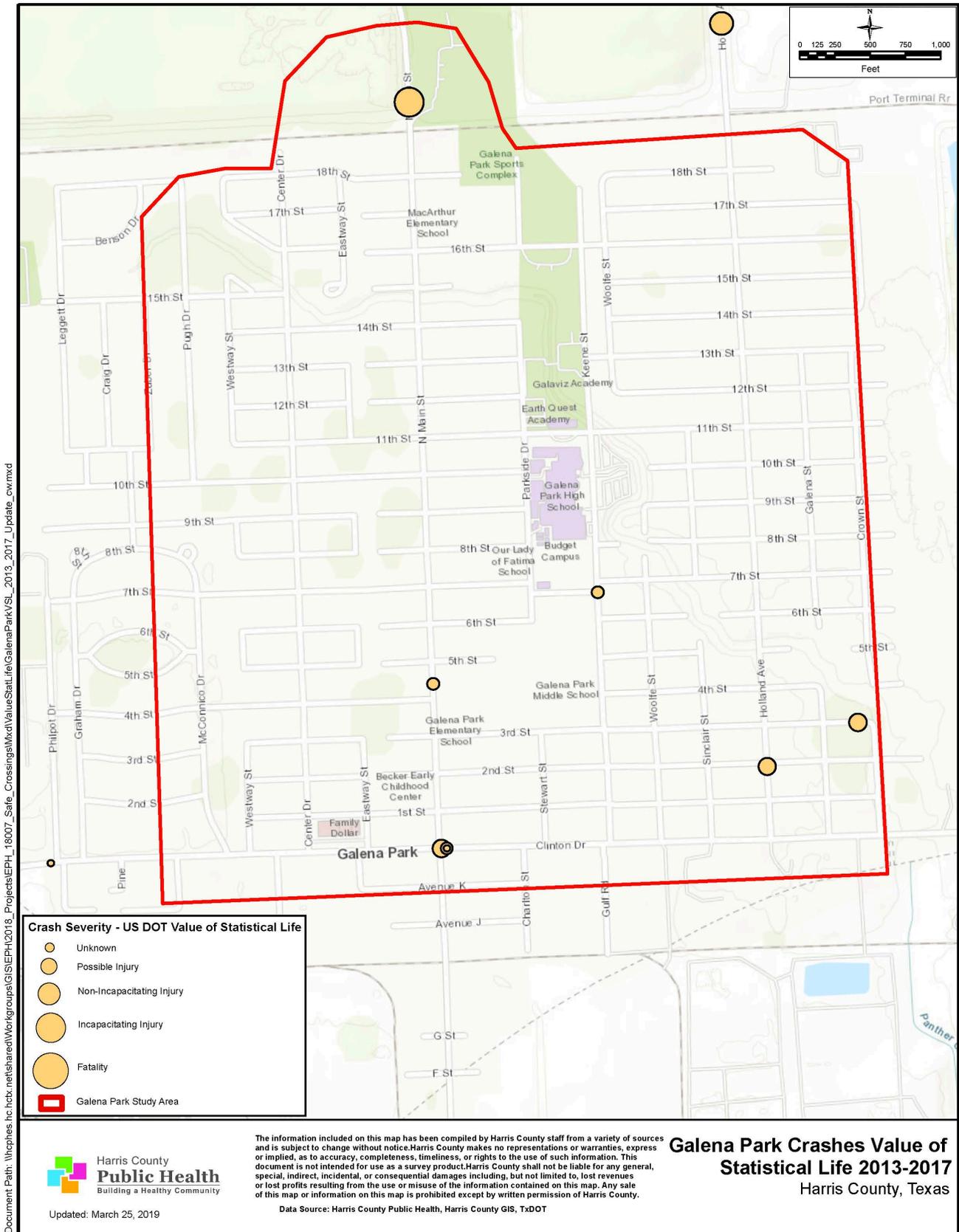

**Harris County
Public Health**
 Building a Healthy Community
 Update: September 21, 2018

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 Data Source: Harris County Public Health, Harris County GIS

**Galena Pa
Safe Crossing**



Appendix C: USDOT Value of Statistical Life

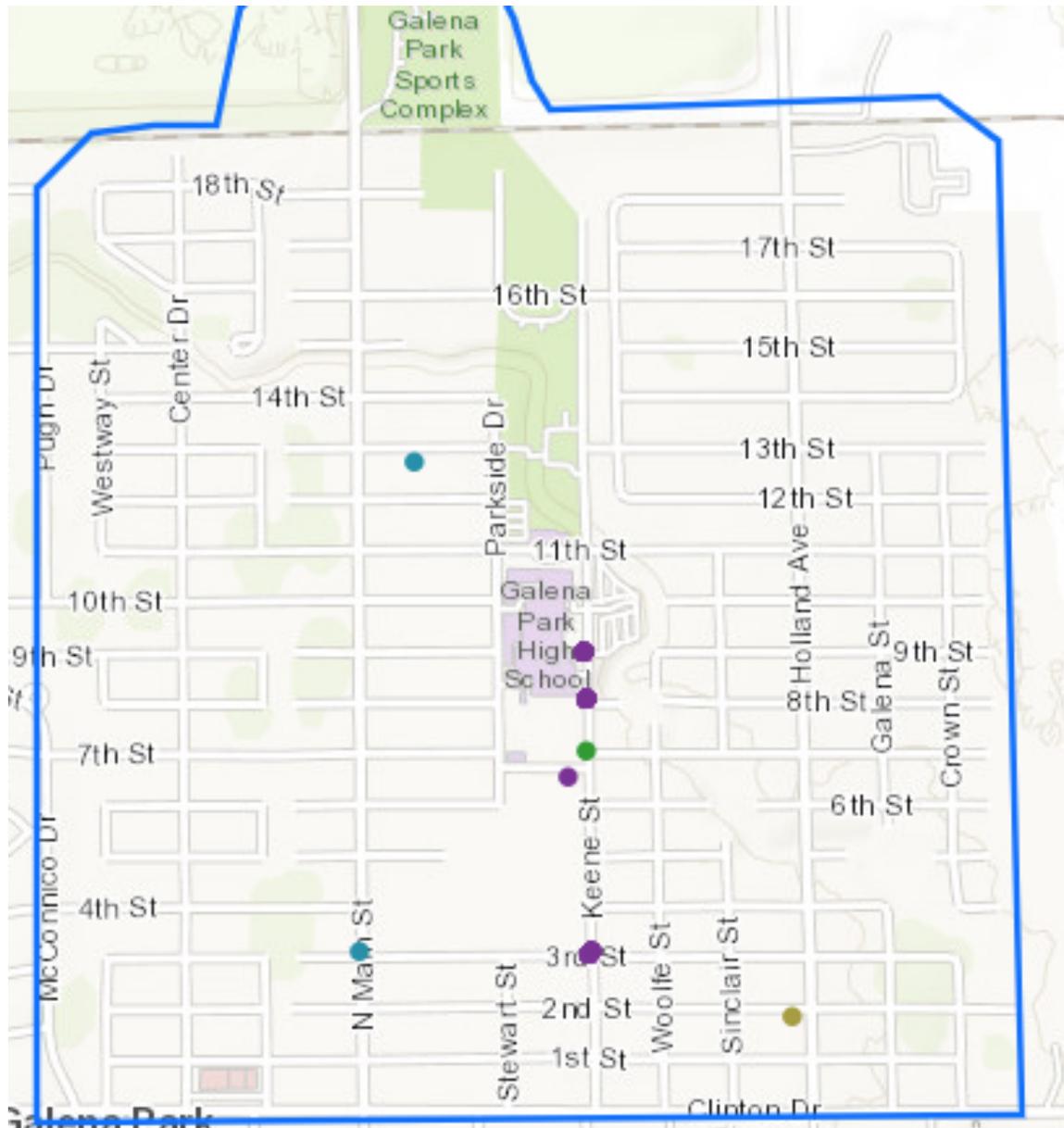


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Weighted Value:

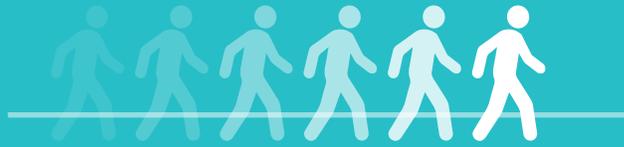
Crash Severity	US DOT Value of Statistical Life
Fatality	9.6000
Incapacitating Injury	2.5536
Non-Incapacitating Injury	0.4512
Possible Injury	0.0288
Not Injured	0.0072
Unknown	0.0072

Appendix D: Galena Park Violent Crime



Appendix E: Community Engagement Results

ULI Safe Crossings *Design Recommendations*



Project Team

HARRIS COUNTY PUBLIC HEALTH



URBAN LAND INSTITUTE



HARRIS COUNTY ENGINEERING DEPARTMENT



CONSULTANT TEAM



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Introduction

The project team conducted two strategy sessions (Galena Park and East Aldine) with community leaders and members of the Urban Land Institute's Building Healthy Places Initiative. Below is a summary of design recommendations put forth by the consultant team, Asakura Robinson, based on the input received in both communities and national best practices on safe street and intersection design. The following manuals were consulted, in addition to the public's input, and inform the recommendations listed here prior to going into conceptual design. The TX MUTCD was also reviewed to document how best practices could be incorporated by Harris County Engineering Department (HCED). HCED has developed its own set of recommendations for these crossings, in accordance with the County's design standards. The listed recommendations in this document do not represent HCED's design recommendations.

- Institute of Transportation Engineers (ITE) Designing Walkable Urban Thoroughfares: A Context Sensitive Approach
- Federal Highway Administration (FHWA) Achieving Multimodal Networks
- FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations
- National Association of City Transportation Officials (NACTO) Urban Street Design Guide
- Urban Land Institute's (ULI) Building Healthy Places Toolkit



Community Engagement

The project team convened 2 strategy sessions with community stakeholders in Galena Park and East Aldine. The agenda included a presentation on the project and data collection conducted by Harris County Public Health. This was followed by a workshop exercise that started with a series of conceptual, big-picture questions, and was followed by a table exercise with precedent images of crossing treatments asking participants to rank them in low, mid and high priority.

Presentation (30 minutes)

- Project Overview and Schedule
- Existing Conditions Data Collection
- Intro to Consultant Team

Workshop (60 minutes)

- Design Criteria and Priorities (30 minutes)
- Table Exercise - Picturing Crossings (30 minutes)

Design Criteria and Priorities was framed around asking participants the following questions:

- What does a safe crossing mean to you?
- Who are we designing for?
- What features are essential for a safe crossing?
- How should people benefit from an improved crossing?

Picturing Crossings exercise in Galena Park displayed here:



PICTURING CROSSINGS

 Corner Radius/ Curb Extensions VOTE HERE	 ADA Ramp, Tactile and Braille VOTE HERE
 Pedestrian Refuge Island VOTE HERE	 Clear Overhead Light Pole Clearance Highway and Brackets VOTE HERE
 Pedestrian Loading Islands VOTE HERE	 Speed Bump VOTE HERE
 Raised Crosswalk/Treatments VOTE HERE	 Artistic VOTE HERE
 Landscaping/Plantings VOTE HERE	 Shades VOTE HERE

● Low Priority ● Medium Priority ● High Priority

Please elaborate on specific features you believe are worth considering for any of the listed topics.

Community Engagement

Galena Park Feedback

I. What does safe crossing mean to you?

- Safe/readily available (for students commuting on foot)
- Safety for all citizens of GP
- How clear movements are (visible/simple, knowing how to navigate as a pedestrian or driver)
- Visual/Physical cues to gain attention (speed humps, changes in road texture)
- Instructions on how to use treatments
- Visibility (lighting, forewarning) but not overwhelming amount of signage
- Knowledge of respective lanes as a ped/driver
- Inclusive of pedestrians/all types of motor vehicles
- Code enforcement (adequate), infrastructure to discourage dangerous practices like jaywalking
- Awareness that people will attempt to cross regardless of presence of crosswalks
- Awareness of areas that people avoid b/c they are perceived as dangerous
- Signalized, and timed to benefit pedestrians
- People crossing are visible
- A crossing where people aren't hit

II. Who are we designing for?

- Young, unaccompanied kids on foot
- Residents who may/may not have personal transportation
- Whole spectrum of families; typical for families to share one vehicle, walk together to destinations
- Residents who participate in events that happen in centralized area of GP
- Residents who use green space(s)
- Current pedestrians, not future pedestrians
- People who are legally blind
- Children/students/young adults - between McDonalds and Library after school (2:30pm)
- Balance of impact on pedestrians and vehicles
- People using strollers/walkers
- People living south of Clinton in apts, walking across Clinton to pick up kids at elementary school

Community Engagement

III. Which design features are essential?

- LED lighting - visible markings (signage, visual cues, maintained crosswalks)
- Speed control - Forewarning of upcoming traffic features
- Painting crosswalks in a way that cars see them as they approach - features that separate pedestrians/drivers
- Appropriate sidewalk width
- Speed bumps
- How non-signalized crossings are treated
- Designing from a perspective of how people currently and specifically using infrastructure
- Highlighting crosswalk
- Potential for pedestrian hybrid beacon at Main & Clinton if maintained by city
- Vehicle signage alerts, particularly for 18th to Wheelers
- The new crosswalk paint at H.S. is great (there is a school zone speed limit)
- Need something on Keene & 16th

IIII. How will people benefit?

- Make GP look nicer/ create a pride in place
- Increasing education & safety

Location Preference:

Consensus emerged on the Main Street at Clinton Drive intersection, over Holland at 16th. Participants referenced the potential expansion of civic facilities on Clinton toward Main Street which would connect with the schools on Main Street -- a safer intersection would be ideal in this location. In addition, students cross to the McDonalds and families walk their children daily to school.

Additional Comments:

- Not raised but visible markings on raised crosswalk element.
- Wayfinding and pedestrian flashing sign.
- There is not enough room to do corner extension at Clinton.
- We need to use signs to educate drivers and pedestrians.
- Speed humps and raised crosswalks are not allowed on HC roads.
- Raised crosswalk might work on Keene and 16th St.
- Artistic crosswalk is especially needed around school at Clinton and Main.
- Signage at intersection altering traffic on Clinton that is highly- pedestrian.
- Dangerous telephone hole at the corner - trucks brush against it.
- Pedestrian is unsafe at the corner because sidewalk is too narrow at corners, which means too close to the traffic.
- Solution would be to widen sidewalks.
- Humble strips before intersections
- Work with McDonalds on a PSA campaign to encourage safe crossing.

Community Engagement

Results

Galena Park residents identified more prominent crosswalk markings and extended curbs to shorten the crossing distance. Textured and colored material can significantly improve nearside visibility of pedestrians, children, and people on mobility devices for motorists by bringing the line of sight closer to where people are crossing rather than farther down the road. Raised crosswalk treatments and improved traffic signal functionality that prioritizes pedestrian movement was also selected as high priority.

Content	Low Priority	Mid Priority	High Priority
Corner Radius/Curb Extension	1	0	3
ADA Ramp, Tactile and Braille	0	2	0
Pedestrian Refuge Island	2	0	0
Wayfinding and Branding	1	0	0
Pedestrian Leading Intervals	0	1	2
Speed Hump	0	0	1
Raised Crosswalk/Treatments	0	0	3
Artistics	0	0	5
Landscaping/ Rain Garden	0	2	0
Shade	0	3	0

Appendix F

HARRIS COUNTY ENGINEERING DEPARTMENT

1001 Preston, 7th Floor
Houston, Texas 77002
(713) 755-5370

DATE: January 17th, 2019

TO: Harris County Public Health

ATTN: Aimee Schultze

CC: Brannan Hicks
Stuart Corder

FROM: Tina Liu, P.E.
Transportation and Planning Division

**SUBJECT: Clinton Drive at Main Street
Study: Safety Analysis**

In coordination with the Harris County Public Health Department, we conducted a traffic study to review conditions at the intersection of Clinton Drive at Main Street in the City of Galena Park. Our findings and recommendations are as follows.

The intersection of Clinton Drive at Main Street is a signalized four legged intersection and the roadway network was constructed many years ago. Clinton Drive is a four-lane approach with 8 foot paved shoulders and posted speed limit of 30 MPH. The eastbound approach as a dedicated right turn lane and raised island at the corner. Main Street is a four-lane approach with curb and gutter cross section and posted speed limit of 20 MPH.

We conducted a site visit and observed the following conditions.

- There are no pedestrian ramps on the northeast and northwest corners of the intersection and the existing ramps on the southeast and southwest corners are not to Harris County's current standards.
- There are also no pedestrian push buttons or pedestrian heads at any of the four corners.
- The traffic signal is not to current Harris County Standards.
- The pavement markings are worn down and difficult to see.

Based on our review of the site and observations as noted above, we recommend rebuilding the signal and bringing the intersection to Harris County's current standards, which will also include the installation of ramps on all four corners, pedestrian push buttons, and pedestrian heads. We recommend installing raised concrete pavement on the northeast, northwest, and southeast corners to provide an improved area for pedestrians. We also recommend refreshing the pavement striping at the intersection

HARRIS COUNTY
ENGINEERING DEPARTMENT

1001 Preston, 7th Floor
Houston, Texas 77002
(713) 755-5370

and approximately 250 feet in each direction. A sketch showing the proposed improvements is attached.

The study was done in accordance with the 2011 Texas Manual on Uniform Traffic Control Devices.

Should you need additional information, please advise.

TL:BS
Attachment:Sketch

PROPOSED SIGNAL REBUILD

LEGEND:

-  SIGNAL CONTROLLER
-  SIGNAL HEAD (A-H)
-  SIGNAL POLE
-  PEDESTRIAN SIGNAL
-  SERVICE POLE
-  PEDESTRIAN PUSH BUTTON & SIGN ASSEMBLY (PB)
-  CONCRETE CURB/RAISED PAVEMENT

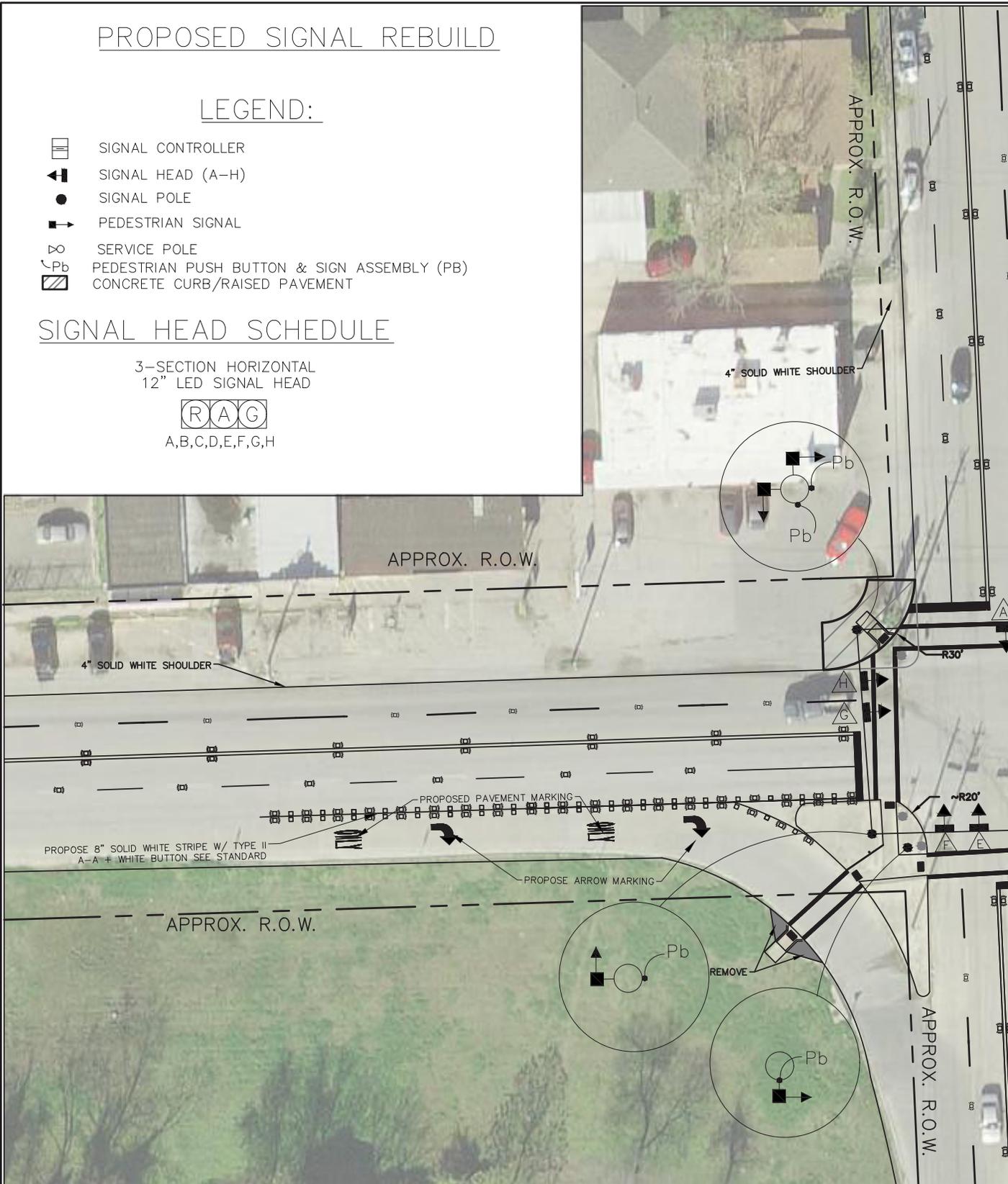
SIGNAL HEAD SCHEDULE

3-SECTION HORIZONTAL
12" LED SIGNAL HEAD



A, B, C, D, E, F, G, H

J:\TRAFFIC\Traffic Studies\Precinct 2\UL\Clinton Dr @ North Main St.dwg

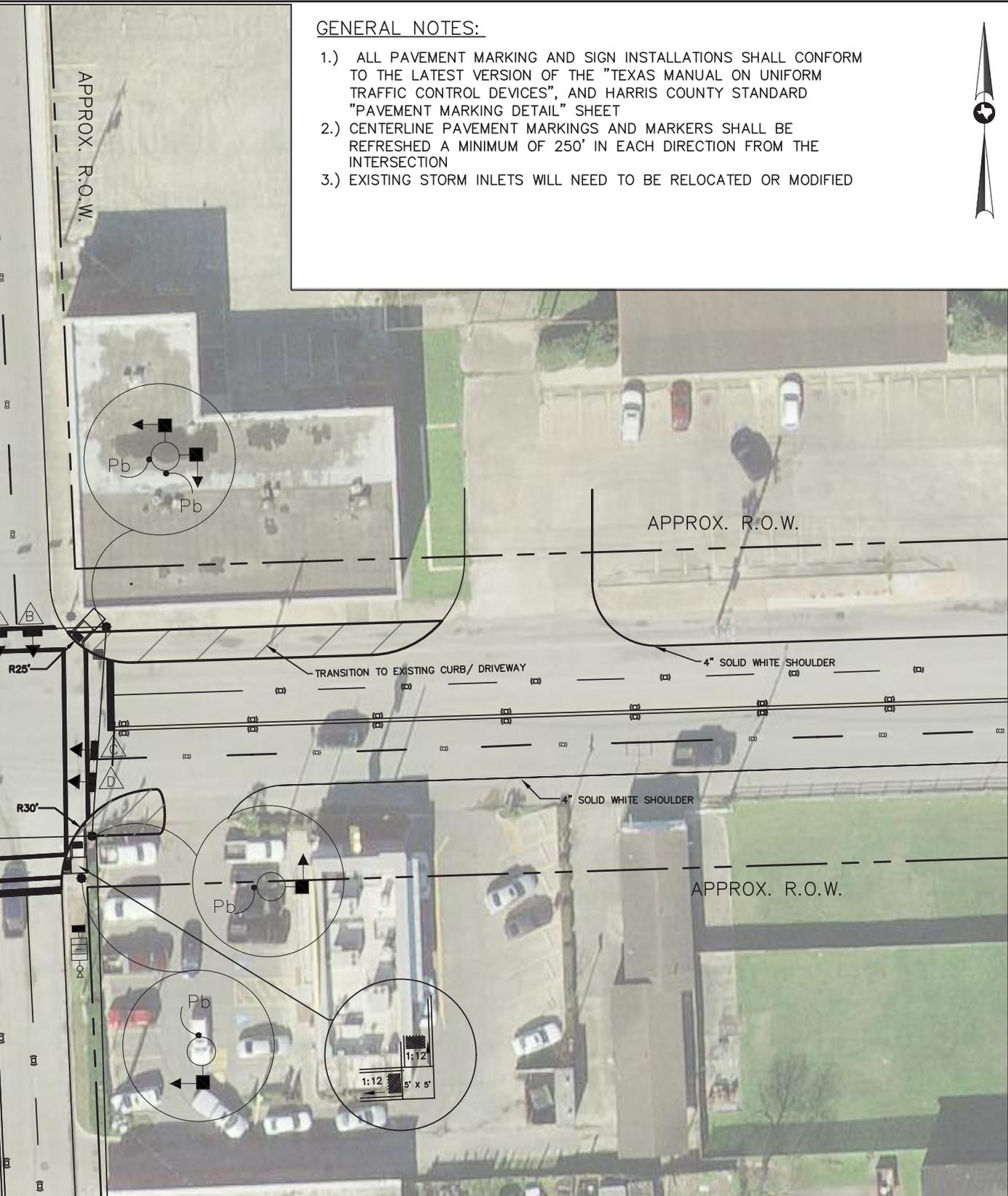


NO.	REVISIONS	DATE	NAME

HARRIS COUNTY ENGINEERING DEPARTMENT

GENERAL NOTES:

- 1.) ALL PAVEMENT MARKING AND SIGN INSTALLATIONS SHALL CONFORM TO THE LATEST VERSION OF THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", AND HARRIS COUNTY STANDARD "PAVEMENT MARKING DETAIL" SHEET
- 2.) CENTERLINE PAVEMENT MARKINGS AND MARKERS SHALL BE REFRESHED A MINIMUM OF 250' IN EACH DIRECTION FROM THE INTERSECTION
- 3.) EXISTING STORM INLETS WILL NEED TO BE RELOCATED OR MODIFIED



PROJECT TITLE:			CLINTON DR @ NORTH MAIN ST
SHEET DESCRIPTION:			TRAFFIC SIGNAL SCHEMATIC LAYOUT
DRAWN BY:	DC	DATE:	12/17/2018
CK'D BY:	SCALE:	SHEET NO.:	1 / 1



Harris County
Public Health
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