

HEALTHY LIVING MATTERS

**BUILT ENVIRONMENT
& FOOD**



Connecting Policy to the Future
A Houston / Harris County Childhood Obesity Prevention Collaborative

Report prepared for:



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INNOVATIVE TRANSPORTATION SOLUTIONS

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August 2013



HEALTHY LIVING MATTERS

Built Environment and Food Access Assessment

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INTRODUCTION

Funded by the Houston Endowment, Healthy Living Matters (HLM) is an initiative to understand the causes of childhood obesity in Harris County and find ways to reduce it. Consider two facts from the Centers on Disease Control and Prevention (CDC) related to public health in Harris County:

- 1 in 3 children in Harris County are overweight or obese
- 1 in 3 children born in 2000 in Harris County will develop diabetes

These two related facts carry huge social and financial implications for Harris County residents and public officials, particularly in low-income neighborhoods and communities of color where the problem is especially acute. These implications are the motivation behind HLM, a collaborative led by the Harris County Public Health and Environmental Services in partnership with the Harris County Health Care Alliance that is working to plan a healthier future for the Houston/Harris County region. The collaborative includes leaders from all sectors of the community engaged in curbing childhood obesity in the region. HLM is using an extensive set of strategies to engage residents and identify issues impacting the health of the community. This feedback is also being used to prioritize policy recommendations to make the healthy choice the easy choice in terms of living active lifestyles and eating healthfully.

Among the many challenges for individuals and society created by high childhood obesity levels are:

Health Care Costs.

- Medical costs for individuals with obesity are \$3,192 higher per year than for individuals of healthy weight¹
- These costs result in nearly \$3 billion in additional healthcare costs for adults in Harris County

Costs to Society.

- Economic costs of obesity in Texas is projected to grow from \$10.5 billion in 2001 to \$39 billion in 2040

- Loss in productivity because of more sick days due to obesity costs \$73 billion annually

Personal Life Satisfaction Costs.

- Obese children are more likely to be bullied; obese adults are more likely to be overlooked for a job
- Obese children are less likely to receive the medical attention they need
- Life expectancy is decreasing for the first time in two centuries

HLM is concerned with all manners in which public policy can encourage and discourage aspects of healthy living. While the initiative is concerned with increasing opportunities for all children in Harris County to lead healthier lifestyles, it recognizes that health disparities exist and that some communities experience higher rates of childhood obesity than others; therefore, communities of low-income and/or of color were prioritized. Often, these communities have less access to healthy food and fewer opportunities to engage in physical activity outdoors which contribute to poorer health outcomes.

The report focuses on two of the most important tools for public policy: the built environment and access to and availability of healthy foods. The Built Environment Assessment considered ways in which elements of the human-made world in an urban city can facilitate or prevent physical activity. This assessment examined factors such as roads, sidewalks, bike trails and public destinations such as parks. The Food Access Assessment was concerned with the availability of healthy foods at affordable prices and the ease of access to them for children and their parents.

Three communities were studied in detail through the lenses of built environment and food access looking for gaps and opportunities, and specific recommendations were made to encourage and improve access to healthy lifestyles within these communities. The recommendations were then distilled to a set of general policy recommendations that can be applied to Harris County in general.

¹ Cawley J, Meyerhoefer C. The medical care costs of obesity: an instrumental variables approach. *J Health Econ.* 2012; 31:219-30. 2005 costs of \$2741 were converted to 2013 costs.

The Focus Neighborhoods for Assessment

A critical component of the Healthy Living Matters (HLM) initiative was to assess the existing conditions of Harris County that impact the ability of residents to easily choose to live healthy lifestyles. The strategy selected by the collaborative for this assessment was to select two regions within the county for a multifaceted, in-depth analysis. The pool of potential *assessment communities* that was used was defined by the 2010 Health of Houston Survey (HHS), which assigned ZIP codes into 28 neighborhood groups. Using the HHS community definitions enabled HLM to utilize the results from the survey to identify areas with elevated rates of childhood obesity. **Figure 1.1** shows the percentage of children in each of the HHS communities that are overweight or obese.

Several rounds of prioritization occurred to select the *assessment communities*. The first round of prioritization used data from the HHS and several other sources to create a linear regression of relative risk for childhood obesity. The results of the first round of prioritization were presented to the Community Planning Team (CPT), a group within HLM consisting of members of the HLM team and leaders from the community with expertise in public health, education, business, food access, the built environment, and other sectors. The original list of 28 neighborhoods was reduced to 13 priority areas and 5 high-priority areas based on childhood obesity rates. The CPT was then asked to vote on the 5 high-priority areas to select two *assessment communities*. The selected communities were:

- Near Northside-Fifth Ward (ZIP Codes 77009, 77022, 77026, 77093)
- Pasadena-South Houston (ZIP Codes 77502, 77503, 77505, 77506, 77587)

Figure 1.2 provides a snapshot of several health indicators for these two *assessment communities* compared to the Houston area as a whole. These demographic and community factors have been shown to be linked with increased levels of childhood obesity. For many of the risk factors, the Near Northside-Fifth Ward and Pasadena-South Houston communities

Figure 1.1 - Percentage of Children Ages 5 to 17 Who are Overweight or Obese

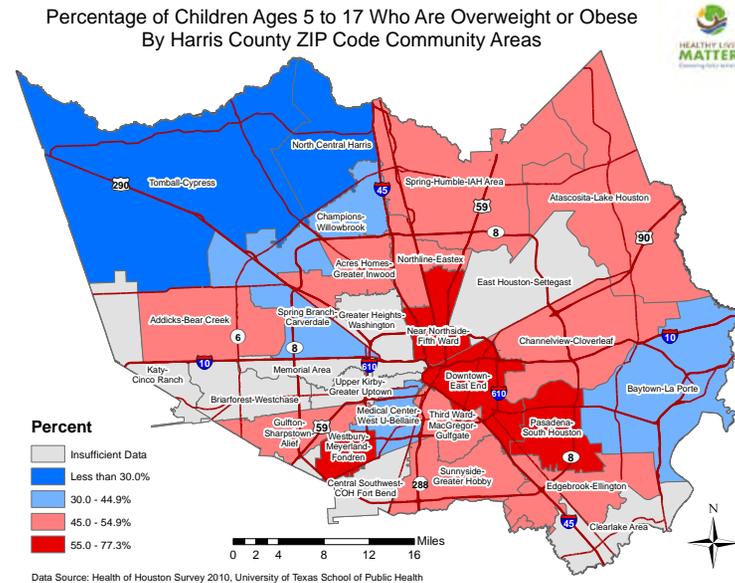


Figure 1.2 - Health indicators for the assessment communities

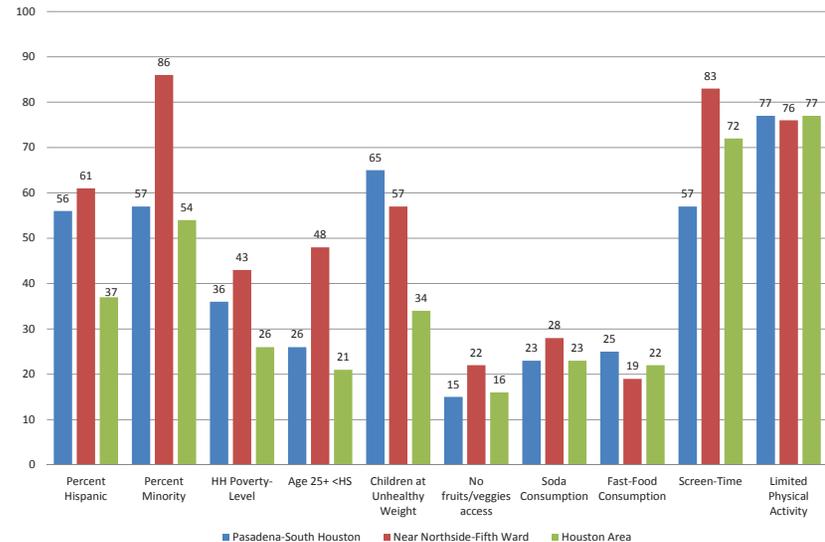


exhibit characteristics that put their children at higher risk for obesity than the general Houston area population.

Among the adult population, these communities are also experiencing higher rates of mortality from obesity-related chronic conditions than other communities in Harris County, as indicated in **Figure 1.3 - Figure 1.6**. One or both communities experience higher rates of overall death and death due to heart disease, stroke, and diabetes.

The built and food environments of the two *assessment communities* possess several specific characteristics that further impact their abilities to support healthy lifestyles:

Pasadena-South Houston:

- is largely car-dependent
- has limited access to parks and outdoor areas
- has no existing Safe Routes to Schools projects
- has a high concentration of census tracts with limited access to healthy foods for children

Near Northside-Fifth Ward:

- is already somewhat walkable already because of a relatively high number of destinations and recent sidewalk improvements
- has limited access to parks and outdoor areas
- has at least one Safe Routes to School project
- has a high concentration of census tracts with limited access to healthy foods for children

The size of these HHS-defined communities was judged to be too large for the desired scope of this built environment and food access assessment, so several smaller *focus neighborhoods* within the broader *assessment communities* were selected for an in-depth analysis. These neighborhoods were defined as the half-mile around particular elementary schools. Additional analysis of the food environment was undertaken for a 2-mile radius around the schools. While the schools provided the focus location for the study, not all of the analyses or recommendations were related to access to the schools. Where available, FitnessGram data were used

Figure 1.3 - Overall Mortality

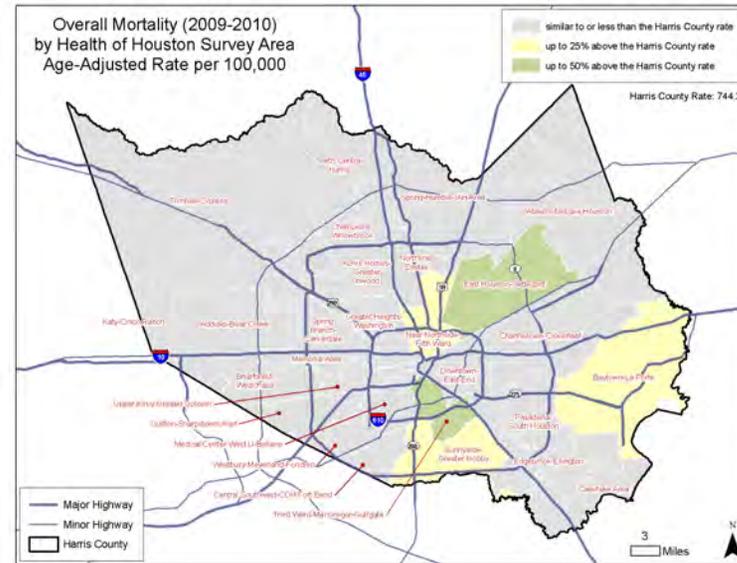
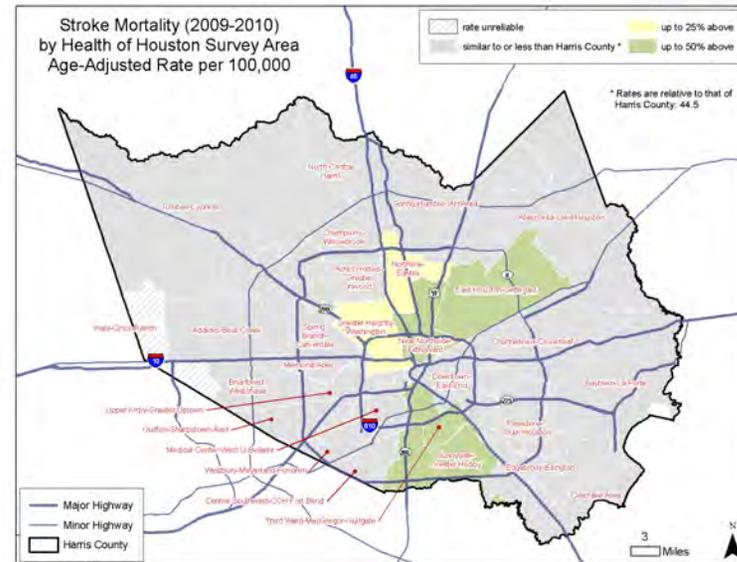


Figure 1.4 - Stroke Mortality



Source for figures on this page: City of Houston Department of Health and Human Services

Figure 1.5 - Heart Disease Mortality

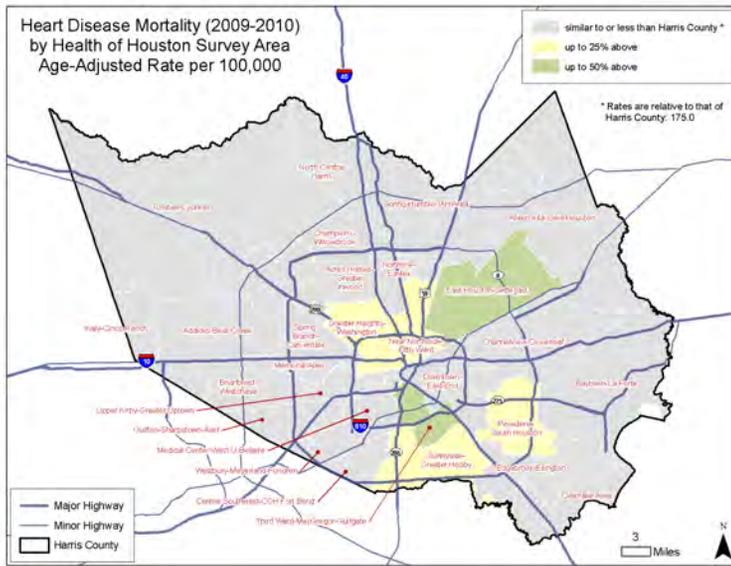
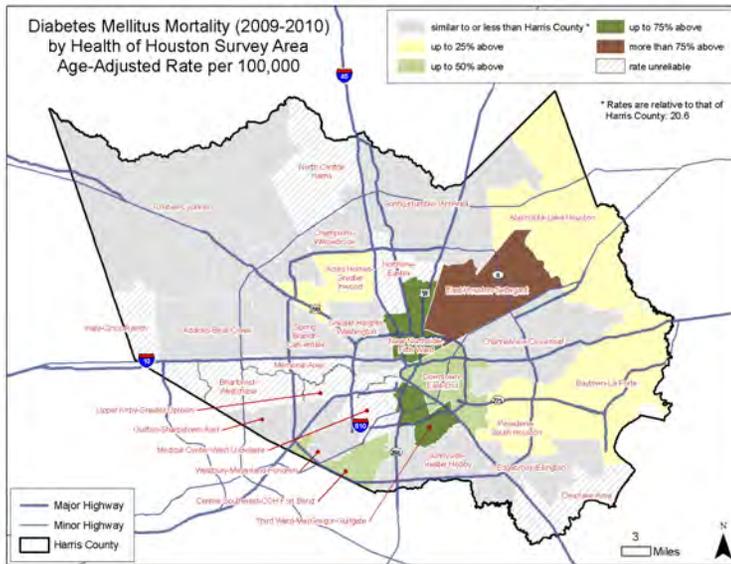


Figure 1.6 - Diabetes Mellitus Mortality



Source for figures on this page: City of Houston Department of Health and Human Services

to prioritize neighborhoods by assessing childhood obesity levels at the schools. The principle tool available from FitnessGram to assess obesity levels is BMI, or body-mass index. BMI is a measure of body shape that categorizes various combinations of weight and height into various levels of relative health. With feedback from the CPT, the neighborhoods around four schools were selected:

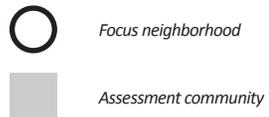
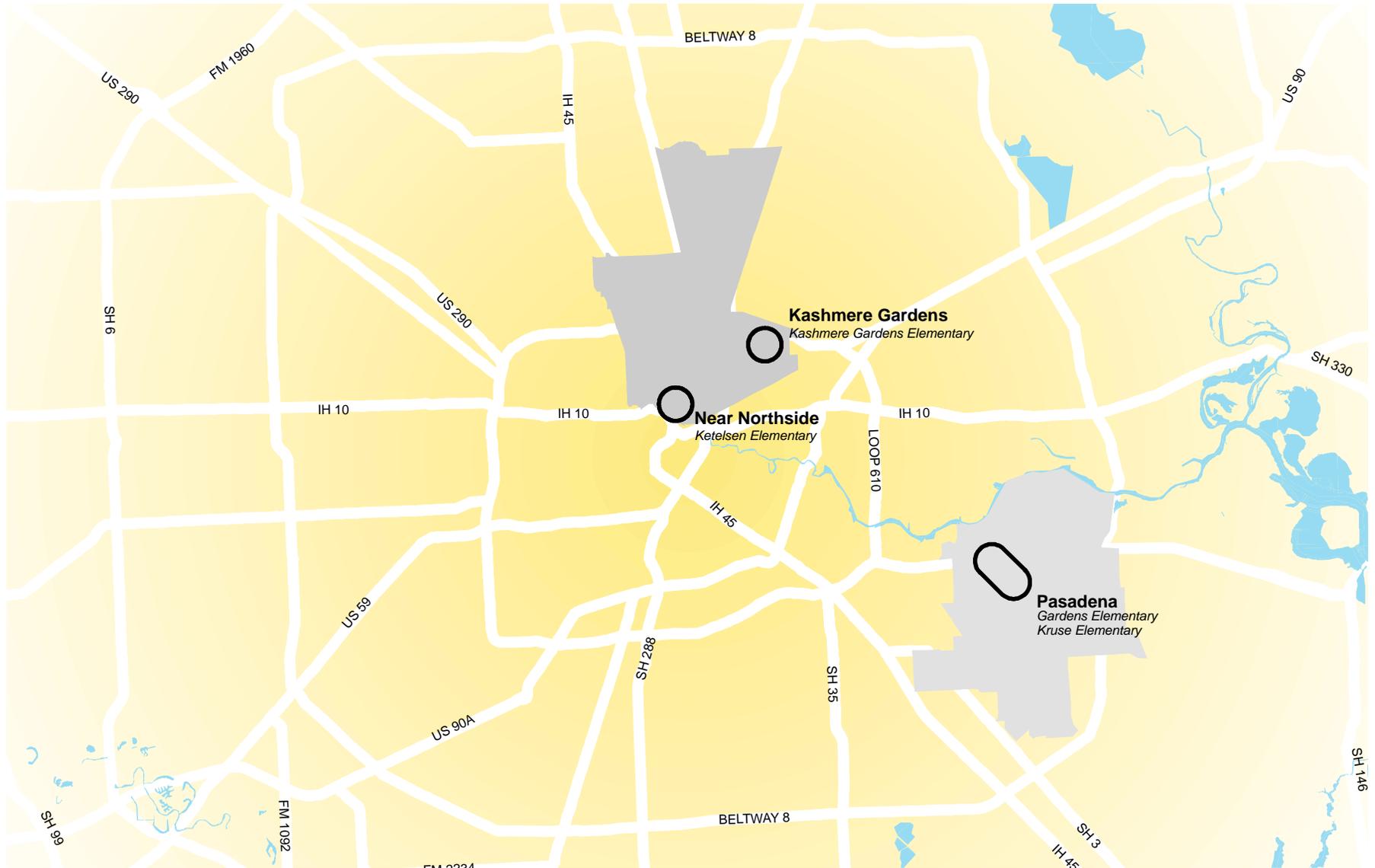
Near Northside, Houston - The half mile around Ketelsen Elementary School was selected for assessment. The percentage of students at the school with high-risk BMIs is approximately 43%, which compares to the county-wide average of 33%. The neighborhood has relatively good mix of destinations as well as pedestrian and transit infrastructure, which make it interesting for analysis because it represents communities with relatively good public infrastructure but also high levels of childhood obesity.

Kashmere Gardens, Houston - The half mile around Kashmere Gardens Elementary school was selected for assessment. The percentage of students with high-risk BMIs is unknown because the school did not have sufficient resources to collect FitnessGram data or hire a physical education instructor at the time of the assessment. The neighborhood is interesting for analysis because it has a relatively low level of development and relatively few destinations within walking or biking distance. The destinations that do exist are largely public institutions, which may provide opportunities for partnerships to improve the environment for healthy living.

Pasadena - The neighborhoods around two nearby elementary schools—Gardens Elementary and Kruse Elementary—were combined to form a larger *focus neighborhood* that provided an opportunity to assess the built environment and food access and to provide recommendations at a larger scale. The percentage of students with high-risk BMIs is 58% at Gardens Elementary and 44% at Kruse Elementary.

Figure 1.7 shows the *assessment communities* in gray and indicates the extent of the *focus neighborhoods* with black outlines. The three *focus neighborhoods* are described in detail in Chapters 2, 3, and 4.

Figure 1.7 - Assessment Communities and Focus Neighborhoods



The Built Environment & How it Impacts Public Health

The built environment is everything outdoors that is not there naturally. If humans built it, then it is probably part of the built environment. This includes buildings, roads, bridges, sidewalks, trails, lamp posts, billboards, stadiums, and schools. By its very nature, the built environment is particularly well suited to be manipulated to achieve various outcomes.

It may not be immediately obvious why a group concerned with childhood obesity is studying the built environment. After all, what do roads have to do with public health? Plenty, it turns out. Evidence shows that the shape and form of the built environment in our neighborhoods and cities may have a lot to do with various trends in public health including rising obesity levels, type 2 diabetes, and cardiovascular diseases.

The ways that people get around have changed

For most of the human experience on Earth, people primarily got around by walking, on foot, with minimal assistance. The built environment was shaped by this condition and in return encouraged it. People did not walk on a sidewalk—there was no sidewalk, because the entire road was for pedestrians. Shops, parks, schools, and other destinations needed to be located within walking distance, which resulted in a dense mix of various land uses vying for pedestrian traffic. The buildings that housed these activities were built directly up to the road to encourage and make it easy for pedestrians to stop by. As a result, walking and physical activity was a default, necessary component of the daily routines for most people.



Image: Even streets in Houston were once geared more towards active transportation, with a dense mixture of land uses, wide sidewalks, and buildings constructed up to the sidewalk.

Source: South view of Main Street from Congress Avenue. 1900. Special Collections, University of Houston Libraries. University of Houston Digital Library. Web. July 28, 2013. <http://digital.lib.uh.edu/collection/p15195coll2/item/124>.

With the explosion of personal automobile ownership after World War II, transportation patterns shifted dramatically. People started driving when they would have previously walked. Development patterns shifted to take advantage of expanded ranges, and parking lots replaced buildings that were previously within walking distance. More people moved out of cities into rural areas and suburbs whose infrastructure was designed primarily to accommodate automobiles.

This chain of events led to a simultaneous increase in the ease of moving about by car and truck and decrease in ease of walking or bicycling. According to the National Center for Safe Routes to School (SRTS), the percentage of children aged five to 14 years that typically walk or bike to school decreased from 48% in 1969 to 13% in 2009. According to SRTS, of surveyed parents, 61.5% identified distance as a barrier to letting their kids walk or bike to school. This suggests that the siting of schools and other destinations is a direct function of the built environment. Additionally, 30.4% of surveyed parents identified traffic-related dangers as a barrier. These kinds of traffic conditions are a result of

the built environment and can therefore be mitigated through strategic modifications to the built environment.

Other elements of society have also shifted away from active lifestyles being the default. Like their children, working adults are also using active means of transportation less to get to their jobs. The percentage of work commutes in the United States taken by car increased from 67% in 1960

to 88% in 1980.¹ When driving, these automobile commuters are not walking or biking. They are also not taking transit, which requires walking or biking to a transit stop or station.

But society has changed in other ways, too. . .

Transportation is not the only element of society that has veered away from physical activity. The recreational activities that families and children choose are also increasingly sedentary without an active component. For example, television watching is reported as the third most commonly



Image: On average, children ages 2-5 spend 32 hours a week in front of a television.

Source: www.telegraph.co.uk

reported activity, after working and sleeping.² On average, children ages 2-5 spend 32 hours watching television or playing video games each week.³ Additionally, the percentage of adults working in high-activity jobs such as construction or manufacturing decreased from 30% in 1950 to 22% in 2000.⁴

All in all, an active lifestyle is no longer the default lifestyle. People who want to get physical activity must go out of their way to find it. They have

¹ Brownson RC, Boehmer TK, Luke DA. Declining rates of physical activity in the United States: what are the contributors? *Annu Rev Public Health.* 2005; 26:421-43.

² Bureau of Labor Statistics. *American Time Use Survey—2010 Results*. U.S. Department of Labor, 2011. Accessed February 6, 2012.

³ McDonough P. *TV viewing among kids at an eight-year high*. Nielsenwire. October 26, 2009. Available at: http://blog.nielsen.com/nielsenwire/media_entertainment/tv-viewing-among-kids-at-an-eight-year-high/. Accessed 11 November 2009.

⁴ Harvard School of Public Health Website, <http://www.hsph.harvard.edu/obesity-prevention-source/obesity-causes/physical-activity-and-obesity>, accessed on 9-July-2013.

to go to the gym for exercise, or face long distances and perceptions of danger to walk or bike to work or school. As a result of these factors, being active has become increasingly difficult for many people in our community.

These changes have health consequences

Nevertheless, health benefits abound for those who do get enough exercise. Research shows that getting sufficient physical activity on a regular basis can lower the risk of heart disease, diabetes, stroke, high blood pressure, and certain cancers.¹ It can also be a critical component for weight control and obesity prevention. The Centers for Disease Control and Prevention (CDC) recommends that children 6 to 17 years of age receive at least 60 minutes of physical activity every day. According to the Harvard School of Public Health⁴, physical activity helps combat obesity in several ways:

- It increases total energy expenditure
- It decreases the particular kind of fat around the waist that has been linked to abdominal obesity
- It can increase muscle mass, which burns more calories pound for pound than fatty tissue
- It can reduce anxiety or depression, which may motivate people to continue pursuing physical activity

Finding 60 minutes to go to the gym, run, or play sports can be challenging to coordinate with work, school, and other activities. However, the *active transportation* activities that were standard fixtures for daily routines at one point—such as walking or biking to school or work—count towards that goal. By creating a



Image: "Walking school buses" build physical activity into the daily routines of children by pairing parent volunteers with groups of children who together walk or bike to school.

Source: MoBikeFed on Flickr

built environment that supports active means of transportation such as walking and biking, families and children can achieve recommended daily amounts of physical activity simply by choosing a different way to get to wherever they were going to go anyway. Researchers at Rutgers, Virginia Tech, and the CDC found “statistically significant negative relationships between active travel and self-reported obesity.”¹ Additionally, forms of “active transportation” have been shown to lower cholesterol, lower blood pressure, and reduce the risk of type 2 diabetes.²

The built environment can impact health outcomes

Evidence suggests that by creating a built environment supportive of active transportation, people will be more active. Several studies have drawn correlations between health and the availability of infrastructure that supports active transportation. Research from the University of British Columbia found a negative correlation between the interconnectedness of a neighborhood’s roadway network and rates of obesity in the neighborhood.³ This negative correlation is likely due to the fact the neighborhoods with fewer roadway connections and intersections increase travel distances, which can disproportionately impact active transportation modes. Other research shows that improvements to bicycle and pedestrian infrastructure can encourage people to be more active. Since 2003, New York City has expanded its bicycle infrastructure by approximately 111%, and during that time the number of people bicycle commuting to work increased by 126%.^{4,5}

The kinds of improvements to the built environment that can be supportive of active transportation are beneficial to other aspects of public health as well. By enabling people to walk and bike instead of driving a private automobile, vehicular crashes and associated injuries

and fatalities could decrease. Additionally, because fewer motor vehicles would need to be driven, and those that were driven could be used less, levels of particulate matter (a pollutant associated with triggering asthma attacks and cardiac arrest) and other pollutants in the air could decrease. Additionally, a good built environment can also improve access to essential services and facilities that are important components of good public health, including food stores, schools, jobs, housing, and parks.



Image: New York City is investing heavily in bicycle infrastructure, such as this “cycle track” that physical separates bicyclists from vehicle traffic. Since 2003, the number of bicyclists in the city is estimated to have increased by 126%.

Source: Ensie on Flickr

The next section discusses a specific framework developed for HLM to understand what components of the built environment can be tweaked to enable residents to build physical activity into their lifestyles. Thereafter, factors considered for improving healthy food access are presented.

¹ *Walking and Cycling to Health: A Comparative Analysis of City, State, and International Data*, *American Journal of Public Health*, 8/19/2010.

² *Type 2 diabetes: Prevention*, Mayo Clinic website, accessed 3/31/2010

³ *The Unintended Consequences of Cul-de-sacs*, *Harvard Business Review*, May 2010

⁴ *2009 Sustainable Streets Index Report*, New York Department of Transportation, 2009

⁵ John Pucher, Lewis Thorwaldson, Ralph Buehler, and Nicholas Klein, *Cycling in New York: Innovative Policies at the Urban Frontier*, *World Transport Policy and Practice*, Vol. 16, summer 2010.

Framework for Built Environment Assessment

A framework was constructed to enable a comprehensive assessment of the gaps created by and opportunities provided by the built environment for walking and biking in each of the focus neighborhoods. These seemingly simple steps are often overlooked in thinking about increasing active lifestyles. The framework consists of five elements:

- Element 1: Provide somewhere to go
- Element 2: Provide a route to get there
- Element 3: Create a feeling of security
- Element 4: Provide separation from traffic
- Element 5: Create an interesting environment

These elements can be thought of as a sequence of steps to create an environment that is truly supportive of active transportation. For example, building great sidewalks (provide a route to get there) will not do much to encourage more people to walk if they have nowhere to walk to (provide somewhere to go). Although some benefit exists for pursuing an individual element out of sequence, the best environments for walking and biking give some thought to all five. The components of the framework for the the built environment assessment are demonstrated in **Figure 1.8** and are discussed in more detail on the following pages.

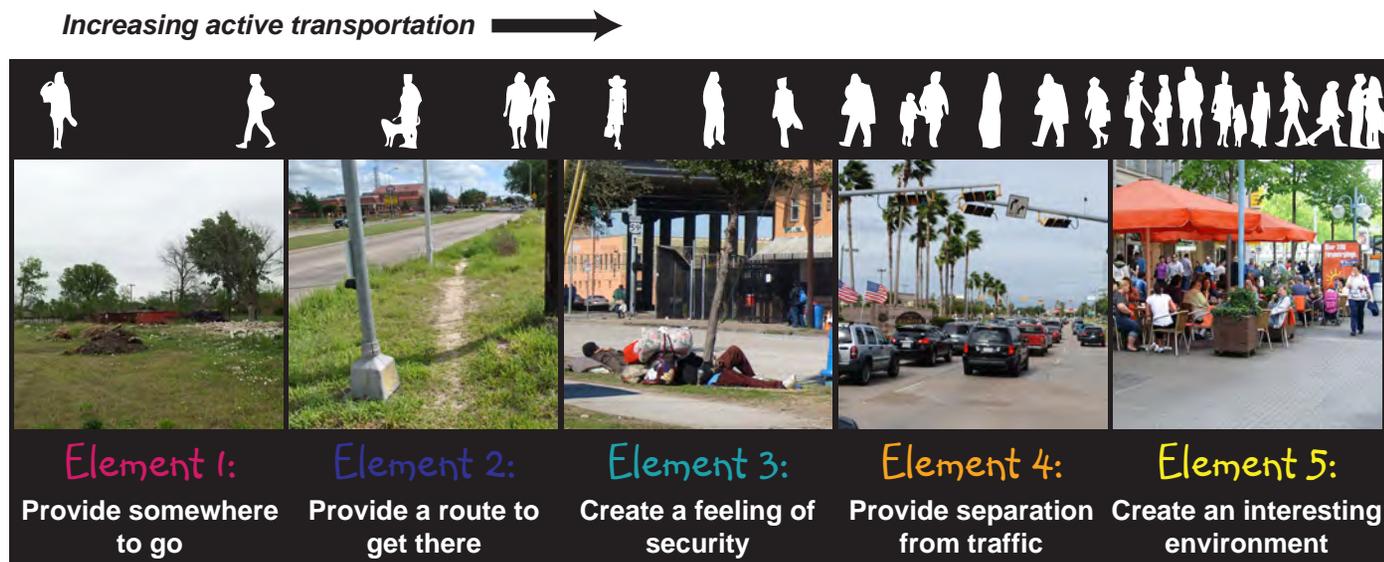


Figure 1.8 - Elements of an environment supportive of active transportation

Element 1: Provide somewhere to go

To be able to walk or bike somewhere, people first need to have somewhere to walk or bike to in the first place. These destinations must be relatively close, preferably within a 15-20 minute walk (closer than one mile). The type of destination is not particularly important. It can be a school, a park, an office building, a grocery store, a hair salon, or a skating rink. However, many residential neighborhoods, especially those built after World War II, consist of a single land use: single-family housing. For a child biking to a friend's house, that may be fine. However, a child asked to pick up a gallon of milk from the grocery store may be in for a long walk or bike ride along busy streets.

Providing numerous destinations in an area not only encourages active transportation by decreasing walking and biking distances but also by increasing activity on the street. A legitimate business with lots of customers coming and going can be much more interesting and feel much safer to walk by than a vacant lot. Abandoned properties have the dual effects of decreasing the density of actual destinations to which someone might choose to walk or bike and encouraging crime and feelings of insecurity. Parking lots also decrease the density of destinations and provide bland, uninteresting scenery.



Image: Public facilities such as libraries and parks can be popular destinations that can be located to facilitate walking and biking.



Image: A higher density of destinations makes it even easier to walk and bike to them.

Element 2: Provide a route to get there

Once a number of good destinations are provided within walking and biking distance, good routes provide the physical connection to those destinations. The routes to get to particular destinations for cars, bicycles, and pedestrians are frequently the same, but they can also be different. For example, if two parallel roads generally connect the same origins and destinations, one may be emphasized as a corridor primarily for motor vehicles and the other primarily for pedestrians and bicycles. If parallel routes are not available, it becomes particularly important for remaining corridors to safely accommodate all roadway users.

Features that make a particular route suitable or not for various modes of transportation depend on the mode in question. A two-lane road with a speed limit of 40 mph and no sidewalks may be a fine route for vehicles but may feel very hazardous to bicyclists and pedestrians. However, a local neighborhood street with little traffic and slow speeds may feel safe for everyone, even if no sidewalk or bike lanes are provided.

To ensure that routes are provided for each desired mode of transportation, it can be helpful to consider independent networks of routes for each mode that can be thought of as being layered on top of each other.



Image: Sometimes identifying missing routes for pedestrians is easy—just look for the “goat tracks!”



Image: Dead-ends funnel more traffic onto fewer roadways, making them more unfriendly for pedestrians and bicyclists.

Element 3: Create a feeling of security

People pursuing active transportation such as walking and biking lack the protective metal enclosure of a private vehicle or a transit vehicle. They are therefore potentially vulnerable to physical security threats such as criminal activity and stray animals such as packs of dogs. This vulnerability creates concern for personal security even when the threat of criminal activity may actually be low. Making a route feel safe is critical for people to choose to use it.

Feelings of security can be achieved in a number of ways. Increasing police presence in an area can decrease crime by decreasing police response times and by discouraging criminals in the first place. More cost-effective long-term approaches may involve alterations to the environment using principles of *crime prevention through environmental design*, or CPTED. Examples of CPTED to increase security include the removal of visual obstructions and installation of lighting at suitable scale and coverage.

Ultimately, the best way to increase security may be to encourage as many people to be out in public as possible, walking, biking, chatting, shopping, and otherwise living their lives. A street with throngs of people on it is a street with many pairs of eyes watching for and thereby discouraging dangerous antisocial activities.



Image: Little, unkempt properties, and loitering individuals can make an area feel unsafe for walking or biking.



Image: Good lighting along streets and at parks is critical for making sure that people feel safe living active lifestyles even when it is dark out. Lighting focused only on the street, such as that shown here, can create shadowy hiding spots for ambushes along the sidewalk.

Source: Eran Finkle at Flickr

Element 4: Provide separation from traffic

In addition to creating vulnerability to criminal activity, the lack of the buffer a car provides can make pedestrians and bicyclists vulnerable to conflicts with vehicles that do have that shield. As shown in **Figure 1.9**, the odds of a pedestrian fatality in a collision between a motor vehicle and a pedestrian is high even at normal roadway operating speeds such as 30 mph (45%), and they increase exponentially with speed. At 40 mph, which is common among many local arterials, the odds of a pedestrian fatality in a crash between a pedestrian and a motor vehicle jumps to 85%.

To make an environment that includes a lot of vehicular traffic feel safe and inviting for pedestrians, cyclists, and other vulnerable roadway users, special accommodations must be provided to separate the streams of traffic. For example, sidewalks should be provided so that people do not have to walk in the road, and they should be set back so that people do not have to walk immediately adjacent to roadway traffic. Intersections should be equipped with crosswalks and pedestrian signals to help pedestrians know where and when it is safe to cross the street.

Figure 1.9 - Probability of pedestrian death in a pedestrian-vehicle crash at various speeds

Source - Killing Speed and Saving Lives, UK Dept. Of Transportation, London, England

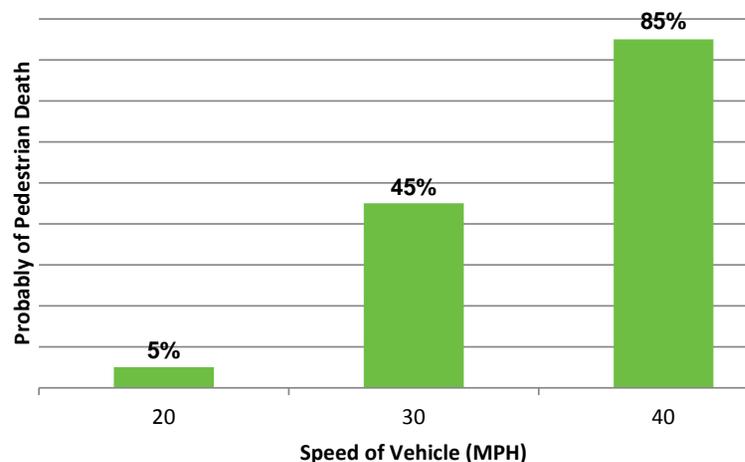


Image: Lots of roadway traffic can be very intimidating for pedestrians and bicyclists.



Image: Cycle-tracks, such as this example in Indianapolis, provide physical separation for bicyclists.

Source: National Association of City Transportation Officials (NACTO)

Element 5: Create an interesting environment

Most people will consider active transportation if there is somewhere nearby that is easy and safe to reach by walking or biking (i.e. if Elements 1-4 are satisfied). However, encouraging them to choose physical activity as a preferred, enjoyable use of time requires going above and beyond to create a truly inviting, interesting environment. Creating this type of environment can be achieved by good building form (for example, using interesting architecture, building up to the sidewalks, and providing windows at the ground level), public art, street trees, landscaping, and pedestrian lighting. Many of these factors can be heavily influenced by local building codes and policies. They can also be achieved through partnerships with local property owners.

Because nothing attracts a crowd like a crowd, an interesting environment can also be created by encouraging street life and activities, such as farmers' markets, cafe sidewalk seating, and performance art.



Image: Building form can be used to create an inviting environment for activity, such as by building up to the sidewalk and providing outdoor seating.



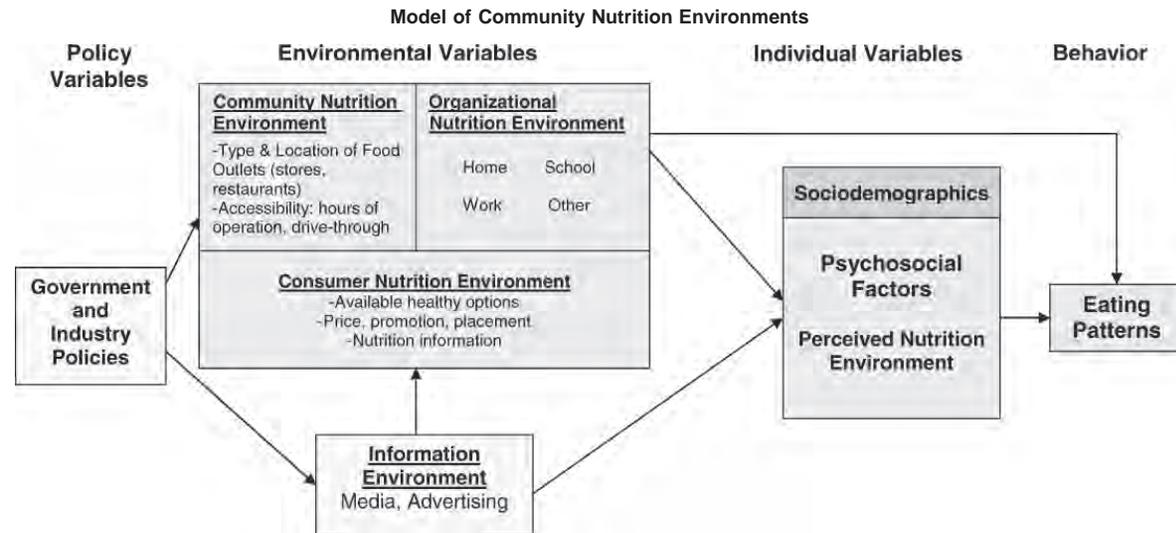
Image: Even suburban shopping malls are investing more in creating interesting pedestrian environments, such as Pearland Town Center, which invested in wide sidewalks, benches, abundant landscaping, and pedestrian lighting.

Source: www.remastexas.com

Food Access Study

There are myriad factors that affect a family's ability to eat healthy, from personal taste to the cost of healthy foods, from what one thinks about a grocery store to the location of a store. The Community Nutrition Environments model shows how policies, the food environment, and personal characteristics work together to affect a person's eating habits.¹ Government policies, like a ban on sodas in schools, and grocery store policies, like stocking sodas near the check out counters, can have widespread and lasting impact on access to healthy food. Where families go to find healthy food, what foods are available in stores, at school, and in the home, what parents know about nutrition and healthy cooking, how far families have to travel to buy groceries, and what people pay for food are all elements of a community's food environment. How we choose to interact with the food environment—where we shop, what we buy, what we eat—are personal preferences. Together, all of these factors affect our eating habits. Eating healthy is not just about food.

Access to healthy food is of concern in Harris County, particularly for children, due to rising rates of childhood obesity. While there are over 709 permitted grocery stores in the County, Houston has fewer supermarkets per capita than other major metropolitan areas.² Chain supermarkets are important because they tend to stock a greater variety of goods at lower prices, however, they also tend to be less available in



low-income neighborhoods.³ These factors may contribute to the fact that 19.5% of people in Harris County do not have consistent access to healthy, affordable food. Of these 784,000 people, 71% are eligible for Supplemental Nutrition Assistance Program benefits (SNAP, formerly food stamps) which could help offset the cost of healthy food. This gap in SNAP enrollment means that the County is losing over \$3 million in federal funds a year.⁴

1 Glanz, K., Sallis, J.F., Saelens, B.E. & Frank, L.D. (2005). *Healthy Nutrition Environments: Concepts and Measures*. *Am J Health Promot*; 19(5):330–333.

2 Manon, M., Giang, T. & Treering, D. (2010). *Food for Every Child: The Need for More Supermarkets in Houston*. The Food Trust.

3 Chung C, Myers J. (1999). Do the poor pay more for food? An analysis of grocery store availability and food price disparities. *Journal of Consumer Affairs*, 33, 276–96; Ford, P. B. & Dziewaltowski, D. A. (2008) Disparities in obesity prevalence due to variation in the retail food environment: three testable hypotheses. *Nutrition Review*, 66 (4), 216-228.

4 Feeding American, *Map the Meal Gap, 2011*. Retrieved from: feedingamerica.org/hunger-in-america/hunger-studies/map-the-meal-gap.aspx

In considering elements of the food environment and the personal preferences of parents the Healthy Living Matters Food Access Study sought to understand:

- Where do families go to get food?
- What food establishments are located in their neighborhood and what do the stores carry?
- Whether or not families can afford to buy the food stocked by neighborhood stores and do they want to buy it.
- What factors affect a family's ability to eat healthy?
- How can we help make more healthy food options available in neighborhoods?
- How do we increase peoples' ability to access more affordable, healthy food options?

Many of the recommendations put forth in this study build on previous efforts to address disparities in food access in Harris County including the Houston/Harris County Community Transformation Initiative Health Equity Policy Scan Report 2012; Roadmap for Encouraging Grocery Development in Houston and Texas: a report of the Houston Grocery Access Task Force and the Food Trust; and the GO Neighborhoods Northside Quality of Life Agreement.

Inventory of Food Retail Establishments

Data on permitted food retail stores were acquired from Harris County Public Health and Environmental Services, City of Houston Health and Human Services, City of Pasadena, and City of Webster for 2012. Each city uses a different classification system so stores were reclassified based on the Texas Nutrition Environment Assessment categories: grocery, convenience, food drug, general discount or specialty (see **Appendix A** for definitions). Restaurants, wholesale vendors, mobile and push food carts, institution cafeterias, and day care centers were excluded.

In addition, information on alternative sources for food, like community gardens, farmers' markets and food pantries was collected from Urban Harvest, City of Houston Health and Human Services, Houston Food Bank, Target Hunger, Wesley Community Center, Texas AgriLife Extension Harris County, Houston Chronicle and internet searches.

Market Basket Survey

The market basket survey used for Healthy Living Matters was adapted from the Texas Nutrition Environment Assessment (TxNEA). This tool was developed by the Texas Department of State Health Services to measure the availability, price and quality of healthy foods and foods specific to Texas culture. The purpose of TxNEA is to provide a way for communities to measure their nutrition environment due to growing interest in the relationship between the food environment and obesity. TxNEA measures the availability of 134 food items and the lowest price of 127 foods. It does not include meat, eggs or foods of minimal nutritional value.

For HLM, three measures on snack foods, advertising, and the quality of the store environment were added to the tool. These measures were added to TxNEA to see if other factors contribute to people's choice in food shopping destinations.

Only permitted food stores within a 2-miles radius of the priority schools were selected to be surveyed. A 2-miles radius was chosen in order to capture enough stores for a sample size of 100 stores. Stores were chosen based on a stratified random selection. The percentage of stores selected in each neighborhood is roughly equal to the percentage of stores in each neighborhood compared to the total number of stores for the priority areas.

Table 1.1 - Summary of stores in market basket survey

| Neighborhood | 2-miles radius | Surveyed | Goal |
|------------------|----------------|----------|------|
| Kashmere Gardens | 68 | 25 | 24 |
| Near Northside | 106 | 46 | 45 |
| Pasadena | 81 | 35 | 31 |
| Total | 256 | 106 | 100 |

The next section describes in detail the collection of public involvement strategies that were employed to reach out to the community to understand particular concerns that residents have regarding the built environment and food access in their communities.

Summary of Public Input

Public involvement was an important component of the built environment and food access assessment. The projects recommended in this report were crafted to improve access to various components of a healthy lifestyle for residents of the community; therefore, an understanding of particular barriers to healthy lifestyles was key to the successful identification of meaningful projects that would have real results. Additionally, public involvement was important for building local champions to push for eventual funding and implementation of identified projects.

Several forms of public involvement were utilized, including public community meetings, a survey, focus groups, and direct stakeholder engagement. The food assessment utilized additional forms of public involvement including focus groups of parents in each of the communities.



Image: Meeting participants discuss priorities of project recommendations during the second round of public meetings at Gardens Elementary.

Community Meetings

Two rounds of community meetings were held and are summarized in **Appendix F**. The first round of meetings, held in February 2013, were composed of two parts. First, a presentation was given introducing the audience to Healthy Living Matters in general and the Built Environment and Food Access Assessment activities in particular. Afterwards, meeting participants were invited to provide feedback on several large maps which they could use to indicate where they lived and where they saw challenges and opportunities in the community for healthy lifestyles. The public meetings were advertised on the Healthy Living Matters website, in emails to identified stakeholders, and with over 1,500 flyers that were distributed to the schools in the focus neighborhoods. Additionally, healthful food was provided, and



Image: Meeting participants in the Near Northside discuss the project recommendations.



Image: Second public meeting at Kashmere Multi Service Center



Image: Younger meeting attendees at the first public meeting in Kashmere Gardens and at the other locations were given an opportunity to participate, too!

gift cards were provided as incentives for attendance.

The second round of community meetings was held in May 2013. These meetings took advantage of existing meetings in the neighborhoods to help increase attendance. Minimal additional marketing was done in addition to the normal marketing for the existing meetings. These meetings followed a similar format to that of the first round meetings. A presentation was given that summarized activities that had taken place in the intervening months and introduced the draft set of conceptual plan projects that had been crafted from the needs assessment and prior stakeholder and public engagement. After the presentation, meeting attendees were asked to use stickers to “vote” for and prioritize the conceptual plan recommendations on large poster boards that provided details about the projects. A raffle for gift cards was used to thank the meeting participants for attending.

Online and Print Survey

An online survey was developed to assess community perceptions of active living and access to healthy foods. Questions were asked regarding walking and biking habits, factors impacting whether or not to walk or bike, grocery shopping and food preparation habits, and availability of healthy foods. The survey, offered in both English and Spanish, was advertised on the Healthy Living Matters Website, on a Harris County website, and in various partner newsletters. It was open to the public, and over 901 surveys were started (not all participants answered every question). The English survey questions are included in **Appendix D**, and the Spanish survey questions are included in **Appendix E**.

Survey participation was bolstered within the assessment communities with physical copies that were distributed and then collected. The physical copies were distributed at the first round of public meetings in February, at various other community meetings, and with focus groups. Based on ZIP codes provided by respondents, 64 surveys were completed in Pasadena, 24 were completed in the Near Northside, and 71 were completed in Kashmere Gardens.

Results of the survey were used to understand community concerns

and desires and to focus the development of the conceptual plan on meaningful improvements. Some high-level findings from the overall survey response are shown in **Figure 1.10**. Results from the survey reveal that the majority of survey respondents wish to live in an environment that is supportive of active lifestyles. Approximately 67% of respondents indicate that they would choose active means of transportation if they could get to their destinations within 10 minutes and could do it safely.

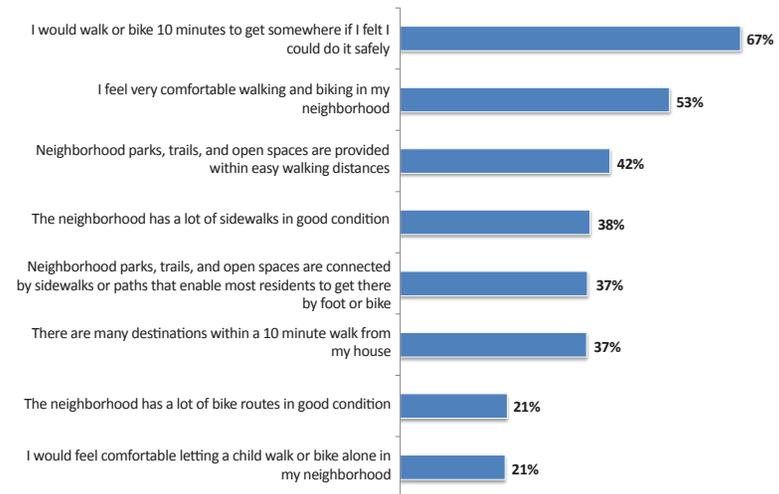
However, many respondents do not feel that their neighborhood environments are currently supportive of walking and biking. They attribute some of this discomfort to the infrastructure (only 38% feel that their neighborhood has many sidewalks in good condition and 21% feel that the neighborhood has a lot of good bike routes) and to a lack of destinations within walking or biking distance (only 37% feel that they have a lot of destinations to which they can walk). Approximately 42% of respondents feel that no parks are located within walking distance, and as indicated in **Figure 1.11**, fewer than one in five of the survey respondents shop for groceries at a location that is closer than one mile (an approximately 20 minute walk) from their home. Most respondents report traveling up to five miles to do their grocery shopping. Even half of a mile can be a hike when carrying several bags of groceries.

Furthermore, only 21% of respondents currently feel comfortable letting a child walk or bike alone in their neighborhood. To better understand this discomfort, survey respondents were asked to identify barriers that would need to be addressed before they would feel comfortable letting a child walk or bike to school. The top identified barrier—safety and fear of crime—is a complicated, difficult challenge for many communities that does not have one single solution. However, elements of the built environment can contribute to creating a safe environment where residents feel secure to pursue active lifestyles. Additionally, of the top five responses, four can be directly addressed through built environment strategies:

- Intersections and roadways that are difficult to cross
- High traffic volumes and speeds
- Insufficient walking and biking paths
- Lack of adequate lighting

Figure 1.10 - Overall Survey Results

Percentage of respondents that agree or strongly agree



What barriers would need to be addressed before you would feel comfortable letting your child walk or bike to school?

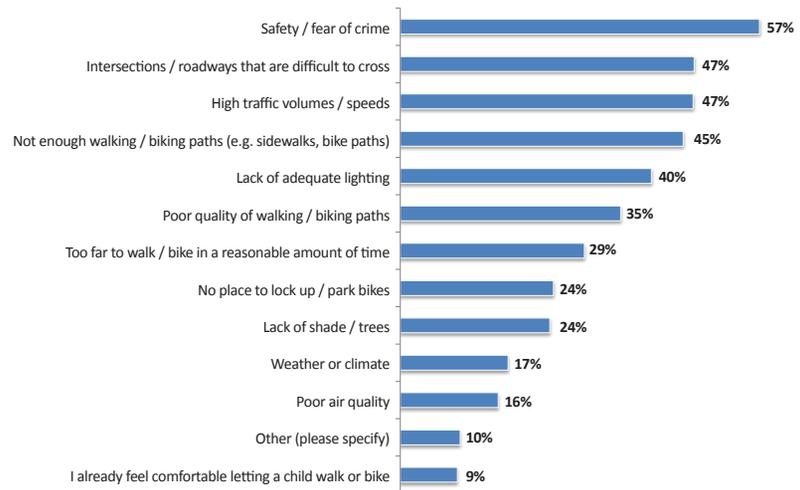
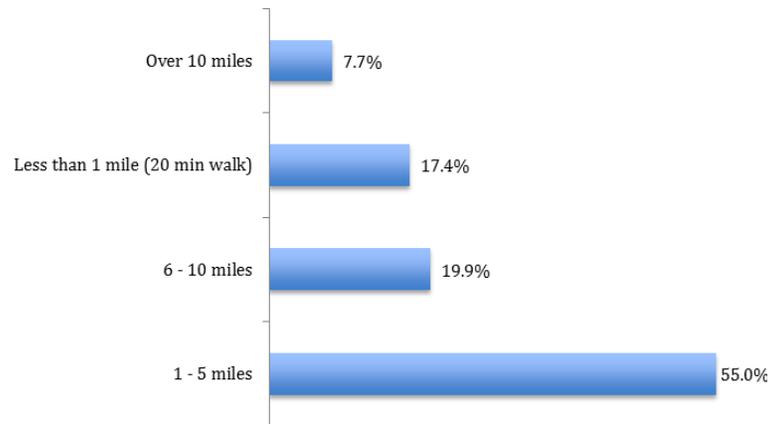


Figure 1.11 - Survey results for typical distance traveled for groceries



By systematically employing elements of the framework for creating a built environment supportive of active lifestyles, these and other barriers can be addressed so that more people would feel comfortable letting their children walk, bike, and play outside in their neighborhoods.

Survey responses were filtered by self-identified zip codes, and results from those ZIP codes associated with the focus communities are summarized in Chapters 2-4 for those communities.

Stakeholder Interviews

In addition to the public meetings and focus groups, interviews were held with key stakeholders in each community to gain additional understanding of the existing infrastructure, cultural conditions, and gaps in service. These interviews were also held to discuss the overall feasibility of potential recommendations from this assessment, as well as coordination and compatibility of these recommendations with other planned projects within each community. These discussions took place in person, over the phone, or in some cases at previously-planned presentations and meetings. The stakeholders that were engaged as part of this process are summarized in **Appendix G**.

Focus Groups with Families

In February and March 2013, Healthy Living Matters conducted eight focus groups at or near the priority schools. Two focus groups were held at each of the following locations: Kashmere Gardens Elementary School, MD Anderson YMCA, Kruse Elementary School, and Gardens Elementary School. Due to overlap in assessment activities for the food and built environment, focus groups for the Near Northside priority area were held at the MD Anderson YMCA instead of Ketelsen Elementary School in order to avoid over surveying families. The focus group dates and participation are summarized in **Appendix B**.

Focus group participants were asked a series of eight questions about their perception of childhood obesity, what affects their ability to get healthy food and to be physically active, whose responsibility it is to encourage healthy environments for children, and what policy changes they would recommend to help keep their children healthy. Focus groups lasted between 40 and 75 minutes. One focus group at Kashmere Gardens Elementary School and one at Kruse Elementary School were conducted in Spanish. The focus groups at Gardens Elementary School were conducted in both Spanish and English. Each participant was asked to complete a survey about healthy eating and active living before the discussion (see **Appendix C** for focus group questions and survey).

| Age | |
|----------------------|-------|
| Less than 18 | 2.9% |
| 18 - 24 | 1.4% |
| 25 - 34 | 44.9% |
| 35 - 44 | 31.9% |
| 45 - 54 | 11.6% |
| 55 - 64 | 1.4% |
| 65+ | 1.4% |
| Prefer not to answer | 4.4% |

Seventy-nine people, 77 parents and 2 teenagers, participated in the focus groups. The majority of participants were between the ages of 25 to 44. One participant was over 65 years old and two were under 18. The two younger participants had accompanied their mother to a focus group and provided a different but complementary perspective.

| Marital Status | |
|---------------------------------|-------|
| Single | 19.1% |
| Married or domestic partnership | 67.6% |
| Divorced or separated | 7.4% |
| Prefer not to answer | 5.9% |

While the majority of participants are married, almost 20% are single parents with children. In the United States, the proportion of single women with children living in poverty is greater than that of married couples with children.¹

The ethnic profile of the focus groups is reflective of the composition of the priority neighborhoods. In two of the priority neighborhoods, the majority of residents are Hispanic, while in the third, there are more African Americans. The majority of focus group participants (69%) identified as Hispanic Americans, while 15% identified as African American.

| Ethnicity | |
|---------------------------|-------|
| Black or African American | 14.7% |
| Hispanic American | 69.1% |
| White / Caucasian | 11.8% |
| Prefer not to answer | 4.4% |

| Income | |
|----------------------|-------|
| \$0 - \$25,000 | 26.5% |
| \$25,001 - 40,000 | 29.4% |
| \$40,001 - 60,000 | 16.2% |
| \$60,001 - 75,000 | 11.8% |
| Over \$75,001 | 1.5% |
| Prefer not to answer | 14.7% |

The cost of food and time were two primary barriers to healthy, active lifestyles for families. Almost 60% of focus group participants earn less than \$40,000 a year, which is well below the median household income for Harris County of \$51,440. Limited financial means make it difficult to afford healthy foods.

Almost 21% of participants receive Supplemental Nutrition Assistance Program benefits (SNAP, formerly food stamps) while 16% receive Women, Infants, and Children benefits. These

| Receive Federal Benefits | |
|--------------------------|-------|
| SNAP | 20.6% |
| WIC | 16.2% |

programs are intended to provide a safety net for families to afford food, however families in the focus groups still face hardship with the cost of healthy food. The benefit of receiving SNAP or WIC was hardly mentioned during the focus group discussions.

Limited time also makes it difficult to prepare healthy meals. The majority of focus group participants are employed, whether full-time, part-time, or self-employed. One third of participants are non-wage earners: 19% are unemployed but looking for work while another 17% are homemakers.

| Employment | |
|----------------------|-------|
| Full-time | 41.2% |
| Part-time | 5.9% |
| Homemaker | 17.6% |
| Self-employed | 5.9% |
| Student | 1.5% |
| Retired | 1.5% |
| Unemployed | 19.1% |
| Prefer not to answer | 7.4% |

| Education | |
|--|-------|
| Less than high school | 20.6% |
| Completed high school or GED | 25% |
| Some college or vocational training | 25% |
| Completed college or university | 19.1% |
| Completed graduate / professional school | 2.9% |
| Prefer not to answer | 7.4% |

A good paying job is often hard to come by without a high school degree. Twenty percent of focus group participants did not have a high school degree or GED. A little over 70% of participants do not have a college degree.

¹ Child Stats, America's Children: Key National Indicators of Well-being, 2013, Child Poverty. Retrieved from: www.childstats.gov/americaschildren/eco1a.asp

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FOCUS NEIGHBORHOOD: NEAR NORTHSIDE



The focus neighborhood chosen for in-depth analysis of childhood obesity conditions in the Near Northside is the half mile around Ketelsen Elementary on Quitman Street. The neighborhood was chosen for the opportunity to assess factors in an area that is characterized by a built environment that is generally better-than-average at supporting healthy lifestyles. The extensive and improving transit system opens up a wealth of destinations to combined walking/transit or bicycling/transit transportation modes, which can support physical activity. The proximity of bayou trails and on-street bicycle facilities increases the feasibility of bicycling to destinations. Additionally, a seamless mix of residences, schools, and businesses place many destinations within distance of a walking or bicycling trip.

Despite the advantages in its built environment that the Near Northside enjoys, obesity levels are among the highest in the county. According to Texas FitnessGram data, approximately 43% of students at Ketelsen Elementary have high-risk BMIs that place them in overweight or obese categories. This compares to 33% county-wide. Results from the survey collected online and physically in the neighborhood provide some clues for the causes of these high obesity levels. Key points from the survey are shown at right, and from these we learn that of respondents:

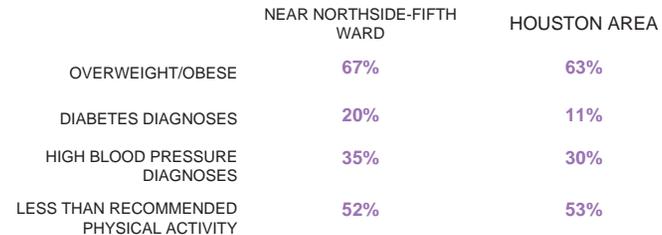
- Only 31% feel very comfortable walking and biking in the neighborhood.
- 25% feel that the neighborhood has a lot of sidewalks in good condition.
- 9% feel comfortable letting a child walk or bike alone in the neighborhood.

This assessment will attempt to identify reasons for this condition and make recommendations to make it easier for residents to choose a healthy lifestyle.

KEY DEMOGRAPHICS - KETELSEN ELEMENTARY



KEY HEALTH RISK FACTORS FOR ADULTS



Sources: Texas FitnessGram 2010-2011, Health of Houston Survey 2010

SURVEY RESPONSES



Existing Conditions

The area selected for an in-depth assessment of factors contributing to childhood obesity in the Near Northside is the half-mile radius around Ketelsen Elementary School, as shown in **Figure 2.1**. An analysis of existing conditions was undertaken to identify and understand gaps in the built environment and availability of healthy foods. The analyses can be grouped into four categories: existing demographics, existing destinations, existing food services, and existing infrastructure. The specific existing conditions analyzed are summarized below and are discussed in detail on the following pages.

Existing Demographics

Demographic data were collected from the 2010 Census for census tracts within the focus neighborhood:

- **Household Income** - Median household income for the census tract. Income is the most consistent predictor of health status. In general, higher income is associated with better health. Low-income neighborhoods tend to have limited access to chain grocery stores and often pay more for healthy food for smaller food retailers.
- **Households on SNAP** - Percentage of households in the tract that are receiving Supplemental Nutrition Assistance Program (SNAP) benefits, formerly known as food stamps. SNAP is a federally funded program that provides food dollars to low-income families meet their food needs. For some families SNAP benefits are a safety net to help avoid hunger. For others, they fill the gap to be able to afford healthy food. For many, SNAP benefits enable them to pay their other household bills. Children that live in households that receive SNAP can also receive for free meals at school.
- **Households with 0 Vehicles** - Percentage of households in the tract that do not own a private automobile. In Houston, cars are invaluable assets to access healthy food. In areas where the nearest grocery store specializes in sodas, chips and cigarettes,

a vehicle is beneficial for accessing stores with healthy options. Households without a vehicle may have to rely on public transportation, a taxi, or friends to get groceries which can be cumbersome, time-consuming, expensive, and limiting in what one can transport.

Existing Destinations

- **Walk Score®** - This score, provided by www.walkscore.com, is a measure of the walkability of a neighborhood based on its mix of destinations within walking distance.
- **Land Uses** - Specific land uses as defined by the Harris County Appraisal District were analyzed to assess gaps in services that could be provided within walking or biking distance.
- **Neighborhood Destinations** - Important destinations based on conversations with stakeholders and visits to the neighborhood.

Existing Food Services

- **Food Stores** - Data from Harris County Public Health and Environmental Services, City of Houston Health and Human Services, City of Pasadena, City of Webster, and the Texas Comptroller of Public Accounts were used to identify locations of food stores, including grocery stores, convenience stores, food and drug stores, and general stores.
- **Alternative Food Sources** - Data from Urban Harvest, City of Houston Health and Human Services, Houston Food Bank, Target Hunger, Wesley Community Center, Texas AgriLife Extension Harris County, Houston Chronicle, and internet searches were used to identify locations of alternative food sources, such as community gardens, food pantries, and specialty sources.

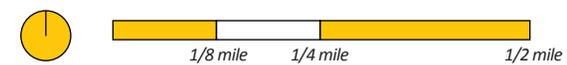
Existing Infrastructure

- **Roadway Network** - The intersection density for the neighborhood was computed; higher densities help bicyclists and pedestrians to avoid long travel distances and heavy roadway traffic.
- **Trails and Bikeways** - Data from the City of Houston and the

Figure 2.1 - Focus Neighborhood for Near Northside



★ Focus neighborhood school
 Parks and open space



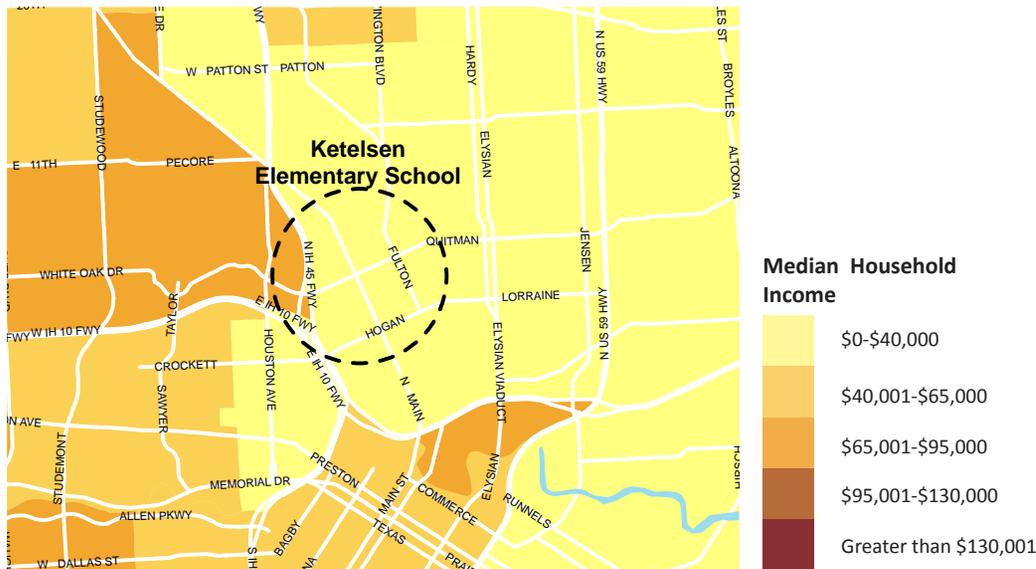
Houston-Galveston Area Council (H-GAC) were used to assess availability of trails and bicycle facilities such as bike lanes or bike routes.

- **Transit** - Data from METRO were used to assess the availability of existing and planned transit services, which can be an important part of a physically-active community because every transit trip has a walking or biking trip on either end.
- **Sidewalk Conditions** - Site visits to the neighborhood were combined with a visual inspection of images from Google Earth™ to assess sidewalk conditions throughout the neighborhood. Sidewalk segments were grouped into four basic categories of utility based on the presence of a sidewalk, the width of the sidewalk, the condition of the pavement, and the presence of

cracks and uneven surfaces.

- **Street Lighting** - Existing street light conditions were assessed along primary travel corridors based on visual inspections of lamp pole locations from site visits and images from Google Earth™. Adequate lighting ensures that residents can choose active transportation modes at all times of the day.
- **Street Activity Level** - Street activity was assessed based on site visits and images from Google Earth™ and was categorized as high, medium, or low, based on the type of land use along the road and the building form and how these factors are perceived to impact the attractiveness of the environment for walking, biking, or outdoor gathering.

Existing Demographics

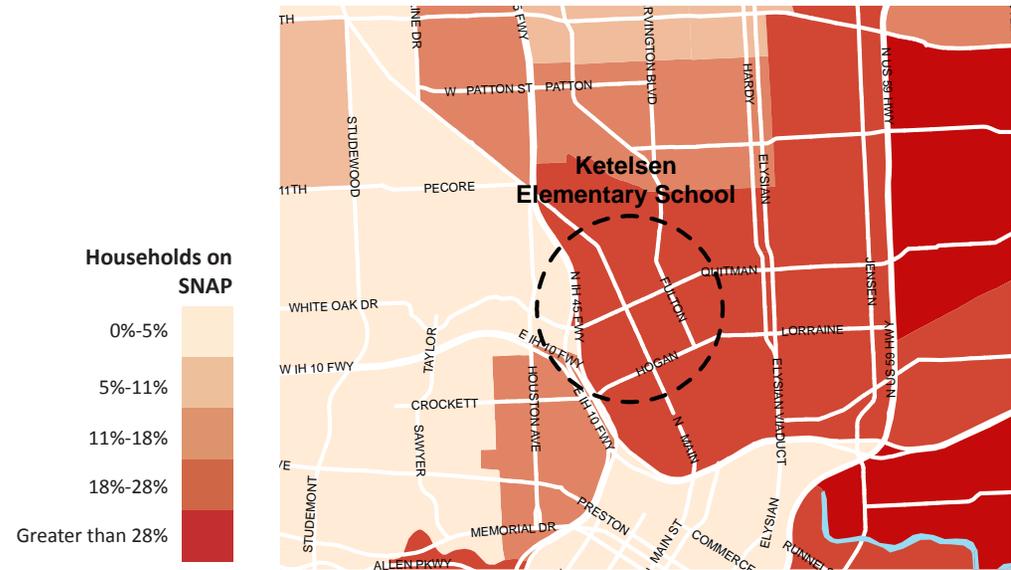


Household Income

Census tracts within 1/2-mile of Ketelsen Elementary range in median household income from \$21,500 to \$83,750, with an weighted average median of \$48,190. Excluding the census tract that extends into wealthier neighborhoods in the Heights, the weighted average median income drops to \$25,135. Both are below the Harris County average of \$51,440.

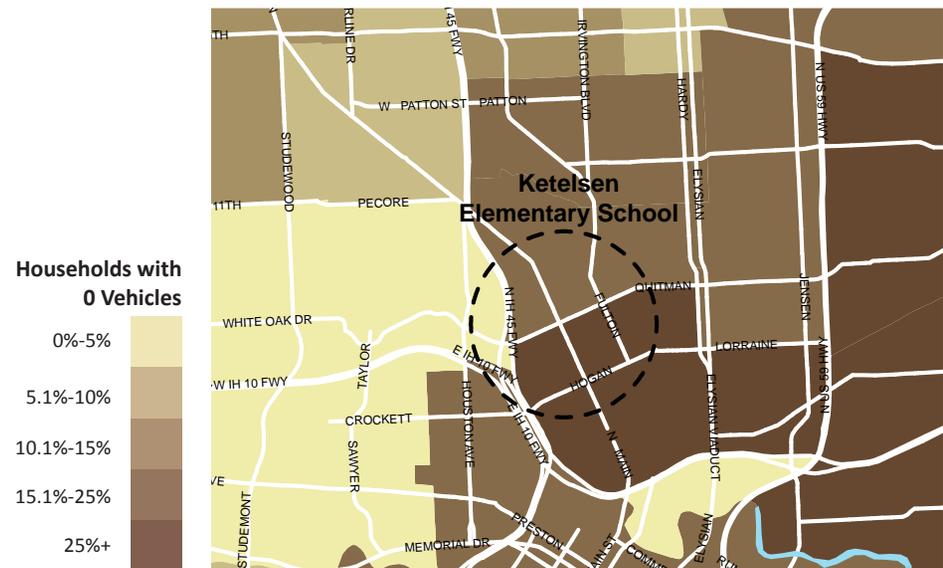
Households on SNAP

Census tracts within 1/2-mile of Ketelsen Elementary range in households on SNAP from 2.09% to 22.39%, with a weighted average of 12.48%. Excluding the census tract that extends into wealthier neighborhoods in the Heights, the weighted average rises to 19.22%. Both are above the Harris County average of 11.54%.

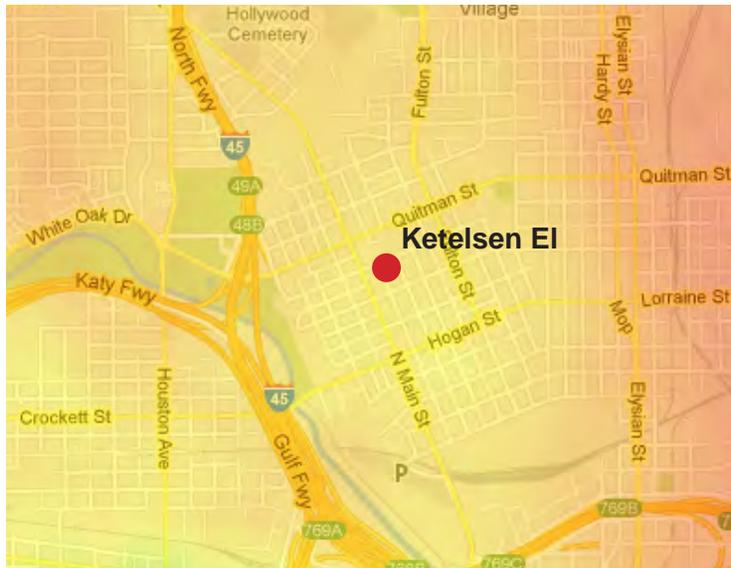


Households with 0 Vehicles

Census tracts within 1/2-mile of Ketelsen Elementary range in households with no private vehicles from 3.60% to 28.20%, with a weighted average of 15.33%. Excluding the census tract that extends into wealthier neighborhoods in the Heights, the weighted average rises to 22.93%. Both are above the Harris County average of 7.16%. Households that do not own a private automobile are especially dependent on transit, walking, and bicycling modes of transportation, and providing excellent infrastructure in the area can ensure that residents are able to use them effectively.



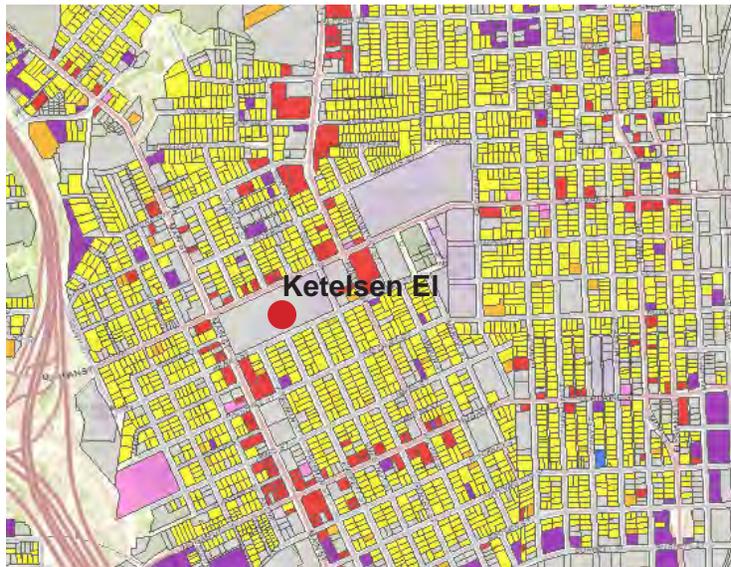
Existing Destinations



Walk Score®

In addition to the commercial development along Main Street and Quitman Street, major destinations in the vicinity of Ketelsen Elementary include Downtown Houston approximately 2 miles to the south, Moody Park 1.5 miles north, Hollywood Cemetery 0.70 miles north, and UH-Downtown on the north side of Downtown.

The Walkscore.com score for Ketelsen Elementary is 72, and the neighborhood is considered “very walkable” because of the proximity of restaurants, grocery stores, parks, and other destinations.



Land Uses

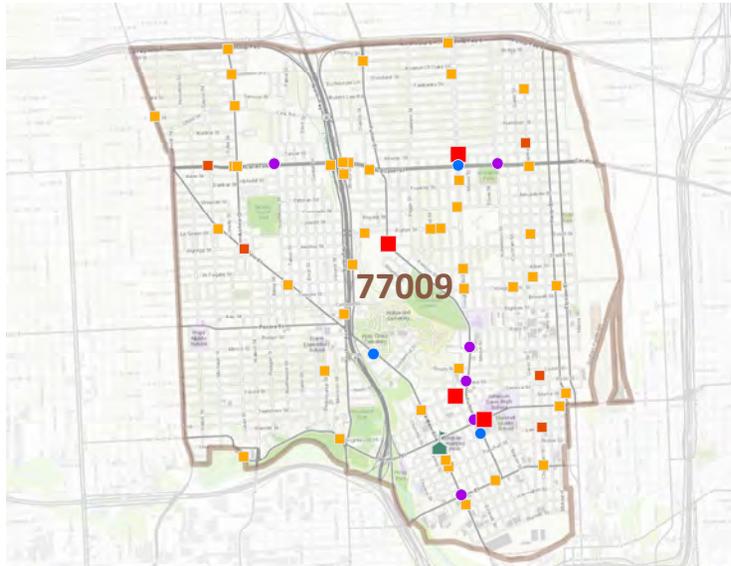
Land uses around Ketelsen Elementary are a mix of residential and commercial. Main Street is the main commercial corridor in the area with many businesses lining the street within walkable distance of the school. Other businesses are located on the north side of Quitman Street opposite the school. Most of the rest of the land uses within 1/2-mile of the school are single-family residential.

Neighborhood Destinations

A good mix of neighborhood destinations provides more opportunities for walking and bicycling. A wide range of neighborhood services—most of the needs of everyday life—are available in the Near Northside area, though residents expressed concerns about selection, quality, and price of goods and services locally available. The services are distributed through the neighborhood, and a connected street grid puts the residents within a short walk of many of them. This development pattern is typical of pre-World War II neighborhoods, which were built when most residents walked for their daily errands. Thirty-four private destinations were identified, including banks, day care centers, restaurants, and doctors' offices. Some of the most important destinations in the community are public facilities, including parks (Castillo Park and Ketelsen SPARK Park) and schools (Davis High School, Marshall Middle School, and Ketelsen Elementary).



Existing Food Services



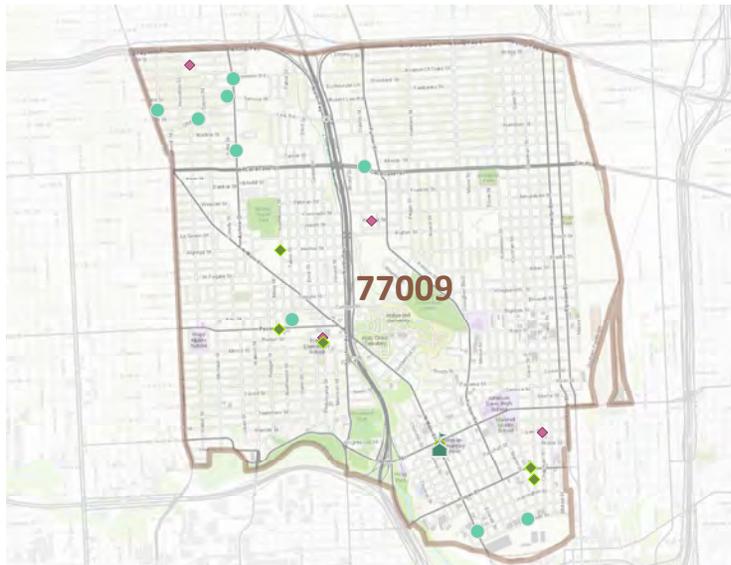
| Store Type | Number |
|--------------|-----------|
| Convenience | 44 |
| General | 7 |
| Grocery | 9 |
| Food Drug | 3 |
| Total | 77 |

- Convenience Store
- Grocery Store (independent)
- Grocery Store (chain)
- Food Drug Store
- General Store

See Appendix A for definitions

Food Stores

Within the zip code surrounding Ketelsen Elementary School, there are 77 food retail establishments. Of those stores, 44 are convenience stores and only 9 are grocery stores. The grocery stores include two Fiesta Marts and three meat markets. Fiesta Mart is the largest and only chain grocery store in 77009. There are also 14 specialty stores, all of which are produce vendors. Most of these vendors are located in or near the large produce market on Airline Dr. Forty-five food retailers in the area accept the SNAP Lone Star card.



| Source Type | Number |
|----------------------------|------------|
| Community Garden | 6 |
| Food Pantry (in area) | 4 |
| Food Pantry (serving area) | 10 |
| Specialty (produce) | 90 |
| Total | 110 |

- Specialty Source
- ◆ Food Pantry
- ◆ Community Garden

Alternative Food Sources

There are 90 registered produce vendors in 77009, of which three are produce peddlers. Most of these vendors (74) operate out of the produce market at 2520 Airline Dr.

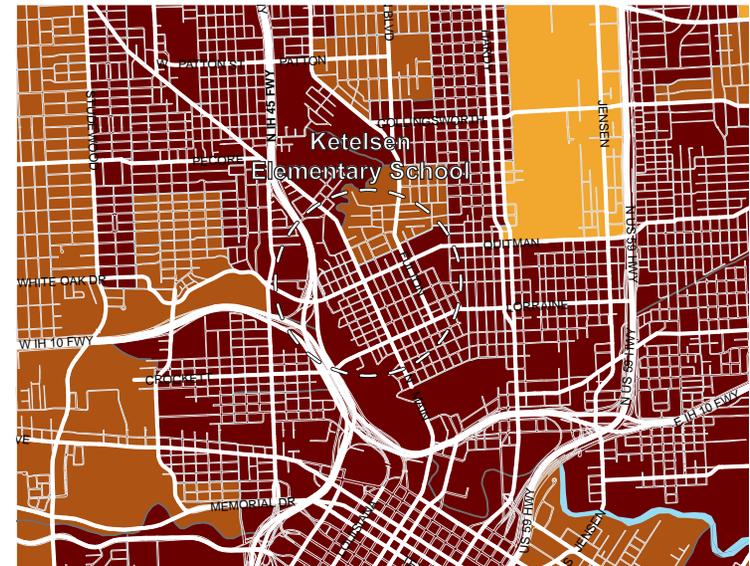
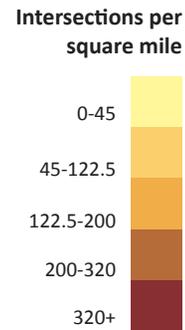
Additionally, there are 6 community gardens in 77009.

Four food pantries are located in 77009 with another six pantries serving the area but that are not located in the zip code.

Existing Infrastructure

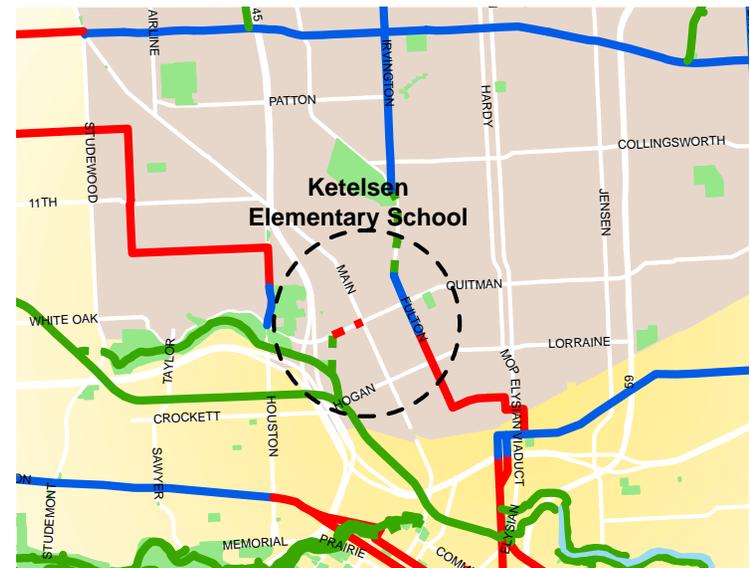
Roadway Network

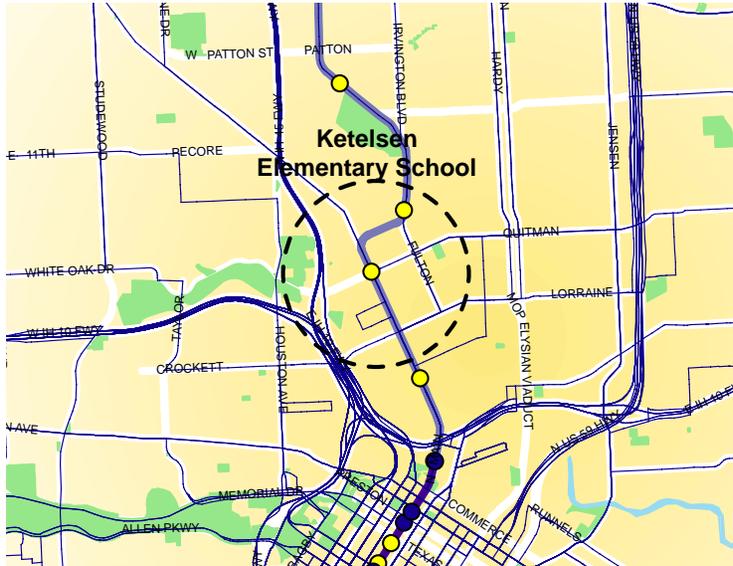
The roadway network around Ketelsen Elementary is primarily a grid network with good connectivity. Main Street is a transit corridor that is currently under construction to accommodate a new light rail line. Students living in the neighborhoods adjacent to the school have a substantial number of available routes to reach the school and do not necessarily have to walk adjacent to busy roadways. Connectivity between the neighborhoods and adjacent neighborhoods, however, is limited by IH-45, IH-10, White Oak Bayou, and Hardy Yards south of Burnett Street.



Trails and Bikeways

An important bicycle facility near Ketelsen Elementary is the Heritage West Trail that connects Downtown into the Heights along White Oak Bayou and offers an off-street route for bicyclists across the bayou and underneath the many freeways in the area. Future bicycle facilities will connect the bayou to the neighborhood around the school, including a facility on Quitman Street between the bayou and Main Street. An additional bike lane is provided along Fulton Street north of Quitman Street; south of Quitman Street, Fulton Street is a bike route.





Transit Facility

-  Bus
-  Future Light Rail
-  Future Light Rail Station

Transit

Many public transit services are currently provided or will be provided in the future. The most noticeable is the light rail line currently under construction on Main Street, which is scheduled to open in 2014 and is currently anticipated to open in December 2013. Additionally, bus lines run along Fulton Street, Quitman Street, Burnett Street, and, at least until the light rail is operational, along Main Street.

Upon opening, the light rail line will have limited crossing locations for automobiles, pedestrians, and bicyclists. There may be opportunities to modify certain intersection to provide more crossing locations.



| Condition | |
|-----------|-----|
| Excellent | 39% |
| Good | 8% |
| Adequate | 21% |
| Poor | 32% |

-  Wide sidewalk in excellent condition
-  Sidewalk of standard width and in good condition
-  Substandard sidewalk that is still usable
-  Sidewalk is unusable or nonexistent

Sidewalk Condition

The sidewalk condition in the Near Northside focus neighborhood is generally good. Sixty-seven percent of assessed sidewalks were judged to be adequate or better, and 39% were judged to be excellent. The sidewalks along the light rail line on Main Street, Boundary Street, and Fulton Street have all been reconstructed as part of the light rail construction and are in excellent condition. However, some gaps were identified along side streets, some of which will lead to the light rail line or to the proposed Burnett Plaza Transit Center that will be located at the southeast corner of the intersection of Main Street at Burnett Street.

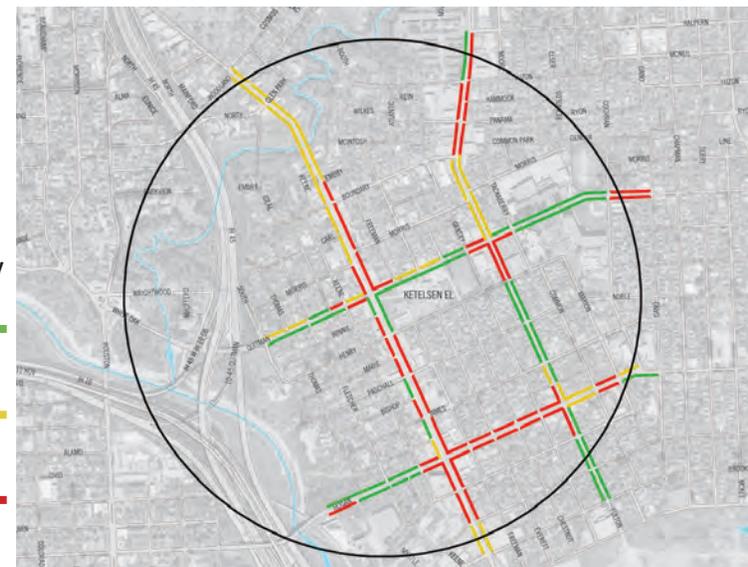
Street Lighting

While the thoroughfares in Near Northside community are well lit on average, gaps of poor lighting separate major destinations. Individual blocks on Fulton, Main, and Hogan with insufficient street lights could be enough to deter a resident from walking at night. Street lighting along Quitman Street near Ketelsen Elementary is generally good; however, less light is provided around Davis High School and Castillo Park, which is a destination that people may choose to access during the darker morning and evening hours. North Main Street north of Quitman Street and Fulton Street south of Quitman Street are not as well lit as the rest of the streets. Light rail is currently under construction along North Main, which could result in major pedestrian activity; providing good pedestrian lighting could support this outcome.



Street Activity level

Street activity and interest in the Near Northside community are currently limited. The remnants of older business areas, which had buildings built up to the street with ground floor retail, still exist along North Main Street, Quitman Street, and Hogan Street. However, many of these buildings have been demolished, often to create parking, and others have had their windows closed up. Throughout the neighborhood, a large number of parking lots and vacant lots on these corridors degrade the overall quality of the environment.



Pedestrian and Bicyclist Counts

Counts of bicyclists and pedestrians were collected for the focus neighborhood in May 2013. Counts were collected along trails and at major intersections in the neighborhood. The counts can provide insight into the current levels of physical activity in the neighborhood, and they can be compared to future counts to measure the effectiveness of implemented bicycle and pedestrian projects.

Trail Count

Trail counts in the Near Northside were taken in Hogg Park along the White Oak Bayou Trail as shown in **Figure 2.2**. This trail was selected because of its proximity to the neighborhood and the numerous destinations in the Heights and Downtown Houston to which it connects. Weather conditions during the count were seasonably mild and dry. Automated infrared counters were used to count walkers, joggers, cyclists, and other trail users. Although the trail is less than a half mile from Ketelsen Elementary, the neighborhood currently lacks access to the trail. Connections are being provided by a series of related projects currently in development.

Figure 2.3 shows the average weekday and weekend counts over 24 hours. There were approximately 2,100 total trail users during the week of the count. This number is anticipated to rise as trail connections to the focus neighborhood are completed. The trail usage experiences a sharp peak during the weekday evenings. The weekend generally experiences a broader distribution of usage throughout the day, with a noticeable morning peak and broad afternoon peak.

It is impossible to know exactly how much of this trail usage is recreational in nature and how much of it is for transportation purposes. The fact that the trail connects the Heights neighborhood to Downtown Houston gives it utility as a transportation connection as well as a recreational facility. Additionally, there is some overlap in the hours typically associated with normal work commutes and those associated with after-work exercise and recreation.

Figure 2.2 - Pedestrian and bicyclist trail count location in Near Northside

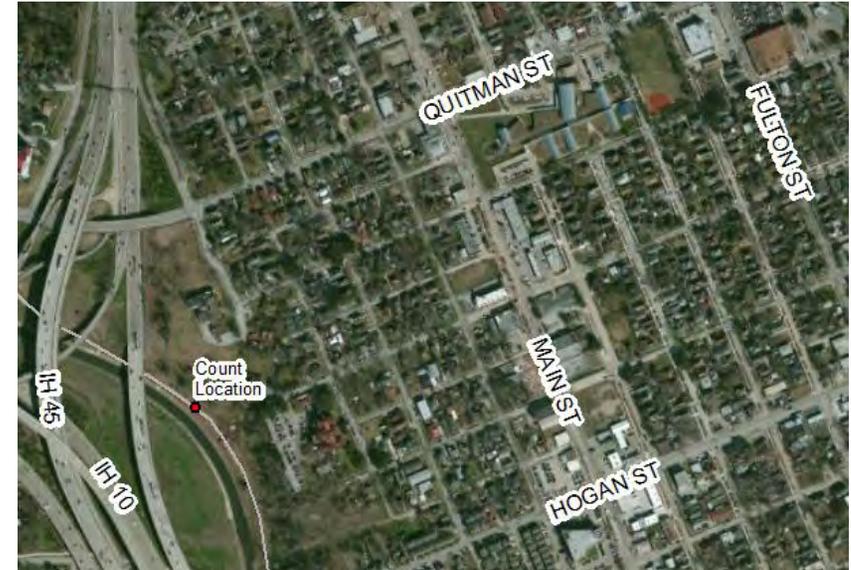
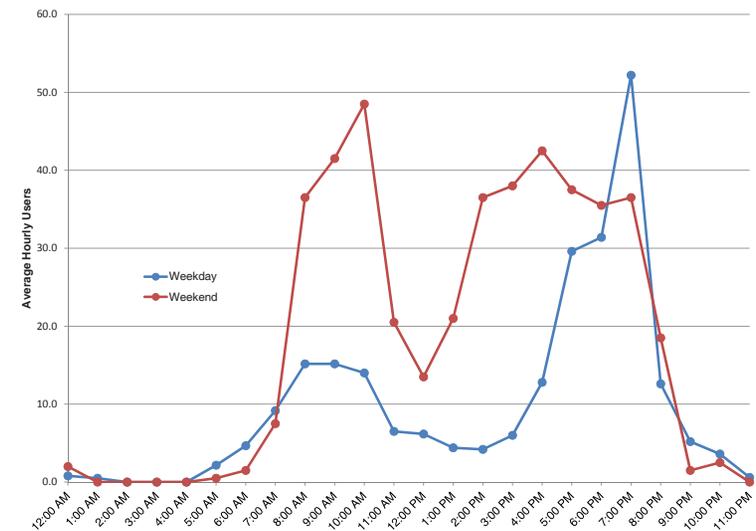


Figure 2.3 - Daily distribution of pedestrian and bicyclist traffic at trail count location



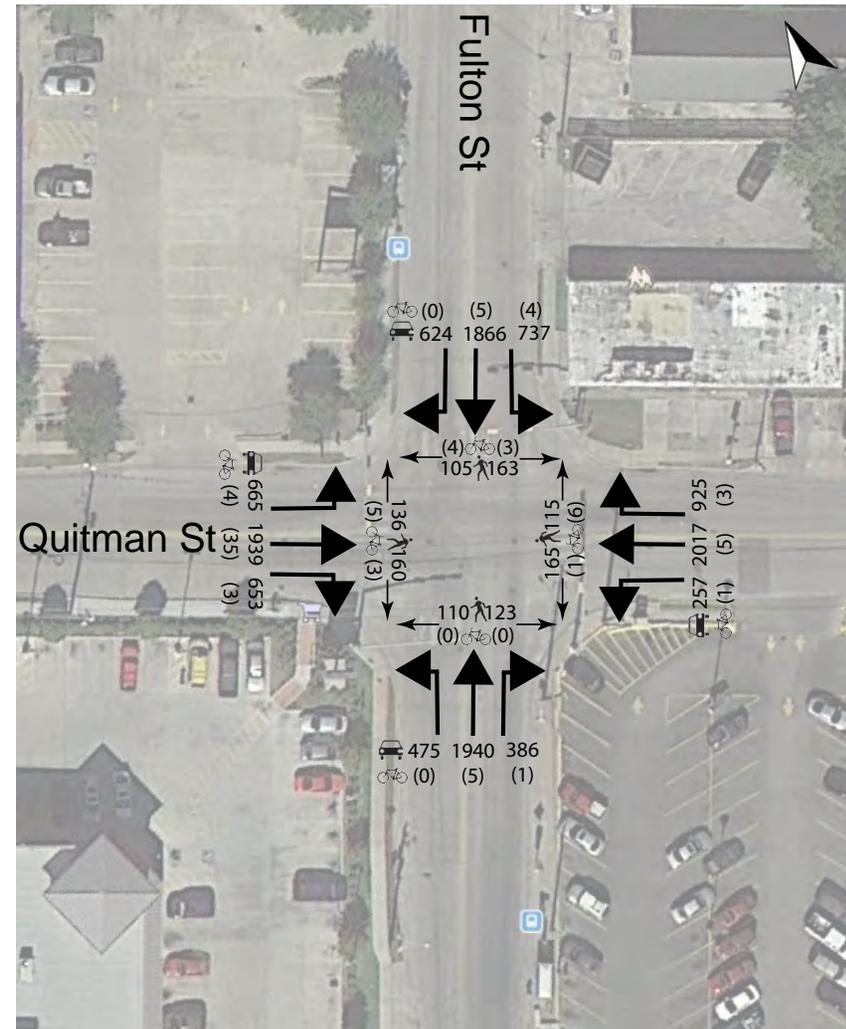
Intersection Counts

Intersection counts in the Near Northside were taken at the intersection of Quitman Street and Fulton Street for 15 hours between 6:00 AM and 9:00 PM on Wednesday, April, 24, 2013. Because of its central location, this intersection serves foot, bicycle, automobile, and transit traffic to Ketelsen Elementary, Davis High School, Marshall Middle School, Castillo Park, the Carnegie Branch Library, Fiesta grocery store, and many other destinations. **Figure 2.4** shows the counts at the intersection for this time period. The symbols indicate whether an adjacent number is a count of automobiles, bicycles, or pedestrians. Bicycles were counted in both the crosswalks (if the cyclist was riding along the sidewalk) and in the street.

Some facts to note:

- 8% of all trips at the intersection are taken by walking or biking
- A total of 1077 pedestrians utilized the intersection
- 501 pedestrians traveled east-west
- 576 pedestrians traveled north-south
- A total of 88 bicyclists utilized the intersection
- The majority of bicyclists (66) rode in the street. This implies that for most bicyclists, the roadways feel safe for bicycling.
- However, 22 bicyclists rode on the sidewalk. This is a non-negligible number of cyclists who did not feel safe or comfortable riding in the street for whatever reason. They could be even better accommodated with bicycle-specific infrastructure such as bicycle lanes.
- Of the 35 bicyclists making the eastbound through movement, the counts reveal that 25 passed in a 15-minute time period at approximately 7:00 PM. This may have been a recreational group bike ride.
- 6,456 automobiles approached the intersection from the east and the west along Quitman Street. This amount of traffic can be accommodated at high levels of service with the current cross section of two lanes, which, according to results from the 2010 Highway Capacity Manual, can accommodate up to approximately 12,000-15,000 vehicles per day.

Figure 2.4 - 12-hour pedestrian and bicyclist count in Near Northside



Built Environment Conceptual Plan

The framework discussed in Chapter 1 (and summarized in **Figure 2.5**) for creating an active built environment was used to formulate a conceptual plan of projects for the Near Northside community. This plan represents a holistic set of projects to increase the neighborhood’s capacity for active transportation from multiple angles.

The projects included in the plan are summarized on the table at right, are shown on the map in **Figure 2.6**, and are described in detail on the following pages. Projects are color-coded to identify their association with one of the five elements of the framework for an active built environment. These color associations are indicated on the table at right.

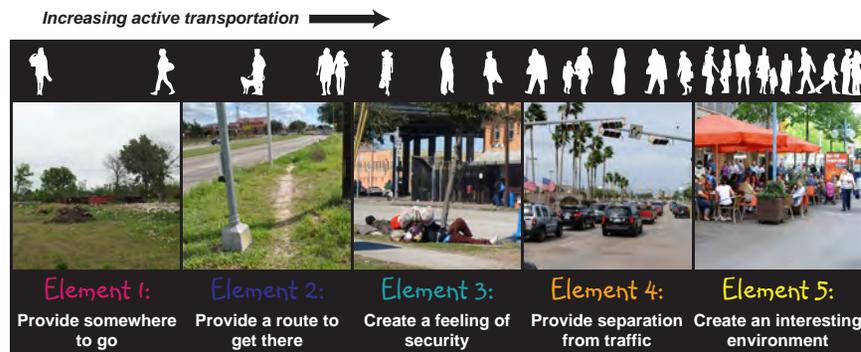


Figure 2.5 - Elements of an environment supportive of active transportation

1. Provide Somewhere to Go

- 1-A Neighborhood Park near Hogan Street

- 1-B Walking trail at Ketelsen SPARK Park

- 1-C Improvements to Castillo Park

2. Provide a Route to Get There

- 2-A Trail along Little White Oak Bayou

- 2-B Improve roadway connections

- 2-C Provide sidewalks leading to light rail

- 2-D Extend bike share network into Near Northside

3. Create Feeling of Security

- 3-A Provide pedestrian lighting along major corridors

- 3-B Work with HPD to enhance police patrols

4. Provide Separation from Traffic

- 4-A Easier crossings on Quitman Street

- 4-B Light rail crossings at Henry Street and Everett Street

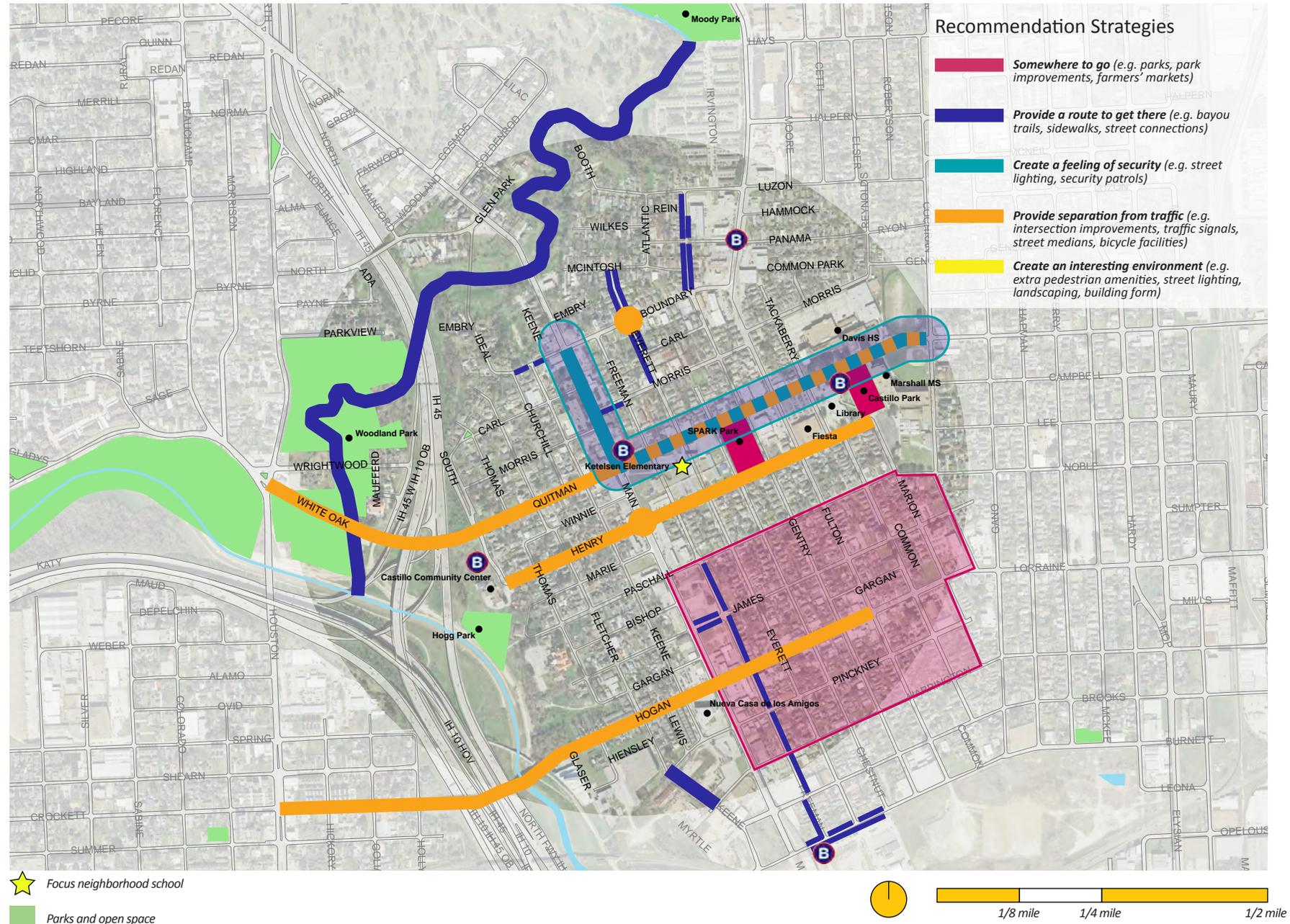
- 4-C Bike route on Henry Street

- 4-D Bike lanes on Hogan Street

5. Interesting Environment

- 5-A Revitalize/redevelop existing buildings to support walkability

Figure 2.6 - Conceptual Plan for Near Northside



Element 1: Provide Somewhere to Go

1-A Neighborhood park near Hogan Street

The existing parks near Ketelsen Elementary are clustered in the far west of the focus neighborhood, especially on the west side of IH 45. The southeast parts of the neighborhood lack public areas for recreation and physical activity. There are several vacant lots that are on or near Hogan Street that could potentially be used as park space and satisfy some of that need for outdoor recreational areas.

Partners: City of Houston Parks and Recreation, Houston Parks Board, Greater Northside Management District



Project 1-A: Neighborhood park near Hogan Street



Image: The Kaboom! Park in Houston's Fifth Ward provides an assortment of activities for kids on the space of a single parcel. **Source:** kaboomplay on Flickr



Image: Playground equipment can transform even small spaces into inviting places for children to play and get physical activity.

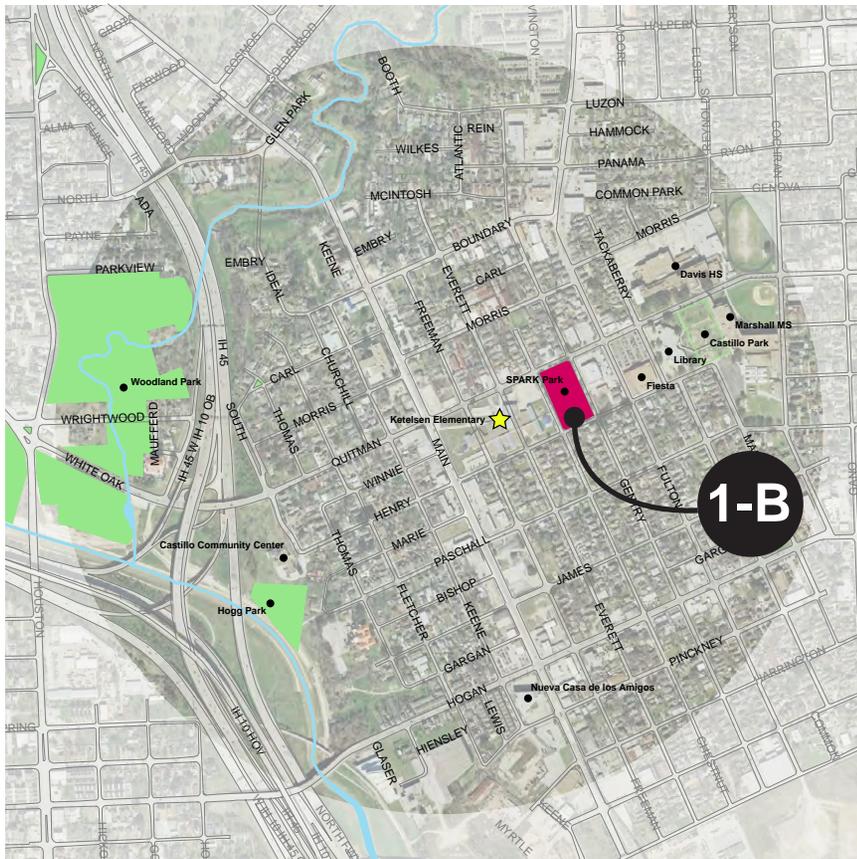


Image: Even small parks can be popular destinations if they are outfitted with fun equipment, as is this Splash Park in the Fifth Ward. **Source:** Aaron M. Sprechter/AP Images

1-B Walking trail at Ketelsen SPARK Park

Ketelsen Elementary’s SPARK Park is a popular destination for residents of the neighborhood, but it is geared primarily towards young children. Additional facilities and equipment that would appeal to adults could encourage more adults to utilize the park and bring their children for physical activity.

Although the park currently has a gravel walking trail, several stakeholders shared that a paved trail would be desirable for making the trail usable year-round, especially after a heavy rain. It is therefore recommended that a paved concrete or asphalt walking trail be installed at the park to increase park utilization.



Project 1-B: Walking trail at Ketelsen SPARK Park

There may be other opportunities to provide amenities for adults, as well. Exercise equipment, landscaping, gardens, and dog runs are examples of relatively low-cost improvements that can be made at parks to make them appeal more to adults.

Partners: City of Houston Parks and Recreation, SPARK, Houston Independent School District, Ketelsen Elementary



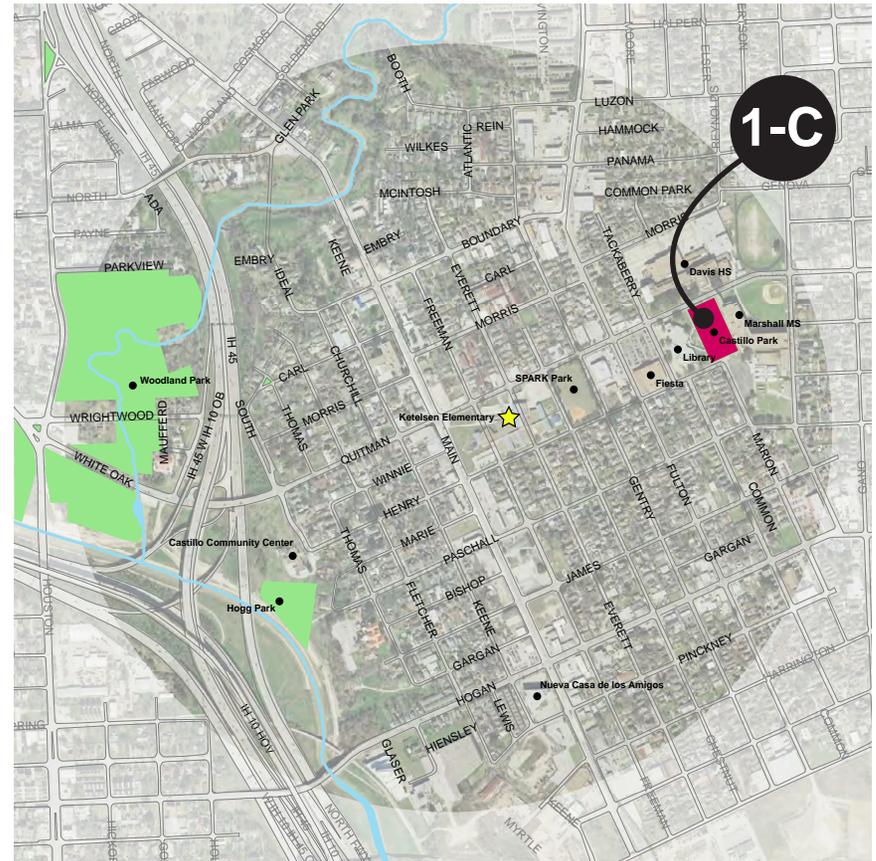
Image: Paved recreation trails can make a park attractive throughout the year. Source: www.therestorationhouse.net

1-C Improvements to Castillo Park

Opportunities exist to make Castillo Park, adjacent to Marshall Middle School, a regular destination for more of the community. The community has begun a process to reimagine the park. The plan would open up the park by modifying the surrounding security fence and would provide more activities in the form of public gardens, open space, and sport facilities such as a basketball court. This community plan is recommended to be implemented to encourage more neighborhood families to visit the park and get physical activity.

Additionally, there may be an opportunity to expand Castillo Park and make it more accessible to the neighborhood and Davis High School by making minor modifications to the facade of the high school. Approximately 52,000 square feet of outdoor space is located in front of Davis High School directly across Quitman Street from Castillo Park. If that space could be combined with the existing park space at Castillo Park, the combined outdoor area would increase from the approximately 120,000 square feet that currently comprise Castillo Park to 172,000 square feet - an increase of 43%. However, there are currently fences around both Davis High School and Castillo Park which make it impossible to share both spaces. If the fences were removed and alternative security measures implemented (such as improved lighting and security patrols), the combined park space could be realized. Additionally, the implementation of Project 4-A could redefine Quitman Street in the vicinity of Castillo Park to further strengthen the connection between the two open spaces.

Partners: City of Houston Parks and Recreation; Houston Independent School District; City of Houston Public Works



Project 1-C: Improvements to Castillo Park

Image: Implementing ideas from the community-led reimagining of Castillo Park such as additional sports facilities could encourage more children to utilize the park for physical activity.

Source: www.courtsoftheworld.com



Image: A large open space exists in front of Davis High School directly across Quitman Street from Castillo Park.

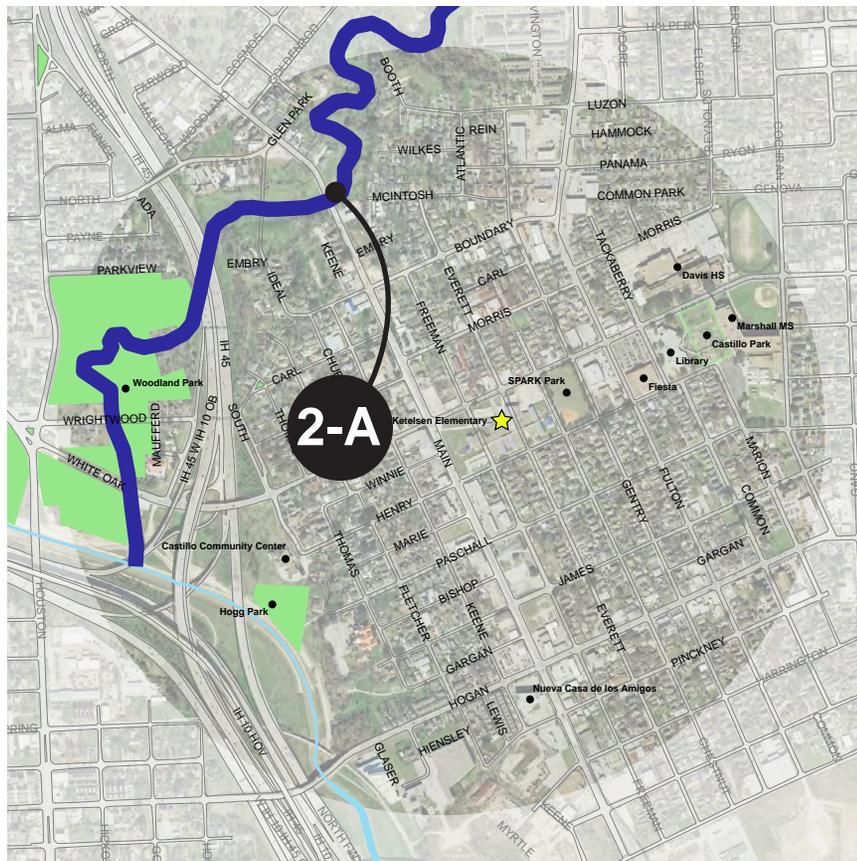
Element 2: Provide a Route to Get There

2-A Construct a shared-use path along Little White Oak Bayou

Discussions with residents of the Near Northside revealed Moody Park and Woodland Park to be two of the most popular outdoor recreational destinations in the area. A potential connection for bicyclists and pedestrians exists between them along Little White Oak Bayou. A trail along the bayou would not only serve to connect the parks but would

also enable residents to take advantage of the unique urban wilderness environment that exists along the bayou.

The project would require coordination with TxDOT to ensure that the planned future rebuild of IH-45 would accommodate a trail crossing at the freeway that would either pass over or under the freeway lanes.



Partners: City of Houston Parks and Recreation, Houston Parks Board, TxDOT, City of Houston Public Works, Greater Northside Management District



Project 2-A: Construct a shared-use path along Little White Oak Bayou

Image: Little White Oak Bayou presents opportunities for outdoor recreation in natural areas in an urban part of town.

2-B Improve roadway connections

Although the focus neighborhood generally has a robust grid roadway network which provides an assortment of alternative, low-volume routes for bicyclists and pedestrians, the grid has some disruptions especially west of Main Street near White Oak Bayou. An opportunity exists west of Main Street and south of Hogan Street to provide a significant north-south alternative to Main Street for bicyclists along Fletcher Street. Fletcher Street is already continuous from north of Quitman Street to Pinckney Street south of Hogan Street, but a 450-foot gap exists between Pinckney Street and Harrington Street that would logically connect Fletcher Street to Brooks Street and Burnett Street. The ULI Report *Transit-Oriented Transformation of the Near Northside* recommended making this connection to improve mobility in the area.



Project 2-B: Improve roadway connections

The connection to Burnett Street and Brooks Street would be particularly advantageous because they both cross the new light rail line on Main Street. Currently, Burnett Street operates as a quiet, low-volume local street that is generally bicycle-friendly. In the future, it will become an important connection to the Hardy Yards mixed-use redevelopment proposed for the vacant land south of Burnett Street. The construction of the Fletcher Street connection would provide the neighborhoods west of Main Street with a logical, low-traffic route to the retail, services, and other destinations that are proposed for the Hardy Yards redevelopment.

The Fletcher Street connection would also provide access for the neighborhoods to the Burnett Plaza light rail station currently under construction on the overpass over Burnett Street, particularly for residents on bicycles for whom Main Street may be unsuitable.

Additionally, the City of Houston is planning to modify the Main Street underpass so that instead of passing under Burnett Street, the two roads meet at an intersection. The combination of the underpass modification with the Fletcher Street connection would significantly improve multi-modal mobility in the Near Northside.

Partners: City of Houston Public Works; Greater Northside Management District; UH Downtown; private land owners



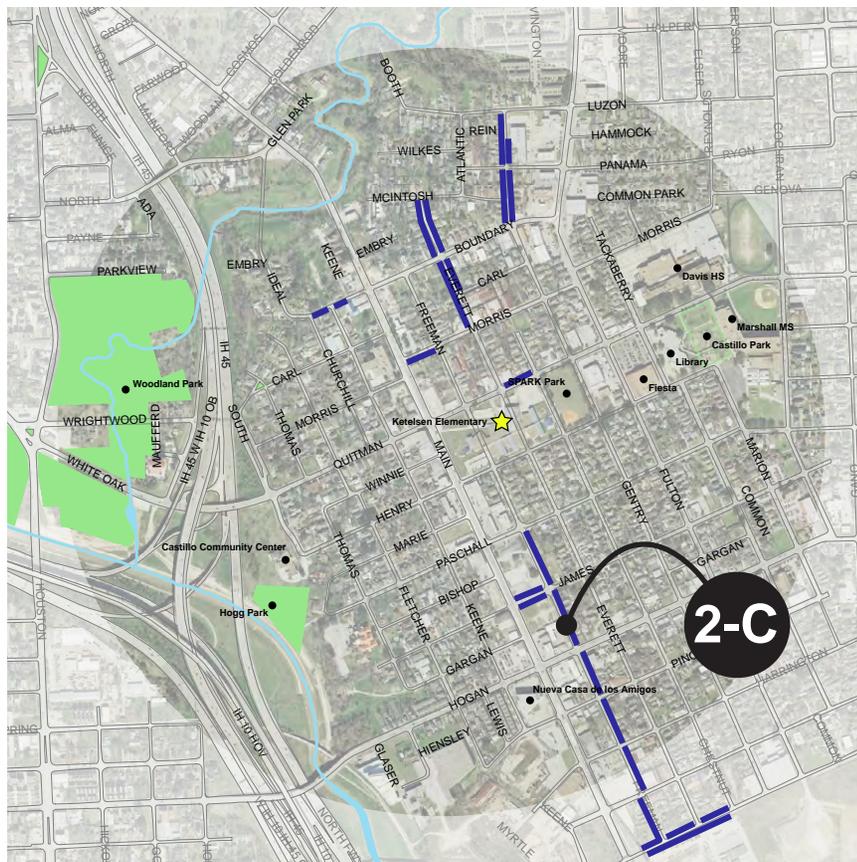
Image: View of proposed Fletcher Street extension, looking southeast towards Downtown Houston.

Source: Google Earth

2-C Provide sidewalks leading to light rail

Although the neighborhoods around Ketelsen Elementary have recently received significant sidewalk improvements, some existing gaps have been identified in the sidewalk network. A strategic approach to filling these gaps is proposed to target investment on high-priority corridors that connect to major destinations such as schools and light rail transit. Some high-priority corridors that have been identified for sidewalk improvements where gaps exist include: Burnett Street, Freeman Street, James Street, Morris Street, Boundary Street, Everett Street, and Gentry Street.

Partners: City of Houston Public Works, Greater Northside Management District, private property owners



Project 2-C: Provide sidewalks leading to light rail



Image: Sidewalks in the neighborhood are a critical part of the transportation network for many residents in the Near Northside.



Image: Many streets in the neighborhood, such as this block of Everett Street, do not have sidewalks on both sides of the road, which forces additional roadway crossings for pedestrians.

2-D Extend bike share network into Near Northside

Houston Bike Share is a program for renting bicycles at publicly-accessible stations. It was launched in 2012 with three stations and was recently expanded to 21 stations in and around Downtown Houston. The bike share program benefits and encourages cycling in the community in several ways. It expands multi-modal transportation options by decreasing the need for bicycle-carrying capacity on buses or trains. It saves users the capital cost of owning a personal bicycle. It decreases the typical requisite planning that goes into bicycle riding because users do not have to plan a future ride prior to leaving the house and decide if they need to take their bicycle with them. It puts bicycles on the street in a very visible, public manner that increases awareness of bicycling in general. By encouraging bicycling in the community, bike share directly increases opportunities for physical activity and the ability of residents to pursue active lifestyles.

Five bikes share stations are recommended for installation in the focus neighborhood:

- Castillo Community Center near Hogg Park, which would serve trails users along White Oak Bayou
- Castillo Park or Carnegie Branch Library
- Quitman Light Rail Station
- Fulton/North Central Light Rail Station
- Burnett Transit Center/Casa De Amigos Light Rail Station

These proposed bike share stations would provide bike share services to users of the White Oak Bayou trails, transit riders, students at the neighborhood schools, and visitors of local destinations such as Castillo Park.

Partners: Houston Bike Share



Project 2-D: Extend bike share network into Near Northside

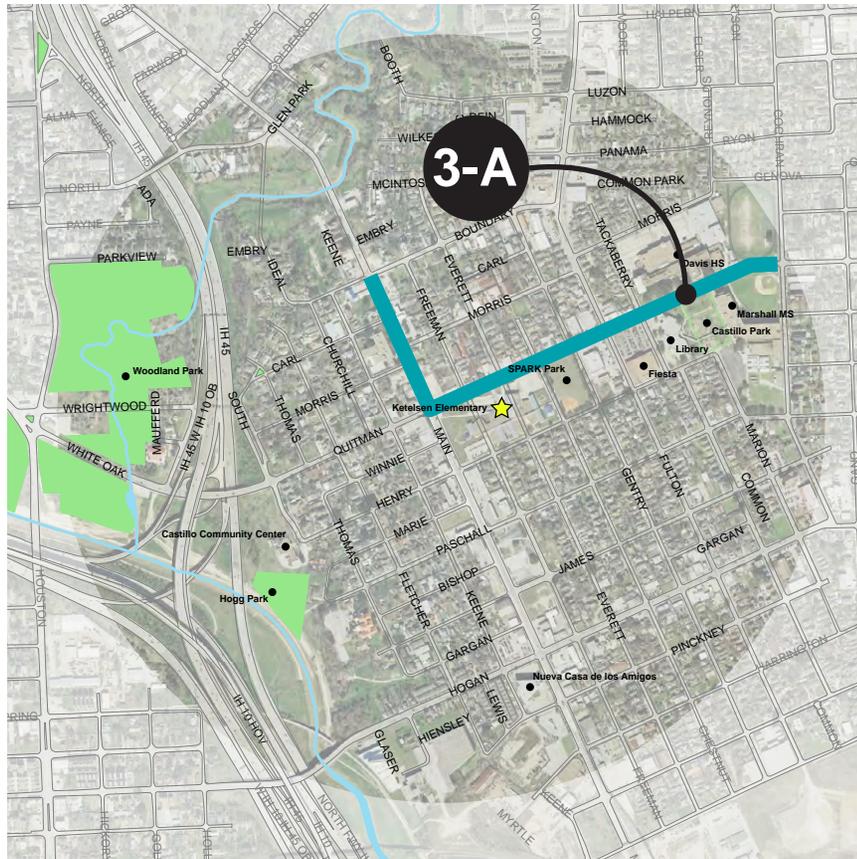


Source: Metro at blogs.ridemetro.org

Element 3: Create a Feeling of Security

3-A Provide pedestrian lighting along major corridors

Adequate, strategically-placed lighting is one of the principal facets of Crime Prevention Through Environmental Design (C.P.T.E.D.), an approach to deterring criminal behavior using environmental design. Proper lighting can limit hiding places for criminals and reduce ambushes, thereby creating an environment that feels and actually is safer for physical activity during the nighttime hours. Nighttime hours are frequently preferable for physical activity because of cooler outdoor temperatures.



Project 3-A: Provide pedestrian lighting along major corridors

The assessment of existing lighting conditions along the major thoroughfares around Ketelsen Elementary reveals that existing lighting is inconsistent and significant gaps exist. Even a single gap in sufficient lighting along an otherwise well-lit corridor can ruin the suitability of the entire corridor for nighttime activity.

Additional street lighting focused on the pedestrian realm is recommended for the following corridors to support walking to schools, transit stations, and other destinations at all hours of the day:

- Quitman Street between Main Street and Cochran Street
- Main Street between Boundary Street and Quitman Street

Partners: City of Houston Public Works, Centerpoint Energy, Greater Northside Management District



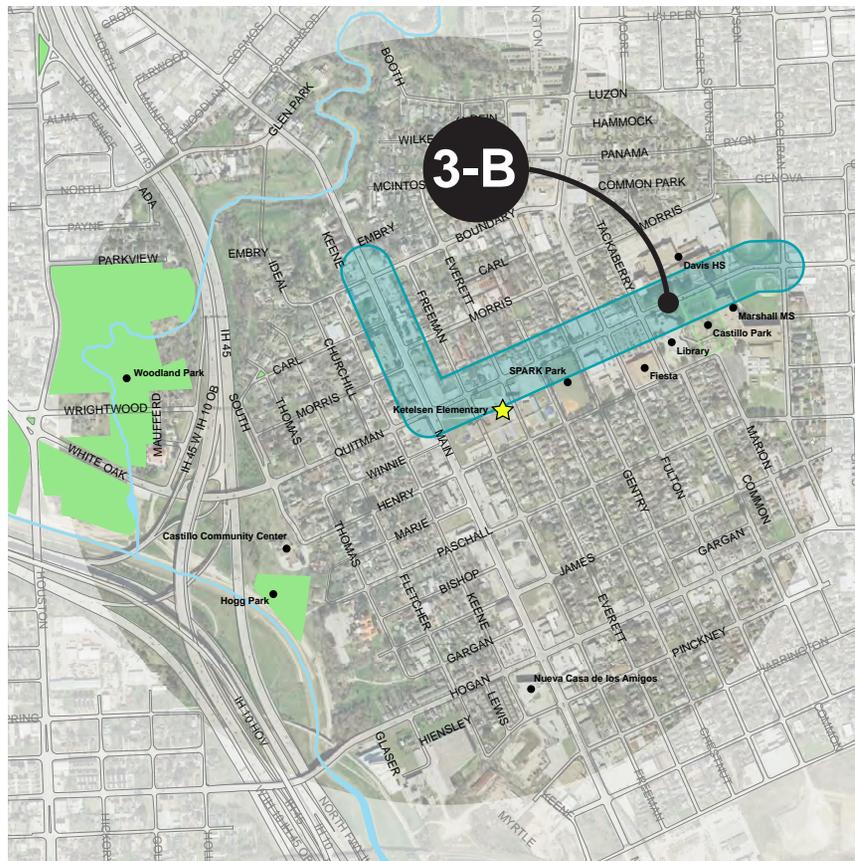
Image: Pedestrian lighting is oriented to the pedestrian realm, unlike traditional street lighting which provides relatively little illumination for pedestrians.

Source: ericrichardson on Flickr.

3-B Work with Houston Police Department to enhance police patrols

Partnering with local law enforcement is a critical component of addressing personal security and safety concerns in any neighborhood. Discussions with residents of the Near Northside revealed a strong desire to work more effectively with the Houston Police Department (HPD) and to provide law enforcement patrols on a regular basis.

Residents identified several “hot spot” locations where they feel a police presence would increase feelings of safety and thereby increase comfort for walking and biking. Many of the concerns were focused along Quitman Street, particularly around Davis High School, Marshall Middle School,



Project 3-B: Work with Houston Police Department to enhance police patrols

Carnegie Branch Library, and Fiesta, and the concerns were focused on the afternoon time period after school. Residents and business owners also expressed concern about people receiving Salvation Army services on Main Street who walk along Main Street and Quitman Street in the afternoons and evening. Regular police patrols along these streets can ensure that the schools, businesses, parks, and transit services feel safe to access by walking or biking.

Regular dialogue between HPD and the community can ensure that evolving criminal patterns can be understood and mitigated quickly and efficiently. Additionally, the Greater Northside Management District and/or various neighborhood groups may be able to coordinate a volunteer neighborhood watch program to work closely with law enforcement to identify criminal activity.

Partners: Houston Police Department, Greater Northside Management District, neighborhood associations



Image: Police officers patrolling on bicycle may be able to connect with the community more easily and respond to incidents more quickly. **Source:** Les Chatfield on Flickr

Element 4: Provide Separation from Traffic

4-A Enhance crossings on Quitman Street

Quitman Street is the central east-west street through the focus neighborhood with three schools and a number of other destinations located alongside it, and as a result Quitman Street frequently experiences heavy levels of pedestrian traffic. However, feedback from residents revealed concerns about walking and bicycling along and crossing the street because of perceptions of high vehicle speeds and poor sidewalk conditions in some locations.



Project 4-A: Enhance crossings on Quitman Street

To address these challenges, the roadway cross section is proposed to be modified between South Street and Cochran Street to emphasize its role as a pedestrian and transit thoroughfare:

- One travel lane in either direction
- Two parallel parking lanes to support local businesses and other destinations
- Curb extensions (“bulb-outs”) at intersections and major crossing points to make pedestrians more visible to motorists and to reduce crossing distances

As discussed in Project 1-C, there may be an opportunity to redesign the cross section of Quitman Street to link up open space at Davis High School and Castillo Park. This could be accomplished by narrowing Quitman Street to two lanes with no parking between Tackaberry Street and Cochran Street or with a curb bulb-out at the front entrance of Davis High School.

This section of Quitman Street is shown on the City of Houston Major Thoroughfare and Freeway Plan (MTFP) as a two-lane road, so the proposed cross section modifications would not require any changes to the MTFP.

Partners: City of Houston Public Works, City of Houston Planning Department



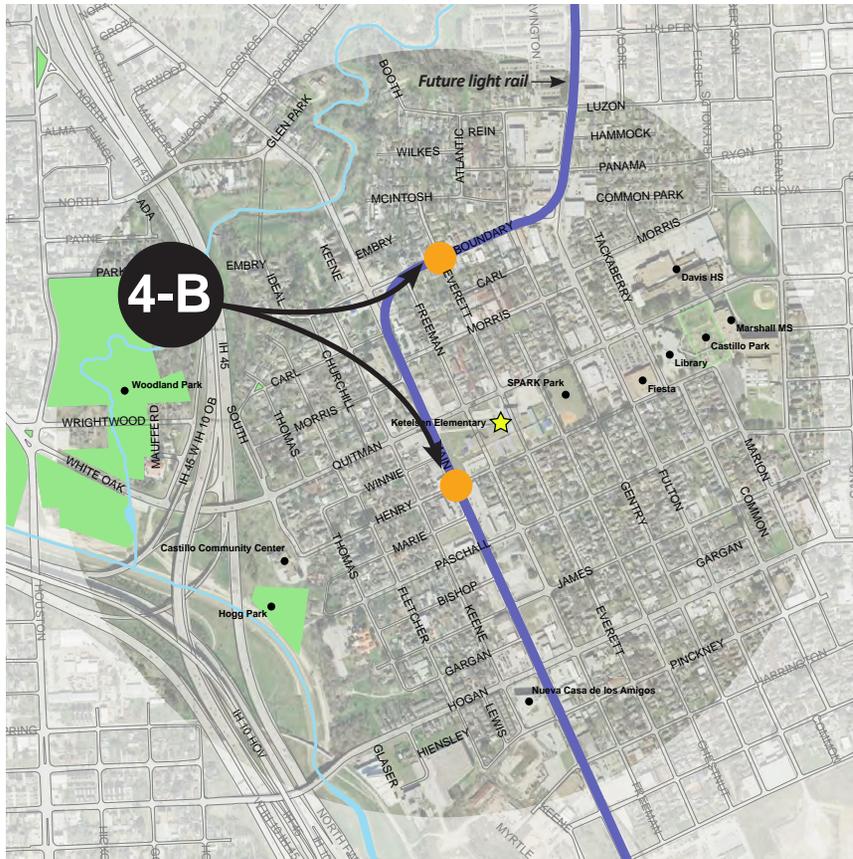
Image: Bulb-outs make pedestrians more visible to drivers and make crossings easier, faster, and thus safer by decreasing crossing distances. **Source:** City of Alexandria, VA at alexandriava.gov



Image: Pedestrians crossing Quitman Street have to cross approximately 36' of pavement, which can take up to 12 seconds during which time they are exposed to traffic.

4-B Light rail crossings at Henry Street and Everett Street

The new light rail line that runs through the focus neighborhood has the potential to increase overall walkability of the neighborhood by increasing the number of destinations within range of a combined walking/transit trip. However, the rail line will result in a reduction in the number of safe roadway crossing locations for pedestrians because it will operate in a separate right-of-way that is raised above the adjacent road. To mitigate this reduction in pedestrian crossings, new crossings are proposed for the intersections of Main Street at Henry Street and Boundary Street at Everett Street.



Project 4-B: Light rail crossings at Henry Street and Everett Street

The Main Street at Henry Street crossing would enable the bike route on Henry Street proposed in Project 4-C to extend across Main Street and would ease the crossing for students at Ketelsen Elementary. The Boundary Street at Everett Street crossing would lie approximately halfway between Main Street and Fulton Street, the nearest rail crossings, and would strengthen neighborhood ties north and south of Boundary Street. Everett Street is also the most likely route for students at Ketelsen Elementary that live north of Boundary Street.

Because the rail line is elevated above the roadway surface, the crossings or the entire intersection would also need to be elevated, which would have the added advantages of increasing pedestrian visibility by putting them in the line of site of drivers and of serving as a speed-control mechanism for vehicular traffic. Each crossing is proposed to provide traffic control in the form of a hybrid pedestrian beacon or rectangular rapidly-flashing beacons (RRFBs), which are special pedestrian-activated systems that have been shown to increase yielding compliance of drivers but that are less expensive than full traffic signals. The image at the bottom right shows an example of a hybrid pedestrian beacon.

The City of Houston and Metro are working to address the crossing at the intersection of Boundary Street at Everett Street and are actively pursuing mitigation opportunities.

Partners: City of Houston Public Works, Metro

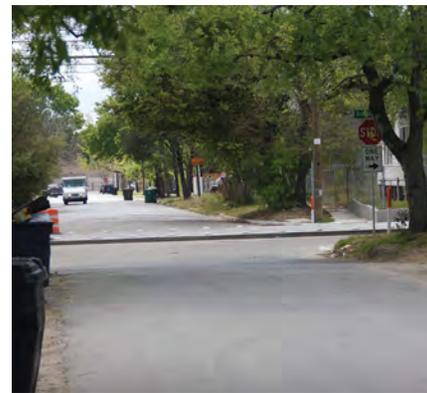


Image: View southbound towards Boundary Street along Everett Street. No pedestrian accommodations are provided across the light rail line.



Image: Hybrid pedestrian beacons, such as this one on Fulton Street, could be installed to provide right of way to pedestrians crossing the road.

4-C Bike route on Henry Street

Although bicycling within the Near Northside is generally comfortable because of the grid network of local streets and some bicycle facilities, light rail construction along Main Street has made east-west travel by bicycle more challenging because of the limited number of at-grade crossings of the rail line. A bike route is proposed for Henry Street between South Street and Fulton Street to ease east-west bicycle travel in the neighborhood. This bike route would provide parallel bicycle access to Quitman Street, which is envisioned in Project 4-A as a primarily pedestrian, transit, and motor vehicle street.

At South Street, the Henry Street bike route would connect to a trail connection to the White Oak Trail that is currently under design and that will eventually provide a safe, convenient connection for bicyclists and pedestrians in the Near Northside to the Heights and Downtown.



Image: Signed shared roadway.
Source: www.flickr.com/ / The Bike Fed.

The proposed bike route would also connect to existing bicycle lanes on Fulton Street.

To achieve the connection across Main Street, a new pedestrian crossing is proposed for construction at the intersection of Henry Street at Main Street. This crossing will require a few special considerations, discussed in Project 4-B.

Partners: City of Houston Public Works, Metro



Project 4-C: Bike route on Henry Street

4-D Bike lanes on Hogan Street

Although bicycle travel throughout the focus neighborhood is relatively easy in the north-south direction because of the grid street network, east-west routes are more challenging because the light rail along Main Street limits the number of streets that cross Main Street. Hogan Street is one of the few cross streets that have a traffic signal at Main Street, and it is also one of the few streets that cross White Oak Bayou and IH-45. However, the current cross section consists of four general purpose travel lanes and forces bicyclists to share the road with automobiles, which can be uncomfortable for bicyclists.

To better accommodate bicyclists, the cross section of Hogan Street is



Project 4-D: Bike lanes on Hogan Street

proposed to change between Houston Avenue and Fulton Street. The current pavement width ranges between 40 feet and 44 feet in this extent. The proposed cross section is:

Between intersections:

- Two 11-foot general purpose lanes
- Two 5-foot bicycle lanes
- One 8-foot parking lane or sidewalk improvements, which could be desirable because of limited existing sidewalks widths and right-of-way constraints

At intersections with heavy turn movements:

- Two 11-foot general purpose lanes
- One 11-foot left turn lane
- Two 5-foot bicycle lanes

The existing average daily traffic (ADT) along Hogan Street is approximately 5,451 vehicles according to the City of Houston GIMS database. This is a relatively low volume of traffic that would be comfortable for bicycle and pedestrian traffic and which could be accommodated by two general purpose traffic lanes. However, Hogan Street between these extents is classified as a Major Collector with 4 lanes on the City of Houston MTFP, and this classification would need to change before the cross section could be modified to include the proposed bike and sidewalk improvements.

Partners: City of Houston Public Works and Planning Departments

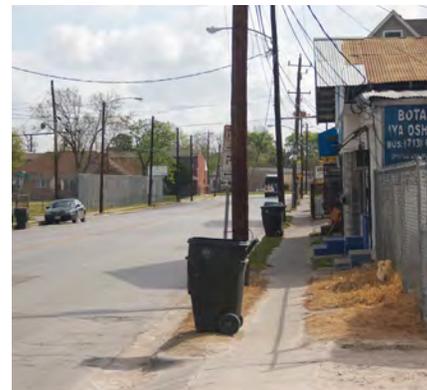


Image: Right of way constraints including buildings built up to the sidewalk make potential sidewalk improvements difficult. Narrowing the road to two travel lanes and two bike lanes would make space available for sidewalk widening or parking.



Image: Bicycle lanes on Hogan Street would provide good east-west bicycle connectivity on the south side of the study area. **Source:** www.pedbikeimages.org / Dan Burden.

Element 5: Create an Interesting Environment

5-A Revitalize/redevelop existing buildings to support walkability

One of the most effective ways to create an environment that is interesting and appealing for walking is to provide activity immediately adjacent to the walkway, whether that activity be residential housing, commercial businesses, churches, parks, or other activity centers. Many of the older buildings in the Near Northside were built prior to World War II and the explosion in private automobile ownership, when walking was a primary mode of transportation. They were built to embrace the sidewalk with minimal building setbacks so that pedestrians could easily enter the building, and many are built with awnings or other sidewalk coverings to provide shade for pedestrians.

Current regulations mandate that new buildings along non-transit thoroughfares be set back further from the road, and many new developments are also built with parking lots between the sidewalk and the main building. These conditions can create an environment that feels empty, unfriendly, unsafe, and uninteresting for pedestrians.

By encouraging redevelopment and revitalization of the existing buildings in the Near Northside, the neighborhood can take advantage of the inherent qualities of these buildings which have naturally supported active transportation since the days when “active transportation” was just “transportation.”

Partners: Private property owners, Near Northside Management District



Buildings along Main Street are located directly adjacent to the sidewalk and feature awnings to protect pedestrians from the elements.



Interesting architecture along Hogan Street creates a welcoming, engaging environment for walking.



As they do on Main Street, many buildings on Hogan Street are also located adjacent to the sidewalk and are easily accessible for pedestrians.

Built Environment Implementation Strategy

Prioritization Factors

The conceptual plan projects described in the previous section were all identified as high-priority projects through the project team’s evaluation of existing conditions, analysis of gaps for encouraging and enabling healthy lifestyles, and feedback from stakeholders and the public meetings. The Built Environment Framework discussed in Chapter 1 was used to build a holistic conceptual plan that prioritizes infrastructure projects that would have the most impact on community physical activity and other health outcomes. If all recommendations are implemented, living healthy, active lifestyles that incorporate active transportation modes, recreational exercise and activities, and affordable, healthy foods should become more accessible for residents of the community. As such, all projects are recommended for implementation.

However, the scarcity of implementation resources demands that even a set of high-priority projects such as these be further prioritized so as to take advantage of funding mechanisms as they become available. Additionally, some projects have longer lead times than others, including time for design, potential right-of-way acquisition, and the need to coordinate with the timelines of other, related projects.

Conceptual plan projects were therefore further prioritized into three categories:

- **Short Term (Table 2.1):** These projects tend to be lower cost and require minimal coordination with other projects and thus can potentially be implemented within **1-3 years**
- **Medium Term (Table 2.2):** These projects have medium to high costs and may require changes to local planning documents, but could conceivably be implemented within **3-5 years**.
- **Long Term (Table 2.3):** These projects either have higher implementation costs or require coordination with other projects and thus will likely take **more than 5 years** to complete.

The primary factors that were used to classify projects into these buckets of priority were: community support, ease of implementation, and project cost. These factors are discussed below.

Prioritization Factor: Community Support

During the second round of public meetings, meeting participants were asked to vote for projects to indicate their belief of the relative ability of each project to achieve healthy outcomes for their community.

The projects were grouped into quartiles based on the number of votes received. The quartiles are indicated in **Figure 2.7**.

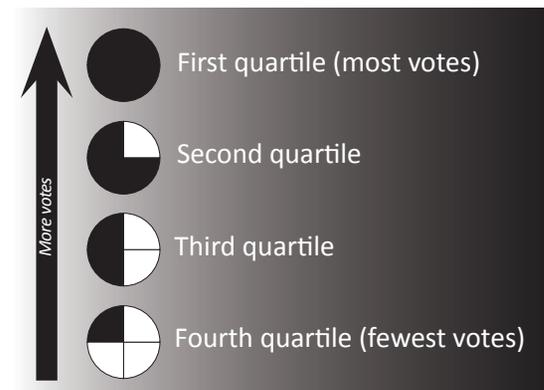


Figure 2.7 - Prioritization scale for Community Support

One project—Project 2-D Extend bike share network into Near Northside—was added after the second round of public meetings and was thus not voted upon. Further feedback from the community during the public meetings and presentations directly led to the inclusion of this project. On Community Support is indicated as “N/A” for this project, but this should not be interpreted as having low community support.



Image: Meeting participants using voting stickers to prioritize projects according to expected health outcomes

Prioritization Factor: Cost

Project costs were estimated using a wide variety of sources. For infrastructure projects with clearly defined elements, such as a bayou trail, TxDOT 12-month moving average bid prices (current as of May 3, 2013), were used to price individual project components. For projects with less specificity, such as a new park within a general vicinity, costs were estimated based on costs from similar projects of similar scope and scale. Other projects, such as improved coordination with local law enforcement agencies, were assumed to require no additional costs. Costs for these projects are shown as “N/A”.

Detailed cost estimates for each project with project components are included in **Appendix H**.

Finding adequate funding to cover these costs is critical for project implementation but can sometimes be a challenge. Potential funding opportunities are discussed in detail in Chapter 5 of this report.

Prioritization Factor: Ease of Implementation

Prioritization of projects included a qualitative assessment of each project’s ease of implementation. This assessment included consideration of:

- Cost
- Potential funding opportunities
- Right-of-way requirements
- Project design
- Agency review cycle of design
- Required coordination with other projects/agencies
- Required changes to local planning documents (e.g. changes to a major thoroughfare plan)
- Community support
- Identification of local sponsors and/or champions

Projects were ranked from easiest to implement to most challenging to implement as shown in **Figure 2.8**.

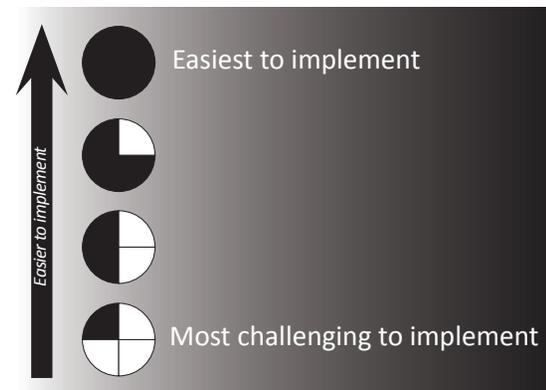
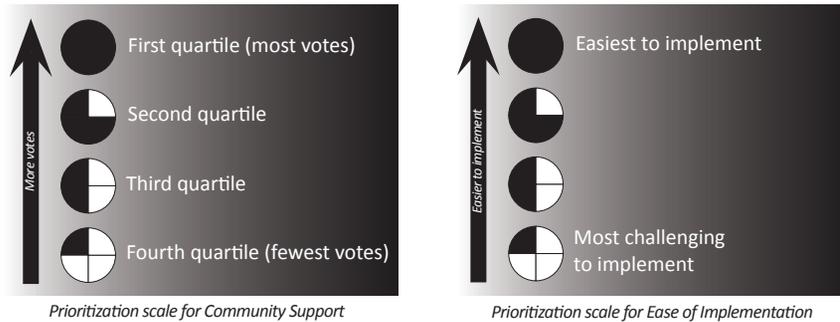


Figure 2.8 - Prioritization scale for Ease of Implementation

Implementation Tables

Table 2.1, Table 2.2, and Table 2.3 list the conceptual plan projects for the short-term, medium-term, and long-term, respectively. For each project, the prioritization factors are indicated, and the prioritization scales from **Figure 2.7 and Figure 2.8** are summarized below for reference.



Additionally, potential implementation partners and potential project benefits are summarized on the tables for easy reference. These are described in more detail below.

Potential Partners

Potential community partners were identified for each project that may be able to play an important role in project implementation. Some partners may have resources available for project funding or could lend support in an application for funding. Other partners might not be able to provide direct funding, but they may be able to provide expertise and guidance during the implementation process. They may also be important stakeholders during the project review and approval process and should be engaged early and often. The implementation partners listed here are the same as those indicated in the Conceptual Plan section for each project.

Potential Benefits

Major benefits as they relate to healthy community outcomes are summarized for each project. These are summaries of the detailed project descriptions included in the Built Environment Conceptual Plan Section.

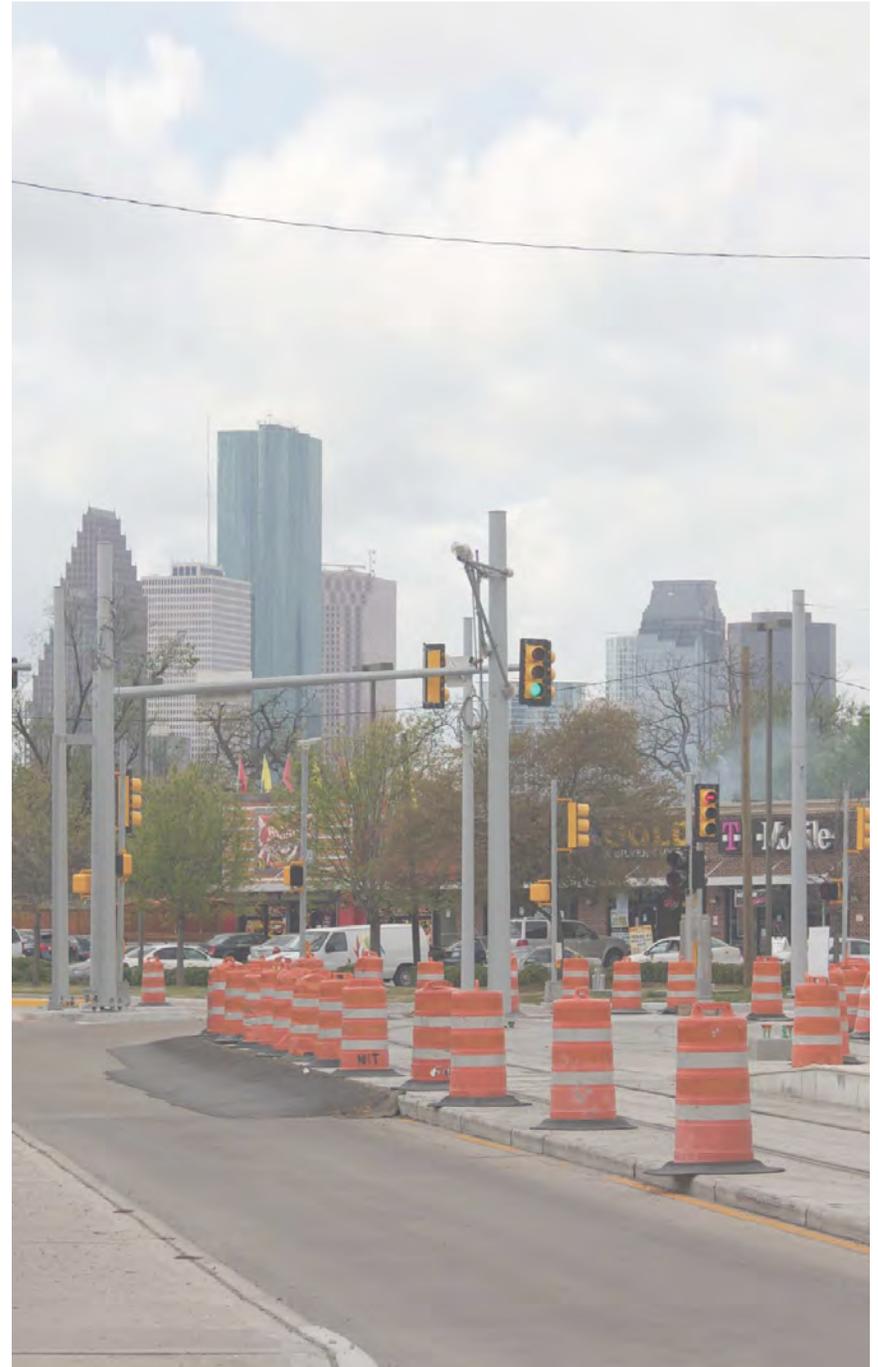


Table 2.1 - Short Term Implementation Schedule

| Project ID | Project Description | Community Support | Ease of Implementation | Cost | Potential Partners | Potential Benefits |
|------------|--|---|---|-------------|--|--|
| 1-B | Walking trail at Ketelsen SPARK Park |  |  | \$35,000 | City of Houston Parks and Recreation, SPARK Parks, HISD, Ketelsen Elementary | Provide more opportunities for physical recreation at existing park; increase appeal to adults so that they are more likely to bring their children to the park. |
| 2-C | Provide sidewalks leading to light rail |  |  | \$1,168,000 | City of Houston Public Works, Greater Northside Management District, private property owners | Ensuring good sidewalk connections to light rail will not only encourage walking in the community, but walking/transit joint trips to regional destinations. |
| 2-D | Extend bike share network into Near Northside | N/A |  | \$173,000 | Houston Bike Share | Bike share gives residents an easy, affordable way to get outdoors and reach a destination while getting physical activity along the way. |
| 3-B | Work with HPD to enhance police patrols |  |  | - | Houston Police Department, Greater Northside Management District, neighborhood associations | A police presence in a neighborhood improves safety and perceptions of safety; police patrols can interact with neighbors and be a part of the community. |
| 5-A | Revitalize/redevelop existing buildings to support walkability |  |  | - | Private property owners | The historical neighborhood form is supportive of walking and should be preserved where possible. |

Table 2.2 - Medium Term Implementation Schedule

| Project ID | Project Description | Community Support | Ease of Implementation | Cost | Potential Partners | Potential Benefits |
|------------|---|---|---|-----------|--|--|
| 1-A | Neighborhood Park near Hogan Street |  |  | \$322,000 | City of Houston Parks and Recreation, Houston Parks Board, Greater Northside Management District | Provide outdoor recreation area for kids and adults to get physical recreation. Increased proximity makes it possible to walk and bike to park. |
| 1-C | Improvements to Castillo Park |  |  | \$350,000 | City of Houston Parks and Recreation; HISD; City of Houston Public Works | Increase appeal of existing park for multiple types of physical recreation. Opportunities to expand park space. |
| 3-A | Provide pedestrian lighting along major corridors |  |  | \$445,000 | City of Houston Public Works, Centerpoint Energy | Lighting makes an area feel safe and encourages residents to get outside and use pedestrian facilities. Lighting also allows for night time physical activity. |
| 4-A | Easier crossings on Quitman Street |  |  | \$88,000 | City of Houston Public Works, City of Houston Planning Department | Curb bulb-outs at intersections increases safety for pedestrians by reducing crossing distances and by making pedestrians more visible. |
| 4-B | Light rail crossings at Henry Street and Everett Street |  |  | \$222,000 | City of Houston Public Works, Metro | Pedestrians and cyclists will likely cross at these locations regardless, and accommodating these crossings will improve interactions with drivers. |
| 4-C | Bike route on Henry Street |  |  | \$3,000 | City of Houston Public Works, Metro | Would provide a major east-west bike spine through the neighborhood by connecting White Oak Bayou trail, Ketelsen EI, Marshal MS, Fiesta, etc. |
| 4-D | Bike lanes on Hogan Street |  |  | \$46,000 | City of Houston Public Works and Planning Departments | Would provide a major east-west bike spine on the south side of the neighborhood by crossing both IH 45 and White Oak Bayou. |

Table 2.3 - Long Term Implementation Schedule

| Project ID | Project Description | Community Support | Ease of Implementation | Cost | Potential Partners | Potential Benefits |
|------------|------------------------------------|---|---|-------------|---|--|
| 2-A | Trail along Little White Oak Bayou |  |  | \$1,900,000 | City of Houston Parks and Recreation; Houston Parks Board; City of Houston Public Works; TxDOT; Greater Northside Management District | Improve access to popular parks - Moody Park and Woodland Park. Provide linear park space for physical recreation and a route for active transportation. |
| 2-B | Improve roadway connections |  |  | \$635,000 | City of Houston Public Works; Near Northside Management District; UH Downtown; private land owners | Encourage bicycling by providing an alternate north-south route to Main Street; improve access to streets that cross the light rail line. |

See Appendix H for detailed cost estimates for all projects.

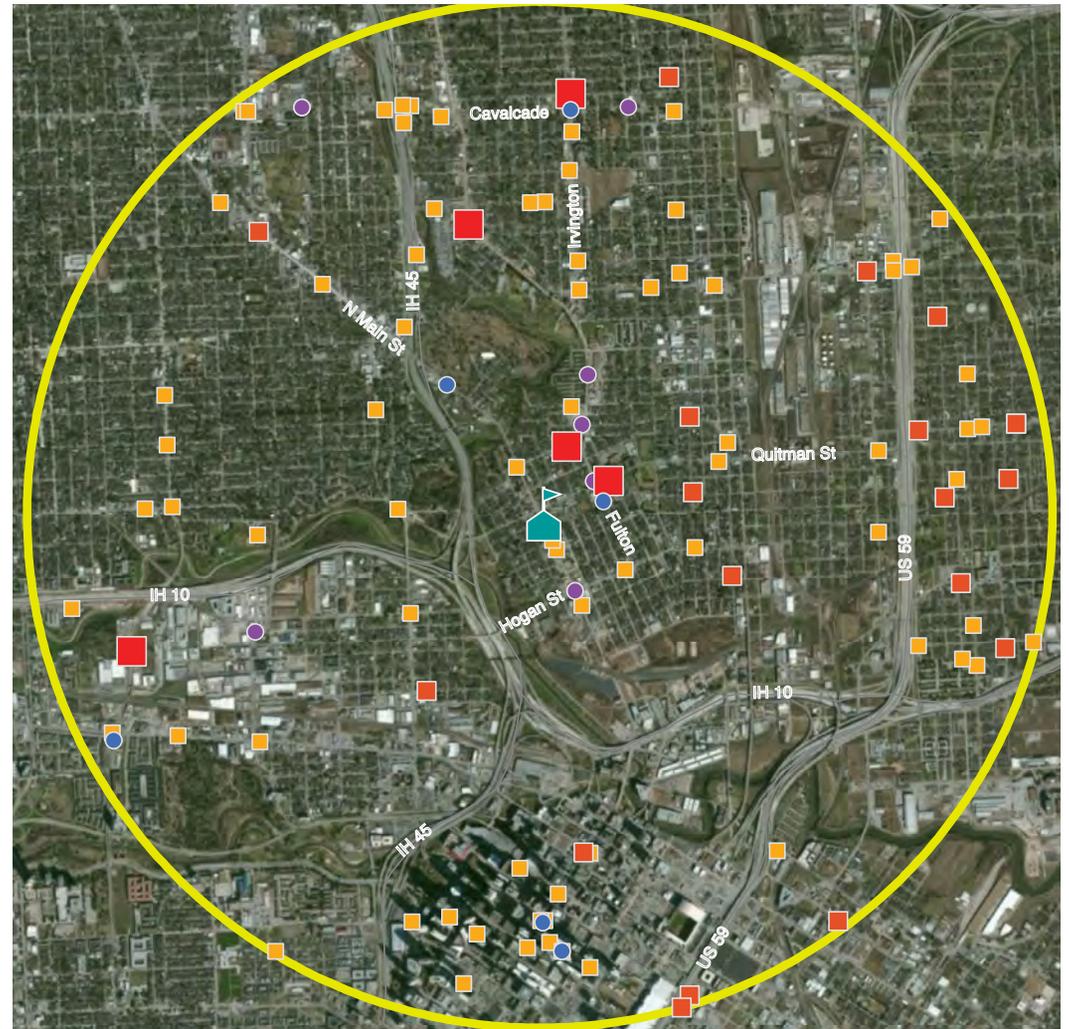
Healthy Food Access Study

Summary of Market Basket Survey

Within a 2-miles radius of Ketelsen Elementary School, there are 106 food retail stores, including 19 grocery stores and 73 convenience stores. Of the 19 grocery stores, the only large, chain stores are Kroger and Fiesta Mart. For the market basket surveys, 46 stores were visited in order to be surveyed. Only 31 stores permitted the surveys to be completed. Of those 31 stores, three are grocery stores, 25 are convenience stores, and three are general discount stores. Food availability in the neighborhood as determined by the market basket survey is included in **Appendix I**.

| Store Type | 2-miles radius | Surveyed | Not allowed to survey |
|-----------------|----------------|-----------|-----------------------|
| Convenience | 73 | 25 | 14 |
| General | 8 | 3 | 0 |
| Grocery | 19 | 3 | 0 |
| Food Drug Combo | 6 | | 1 |
| Total | 106 | 31 | 15 |

- Convenience Store ■
- Grocery Store (independent) ■
- Grocery Store (chain) ■
- Food Drug Store ●
- General Store ●



Of the three priority neighborhoods, the Near Northside has the greatest availability and the highest costs of food. Of the 133 foods surveyed for availability using TxNEA, the Near Northside stocked the most items. There were only 14 items captured on the TxNEA that the surveyed grocery stores did not carry. The convenience stores surveyed do not carry 59 items and the general stores did not carry 79 items. Like in the other priority neighborhoods, the items that are least available tend to be healthier options.

Every five years, the US Department of Agriculture and the Department of Health and Human Services release The Dietary Guidelines for America with recommendations on what constitutes a healthy diet. The 2010 version highlights three foods to increase in American diets: whole grains, fat-free or 1% milk, and fruits and vegetables.¹

For residents in the Near Northside, increasing these healthy options can be challenging because whole grains, milk with less saturated fat, and fruits and vegetables are the least available foods. Whole wheat bread is available at two of the 31 stores surveyed, while regular bread can be found in 18 stores. Brown rice is available at 6 stores while white rice can be found at 21 stores. Oatmeal is available at 12 stores while sugared fruit rings can be found in 19 stores. Whole milk is available in 28 stores while skim milk is only available in two stores and 1% is found in only one store. Interestingly, skim milk is cheaper on average than whole milk. Six out of the 25 convenience stores surveyed carry at least an apple, banana, orange, avocado, bell pepper, onion, squash, tomato or bag of carrots. Grocery stores carry the majority of fresh produce. The limited availability of healthy options means that residents in the Near Northside do not have consistent access to the foods necessary to maintain a healthy diet.

Another way to gauge access to a nutritious diet is to examine the price of food in relation to the USDA Thrifty Food Plan (TFP). TFP is a “national standard for a nutritious diet at a minimal cost”² and the basis for the maximum allotment for Supplemental Nutrition Assistance Program benefits (food stamps). TFP outlines an average

¹ Dietary Guidelines for Americans: Selected Messages for Consumers. Retrieved from: www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/SelectedMessages.pdf

² Carlson, A., Lino, M., Juan, Y., Hanson, K., Basiotis, P.P. (2007) Thrifty Food Plan, 2006. USDA Center for Nutrition Policy and Promotion, CNPP-19.

Table 2.4 - Thrifty Food Plan

| Food Category | Lbs. per week | Amount spent weekly |
|-----------------------|---------------|---------------------|
| Whole grains | 6.67 | \$9.98 |
| Whole grain cereal | 0.62 | 2.25 |
| Non-whole grain bread | 6.37 | 10.32 |
| Dark green veggies | 5.72 | 11.19 |
| Orange veggies | 5.09 | 5.56 |
| Canned beans | 4.89 | 6.61 |
| Other veggies | 9.99 | 12.52 |
| Whole fruit | 18.58 | 21.45 |
| Whole milk | 2.13 | 1.08 |
| Low fat milk | 40.07 | 19.43 |
| Cheese | 0.13 | 0.58 |

Total Cost for a Family \$100.99

Table 2.5 - Near Northside Food Prices

| Food Item | Lowest Avg. Price per lb. | Weekly expenditure (lbs. x lowest price) |
|------------------|---------------------------|--|
| Brown rice | 0.68 | \$4.54 |
| Oatmeal | 1.51 | 0.94 |
| White rice | 0.54 | 3.46 |
| Greens | 0.89 | 5.09 |
| Carrots | 0.81 | 4.12 |
| Canned beans | 0.66 | 3.21 |
| Onion | 0.65 | 6.49 |
| Bananas | 0.56 | 10.40 |
| Whole Milk (gal) | 0.35 | 0.74 |
| 2% Milk (gal) | 0.35 | 13.91 |
| Cheese Slices | 1.96 | 0.25 |

Total Cost for a Family \$53.15

amount of food to be eaten from certain food categories to have a nutritious meal for males and females of various ages. It also estimates the average national cost of the food categories by gender and age. **Table 2.4** shows the average number of pounds of food a family of four (mother, father, child age 6-8 and child age 9-11) would consume in a week, and the cost of the food. For the Near Northside, the lowest average price per pound of a food item was used to estimate the weekly cost of food for a family of four (see **Table 2.5**).

While the total weekly expenditure in the Near Northside is below the TPF limit, the TPF basket in the Near Northside costs more than the TFP baskets from the other two priority neighborhoods. TFP is based on a national average of food prices and does not consider regional variations so it may not be the best measure to compare prices. However, comparing the TFP food baskets of the three priority neighborhoods, shows that food in the Near Northside is more expensive. The TFP basket from the Near Northside is almost \$12 more than the basket from Pasadena. Prices in the Near Northside are higher for almost half of the items surveyed with TxNEA. These data reflect the concerns of parents in the focus groups about the price of food.

Summary of Healthy Eating Survey

Of most importance for residents in the Near Northside is the price of food. For 53% of respondents¹, the cost of food is their primary consideration when grocery shopping. For another 27.8% the nutritional value of food is more important than price. Neighborhood stores however are not satisfying the priorities of residents. Almost 56% of respondents are dissatisfied with the discounts available for healthy foods at the stores where they buy food. They also think that the stores do not do enough to promote healthy foods. Since respondents do not travel far to get groceries, this means that they are dissatisfied with their neighborhood stores. Most travel less than 5 miles (78%), with over a third travelling less than a mile, to grocery shop.

The top three places respondents go to shop for groceries are Fiesta, Kroger and Wal-Mart. Of note is that several respondents get food from alternative sources

like Wesley Community Center, S.H.A.P.E. Community Center Fruit and Vegetable Cooperative, and the produce market on Airline Drive.

In considering the cost of food, respondents are also considering the health of their children. The majority of respondents are concerned about their child becoming obese. Seventy-six percent are very concerned or concerned about their child becoming obese. Residents in the Near Northside are also concerned about childhood obesity in their community, not just with their own children. Forty percent are very concerned and 47.5% are concerned.

| How far do you travel to shop for food? | |
|---|-------|
| Under 1 mile | 36.1% |
| 1 - 5 miles | 41.7% |
| 6 - 10 miles | 19.4% |
| Over 10 miles | 2.8% |

| What is your role in deciding what your children eat? | |
|---|-------|
| I'm not involved at all | 2.8% |
| I'm somewhat involved | 8.3% |
| I'm very involved, but not the main person | 11.1% |
| I'm the main person who cooks and shops for food | 58.3% |
| I don't have children | 19.4% |

| How much do you know about what your child eats during the school day? | |
|--|-------|
| A lot | 30.8% |
| Some | 42.3% |
| Not much | 23.1% |
| Nothing | 3.9% |

| How many meals a week do you eat. . . | at home? | out? |
|---------------------------------------|----------|-------|
| 0 | n/a | 30.6% |
| 1 | 2.8% | 36.1% |
| 2 | 16.7% | 13.9% |
| 3 | 13.9% | 8.3% |
| 4 | 22.2% | 5.6% |
| 5 or more | 44.4% | 5.6% |

| How often do you shop for food? | |
|---------------------------------|-------|
| More than once a week | 27.8% |
| Once a week | 58.3% |
| Every other week | 8.3% |
| Once a month | 5.6% |

| | How satisfied are you with the fruits & vegetables where you shop? | | | |
|-------------------------|--|---------|---------|-------|
| | Availability | Variety | Quality | Price |
| Completely dissatisfied | 8.3% | 8.3% | 5.6% | 11.1% |
| Very dissatisfied | 2.8% | 2.8% | 5.6% | n/a |
| Somewhat dissatisfied | 13.9% | 19.4% | 8.3% | 27.8% |
| Somewhat satisfied | 30.6% | 33.3% | 44.4% | 33.3% |
| Very satisfied | 36.1% | 27.8% | 27.8% | 19.4% |
| Completely satisfied | 8.3% | 8.3% | 8.3% | 8.3% |

¹ There were 34 survey responses from 77009 and 6 responses from the focus group at the YMCA. Only one focus group participant lives in the 77009 area. Ten responses were from surveys completed in Spanish. Twenty-eight respondents report to have children.



Summary of Focus Groups

For participants in the focus groups in the Near Northside, the people ultimately responsible for creating healthy environments and cultivating healthy habits in kids are parents. Parents control what their children eat and influence their habits around physical activity. Modeling healthy habits is not always easy though, especially when healthy food is expensive, not all grocery stores are of the same quality, and it is unclear what it means to eat healthy. By far, the number one barrier to eating healthy is the price of healthy food. Fast food is cheap and readily available whereas grocery stores differ by neighborhood in the availability and quality of healthy foods. Families may have to visit multiple stores outside of their neighborhood to find affordable, quality produce. Perceptions of store variability was a considerable topic of discussion as parents compared notes and expressed their frustrations over the lack of consistent quality of chain stores across the county.

Parents also expressed their frustrations over the variability of public spaces across the county. Exercise was mentioned by participants as a necessity to keep kids healthy. Maintaining a consistent exercise routine is difficult though when nearby park facility are not maintained, electronic distractions pervade every place where children live, learn and play, and physical activity programs are expensive.

Parents recognize the need for rules about exercise, like limiting the amount of time spent playing video games, and the need for families to spend time together getting exercise in order to keep kids healthy. Making time to exercise together as a family is one way to model healthy habits for kids. They also recognize the need for the community and local government to ensure safe, well-maintained spaces where children can play in all neighborhoods.

Even though parents bear the ultimate responsibility in keeping kids healthy, they need help to make sure they have the tools to do so. Those tools include educational opportunities for parents to learn about proper nutrition, safe and well-equipped neighborhood environments where kids can play, reduced cost physical activity programs at schools and parks, and affordable, quality healthy food. Fair and equitable distribution of those tools is the responsibility of the community and local government.

| | |
|--|--|
| What contributes to childhood obesity is... | <ul style="list-style-type: none"> • Lack of parental control over what kids eat • Convenience and cheap cost of fast food • Limited understanding of obesity • Cost of healthy food & exercise programs • Video games |
| To be healthy, kids need... | <ul style="list-style-type: none"> • Rules about healthy eating and exercise • To be engaged in sports or physical education • Time together as a family getting exercise • Limits on time allowed to play video games • Educational opportunities for parents, especially new mothers, to learn about healthy habits |
| What affects my family's ability to eat healthy... | <ul style="list-style-type: none"> • Price of healthy food • Not modeling healthy habits for kids • Convenience and cheap cost of fast food • Lack of knowledge about healthy eating • Variations in grocery store quality |
| The responsibility of keeping kids healthy is on... | <ul style="list-style-type: none"> • Parents: to model healthy behaviors and teach children healthy habits • Community: to maintain a safe environment & provide activities for kids • School: to reinforce healthy habits • Government: to ensure healthy meals are served in schools and equitable distribution of funds for public facilities |
| To create healthier environments for kids in Near Northside, you need to... | <ul style="list-style-type: none"> • Subsidize fruits & vegetables to be cheaper • Host seminars for parents on healthy eating & physical activity at every school • Require physical activity programs at every school and in every park • Ensure equal distribution of financial resources to improve public spaces • Restrict use of SNAP benefits: • Set limit on percent of SNAP benefits spent on foods of minimal nutrition • Require work in a community garden |

Healthy Food Access Plan

According to a report by The Food Trust, Food for Every Child: The Need for More Supermarkets in Houston, the Near Northside is an “area with greatest need.” The Near Northside is a lower-income community with low supermarket sales, a high number of deaths due to diet-related disease, and the greatest need for more supermarkets.¹ The limited number of large, chain supermarkets in the neighborhood limits the options of residents. Chain supermarkets tend to carry a wider variety of products at a lower cost which is important for families with a fixed income. Given the challenges with the price of food in the Near Northside, Healthy Living Matters proposes the following strategies to help improve access to food for a nutritious diet:

1. Coordinate a Bulk Buying Club

2. Offer Food Gardening Classes

3. Increase Opportunities to Enroll in SNAP

4. Advocate for Healthy Food Policies

5. Offer Cooking Education Classes

Recommendation 1: Coordinate a Bulk Buying Club

Coordinate a bulk buying club that provides weekly shares of fresh fruits and vegetables at affordable rates at Ketelsen Elementary School or the MD Anderson YMCA.

A bulk buying club is a group of community members who pool their resources and numbers to purchase goods in bulk. The quantity of goods being purchased often enables members to pay wholesale rates instead of marked up retail prices. During the focus groups in the Near Northside, participants discussed buying produce in bulk from the Canino Produce Market on Airline Drive as an option for getting affordable healthy food. The produce market on Airline Drive is host to 90 permitted produce vendors. Buying produce in bulk at wholesale rates from these vendors would help to alleviate some of the price barriers for families in the Near Northside.

Ketelsen Elementary School hosts weekly Cafecitos meetings with parents which would provide an existing group and location for a buying club. Ketelsen is only 3.5 miles from the Canino Market. The MD Anderson YMCA is another option for a buying club because it too is home to an existing group of members. The YMCA is only 2 miles from the market.



Image: Canino Produce Market, Houston, Texas

Source: www.walkscore.com/place/canino-produce-co-houston

¹ Manon, M., Giang, T. & Treering, D. (2010). Food for Every Child: The Need for More Supermarkets in Houston. The Food Trust.

Recommendation 2: Offer Food Gardening Classes

Offer food gardening classes for residents to learn to grow their own food and to increase interest and participation in area community gardens.

The area around Ketelsen Elementary School is home to six community and school gardens, the newest being a community garden run by Wesley Community Center. According to the GO Neighborhoods Northside Quality of Life Agreement, one of the health strategies requested by residents was that the GO Neighborhoods “build community gardens to increase access to healthy food and good nutrition; and provide community classes and workshops on gardening, nutrition, composting, canning, cooking and the benefits of healthy foods.” Growing your own food is one way to help fill the gap in access to healthy food and, in Harris County, you can grow something edible nearly year-round. Food gardening can be especially beneficial for children because it offers them a positive, interactive and educational experience with their food that can foster a preference for fruits and vegetables.¹



Image: Urban Harvest School Garden, Houston, Texas

Source: urbanharvest.org/school-partnerships

¹ Lineberger, S. (1999). *The Effect of School Gardens on Children's Attitudes and Related Behaviors Regarding Fruits and Vegetables*. Thesis, Texas A&M University.

Recommendation 3: Increase Opportunities to Enroll in SNAP

Increase opportunities for families to apply for Supplemental Nutrition Assistance Program (SNAP) benefits (formerly food stamps).

Of the three priority neighborhoods, the Near Northside has the lowest percentage of eligible households not receiving SNAP benefits. Some 1,636 households that are eligible for food stamps are not enrolled. It is important that as many of the residents that are eligible to receive SNAP be enrolled in the program to help fill the gap in the cost of food. Enrollment in SNAP is also important for children for direct certification to get free or reduced price breakfast and lunch at school. There are many ways to apply for SNAP: online in English or Spanish at yourtexasbenefits.com, in person at the Houston Food Bank, during an open enrollment event hosted by the Houston Food Bank, or fill out an application at a Houston Food Bank partner agency. A regular open enrollment event during a weekly Ketelsen Cafecitos meeting for parents would provide direct access for parents to enroll in the program. Another way to increase access to SNAP is to train staff at the Carnegie Neighborhood Library to help patrons with the online application. The State of Wisconsin developed a training program for staff at libraries and technical colleges to assist with the SNAP application in order to reach more working poor residents.¹ Grocery stores could be another venue for SNAP enrollment. In Nevada, the Department of Human Resources and the Food Bank of Northern Nevada have a project to put kiosks in grocery stores where residents can apply online and get help from an outreach worker stationed at the store.² The Houston Food Bank is exploring a similar kiosk design but with a direct telephone line to a call center for help.

¹ USDA Food and Nutrition Services. (2010). *Program Access Toolkit: A Guide For States Agencies On Improving Access To The Supplemental Nutrition Assistance Program*.

² USDA Supplemental Nutrition Assistance Program: Food Stamp Program Participation Grants. Retrieved from: www.fns.usda.gov/snap/government/participation-grants.htm

Recommendation 4: Advocate for Healthy Food Policies

Advocate for state and federal policies and funding that improve access to and education about healthy, affordable, culturally appropriate foods for families and in schools.

Federal policies established through legislation like the child nutrition act and the farm bill have an impact on a family's access to healthy food. These bills regulate everything from commodity crop subsidies to child feeding programs like the National School Lunch program and the Women, Infants and Children program. They impact food access by determining the distribution and amount of subsidies paid to farms to grow certain crops which thereby affects the price of food. They also affect access by regulating the income eligibility levels of families to receive food and nutrition assistance.

In addition to federal legislation, state governments also set policies that impact access to healthy foods. States can mandate that breakfast be served to all children in schools or that sodas be banned from all school campuses. State and federal policies have a major impact on food access, especially in terms of the funding available for food and nutrition programs.

Becoming knowledgeable and vocal about federal and state legislation will help ensure that Congress continues to support programs that support the health and well-being of families and children. For information on how to become involved, visit:

- Houston Food Bank: houstonfoodbank.org
- Texans Care for Children: txchildren.org/health
- Partnership for a Healthy Texas:
www.partnershipforahealthytexas.org
- Children's Defense Fund: www.childrensdefense.org
- Feeding America: feedingamerica.org

Recommendation 5: Offer Cooking Education Classes

Offer interactive cooking and nutrition education classes for parents that focus on understanding dietary guidelines and nutrition fact labeling, how to budget for and prepare affordable recipes that are culturally appropriate, and how to model healthy behaviors for children.

One reoccurring theme during both focus groups in the Near Northside is the need for cooking and nutrition education classes for parents, particularly new parents. Ideas for classes ranged from annual seminars in schools to interactive classes at the YMCA. Participants reminisced about classes on healthy eating offered at the YMCA in the past. There are a multitude of programs that offer cooking and nutrition classes for adults through BOUNCE, Texas AgriLife Extension, Harris County Public Health and Environmental Services, and Recipe 4 Success. The YMCA could partner with another community organization to offer a cooking class series to its members.



Image: YMCA Cooking Class in Grand Rapids, MI

Source: catherineshc.org/about/partners/



SECTION CONTENTS

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FOCUS NEIGHBORHOOD: KASHMERE GARDENS



Kashmere Gardens is a neighborhood located northeast of Downtown Houston in Zip Code 77026. The predominant land use is single-family residential, although a relatively high number of lots are vacant. The few destinations in the area are located predominantly along Lockwood Drive, which serves as something of a Main Street for the community. Major destinations include the cluster of public facilities along Lockwood Drive around Pardee Street and Rand Street: Kashmere Gardens Elementary School, Kashmere Multi Service Center, and McCrane-Kashmere Gardens Neighborhood Library.

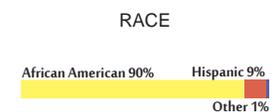
The focus neighborhood selected for in-depth analysis of factors contributing to childhood obesity is the half mile surrounding Kashmere Gardens Elementary School. Kashmere Gardens Elementary School does not currently employ a physical education instructor and as such has not collected FitnessGram data. Therefore, the percentage of students at the school with BMIs that are at high risk is not tracked. However, according to the 2010 Health of Houston Survey, the percentage of children with high-risk BMIs in the grouping of Zip Codes that encompasses Kashmere Gardens is approximately 57%. Results from the survey collected online and physically in the neighborhood provide some clues for the causes of these high obesity levels. Key points from the survey are shown at right, and from these we learn that of respondents:

- Only 26% feel that there are many destinations within a 10 minute walk of their homes.
- 17% feel that the neighborhood has a lot of sidewalks in good condition.
- 11% feel comfortable letting a child walk or bike alone in the neighborhood.

KEY DEMOGRAPHICS - KASHMERE GARDENS ELEMENTARY

STUDENT BMI AT HIGH RISK
57%

ECONOMICALLY DISADVANTAGED
97%

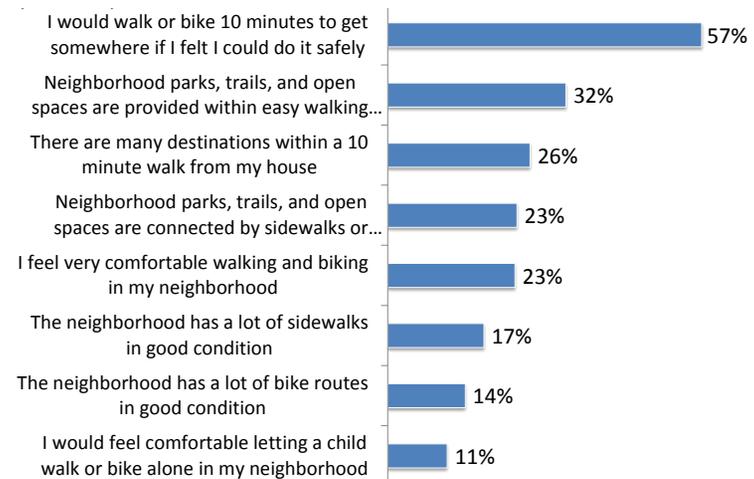


KEY HEALTH RISK FACTORS FOR ADULTS

| | NEAR NORTHSIDE-FIFTH WARD (INCLUDING KASHMERE GARDENS) | HOUSTON AREA |
|---|--|--------------|
| OVERWEIGHT/OBESE | 67% | 63% |
| DIABETES DIAGNOSES | 20% | 11% |
| HIGH BLOOD PRESSURE DIAGNOSES | 35% | 30% |
| LESS THAN RECOMMENDED PHYSICAL ACTIVITY | 52% | 53% |

Sources: Health of Houston Survey 2010

SURVEY RESULTS



Existing Conditions

The area selected for an in-depth assessment of factors contributing to childhood obesity in Kashmere Gardens is the half-mile radius around Kashmere Gardens Elementary, as shown in **Figure 3.1**. An analysis of existing conditions was undertaken to identify and understand gaps in the built environment and availability of healthy foods. The analyses can be grouped into four categories: existing demographics, existing destinations, existing food services, and existing infrastructure. The specific existing conditions analyzed are summarized below and are discussed in detail on the following pages.

Existing Demographics

Demographic data were collected from the 2010 Census for census tracts within the focus neighborhood:

- **Household Income** - Median household income for the census tract. Income is the most consistent predictor of health status. In general, higher income is associated with better health. Low-income neighborhoods tend to have limited access to chain grocery stores and often pay more for healthy food for smaller food retailers.
- **Households on SNAP** - Percentage of households in the tract that are receiving Supplemental Nutrition Assistance Program (SNAP) benefits, formerly known as food stamps. SNAP is a federally funded program that provides food dollars to low-income families meet their food needs. For some families SNAP benefits are a safety net to help avoid hunger. For others, they fill the gap to be able to afford healthy food. For many, SNAP benefits enable them to pay their other household bills. Children that live in households that receive SNAP can also receive for free meals at school.
- **Households with 0 Vehicles** - Percentage of households in the tract that do not own a private automobile. In Houston, cars are invaluable assets to access healthy food. In areas where the nearest grocery store specializes in sodas, chips and cigarettes,

a vehicle is beneficial for accessing stores with healthy options. Households without a vehicle may have to rely on public transportation, a taxi, or friends to get groceries which can be cumbersome, time-consuming, expensive, and limiting in what one can transport.

Existing Destinations

- **Walk Score®** - This score, provided by www.walkscore.com, is a measure of the walkability of a neighborhood based on its mix of destinations within walking distance.
- **Land Uses** - Specific land uses as defined by the Harris County Appraisal District were analyzed to assess gaps in services that could be provided within walking or biking distance.
- **Neighborhood Destinations** - Important destinations based on conversations with stakeholders and visits to the neighborhood.

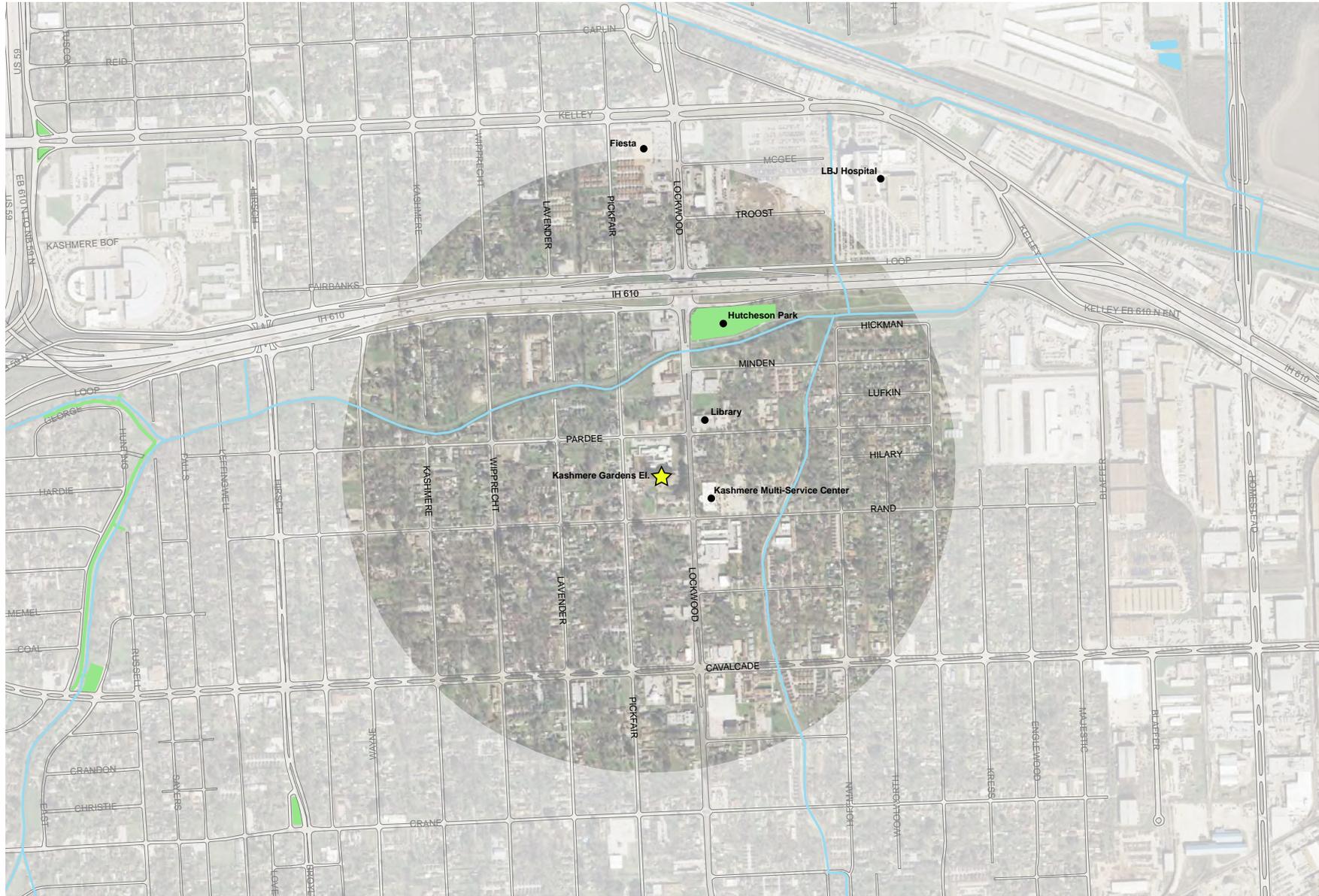
Existing Food Services

- **Food Stores** - Data from Harris County Public Health and Environmental Services, City of Houston Health and Human Services, City of Pasadena, City of Webster, and the Texas Comptroller of Public Accounts were used to identify locations of food stores, including grocery stores, convenience stores, food and drug stores, and general stores.
- **Alternative Food Sources** - Data from Urban Harvest, City of Houston Health and Human Services, Houston Food Bank, Target Hunger, Wesley Community Center, Texas AgriLife Extension Harris County, Houston Chronicle, and internet searches were used to identify locations of alternative food sources, such as community gardens, food pantries, and specialty sources.

Existing Infrastructure

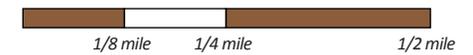
- **Roadway Network** - The intersection density for the neighborhood was computed; higher densities help bicyclists and pedestrians to avoid long travel distances and heavy roadway traffic.
- **Trails and Bikeways** - Data from the City of Houston and the

Figure 3.1 - Focus Neighborhood for Kashmere Gardens



 Focus neighborhood school

 Parks and open space



Houston-Galveston Area Council (H-GAC) were used to assess availability of trails and bicycle facilities such as bike lanes or bike routes.

- **Transit** - Data from METRO were used to assess the availability of existing and planned transit services, which can be an important part of a physically-active community because every transit trip has a walking or biking trip on either end.
- **Sidewalk Conditions** - Site visits to the neighborhood were combined with a visual inspection of images from Google Earth™ to assess sidewalk conditions throughout the neighborhood. Sidewalk segments were grouped into four basic categories of utility based on the presence of a sidewalk, the width of the sidewalk, the condition of the pavement, and the presence of cracks and uneven surfaces.

- **Street Lighting** - Existing street light conditions were assessed along primary travel corridors based on visual inspections of lamp pole locations from site visits and images from Google Earth™. Adequate lighting ensures that residents can choose active transportation modes at all times of the day.
- **Street Activity Level** - Street activity was assessed based on site visits and images from Google Earth™ and was categorized as high, medium, or low, based on the type of land use along the road and the building form and how these factors are perceived to impact the attractiveness of the environment for walking, biking, or outdoor gathering.

Existing Demographics

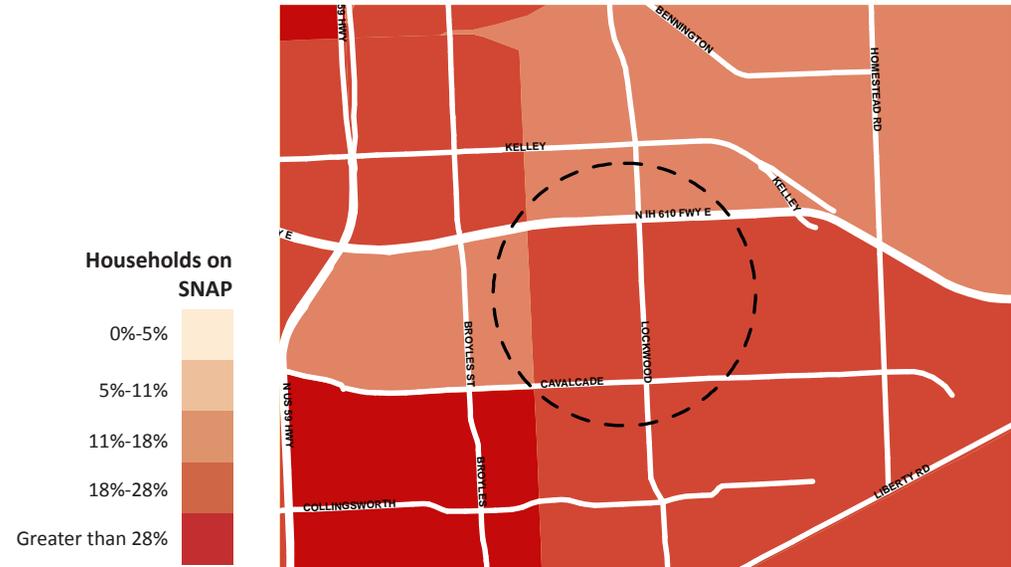


Household Income

Census tracts within ½-mile of Kashmere Gardens Elementary range in median household income from \$13,304 to \$31,824, with a weighted average median of \$23,795. The average, as well as the highest of the range, are both below the Harris County average of \$51,440.

Households on SNAP

Census tracts within ½-mile of Kashmere Gardens Elementary range in households on SNAP from 13% to 35% with a weighted average of 19%. Even the low end of the range is higher than the Harris County average of 11.5%.

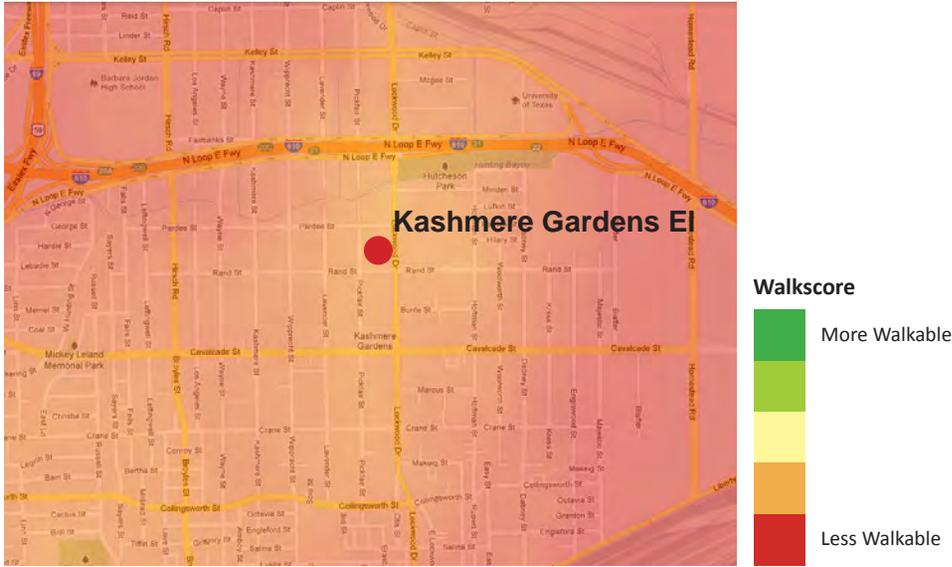


Households with 0 Vehicles

Census tracts within ½-mile of Kashmere Gardens Elementary range in households with no private vehicles from 3.6% to 28.2%, with a weighted average of 17.8%. The weighted average is above the Harris County average of 7.2%. Households that do not own a private automobile are especially dependent on transit, walking, and bicycling modes of transportation, and providing excellent infrastructure in the area can ensure that residents are able to use them effectively.



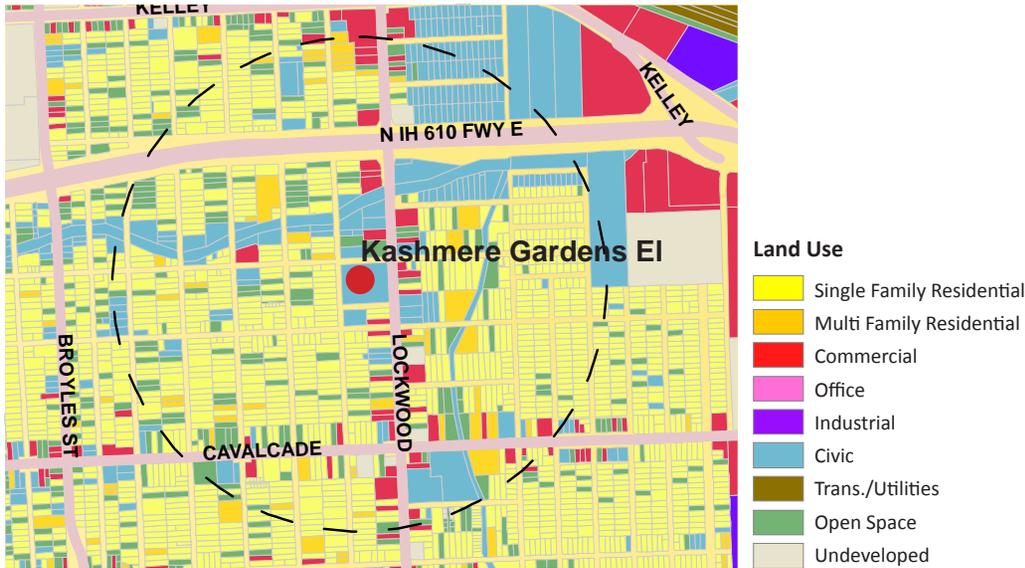
Existing Destinations



Walk Score®

The Walkscore.com score for Kashmere Gardens Elementary is 42, and the neighborhood is considered “car dependent” because few of the types of destinations that most people need to access on a regular basis are within walking distance.

Nevertheless, the area immediately surrounding Kashmere Gardens Elementary has some of the highest Walk Scores in the vicinity, because of the public services along Lockwood Drive (City of Houston Multi Service Center and City of Houston Library) and because of the proximity of Hucheson Park. Providing excellent infrastructure around these destinations will ensure that people can actually walk and bike to them.



Land Uses

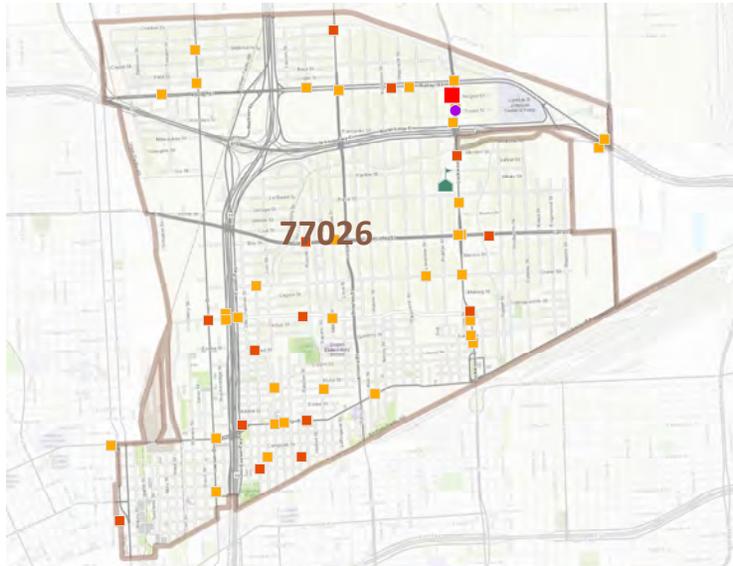
Land use around Kashmere Gardens Elementary is of mixed character. Though most of the area is residential, there are also civic uses and several open spaces and vacant properties. Lockwood is the main corridor running north-south through the center of the area. The majority of commercial land use is positioned along the road. To the north of the school, Hunting Bayou runs east west through Kashmere Gardens.

Neighborhood Destinations

A good mix of neighborhood destinations provides more opportunities for walking and bicycling. However, Kashmere residents need to leave the neighborhood to meet many of their daily needs, and the neighborhood has relatively few destinations within range of walking or biking. Many that exist are public facilities, including Hutcheson Park, McCrane-Kashmere Gardens Library, Kashmere Gardens Elementary, and the Kashmere Multi-Service Center. The neighborhood has a relatively low number of businesses and other private destinations—24 were counted—including places of worship, convenience grocery stores, and restaurants. As is typical of postwar development, the destinations that do exist are concentrated along the major thoroughfares, where high-speed traffic can be hazardous to pedestrians, and neighborhood blocks are larger, increasing walking distances.



Existing Food Services



| Store Type | Number |
|-------------|--------|
| Convenience | 35 |
| General | 1 |
| Grocery | 16 |
| Total | 52 |

- Convenience Store
- Grocery Store (independent)
- Grocery Store (chain)
- Food Drug Store
- General Store

See Appendix A for definitions

Food Stores

Within the ZIP code 77026 surrounding Kashmere Gardens, there are 52 food retail establishments. Of those stores, 16 are grocery stores but only one of those stores is a chain store. Fiesta Mart is the largest chain store in the area. The rest are independently owned stores. There are also 35 convenience stores and one general store which is a discount type store. Thirty-nine food stores accept the SNAP Lone Star card.



| Source Type | Number |
|----------------------------|--------|
| Community Garden | 9 |
| Food Pantry (in area) | 12 |
| Food Pantry (serving area) | 9 |
| Total | 30 |

- ◆ Food Pantry
- ◆ Community Garden

Alternative Food Sources

There are nine community gardens in the ZIP code area surrounding Kashmere Gardens Elementary School.

Located in the ZIP code area are also 12 food pantries. There are another 9 pantries that are not located within the ZIP code area but serve residents in the area.

Existing Infrastructure

Roadway Network

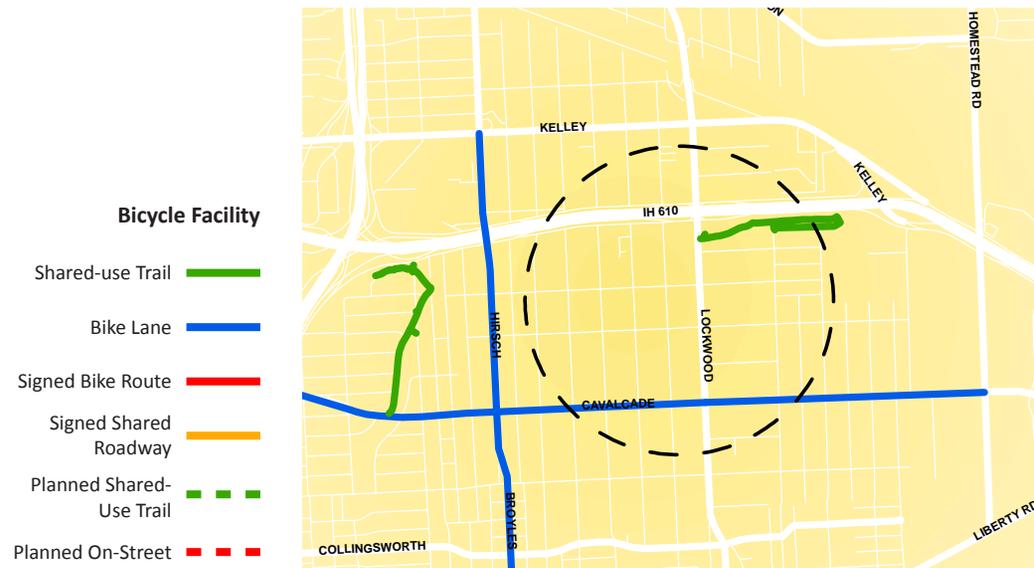
The roadway network in the focus neighborhood is primarily a grid network. Travel to school through the neighborhoods surrounding Kashmere Garden Elementary is relatively easy. Children east of the school must cross Lockwood Drive, a four-lane corridor through the area. The interchange of Lockwood Drive at IH 610 presents particular challenges for walking and bicycling across the freeway. Major destinations on the north side of the freeway include LBJ Hospital and Fiesta grocery store, both of which are within walking or biking distance for many residents.

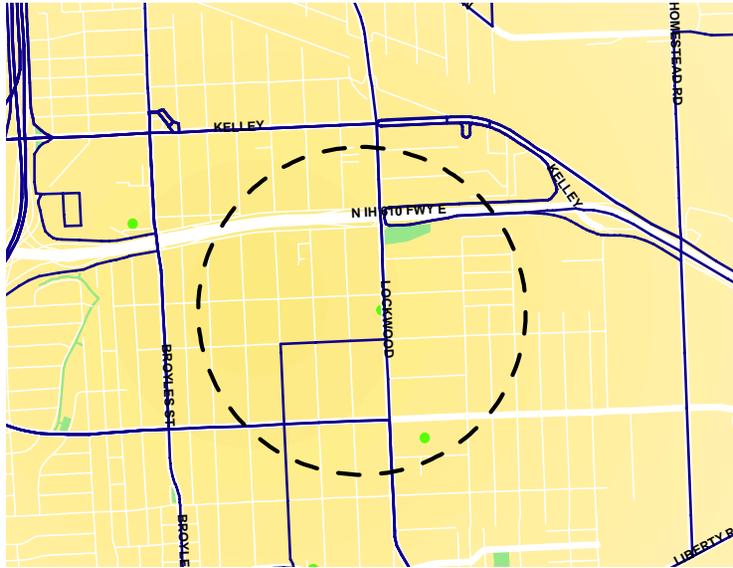


Trails and Bikeways

Existing bicycle facilities intended primarily for transportation purposes are bicycle lanes running east-west along Cavalcade Drive and north-south along Hirsch Road. These bicycle lanes are relatively narrow, and some bicyclists were observed riding along the sidewalk instead of the bicycle lane.

The existing trails in the vicinity of Kashmere Gardens are primarily for recreational purposes. The trails within Hutcheson Park provide a loop within the park but no significant connections to other destinations. The trails within Mickey Leland Memorial Park run north-south along Hunting Bayou but also do not make significant connections. However, both trail systems could theoretically be connected to form a long distance trail across Kashmere Gardens.





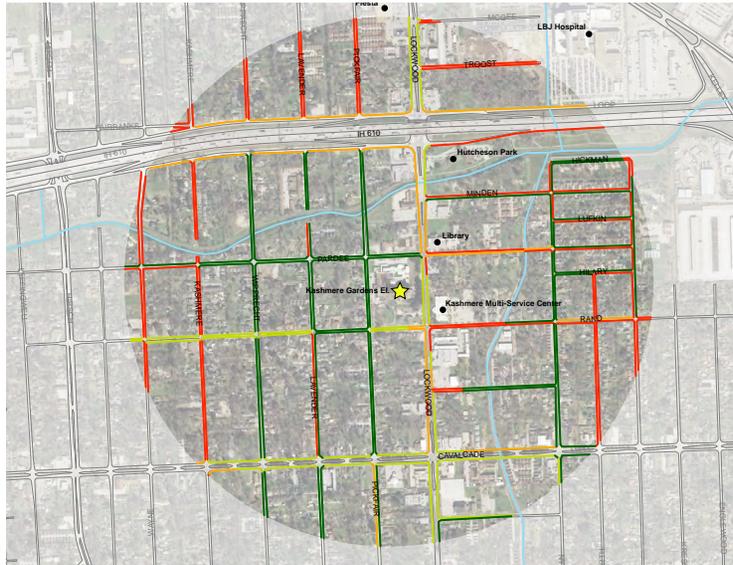
Transit Facility

-  Bus
-  Future Light Rail
-  Future Light Rail Station

Transit

Transit service in the focus neighborhood is fairly substantial. It consists of local bus lines that run along Lockwood Drive, Cavalcade Street, Rand Street, and Wipprecht Street. There may be opportunities to combine overlapping service to improve operations and increase bus frequency, thereby making the service more attractive to more residents.

The transit service along Cavalcade Street, provided by the 26 Outer Loop Crosstown and 27 Inner Loop Crosstown will provide connections to the light rail line that is currently under construction in the Near Northside. Opportunities may exist to coordinate these services to provide excellent transit connection to a variety of destinations for residents in Kashmere Gardens.



| Condition | |
|-----------|-----|
| Excellent | 27% |
| Good | 11% |
| Adequate | 24% |
| Poor | 37% |

-  Wide sidewalk in excellent condition
-  Sidewalk of standard width and in good condition
-  Substandard sidewalk that is still usable
-  Sidewalk is unusable or nonexistent

Sidewalk Condition

Approximately 63% of sidewalks in the focus neighborhood were judged to be adequate or better. Overall, the sidewalk condition in the community is mixed. Some local roads around Kashmere Gardens Elementary School have sidewalks in excellent condition. However, other streets have old sidewalks in poor condition and sometimes no sidewalk at all. Some of the sidewalks along Lockwood Drive are in relatively poor condition. They frequently are built immediately adjacent to traffic, which can be high-speed along Lockwood Drive, and are separated by traffic only by a concrete curb.

Street Lighting

Although some segments of major roads in Kashmere Gardens have low street light levels, most major roads were found to have some street light coverage. Relatively few roads were found to have high levels of street lighting; those that did include Lockwood Drive north of IH 610 and Rand Street in the vicinity of Ketelsen Elementary. However, Lockwood Drive between Pardee Street and IH 610 in the vicinity of Hutcheson Park was found to have low light levels. All of the lighting is designed for cars and, on wide streets with trees, the sidewalks can be dark even if the traffic lanes are well lit. Lockwood Drive is the center of activity for the community, and good street and pedestrian lighting along the corridor is critical for encouraging walking and bicycling.



Street Activity level

Kashmere Gardens exhibits many development patterns that are typical of post-World War 2 neighborhoods. Almost all of the commercial development is along the major thoroughfares, and buildings are set back behind surface parking lots. Generally, the residential areas of Kashmere Gardens present the best pedestrian environments, with grassy, tree-filled yards and houses facing the street. The major east-west streets in the area—Rand Street and Cavalcade Street—were judged to have relatively high levels of street interest because of adjacent residential property. However, Lockwood Drive was judged to have an environment that is generally uninteresting and unsupportive of walking and biking because of a large number of parking lots, driveways, large vacant lots, and buildings set back from the roadway.



Pedestrian and Bicyclist Counts

Counts of bicyclists and pedestrians were collected for the focus neighborhood in May 2013. Counts were collected along trails and at major intersections in the neighborhood. The counts can provide insight into the current levels of physical activity in the neighborhood, and they can be compared to future counts to measure the effectiveness of implemented bicycle and pedestrian projects.

Trail Count

Trail counts in Kashmere Gardens were taken in Hutcheson Park as shown in **Figure 3.2**. Hutcheson Park was chosen for counts because it is one of a limited number of opportunities in Kashmere Gardens for outdoor recreation and exercise. Weather conditions during the count were seasonably mild and dry. Automated infrared counters were used to count walkers, joggers, cyclists, and other trail users. The counter was set up at the junction of two of the trails near the eastern end of the park.

Hutcheson Park lies approximately one quarter mile north of Kashmere Gardens Elementary along Lockwood Drive. The trail system consists mainly of loops within the park designed for recreational and exercise activities. These trails are expected to be incorporated into the Hunting Bayou Greenway in the future but currently do not form part of a larger system that can accommodate active transportation uses.

Figure 3.3 shows the average weekday and weekend counts over 24 hours. There were approximately 1,800 total trail users during the week of the count.

As shown in the table, trail usage exhibited a pattern of morning and evening peaks during the week. Weekend usage was lower and more constant throughout the day. Because of its lack of connectivity with other bicycle and pedestrian facilities, it can be assumed that all usage observed was recreational.

Figure 3.2 - Pedestrian and bicyclist trail count location in Kashmere Gardens

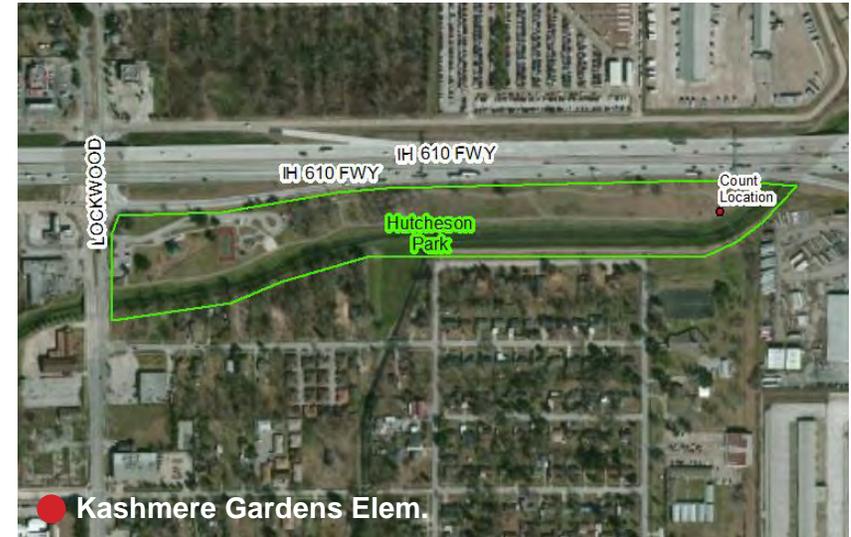
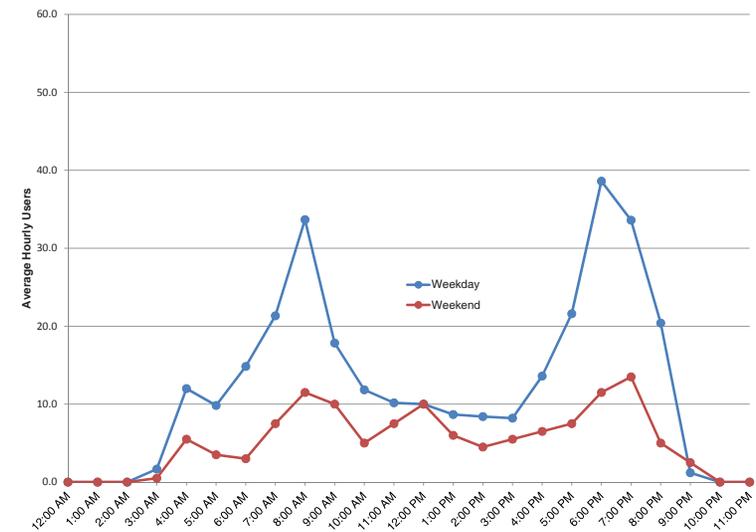


Figure 3.3 - Daily distribution of pedestrian and bicyclist traffic at trail count location



Intersection Count

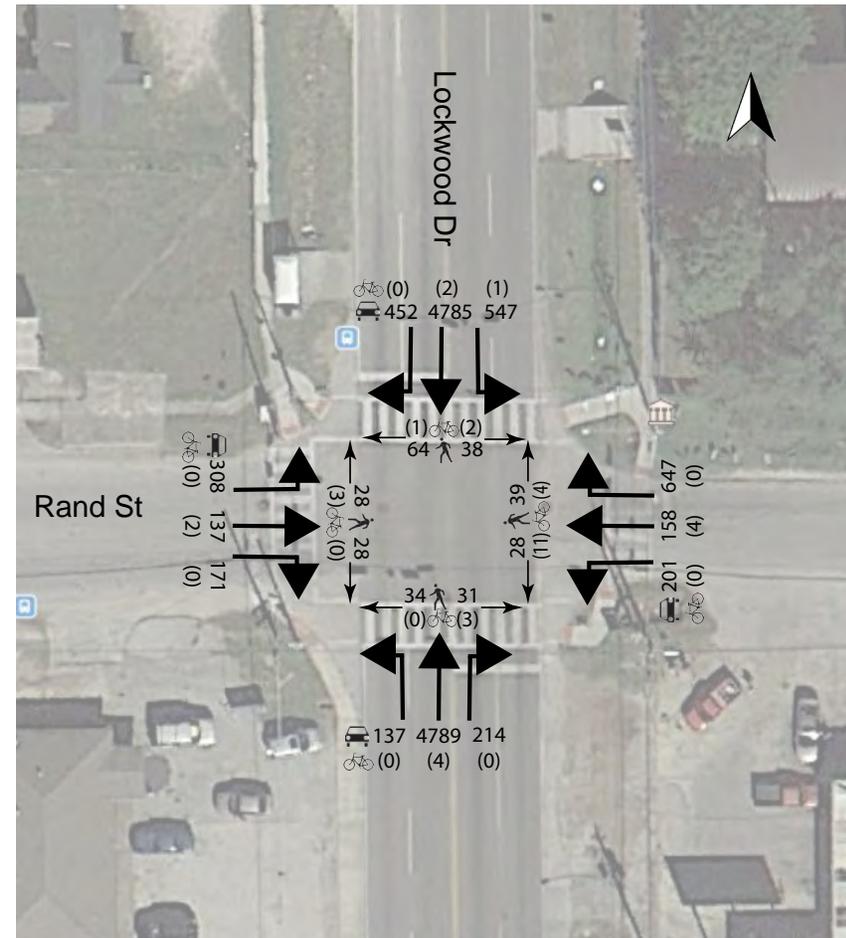
Intersection counts in Kashmere Gardens were taken at the intersection of Lockwood Drive and Rand Street for 15 hours between 6:00 AM and 9:00 PM on Wednesday, April, 24, 2013. This intersection was chosen because of the density of adjacent activities -- Kashmere Gardens Elementary on the northwest corner, a City of Houston multiservice facility on the northeast corner, and a convenience store and apartment complex on the southeast corner.

Figure 3.4 shows the counts at the intersection for the analysis period. The symbols indicate whether an adjacent number is a count of automobiles, bicycles, or pedestrians. Bicycles were counted in both the crosswalks (if the cyclist was riding along the sidewalk) and in the street.

Some facts to note:

- A total of 290 pedestrians utilized the intersection
- 167 pedestrians traveled east-west
- 123 pedestrians traveled north-south
- A total of 37 bicyclists utilized the intersection
- The majority of bicyclists (24) rode on the sidewalks. This implies that for most bicyclists, the roadways do not feel safe for bicycling. However, riding on the sidewalk can be dangerous for cyclists because motorists do not expect them there. It can also be dangerous for pedestrians because of the speed difference between the two modes. Bicyclists could be better accommodated with bicycle-specific infrastructure such as bicycle lanes and trails, where appropriate.
- Using methodology from the 2010 Highway Capacity Manual, the current cross section of four travel lanes is estimated to be able to accommodate approximately 28,000 vehicles. According to the counts, 10,924 automobiles utilize this section of Lockwood Drive today. A significant amount of area development and growth in roadway traffic would need to occur before traffic on Lockwood Drive would need more than four lanes of traffic to operate at an acceptable level of service. Lockwood Drive is shown on the City of Houston Major Thoroughfare and Freeway Plan (MTFP) as an

Figure 3.4 - 12-hour pedestrian and bicyclist count in Kashmere Gardens



eventual six-lane roadway, likely because of higher traffic volumes on other sections of the roadway. However, different sections of a roadway can vary in roadway characteristics on the MTFP, and the section of Lockwood Drive in Kashmere Gardens could likely be reduced in cross section without negatively impacting traffic capacity.

Built Environment Conceptual Plan

The framework discussed in Chapter 1 (and summarized in **Figure 3.5**) for creating an active built environment was used to formulate a conceptual plan of projects for the Kashmere Gardens community. This plan represents a holistic set of projects to increase the neighborhood’s capacity for active transportation from multiple angles.

The projects included in the plan are summarized on the table at right, are shown on the map in **Figure 3.6**, and are described in detail on the following pages. Projects are color-coded to identify their association with one of the five elements of the framework for an active built environment. These color associations are indicated on the table at right.

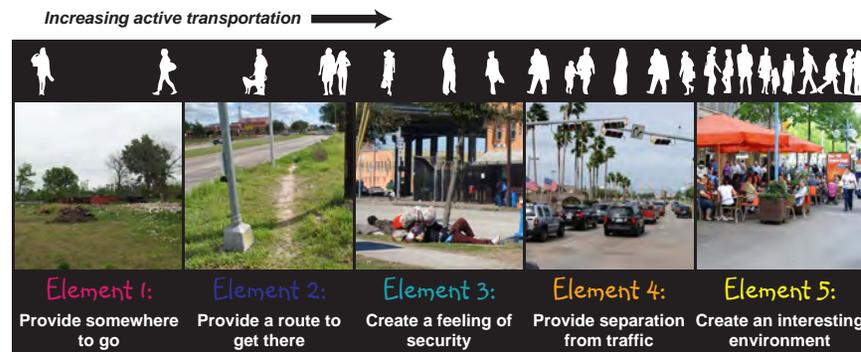


Figure 3.5 - Elements of an environment supportive of active transportation

1. Provide Somewhere to Go

- 1-A Neighborhood park on southwest side of study area

- 1-B Provide facilities for basketball and other sports at local parks

2. Provide a Route to Get There

- 2-A Trails along Hunting Bayou

- 2-B Trail connection to LBJ Hospital

- 2-C Trail along Hunting Tributary south of Hutcheson Park

- 2-D High-frequency transit connection to light rail line

- 2-E Fill in gaps in sidewalk network with emphasis on Lockwood Drive

3. Create a Feeling of Security

- 3-A Enhanced lighting at local parks

4. Provide Separation from Traffic

- 4-A Enhance Lockwood Drive cross-section to ease pedestrian crossings

- 4-B Improvements to pedestrian realm at intersections along Lockwood Drive

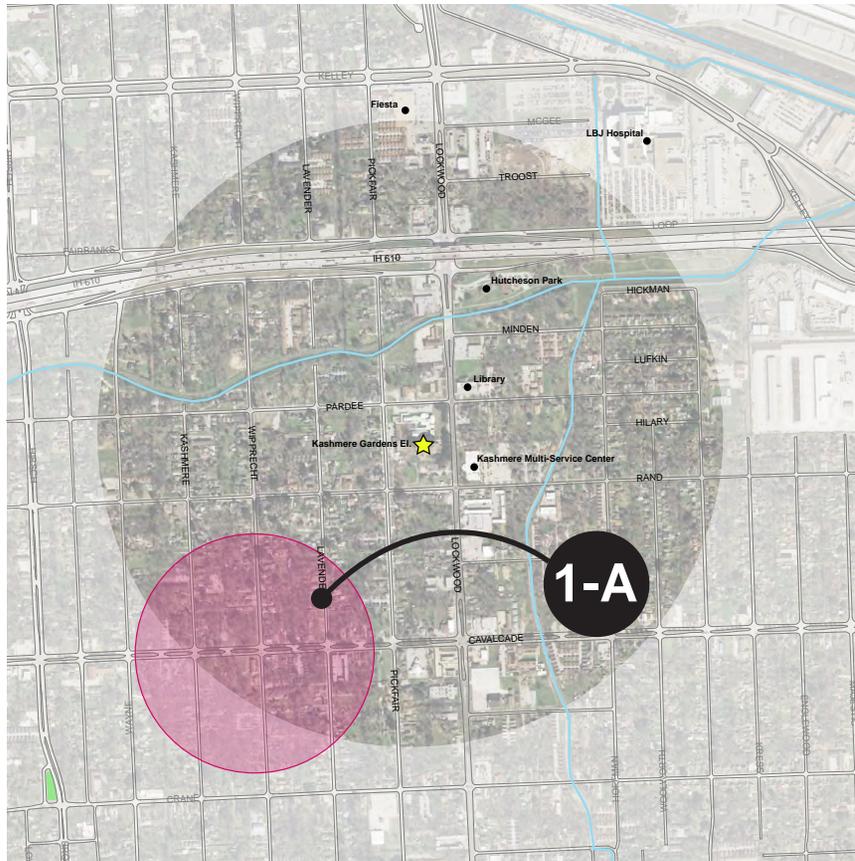
5. Create an Interesting Environment

- 5-A Provide landscaping and lighting at intersection nodes

Element 1: Provide Somewhere to Go

1-A Neighborhood park on southwest side of study area

The residents in the southwest side of the study area, around Cavalcade Street west of Lockwood Drive, are a mile from the nearest park. Thus, residents here lack access to sports facilities, playgrounds, and public outdoor gathering space. A park, with basketball courts, a playground, seating, and green space, would address these needs and create a destination that residents could walk to. A park would enable healthy lifestyles both by being a location for physical activity and by being a destination that can be reached by walking or biking.



Project 1-A: Neighborhood park on southwest side of study area

This need is not for a large regional park; a portion of a city block would be sufficient. As with all parks, maintenance and security are key. Involving the community in the design of the park would create a sense of ownership, and local community organizations, including churches, could volunteer to enhance the level of maintenance that public agencies typically provide. Lighting, good design, and regular police patrols would help safety, but perhaps the most cost-effective way to make the park safe would be to make sure that members of the community are regularly using it. A constant crowd of park users could deter undesirable activities that would make the park seem dangerous.

Partners: City of Houston Parks Department, local property owners (to identify and purchase suitable land if necessary)



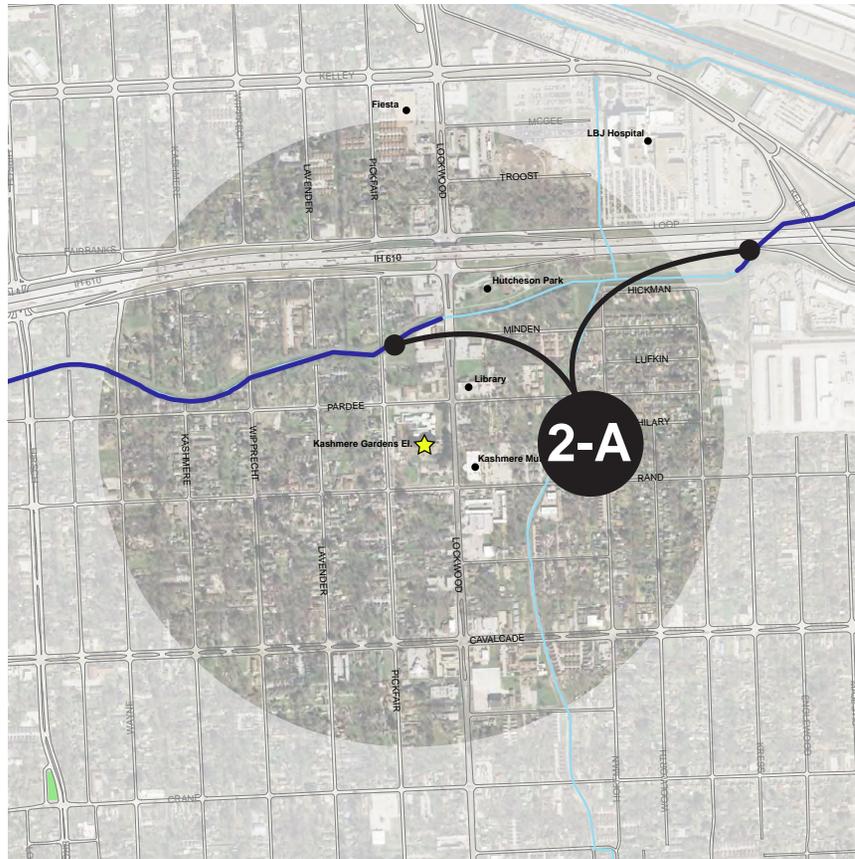
Image: Even small parks can be popular destinations if they are outfitted with fun equipment, as is this Splash Park in the Fifth Ward. **Source:** Aaron M. Sprechter/AP Images

Element 2: Provide a Route to Get There

2-A Trails along Hunting Bayou

Hunting Bayou runs along the northern edge of the study area. To the west, it extends under US-59 and multiple railroad tracks before it headwaters in the Near Northside, not far from the new light rail line. To the west, it passes under IH 610, crosses another set of rail lines, runs through Herman Brown Park, and passes through Galena Park before reaching the Houston Ship Channel. Hunting Bayou is identified in the

Bayou Greenways Initiative as an unfunded future trail. Like the other Bayou Greenways trails, it has the potential to join neighborhoods and destinations to each other and to transit by providing new connections across major barriers like rail lines, freeways, industrial areas, and busy arterials. Building this trail would provide neighborhood residents with a facility for running, walking, biking, and skating. It would also allow residents to make trips on foot or bike that currently require a car or bus. Additionally, it will make existing pedestrian and bike trips safer.



Project 2-A: Trails along Hunting Bayou

Partners: Harris County Flood Control District, City of Houston Parks Department, Houston Parks Board



Image: Hunting Bayou, looking west from Lockwood Drive. Trail along the bayou would provide a safe outdoor recreational area for area residents and provide a strong east-west hike and bike facility.

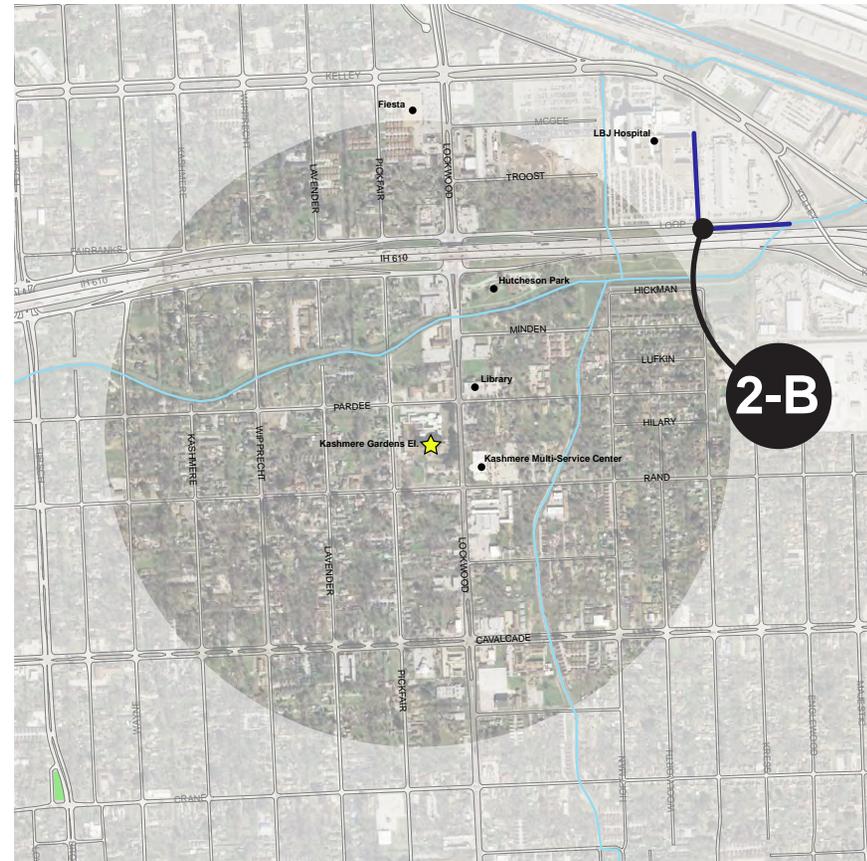
2-B Trail connection to LBJ Hospital

LBJ Hospital, one of Harris County's two large public hospitals, is located between the IH-10 frontage road and Kelley Street, a 6-lane high-speed street that runs parallel to a freight rail line. The hospital serves largely low-income patients, and many of the patients as well as their visitors do not have access to private automobiles. However, the hospital, which is surrounded by unfriendly transportation infrastructure and large parking lots, is difficult to reach on foot or bike. A connection from the hospital to the proposed Hunting Bayou trail would provide another option for reaching the hospital.

Partners: Harris County Hospital District, Harris County Flood Control District Houston Park Department, Houston Park Board



Image: Lyndon B. Johnson General Hospital Source: WhisperToMe on www.hospitalmanagement.net

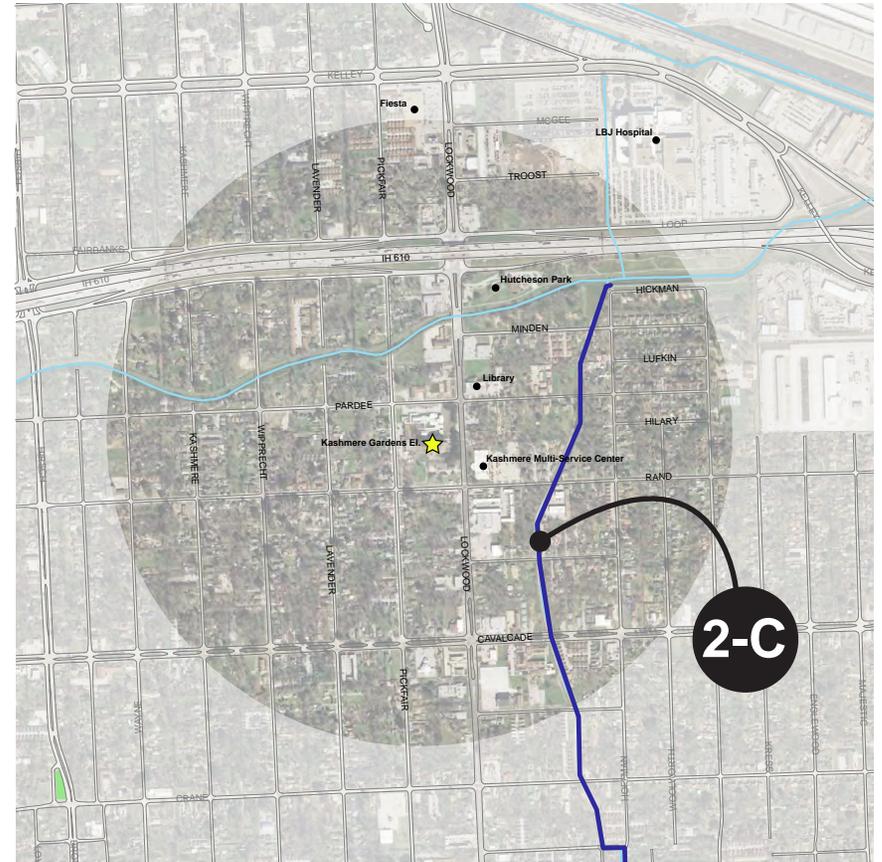


Project 2-B: Trail connection to LBJ Hospital

2-C Trail along Hunting Tributary south of Hutcheson Park

Hunting Bayou runs east-west across the study area. A trail along that bayou would serve the northern part of the study area, but the southern part, south of Cavalcade Street, would remain unconnected to the trail network. However, a smaller tributary runs north-south from Hutcheson Park to Collingsworth Street, and a trail along this tributary would provide connectivity to the southern neighborhoods by creating an alternative to walking or biking on Lockwood Drive. In several places, worn paths run parallel to the tributary, indicating the desire for a useful trail along this corridor. The trail would link the neighborhood to the destinations served by the Hunting Bayou trail and create a place for local residents to exercise.

Partners: Harris County Flood Control District, City of Houston Parks Department, Houston Parks Board

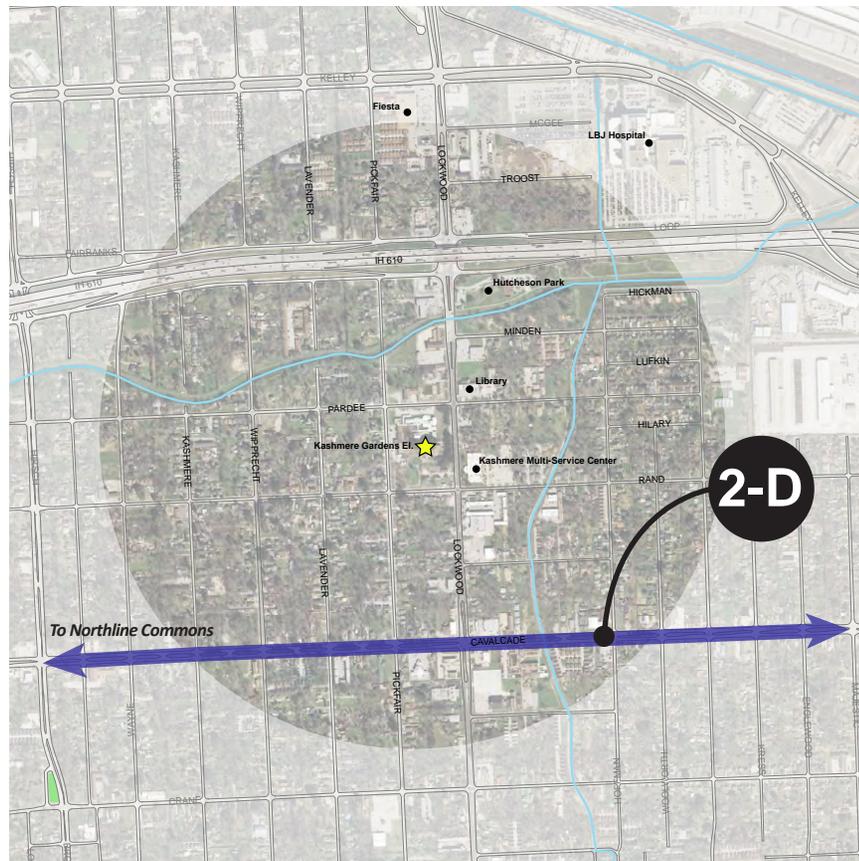


Project 2-C: Trail along Hunting Tributary south of Hutcheson Park

Image: Hunting Bayou Tributary, looking south from Bunte Street. *Source:* Google Earth

2-D High-frequency transit connection to light rail line

Most of the bus service—and all the high-frequency bus routes—in the focus neighborhood connects to Downtown Houston. However, many of the destinations that residents want to reach are not located Downtown. For example, some of the preferred nearby shopping options for clothing are at Northline Commons near the intersection of Fulton Street at Crosstimbers Street. Today, getting to Northline Commons from Kashmere Gardens requires taking low-frequency routes like the 26 and 27, or taking a high frequency route to Downtown and then connecting to another bus to Northline Commons. Low-frequency bus service forces riders to plan their trips around transit, and when buses run late, can result in missed connections, long waits, and unpredictable trip times.



Project 2-D: High-frequency transit connection to light rail line

By contrast, high-frequency routes let riders travel when they want because they do not have to consult bus schedules, and they make connections easier because a missed bus is always followed close behind by another. Reorienting the local bus network to create high-frequency routes on east-west streets like Cavalcade Street would make crosstown trips easier and still offer easy connections to Downtown and the Texas Medical Center by connecting to the new North Line light rail. With high frequency routes meeting high frequency trains, connections would be easier and more reliable. Additionally, the light rail line would provide straightforward connections to a new set of destinations including jobs, education, shopping, and health care. This improved transit service would make it easier for transit-dependent residents to get to where they need to go and encourage residents not currently using transit to ride, which also encourages them to walk more.

Partners: Metro



Image: Frequent service such as that provided by Metro's Quickline routes makes transit easier to use and facilitates connections to other transit service such as light rail. Source: www.ridemetro.org

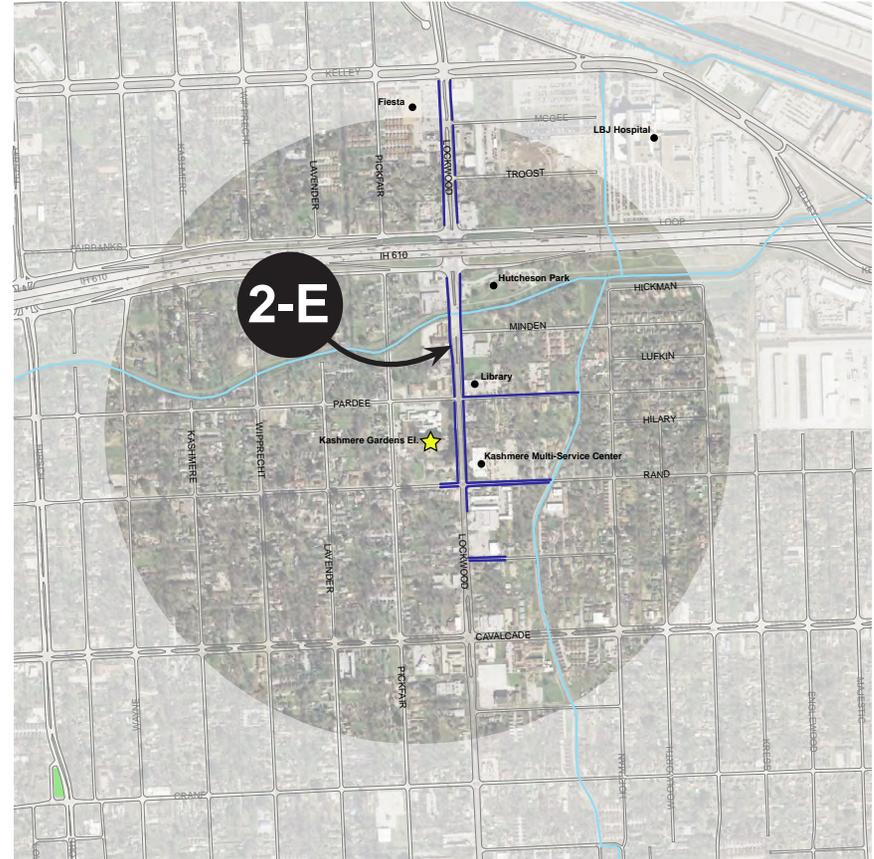
2-E Fill in gaps in sidewalk network

The network of sidewalks in Kashmere Gardens currently has significant gaps. Most significantly, sections of Lockwood Drive, a major street which provides access to Kashmere Gardens Elementary, transit, shopping, parks, and churches, do not have sidewalks built to current standards. Without a quality sidewalk, residents are forced to walk on dirt, which can be an uneven surface to walk on when dry and a very difficult, messy surface to walk on when wet, or walk in the street, where they must share the space with high-speed vehicles. The mobility of seniors, children, and disabled residents can be even more severely impacted by the absence of sidewalks. High-quality sidewalks, with 5-foot minimum (but preferably 6-foot) paved surface unobstructed by utilities and signs, curb ramps, and street trees should be constructed where they do not exist today.

Other gaps in the sidewalk network exist along side streets that lead to Lockwood Drive and major destinations like the Kashmere Multi Service Center. These gaps should also be addressed to provide a comprehensive network for walking in the neighborhood.

Some of the challenge of providing high-quality sidewalks along Lockwood Drive is due to the number and size of driveways, which create an ill-defined pedestrian realm. Implementing roadway access management techniques, such as driveway closures and consolidations, may be necessary to create quality sidewalks along Lockwood Drive where pedestrians feel truly safe and comfortable.

Partners: City of Houston Public Works, private land owners



Project 2-E: Fill in gaps in sidewalk network



Image: Many of the sidewalks along Lockwood Drive, including these across the street from Kashmere Gardens Elementary School, are in poor shape or are nonexistent.

Element 3: Create a Feeling of Security

3-A Enhanced lighting at local parks

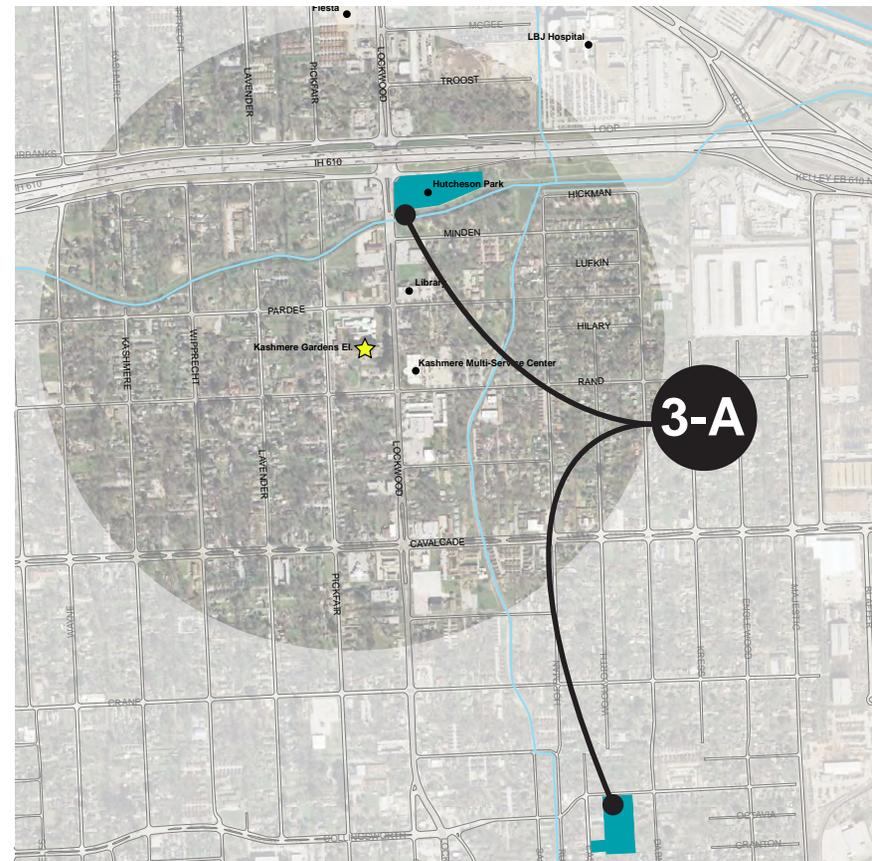
Residents expressed concerns about lighting at parks, noting both that a lack of lighting made some activities impossible in the evenings and that unlit areas feel unsafe. During the summer, evenings and early mornings can be the most comfortable time for outdoor physical activity, and if parks are unlit residents may choose not to engage in those activities at all. Attractive lighting can attract more residents to use the parks for outdoor exercise.

Parks where enhanced lighting may be desirable include Hutcheson Park, Catherine Delce Park on Collingsworth Street, and Busby Park on Hirsch Road.

Partners: City of Houston Parks Department, Centerpoint Energy



Image: Pedestrian lighting in parks can make the parks feel safer and enable community residents to utilize park resources during the comfortable morning and evening hours. *Source:* www.eec.org.au

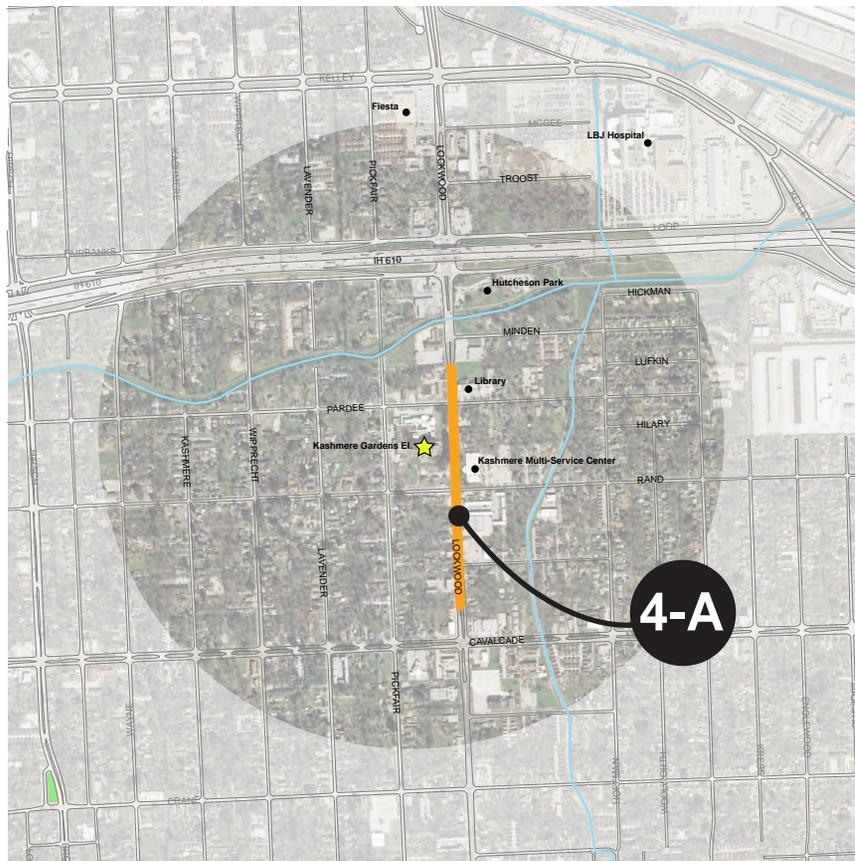


Project 3-A: Enhanced lighting at local Parks

Element 4: Provide Separation from Traffic

4-A Enhance Lockwood Drive

Lockwood Drive carries 4 lanes of traffic. Since the street is straight and traffic signals are widely spaced, many motorists drive above the posted speed limit of 35 mph. The current street section includes small sections of landscaped median, but most of the street within the focus neighborhood is undivided. Crossing the road can be inconvenient for able-bodied pedestrians and bicyclists, who have to wait for a simultaneous break in traffic in both directions and, if no signal is provided, a dash across the road. For seniors,



Project 4-A: Enhance Lockwood Drive

children, and disabled residents, Lockwood Drive can be a major barrier.

Although traffic signals exist at major cross streets, these signalized intersections are relatively widely spaced, and many pedestrians must make major detours to use them that could double the length of their trip. Bicyclists who wish to use the signals must ride along major east-west streets even though neighborhood streets would be safer and more comfortable. Enhancing the cross section of Lockwood Drive to enable safe, convenient crossings at all cross streets would therefore benefit both bicyclists and pedestrians.

One way to enhance the cross section of Lockwood Drive is to add a landscaped median with pedestrian refuges between Cavalcade Street and the North Loop. A center median would enable pedestrians to cross two lanes of traffic, safely wait in the median, and then cross the other two lanes. A simultaneous gap in both directions of traffic would no longer be required because a gap in only one direction of traffic would suffice to cross half-way.

Long term, Lockwood Drive is shown in the City of Houston Major Thoroughfare Plan (MTFP) as a six-lane roadway. Widening the street would make it even more of a barrier, discouraging walking and biking. It is recommended that Lockwood Drive remain as a four lane roadway, which should be sufficient to accommodate traffic volumes for the foreseeable future.

Partners: City of Houston Public Works



Image: Landscaped medians provide a safe place for pedestrians to wait while crossing multiple lanes of traffic.

Source: Theo Petritsch at www.fhwa.dot.gov

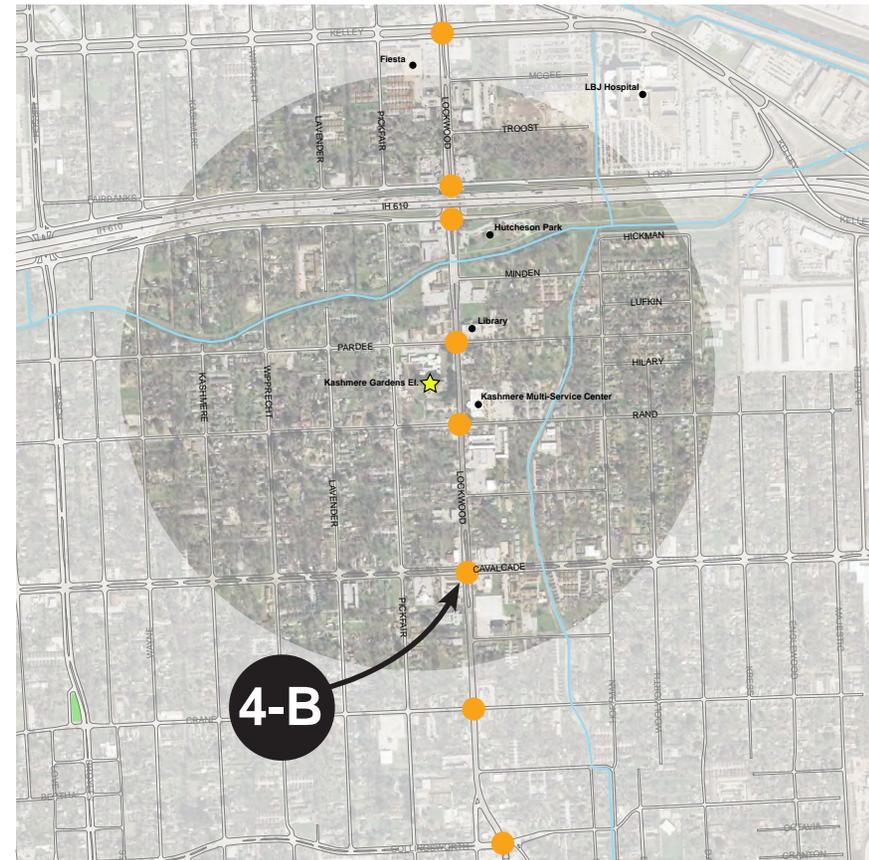
4-B Improvements to pedestrian realm at intersections along Lockwood Drive

At many intersections on Lockwood Drive where traffic signals exist, the existing signals are often inadequate for safe and convenient pedestrian crossings, with missing pedestrian heads, substandard curb ramps, and no crosswalk markings. All crosswalks should be updated to current standards for safety and to create a welcoming pedestrian environment. These upgrades should include:

- Curb ramps
- Crosswalk markings
- Sufficient sidewalk leading up to intersection
- Pedestrian signal heads

These accommodations should be upgraded where necessary at several intersections along Lockwood Drive: Collingsworth Street, Cavalcade Street, Rand Street, Pardee Street, the North Loop frontage roads, and Kelley Street.

Partners: City of Houston Public Works



Project 4-B: Improvements to pedestrian realm at intersections along Lockwood Drive



Image: The crosswalk across Lockwood Drive is not aligned with an accessible curb ramp.

Source: Google Earth

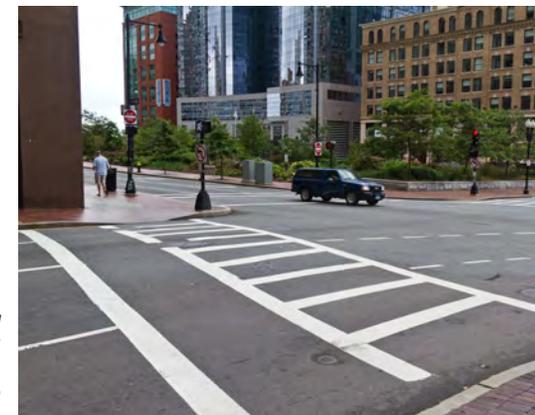


Image: Crosswalks, curb ramps, and pedestrian signals make intersections safer and more inviting for pedestrians.

Source: Will Sherman

Element 5: Create an Interesting Environment

5-A Provide landscaping and lighting at intersections nodes

Medians and crosswalks can increase safety for pedestrians using the sidewalk, but sometimes safety alone is not sufficient to successfully encourage high levels of walking. Pedestrians have special needs that motorists do not. They desire places to sit and water fountains for refreshment. They desire the shade of trees. Transit riders desire shelters to protect them from the elements. Furthermore, the ideal pedestrian experience is also an interesting one, with landscaping, art, and other features provided at a human scale—in other words, features that are not so big or high that they are overwhelming to a pedestrian. Together, all of these elements make the difference between a sidewalk that is functionally adequate and one that is a great experience—one that sends the message that pedestrians are valued and welcome.

To create the “ideal pedestrian experience” in Kashmere Gardens, extra investment in the pedestrian realm around several intersection “nodes” is recommended. Although the particular elements will vary from intersection to intersection, they should be planned cohesively to provide a complete set of amenities along the entire corridor.

Partners: City of Houston Public Works, City of Houston Parks Department, Centerpoint Energy, Metro, private property owners



Image: Bus shelters provide transit patrons a place to sit and be protected from the sun, rain, and other elements.



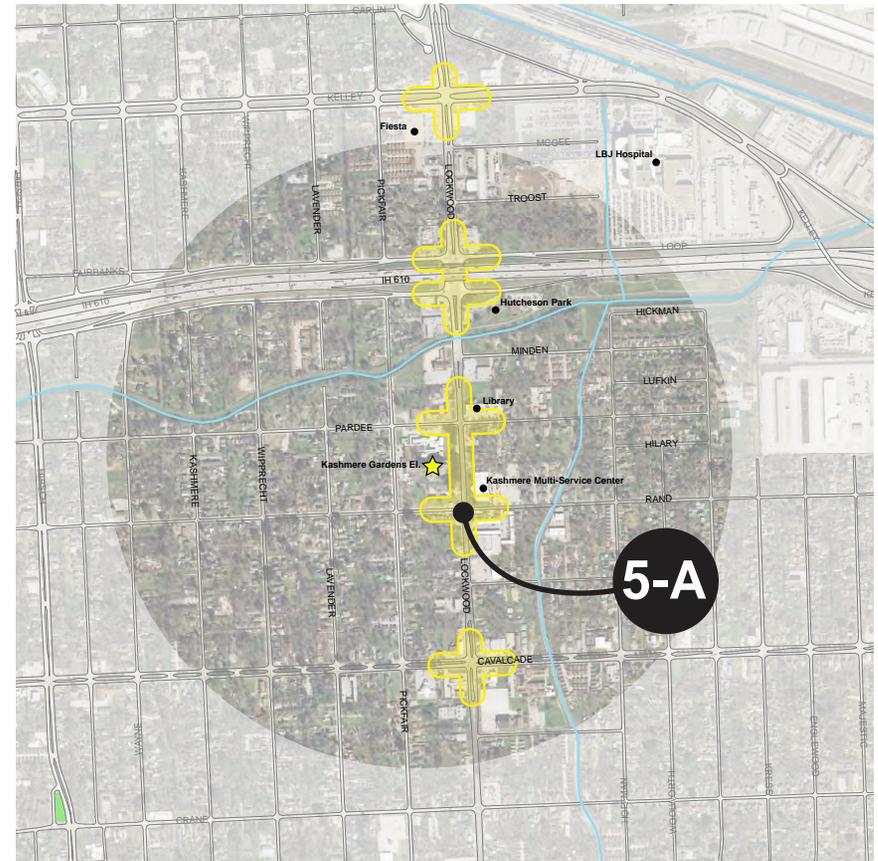
Image: Landscaping can soften the hard edges of the roadway and make walking along a sidewalk an enjoyable experience.

Source: naturoperspective.com



Image: Pedestrian lighting is oriented to the pedestrian realm, unlike traditional street lighting which provides relatively little illumination for pedestrians.

Source: www.ecobuildtrends.com



Project 5-A: Provide landscaping and lighting at intersections nodes



Image: Bus stop on corner of Pardee Street at Lockwood Drive across from the McCrane-Kashmere Gardens Library.

Built Environment Implementation Strategy

Prioritization Factors

The conceptual plan projects described in the previous section were all identified as high-priority projects through the project team's evaluation of existing conditions, analysis of gaps for encouraging and enabling healthy lifestyles, and feedback from stakeholders and the public meetings. The Built Environment Framework discussed in Chapter 1 was used to build a holistic conceptual plan that prioritizes infrastructure projects that would have the most impact on community physical activity and other health outcomes. If all recommendations are implemented, living healthy, active lifestyles that incorporate active transportation modes, recreational exercise and activities, and affordable, healthy foods should become more accessible for residents of the community. As such, all projects are recommended for implementation.

However, the scarcity of implementation resources demands that even a set of high-priority projects such as these be further prioritized so as to take advantage of funding mechanisms as they become available. Additionally, some projects have longer lead times than others, including time for design, potential right-of-way acquisition, and the need to coordinate with the timelines of other, related projects.

Conceptual plan projects were therefore further prioritized into three categories:

- **Short Term (Table 3.1):** These projects tend to be lower cost and require minimal coordination with other projects and thus can potentially be implemented within **1-3 years**
- **Medium Term (Table 3.2):** These projects have medium to high costs and may require changes to local planning documents, but could conceivably be implemented within **3-5 years**.
- **Long Term (Table 3.3):** These projects either have higher implementation costs or require coordination with other projects and thus will likely take **more than 5 years** to complete.

The primary factors that were used to classify projects into these buckets of priority were: community support, ease of implementation, and project cost. These factors are discussed below.

Prioritization Factor: Community Support

During the second round of public meetings, meeting participants were asked to vote for projects to indicate their belief of the relative ability of each project to achieve healthy outcomes for their community.

The projects were grouped into quartiles based on the number of votes received. The quartiles are indicated in **Figure 3.7**.

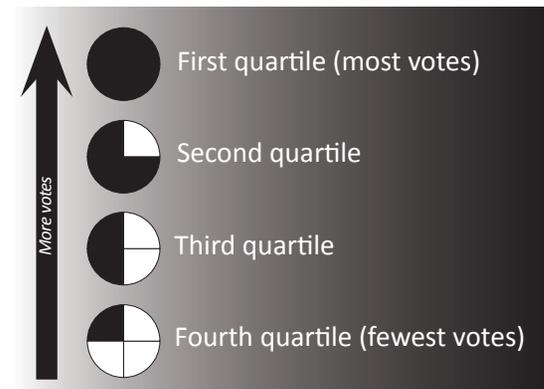


Figure 3.7 - Prioritization scale for Community Support



Image: Meeting participants using voting stickers to prioritize projects according to expected health outcomes

Prioritization Factor: Ease of Implementation

Prioritization of projects included a qualitative assessment of each project’s ease of implementation. This assessment included consideration of:

- Cost
- Potential funding opportunities
- Right-of-way requirements
- Project design
- Agency review cycle of design
- Required coordination with other projects/agencies
- Required changes to local planning documents (e.g. changes to a major thoroughfare plan)
- Community support
- Identification of local sponsors and/or champions

Projects were ranked from easiest to implement to most challenging to implement as shown in **Figure 3.8**.

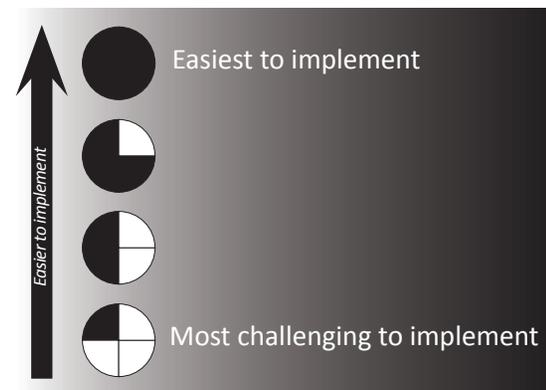


Figure 3.8 - Prioritization scale for Ease of Implementation

Prioritization Factor: Cost

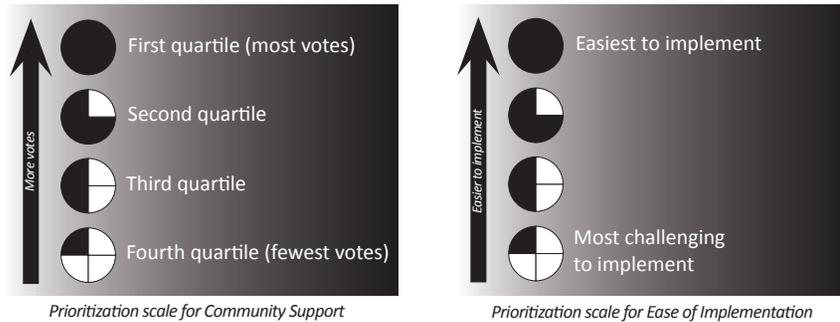
Project costs were estimated using a wide variety of sources. For infrastructure projects with clearly defined elements, such as a bayou trail, TxDOT 12-month moving average bid prices (current as of May 3, 2013), were used to price individual project components. For projects with less specificity, such as a new park within a general vicinity, costs were estimated based on costs from similar projects of similar scope and scale. Other projects, such as improved coordination with local law enforcement agencies, were assumed to require no additional costs. Costs for these projects are shown as “N/A”.

Detailed cost estimates for each project with project components are included in **Appendix J**.

Finding adequate funding to cover these costs is critical for project implementation but can sometimes be a challenge. Potential funding opportunities are discussed in detail in Chapter 5 of this report.

Implementation Tables

Table 3.1, Table 3.2, and Table 3.3 list the conceptual plan projects for the short-term, medium-term, and long-term, respectively. For each project, the prioritization factors are indicated, and the prioritization scales from **Figure 3.7** and **Figure 3.8** are summarized below for reference.



Additionally, potential implementation partners and potential project benefits are summarized on the tables for easy reference. These are described in more detail below.

Potential Partners

Potential community partners were identified for each project that may be able to play an important role in project implementation. Some partners may have resources available for project funding or could lend support in an application for funding. Other partners might not be able to provide direct funding, but they may be able to provide expertise and guidance during the implementation process. They may also be important stakeholders during the project review and approval process and should be engaged early and often. The implementation partners listed here are the same as those indicated in the Conceptual Plan section for each project.

Potential Benefits

Major benefits as they relate to healthy community outcomes are summarized for each project. These are summaries of the detailed project descriptions included in the Built Environment Conceptual Plan Section.

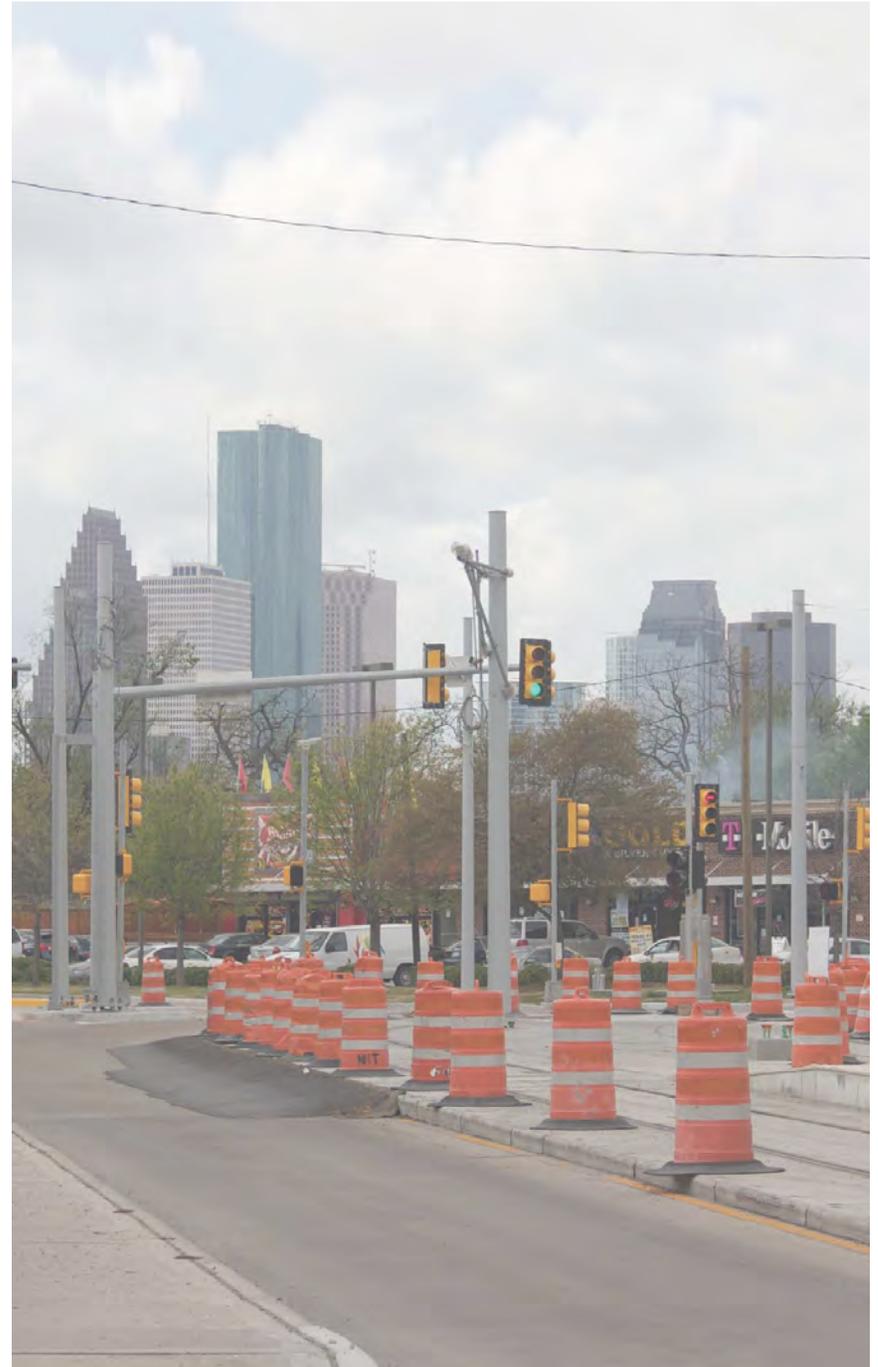


Table 3.1 - Short Term Implementation Schedule

| Project ID | Project Description | Community Support | Ease of Implementation | Cost | Potential Partners | Potential Benefits |
|------------|--|---|---|-----------|---|--|
| 1-B | Provide facilities for basketball and other sports at local parks |  |  | \$54,000 | City of Houston Parks Department | The basketball court will give residents more means of being active. It will also give residents a destination in walking or biking range. |
| 2-E | Fill in gaps in sidewalk network with emphasis on Lockwood Drive |  |  | \$528,000 | City of Houston Public Works, private land owners | New sidewalks give residents increased mobility and encourage transportation by foot to the neighborhood's main destinations along Lockwood. |
| 4-B | Improvements to pedestrian realm at intersections along Lockwood Drive |  |  | \$193,000 | City of Houston Public Works | Intersection improvements will assist pedestrians and cyclists in making easy, safe crossings of Lockwood Drive. |

Table 3.2 - Medium Term Implementation Schedule

| Project ID | Project Description | Community Support | Ease of Implementation | Cost | Potential Partners | Potential Benefits |
|------------|---|---|---|-------------|--|---|
| 3-A | Enhanced lighting at local parks |  |  | \$213,000 | City of Houston Parks Department, Centerpoint Energy | Lighting encourages the use of parks by making the parks feel safe, especially during the morning and evening hours which can be more comfortable. |
| 4-A | Enhance Lockwood Drive cross-section to ease pedestrian crossings |  |  | \$1,300,000 | City of Houston Public Works | Provides a central median for pedestrian refuge, allowing pedestrians to cross Lockwood Drive in two phases. |
| 5-A | Provide landscaping and lighting at intersection nodes |  |  | \$280,000 | City of Houston Public Works, City of Houston Parks Department, Centerpoint Energy, Metro, private property owners | Will improve the intersections as nodes of activities and mini-parks where people can gather, increasing outdoor activity and safety through numbers. |

Table 3.3 - Long Term Implementation Schedule

| Project ID | Project Description | Community Support | Ease of Implementation | Cost | Potential Partners | Potential Benefits |
|------------|---|---|---|-----------|---|---|
| 1-A | Neighborhood park on southwest side of study area |  |  | \$290,000 | City of Houston Parks Department, local property owners (to identify and purchase suitable land if necessary) | Park space is lacking on the southwest side of the study area. Providing park space would give residents a close destination to walk or bike to. |
| 2-A | Trails along Hunting Bayou |  |  | \$870,000 | Harris County Flood Control District, City of Houston Parks Department, Houston Parks Board | The trail provides a safe facility for walking, running, and biking. The trail also gives residents access to destinations which encourages use of the trail. |
| 2-B | Trail connection to LBJ Hospital |  |  | \$270,000 | Harris County Hospital District, Harris County Flood Control District Houston Park Department, Houston Park Board | The trail would provide residents, staff, and visitors that do not have an private automobile an easier way to access LBJ Hospital, a major regional destination. |
| 2-C | Trail along Hunting Tributary south of Hutcheson Park |  |  | \$820,000 | Harris County Flood Control District, City of Houston Parks Department, Houston Parks Board | The new trail gives residents a safe facility for walking, biking, and other exercise. |
| 2-D | High-frequency transit connection to light rail line |  |  | - | Metro | High quality transit promotes walking and biking by providing good connection to a large number of destinations by combined transit/walking/biking trips. |

See Appendix J for detailed cost estimates for all projects.

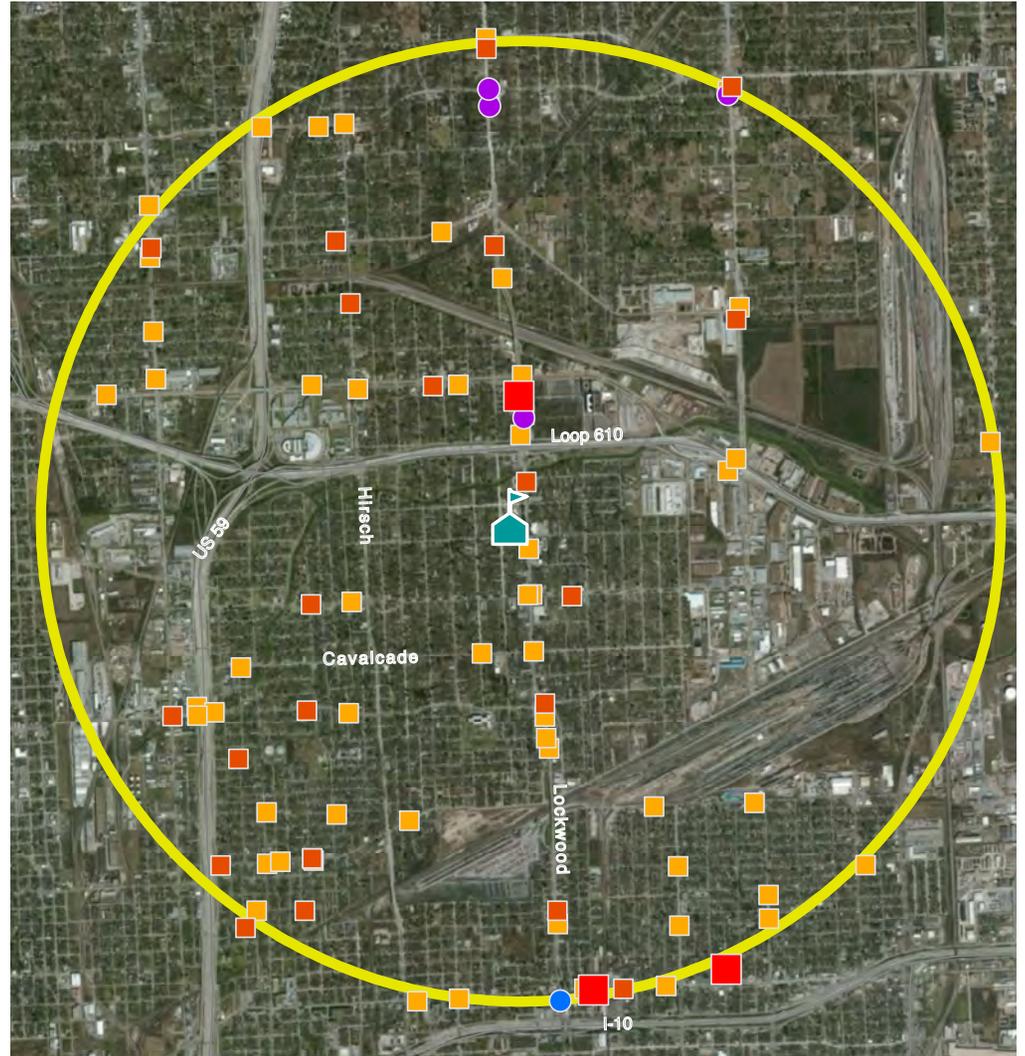
Healthy Food Access Study

Summary of Market Basket Survey

Within a 2-miles radius of Kashmere Gardens Elementary School there are 68 food retail stores. Of the 68 stores, 25 were visited in order to be surveyed. Only 16 stores permitted the surveys to be completed. Of those 16 stores, two are grocery stores, 12 are convenience stores, and 2 are general discount stores. Food availability in the neighborhood as determined by the market basket survey is included in **Appendix K**.

| Store Type | 2-miles radius | Surveyed | Not allowed to survey |
|-------------|----------------|----------|-----------------------|
| Convenience | 44 | 12 | 9 |
| General | 4 | 2 | 0 |
| Grocery | 20 | 2 | 0 |
| Total | 68 | 16 | 9 |

- Convenience Store ■
- Grocery Store (independent) ■
- Grocery Store (chain) ■
- Food Drug Store ●
- General Store ●



Of the three priority neighborhoods, Kashmere Gardens has the fewest food retail establishments within a 2-mile radius of the target elementary school. It has the most grocery stores but the lowest number of chain grocery stores. Most of the grocery stores are smaller, independently owned stores which may carry less of a selection at slightly higher prices. Studies show that in areas with a lack of chain stores, families spend more on food. This is particularly true of low-income neighborhoods.¹ Chain grocery stores affect more than price; they can impact the quality of life. Chain stores are seen as a symbol of stability and investment in the community.² In Kashmere Gardens, residents try to escape the food environment in their neighborhood to buy groceries because their local stores are perceived as inadequate and of inferior quality.

In addition to a lack of chain stores, Kashmere Gardens also lacks diversity in the availability of food items, particularly healthy options. Of the 133 food items surveyed for availability using TxNEA, the grocery stores surveyed do not carry 20 of the items. The general stores do not carry 83 of the items and the convenience stores do not carry 72 of the items. At all stores, items that are not stocked include cut-up fruit, foods sold in bulk, skim milk, fat free cheese slices, queso Oaxaca and queso Panela, and bagged fruit. When shopping on a budget, buying in bulk helps to save families money. Without this option, families may be paying more for food.

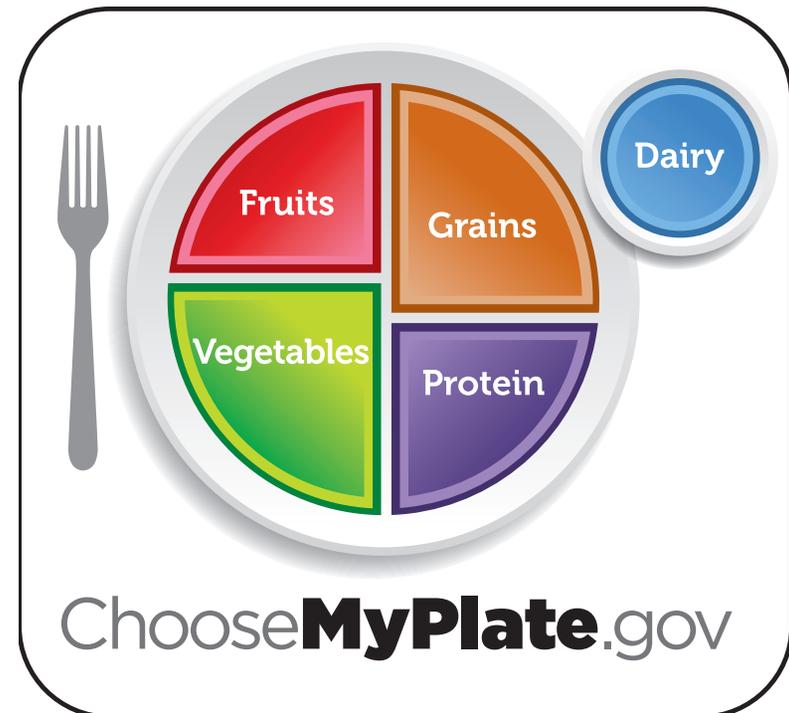
Healthy options, like whole wheat bread, shredded wheat cereal, low-fat cheddar cheese, low-fat yogurt, fat-free refried beans, and 1% or skim milk are rarely found in Kashmere Gardens, except in the grocery stores. When found, whole wheat bread is 36% more expensive on average than refined white bread. On the other hand, 1% milk costs less on average than whole milk and 2% milk. Shredded wheat cereal and oatmeal cost 17% and 62%, respectively, less on average than sugared fruit rings cereal. Sugared fruit rings cereal is the most commonly available cereal.

According to the USDA, at least half of the grains—bread, pasta, rice—that families eat should be from whole grains, like whole wheat bread.³

1 Chung, C., & Myers, J. (1999). Do the poor pay more for food? An analysis of grocery store availability and food price disparities. *Journal of Consumer Affairs*, 33, 276-96; Eisenhauer, E. (2001). In *Poor Health: Supermarket Redlining and Urban Nutrition*. *GeoJournal*, 53, 125-133.

2 Eisenhauer, E. (2001). In *Poor Health: Supermarket Redlining and Urban Nutrition*. *GeoJournal*, 53, 125-133.

3 USDA ChooseMyPlate.gov



While white rice is more widely available, brown rice was found in a third of the stores surveyed. On average, brown rice costs 6% more per ounce than white rice. Of the whole grain options, it is the cheapest available option. In addition to whole grains, the USDA also recommends that families drink 1% or skim milk over whole milk because they have less saturated fat. Whole milk was found in 78% of stores while 1% milk was found in 15% of stores and skim milk was not available in any of the stores. Other foods rarely found in Kashmere Gardens but important for maintaining a healthy diet are fresh fruits and vegetables. The USDA recommends that at least half of one's plate at mealtime be fruits and vegetables. While the grocery stores surveyed carry fruits and vegetables, only 5 convenience stores stock fresh fruits and vegetables. Over half of the stores in Kashmere Gardens are convenience stores. Alternative options, like canned fruits and vegetables are readily accessible in Kashmere Gardens. Fifty percent of stores carry canned fruit and 78% carry canned vegetables. Canned fruits and vegetables can have added sugar or sodium so it is preferable to eat fresh fruits and vegetables. The limited availability and often increased cost of healthy options means

that families in Kashmere Gardens do not have consistent access to foods needed to maintain a healthy diet.

What convenience stores lack in healthy options, they make up for in security features, dirty floors, loitering, and gaming machines. Out of 16 convenience stores surveyed, 11 have security bars on the outside and bullet proof glass around the cashier stand. Outside of 8 stores, surveyors noticed people loitering and significant damage to the parking lot. At 7 stores, there is no designated handicapped parking and the floors are noticeably dirty. In 6, the shelves are barely stocked. In 5 there is a foul odor, in some instances of cigarette or marijuana smoke, and there are gaming machines. In Houston, slot machines are permissible so long as there is no exchange of money. The quality of convenience stores in Kashmere Gardens is such that they are not inviting spaces and are not stocked for families to shop for groceries.

Summary of Healthy Eating Survey

For residents in Kashmere Gardens, childhood obesity is of major concern. Sixty-eight percent of respondents¹ are very concerned about childhood obesity as a general problem and even more (77%) are very concerned about their children being obese. Residents' concerns about obesity is reflective of their perception that their neighborhood is void of amenities for healthy eating and active living. Residents describe their neighborhood as a food and recreation desert.

The perception that their neighborhood is a food desert is reflected by the response that over half of residents travel over 6 miles to grocery shop. The only chain grocery store within a 2-mile radius of Kashmere Gardens Elementary School is Fiesta Mart. There are two locations within this radius. The stores survey respondents reported to shop at most are Fiesta Mart, Kroger and Wal-Mart.

Kashmere Gardens has the most grocery stores per capita of the three priority neighborhoods but

the majority of stores are smaller, independently owned grocery stores that may have a limited selection of goods. When grocery shopping, survey respondents reported to regard price and quality or freshness as most important. This reflects residents' discontent with quality of stores in their neighborhood.

| How far do you travel to shop for food? | |
|---|-------|
| Under 1 mile | 6.3% |
| 1 - 5 miles | 39.7% |
| 6 - 10 miles | 30.2% |
| Over 10 miles | 23.8% |

| What is your role in deciding what your children eat? | |
|---|-------|
| I'm not involved at all | 6.2% |
| I'm somewhat involved | 7.7% |
| I'm very involved, but not the main person | 18.5% |
| I'm the main person who cooks and shops for food | 30.8% |
| I don't have children | 32.3% |

| How much do you know about what your child eats during the school day? | |
|--|-------|
| A lot | 23.1% |
| Some | 57.7% |
| Not much | 7.7% |
| Nothing | 11.5% |

| How many meals a week do you eat. . . | at home? | out? |
|---------------------------------------|----------|------|
| 0 | 7.7% | 12% |
| 1 | 4.6% | 30% |
| 2 | 15.4% | 20% |
| 3 | 20% | 12% |
| 4 | 15.4% | 16% |
| 5 or more | 36.9% | 10% |

| How often do you shop for food? | |
|---------------------------------|-------|
| More than once a week | 20% |
| Once a week | 46.2% |
| Every other week | 26.2% |
| Once a month | 7.7% |

| | How satisfied are you with the fruits & vegetables where you shop? | | | |
|-------------------------|--|---------|---------|-------|
| | Availability | Variety | Quality | Price |
| Completely dissatisfied | 6.7% | 6.8% | 8.3% | 8.6% |
| Very dissatisfied | 6.7% | 6.8% | 3.3% | 5.2% |
| Somewhat dissatisfied | 11.7% | 8.5% | 10% | 15.5% |
| Somewhat satisfied | 23.3% | 28.8% | 26.7% | 36.2% |
| Very satisfied | 25% | 25.4% | 30% | 12.1% |
| Completely satisfied | 26.7% | 23.7% | 21.7% | 22.4% |

¹ There are 74 survey responses from 77016, 77020, 77026, and 77028: thirteen responses are from focus group participants, three responses are from surveys completed in Spanish, and 30 respondents report to have children.

Summary of Focus Groups

Childhood obesity is of concern for families in Kashmere Gardens, particularly because of a lack of quality amenities for healthy eating and physical activity, as well as a lack of education. For residents in Kashmere Gardens, there is a need to break with tradition and learn new, healthier routines and habits. While food traditions - boudain, southern cooking, comfort foods, etc - were a strong theme in discussions about what contributes to childhood obesity, parents also pointed to the lack of PE in schools and electronic distractions as contributing factors. At the time of this study, Kashmere Gardens Elementary School did not have a PE teacher.

Breaking with tradition may be difficult for residents in Kashmere Gardens because of a lack of healthy food options, higher prices of healthy food, insufficient time to cook healthy meals, and a lack of knowledge of how to prepare healthy meals. In Kashmere Gardens, the median household income is on average \$23,524 below the median household income for Harris County. Without quality grocery stores nearby, families are expending more money and time on gas to get groceries than on buying and preparing healthier foods. Without knowledge of what are healthier options and recipes, residents are not going to buy healthier foods.

Focus group participants acknowledge that parents bear the primary responsibility for keeping kids healthy. Therefore, it is important for parents to break with tradition in order to model healthy behaviors and establish healthy routines. Parents in Kashmere Gardens recognize that changes in habits cannot be done without the support of the schools and the community to reinforce healthy habits. Community is especially important in Kashmere Gardens where residents need to work together to advocate for healthier environments. In order to keep kids healthy, there is a need to build the capacity and knowledge of community members to create a plan of action for improving the built and food environments in their neighborhood and for pressuring the local government to help support positive changes in the neighborhood.

| | |
|--|---|
| What contributes to childhood obesity is... | <ul style="list-style-type: none"> • Lack of education about healthy eating • Unhealthy habits and examples • Price of healthy food • Lack of physical activity due to video games • Lack of places to get healthy food |
| To be healthy, kids need... | <ul style="list-style-type: none"> • Routine • Good examples from parents and schools • More healthy food options available • New ways to prepare traditional meals to be more healthy • Limited amount of fast food |
| What affects my family's ability to eat healthy... | <ul style="list-style-type: none"> • Price of healthy food • Lack of quality, affordable healthy options • Insufficient time to prepare healthy meals • Lack of knowledge about nutrition and how to change traditional recipes to be healthier |
| The responsibility of keeping kids healthy is on... | <ul style="list-style-type: none"> • Parents: to model healthy behaviors and teach children healthy habits • Schools: to reinforce healthy habits • Community: to advocate for healthier environments in the neighborhood |
| To create healthier environments for kids in Kashmere Gardens, you need to... | <ul style="list-style-type: none"> • Teach children about healthy eating habits and encourage more physical activity • Require physical education at every school • Create capacity for community members to be active in local government by: <ul style="list-style-type: none"> • Educating people about local government • Creating a plan of action with clearly defined goals and roles • Working with a community organization to help outline goal and facilitate regular meetings • Providing support for residents to be involved (gas cards, money, food) |

Healthy Food Access Plan

Just up the road from the entrance to Kashmere Gardens at Cavalcade Street and US 59 is the Mickey Leland Memorial Park, a tribute to the late Congressional Representative from the 18th District in Texas. Representative Leland devoted his life to finding solutions to end hunger both domestically and internationally. In 1984, he helped found the House Select Committee on Hunger. The location of this memorial near the heart of Kashmere Gardens is befitting of this project as Representative Leland was a champion for ending hunger. Hunger and obesity go hand in hand when families do not have consistent access to affordable, healthy food.

For families in Kashmere Gardens, access to affordable, healthy food is a challenge. The majority of stores in the neighborhood are convenience or smaller grocery stores that can be more expensive and carry less variety



Image: Mickey Leland Memorial Park, Harris County, Texas

Source: hcp1.net/Parks/MickeyLelandMemorial.aspx

than a larger, chain supermarket. The availability of healthy food options is limited as few stores carry whole wheat grains or skim milk. Almost a fifth of families in the area do not receive federal benefits that could help supplement the cost of food even though they are eligible. To help meet the food needs of families, Healthy Living Matters recommends the following strategies:

1. Create a Healthy Store Certification Program

2. Campaign for Improved Store Environments

3. Establish a Food Cooperative

4. Increase Opportunities to Enroll in SNAP

5. Host a Farm Stand at Kashmere Gardens Elementary School

6. Advocate for Healthy Food Policies

7. Offer Cooking Education Classes

Recommendation 1: Create a Healthy Store Certification Program

Create a healthy store certification program to recognize small grocery stores that carry healthy foods in order to generate demand from residents to shop at stores that are already offering healthy food options.

The number of small food stores is increasing to meet the need of areas with limited food options.¹ This is particularly true in Kashmere Gardens where the majority of grocery stores are small, independently owned stores. While these stores do not carry the same amount or variety of products as larger chain stores, they stock a wide enough selection for families to meet their minimum dietary requirements and are an accessible source for food. A program to certify stores of a limited size that carry select food items would bring recognition to existing resources in the neighborhood and would help to improve the selection of healthy foods available in Kashmere Gardens. A certification program might also help to improve the environment in some of the convenience stores in Kashmere Gardens.

In Kashmere Gardens, a healthy store certification program would need to require:

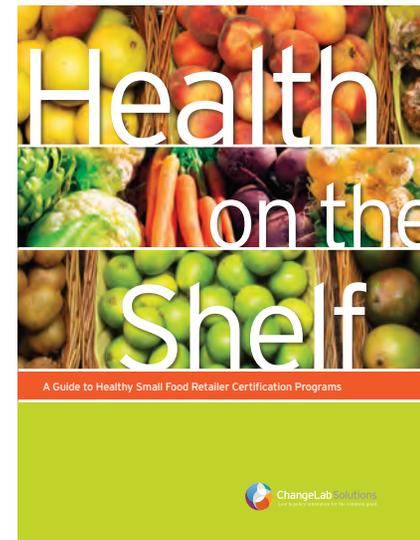
- input from community members about the standards in order to meet the dietary preferences of residents,
- incentives for stores to meet the new standards,
- promotional materials and significant outreach efforts, and
- a culturally-appropriate nutrition and cooking education program for families in the neighborhood.

A useful resource for designing a healthy store certificate program is the Change Lab Solutions guide: Health on the Shelf: A Guide to Healthy Small Food Retailer Certification Programs.²



Image: C & J Supermarket in Kashmere Gardens, Houston, Texas

Source: Google Maps



¹ Burton Laurison, H. & Fry, C. (2013, January) Fresh & Easy's Demise: What Does it Mean for Food Access in California? HealthyCal.org. Retrieved from: <http://www.healthycal.org/archives/10554>

² Fry, C., Levitt, Z., Ackerman, A. & Burton Laurison, H. (2013). Health on the Shelf: A Guide to Healthy Small Food Retailer Certification Programs. Change Lab Solutions. Retrieved from: changelabsolutions.org/sites/default/files/Health_on_the_Shelf_FINAL_20130322-web_0.pdf

Recommendation 2: Campaign for Improved Store Environments

Organize residents to build an issue campaign to improve the food environment in Kashmere Gardens.

In Duluth, Minnesota, residents and organizations in the Lincoln Park area, an identified food desert by the USDA, are working together to improve food accessibility. The campaign has established a set of goals, conducted a neighborhood food access study, and collected ideas on potential solutions to help improve food access.¹ Like Lincoln Park, Kashmere Gardens is considered a food desert by the USDA.

Kashmere Gardens has three chain grocery stores, all run by the same company. Residents are displeased with the quality of the stores and thereby choose to travel over 5 miles to get groceries. In order to improve the food environment in the neighborhood, residents need an effective issue campaign to pressure retail owners and local officials to improve the quality of stores in Kashmere Gardens. In order to have a successful campaign, residents will need to set goals, develop strategies to meet those goals, identify local leaders to target for the campaign, collect supporting data, and connect with new residents that can support the campaign.² For supporting data, residents will want to collect information on the stores people shop at most often - where they are located, on average how much people spend a week at those stores, why people prefer to shop there - and why people do not shop at the stores in their neighborhood - what about the store environment do people not like, what items do they not carry but that people want to buy. With engaged and sustained resident participation, Kashmere Gardens could build an effective campaign to improve food access in the neighborhood.

¹ Healthy Duluth Area Coalition: *Healthy Eating: Lincoln Park Fair Food Access Campaign*. Retrieved from: <http://healthyduluth.org/healthy-eating/lincoln-park-fair-food-access-campaign/>

² Bobo, K., Kendall, J. & Max, S. (2001). *Midwest Academy Manual for Activists: Organizing for Social Change*. Washington, D.C.: Seven Locks Press

Recommendation 3: Establish a Food Cooperative

Establish a food cooperative bulk buying club at Kashmere Gardens MultiService Center that provides weekly shares of healthy foods at affordable rates.

Food cooperatives or buying clubs are a way for individuals and families to pool their resources to purchase materials in bulk at a wholesale rate. Buying clubs are a bit less formal than food cooperatives and often are used by families in areas with limited food options to buy organic ingredients at an affordable price. Food cooperatives vary in their purpose, how food is ordered and distributed, size and organizational structure.

In Houston, the Wesley Community Center runs a modified food cooperative called the Reba Veal Henderson Food Cooperative. The Wesley Cooperative provides families a weekly bag of healthy foods at half the price. Families pay a flat rate annual fee to participate in the program plus \$30 a week for a bag of groceries worth \$60. Families do not get to choose what is in their bag.

Two other food cooperatives in Houston are the Central City Co-op and the S.H.A.P.E. Community Center Fruit and Vegetable Cooperative. Both cooperatives focus on fresh produce but Central City also specializes in locally-grown and organic produce. Like Wesley Community Center, Central City sells weekly bags or shares while S.H.A.P.E. sells shares monthly. Shares for Central City range in size and price from \$11 to \$40. Members can add eggs for an additional charge or shop for other items at the co-op when they pick up their shares. S.H.A.P.E. offers two shares: fruit only or fruits and vegetables for \$30 and \$35 respectively.

A bulk buying club at Kashmere Gardens MultiService Center would help to fill the gap in healthy options by providing residents a means to regularly order healthy foods at an affordable rate.

Recommendation 4: Increase Opportunities to Enroll in SNAP

Increase opportunities for families to apply for Supplemental Nutrition Assistance Program (SNAP) benefits (formerly food stamps) by providing knowledgeable personnel to help with enrollment at Kashmere Gardens Elementary School.

Almost 19% (5,809) of households in Kashmere Gardens are eligible but do not receive SNAP benefits. Residents have many options to apply for SNAP: online in English or Spanish at yourtexasbenefits.com, in person at the Houston Food Bank, during an open enrollment event hosted by the Houston Food Bank, or by filling out an application at a Houston Food Bank partner agency. Even with multiple opportunities, many households in Kashmere Gardens still do not receive benefits.

One way to increase enrollment is to provide opportunities to apply at schools. In 2004, the Chicago Board of Education established the Child and Family Benefits Unit (CFBU) to help families in Chicago public schools apply for public benefits, like SNAP and Medicaid. The CFBU was established through a unique partnership between the public schools and the Illinois Hunger Coalition whereby the Coalition trained school staff to help families apply for benefits using an online system.¹ According to the Urban Institute, states with online applications have a 5-6% higher participation rate in SNAP.² CFBU employs 14 liaisons stationed at schools throughout the district. Each liaison is bilingual, bicultural, and works with 60 schools. Liaisons make presentations to parent groups and advocate for families.³ In Houston, the Houston Food Bank is the local community group that works with the Texas Department of Health and Human Services to enroll families in SNAP. A partnership with Kashmere Gardens Elementary School to train school staff to help families apply for SNAP benefits would help connect more families with available resources.



Image: Chicago Public Schools Child & Family Benefits Unit

Source: www.cps.edu/Programs/Wellness_and_transportation/Pages/ChildrenandFamilyBenefitsUnit

¹ Illinois Hunger Coalition. *Illinois Hunger Coalition's role in the creation of the Children and Family Benefits Unit of the Chicago Public Schools*. Retrieved from: www.ilhunger.org/docs/at_the_table.pdf

² Zedlewski, S., Waxman, E. & Gundersen, C. (2012, July). *SNAP's Role in the Great Recession and Beyond*. Urban Institute. Retrieved from: www.urban.org/UploadedPDF/412613-SNAPs-Role-in-the-Great-Recession-and-Beyond.pdf

³ *Chicago Public Schools: Child and Family Benefits Unit*. Retrieved from: www.cps.edu/Programs/Wellness_and_transportation/Pages/ChildrenandFamilyBenefitsUnit.aspx

Recommendation 5: Host a Farm Stand at Kashmere Gardens Elementary School

Host a weekly farm stand at Kashmere Gardens Elementary School that accepts SNAP and Women, Infants, and Children (WIC) benefits, and offers double value coupons for benefit recipients.

Since 1994, the number of farmers' markets across the nation has grown from 1,755 to 7,864 in 2012.¹ Access to farmers' markets for families with SNAP and WIC benefits has grown too due to Electronic Benefits Transfer systems and double dollar programs (DDPs), like Wholesome Wave Double Value Coupon Program and the Fair Food Network's Double Up Food Bucks Program in Michigan. DDPs provide families with SNAP and WIC benefits such as extra cash or coupons to spend at the farmers' market to purchase more fresh produce. According to a study of markets in the Wholesome Wave Double Value Coupon Program, 27% of all market sales in 2012 were from federal benefits and double value coupons. Ninety percent of customers using the double value coupons reported to increase their consumption of fresh fruits and vegetables.² By hosting a farmers' market that accepts federal benefits and offers double value, Kashmere Gardens Elementary School can significantly increase access to healthy produce for families.

In addition to a farmers' market, providing interactive educational programming for children around gardening can help to increase student consumption of the food sold at the farmers' market.³ In Washington DC, New Hope Farm is partnering with FRESHFARM Markets and Watkins Elementary School to promote FoodPrints, a school nutrition and gardening education program. FoodPrints, a program of FRESHFARM Markets, maintains the edible garden at Watkins Elementary School and

classroom instruction on gardening and food systems.⁴ New Hope Farm will offer a weekly farmers' market at the school on Wednesday evenings and help reinforce lessons from FoodPrints. New Hope Farms will have fresh produce from the farm as well as foods from other nearby farms. New Hope Farm accepts SNAP, WIC, and double value coupons.⁵



Image: Urban Harvest School Garden Program

Source: urbanharvest.org/education

¹ www.ams.usda.gov/AMSv1.0/ams.fetchTemplateData.do?template=TemplateS&navID=WholesaleandFarmersMarkets&leftNav=WholesaleandFarmersMarkets&page=WFMFarmersMarketGrowth&description=Farmers%20Market%20Growth&acct=frmdirinkt

² *Wholesome Wave's Double Value Coupon Program 2012 Outcomes*. Retrieved from: wholesomewave.org/wp-content/uploads/2013/04/041213-DVCP-FactSheet.pdf

³ McAleese, J. D. & L. L. Ranklin. (2007). Garden-based nutrition education affects fruit and vegetable consumption in sixth-grade adolescents. *Journal of the American Dietetic Association*, 107:662-665.

⁴ *FRESHFARM Markets: about FoodPrints*. Retrieved from: www.freshfarmmarkets.org/programs/foodprints.php

⁵ *New Hope Farm: Our Markets*. Retrieved from: www.newmorningfarm.net/markets.html

Recommendation 6: Advocate for Healthy Food Policies

Advocate for state and federal policies and funding that improve access to and education about healthy, affordable, culturally appropriate foods for families and in schools.

Federal policies established through legislation like the child nutrition act and the farm bill have an impact on a family's access to healthy food. These bills regulate everything from commodity crop subsidies to child feeding programs like the National School Lunch program and the Women, Infants and Children program. They improve food access by determining the distribution and amount of subsidies paid to farms to grow certain crops which thereby affects the price of food. They also affect access by regulating the income eligibility levels of families to receive food and nutrition assistance.

In addition to federal legislation, state governments also set policies that impact access to healthy foods. States can mandate that breakfast be served to all children in schools or that sodas be banned from all school campuses. State and federal policies have a major impact on food access, especially in terms of the funding available for food and nutrition programs.

Becoming knowledgeable and vocal about federal and state legislation will help ensure that Congress continues to support programs that support the health and well-being of families and children.

For information on how to become involved, visit:

- Houston Food Bank: houstonfoodbank.org
- Texans Care for Children: txchildren.org/health
- Partnership for a Healthy Texas:
www.partnershipforahealthytexas.org
- Children's Defense Fund: www.childrensdefense.org
- Feeding America: feedingamerica.org

Recommendation 7: Offer Cooking Education Classes

Offer interactive cooking and nutrition education classes for parents that focus on understanding dietary guidelines and nutrition fact labeling, how to budget for and prepare affordable recipes that are culturally appropriate, and how to model healthy behaviors for children.

Focus groups participants in Kashmere Gardens did not know of any classes on nutrition or cooking education in the neighborhood. It was especially important though to residents that people learn how to prepare healthy meals in order to change habits and break with unhealthy food traditions. Lack of knowledge about healthy eating was cited as a reason for the problem of childhood obesity.

There are a multitude of programs that offer cooking and nutrition classes for adults through BOUNCE, Texas AgriLife Extension, Harris County Public Health and Environmental Services, and Recipe 4 Success. Kashmere Gardens Elementary School or Kashmere Gardens MultiService Center would be easily accessible locations for parents to attend a cooking class. With Fiesta Mart nearby, they would also be good locations to start a grocery tour.



Image: Recipe 4 Success Grocery Tour

Source: www.recipe4success.org/thedish/moms-talk/

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FOCUS NEIGHBORHOOD: PASADENA



The Pasadena neighborhood selected for an in-depth analysis of childhood obesity conditions is the half mile around a straight line connecting Kruse Elementary and Gardens Elementary. The neighborhoods around the two schools were combined because the close proximity of the schools (0.9 miles) provided an opportunity to analyze more regional types of factors contributing to childhood obesity and to look for ways to take advantage of the inherent strengths of both neighborhoods.

The focus neighborhood is primarily residential, although there are some significant commercial elements along Pasadena Boulevard and Southmore Avenue. It is home to Pasadena City Hall and accompanying public buildings and facilities. Additionally, the Pasadena Town Square Mall is located at the southeast corner of the focus neighborhood. Several bayous crisscross the neighborhood, and a good grid network of roads exists. These factors together present unique challenges and opportunities for creating an environment that is supportive of healthy lifestyles.

According to Texas FitnessGram data, approximately 58% of students at Gardens Elementary and 44% of students at Kruse Elementary have high-risk BMIs that place them in overweight or obese categories. This compares to 33% of students county-wide that fall in these categories. Results from the survey collected online and physically in the neighborhood provide some clues for the causes of these high obesity levels. Key points from the survey are shown at right, and from these we learn that of respondents:

- 75% would walk or bike 10 minutes to get somewhere if they felt they could do it safely.
- However, only 49% feel comfortable walking or biking in the neighborhood.
- Additionally, only 15% feel comfortable letting a child walk or bike alone in the neighborhood.

KEY DEMOGRAPHICS - GARDENS ELEMENTARY



KEY HEALTH RISK FACTORS FOR ADULTS

| | PASADENA-SOUTH HOUSTON | HOUSTON AREA |
|---|------------------------|--------------|
| OVERWEIGHT/OBESE | 66% | 63% |
| DIABETES DIAGNOSES | 14% | 11% |
| HIGH BLOOD PRESSURE DIAGNOSES | 28% | 30% |
| LESS THAN RECOMMENDED PHYSICAL ACTIVITY | 55% | 53% |

Sources: Texas FitnessGram 2010-2011, Health of Houston Survey 2010

SURVEY RESULTS



Existing Conditions

The area selected for an in-depth assessment of factors contributing to childhood obesity in Pasadena is the half-mile radius around a straight line connecting Kruse Elementary and Gardens Elementary as shown in **Figure 4.1**. An analysis of existing conditions was undertaken to identify and understand gaps in the built environment and availability of healthy foods. The analyses can be grouped into four categories: existing demographics, existing destinations, existing food services, and existing infrastructure. The specific existing conditions analyzed are summarized below and are discussed in detail on the following pages.

Existing Demographics

Demographic data were collected from the 2010 Census for census tracts within the focus neighborhood:

- **Household Income** - Median household income for the census tract. Income is the most consistent predictor of health status. In general, higher income is associated with better health. Low-income neighborhoods tend to have limited access to chain grocery stores and often pay more for healthy food for smaller food retailers.
- **Households on SNAP** - Percentage of households in the tract that are receiving Supplemental Nutrition Assistance Program (SNAP) benefits, formerly known as food stamps. SNAP is a federally funded program that provides food dollars to low-income families meet their food needs. For some families SNAP benefits are a safety net to help avoid hunger. For others, they fill the gap to be able to afford healthy food. For many, SNAP benefits enable them to pay their other household bills. Children that live in households that receive SNAP can also receive for free meals at school.
- **Households with 0 Vehicles** - Percentage of households in the tract that do not own a private automobile. In Houston, cars are invaluable assets to access healthy food. In areas where the nearest grocery store specializes in sodas, chips and cigarettes,

a vehicle is beneficial for accessing stores with healthy options. Households without a vehicle may have to rely on public transportation, a taxi, or friends to get groceries which can be cumbersome, time-consuming, expensive, and limiting in what one can transport.

Existing Destinations

- **Walk Score®** - This score, provided by www.walkscore.com, is a measure of the walkability of a neighborhood based on its mix of destinations within walking distance.
- **Land Uses** - Specific land uses as defined by the Harris County Appraisal District were analyzed to assess gaps in services that could be provided within walking or biking distance.
- **Neighborhood Destinations** - Important destinations based on conversations with stakeholders and visits to the neighborhood.

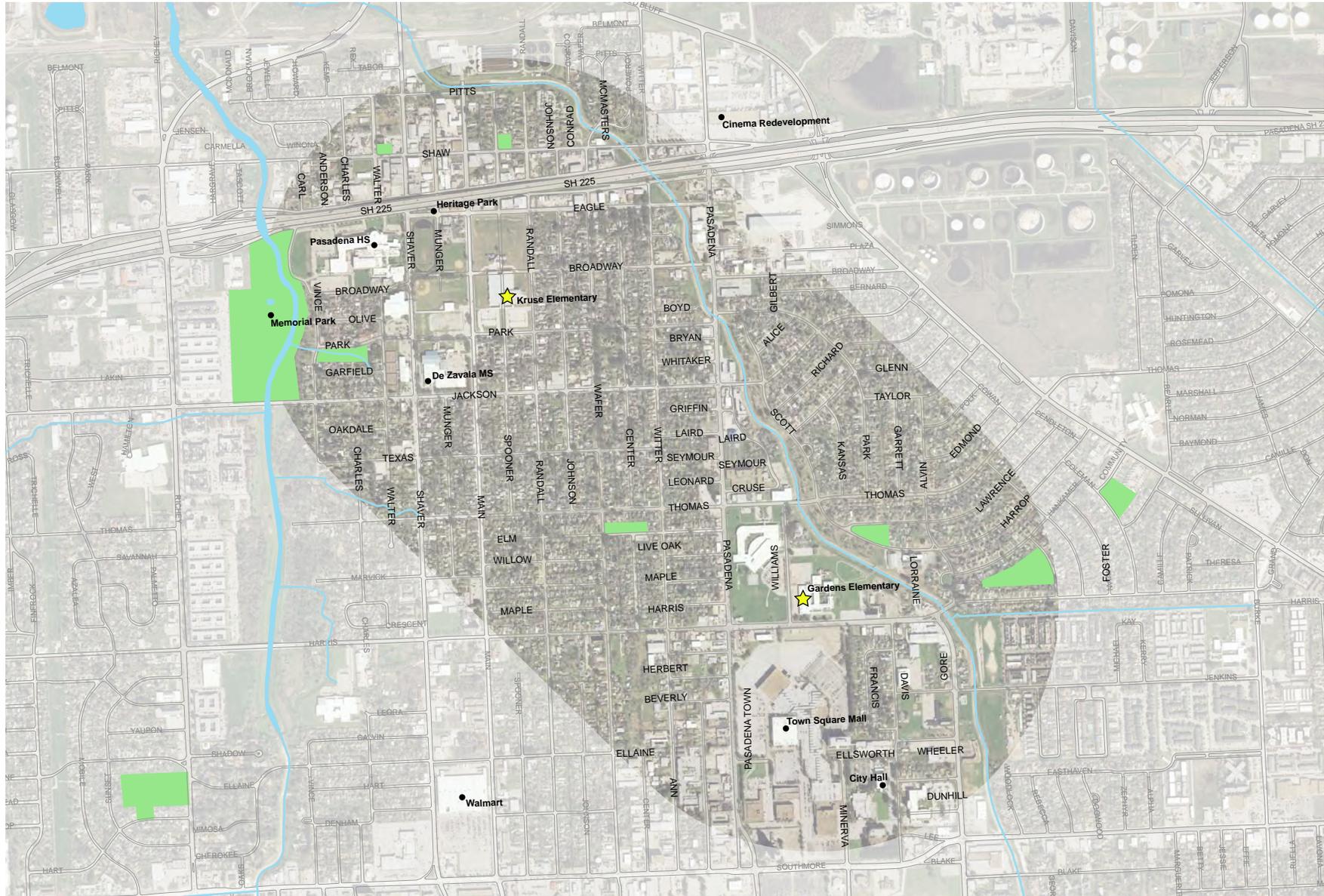
Existing Food Services

- **Food Stores** - Data from Harris County Public Health and Environmental Services, City of Houston Health and Human Services, City of Pasadena, City of Webster, and the Texas Comptroller of Public Accounts were used to identify locations of food stores, including grocery stores, convenience stores, food and drug stores, and general stores.
- **Alternative Food Sources** - Data from Urban Harvest, City of Houston Health and Human Services, Houston Food Bank, Target Hunger, Wesley Community Center, Texas AgriLife Extension Harris County, Houston Chronicle, and internet searches were used to identify locations of alternative food sources, such as community gardens, food pantries, and specialty sources.

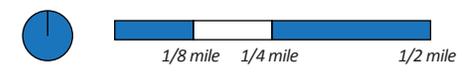
Existing Infrastructure

- **Roadway Network** - The intersection density for the neighborhood was computed; higher densities help bicyclists and pedestrians to avoid long travel distances and heavy roadway traffic.
- **Trails and Bikeways** - Data from the City of Houston and the

Figure 4.1 - Focus Neighborhood for Pasadena



 Focus neighborhood school
 Parks and open space



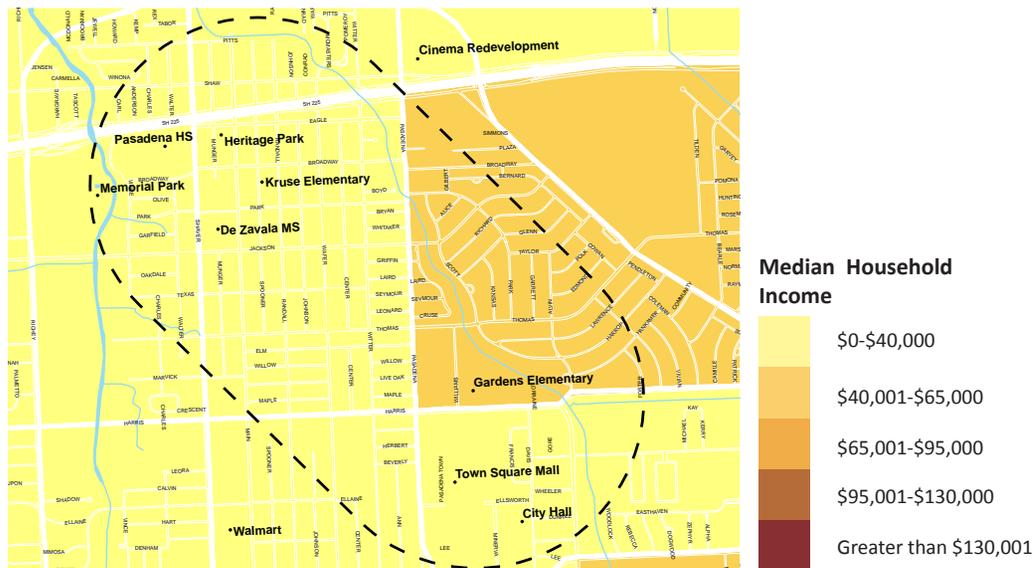
Houston-Galveston Area Council (H-GAC) were used to assess availability of trails and bicycle facilities such as bike lanes or bike routes.

- **Transit** - Data from METRO were used to assess the availability of existing and planned transit services, which can be an important part of a physically-active community because every transit trip has a walking or biking trip on either end.
- **Sidewalk Conditions** - Site visits to the neighborhood were combined with a visual inspection of images from Google Earth™ to assess sidewalk conditions throughout the neighborhood. Sidewalk segments were grouped into four basic categories of utility based on the presence of a sidewalk, the width of the sidewalk, the condition of the pavement, and the presence of

cracks and uneven surfaces.

- **Street Lighting** - Existing street light conditions were assessed along primary travel corridors based on visual inspections of lamp pole locations from site visits and images from Google Earth™. Adequate lighting ensures that residents can choose active transportation modes at all times of the day.
- **Street Activity Level** - Street activity was assessed based on site visits and images from Google Earth™ and was categorized as high, medium, or low, based on the type of land use along the road and the building form and how these factors are perceived to impact the attractiveness of the environment for walking, biking, or outdoor gathering.

Existing Demographics

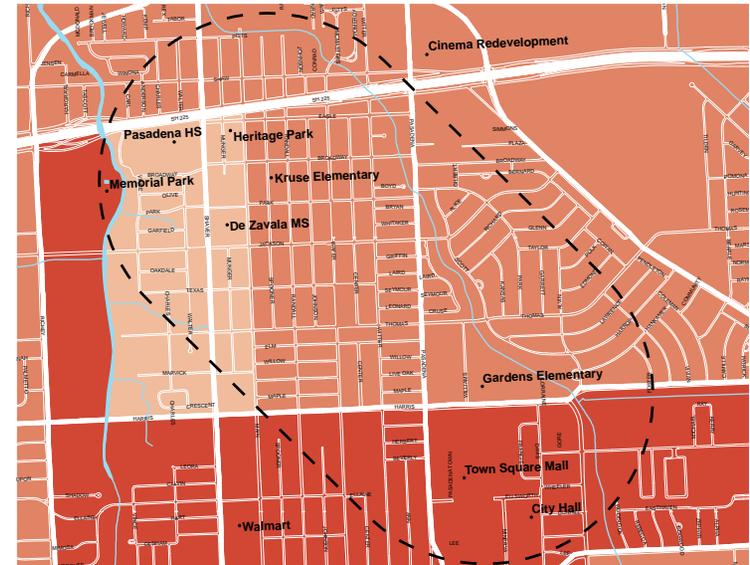
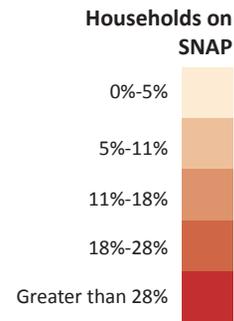


Household Income

Census tracts in the Pasadena study area range in median household income from \$24,182 to \$47,330, with a weighted average median of \$34,236. Even the highest of the range in the census tracts is lower than the Harris County average of 51,440.

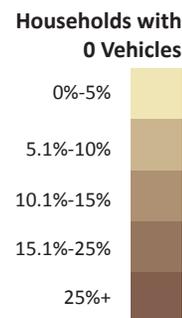
Households on SNAP

Census tracts in the Pasadena study area range in households on SNAP from 5% to 22% with a weighted average of 18%. The weighted average is above the Harris County average of 11.5%.

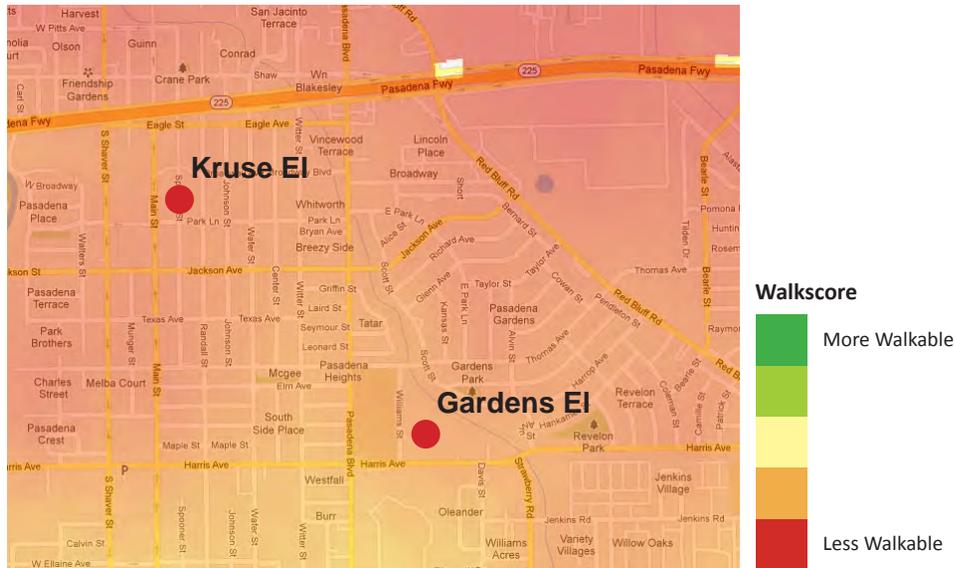


Households with 0 Vehicles

Census tracts in the Pasadena study area range in households with no private vehicles from 2.4% to 15.7%, with a weighted average of 9.1%. This is slightly higher than the Harris County average of 7.2%. Households that do not own a private automobile are especially dependent on transit, walking, and bicycling modes of transportation, and providing excellent infrastructure in the area can ensure that residents are able to use them effectively.

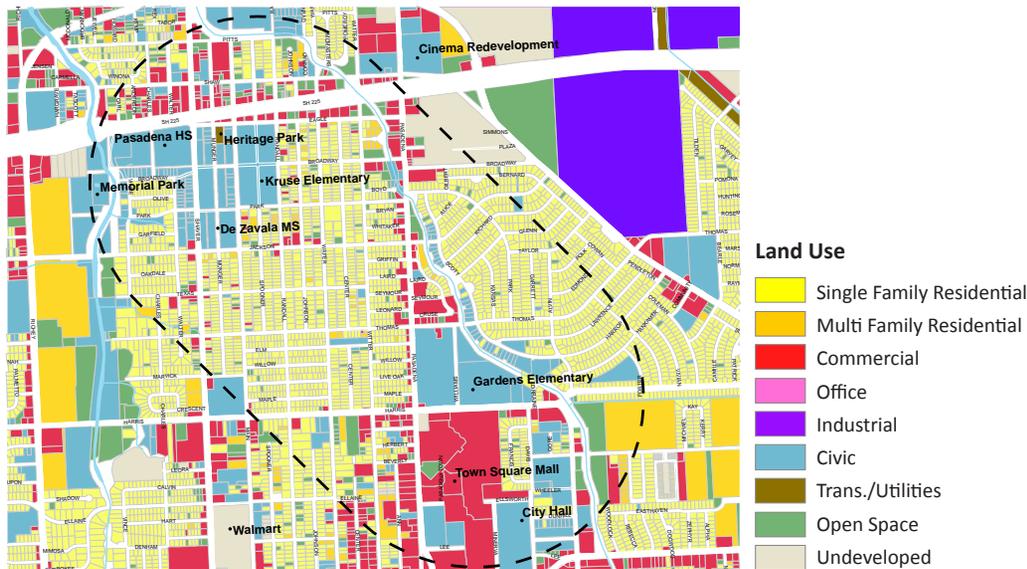


Existing Destinations



Walk Score®

The Walkscore.com score for Gardens Elementary is 66, and the neighborhood is considered “somewhat walkable” because several destinations are within walking distance of the school, including Pasadena Town Square, City Hall, and the central library. The score for Kruse Elementary is 40, and the surrounding neighborhood is considered “car dependent”. The lower score at Kruse Elementary is due to the fact that the mix of land uses around that elementary is less diverse than that around Gardens Elementary, consisting primarily of single-family residences.

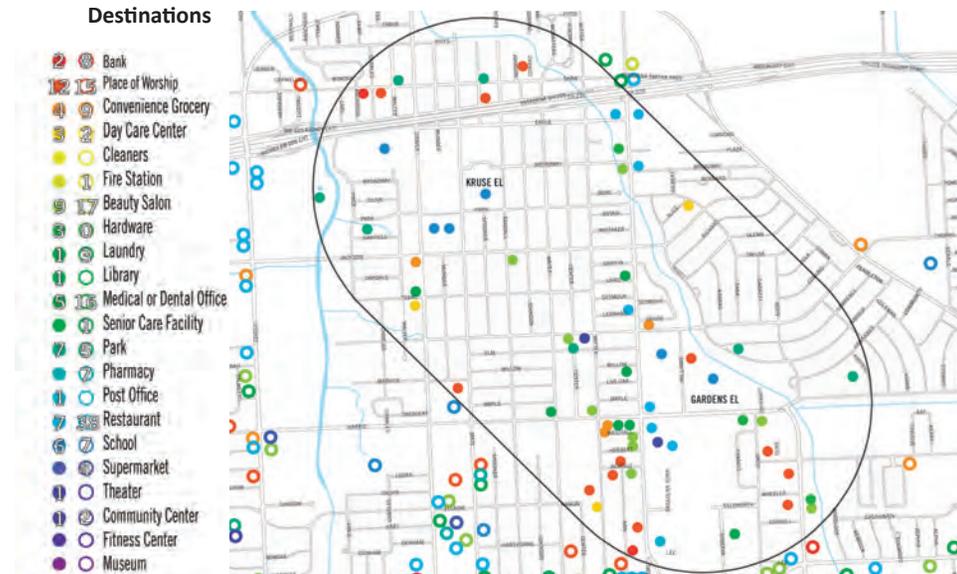


Land Uses

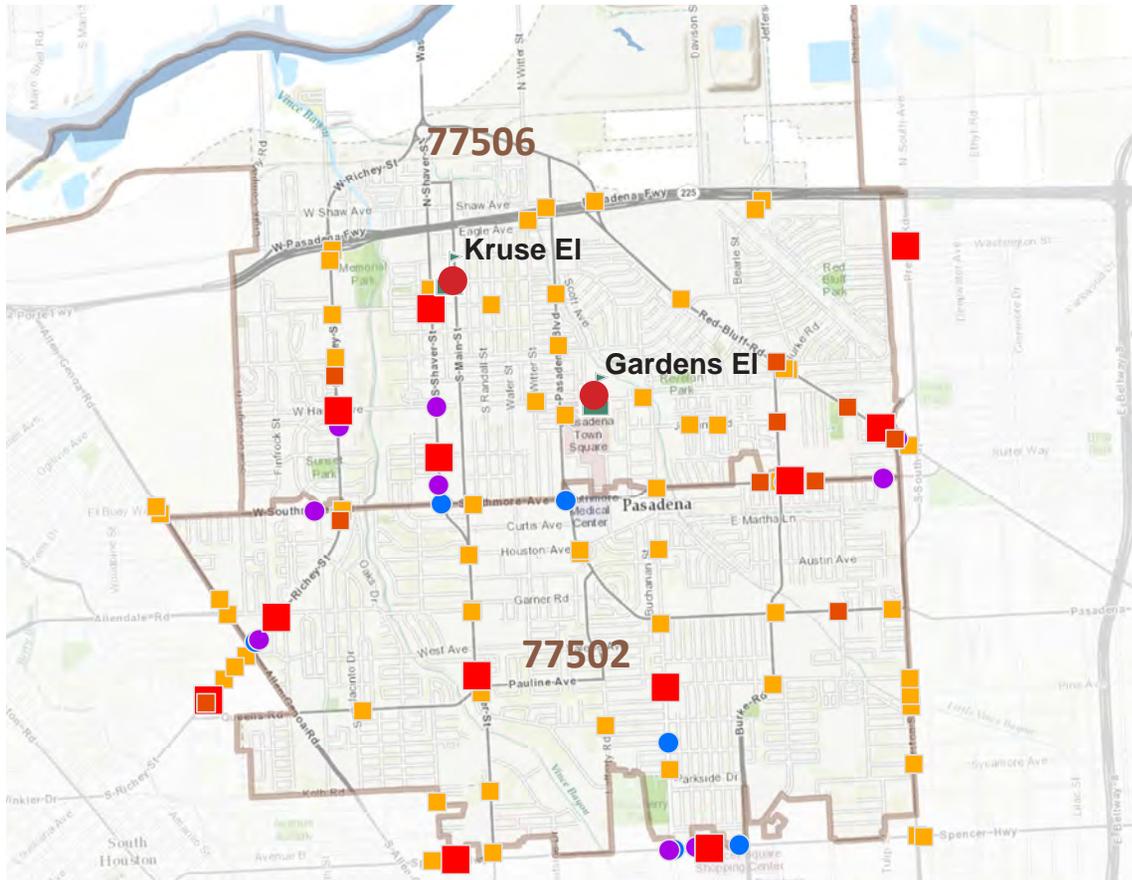
Land use in the Pasadena focus neighborhood is primarily single-family residential. There are several schools and city park areas in the northern and southern regions of the area. Small commercial and industrial development is located along SH 225 as well as along Pasadena Boulevard. The Pasadena Town Square is a major commercial development in the southeast part of the neighborhood. Its immediate next door neighbors are City of Pasadena City Hall and the central library. Memorial Park is a regional park with an assortment of available activities located in the northwest part of the neighborhood. Old downtown Pasadena is located north of SH 225; although it is no longer the major destination it once was, it still is home to a number of businesses, parks, court buildings, and city facilities.

Neighborhood Destinations

A good mix of neighborhood destinations provides more opportunities for walking and bicycling. There is a relatively high number of destinations within the Pasadena focus neighborhood and even more just outside the boundary. The destinations are especially clustered around the southeast part of the neighborhood near the intersection of Harris Avenue and Pasadena Boulevard, Town Square Mall, and the City Hall complex. However, some of these services are difficult to reach on foot or on a bike because of the barrier of the freeway and the disconnected street patterns around the mall. In all, 53 private destinations were identified in the focus neighborhood, and 123 more were identified just outside the neighborhood. Additional important neighborhood destinations include the schools, Memorial Park, and Pasadena Heritage Park and Museum on Main Street.



Existing Food Services



- Convenience Store
- Grocery Store (independent)
- Grocery Store (chain)
- Food Drug Store
- General Store

See Appendix A for definitions

Food Stores

Within the ZIP codes surrounding the HLM priority schools in Pasadena, there are 16 grocery stores, which include Kroger, Food Town, Sellers Brothers, and Wal-Mart. There are also 45 convenience stores, 11 general stores - all of which are discount type stores - and 6 pharmacies. There are no produce markets, farmers' markets or community gardens in this area. There are 2 food pantries located in the area and another four pantries, 2 in LaPorte, and 2 in Houston, that serve the 77502 and 77506 ZIP codes.

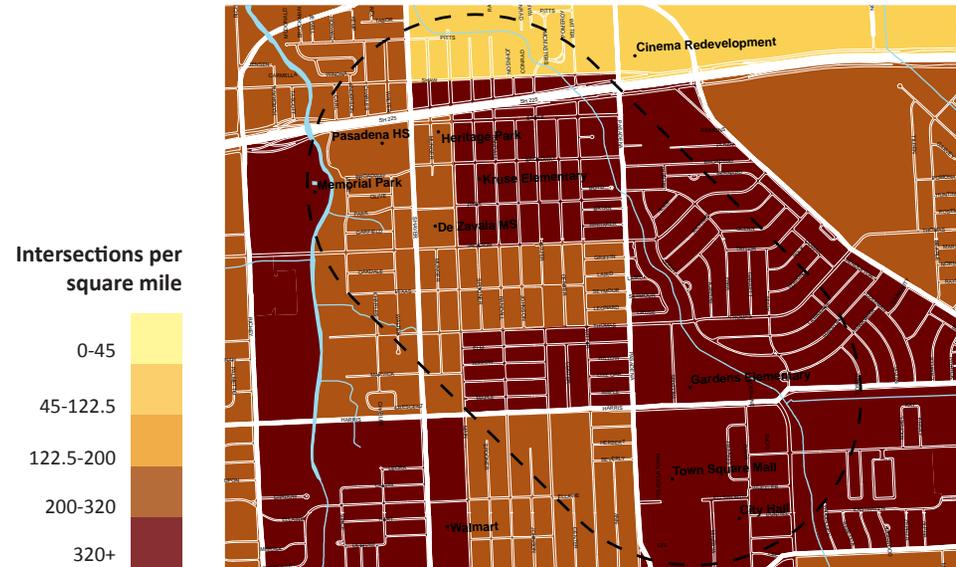
| Store Type | Number |
|--------------|-----------|
| Convenience | 45 |
| General | 11 |
| Grocery | 16 |
| Food Drug | 6 |
| Total | 78 |

Existing Infrastructure

Roadway Network

The roadway network in the Pasadena study area is a well-connected grid. Blocks are approximately 700 feet long, which is a length that tends to support walking trips. SH 225 is elevated in the vicinity of the neighborhood which allows several local streets to pass underneath it and improve connectivity.

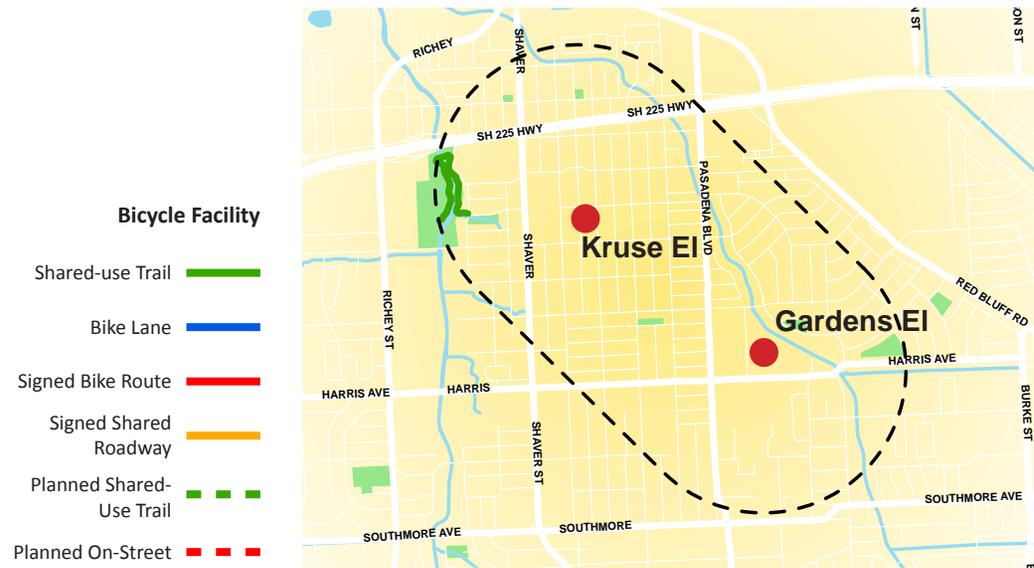
The main challenge for roadway connectivity is that relatively few streets cross Vince Bayou on the west side of the focus neighborhood or Little Vince Bayou on the east side. As a result, those streets that do cross both bayous— Jackson Avenue, Harris Avenue, and Shaw Street—become particularly important for bicycle and pedestrian traffic moving east-west across the neighborhood.

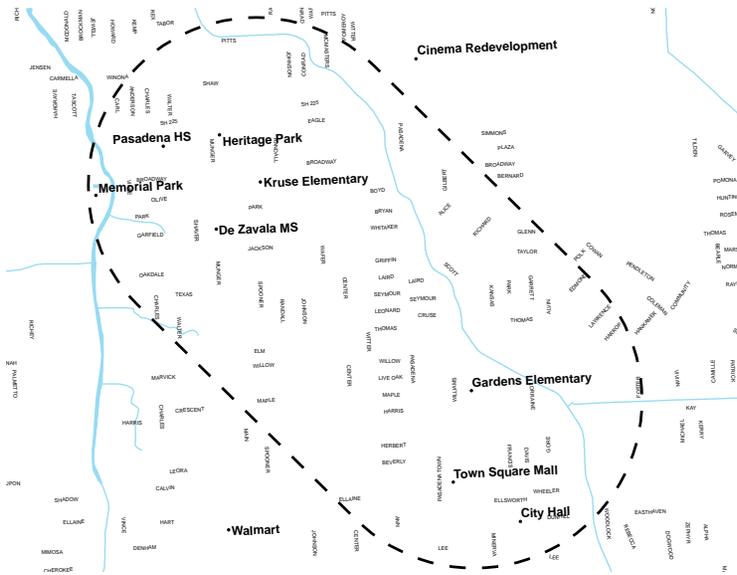


Trails and Bikeways

No on-street bicycle facilities exist in the focus neighborhood. One shared-use trail does exist in Memorial Park on the northwest side of the neighborhood, near Pasadena High School. The trail is primarily intended for recreational use as it does not provide any long-distance connections to important destinations. However, an opportunity exists to extend the trail south along the bayou. Another trail opportunity exists along Little Vince Bayou on the east side of the neighborhood, adjacent to Gardens Elementary.

Because of the roadway grid network, traffic volumes tend to be dispersed and relatively low. As a result, on-street bicycle facilities may be possible on some of these roads.



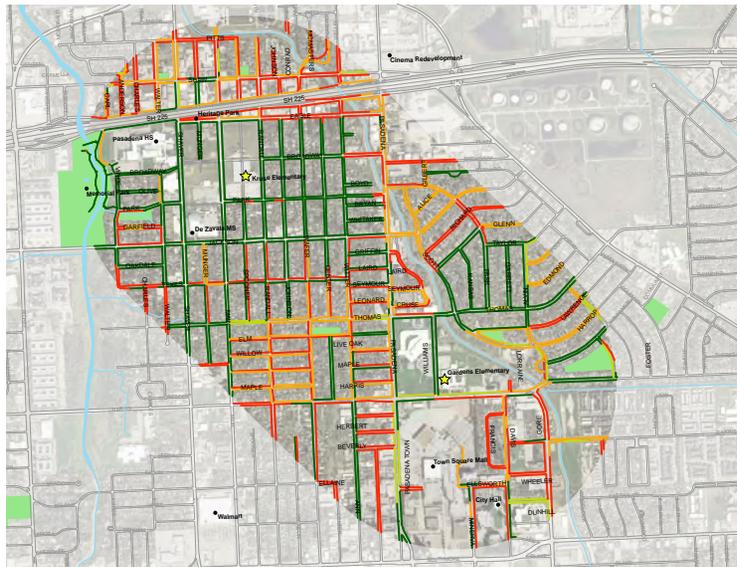


Transit

No public transit services are currently provided in the Pasadena study area. A bus route formerly provided by Harris County Transit that ran along Pasadena Boulevard and that provided transit access for the City of Pasadena was discontinued in 2012.

Transit Facility

-  Bus
-  Future Light Rail
-  Future Light Rail Station



| Condition | |
|-----------|-----|
| Excellent | 39% |
| Good | 8% |
| Adequate | 21% |
| Poor | 32% |

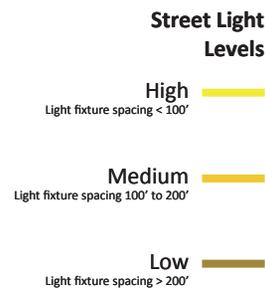
-  Wide sidewalk in excellent condition
-  Sidewalk of standard width and in good condition
-  Substandard sidewalk that is still usable
-  Sidewalk is unusable or nonexistent

Sidewalk Condition

Approximately 67% of the sidewalks in the focus neighborhood were judged to be adequate or better. Most of the sidewalks in the neighborhoods immediately adjacent to Kruse Elementary and Pasadena High School are in excellent condition. However, the condition of the sidewalks degrades farther from these schools, especially closer to Southmore Boulevard and north of SH 225. Additionally, some sidewalks along critical corridors were judged to be in poor condition, including some along Pasadena Boulevard, Harris Avenue, and Thomas Avenue. These roads serve major destinations such as schools, Town Square Mall, and retail establishments and would benefit from excellent sidewalks to encourage pedestrian travel to and from those destinations.

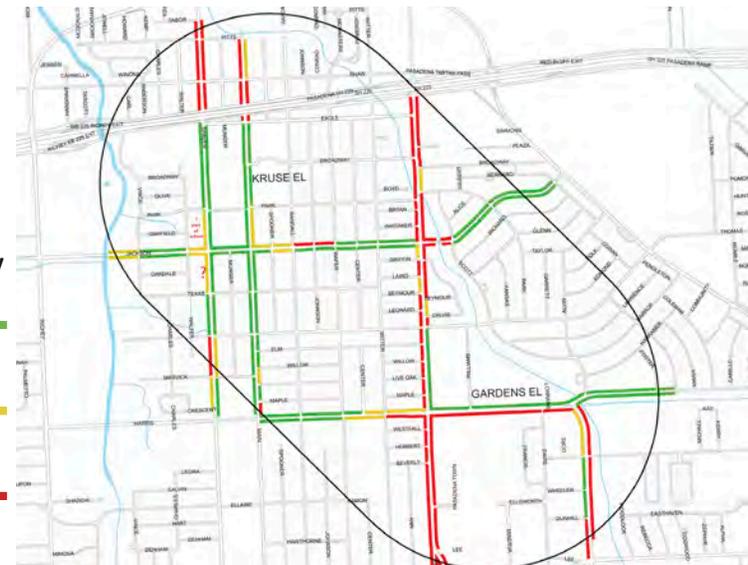
Street Lighting

Street lighting in the Pasadena focus neighborhood is generally low, even in commercial areas and near major public facilities. Main major roads, such as Shaver Street and Main Street, have very little street lighting. Some segments of Pasadena Boulevard and Harris Avenue have medium street light levels on one side of the street but not the other. Other segments of both streets have low light levels on both sides. Adequate street lighting on both sides of the street—and especially pedestrian-specific lighting—is important for encouraging pedestrian activity because it can increase roadway safety and perceptions of safety.



Street Activity Level

Street activity is generally good within the residential neighborhoods because residential streets with landscaped yards and trees can be very pleasant to walk along. But the areas with the most destinations are not inviting places to walk. Street activity and interest decline along many of the streets in the focus neighborhood once they leave the residential areas. Pasadena Boulevard, for example, has a high number of parking lots and buildings set far back from the road that together create an environment that is generally uninteresting and uninspiring for walking or biking. At the same time, many of the destinations that people might choose to walk to—such as schools, restaurants, and businesses—are along the very stretches of road that have low street activity levels.



Pedestrian and Bicyclist Counts

Counts of bicyclists and pedestrians were collected for the focus neighborhood in May 2013. Counts were collected along trails and at major intersections in the neighborhood. The counts can provide insight into the current levels of physical activity in the neighborhood, and they can be compared to future counts to measure the effectiveness of implemented bicycle and pedestrian projects.

Trail Count

Trail counts in Pasadena were taken in Memorial Park along the Vince Bayou Trail for one week as shown in **Figure 4.2**. This trail was selected because is one of only a few opportunities in the focus neighborhood for recreational walking and biking. Additionally, its proximity to Pasadena High School, Kruse Elementary, and De Zavala Elementary School makes the trail easily accessible for students. Weather conditions during the count were seasonably mild and dry. Automated infrared counters were used to count walkers, joggers, cyclists, and other trail users.

Figure 4.3 shows the average weekday and weekend 24-hour counts. There were approximately 2,700 total trail users during the week of the count.

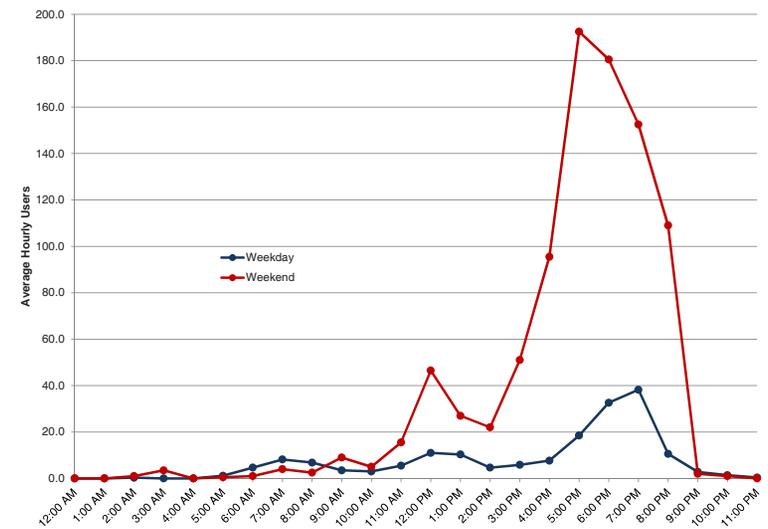
As shown in the table, usage on all days saw a peak in the late afternoon hours. Trail usage on the weekdays tended to be light outside the afternoon peak. The peak was more pronounced on the weekend and particularly on the observed Saturday, which experienced trail usage of over 200 people per hour for four subsequent hours. It can be hypothesized that a special event of some kind brought a crowd to the park that afternoon. The Sunday afternoon counts of 40 to 70 users per hour are likely more typical for weekend usage. Weekday afternoon counts peaked between 20 and 90 users per hour, probably depending upon the activities such as sports leagues that took place at the park each day.

Removing the anomalous Saturday numbers, a weekly total of about 1,700 is likely more normal for the trail.

Figure 4.2 - Pedestrian and bicyclist trail count location in Pasadena



Figure 4.3 - Daily distribution of pedestrian and bicyclist traffic at trail count location



Intersection Counts

Two intersection counts were collected in Pasadena, one near Gardens Elementary at the intersection of Pasadena Boulevard and Harris Avenue, and the other near Kruse Elementary at the intersection of Jackson Street and Main Street. These intersections were selected because of their proximity to residences, schools, businesses, and other destinations. The counts were collected for 15 hours between 6:00 AM and 9:00 PM on Thursday, April, 25, 2013. **Figure 4.4** shows the counts at the intersection of Jackson Street and Main Street for this time period, and **Figure 4.5** shows the counts at the intersection of Pasadena Boulevard and Harris Avenue. The symbols indicate whether an adjacent number is a count of automobiles, bicycles, or pedestrians. Bicycles were counted in both the crosswalks (if the cyclist was riding along the sidewalk) and in the street.

The following observations are made about the counts at the intersection of Jackson Street and Main Street (**Figure 4.4**):

- A total of 308 pedestrians utilized the intersection.
- 262 pedestrians traveled east-west, 85% of whom used the northern crosswalk which implies that many were students accessing De Zavala Middle School at the northwest corner of the intersection.
- 46 pedestrians traveled north-south.
- A total of 42 bicyclists utilized the intersection.
- 62% of the cyclists rode in the street. However, a large minority (38%) chose to ride on the sidewalk.

The following observations are made about the counts at the intersection of Pasadena Boulevard and Harris Avenue (**Figure 4.5**):

- A total of 138 pedestrians utilized the intersection.
- 81 pedestrians traveled east-west.
- 57 pedestrians traveled north-south.
- A total of 47 bicyclists utilized the intersection.
- The majority of bicyclists (77%) rode in the street. Eleven bicyclists (23%) chose to ride on the sidewalk.

Figure 4.4 - 12-hour pedestrian and bicyclist count at intersection of Main Street and Jackson Street in Pasadena

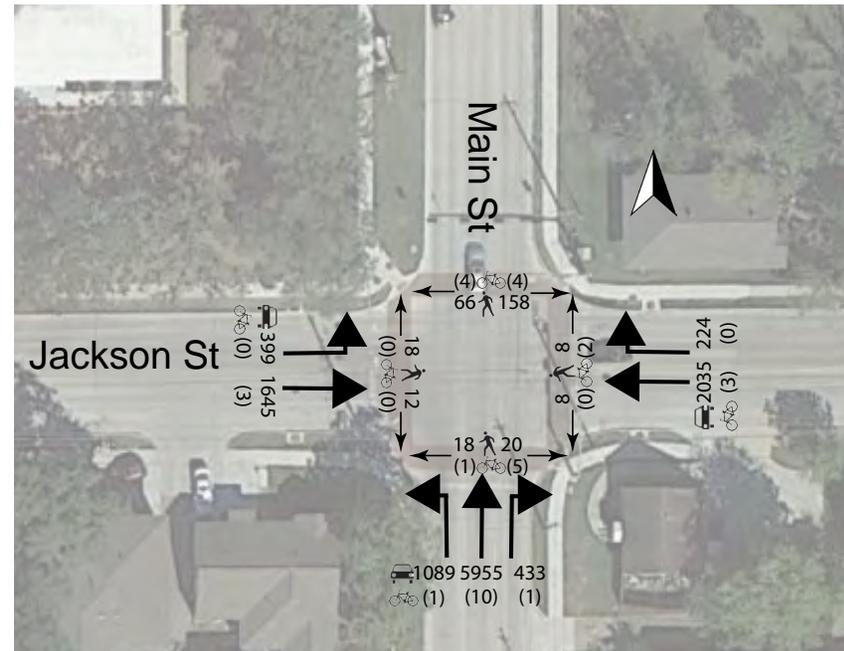
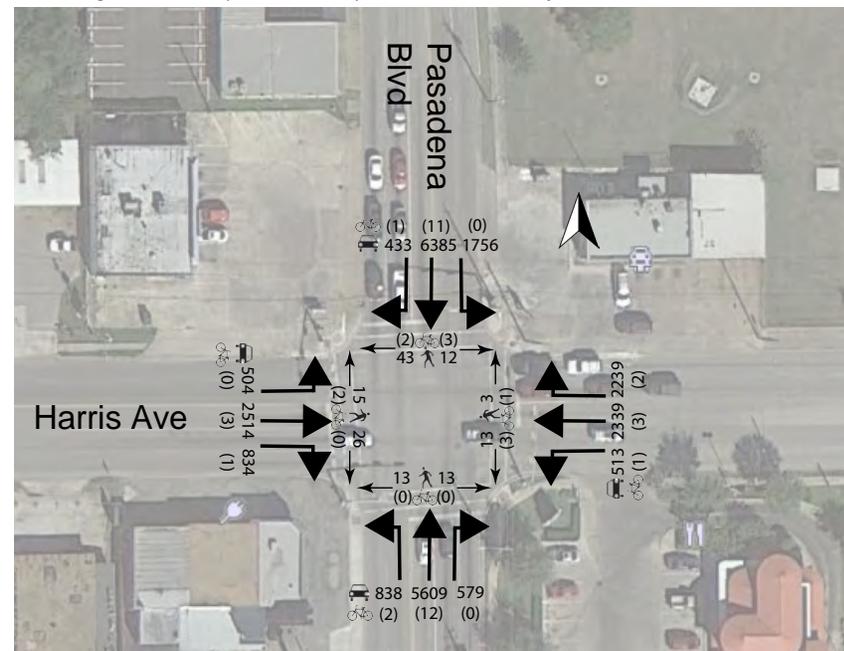


Figure 4.5 - 12-hour pedestrian and bicyclist count at intersection of Pasadena Blvd and Harris Ave in Pasadena



Built Environment Conceptual Plan

The framework discussed in Chapter 1 (and summarized in **Figure 4.6**) for creating an active built environment was used to formulate a conceptual plan of projects for the Pasadena community. This plan represents a holistic set of projects to increase the neighborhood’s capacity for active transportation from multiple angles.

The projects included in the plan are summarized on the table at right, are shown on the map in **Figure 4.7**, and are described in detail on the following pages. Projects are color-coded to identify their association with one of the five elements of the framework for an active built environment. These color associations are indicated on the table at right.

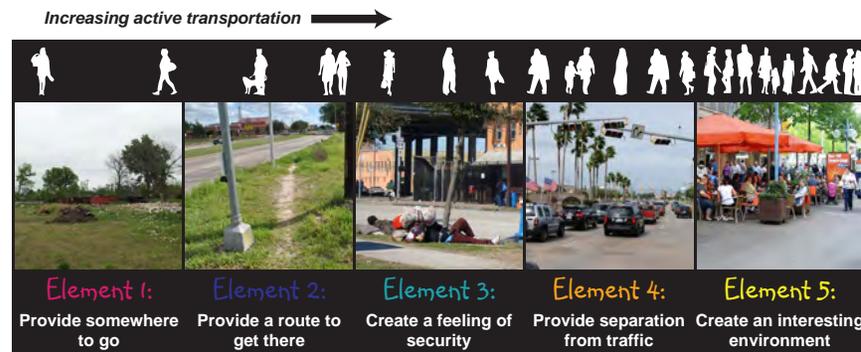


Figure 4.6 - Elements of an environment supportive of active transportation

1. Provide Somewhere to Go

- 1-A Neighborhood park on Harris Street
- 1-B Park programming at Memorial Park
- 1-C Provide activities and improve walkability at City Hall complex

2. Provide a Route to Get There

- 2-A Trail and linear park along Little Vince Bayou
- 2-B Trail and linear park along Vince Bayou
- 2-C Sidewalks leading to major destinations
- 2-D Ellaine Ave. extension to City Hall

3. Create a Feeling of Security

- 3-A Pedestrian lighting along Pasadena Blvd.
- 3-B Pedestrian lighting at schools, historic district, and Memorial Park

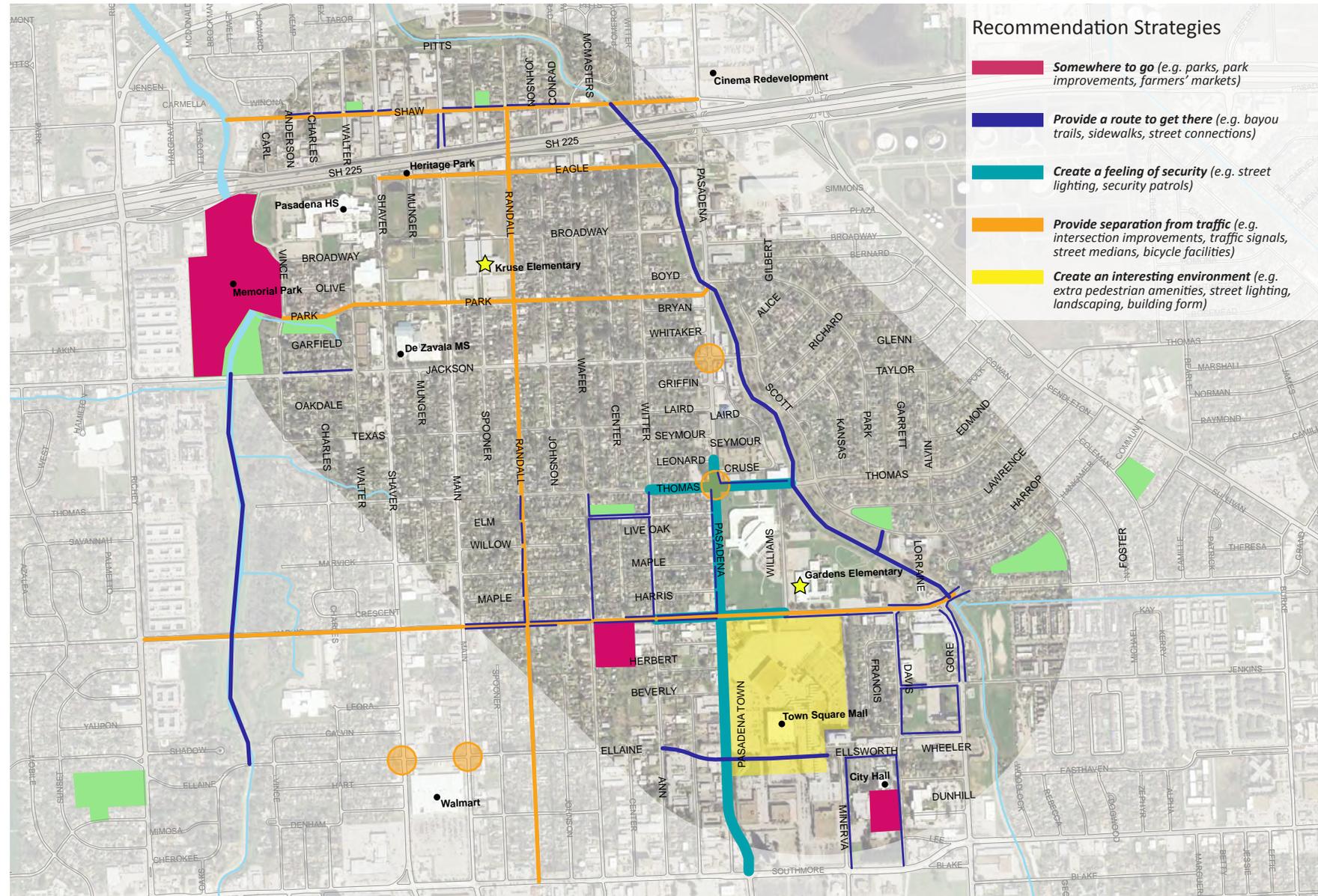
4. Provide Separation from Traffic

- 4-A Build out on-street bicycle network with bike routes and bike lanes
- 4-B Improvements to pedestrian realm at intersections along Pasadena Blvd.
- 4-C Traffic signals on Ellaine Ave. to improve access to Walmart

5. Create an Interesting Environment

- 5-A Support redevelopment of Town Square Mall to encourage walkability

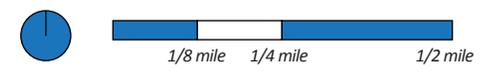
Figure 4.7 - Conceptual Plan for Pasadena



Recommendation Strategies

- Somewhere to go (e.g. parks, park improvements, farmers' markets)
- Provide a route to get there (e.g. bayou trails, sidewalks, street connections)
- Create a feeling of security (e.g. street lighting, security patrols)
- Provide separation from traffic (e.g. intersection improvements, traffic signals, street medians, bicycle facilities)
- Create an interesting environment (e.g. extra pedestrian amenities, street lighting, landscaping, building form)

- Focus neighborhood school
- Parks and open space



Element 1: Provide Somewhere to Go

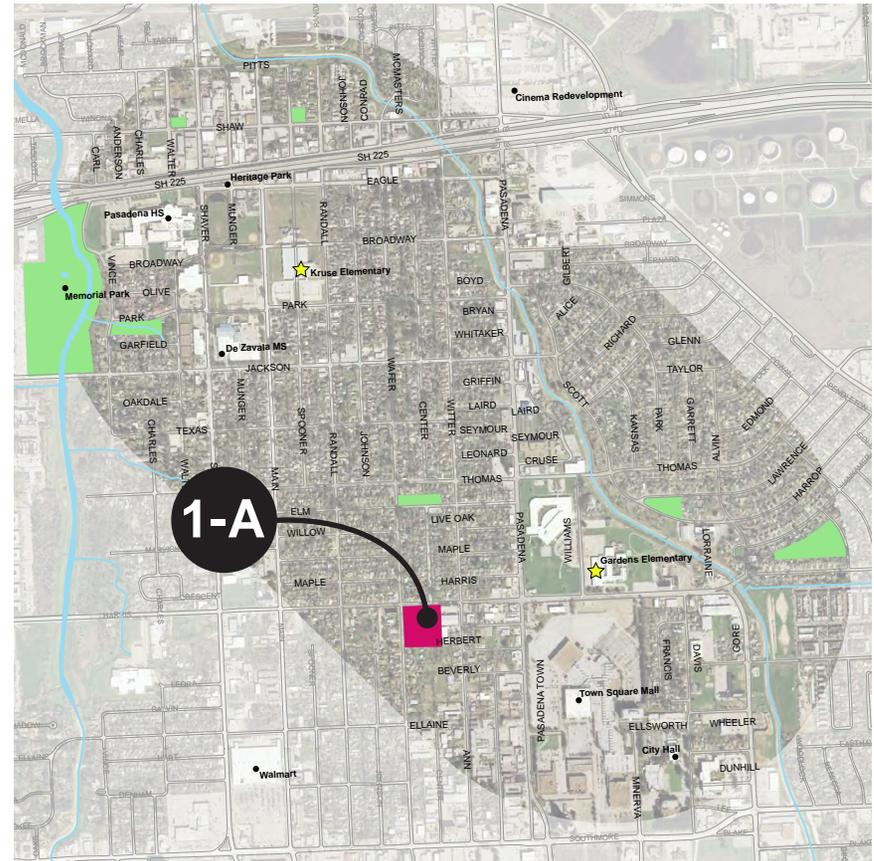
1-A Neighborhood park on Harris Street

The southwest part of the neighborhood generally has less park and outdoor space than the neighborhood as a whole. There is a potential opportunity to add green space in this area on the rectangular piece of land bounded by Harris Street on the north and Wafer Street on the west, which consists of 4.4 acres of contiguous undeveloped land and 1.3 acres of residential land.

Although Rusk Park is located 0.25 miles north, an additional park at this location would increase the share of the population living within walking or bicycling distance of an outdoor area. Additionally, it could be built with amenities that supplement those at Rusk Park and Memorial Park to increase the types of outdoor activities possible in the neighborhood.

The land is comprised of twelve tracts which would need to be purchased from several land owners to realize the Harris Street park.

Partners: City of Pasadena Parks and Recreation, private land owners



Project 1-A: Neighborhood park on Harris Street



Image: St. James Park in London has an appealing natural, outdoor feel that could be a model for the Harris Street Park. *Source:* www.stepbystep.com



Image: Playground equipment at Crane Park in north Pasadena.



Image: Even small parks can be popular destinations if they are outfitted with fun equipment, as is this Splash Park in the Fifth Ward. *Source:* Aaron M. Sprechter/AP Images

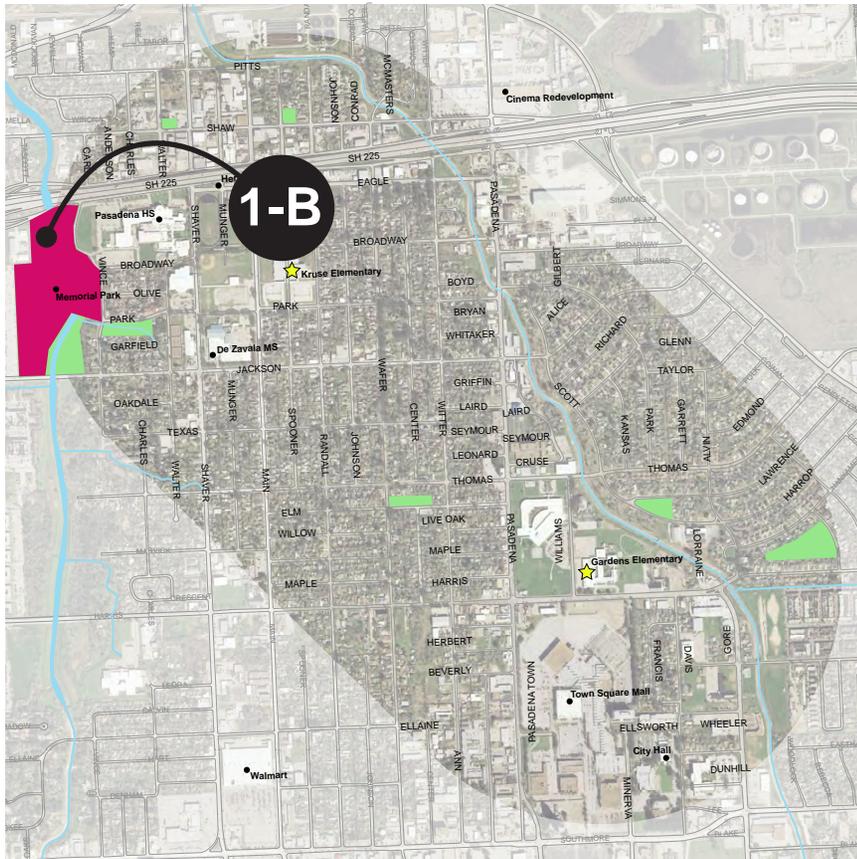
1-B Park programming at Memorial Park

Memorial Park on the northwest side of the focus neighborhood is a major recreational facility for the community, combining a wide variety of activities that appeal to a broad demographic. The activities include a walking trail, basketball courts, skate park, playground, and splash/water park. However, discussions with the community revealed a general concern for personal security at the park that prevents many people from visiting the park at the times or as frequently as they would prefer.

A wide set of strategies exist that could increase feelings of safety at the park and help it become the major regional destination that it could be, including an increased and visible police patrol presence and regularly-

scheduled park programming. Programming has been used successfully at parks such as Discovery Green in Houston, Texas to encourage a steady stream of park visitors, which can promote feelings of security through the principle of safety in numbers. Group programs and activities can include exercise programs such as Yoga or Pilates, basketball or skate tournaments, and dance lessons. These activities can occur on a regular schedule to ensure a public presence throughout the week and at cooler times of the day (morning and evening) when exercise can be desirable but when the lack of light can make the park feel less secure.

Partners: City of Pasadena Parks and Recreation, private dance and exercise training groups



Project 1-B: Park programming at Memorial Park



Image: Activities that draw crowds like Tai-Chi, Yoga, and dance classes can make parks feel safer and encourage more people to visit.

Source: Helen Liggett on www.npi-cle.org



Image: Group sports and competitions coordinated throughout the year can be another method of ensuring constant positive activity at a park.

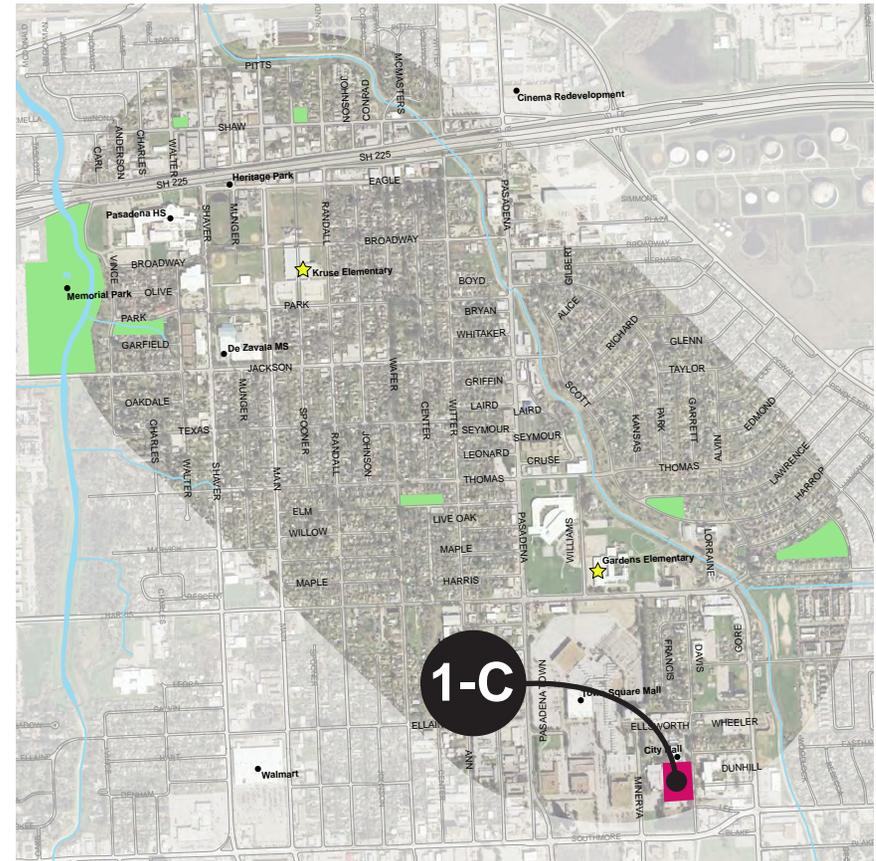
Source: www.courtsoftheworld.com

1-C Improve walkability and provide activities at City Hall Complex

The City Hall complex is located in the southeast edge of the focus neighborhood, which happens to have less green space available for residents than the neighborhood as a whole. Although the complex is the location of several important destinations including City Hall and the Central Library, the area on a whole is not very accommodating for pedestrians. Sidewalk improvements, described in project 2-C, would help improve walkability of the complex.

Additionally, further opportunities exist to make the area even more of a destination for the neighborhood and the region as a whole. There is already a large grassy field in front of City Hall. This field could host a wide variety of activities, including farmers' markets, festivals, music, and public art. There may also be opportunities to expand the field by consolidating parking areas and taking advantage of spare parking capacity at the Town Square Mall. If all the parking in front of City Hall were converted into a pedestrian plaza area, approximately 2.5 acres of open, outdoor space could be created that could be used as a central gathering place for outdoor recreational activities.

Partners: City of Pasadena, City of Pasadena Parks and Recreation



Project 1-C: Improve walkability and provide activities at City Hall Complex



Image: The field in front of City Hall could be reimagined as a major regional destination with a focus on walkability and regularly scheduled activities.



Image: Dora Colon Clavell Urban Park in Puerto Rico could serve as a model for the City Hall complex as a popular public space in an urban location. **Source:** Roca Ruiz on Flickr.



Image: Farmers markets and other activities could be brought to City Hall on a regular schedule. **Source:** Natalie Maynor on Flickr.

Element 2: Provide a Route to Get There

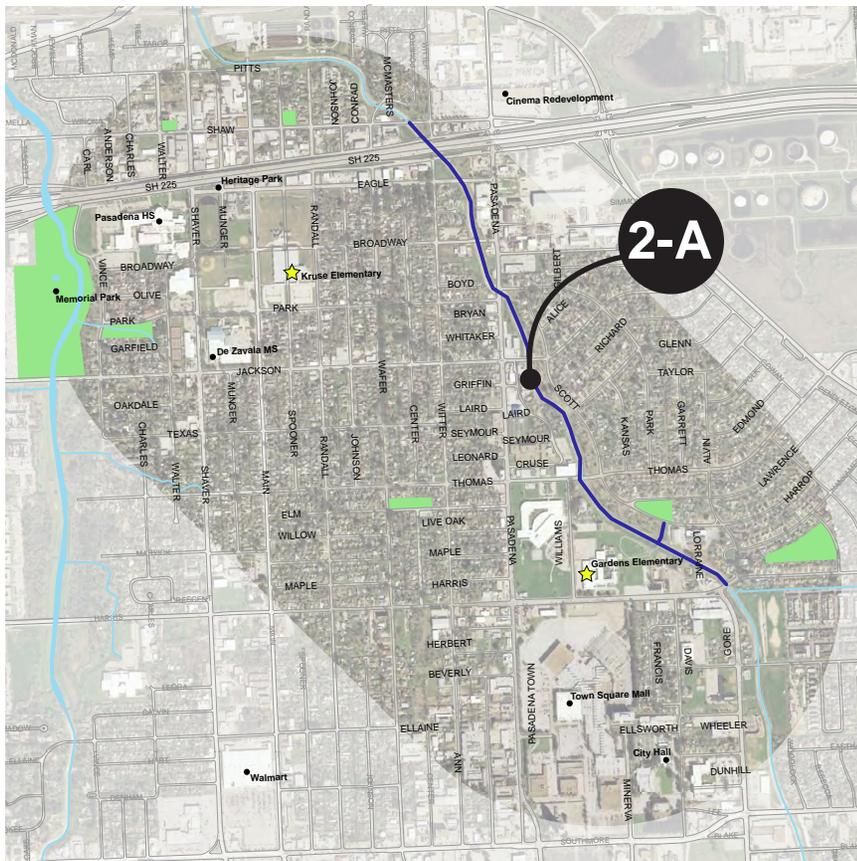
2-A Trail and linear park along Little Vince Bayou

A shared-use path/trail is recommended for construction along Little Vince Bayou between Shaw Street and Harris Avenue. This trail was identified as a priority corridor in the Pasadena Trails Master Plan (2001). If the trail is accompanied by amenities and landscaping, it could also serve as a linear park for residents in the area. The trail would serve to connect trail users to the City Hall complex on the south and to proposed bicycle

facilities on Eagle Avenue and Shaw Street on the north (see Project 4-A).

This proposed trail would be approximately 1.2 miles long. It would likely have street crossings at Thomas Avenue, Jackson Avenue, Pasadena Boulevard, Broadway Boulevard, Eagle Avenue, although it may be feasible to provide underpasses at some of these streets. It would pass underneath SH 225 with modifications to the bridge retaining walls.

Partners: City of Pasadena Parks and Recreation, Harris County Flood Control District, Texas Department of Transportation



Project 2-A: Trail and linear park along Little Vince Bayou



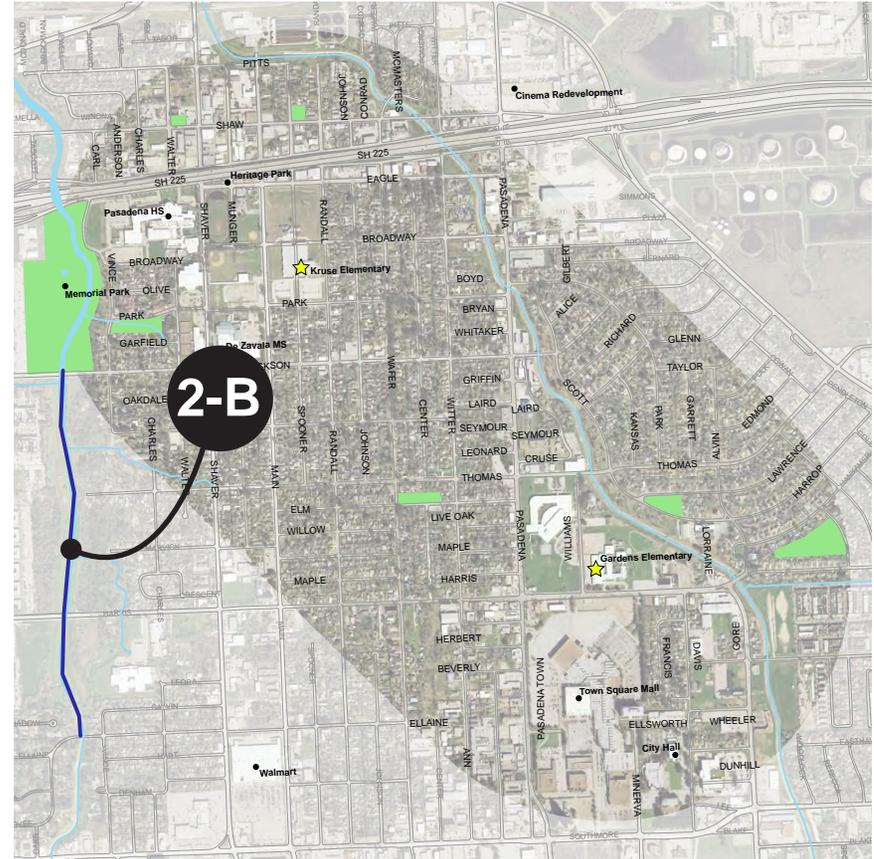
Image: Comparable hike and bike trail along Halls Bayou in Houston, Texas

2-B Trail and linear park along Vince Bayou

A shared-use path/trail is recommended for construction along Vince Bayou between Jackson Avenue and Ellaine Avenue. This trail was identified as the top priority corridor in the Pasadena Trails Master Plan (2001). If the trail is accompanied by amenities and landscaping, it could also serve as a linear park for residents in the area. The trail would serve to connect trail users to Memorial Park on the north and to proposed bicycle facilities on Harris Avenue (see Project 4-A).

This proposed trail would be approximately 0.8 miles long. It would likely have street crossings at Jackson Avenue and Harris Avenue. Additionally, a bridge would be desirable at Ellaine Street to connect both sides of the bayou to the trail. Although a trail section running north of Memorial Park under SH-225 to Shaw Street is desirable to connect the communities on either side of SH-225, the current SH 225 bridge is likely unsuitable for trail underpasses. That connection could be made if/when this part of SH-225 is rebuilt in the future.

Partners: City of Pasadena Parks and Recreation, Harris County Flood Control District, Texas Department of Transportation



Project 2-B: Trail and linear park along Vince Bayou

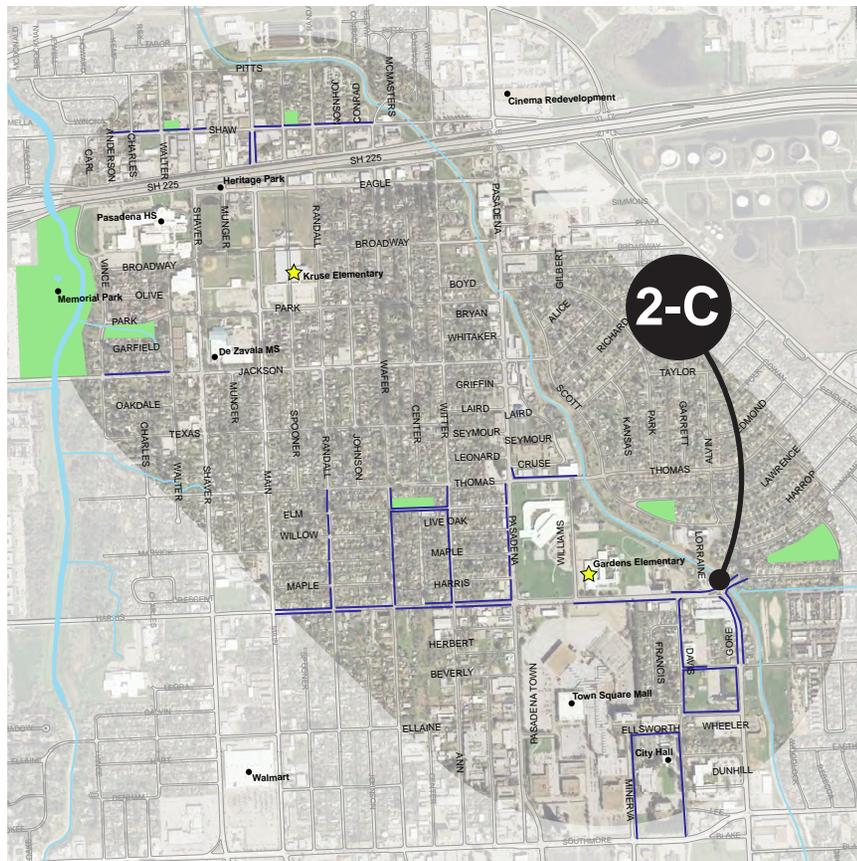


Image: Vince Bayou, looking south from Jackson Avenue at Memorial Park.

2-C Sidewalks connecting to major destinations

Although the sidewalk network is in good condition for many parts of the focus neighborhood, especially the northwestern part of the neighborhood, some critical gaps in the network were identified for connecting major destinations and along busy roads where high quality sidewalks are particularly important.

The highest priority set of sidewalk improvements are for those along major roadways including Pasadena Boulevard, Thomas Avenue, and Harris Avenue. The sidewalks around the City Hall complex are also considered high priority because they are a critical component of the vision of that area becoming a major, walkable destination (see Project



Project 2-C: Sidewalks connecting to major destinations

1-C). Additionally, one segment of sidewalk is missing along Jackson Avenue between Vince Street and Walter Street. This sidewalk is critical for connecting the neighborhood with Memorial Park and the schools along Shaver Street and Main Street.

Sidewalk gaps of secondary importance were identified along streets in the old downtown area north of SH 225. Although this area has declined in importance, there are still a number of destinations along Shaw Street including a court house and administrative buildings. Additionally, the City is considering redevelopment opportunities in the area with focus on the Capital Theater, and high quality sidewalks will be critical to ensuring the walkability of that vision.

Other sidewalks were identified in the interior of the neighborhood to ease walking trips to Harris Avenue, a major east-west corridor that connects to many important destinations.

Partners: City of Pasadena Public Works



Image: "Desire lines" along Shaw Street indicate that people are already walking here, even though there are no sidewalks.



Image: The sidewalks along Pasadena Boulevard near Thomas Street are irregular, uneven, and disrupted by many driveways.

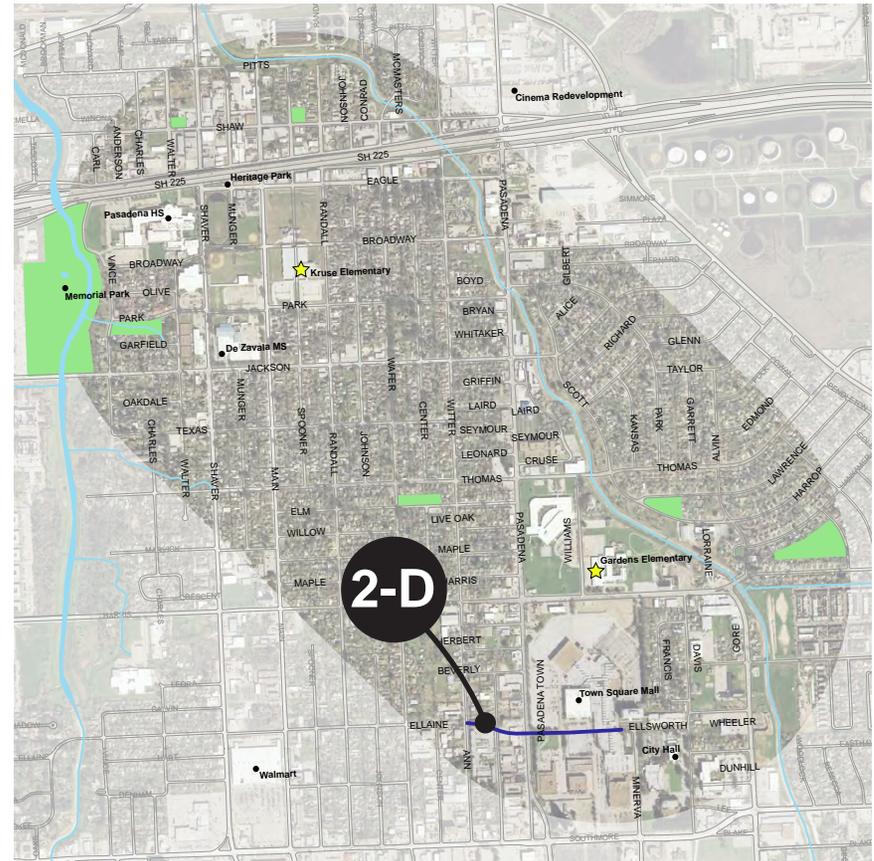
2-D Ellaine Avenue extension to City Hall

Between Harris Avenue and Southmore Avenue - a distance of 0.5 miles - there are no streets that provide significant east-west connectivity that also intersect Pasadena Boulevard. Ellaine Avenue provides good east-west connectivity from Vince Bayou to Center Street, passing Walmart on the way; however, at Center Street, Ellaine Avenue (Hamon Drive at that point) dead ends and does not connect through to Pasadena Boulevard. If Ellaine Avenue were extended east of Center Street to Jeff Ginn Memorial Drive, motorists, pedestrians, and bicyclists could all use Ellaine Avenue to more easily access the City Hall complex, which is already a major destination and could become even more of one (see Project 1-C).

Pedestrians and cyclists would especially benefit from this extension because it would give them an alternate travel route to Harris Avenue and Southmore Avenue, both of which have relatively heavy traffic volumes. It would also put far more destinations within a walkable distance of many residents. For example, a pedestrian walking from the intersection of Main Street at Ellaine Avenue to City Hall might currently walk south along Main Street to Southmore Avenue, east along Southmore Avenue to Jeff Ginn Memorial Drive, and north to Ellsworth Drive—a distance of 6,300 feet (1.2 miles) or approximately 26 minutes by foot. With the proposed extension that pedestrian could simply walk east along Ellaine Avenue to City Hall—a distance of 3,900 feet (0.74 miles) or approximately 16 minutes by foot.

The extension east of Pasadena Boulevard would pass through Pasadena Town Square; that phase of implementation could accompany any future redevelopments of the mall to make more of a true town center for the community.

Partners: City of Pasadena Public Works, private land owners, Pasadena Town Square.



Project 2-D: Ellaine Avenue extension to City Hall



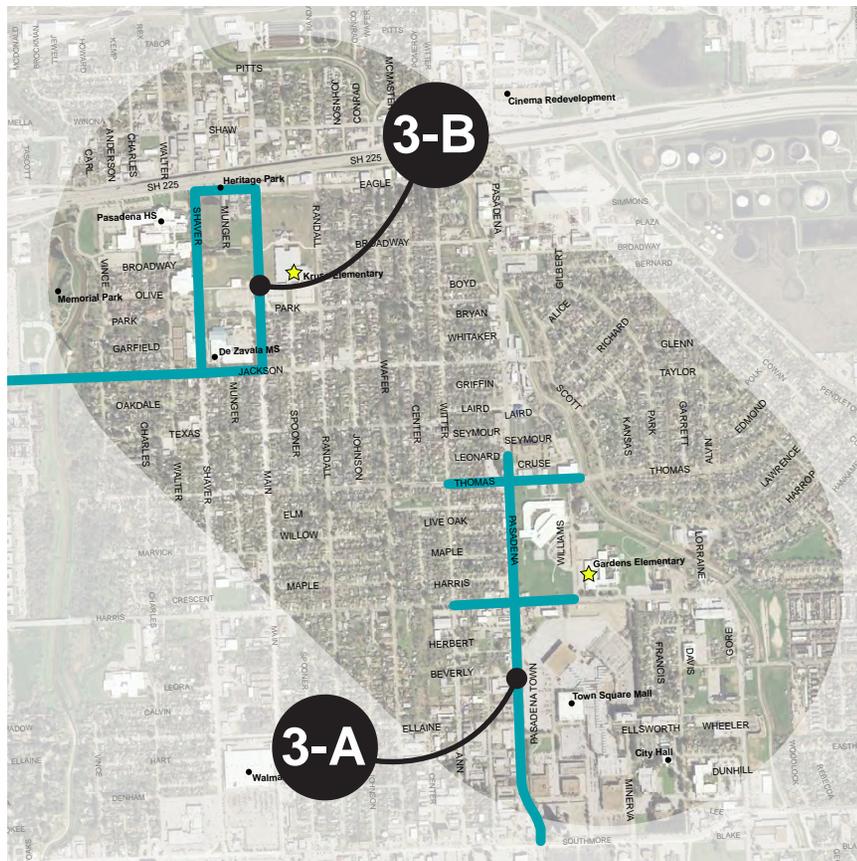
Image: Ellaine Avenue at Wafer Street looking east towards Pasadena Town Square.

Element 3: Create a Feeling of Security

3-A Pedestrian lighting along Pasadena Boulevard corridor

and

3-B Pedestrian lighting at schools, historic district, and Memorial Park



Project 3-A: Pedestrian lighting along Pasadena Boulevard corridor

Project 3-B: Pedestrian lighting at schools, historic district, and Memorial Park

Adequate pedestrian lighting can be critical for making a corridor feel safe to walk or bike alone at all hours of the day.

Improved pedestrian lighting is recommended for Pasadena Boulevard, Harris Street, and Thomas Street (Project 3-A). This corridor has the opportunity to become a major pedestrian corridor serving a number of existing and future destinations including schools, City Hall, and retail businesses. Pedestrian lighting along the corridor would make the environment feel safer and also more attractive for people walking along it.

Additionally, pedestrian lighting on Main Street, Shaver Street, Eagle Avenue, and Jackson Street in the northwest part of the focus neighborhood (Project 3-B) would serve to make that area feel safer and encourage pedestrian travel to three schools, Heritage Park and Museum, and Memorial Park. The increased security combined with these numerous destinations could help this neighborhood become very supportive of walking.



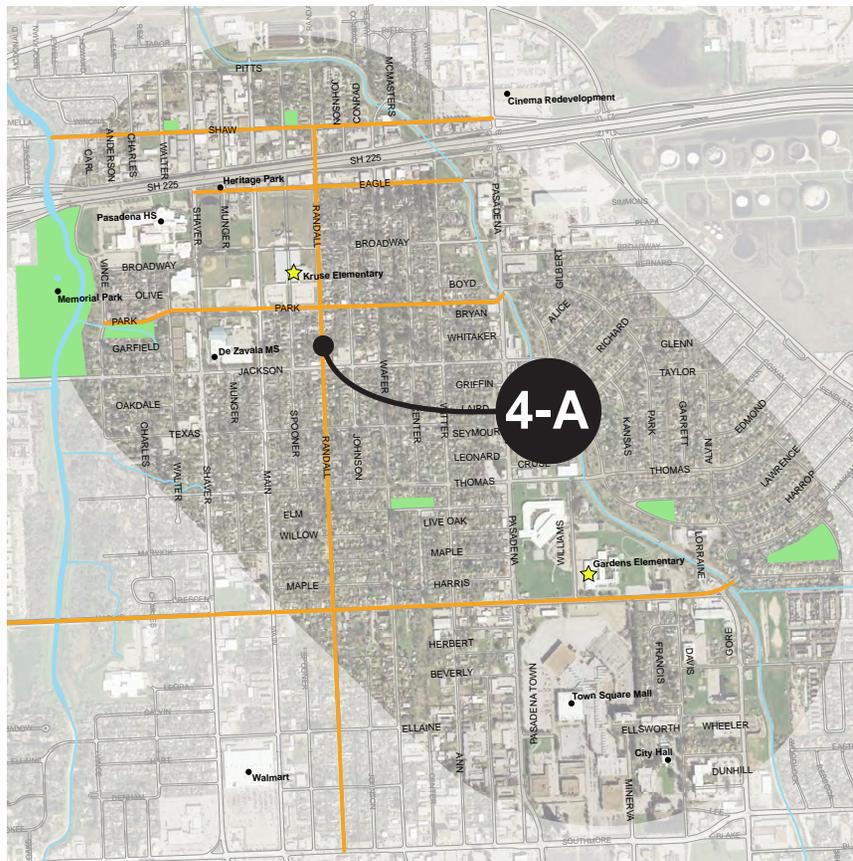
Partners: City of Pasadena Public Works, Centerpoint Energy

Image: Pedestrian lighting is oriented to the pedestrian realm, unlike traditional street lighting which provides relatively little illumination for pedestrians. *Source:* erichardson on Flickr.

Element 4: Provide Separation from Traffic

4-A Build out on-street bicycle network

Although no on-street bicycle facilities currently exist within the focus neighborhood, the robust grid of quiet local streets presents many opportunities for bicycle facilities that would appeal to a wide variety of bicycle skill levels. For particularly quiet streets, simple signage and potentially simple pavement markings in the form of shared lane marking or “sharrows” (shown in the figure at the bottom right) would likely suffice. Such signed shared roadways are proposed for:



Project 4-A: Build out on-street bicycle network

- **Shaw Street** between Vince Bayou and Pasadena Boulevard, providing bicycle circulation north of SH 225.
- **Eagle Street** between Shaver Street and Little Vince Bayou, providing east-west connectivity between the proposed trail on Little Vince Bayou (Project 2-A) and Davis High School and the Historic District.
- **Park Lane** between Vince Street and Little Vince Bayou, providing east-west connectivity between the existing trail at Memorial Park, De Zavala Middle School, Kruse Elementary School, and the proposed trail on Little Vince Bayou (Project 2-A).
- **Randall Street** between Shaw Street and Southmore Boulevard, providing a north-south spine through the focus neighborhood that connects all other proposed on-street facilities.

Additionally, one bike lane is proposed to physically separate bicyclists from relatively heavy traffic volumes:

- **Harris Boulevard** between Richey Street and Little Vince Bayou. The number of general purpose lanes may need to be modified to accommodate the bike lane on some sections, but other sections have wide lanes that could be narrowed.

Partners: City of Pasadena Public Works



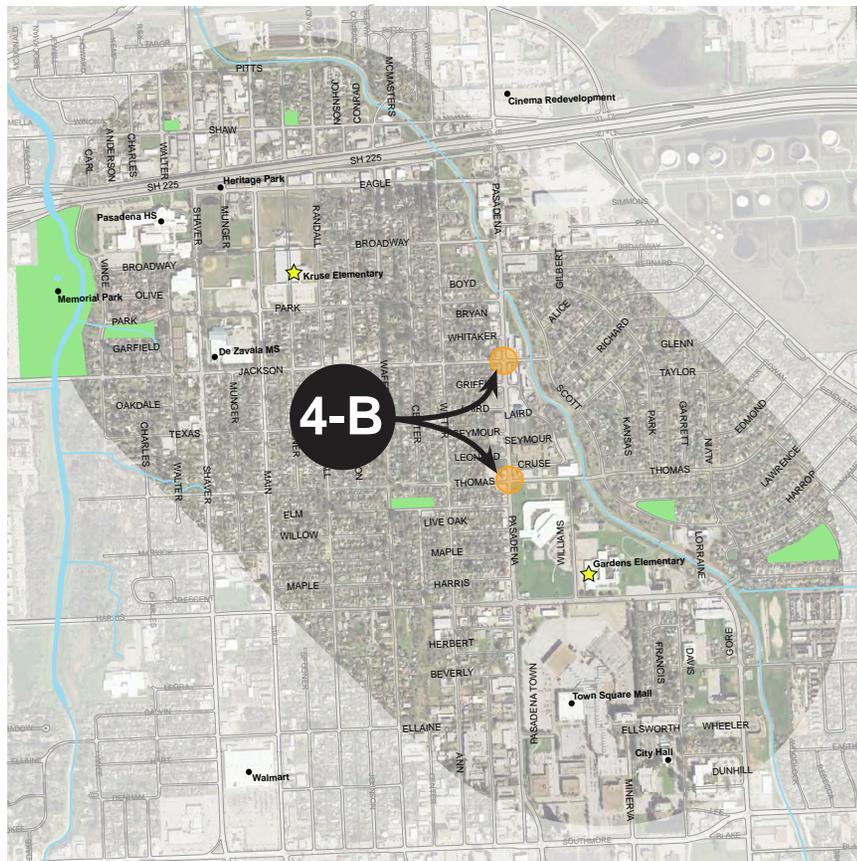
Image: Signed shared roadway with sharrows
Source: www.flickr.com / The Bike Fed.



Image: Bike lanes
Source: www.pedbikeimages.org / Dan Burden.

4-B Improvements to pedestrian realm at intersections along Pasadena Boulevard

Pasadena Boulevard has the heaviest traffic volumes of any road in the focus neighborhood. It is also the location for many destinations, including schools, businesses, and Pasadena Town Square. Ensuring that each major intersection along the boulevard has adequate pedestrian accommodations is critical for ensuring that pedestrians can cross the road and walk along it safely and comfortably. Thomas Avenue and Jackson Street were identified as particularly important intersections because they are both signalized and they both cross Little Vince Bayou and therefore connect the neighborhoods on either side of the bayou.



Projects 4-B: Improvements to pedestrian realm at intersections along Pasadena Boulevard

Improvements to the pedestrian realm were identified for both intersections, including: new wheelchair curb ramps, pedestrian signals, and new crosswalk striping.

Partners: City of Pasadena Public Works



Image: The intersection of Thomas Avenue at Pasadena Boulevard is missing ramps on two corners and has no pedestrian signals on any crossing.



Image: Crosswalk markings are present, but lack of some curb ramps makes the intersection inaccessible for wheelchair users.



Image: Jackson Avenue is an important east-west connection because it crosses Little Vince Bayou.



Image: No curb ramps or pedestrian signals are present at the intersection of Jackson Avenue at Pasadena Boulevard.

4-C Traffic signals on Ellaine Avenue to improve access to Walmart

The Walmart store located on Southmore Boulevard between Shaver Street and Main Street is an important destination for groceries and consumer products for residents of the focus neighborhood. However, access to the store can be challenging for pedestrians, particularly those coming from the east and west who must cross Shaver Street or Main Street. The designated route for pedestrians coming to Walmart from these areas is to travel south past Walmart to cross Shaver Street and Main Street at Southmore Boulevard, which can add up to 1,400 feet (0.26 miles) and approximately 8 minutes to the walking trip.

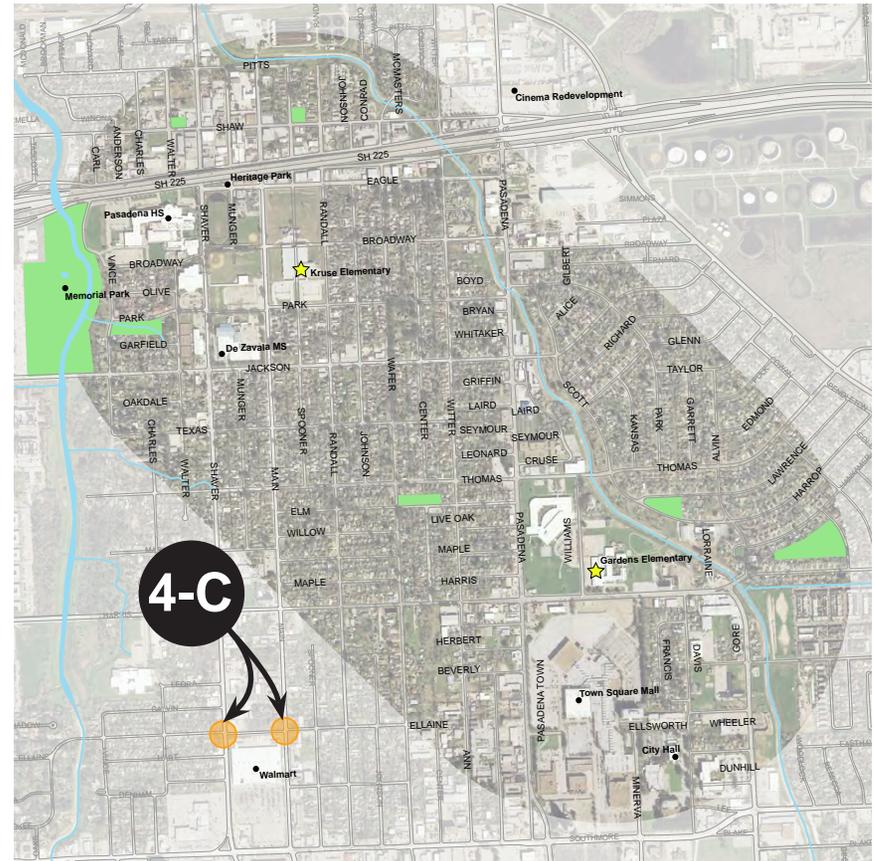
Traffic signals or hybrid pedestrian beacons (special signal systems for pedestrians that are less costly than full traffic signals) are recommended for installation at the intersections of Ellaine Avenue at Shaver Street and Ellaine Avenue at Main Street. Traffic signals at these locations would provide pedestrians a designated time to cross the roads without having to feel rushed. These signals could be timed to provide cross-street green only when triggered by a pedestrian or waiting vehicle, thereby minimizing impacts to traffic along Shaver Street and Main Street. Traffic signals or hybrid pedestrian beacons at these locations would also complement the recommended extension of Ellaine Avenue into City Hall (Project 2-D). Together, these two projects would provide a continuous, low-traffic route for bicyclists and pedestrians between Walmart and City Hall.

Partners: City of Pasadena Public Works, Walmart

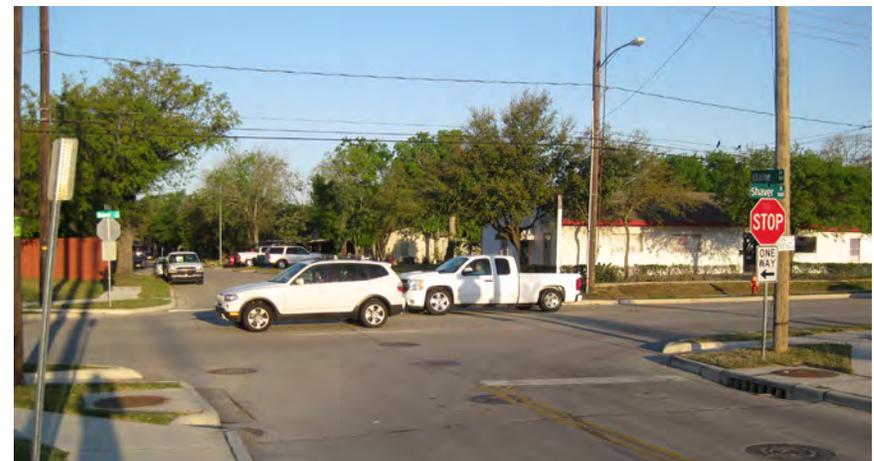


Image: Hybrid pedestrian beacons ease pedestrian crossings of busy roads with less impact on traffic than a full traffic signal.

Image: Traffic on Shaver Street at Ellaine Avenue. A traffic signal here would assist pedestrians trying to cross Shaver Street to access Walmart.



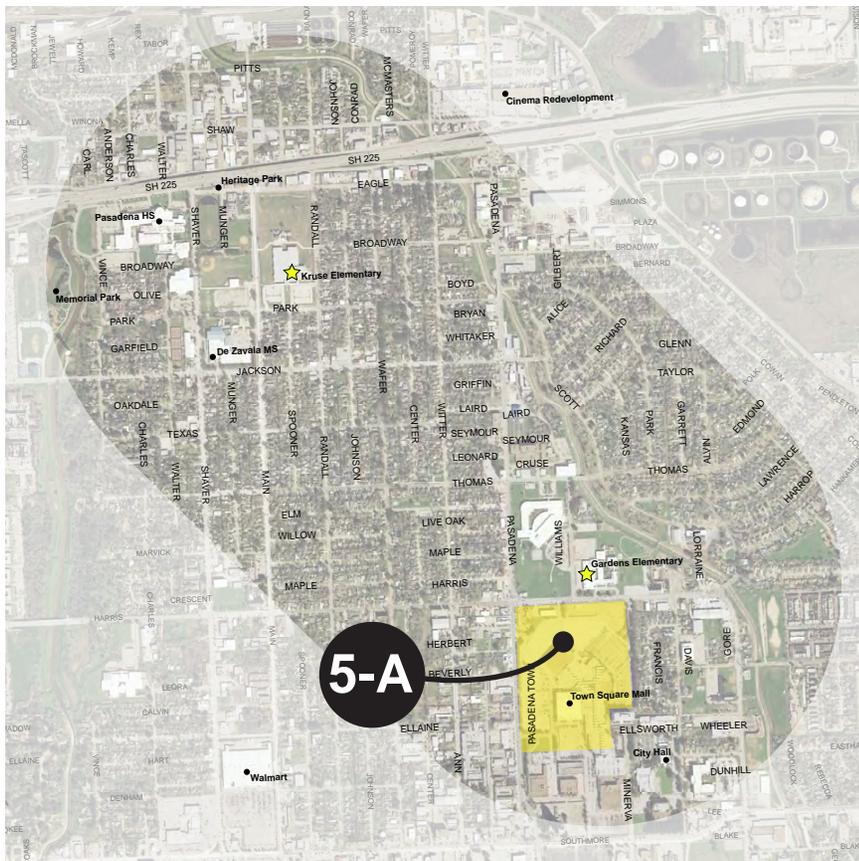
Project 4-C: Traffic signals on Ellaine Avenue to improve access to Walmart



Element 5: Create an Interesting Environment

5-A Support redevelopment of Town Square Mall to encourage walkability

The Pasadena Town Square mall is over 30 years old and will likely be redeveloped over the coming decades to match changing consumer shopping patterns. Encouragement could be provided for the redevelopment to focus on both improving the pedestrian environment within the site and connecting seamlessly with the surrounding



Project 5-A: Support redevelopment of Town Square Mall to encourage walkability

neighborhoods to bolster their walkability.

In the short-term, the mall could follow the development patterns of other malls, such as the First Colony Mall in Sugar Land, by filling in parking lot areas with walkable, outdoor pedestrian plazas.

Partners: Pasadena Town Square mall, private developers



Image: Woman walks with child across Town Square mall parking lot. The parking lot can be a major barrier for pedestrians.



Image: Pearland Town Center was built as a walkable lifestyle center, which could be a model for a redevelopment of Town Square mall.

Source: www.remattexas.com



Image: First Colony Mall in Sugar Land underwent infill development on a former parking lot to retrofit walkability into the mall. Source: Google Earth



Image: The main alley at First Colony Mall provides a landscaped walkway connecting the mall to the surrounding neighborhood.

Source: www.hellohouston.com

Built Environment Implementation Strategy

Prioritization Factors

The conceptual plan projects described in the previous section were all identified as high-priority projects through the project team's evaluation of existing conditions, analysis of gaps for encouraging and enabling healthy lifestyles, and feedback from stakeholders and the public meetings. The Built Environment Framework discussed in Chapter 1 was used to build a holistic conceptual plan that prioritizes infrastructure projects that would have the most impact on community physical activity and other health outcomes. If all recommendations are implemented, living healthy, active lifestyles that incorporate active transportation modes, recreational exercise and activities, and affordable, healthy foods should become more accessible for residents of the community. As such, all projects are recommended for implementation.

However, the scarcity of implementation resources demands that even a set of high-priority projects such as these be further prioritized so as to take advantage of funding mechanisms as they become available. Additionally, some projects have longer lead times than others, including time for design, potential right-of-way acquisition, and the need to coordinate with the timelines of other, related projects.

Conceptual plan projects were therefore further prioritized into three categories:

- **Short Term (Table 4.1):** These projects tend to be lower cost and require minimal coordination with other projects and thus can potentially be implemented within **1-3 years**
- **Medium Term (Table 4.2):** These projects have medium to high costs and may require changes to local planning documents, but could conceivably be implemented within **3-5 years**.
- **Long Term (Table 4.3):** These projects either have higher implementation costs or require coordination with other projects and thus will likely take **more than 5 years** to complete.

The primary factors that were used to classify projects into these buckets of priority were: community support, ease of implementation, and project cost. These factors are discussed below.

Prioritization Factor: Community Support

During the second round of public meetings, meeting participants were asked to vote for projects to indicate their belief of the relative ability of each project to achieve healthy outcomes for their community.

The projects were grouped into quartiles based on the number of votes received. The quartiles are indicated in **Figure 4.8**.

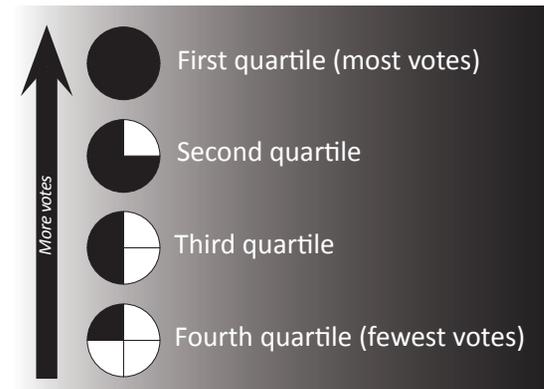


Figure 4.8 - Prioritization scale for Community Support



Image: Meeting participants using voting stickers to prioritize projects according to expected health outcomes

Prioritization Factor: Ease of Implementation

Prioritization of projects included a qualitative assessment of each project's ease of implementation. This assessment included consideration of:

- Cost
- Potential funding opportunities
- Right-of-way requirements
- Project design
- Agency review cycle of design
- Required coordination with other projects/agencies
- Required changes to local planning documents (e.g. changes to a major thoroughfare plan)
- Community support
- Identification of local sponsors and/or champions

Projects were ranked from easiest to implement to most challenging to implement as shown in **Figure 4.9**.

Prioritization Factor: Cost

Project costs were estimated using a wide variety of sources. For infrastructure projects with clearly defined elements, such as a bayou trail, TxDOT 12-month moving average bid prices (current as of May 3, 2013), were used to price individual project components. For projects with less specificity, such as a new park within a general vicinity, cost were estimated based on costs from similar projects of similar scope and scale. Other projects, such as improved coordination with local law enforcement agencies, were assumed to require no additional costs.

Detailed cost estimates for each project with project components are included in **Appendix L**.

Finding adequate funding to cover these costs is critical for project implementation but can sometimes be a challenge. Potential funding opportunities are discussed in detail in Chapter 5 of this report.

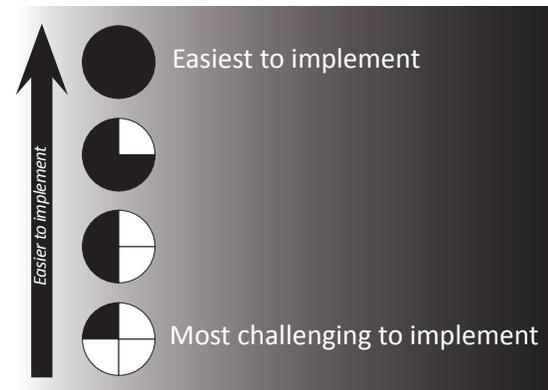
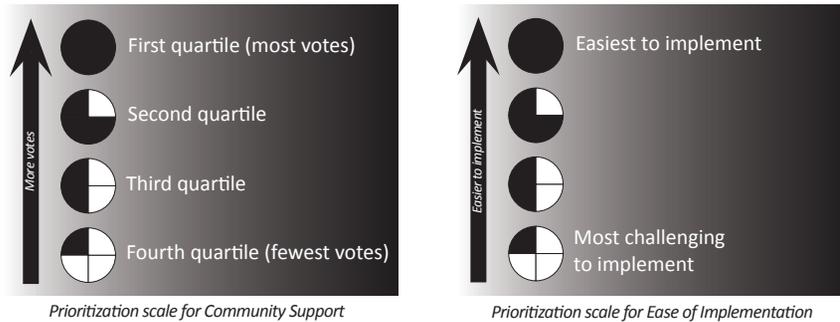


Figure 4.9 - Prioritization scale for Ease of Implementation

Implementation Tables

Table 4.1, Table 4.2, and Table 4.3 list the conceptual plan projects for the short-term, medium-term, and long-term, respectively. For each project, the prioritization factors are indicated, and the prioritization scales from **Figure 4.8** and **Figure 4.9** are summarized below for reference.



Additionally, potential implementation partners and potential project benefits are summarized on the tables for easy reference. These are described in more detail below.

Potential Partners

Potential community partners were identified for each project that may be able to play an important role in project implementation. Some partners may have resources available for project funding or could lend support in an application for funding. Other partners might not be able to provide direct funding, but they may be able to provide expertise and guidance during the implementation process. They may also be important stakeholders during the project review and approval process and should be engaged early and often. The implementation partners listed here are the same as those indicated in the Conceptual Plan section for each project.

Potential Benefits

Major benefits as they relate to healthy community outcomes are summarized for each project. These are summaries of the detailed project descriptions included in the Built Environment Conceptual Plan Section.

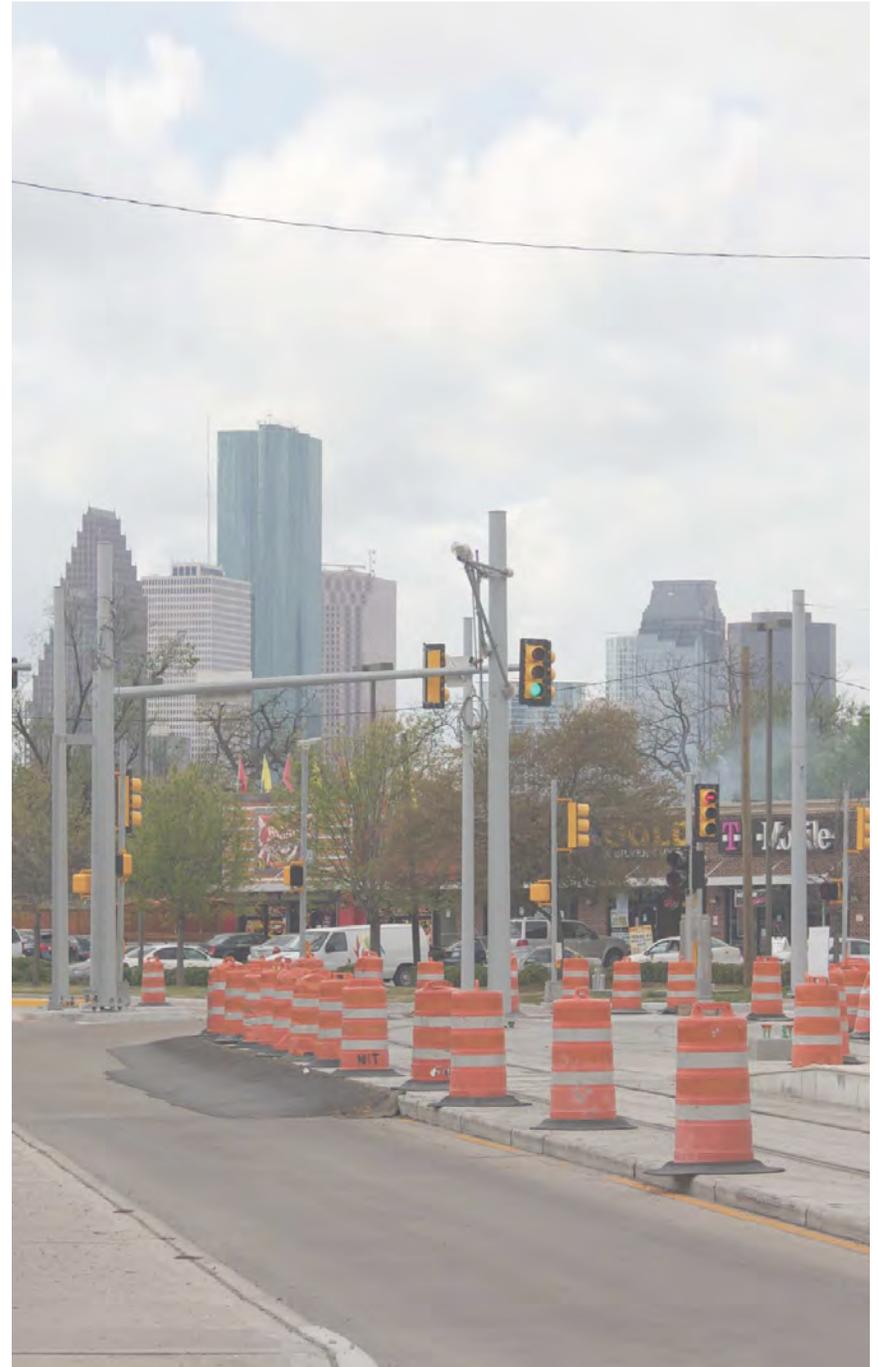


Table 4.1 - Short Term Implementation Schedule

| Project ID | Project Description | Community Support | Ease of Implementation | Cost | Potential Partners | Potential Benefits |
|------------|--|---|---|----------|---|---|
| 1-B | Park programming at Memorial Park |  |  | - | City of Pasadena Parks and Recreation, private dance and exercise training groups | Park programming will provide more opportunities for physical activity, and will improve safety by encouraging larger groups to use the park. |
| 4-A | Build out on-street bicycle network with bike routes and bike lanes |  |  | \$85,000 | City of Pasadena Public Works | A bicycle network will provide bicyclists with safer travel routes, thereby encouraging bicycling by those who typically do not ride in the street. |
| 4-B | Improvements to pedestrian realm at intersections along Pasadena Blvd. |  |  | \$65,000 | City of Pasadena Public Works | Will improve crossings for pedestrians and bicyclists of the major barrier that is Pasadena Blvd. and increase access to adjacent destinations. |
| 5-A | Support redevelopment of Town Square Mall to encourage walkability |  |  | - | Pasadena Town Square mall, private developers | This large area of land provides an opportunity to create a regional landmark and destination for walkability. |

Table 4.2 - Medium Term Implementation Schedule

| Project ID | Project Description | Community Support | Ease of Implementation | Cost | Potential Partners | Potential Benefits |
|------------|---|---|---|-------------|---|---|
| 1-C | Provide activities and improve walkability at City Hall complex |  |  | \$286,000 | City of Pasadena, City of Pasadena Parks and Recreation | Would emphasize the park-like environment around City Hall with many recreational activities in a part of town with fewer outdoor recreation opportunities. |
| 2-C | Sidewalks leading to major destinations |  |  | \$1,274,000 | City of Pasadena Public Works | The identified sidewalks would provide pedestrian connections to and along major roadway corridors that connect to schools and other destinations. |
| 3-A | Pedestrian lighting along Pasadena Blvd. |  |  | \$810,000 | City of Pasadena Public Works, Centerpoint Energy | Lighting provides a crucial element of safety. The lights will encourage walking to/from the many destinations along Pasadena Blvd. |
| 4-C | Traffic signals on Ellaine Ave. to improve access to Walmart |  |  | \$500,000 | City of Pasadena Public Works | Will provide easier crossings of major roads for pedestrians attempting to access Walmart, a major regional destination. |

Table 4.3 - Long Term Implementation Schedule

| Project ID | Project Description | Community Support | Ease of Implementation | Cost | Potential Partners | Potential Benefits |
|------------|--|---|---|-------------|---|---|
| 1-A | Neighborhood park on Harris Street |  |  | \$1,679,000 | City of Pasadena Parks and Recreation, private land owners | The southwest part of the neighborhood has fewer park resources; this park would provide those residents with outdoor recreational activities. |
| 2-A | Trail and linear park along Little Vince Bayou |  |  | \$433,000 | City of Pasadena Parks and Recreation, Harris County Flood Control District, Texas Department of Transportation | Would serve as a linear park for exercise by walking and biking and would connect to neighborhoods, schools, and other destinations. |
| 2-B | Trail and linear park along Vince Bayou |  |  | \$420,000 | City of Pasadena Parks and Recreation, Harris County Flood Control District, Texas Department of Transportation | Would provide a connection for walking and biking to Memorial Park, Pasadena High School, and residential neighborhoods. Would also serve as a linear park. |
| 2-D | Ellaine Ave. extension to City Hall |  |  | \$3,500,000 | City of Pasadena Public Works, private land owners, Pasadena Town Square | Would decrease travel distance between neighborhoods, Town Square Mall, and City Hall, increasing the opportunities for walking and biking. |
| 3-B | Pedestrian lighting at schools, historic district, and Memorial Park |  |  | \$840,000 | City of Pasadena Public Works, Centerpoint Energy | Lighting in this area would complement the various, unique destination that exist and making walking and biking to/from them feel safer. |

See Appendix L for detailed cost estimates for all projects.

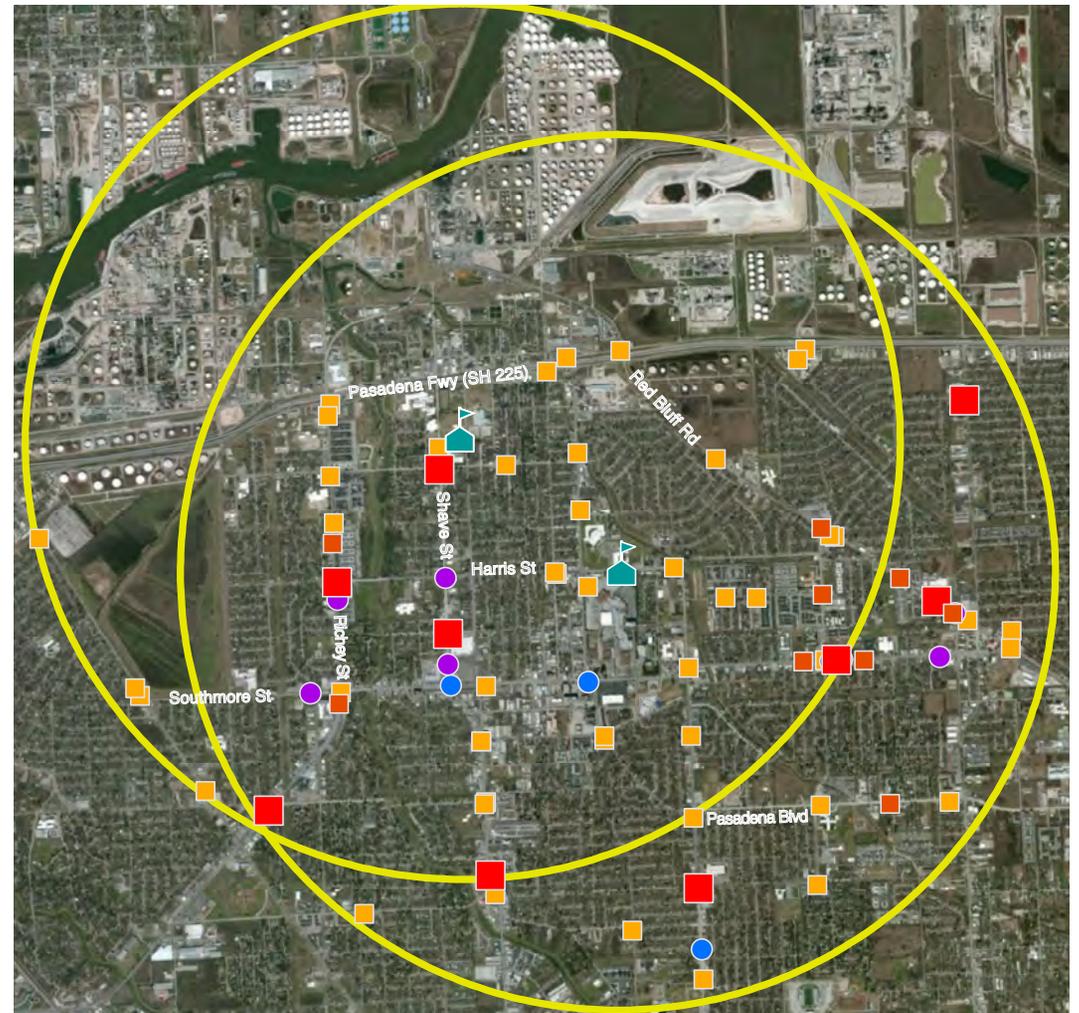
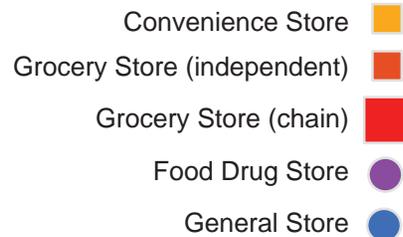
Healthy Food Access Study

Summary of Market Basket Survey

Within a two-mile radius of Kruse and Gardens elementary schools there are 81 food stores, including 2 Food Town stores, 2 Seller Bros. stores, 1 Kroger, 1 Wal-Mart, 1 La Michoacana, and 1 El Ahorro.

Of these stores, 35 were visited to be surveyed. Only 24 stores permitted surveyors to complete the survey: 3 grocery stores, 17 convenience stores, 1 food drug combo store, and 3 general discount stores. Food availability in the neighborhood as determined by the market basket survey is included in **Appendix M**.

| Store Type | 2-miles radius | Surveyed | Not allowed to survey |
|-------------|----------------|----------|-----------------------|
| Convenience | 48 | 17 | 4 |
| General | 11 | 3 | 0 |
| Grocery | 18 | 3 | 1 |
| Food Drug | 4 | 1 | 0 |
| Total | 81 | 24 | 5 |



While the priority area in Pasadena has a diversity of food retail options, the availability of foods, particularly healthy options, is not as diverse. Of the 133 food items surveyed for availability using TxNEA, the grocery stores surveyed do not carry 13 of the items and the general stores do not carry 21 of the items. The convenience stores do not carry 62 items and the food drug stores do not carry 91 items, mainly fresh and frozen fruits and vegetables. Overall, the items least found are bulk items. Only one store surveyed in Pasadena carries bulk items. Bulk sections are not a common occurrence in smaller food retail stores but are an important option because bulk items tend to be cheaper.

In addition to limited bulk options, families in Pasadena also have limited healthy food options. In order to maintain a healthy diet, the USDA recommends that families opt for low-fat milk and whole grains, and eat lots of fruits and vegetables.¹ Like the other two focus neighborhoods, these recommended healthier options are less available. Of all of the stores surveyed, only seven carry skim milk, and even fewer carry 1% milk, whereas 20 stores carry whole milk. No convenience and food drug stores carry 1% milk. Only one convenience store and one food drug store carry skim milk. On average though, 1% and skim milk are cheaper per ounce than whole or 2% milk.

Whole grains, like whole wheat bread, brown rice and shredded wheat cereal, are a rarity in Pasadena. Whole wheat bread and brown rice are only available at 5 of the 24 stores surveyed while white bread can be found in 15 stores and white rice in 20 stores. No convenience stores stock whole wheat bread. No convenience stores or food drug stores carry brown rice, whole wheat hamburger buns or whole wheat hotdog buns. Shredded wheat cereal is available at 10 of the 24 surveyed stores while frosted flakes and sugared fruit ring cereals are available in 19 stores. On average, shredded wheat cereal costs less per ounce than frosted flakes or sugared fruit ring cereals.

The availability of fruits and vegetables is limited primarily to grocery and general stores. Food drug stores do not carry fresh fruits or vegetables. Apples, bananas, oranges, onions, and tomatoes are found in up to three of the 17 convenience stores. Since the USDA recommends that at least half of one's plate be fruits and vegetables, the lack of availability of fresh

¹ [USDA ChooseMyPlate.gov](http://www.usda.gov/choosemyplate)

Table 4.4 - Thrifty Food Plan

| Food Category | Lbs. per week | Amount spent weekly |
|--------------------------------|---------------|---------------------|
| Whole grains | 6.67 | \$9.98 |
| Whole grain cereal | 0.62 | 2.25 |
| Non-whole grain bread | 6.37 | 10.32 |
| Dark green veggies | 5.72 | 11.19 |
| Orange veggies | 5.09 | 5.56 |
| Canned beans | 4.89 | 6.61 |
| Other veggies | 9.99 | 12.52 |
| Whole fruit | 18.58 | 21.45 |
| Whole milk | 2.13 | 1.08 |
| Low fat milk | 40.07 | 19.43 |
| Cheese | 0.13 | 0.58 |
| Total Cost for a Family | | \$100.99 |

Table 4.5 - Pasadena Food Prices

| Food Item | Lowest Avg. Price per lb. | Weekly expenditure (lbs. x lowest price) |
|--------------------------------|---------------------------|--|
| Brown rice | 0.62 | \$4.13 |
| Oatmeal | 0.88 | 0.54 |
| White rice | 0.58 | 3.70 |
| Greens | 0.33 | 1.89 |
| Carrots | 0.60 | 3.05 |
| Canned beans | 0.66 | 3.24 |
| Cucumber | 0.40 | 4.00 |
| Oranges | 0.35 | 6.50 |
| Whole Milk (gal) | 0.34 | 0.73 |
| 2% Milk (gal) | 0.34 | 13.66 |
| Mozzarella | 0.80 | 0.10 |
| Total Cost for a Family | | \$41.54 |

produce at stores forces families to go to multiple stores or travel greater distances to fulfill their food needs. The limited selection of healthy options overall makes it hard for families in Pasadena to maintain consistent, healthy diets.

One measure to gauge how affordable a nutritious diet is in an area is to compare the availability and price of foods in Pasadena to the USDA Thrifty Food Plan (TFP). TFP is a “national standard for a nutritious diet at a minimal cost”¹ The table to the right shows the number of pounds of food a family of four (mother, father, child age 6-8 and child age 9-11) would consume in a week, and the cost of the food. For Pasadena, the lowest average price per pound of a food item was used to estimate the weekly cost of food for a family of four. The total weekly expenditure in Pasadena is well below that of the Thrifty Food Plan and is the lowest of all three priority groups. The TFP food basket in Pasadena is almost \$10 less than the basket from Kashmere Gardens and \$12 less than the basket from Near Northside. TFP does not take into consideration regional variations in food prices and therefore, may not be a good measure of food security for Texas. The variations in price though are a good indicator of variations in neighborhood characteristics.

Of note is that Pasadena has a wider selection of stores that carry refried beans, corn and flour tortillas and queso fresco, panela, and oaxaca than the other priority communities. The availability of these items reflects the food traditions of families in Pasadena and is important to consider for cooking and nutrition education classes to ensure that the information is culturally relevant.

¹ Carlson, A., Lino, M., Juan, Y., Hanson, K., Basiotis, P.P. (2007) *Thrifty Food Plan, 2006*. USDA Center for Nutrition Policy and Promotion, CNPP-19.

Summary of Healthy Eating Survey

According to most respondents and all focus group participants¹, childhood obesity is a problem. Fifty-three percent of respondents are very concerned and 41% are concerned about childhood obesity. When asked if respondents are concerned about obesity in their child, 72% indicated that they are concerned or very concerned; however, 10% indicated that they are not concerned at all. This shift in concern from a global to a personal problem was also reflected in focus group discussions. When asked if childhood obesity is a problem in their community, the answers were mixed. Most focus group participants were concerned about the problem in general but not necessarily in their community. This view was different from that of the other two communities where focus group participants viewed childhood obesity to be an issue across the nation and in their communities.

To provide food for their families, most respondents travel up to 5 miles to buy groceries: 23% travel less than a mile and 61% travel between 1 to 5 miles to get groceries. The most frequently noted places to buy groceries are Food Town, Wal-Mart, and HEB or Mi Tienda, followed by Kroger, Sellers Bros. and Fiesta. A Food Town, a Wal-Mart, a Kroger and a Sellers Bros. store are all within 2 miles of Kruse and Gardens. Several respondents also listed purchasing groceries from some of the smaller meat market style stores, like La Michoacana, El Ahorro and Bravo Rancho.

Of most importance when grocery shopping for respondents and focus group participants is the price and nutritional value of food, far above quality, convenience and variety. When asked how satisfied people are with the price of food at the stores where they buy food, 18% reported to be somewhat dissatisfied and 29% are somewhat satisfied. Only 13% of respondents are completely satisfied.

¹ There are 103 survey responses from 77502 and 77506: 49 responses are from focus group participants, 40 responses are from surveys completed in Spanish, and 98 respondents report to have children.

What is your role in deciding what your children eat?

| | |
|--|--------------|
| I'm not involved at all | 4.5% |
| I'm somewhat involved | 4.5% |
| I'm very involved, but not the main person | 9% |
| I'm the main person who cooks and shops for food | 80.9% |
| I don't have children | 1.1% |

How often do you shop for food?

| | |
|-----------------------|--------------|
| More than once a week | 33% |
| Once a week | 53.6% |
| Every other week | 12.4% |
| Once a month | 1% |

How far do you travel to shop for food?

| | |
|---------------|--------------|
| Under 1 mile | 22.9% |
| 1 - 5 miles | 61.5% |
| 6 - 10 miles | 11.5% |
| Over 10 miles | 4.2% |

| How many meals a week do you eat. . . | at home? | out? |
|---------------------------------------|----------|-------|
| 0 | 0 | 4.8% |
| 1 | 2.1% | 53% |
| 2 | 4.3% | 26.5% |
| 3 | 13.8% | 9.6% |
| 4 | 19.1% | 3.6% |
| 5 | 60.6% | 2.4% |

How satisfied are you with the fruits & vegetables where you shop?

| | Availability | Variety | Quality | Price |
|-------------------------|--------------|---------|---------|-------|
| Completely dissatisfied | 3.5% | 3.5% | 2.3% | 9.2% |
| Very dissatisfied | 3.5% | 3.5% | 4.6% | 4.6% |
| Somewhat dissatisfied | 12.8% | 12.6% | 14.8% | 18.4% |
| Somewhat satisfied | 30.2% | 32.2% | 22.7% | 28.7% |
| Very satisfied | 36.1% | 33.3% | 35.2% | 26.4% |
| Completely satisfied | 14% | 15% | 20.5% | 12.6% |

Summary of Focus Groups

For families in Pasadena, the best way to keep kids healthy is through routine exercise and a balanced diet. Achieving these goals is difficult when parks are not equipped with playscapes for children to enjoy and they are not safe, and when healthy food is expensive. Distractions like video games and fast food restaurants also make it hard to be active and eat healthy. Parents point to myriad reasons for the problem of childhood obesity, from video games to not controlling what children eat and from the quality of parks to the quality of school lunch.

Of particular concern is the quality of school lunches. Parents perceive school lunch to be unacceptable. There is a lack of variety in the menu and children do not like the food so there is a lot of waste, both food and financial waste, because students are not eating the food. Many children opt not to eat the school lunch leaving them hungry at the end of the day. To end their hunger, parents will run through a fast food restaurant. Fast food was discussed multiple times as a convenient and cheap option to immediately fulfill the needs of a hungry child, as an option for families when there is a lack of time to cook dinner because both parents work, and as an option because healthy food is expensive. Parents also recognize though that fast food is unhealthy. To raise awareness about the unacceptable quality of food served in the cafeteria, parents suggested inviting elected officials to join the children for a meal at lunchtime as well as video taping the amount of food that gets thrown away because students are not eating the food served in the school cafeterias.

Overwhelmingly, parents point to themselves as being responsible for the health of their children. Most parents also point to schools to reinforce healthy habits since kids spend 8 hours a day, 5 days a week at school. Government is also responsible, especially for the condition of parks and of school lunch, but its role in school lunch is perceived negatively. Parents therefore want to help inform decisions about school meals and nutrition policies. Overwhelmingly, when its about their children, parents are motivated to act.

What contributes to childhood obesity is...

- Parental control of what kids eat
- Convenience & cheap cost of fast food
- No exercise due to electronic games
- Insufficient time to cook when both parents work
- Lack of safety

To be healthy, kids need...

- Routine exercise (sports)
- A balanced diet
- Knowledge of healthy eating habits
- Rules to limit time playing video games
- Smaller portions and to only eat snacks and sodas on occasion

What affects my family's ability to eat healthy...

- Price of healthy food
- School lunch is unhealthy and not appealing to kids
- Fast food is cheap and convenient
- Kids are picky about what they eat and do not like healthy food
- Parent knowledge of healthy eating

The responsibility of keeping kids healthy is on...

- Parents: to model healthy behaviors and teach children healthy habits
- Schools: to reinforce healthy habits
- Government: to provide services and environments that make it safe and desirable for kids to play outside and eat healthy food

To create healthier environments for kids in Pasadena, you need to...

- Improve the safety of the parks by:
 - Installing lighting
 - Increasing patrolling in the evenings
 - Capturing loose dogs
- Give parents a role in decisions about the health of their children in schools
- Mandate physical education classes at all schools
- Improve school lunch by:
 - Installing a self-serve salad bar
 - Varying the menu and making it appealing to kids

Healthy Food Access Plan

Compared to the other two priority neighborhoods for Healthy Living Matters, the City of Pasadena is a food swamp. There are a variety of store types and of varying sizes, run by a variety of companies that residents can choose from for their grocery shopping excursions. They also have multiple options for fast food and limited options for healthy food alternatives. In order for families to ascribe to the recommendations of the federal government for a healthy diet, residents need to be able to have access to and afford the recommended foods. They also need to be able to understand those recommendations and how to follow them. As pointed out during the focus groups, parents are the role models for their kids, so if they do not eat healthy, their children will not have healthy habits.

Parents are not the only role models though. Schools also play an important role in the dietary health of children since many kids eat up to three meals a day at school. For this reason, school meals need to be healthy and desirable for students. Based on parent feedback during focus groups, school lunch in Pasadena is anything but edible.

Based on the information gathered from the food inventory, market basket survey, survey of families and focus groups with parents, Healthy Living Matters recommends the following strategies to help improve the food environment in Pasadena:

1. Create a Parent Health Committee

2. Enact an Interim Control Ordinance

3. Pass a Healthy Food Retail Ordinance

4. Create Community Gardens

5. Advocate for Healthy Food Policies

6. Offer Cooking Education Classes

Recommendation 1: Create a Parent Health Committee at Each School

Provide parents a voice in decisions about school meals and health programs by requiring each school in Pasadena ISD to have a parent health committee and that a representative from each school committee serves on the Pasadena ISD School Health Advisory Council (SHAC).

Mandated through the Texas Legislature, every school district is required to have a School Health Advisory Council which is to be comprised mostly of parents. Parent involvement in the School Healthy Advisory Council provides parents a greater role in decisions about food and nutrition in the schools. Paired with a parent health advisory committee at each school, parents would not only be able to enforce decisions made at the district level but would also be able to make recommendations about health policies and programs for students and parents at their child's school.



**Talk to
the principal
about
organizing
a school
health team.**

5

GO ▶

*Image: Let's Move Steps to Success for Parents
Source: www.letsmove.gov/parents*

Recommendation 2: Enact an Interim Control Ordinance

a Restrict the number of fast food restaurants in the City of Pasadena by imposing an interim control ordinance on the development of new fast food restaurants within city limits for one year.

In 2008, the City of Los Angeles imposed an interim control ordinance suspending the issuance of permits for the development of any new fast food restaurants within a defined area of South Los Angeles for 365 days. The ordinance arose out of concerns over rising rates of childhood obesity and the inequitable distribution of fast food restaurants; 45% of restaurants in South Los Angeles were fast food restaurants as compared to 16% in other parts of the city.^{1,2} In the City of Pasadena, 42% of restaurants are fast food restaurants; 41% of the restaurants in 77506 and 77502 are fast food restaurants. According to the Health of Houston Survey from 2010, 65% of youth above the age of 12 are at risk of being overweight or obese in Pasadena and South Houston.³ Concerns about the number of fast food restaurants in Pasadena were raised multiple times by parents during focus group sessions.



Source: Steve Snodgrass/Flickr

1 Los Angeles Interim Control Ordinance 18103. Retrieved from: cityplanning.lacity.org/Code_Studies/Misc/FastFoodInterim.pdf
 2 Wright, T. A Healthy and Just Food System for South Los Angeles is Underway! Retrieved from: chc-inc.org/a-healthy-and-just-food-system-for-south-los-angeles
 3 The University of Texas School of Public Health, Health of Houston Survey 2010, Single Indicator. Retrieved from: hhs2010.sph.uth.tmc.edu/SingleMapReport/

b Encourage healthier restaurant options, particularly near schools, by creating a healthy dining program to promote restaurants that offer healthier meal options.

An interim control ordinance would restrict the expansion of unhealthy restaurant options while a healthy dining program would help to encourage healthier options. In 2011, Fall River, Massachusetts created the Healthy Dining Program to encourage healthier restaurant options. The program is under the City’s licensing department which established requirements about the availability of healthy options in restaurants. For those restaurants that meet these requirements, the City provides promotional opportunities and encourages event planners to contract with the restaurants for major events.⁴



Image: Healthy Choices: a program of Manatee County Health Department and Blake Medical Center

Source: blakemedicalcenter.com/about/healthy-choices/

4 Centers for Disease Control, Stories from the Field: Massachusetts. Retrieved from: cdc.gov/obesity/downloads/field/Field_Factsheet_Massachusetts.pdf



Recommendation 3: Pass a Healthy Food Retail Ordinance

a Enact a healthy food licensing ordinance that requires small food retailers, like convenience stores, within $\frac{1}{2}$ mile of a school to meet certain guidelines about stocking healthy foods.

In 2008, the City of Minneapolis passed the Staple Foods Ordinance that required food retail stores of a certain size to carry a limited number of perishable and non-perishable foods from four food categories: fruits and vegetables, dairy, meat and grains. Licensing and inspection of stores is conducted by the City Regulatory Services Department. While Pasadena does not have quite as many corner stores as Minneapolis, over 50% of the stores - 48 stores - within a 2 mile radius of the HLM target schools are convenience stores.

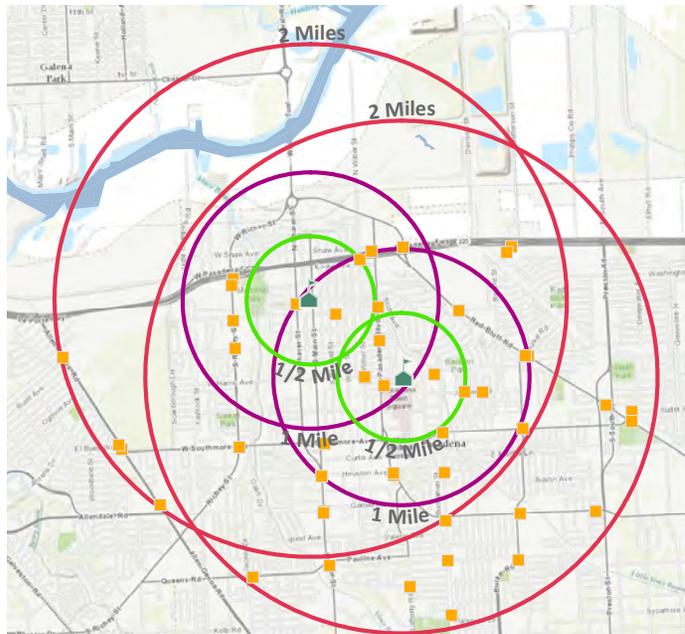


Image: Location of convenience stores within $\frac{1}{2}$ mile, 1 mile and 2 miles of Gardens and Kruse elementary schools.

b Establish an incentive program that provides technical and financial assistance for small food retailers to successfully transition to meet the new standards.

Two years after the Staple Foods Ordinance passed, the City of Minneapolis introduced the Healthy Corner Store Program through the Minneapolis Health Department to help train store owners about handling fresh produce as well as to increase the visibility and sale of fresh produce at corner stores. Establishment of the Healthy Corner Store Program has enabled Minneapolis to develop positive relationships with store owners and to secure funding to expand the impact of the ordinance to another 300 stores.



Image: Minneapolis Healthy Corner Store Program

Source: www.health.state.mn.us/divs/oshii/docs/Mpls_Healthy_Corner_Store.pdf

Recommendation 4: Create Community Gardens

Create opportunities for alternative sources for fresh produce by encouraging the creation of community gardens in parks and at schools.

There are currently no community or school gardens in the priority area in Pasadena. Community gardens help to increase access to fresh fruits and vegetables, beautify neighborhoods, reduce crime, encourage exercise, and foster inter-generational and cross-cultural exchanges. School gardens are an experiential learning tool to teach children about nature and healthy food through positive interactions with plants. Both community and school gardens can require minimal initial investment if appropriate support is available from the city government or school district to provide land at no or minimal charge and to install irrigation infrastructure. Funding for community or school gardens is available from Fiskars Project Orange Thumb, Annie's Homegrown, Lowe's Toolbox for Education, Syngenta, and Captain Planet Foundation, to name a few.



Image: Urban Harvest Affiliate Garden at Casa Juan Diego

Source: urbanharvest.org/affiliatebenefits

Recommendation 5: Advocate for Healthy Food Policies

Advocate for state and federal policies and funding that improve access to and education about healthy, affordable, culturally appropriate foods for families and in schools.

Federal policies established through legislation like the child nutrition act and the farm bill have an impact on a family's access to healthy food. These bills regulate everything from commodity crop subsidies to child feeding programs like the National School Lunch program and the Women, Infants and Children program. They improve food access by determining the distribution and amount of subsidies paid to farms to grow certain crops which thereby affects the price of food. They also affect access by regulating the income eligibility levels of families to receive food and nutrition assistance.

In addition to federal legislation, state governments also set policies that impact access to healthy foods. States can mandate that breakfast be served to all children in schools or that sodas be banned from all school campuses. State and federal policies have a major impact on food access, especially in terms of the funding available for food and nutrition programs.

Becoming knowledgeable and vocal about federal and state legislation will help ensure that Congress continues to support programs that support the health and well-being of families and children. For information on how to become involved, visit:

Houston Food Bank: houstonfoodbank.org

- Texans Care for Children: txchildren.org/health
- Partnership for a Healthy Texas:
www.partnershipforahealthytexas.org
- Children's Defense Fund: www.childrensdefense.org
- Feeding America: feedingamerica.org

Recommendation 6: Offer Cooking Education Classes

Offer interactive cooking and nutrition education classes for parents in English and Spanish that focus on understanding dietary guidelines and nutrition fact labeling, how to budget for and prepare affordable, recipes that are culturally-appropriate, and how to model healthy behaviors for children.

When asked about cooking classes in Pasadena, only a few parents knew of classes offered in the community yet parental knowledge of healthy cooking and modeling healthy behavior was raised repeatedly as an important factor in keeping kids healthy. There are a multitude of programs that offer cooking and nutrition classes for adults through BOUNCE, Texas AgriLife Extension, Harris County Public Health and Environmental Services, and The Happy Kitchen. Since schools serve as a primary resource for community news and events in Pasadena, the District could partner with a community organization to offer these classes for parents at the schools for free or at a reduced cost. This would alleviate some of the burden on the District to coordinate the activity and would provide an opportunity for parents to become more engaged in the school.



Image: BOUNCE Grocery Shopping Tour

Source: bounce.uh.edu/que consequam necti



Image: The Happy Kitchen/La Cocina Alegre® Cooking Class

Source: www.sustainablefoodcenter.org/_blog/The_Dirt/tag/Cooking/

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FUNDING & POLICY RECOMMENDATIONS



A major emphasis of the Healthy Living Matters initiative is to identify various public and private policies that impact in some form or fashion childhood obesity and to advocate for the implementation of policies that enable and encourage the types of healthy lifestyles that can combat childhood obesity. Chapters 2-4 of this report analyzed in detail the built environment and food access conditions in three assessment communities and provided recommendations to improve the ability of these communities to support healthy lifestyles. This chapter will distill the lessons learned in those communities into a set of policy guidelines that, if implemented, can support the realization and success of similar projects county-wide. This chapter identified and summarizes potential funding sources for the projects recommended in Chapters 2-4 and for similar projects that could be implemented in the assessment communities and other communities.

Built Environment Policy Recommendations

General policy recommendations were identified that could assist in the development of an environment for supporting healthier lifestyles and active transportation. The Framework for the Built Environment Assessment (**Figure 5.1**) was used to group policy recommendations into the element of the framework that would be most impacted by the particular policy.

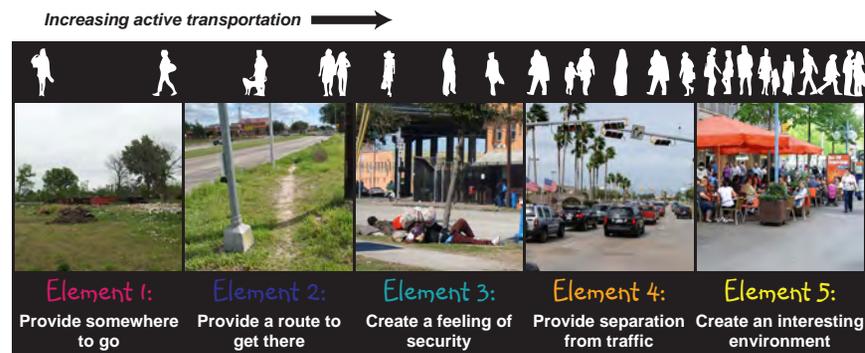


Figure 5.1 - Elements of an environment supportive of active transportation

Cross-Cutting

These policy recommendations are cross-cutting across all five elements and would serve to generally promote healthy living in the region.

Integrate public health into regional planning processes

Many regional land use and transportation planning processes have not traditionally integrated public health considerations. However, as indicated repeatedly throughout this report, land use and transportation decisions have important, long-lasting impacts on public health. Decisions such as how many local resources should be spent on highways versus bicycle and transit infrastructure, or where schools are located, or the level of roadway connectivity in new residential subdivisions, all affect

the ability of families and children to obtain sufficient levels of physical activity.

These types of decisions are made by several groups in multiple levels of government, including city planning, public works, and parks departments; analogous county departments; and regional planning organizations such as the Houston-Galveston Area Council (H-GAC). The groups within H-GAC that have the most influence over decisions that could impact public health are the Transportation Policy Council (TPC), which ultimately makes many decisions directly affecting regional land use and transportation, and the Technical Advisory Committee (TAC), which reviews proposals and plans and makes recommendations to the TPC. By including public health officials in groups such as these, impacts on childhood health can be fully considered in important regional decisions.

Element 1: Provide somewhere to go

The following policy recommendations would encourage the creation of places and activities where people can be physically active and which can increase their ability to walk and bike:

Adopt a goal to provide park space within a half mile of residents

A 2013 report from the Trust for Public Land ranked Houston 38 out of 50 analyzed cities in terms of available park space. The report found that only 46% of the city's population lives within a half mile (an approximately 10 minute walk) of a park, compared to 94% in Minneapolis, MN, 90% in Chicago, IL, and 54% in Dallas, TX. Adopting a city-wide or county-wide goal of providing park space within a half mile of a target percentage of area residents with continuously increasing levels would provide that population with a destination within walking or biking distance where they can pursue active recreational activities.

Implementing partners: Parks departments, Houston Parks Board, SPARK Parks, school districts, developers, business advocacy groups/chambers of commerce



Image: A natural play area incorporating natural elements
Source: Natural Play Areas Brochure

Incorporate natural play areas into park design

Green space and parks tend to enjoy higher utilization rates when they provide programs or design features that encourage engagement instead of, for example, a simple grass field or basic playground equipment. Natural play features are an example of design features that encourage engagement by providing visitors an assortment of activities and sensations tied to the natural environment. For example, plants, logs, water, sand, boulders, hills, and trees can be placed strategically to encourage safe manipulation of these natural features. Natural play areas provide a departure from traditional play areas and can inspire and encourage use. Children are drawn to them because of the accompanying sense of creativity and independence. Elements of natural play areas could be adopted as best-practice in local guidelines for parks and green spaces.

Implementing partners: Parks departments, Houston Parks Board, SPARK Parks

Use incentives to encourage seed developments within struggling neighborhoods

Many communities that struggle with childhood obesity are also communities with lower incomes and sometimes declining populations. As a result, these communities frequently have a scarcity of grocery stores, retail establishments, and other destinations. Targeting these neighborhoods with development incentives and abatements to encourage businesses to move in can provide more destinations for people to walk and bike to. In the case of grocery stores, the community can also be provided with more options to buy healthy foods.

Implementing partners: City and county economic departments

Element 2: Provide a route to get there

The following policy recommendations would encourage the creation of routes for walking and biking for people to access destinations:



Image: Different sidewalk policies in adjacent municipalities can result in sidewalks that suddenly end, making it difficult for pedestrians to safely complete their trips.

Build a complete sidewalk network and coordinate sidewalk policies across jurisdictions

Ensuring that requirements are in place for all local, county, and state roadway projects to include sidewalks can ensure that a complete sidewalk network is created without gaps due to different policies for sidewalk provision. The City of Houston already follows a policy of providing sidewalks when it constructs major thoroughfares; coordinating this policy across the region would ensure that a pedestrian whose trip crosses various jurisdictions has a complete, safe sidewalk network to use. On the other hand, Harris County does not generally construct sidewalks along roadways except to provide connections between neighborhoods and schools.

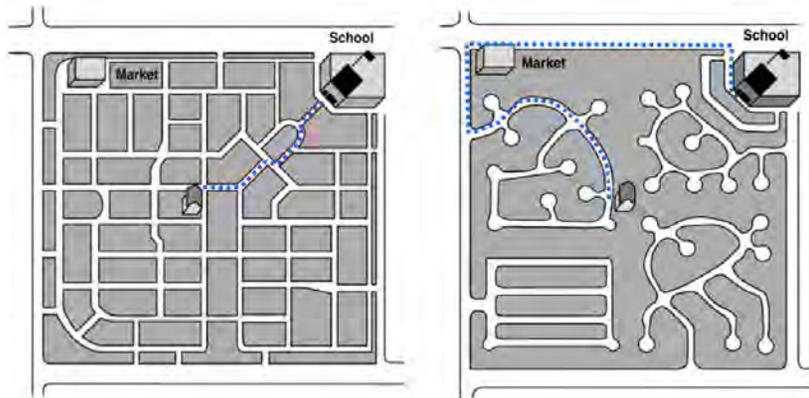


Image: The good street connectivity in the left image enables students to walk a relatively short distance to school. The poor street connectivity on the right image creates longer walking distance along busier roads.

Source: Street Connectivity Zoning and Subdivision Model Ordinance, Kentucky Transportation Cabinet, March 2009

There may also be opportunities to partner with other funding agencies to fill out the sidewalk network. For example, a city may agree to build sidewalks along thoroughfares, and then another entity such as a management district could agree to complement those sidewalks with additional, strategically-placed sidewalks within neighborhoods and along local roads. These can be funded through a variety of approaches including grants, property assessments, and tax increment reinvestment zones (TIRZs).

Implementing partners: City and county public works departments; thoroughfare planning departments; management districts; tax increment reinvestment zones;

Standards for roadway connectivity

Most pedestrians and cyclists prefer to utilize direct routes with low-volume, low-speed automobile traffic. The typical residential subdivision design of the latter half of the 20th century works contrary to both of these preferences. The introduction of large numbers of cul-de-sacs and disconnected roadway networks removes direct routes to many destinations, whereas traditional grid roadway networks enable pedestrians to travel along relatively direct routes to any destination. Additionally, the lack of roadway connectivity in disconnected neighborhoods with few additional routes tends to concentrate traffic onto fewer and bigger roads, making those roads less comfortable for bicyclists and pedestrians.

Municipalities that permit residential subdivisions can implement requirement for street connectivity in new subdivisions. Recognizing the benefits to walking and biking, as well as additional benefits to emergency response vehicles, the Kentucky Transport Cabinet has created a model ordinance for roadway connectivity. This ordinance requires a minimum number of roadway links for a given number of intersections. A developer wishing to provide lower connectivity would have to seek a variance.

Providing improved roadway connectivity is in line with LEED-ND (Leadership in Energy and Environmental Design for Neighborhood Development) standards for neighborhoods design and development.

Implementing partners: City and county planning and permit departments

Inclusion of bicycle and pedestrian infrastructure in City and County major thoroughfare plans

Major thoroughfare plans are critical components for planning public infrastructure. These plans and maps indicate where existing roadways and freeways are located, where future roadways should be located, where right-of-way is available, and the desired physical features of

those roadways, such as number of travel lanes and roadway widths. Thoroughfare plans are used to ensure that public right-of-way exists before a roadway is needed and that the roadway network is coordinated in a regional fashion.

These plans have traditionally focused on automobile traffic (although many do include provisions for pedestrians as well). However, bicycle facilities are not typically included in the planning process for obtaining right-of-way. Nevertheless, planning a network of high-quality bicycle facilities is critical for enabling and encouraging bicycle travel because the type of bicycle facilities that most people prefer to use can have significant right-of-way requirements. Incorporating these facilities into major thoroughfare plans would help more of these facilities to be constructed and thereby support the use of cycling as a means of transportation.

Before bicycle and pedestrian facilities can be satisfactorily included in the major thoroughfare planning process, the desired facilities should be identified for their ability to form a network that connects bicyclists and pedestrians to important destinations along reasonable routes.

Implementing partners: City and county thoroughfare planning departments

Element 3: Create a feeling of security

The following policy recommendations are made to emphasize security and safety in the design of the built environment:

Add pedestrian lighting requirements to roadway design criteria

Although street lighting is typically provided along major thoroughfares and some local streets, few municipalities also install pedestrian lighting for the sidewalk and pedestrian realm. Such lighting is installed at a lower height than typical street lighting, and the poles are typically spaced closer, approximately fifty to seventy feet. Pedestrian lighting could be required along corridors with high levels of pedestrian activity or where such activity is deemed to be desirable. Such a requirement could be

included in the major thoroughfare planning process so that a designated network of pedestrian corridors could be identified for the installation of pedestrian lighting.

Implementing partners: City and county public works and planning departments

Adopt standards for park design and public spaces that encourage or require CPTED principles

CPTED, or *crime prevention through environmental design*, is a set of strategies to make spaces less conducive to criminal activity. Such strategies include provisions for lighting, landscape design to minimize shadows, and building layout to eliminate blind corners. These strategies could be adopted as best-practice in the standards for design of parks, plazas, and other public spaces where children may seek physical activity.

Implementing partners: Parks departments

Element 4: Provide separation from traffic

The following policy recommendations are made to improve the comfort and safety of pedestrians and bicyclists as they negotiate with automobile traffic in public spaces:

Encourage design of roadway pedestrian realm to provide a buffer between the street and the sidewalk

Providing a sidewalk satisfies Element 2 (provide a route) for pedestrians; however, a sidewalk that is not set back from the roadway can still be undesirable if the adjacent traffic is heavy or high-speed. Adopting standards for sidewalks with additional buffer space can help mitigate this concern. A buffer width of at least 5 feet is desirable and allows for the planting of street trees. Street trees have the added benefit of providing a physical and psychological barrier between the roadway and the sidewalk. They also provide shade and make the sidewalk more pleasant for walking.



Image: Sidewalks placed immediately adjacent to the roadway can feel unsafe for pedestrians and other sidewalk users.

Tree wells can also be used and incorporated into a wider sidewalk. Some municipalities do not prefer a landscape buffer because of maintenance needs. Some municipalities have used bricks or colored, stamped concrete to create a visual buffer without maintenance requirements.

Implementing partners: City and county public works departments

Include requirements or incentives for trees to be planted along urban roadways

As discussed above, providing street trees between the roadway and the sidewalk creates a number of benefits for pedestrians. They serve as physical and psychological barriers between vehicular traffic and pedestrians on the sidewalk, and they provide shade for pedestrians. Street trees may also slow down traffic on the adjacent road, especially if they are provided at regular, close intervals and become an expected part of the roadway environment¹. Roadway design standards could include provisions for street trees at regular intervals in order to achieve these safety and comfort benefits.

The City of Houston Major Thoroughfare and Freeway Plan has provisions for tree wells in some accepted roadway cross sections.

¹ *Why Urban Street Trees Aren't the Hazard the Traffic Engineer Thinks They Are*; Dumbaugh, Eric; Texas A&M University; presentation accessed at http://www.naturewithin.info/Talks/GA_Dumbaugh_Street%20Trees.pdf on 7/13/2013.

Implementing partners: City and county planning and public works departments

Adopt a plan to retrofit pedestrian accommodations at all existing signalized intersections

Although standards for new signalized intersections include provisions for pedestrian crossings, many older intersections do not. These pedestrian-specific features include curb ramps, crosswalk markings, and pedestrian signal heads. These features can typically be retrofitted into existing intersections with modest costs; however, the cost to retrofit multiple intersections can be substantial. Therefore, municipalities aiming to encourage pedestrian activity and increase pedestrian safety could maintain an inventory of intersections with outdated pedestrian accommodations and develop a prioritized plan for intersection improvement. Factors used in prioritization could include health characteristics such as levels of childhood obesity or obesity-related mortality rates and other demographics characteristics that are correlated with health outcomes such as poverty levels.

Implementing partners: City and county planning and public works departments

Adopt design standards for on-street bicycle facilities to provide sufficient separation from traffic

One of the most persistent, recurring concerns that people express about bicycling in urban areas is automobile traffic. For instance, the built environment survey collected for this assessment found that 47% of respondents identified high traffic volumes and speeds



Image: Cycle-tracks, such as this example in Indianapolis, provide physical separation for bicyclists.

Source: National Association of City Transportation Officials (NACTO)

as a barrier that would need to be addressed before they would feel comfortable letting their child walk or bike to school. That was tied with challenges crossing roadways for the second most identified barrier, under safety/fear of crime.

A significant number of people and children will only ride bicycles if they can do so without mixing with automobile traffic. New bicycle design standards and facility designs take this fact into account. For example, the AASHTO *Guide for the Development of Bicycle Facilities*, 2012, recommends a desirable width for bike lanes as 6 feet and a minimum as 5 feet. This compares to older standard minimums for bike lanes of 4 feet. Additionally, newer facility types do even more to provide separation between bicycle traffic from vehicle traffic. For example, *cycle-tracks* and *buffered bike lanes* physically separate the traffic streams by providing a buffer with paint, plastic bollards, or even concrete barriers. Municipalities aiming to encourage bicycling could consider supporting these types of alternative bicycle facilities and include them in design standards.

Implementing partners: City and county thoroughfare planning departments

Element 5: Create an interesting environment

The following policy recommendations are made to support creation of an interesting environment that is appealing for physical activity:

Consider revising or removing off-street parking requirements

Most local governments mandate that new developments provide a minimum number of off-street parking spaces according to land use characteristics of the development. These policies were designed to ease congestion on adjacent roadways caused by on-street parking maneuvers and to reduce spillover parking on local residential streets. However, they frequently have the unintended consequence of degrading the quality of the environment for walking. A defining feature of high-quality pedestrian environments is the construction of buildings up to the

sidewalk with an easily-accessible front door for pedestrians. However, parking requirements frequently result in buildings being separated from the sidewalk by a parking lot.

In areas where the creation of a walkable environment is desirable, the parking requirements could be reduced or even removed, especially if sufficient transit resources are available. Other strategies for dealing with parking requirements are Parking Management Districts, which can set different parking ratios within their boundaries to effect economic development goals, and Parking Benefit Districts, which can utilize revenues from on-street parking to invest money back into the corridor for improvements such as sidewalks, lighting, and even shared parking resources such as parking garages.

Implementing partners: Codes of ordinances relating to parking requirements; City planning departments

Consider revising or removing building setback requirements

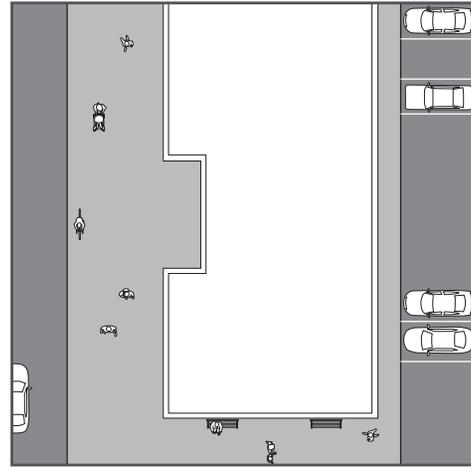
Even when parking lots are not provided between buildings and the sidewalk, many municipalities utilize building setback requirements along major thoroughfares that still result in a building form that is not amenable to an interesting environment for active lifestyles. To create that type of environment, building setback requirements could be reduced or eliminated along corridors that are desirable for pedestrian activity. For example, the City of Houston has implemented such a policy along specially designated streets that serve high-quality transit.

If buildings are not set back from the sidewalk, then any on-site parking must be removed and relocated. Although not yet widely adopted in the Houston region, there are alternative site plans for developments that successfully relocate parking to preserve the pedestrian realm. For example, the parking lot can be moved to the back of the building with access either via a long driveway or alley or from a side street (see image at top of next page). Such a site design sometimes requires two sets of doors and a thoughtful design of the entire building layout.

Once the requirement for building setbacks is removed or reduced,



Recommended



Not Recommended

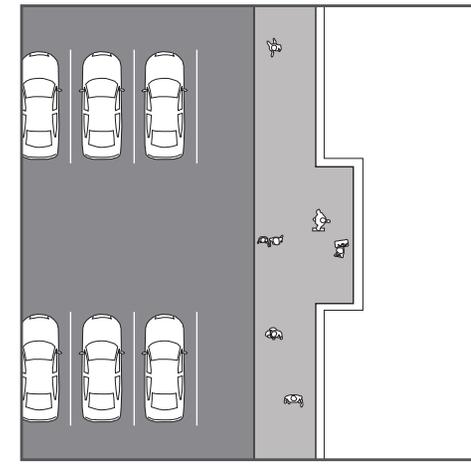


Image: A nice pedestrian realm (leftmost image) can be achieved by moving parking behind the building (center image) instead of putting it between the roadway and the building (right image)

Source: City of Los Angeles Department of Planning, Walkability Checklist Guidance for Entitlement Review

additional thought should be put into requirements for building facade and landscaping. Walking along a blank wall without windows is nearly as unattractive for pedestrians as walking along a parking lot. Incentives or requirements for windows, entryways, and landscaping is a critical complement to the removal of setback requirements.

Implementing partners: Codes of ordinances relating to building setback; City planning departments

Provide bike parking and easy pedestrian access to the front door of buildings

Regardless of the location of parking or presence of building setbacks, the details of interface of the building with the street can have a major impact on the building's accessibility by pedestrians and bicyclists.

In cases with significant building setbacks, a clear route should be provided from the sidewalk to the front door of the building. This route should ideally highlight the pedestrians using it to ease interactions with automobiles, either by raising the walkway, buffering it with landscaping, or through some other means.



Image: Providing bicycle racks near the front door of businesses and other destinations and providing a clear pedestrian route to the front door is important for encourage walking and biking. The Pasadena Central Library, shown here, does an excellent job of both.

The front-door interface most likely to matter to cyclists is the provision of bicycle parking. Providing bicycle parking is relatively easy and inexpensive, and it enables people to choose to take their bicycle without having to fear that it will be stolen. Placing parking in a clear, safe location can also save potential cyclists a significant amount of time that they would otherwise have to spend trying to locate alternate parking arrangements.

Implementing partners: Codes of ordinances relating to parking requirements; City planning departments

Built Environment Funding Opportunities



Identifying projects that can help improve active transportation options, as was done in Chapter 2-4 for three focus neighborhoods, is just the first challenge on the way to successfully impacting childhood activity levels. Frequently, identifying adequate funding to implement the projects can be just as big a challenge, if not more of one. Because the built environment is constructed over a long period of time with many interconnecting players, regulations, building materials, styles, and preferences, modifying it in a meaningful way so as to enable and encourage healthier lifestyles can require substantial resources. A strategic combination of multiple funding sources and partners is often the only way to implement a built environment project. This section describes a diverse set of funding sources that could potentially be used to fund built environment infrastructure projects.

Local Funding Sources

Many federal funds require local matches, either at an 80-20 level (20% local funds) or 50-50 level (50% local funds). The local funds identified here are potential sources for either direct implementation or as match for federal funds.

Harris County Capital Improvement Program (CIP) Funds - The county Capital Improvement Program funds various county facilities and projects, including roadway projects, drainage projects, and county parks and libraries. Although Harris County does not typically fund sidewalk construction, the county does occasionally fund bicycle improvements, especially off-street trails.

City Capital Improvement Program (CIP) Funds - Both the City of Houston and the City of Pasadena maintain Capital Improvement Programs. CIP funds cover many elements of the built environment that are important for healthy lifestyles, including streets and sidewalks, parks, and public destinations such as libraries.

Since the passage of Rebuild Houston in 2010, the City of Houston CIP

prioritizes roadway projects based on need associated with drainage, pavement condition, or traffic congestion. The CIP has dedicated funds for the construction of bicycle facilities and sidewalks through a Safe Sidewalks Program. Between 2013 and 2017, the CIP projects to spend nearly \$28 million on sidewalk improvements and \$14 million on bicycle trails. Sidewalks projects are request-based and must fall into three categories: around schools; along major thoroughfares; and along corridors needed to connect persons with disabilities to major destinations such as grocery stores, employment centers, and places of worship. Funding for bike facilities is programmed based on the ability of a facility to fill a gap in the City of Houston's bikeway master plan.

The City of Pasadena also maintains a dedicated funding stream for sidewalk construction in its CIP. This funding source is typically a few hundred thousand dollars per year. Some of this money could be used as a match for grants or federal funds to increase its impact on sidewalk construction within the focus neighborhoods.

Management District General Funds - The management districts in the region assess taxes on commercial businesses and multifamily developments within its boundaries. Some of these funds may be used as a local match for federal funds.

Tax Incremental Reinvestment Zone (TIRZ) - A TIRZ is a special zone defined by the City of Houston that retains a portion of property taxes once property values exceed a predetermined level. Some TIRZs have bonding power to leverage projected increases in taxable property value that result from planned infrastructure development. Funds must typically be spent within the boundaries of the TIRZ. TIRZ 21-Hardy/Near Northside has some overlap with the Near Northside focus neighborhood and could potentially help fund some projects there. Additionally, TIRZ 18-Fifth Ward is located just south of the Kashmere Gardens focus neighborhood. If it were expanded north along Lockwood Drive from Lyons Avenue, it could help fund projects in Kashmere Gardens.

METRO - The Metropolitan Transit Agency of Harris County is funded by a one cent sales tax on sales in its service area. These funds can be used for transit-related projects including transit operation expenses, transit capital expenses, and other projects that support transit such as pedestrian and bicycle facilities and wayfinding.

Private Sector Sources - Developers and land owners could be partners in developing infrastructure projects that impact their interests. Land owners could provide land dedications or direct capital support for projects such as expansions of the pedestrian realm or intersection improvements. They can also provide pedestrian wayfinding, easements and amenities on their land, such as improved bus stops, that can simultaneously promote public mobility as well as serve as marketable branding for their own developments. Clear regulations, policies, and incentives with regards to pedestrian realm accommodations can help coordinate these improvements across several adjacent property owners.

Federal Funding Sources

MAP-21 is the transportation bill signed into law by President Obama on July 6, 2012. MAP-21 has several sections with implications on active transportation modes including walking, biking, and transit.

The majority of active transportation funding in MAP-21 is provided through the Federal Highway Administration (FHWA). Under the previous transportation bill, SAFETEA-LU, three principle funding categories for active transportation existed: Safe Routes to School, Transportation Enhancements, and Recreational Trails.

MAP-21 combined these three programs into a new program called Transportation Alternatives (TA). Funds from TA will be available at the regional level and directly from the state. A competitive grant process will be open to local entities to apply for the funds. Grants will fund 80% of projects and will require a 20% local match. The MAP-21 funding mechanism is summarized in the image on this page.

Other funding for active transportation is available through the Federal Transit Administration (FTA). The previous New Freedom program that could fund infrastructure projects that provided better-than-ADA accommodations (such as wide sidewalks and curb ramps) has been rolled into Section 5310 funds. Local government agencies and private non-profit organizations are eligible to apply for these funds through a competitive grant process administered by TxDOT and H-GAC.

TIGER Grants - Transportation Investment Generating Economic Recovery (TIGER) is a competitive project funding program started in 2009 to promote surface transportation projects. There have been three rounds of grants so far, funding \$1.5 billion in 2009, \$600 million in 2010, and \$527 million in 2011. The program has been heavily oversubscribed with applicant projects in recent years. The City of Houston was awarded a \$15 million dollar TIGER grant in 2012 that will support improved pedestrian and bicycle connections to transit. The future of TIGER Grants or comparable competitive grant program is uncertain under MAP-21.

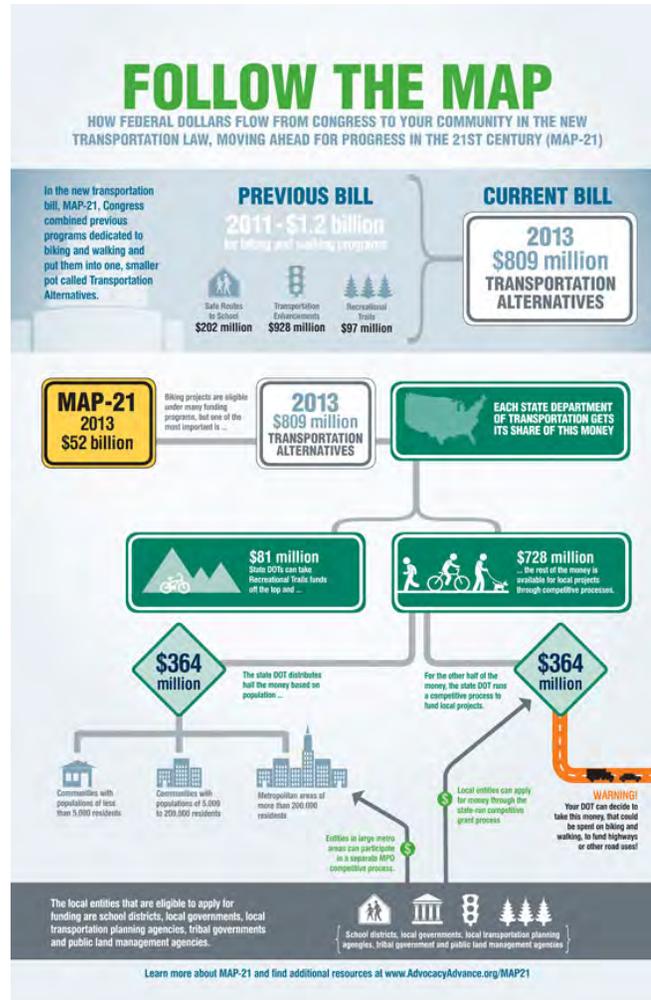


Image: Illustration of MAP-21 funding mechanisms for pedestrian and bicycle projects

Source: The League of American Bicyclists

Food Environment Policy Recommendations



While the recommendations referenced previously in this report are specific to each of the target assessment communities, several of them can be applied more broadly to help families in Harris County eat healthy. Eating healthy means that families:

- have a place to go to get food,
- can easily and safely get to the place for food,
- have a choice to buy healthy options,
- can afford to buy healthy foods,
- know what it means to eat healthy and how to shop for healthy foods on a budget.

The general policy recommendations below help to ensure that all individuals and families have consistent access to nutritious, culturally-appropriate food at affordable prices.

Strategy 1: Provide a place to get food

Devise an incentive package for healthy food retailers

Houston has less supermarkets per capita than other major metropolitan areas of comparable size. This means that many families may not have a supermarket that is easily accessible in their neighborhood. Supermarkets are important because they offer a wide range of products, including healthy options and tend to be cheaper than smaller, corner stores. Supermarkets are particularly important in low-income neighborhoods to help families access affordable, healthy food without expending unavailable time and resources in travel to a store across town. Supermarkets also tend to be less available in low-income areas. Harris County can ensure that all residents have access to a supermarket by helping to facilitate the development of stores in underserved

neighborhoods and by encouraging cities in the County to provide incentives for food retailers.

Implementation partners: Avenue CDC, LISC Greater Houston, Texas Retailers Association, Grocers Supply, City of Houston Economic Development Department, Harris County Commissioners, Houston City Council, Healthy Houston Task Force

Establish an urban agriculture ordinance to support and encourage the development of farms, community gardens, and farmers' markets throughout the county

Farms, community gardens and farmers' markets can help to fill gaps in access to fresh produce. Farmers' markets are relatively inexpensive and less time consuming to establish than a brick and mortar storefront. Community gardens provide a means for families to supplement their fresh produce needs and save money. Families can grow up to 50% or more of the produce they need in a community garden and every \$1 invested in a community garden yields \$6 worth of produce. Urban farms improve access to fresh produce by growing food in the city center, provide jobs, and support the local economy. The majority of land in Harris County is developed for urban use. In order for the County to support a local food economy, it will need to adopt policies that support urban agriculture endeavors and allow for the use of public property for food production.

Implementation partners: Harris County Public Infrastructure Department, City of Houston Land Assemblage Redevelopment Authority and Planning and Development Department, Houston Tomorrow Food Policy Workgroup, Urban Harvest, Texas AgriLife Extension, Texas Organic Farmers and Gardeners Association

Strategy 2: Make the place accessible, approachable and safe

Ensure that public transportation routes connect residential areas to supermarkets

While vehicle ownership is essential in Harris County, not all residents have the means to own a vehicle. Ensuring that public transportation connects residential areas to supermarkets will help ensure that families can get the food they need for healthy meals and will help to reduce travel costs. In Jackson City, Missouri, the City Council approved an investment of federal funding into a bus route to connect major apartment complexes in a low-income area to a nearby supermarket to help families access healthy food. An analysis of the Metropolitan Transit Authority of Harris County routes will help to identify gaps in grocery service by public transportation.

Implementation partners: Metropolitan Transit Authority of Harris County, Harris County, city councils and planning departments for cities in Harris County, Houston-Galveston Council of Governments,

Strategy 3: Provide healthy options

Adopt healthy food retail rules and fund a healthy store incentive program

Adopting rules or ordinances requiring stores to offer for sale a variety of healthy foods are tools that county and city governments, respectively, can use to improve the availability of healthy food options in stores, particularly in areas where children live, learn and play. The Minneapolis Staple Foods Ordinance targets stores of a certain size and requires them to carry a certain number of items from specific food categories. A city ordinance or county rules regarding health permits could also target stores in a certain geographic area. Alongside rules or an ordinance, there needs to be an incentive and training program to help stores transition to comply with the new regulations. The incentives should be tailored to the ordinance and the needs of the stores but might include

equipment, technical assistance, publicity, or rebates on utilities or taxes. Additionally, storeowners will require training around product handling and in-store marketing strategies to effectively store and sell healthier options. Healthy food retail transformations require more than just stocking healthier products. People need to be told that healthier options are available, be able to find the products in the store, want to buy them, and know what to do with them.

Implementation partners: City of Houston Health and Human Services and City Council, Harris County Public Health and Environmental Services and County Commissioners, CAN DO Houston, Avenue CDC, LISC Greater Houston, Texas Retailers Association, Grocers Supply

Create a healthy store certification program to recognize small grocery stores that carry healthy foods

The City of Houston currently requires that all convenience stores register with the Houston Police Department to bolster relations between the police and store owners in order to reduce crime. Every corner store also has to register with the City of Houston to acquire a permit for operation. These two systems could be aligned to create a healthy corner store certification program to recognize stores that offer both a healthy store environment and healthy food options. A certificate program could also be extended to retail establishments in the County through the Permit Department of the Harris County Environmental Public Health Division. This certificate program will require establishing a set of guidelines for qualification and would be even stronger if incentives were offered with the certificate.

Implementation partners: City of Houston Convenience Store Task Force, Harris County Public Health and Environmental Services, City of Houston Health and Human Services, City Council, County Commissioners, CAN DO Houston, Avenue CDC, LISC Greater Houston, Texas Retailers Association, Grocers Supply

Strategy 4: Make food affordable

Advocate for state and federal policies and funding that improve access to and education about healthy, affordable, culturally appropriate foods for families and in schools

Regulations and funding for federal nutrition benefit programs, like the Supplemental Nutrition Assistance Program (SNAP), the National School Lunch Program, and the Special Supplemental Women, Infants and Children program are set through federal legislation like the Child Nutrition Reauthorization Bill and the Farm Bill. These programs provide food or financial assistance for children and families to ensure that all people have healthy meals. In Harris County in 2012, there was an average of 563,654 SNAP participants each month. Of those, over half (59%) were children. Nationally, close to 45% of SNAP participants are children. Children who receive SNAP are also eligible for school meals, including breakfast, lunch and dinner. SNAP is a crucial program to help low-income children get healthy food, and possible locally-grown food. Becoming knowledgeable and vocal about federal, state, and local policies about child nutrition and food assistance will help ensure that we continue to support the health and well-being of families and children.

Implementation partners: Houston Food Bank Network, Center for Public Policy Priorities, Texans Care for Children, Texas Department of State Health Services, Texas Department of Agriculture, Feeding America, Food Research and Action Center, Share Our Strength

Increase opportunities for families to apply for Supplemental Nutrition Assistance Program (SNAP) benefits (formerly food stamps)

In 2012, it cost families anywhere from \$10,260 to \$18,380 per year to raise a child. While most of the costs to raise a child went to housing and childcare, 16% of the cost was for food. For a low-income family, federal nutrition benefits, like SNAP and WIC, help families to ensure their children are fed and to ensure they are eating healthier foods. According to the American Community Survey, an estimated 10.9%

of households in Harris County are below the poverty line but do not receive SNAP benefits. Many of these families could have children that could be receiving other federal nutrition benefits in addition to SNAP. Eligible households may not be participating in SNAP because they do not know about the program, may not think that they qualify, or may not understand the application process. In Texas, families can enroll online in public benefits so training librarians at public libraries to help families enroll in SNAP, or hosting benefits enrollment days in school computer labs or libraries would enable more families to access necessary financial services. Other strategies to boost outreach and enrollment are to station benefits outreach specialists at schools or send mobile benefits stations to neighborhoods.

Implementation partners: Houston Food Bank Network, area school districts and parent organizations, public libraries, Harris County Public Health and Environmental Services, and City of Houston Health and Human Services

Provide Electronic Benefits Transfer systems at all area farmers' markets, farm stands, mobile farm markets, and Community Supported Agriculture (CSA) sites

There is growing interest in farmers' markets in Harris County and across the nation. Since 1994, the number of farmers' markets across the nation has grown eight-fold, from 1,755 to 8,144. Like food trailers, farmers' markets have low start-up costs and are relatively easy to get started, compared to building a supermarket. It costs around \$34,000 to start a farmers' market, with a range from \$2,000 to \$150,000. Organizations across the nation have turned to farmers' markets to fill the produce gap in food deserts. The drawback though is that produce at farmers' markets is perceived to be more expensive than at the grocery store. To help families access local produce, each farmers' market, farm stand, mobile farm stand, and CSA should accept SNAP and WIC benefits.

Implementation partners: City of Houston Health and Human Services, Harris County Public Health and Environmental Services, Urban Harvest, Texas Department of Agriculture, Sustainable Food Center

Fund incentives that double the value of produce at farmers' markets, farm markets, and mobile farm markets

Double value coupons or tokens, double up bucks, double dollar vouchers, and fruit and vegetable prescriptions all reduce the cost of produce from farmers' markets for SNAP and WIC benefit recipients without reducing the income for farmers. Double value programs typically target SNAP and WIC benefit recipients and provide them an extra cash incentive to shop at a farmers' market with their benefits. Fruit and vegetable prescriptions also target low-income families are not necessarily tied to use of SNAP and WIC benefits. These programs have been shown to help increase fruit and vegetable consumption. Ninety percent of customers using the double value coupons reported to increase their consumption of fresh fruits and vegetables.

Implementation partners: City of Houston Health and Human Services, Harris Healthy System, Urban Harvest, Texas Children's Hospital, Blue Cross Blue Shield, Texas Department of Agriculture, Wholesome Wave, community health clinics

Element 5: Provide education about nutrition

Adopt a policy for schools to offer at least one interactive cooking and nutrition education class for parents each year

Cooking and nutrition education were discussed in all eight of the focus groups conducted for this project. Knowledge of what is healthy and how to cook healthy was cited as key elements to keep kids healthy. It was also cited by food retailers in interviews for this project as a key element for stores to successfully sell healthier food options since customer demand dictates what stores stock. Most focus group participants however did not know of any cooking or nutrition education classes in their community. Cooking and nutrition education classes that help parents to understand dietary guidelines and nutrition fact labeling, how to budget and prepare affordable recipes that are culturally-appropriate, and how to model healthy behaviors for children will help parents provide healthy meals for

their children.

Implementation partners: BOUNCE, Texas AgriLife Extension, Harris County Public Health and Environmental Services, and Recipe for Success

Food Environment Funding Opportunities



Successful implementation of the recommendations above require some level of funding either for program materials or staff, infrastructure, equipment, or incentives.

The largest financial investment proposed above is for supermarket development. Funding for supermarkets can include a mix of tax incentives, loans, grants, and bonds. There are many resources that outline potential funding sources for supermarket development including:

- Green for Greens: Finding Public Financing for Healthy Food Retail
changelabsolutions.org/sites/default/files/Green_for_Greens_FINAL_%28CLS_20120530%29_20120119.pdf
- Getting to Grocery: Tools for Attracting Healthy Food Retail to Underserved Neighborhoods
changelabsolutions.org/sites/default/files/documents/Getting_to_Grocery_FINAL_20120514.pdf
- PolicyLink Equitable Development Toolkit: Grocery Store Development Tool
www.policylink.org/atf/cf/%7B97c6d565-bb43-406d-a6d5-eca3bbf35af0%7D/GROCERYSTOREDEVELOPMENT.PDF
- Healthy Food Access Portal Find Money Assessment Tool
healthyfoodaccess.org/get-started/are-you-ready/funding-your-work

What follows is a list of a few funding and tax abatement options for the various recommendations above. This is not a comprehensive list. There are numerous family and corporate foundations that offer funding in support of healthy community initiatives. For more information on family and corporate foundations, visit the Hogg Regional Foundation Library:

ddce.utexas.edu/foundationlibrary/

Additionally, for information on grants specific to nutrition education programs, visit the Texas Department of Agriculture Food and Nutrition Resources website:

www.squaremeals.org/FampNResources/FundingGrants.aspx

Federal Funding Sources

New Market Tax Credit Program

New Market Tax Credits are a financing mechanism available through the federal government that provides investors credit against their federal income tax for investing in distressed areas, including low-income neighborhoods. The tax credit investments are typically made through a community development entity, like LISC Greater Houston. New Market Tax Credits have been successfully used to fund supermarkets in Philadelphia and in Dallas.

More Information:

www.cdfifund.gov/what_we_do/programs_id.asp?programID=5

www.cdfifund.gov/what_we_do/resources/NMTC%20for%20FUND%20approval%20101911.pdf

Community Food Projects Competitive Grant Program

The Community Food Projects (CFP) Competitive Grant Program provides funding for projects that address issues of food insecurity through self-sufficiency, primarily in low-income communities. Grants are for 1-3 years and range from \$10,000 to \$300,000. CFP grants have been used in the past to fund farmers' markets, mobile farm stands, community gardens, urban farm training programs and farm-to-school projects.

More Information:

www.csrees.usda.gov/nea/food/in_focus/hunger_if_competitive.html

Specialty Crop Block Grant

The Specialty Crop Block Grant Program provides funding to increase the competitiveness of specialty crops, like fruits and vegetables. Grants can be used by farmers to test and market growing techniques that enhance the productivity of specialty crops or by associations to promote certain specialty crops. The uses of this grant are fairly particular however it could be used to support fruit and vegetable farmers in and around Harris County, gardening education endeavors for children and possibly outreach campaigns for healthy retail initiatives.

More Information:

changelabsolutions.org/sites/default/files/SCBG_Fruitful-Collaboration-FactSheet_FINAL_20130610.pdf

www.ams.usda.gov/AMSV1.0/ams.fetchTemplateData.do?template=TemplateN&rightNav1=SpecialtyCropBlockGrant0Program&topNav=&leftNav=CommodityAreas&page=SCBGP&resultType

Local Funding Sources

Texas Enterprise Zone Program

The Texas Enterprise Zone program is an economic development tool for local communities to help drive job creation and investment in underserved areas. The program offers tiered sales and use tax refunds on qualified expenditures based on the number of jobs created by a business. Estimates show that 24 new jobs are created for every 10,000 square feet of supermarket. This equates to \$62,000 in rebates. Larger supermarkets of up to 50,000 square feet could be eligible for up to \$312,500 in rebates.

More Information:

www.texaswideopenforbusiness.com/incentives-financing/tax/tez.php

Texas Local Government Code Chapter 380

The Texas Chapter 380 enables cities to make use of public funds to stimulate economic development activity in the city limits and extraterritorial jurisdiction. Economic development can include helping to spur job creation, diversify the economy or expand commerce. Chapter 380 enables cities to provide economic assistance to businesses, like supermarkets, in order to support economic development.

More Information:

www.tml.org/legal_pdf/Chapter380-Local-GovCode.pdf

Houston Tax Abatement Ordinance

The City of Houston offers certain property tax abatements for economic development pursuant to Chapter 44 in the Code of Ordinances. In order to qualify for the tax abatements, businesses have to make improvements on existing property - the abatements are not applicable for land – and have to create jobs. The code sets specific requirements for eligibility and those vary slightly depending on if the business is located in an enterprise zone.

More Information:

<http://www.texaswideopenforbusiness.com/incentives-financing/tax/tez.php>



APPENDICES

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Appendix A: Definitions

Built Environment: The components of the environment that are designed and constructed by humans. The built environment can include infrastructure such as roadways, sidewalks, concrete bayous, trails, and street lamps; buildings such as skyscrapers, houses, and grocery stores; and other destinations including schools, churches, and parks.

Convenience Store: a small food store that offers a limited selection of staple groceries, non-foods, and convenience food items, like ready-to-heat and ready-to-eat foods. These stores may be connected to a gas station, may carry a limited variety of fresh produce, raw food items, or refrigerated items, like milk and cheese, or have a small deli.

Community Garden: The American Community Gardening Association defines a community garden as “any piece of land gardened by a group of people.” There are many types of community gardens. In Houston, Urban Harvest identifies community gardens as either:

- **Donation Gardens:** fruits and vegetables grown in these gardens are donated to local food pantries, soup kitchens and homeless shelters;
- **School Gardens:** are used as outdoor classrooms. School curricula are reinforced through planting, cultivating, and harvesting vegetables and fruits;
- **Neighborhood Gardens:** are places where neighbors work collectively and share produce equally. Sometimes these gardens donate leftover produce to area food banks; or
- **Allotment Gardens:** where individuals rent plots for a monthly fee. As a group, they maintain the shared spaces.¹

FitnessGram is a health-related physical fitness assessment. The Texas Education Code required that the fitness levels of all students in grades 3-12 be assessed at least once annually, and FitnessGram has been the chosen assessment tool for Texas schools since 2007.

Food/Drug Combo Store: a retail store that specializes in pharmaceuticals and personal health items but that may also carry a limited selection of convenience and refrigerated food and general merchandise.

General/Discount Store: a retail store that mainly carries general merchandise but may offer a limited selection of staple groceries and convenience foods, like ready-to-heat and ready-to-eat foods.

Grocery Store: a food retail store that offers a wide range of foods, including fresh fruit and vegetables, raw meat, milk, frozen foods, and pre-packaged foods. These stores typically have a deli, bakery, or pharmacy, and may carry general merchandise items. These items do not account for a large percentage of the store.

- **Chain stores** are companies that own and operate more than 11 stores in the County.

Specialty (Other) Store: a food retail store that specializes in a food product, like meat, seafood or produce, or in food of a specific cultural cuisine.

Variance: Official permission from a regulatory body such as a city or county to construct a road, building, or other regulated project to specifications that differ from the regulating standards. Variances are frequently needed to create a built environment that is supportive of walking and biking because some regulations that are intended to support or mediate the effects of automobile transportation can have the unintended consequence of discouraging these other, active modes.

¹ Source: urbanharvest.org/typesofgardens

Appendix B: Summary of Focus Groups

| School | Date | Female | Male |
|------------------------------------|-------------------|--------|------|
| MD Anderson YMCA | February 28, 2013 | 6 | 1 |
| | March 7, 2013 | 2 | 1 |
| Kashmere Gardens Elementary School | February 27, 2013 | 8 | 2 |
| | March 5, 2013 | 5 | 1 |
| Kruse Elementary School | February 19, 2013 | 13 | 0 |
| | February 27, 2013 | 13 | 0 |
| Gardens Elementary School | March 19, 2013 | 12 | 2 |
| | March 21, 2013 | 11 | 2 |

Appendix C: Focus Group Questions and Survey



1. Do you think childhood obesity is a problem?
 - a. What do you think contributes to the problem of childhood obesity?
 - b. Do you think childhood obesity is a problem in your community?
2. What do you believe are the two most important factors in keeping children healthy?
3. What are things that affect your ability to offer healthy food choices for your children?
4. What barriers keep your family from being more active?
5. Do you know of any programs or resources in your neighborhood that promote healthy foods or physical activity (e.g. nutrition education or physical activity programs, sports leagues, etc.)?
 - a. Do you participate in these programs? Why or why not?
 - b. What prevents you from participating in these programs?
6. Whose responsibility is it to develop healthy environments and behaviors in children (parents, schools, government, food stores, community-based organizations, etc.)?
 - a. What is your role in developing healthy environments and behaviors in children?
7. What could you or the community at-large do to encourage healthy environments and behaviors in children?
 - a. What policies would you change or put into practice to encourage healthy eating and active living?
 - b. What resources or training would you need to make those changes?
 - c. What would make you get involved in encouraging (advocating for) changes in your community?
 - d. What would prevent you from being active in promoting changes in your community?

1. ¿Piensa usted que la obesidad infantil es un problema?
 - a. ¿Qué piensa usted que contribuya al problema de la obesidad infantil?
 - b. ¿Usted cree que la obesidad infantil sea un problema en su comunidad?
2. ¿Cuáles cree usted que sean los dos factores más importantes para mantener la buena salud infantil?
3. ¿Cuáles son las cosas que afectan su capacidad de ofrecer alimentos saludables para sus hijos?
4. ¿Qué barreras evitan que su familia sea más activa físicamente?
5. ¿Sabe de algunos programas o recursos disponibles en su barrio que proporcionan acceso a alimentos saludables o promover la actividad física (por ej. programas educativos de Nutrición o actividad física, ligas deportivas, clases de cocina saludable, etc.)?
 - a. ¿Usted participa en estos programas? ¿Por qué participa o por qué no participa?
 - b. ¿Qué le impide participar en estos programas?
6. ¿A quién le corresponde desarrollar un medio ambiente sano y hábitos saludables en los niños (padres, escuelas, el gobierno, tiendas de abarrotes, organizaciones sin fines de lucro con base en la comunidad, etc.)?
 - a. ¿Cuál es su papel en el desarrollo de hábitos saludables y medio ambiente sano para los niños?
7. ¿Qué puede hacer usted, o la comunidad en general, para fomentar un medio ambiente sano y hábitos saludables en los niños?
 - a. ¿Qué políticas cambiaría o pondría en práctica para promover una alimentación sana y una vida activa?
 - b. ¿Qué recursos o capacitación necesitaría usted para hacer esos cambios?
 - c. ¿Qué le haría a usted involucrarse en impulsar (abogar por) el cambio en su comunidad?
 - d. ¿Qué le impediría ser parte activa en promover cambios en su comunidad?

Appendix D: Built Environment and Food Access Survey



Healthy Eating and Active Living Survey

Thank you for taking the Healthy Living Matters Healthy Eating and Active Living Survey! Healthy Living Matters is a group of local leaders working to curb childhood obesity in Houston/Harris County. Your feedback on this survey will help us identify major obstacles to active, healthy living and eating in your community and ways to address them. This survey should take approximately 10-15 minutes. Thank you!

Household Information

- What is your home zip code?

- Does your family have a car?
 - Yes
 - No
 - Prefer not to answer
- Does your family have a bicycle?
 - Yes
 - No
 - Prefer not to answer
- Do you ever use a wheelchair, mobility scooter, or other mobility device?
 - Yes
 - No
 - Prefer not to answer
- How concerned are you about childhood obesity in your community?
 - Very concerned
 - Concerned
 - Not really concerned
 - Not at all concerned
- How many people live in your household (including yourself)?
 - _____ Adults 18 and over
 - _____ Children 16-17 years old
 - _____ Children 12-15 years old
 - _____ Children under 12 years old

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Healthy Eating and Active Living Survey

7. If you have children, what schools or day cares do they currently attend?
(List up to three)

- 1: _____
 2: _____
 3: _____

School Transportation

8. If you have children, what is the shortest distance that any of them travel to school?

- Less than 1/4 mile
- 1/4 - 1/2 mile
- 1/2 - 1 mile
- 1 - 2 miles
- More than 2 miles
- I don't know / Do not have children

9. If you have children, what is the longest distance that any of them travel to school?

- Less than 1/4 mile
- 1/4 - 1/2 mile
- 1/2 - 1 mile
- 1 - 2 miles
- More than 2 miles
- I don't know / Do not have children

10. If you have children, how do they most frequently arrive at and leave from school? (Please select one per column)

| | Arrive at school | Leave from school |
|--|------------------|-------------------|
| Walk | | |
| Bike | | |
| School Bus | | |
| Family vehicle (only children from your family) | | |
| Carpool (including children from other families) | | |
| Transit (e.g. city bus) | | |
| Other (skateboard, scooter, inline skates, etc.) | | |

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Healthy Eating and Active Living Survey

Eating Habits of Children

11. How much do you know about what your child is eating during the school day?

- A lot
- Some
- Not much
- Nothing
- I don't have children

12. In a typical week, how often does your child drink sodas?

- More than once per day
- Once per day
- A few times per week
- A few times per month or on special occasions
- Never
- I don't have children

13. How concerned are you about your child being or becoming overweight or obese, either in terms of the probability of it happening or the potential health consequences?

- Very concerned
- Concerned
- Somewhat concerned
- Not at all concerned
- I don't have children

Walking and Biking Activities

14. How many times per week do you typically walk or bike to get around your neighborhood?

- 0
- 1 - 2
- 3 - 5
- 6 - 9
- 10+

15. How many times per week do you typically walk, bike, or run for fun or exercise?

- 0
- 1 - 2
- 3 - 5
- 6 - 9
- 10+

16. Have you walked or biked to any of the following destinations within the last week? (Select all that apply.)

- Job
- School
- Restaurants
- Parks/Entertainment
- Retail Stores
- Transit
- Grocery Stores
- Church
- Other (please specify): _____
- I have not walked or biked in the last week

Healthy Eating and Active Living Survey

Perceptions of Neighborhood Walking and Biking Conditions

17. Do you agree with these statements?

| | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|-------------------|----------|-------------------|----------------|-------|----------------|
| I feel very comfortable walking and biking in my neighborhood | | | | | | |
| I would feel comfortable letting a child walk or bike alone in my neighborhood | | | | | | |
| I would walk or bike 10 minutes to get somewhere if I felt I could do it safely | | | | | | |
| The neighborhood has a lot of sidewalks in good condition | | | | | | |
| The neighborhood has a lot of bike routes in good condition | | | | | | |
| Neighborhood parks, trails, & open spaces are provided within easy walking distances | | | | | | |
| Neighborhood parks, trails, & open spaces are connected by sidewalks or paths so most residents can get there by foot or bike | | | | | | |
| There are many destinations within a 10 minute walk from my house | | | | | | |

Active Transportation Facilities

18. Do you agree that these are barriers or obstacles to walking and biking in your community?

| | Strongly Disagree (not an obstacle) | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree (big obstacle) |
|--|-------------------------------------|----------|-------------------|----------------|-------|-------------------------------|
| Not enough walking / biking paths (e.g. sidewalks, trails) | | | | | | |
| Poor quality of walking / biking paths | | | | | | |
| Intersections / roadways that are difficult to cross | | | | | | |
| Safety / fear of crime | | | | | | |
| Lack of adequate lighting | | | | | | |
| Weather or climate | | | | | | |
| Lack of shade / trees | | | | | | |
| High traffic volumes/speeds | | | | | | |
| Too far to walk / bike in a reasonable amount of time | | | | | | |
| Poor air quality | | | | | | |
| No place to lock up or park bikes | | | | | | |

Healthy Eating and Active Living Survey

19. What barriers would have to be addressed before you would feel comfortable letting a child walk or bike to school?

- Not enough walking / biking paths (e.g. sidewalks, bike paths)
- Lack of shade / trees
- Poor quality of walking / biking paths
- High traffic volumes / speeds
- Intersections / roadways that are difficult to cross
- Too far to walk / bike in a reasonable amount of time
- Safety / fear of crime
- Poor air quality
- Lack of adequate lighting
- No place to lock up / park bikes
- Weather or climate
- Other (please specify):
- I already let a child walk or bike to school in my neighborhood

Food and Meals

20. On a scale of 1 to 4, how would you describe your role in determining what your child eats (for example, grocery shopping, preparing meals, providing snacks, taking children to restaurants)?

| | | | |
|--------------------------------------|------------------------------------|--|--|
| <p>1 I'm not involved at all</p> | <p>2 I'm somewhat involved</p> | <p>3 I'm very involved, but not the main person in the household</p> | <p>4 I'm the main person in the household who cooks and shops for food</p> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

21. How many meals per week do you typically prepare at home?

- 0
- 1
- 2
- 3
- 4
- 5 or more

22. On average, how often do you shop for food?

- More than once a week
- Once a week
- Every other week
- Once a month

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Healthy Eating and Active Living Survey

Grocery Stores

23. List up to three places where you regularly shop for food.

(For example: Fiesta Mart on Quitman or NE Houston Community Center Food Pantry on Gager)

Name and location 1: _____

Name and location 2: _____

Name and location 3: _____

24. On average, how far do you travel to go grocery shopping?

- Less than 1 mile (20 min walk)
- 1 - 5 miles
- 6 - 10 miles
- Over 10 miles

25. Rank the following in order of importance from 1 (most important) to 6 (least important) to you when buying food for your household.

- _____ Price
- _____ Convenience
- _____ Nutritional Value
- _____ Quality/Freshness
- _____ Taste
- _____ Variety

26. Do you agree that the grocery stores in your neighborhood do these things?

| | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|--|-------------------|----------|-------------------|----------------|-------|----------------|
| They carry lowfat foods | | | | | | |
| They carry whole wheat or whole grain foods | | | | | | |
| They offer discounts or coupons for healthy foods | | | | | | |
| They display promotional signs about healthy foods | | | | | | |
| They are clean and well maintained | | | | | | |

27. How satisfied are you with the availability, variety, quality, and price of the fruits and vegetables where you grocery shop?

| | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|-------------------|-------------------|----------|-------------------|----------------|-------|----------------|
| Availability | | | | | | |
| Variety | | | | | | |
| Quality/Freshness | | | | | | |
| Price | | | | | | |

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Healthy Eating and Active Living Survey

28. How many times a week does your family . . .

_____ Eat outside of the home?

_____ Eat at a fast-food restaurant?

29. Do you agree that restaurants in your neighborhood do these things?

| | Strongly Disagree | Disagree | Somewhat Disagree | Somewhat Agree | Agree | Strongly Agree |
|---|-------------------|----------|-------------------|----------------|-------|----------------|
| Provide nutritional information about available food items | | | | | | |
| Encourage moderate portion sizes as opposed to super-sizes or all-you-can-eat | | | | | | |
| Display promotional signs about healthy foods | | | | | | |

Personal Information

This question below ask for background information on you as the respondent. If you do not wish to provide this information please select *Prefer not to answer* for each question. Please remember that all responses are anonymous.

30. What is your age?

- Less than 18
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65+
- Prefer not to answer

31. What is your sex?

- Male
- Female
- Prefer not to answer

32. Which race/ethnicity best describes you? *(Please choose only one.)*

- American Indian / Alaskan Native
- Asian / Pacific Islander
- Black or African American
- Hispanic American
- White / Caucasian
- Other: _____
- Prefer not to answer

33. What is your current marital status?

- Single
- Married or domestic partnership
- Divorced or separated
- Widow/widower
- Other: _____
- Prefer not to answer

Healthy Eating and Active Living Survey

34. What is your highest level of education?

- Less than high school
- Completed high school or GED
- Some college or vocational training
- Completed college or university
- Completed graduate or professional school
- Prefer not to answer

35. Which best describes the annual income for your household?

- \$0 - \$25,000
- \$25,001 - \$40,000
- \$40,001 - \$60,000
- \$60,001 - \$75,000
- Over \$75,001
- Prefer not to answer

36. How would you describe your employment status?

- Employed fulltime
- Employed part-time
- Self-employed
- Unemployed looking for work
- Unemployed and not looking for work
- Not able to work
- Student
- Homemaker
- Retired
- Prefer not to answer

37. Do you receive Supplemental Nutrition Assistance Program (SNAP) benefits (Lonestar card or food stamps) or Women, Infants, and Children (WIC) vouchers for food? (Check all that apply.)

- SNAP
- WIC

Last Thoughts

38. What are three things that you think would most help increase physical activity and healthy eating in your neighborhood?

- 1: _____
- 2: _____
- 3: _____

39. Are there any additional issues that you would like to comment on or that the Healthy Living Matters should address?

Appendix E: Built Environment and Food Access Survey (Spanish)



¡Healthy Living Matters: Alimentación Sana y Vida Activa!

¡Gracias por responder a Healthy Living Matters: Alimentación Sana y Vida Activa! Healthy Living Matters es un grupo de dirigentes locales que trabajan para frenar la obesidad infantil en Houston/Condado de Harris. Sus comentarios en esta encuesta nos ayudarán a identificar los principales obstáculos que enfrenta su comunidad para tener una vida sana, activa y con una alimentación adecuada, y además nos ayudará a identificar de qué manera se pudieran solucionar estos obstáculos. La encuesta debe tomar aproximadamente de 10 a 15 minutos. ¡Otra vez gracias!

Información sobre el Núcleo Familiar

- ¿Cuál es el código postal de su domicilio? _____
- ¿Su familia cuenta con automóvil propio?
 Sí No Prefiere no responder
- ¿Algún miembro de su familia tiene bicicleta?
 Sí No Prefiere no responder
- ¿Alguna vez ha tenido necesidad de utilizar una silla de ruedas manual o eléctrica, u otros artefactos que le ayuden para moverse?
 Sí No Prefiere no responder
- ¿Qué tan preocupado está usted sobre la obesidad infantil en su comunidad?
 Muy preocupado
 Preocupado
 No preocupado realmente
 Despreocupado totalmente

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¡ Alimentación Sana y Vida Activa!

- ¿Cuántas personas viven en su hogar (incluido usted mismo)?
 _____ Adultos de 18 años o más
 _____ Niños de 16 a 17 años de edad
 _____ Niños de 12 a 15 años de edad
 _____ Niños menores de 12 años
- Si tiene niños, ¿A que escuelas o guarderías asisten actualmente?
 (Liste hasta tres de las escuelas o guarderías)
 1: _____
 2: _____
 3: _____

Transporte Escolar

- Si tiene niños, ¿Cuál es la distancia más corta que cualquiera de ellos viaja a la escuela?
 Menos de 1/4 de milla
 de 1/4 de milla a 1/2 milla
 de 1/2 milla a 1 milla
 de 1 a 2 millas
 Más de 2 millas
 No se / No tengo niños
- Si tiene niños, ¿Cuál es la distancia más larga que cualquiera de ellos viaja a la escuela?
 Menos de 1/4 de milla
 de 1/4 de milla a 1/2 milla
 de 1/2 milla a 1 milla
 de 1 a 2 millas
 Más de 2 millas
 No se / No tengo niños
- Si tiene niños, ¿Cómo van y regresan de la escuela?
 (por favor seleccione solo uno por columna)

| | Para ir a la escuela | Para regresar de la escuela |
|---|----------------------|-----------------------------|
| Caminando | | |
| En bicicleta | | |
| Camión escolar | | |
| Vehículo de la familia (solo niños de su familia) | | |
| Viaje compartido en automóvil (incluso niños de otras familias) | | |
| Transporte (p. ej. camiones urbanos) | | |
| Otro (patineta, patin, patines de ruedas, etc.) | | |

¡Es tiempo para un cambio, porque **HEALTHY LIVING MATTERS!** Page 2
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Hábitos de alimentación de los niños

11. ¿Qué tanto sabe acerca de que es lo comen sus hijos durante el día en la escuela?
- Mucho
 Algo
 No mucho
 Nada
 No tengo niños
12. ¿Qué tan seguido toman sodas o refrescos sus hijos menores de edad, en una semana regular?
- Más de una vez por día
 Una vez al día
 Un par de veces por semana
 Un par de veces al mes o en ocasiones especiales
 Nunca
 No tengo niños
13. ¿Qué tan preocupado está de que sus hijos menores de edad vayan a padecer de sobrepeso u obesidad, ya sea en términos de la probabilidad de que ocurra o de las posibles consecuencias para la salud de sus hijos?
- Muy preocupado
 Preocupado
 No preocupado realmente
 Despreocupado totalmente
 No tengo niños

Actividades Recientes de Caminatas y Paseos en Bicicleta

14. ¿Normalmente cuántas veces por semana hace sus diligencias, en su barrio o comunidad, a pie o en bicicleta?
- 0
 1 - 2
 3 - 5
 6 - 9
 10+

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15. ¿Cuántas veces por semana normalmente camina, corre o va en bicicleta por diversión o para practicar ejercicio?

0 1 - 2 3 - 5 6 - 9 10+

16. ¿Se a dirigido a pie o en bicicleta a cualquiera de los siguientes destinos dentro de la última semana? (Seleccione todos los que se apliquen.)

Trabajo Escuela Iglesia
 Restaurantes Parques/Entretencimientos Tienda de abarrotes
 Supermercado Para tomar el transporte publico
 Otro (por favor especifique): _____
 Yo no he ido a pie o en bicicleta en la última semana

Cual es su percepción sobre las condiciones de su barrio para salir a pie o en bicicleta

17. ¿Qué tan de acuerdo está usted con las siguientes afirmaciones?

| | Totalmente en desacuerdo | En Desacuerdo | Un Poco en Desacuerdo | Algo de acuerdo | De acuerdo | Totalmente de Acuerdo |
|--|--------------------------|---------------|-----------------------|-----------------|------------|-----------------------|
| Me siento muy cómodo caminando o paseando en bicicleta en mi barrio | | | | | | |
| Yo me sentiría cómodo en dejar a un niño que camine o vaya en bicicleta, por si solo, en mi barrio | | | | | | |
| Yo podré ir a algún lado a pie o en bicicleta por 10 minutos si sintiera que hay seguridad publica | | | | | | |
| El barrio tiene muchas banquetas en buenas condiciones | | | | | | |
| El barrio tiene muchas rutas para bicicletas que se encuentran en buen estado | | | | | | |
| Los parques, senderos y espacios abiertos del barrio se encuentran a distancias cortas y se puede llegar a pie fácilmente | | | | | | |
| Los parques, senderos y espacios abiertos están conectados por banquetas o caminos que permiten a la mayoría de los residentes llegar a pie o en bicicleta | | | | | | |
| Hay muchos destinos a los que se puede llegar caminando en 10 minutos o menos, desde mi casa. | | | | | | |

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19. ¿Qué problemas tendrían que ser resueltos antes de que usted se sienta cómodo dejando a un niño ir y/o regresar de la escuela a pie o en bicicleta?
- No hay suficientes banquetas, senderos / rutas de bicicleta
 - Mala calidad del aire
 - Falta de sombra / árboles
 - Banquetas o rutas de bicicleta en mal estado
 - Ausencia de iluminación pública adecuada
 - Seguridad pública / temor al crimen
 - Calles con mucho tráfico / tráfico de alta velocidad
 - Intersecciones / carreteras que son difíciles de cruzar
 - Demasiado lejos para ir a pie o en bicicleta en un lapso de tiempo razonable
 - No hay estacionamiento para bicicletas / No hay en donde asegurarlas con candado
 - Condiciones meteorológicas o climáticas
 - Otro (por favor especifique): _____
 - Yo en mi barrio, ya dejo que los niños vayan y/o regresen de la escuela a pie o en bicicleta

Alimentos y Comidas

20. En una escala del 1 al 4, ¿Cómo describiría su papel en determinar que es lo que comen sus hijos (por ejemplo, al comprar el mandado, al preparar comidas, dándoles "snacks", llevando sus hijos a restaurantes)?

| | | | |
|--|-----------------------------------|---|---|
| 1 No estoy involucrado en absoluto | 2 Estoy un poco involucrado | 3 Estoy muy involucrado, pero no soy la persona a cargo del hogar | 4 Soy la persona encargada del hogar, quien cocina y hace las compras de los alimentos |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

21. ¿Cuántas comidas por semana regularmente prepara en casa?
- 0 1 2 3 4 5 or más

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Tienda de Abarrotes

22. ¿En promedio qué tan seguido compra comida?
- Más de una vez por semana
 - Una vez a la semana
 - Cada 15 días
 - Una vez al mes
23. Liste hasta 3 lugares en donde hace regularmente las compras para la comida. (Por ejemplo: Fiesta Mart en Quitman o Northeast Houston Community Center Food Pantry en Gager)
- Nombre y lugar 1: _____
- Nombre y lugar 2: _____
- Nombre y lugar 3: _____
24. ¿Qué tan lejos en promedio va a la tienda de abarrotes o supermercado?
- Menos de 1 milla (20 min caminando)
 - entre 1 milla y 5 millas
 - entre 6 y 10 millas
 - Más de 10 millas
25. Organice lo siguiente en orden de importancia para usted cuando hace las compras de alimentos para su familia, del 1 (más importante) al 6 (menos importante).
- _____ Precio
 - _____ Conveniencia
 - _____ Valor Nutritivo
 - _____ Calidad
 - _____ Sabor
 - _____ Variedad

¡ Alimentación Sana y Vida Activa!

19. ¿Qué problemas tendrían que ser resueltos antes de que usted se sienta cómodo dejando a un niño ir y/o regresar de la escuela a pie o en bicicleta?

- No hay suficientes banquetas, senderos / rutas de bicicleta
- Mala calidad del aire
- Falta de sombra / árboles
- Banquetas o rutas de bicicleta en mal estado
- Ausencia de iluminación pública adecuada
- Seguridad pública / temor al crimen
- Calles con mucho tráfico / tráfico de alta velocidad
- Intersecciones / carreteras que son difíciles de cruzar
- Demasiado lejos para ir a pie o en bicicleta en un lapso de tiempo razonable
- No hay estacionamiento para bicicletas / No hay en donde asegurarlas con candado
- Condiciones meteorológicas o climáticas
- Otro (por favor especifique): _____
- Yo en mi barrio, ya dejo que los niños vayan y/o regresen de la escuela a pie o en bicicleta

Alimentos y Comidas

20. En una escala del 1 al 4, ¿Cómo describiría su papel en determinar que es lo que comen sus hijos (por ejemplo, al comprar el mandado, al preparar comidas, dándoles "snacks", llevando sus hijos a restaurantes)?

- | | | | |
|--|-----------------------------------|---|---|
| 1 No estoy involucrado en absoluto | 2 Estoy un poco involucrado | 3 Estoy muy involucrado, pero no soy la persona a cargo del hogar | 4 Soy la persona encargada del hogar, quien cocina y hace las compras de los alimentos |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

21. ¿Cuántas comidas por semana regularmente prepara en casa?

- 0 1 2 3 4 5 or más

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Tienda de Abarrotes

22. ¿En promedio qué tan seguido compra comida?

- Más de una vez por semana
- Una vez a la semana
- Cada 15 días
- Una vez al mes

23. Liste hasta 3 lugares en donde hace regularmente las compras para la comida. (Por ejemplo: Fiesta Mart en Quitman o Northeast Houston Community Center Food Pantry en Gager)

Nombre y lugar 1: _____

Nombre y lugar 2: _____

Nombre y lugar 3: _____

24. ¿Qué tan lejos en promedio va a la tienda de abarrotes o supermercado?

- Menos de 1 milla (20 min caminando)
- entre 1 milla y 5 millas
- entre 6 y 10 millas
- Más de 10 millas

25. Organice lo siguiente en orden de importancia para usted cuando hace las compras de alimentos para su familia, del 1 (más importante) al 6 (menos importante).

- _____ Precio
- _____ Conveniencia
- _____ Valor Nutritivo
- _____ Calidad
- _____ Sabor
- _____ Variedad

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26. ¿Está usted de acuerdo en que las tiendas de comestibles en su barrio...

| | Totalmente en desacuerdo | En Desacuerdo | Un Poco en Desacuerdo | Algo de acuerdo | De acuerdo | Totalmente de Acuerdo |
|---|--------------------------|---------------|-----------------------|-----------------|------------|-----------------------|
| Tienen alimentos bajos en grasa | | | | | | |
| Tienen alimentos de trigo integral o de otros cereales integrales | | | | | | |
| Ofrecen descuentos o cupones para alimentos saludables | | | | | | |
| Tienen carteles de publicidad acerca de alimentos saludables | | | | | | |
| Tienen buen mantenimiento y están aseadas | | | | | | |

27. ¿Cuán satisfecho está de la disponibilidad, variedad, calidad y precio de las frutas y verduras que ofrece la tienda en donde usted hace sus compras?

| | Completamente insatisfecho | Muy insatisfecho | Un Poco insatisfecho | Algo satisfecho | Muy satisfecho | Completamente satisfecho |
|----------------|----------------------------|------------------|----------------------|-----------------|----------------|--------------------------|
| Disponibilidad | | | | | | |
| Variedad | | | | | | |
| Calidad | | | | | | |
| Precio | | | | | | |

Saliendo a Comer

28. ¿Cuántas veces por semana su familia come fuera de casa?

_____ por semana

29. ¿Cuántas veces por semana su familia come en un restaurant de comida rápida?

_____ por semana

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30. Está usted de acuerdo en que los restaurantes en su barrio...

| | Totalmente en desacuerdo | En Desacuerdo | Un Poco en Desacuerdo | Algo de acuerdo | De acuerdo | Totalmente de Acuerdo |
|--|--------------------------|---------------|-----------------------|-----------------|------------|-----------------------|
| Proporcionan información nutricional de los alimentos que tienen disponibles en el establecimiento | | | | | | |
| Le animan a comer porciones moderadas en lugar de "súper" tamaños o todo lo que pueda comer | | | | | | |
| Tienen carteles de publicidad acerca de alimentos saludables | | | | | | |

Información Personal

En esta página se le pide información sobre usted como el entrevistado. Si usted no desea proporcionar esta información, por favor seleccione "prefiere no responder" en cada pregunta. Pero por favor, recuerde que todas las respuestas son anónimas.

31. ¿Qué edad tiene?

- Menos de 18 años
- 18 - 24
- 25 - 34
- 35 - 44
- 45 - 54
- 55 - 64
- 65+
- Prefiere no responder

33. ¿Cuál raza o grupo étnico le describe mejor?

- (Por favor seleccione solo uno.)
- Indio Norte Americano o Nativo de Alaska
 - Asiático / de las Islas del Pacífico
 - De color o Africano Americano
 - Hispano Americano
 - Blanco / Caucásico
 - Otro (por favor especifique): _____

32. ¿A qué género pertenece?

- Masculino
- Femenino
- Prefiere no responder

- Prefiere no responder

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34. ¿Cuál es su estado civil?

- Soltero/a
 Casado/a o con pareja doméstica
 Divorciado/a o separado/a
 Viudo/a
 Otro (por favor especifique): _____
 Prefiere no responder

35. ¿Cómo describiría su situación de empleo?

- Empleado de tiempo completo
 Empleado de medio tiempo
 Trabaja por su cuenta
 Desempleado buscando trabajo
 Desempleado y no está en busca de trabajo
 Deshabilitado
 Estudiante
 Ama de casa
 Retirado
 Prefiere no responder

36. ¿Cuál de los siguientes describe mejor el ingreso anual de su hogar?

- \$0 - \$25,000
 \$25,001 - \$40,000
 \$40,001 - \$60,000
 \$60,001 - \$75,000
 Más de \$75,001
 Prefiere no responder

37. ¿Cuál es su grado más alto de educación?

- No termino la Escuela Preparatoria
 Completo la Escuela Preparatoria o GED
 Algunos estudios universitarios o de formación profesional
 Completo estudios universitarios
 Completo estudios profesionales
 Prefiere no responder

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38. ¿Recibe beneficios del Programa de Asistencia Nutricional Suplementaria (SNAP por sus siglas en inglés, tarjeta de Lonestar o estampillas para comida) o vales para comida del programa Mujeres, Infantes y Niños (WIC por sus siglas en inglés)? (Circule todos los que apliquen.)

- SNAP
 WIC

Last Thoughts

39. ¿Cuáles son las tres cosas que usted cree que ayudarían más para aumentar la actividad física y la alimentación saludable en su barrio o comunidad?

1:

2:

3:

40. ¿Hay otros temas adicionales en los cuales usted desearía hacer comentarios o los cuales Healthy Living Matters debiera abordar?

Appendix F: Summary of Public Meetings

Summary of Community Meetings & Presentations

| | | Near Northside | Kashmere Gardens | Pasadena | Comments |
|-----------|--|----------------|------------------|----------|---|
| 2/4/2013 | Pasadena High School | | | X | |
| 2/5/2013 | Ketelsen Elementary School | X | | | Took place during regularly-scheduled <i>Cafecitos</i> parent meeting |
| 2/5/2013 | Kashmere Multi Service Center | | X | | |
| 5/7/2013 | Ketelsen Elementary School | X | | | Took place during regularly-scheduled <i>Cafecitos</i> parent meeting |
| 5/14/2013 | Pasadena School Health Advisory Council (SHAC) | | | X | Took place during regularly-scheduled SHAC meeting |
| 5/14/2013 | Kashmere Multi Service Center | | X | | Took place during regularly-scheduled Super Neighborhood meeting |
| 5/15/2013 | Gardens Elementary School | | | X | |
| 5/21/2013 | Near Northside Healthy Community Partnership | X | | | Presentation only; during regularly-scheduled NNHCP meeting |

Appendix G: Summary of Stakeholder Engagement



The following is a list of the major stakeholders that were engaged as part of the built environment and food access assessment:

- City of Houston Planning Department
- City of Houston Public Works - Pedestrian and Bicyclist Coordinator
- H-GAC Bicyclist and Pedestrian Coordinator
- Principal of Kashmere Gardens Elementary
- Avenue CDC
- Superneighborhood 52
- City of Pasadena Planning Department
- City of Pasadena - City Council District D
- Near Northside Management District
- Texas Department of Transportation Pedestrian and Bicyclist Coordinator
- Northeast Concerned Citizens Group
- Fifth Ward CRC
- Fifth Ward TIRZ
- GO Neighborhoods
- Harris County Precinct 2
- City of Houston Councilmember Ed Gonzalez
- City of Houston Councilmember Jerry Davis
- City of Houston Mayor's office
- Pasadena Hispanic Business Council
- Houston ISD Food Services
- Recipe for Success
- Texas Children's Hospital
- Urban Harvest
- Wesley Community Center

Appendix H: Cost Estimates for Near Northside Projects

| NEAR NORTHSIDE 1-A Neighborhood park near Hogan Street | | | | |
|---|------|--------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| LAND ACQUISITION | EA | \$50,000.00 | 1 | \$50,000.00 |
| LIGHTING | EA | \$2,000.00 | 10 | \$20,000.00 |
| AMENITIES | EA | \$150,000.00 | 1 | \$150,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$220,000.00 |
| MOBILIZATION (4.5%) | | | | \$9,900.00 |
| DESIGN AND ENGINEERING (12%) | | | | \$26,400.00 |
| CONTINGENCIES (30%) | | | | \$66,000.00 |
| TOTAL | | | | \$322,300.00 |

| NEAR NORTHSIDE 1-B Asphalt walking trail at Ketelsen SPARK Park | | | | |
|--|------|-----------|----------|--------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| ASPHALT | LF | \$20.00 | 700 | \$14,000 |
| CONSTRUCTION SUBTOTAL | | | | \$14,000.00 |
| CONTINGENCY (30%) | | | | \$4,200 |
| MOBILIZATION (4.5%) | | | | \$630 |
| ENGINEERING AND SURVEYING (12%) | | | | \$1,680 |
| TOTAL | | | | \$34,510 |

| NEAR NORTHSIDE 1-C Improvements to Castillo Park | | | | |
|---|------|-------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| REMOVE EXISTING FENCE | EA | \$5,000.00 | 1 | \$5,000.00 |
| PROVIDE ADDITIONAL LIGHTING | EA | \$2,000.00 | 20 | \$40,000.00 |
| BASKETBALL COURT | EA | \$40,000.00 | 1 | \$40,000.00 |
| GARDEN | EA | \$30,000.00 | 1 | \$30,000.00 |
| LANDSCAPING | EA | \$75,000.00 | 1 | \$75,000.00 |
| ADDITIONAL AMENDITIES | EA | \$75,000.00 | 1 | \$75,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$265,000.00 |
| MOBILIZATION (4.5%) | | | | \$11,925.00 |
| ENGINEERING & DESIGN (12%) | | | | \$31,800.00 |
| CONTINGENCIES (15%) | | | | \$39,750.00 |
| TOTAL | | | | \$348,475.00 |

| NEAR NORTHSIDE 2-A 10' wide concrete trail along Little White Oak Bayou | | | | |
|--|------|--------------|----------|-----------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| Section 1: White Oak to Woodland Park | | | | |
| PREPARING ROW | STA | \$2,583.09 | 35.0 | \$90,408.32 |
| EXCAVATION (ROADWAY) | CY | \$5.63 | 425.9 | \$2,398.79 |
| CONC SIDEWALKS (4") | SY | \$38.88 | 2555.6 | \$99,369.61 |
| RETAINING WALL (CAST - IN - PLACE) | SF | \$45.86 | 1725.0 | \$79,113.90 |
| RAIL (PEDESTRIAN RAIL) (42 IN) | LF | \$80.00 | 230.0 | \$18,400.00 |
| CL C CONC (RAIL FOUNDATION) | CY | \$365.99 | 31.3 | \$11,448.27 |
| LIGHTING @ 150' SPACING | EA | \$2,000.00 | 16.0 | \$32,000.00 |
| HYBRID PEDESTRIAN BEACON AT QUITMAN STREET | EA | \$100,000.00 | 1.0 | \$100,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$433,138.89 |
| LANDSCAPING (10%) | | | | \$43,313.89 |
| MOBILIZATION (4.5%) | | | | \$19,491.25 |
| ENGINEERING AND SURVEYING (12%) | | | | \$51,976.67 |
| CONTINGENCIES (30%) | | | | \$129,941.67 |
| SUBTOTAL - WHITE OAK TO WOODLAND PARK | | | | \$677,862.36 |
| Section 2: Main Street to Moody Park | | | | |
| PREPARING ROW | STA | \$2,583.09 | 35.0 | \$90,408.32 |
| EXCAVATION (ROADWAY) | CY | \$5.63 | 648.1 | \$3,650.33 |
| CONC SIDEWALKS (4") | SY | \$38.88 | 3888.9 | \$151,214.62 |
| RETAINING WALL (CAST - IN - PLACE) | SF | \$45.86 | 2625.0 | \$120,390.72 |
| RAIL (PEDESTRIAN RAIL) (42 IN) | LF | \$80.00 | 350.0 | \$28,000.00 |
| CL C CONC (RAIL FOUNDATION) | CY | \$365.99 | 47.6 | \$17,421.28 |
| LIGHTING @ 150' SPACING | EA | \$2,000.00 | 24.0 | \$48,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$459,085.27 |
| LANDSCAPING (10%) | | | | \$45,908.53 |
| MOBILIZATION (4.5%) | | | | \$20,658.84 |
| ENGINEERING AND SURVEYING (12%) | | | | \$55,090.23 |
| CONTINGENCIES (30%) | | | | \$137,725.58 |
| SUBTOTAL - MAIN STREET TO MOODY PARK | | | | \$718,468.45 |
| Section 3: Woodland Park to Main Street | | | | |
| PREPARING ROW | STA | \$2,583.09 | 17.0 | \$43,912.61 |
| EXCAVATION (ROADWAY) | CY | \$5.63 | 314.8 | \$1,773.02 |
| CONC SIDEWALKS (4") | SY | \$38.88 | 1888.9 | \$73,447.10 |
| RETAINING WALL (CAST - IN - PLACE) | SF | \$45.86 | 1275.0 | \$58,475.49 |
| RAIL (PEDESTRIAN RAIL) (42 IN) | LF | \$80.00 | 170.0 | \$13,600.00 |
| CL C CONC (RAIL FOUNDATION) | CY | \$365.99 | 23.1 | \$8,461.77 |
| LIGHTING @ 150' SPACING | EA | \$2,000.00 | 12.0 | \$24,000.00 |
| HYBRID PEDESTRIAN BEACON AT MAIN STREET | EA | \$100,000.00 | 1.0 | \$100,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$323,669.99 |
| LANDSCAPING (10%) | | | | \$32,367.00 |
| MOBILIZATION (4.5%) | | | | \$14,565.15 |
| ENGINEERING AND SURVEYING (12%) | | | | \$38,840.40 |
| CONTINGENCIES (30%) | | | | \$97,101.00 |
| SUBTOTAL - WOODLAND PARK TO MAIN STREET | | | | \$506,543.53 |
| TOTAL FOR 2-A | | | | \$1,902,874.35 |

| NEAR NORTHSIDE 2-B Extend Fletcher Street | | | | |
|--|------|-------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| PREPARING ROW | STA | \$500.00 | 4.30 | \$2,150.00 |
| EXCAVATION (ROADWAY) | CY | \$3.86 | 630.67 | \$2,434.25 |
| LIME TRT (SUBGR)(DC)(6") | SY | \$2.15 | 1261.33 | \$2,711.87 |
| LIME (HYD, COM OR QK) (SLRY) OR QK (DRY) | TON | \$145.53 | 15.75 | \$2,292.24 |
| CONC PVMT (CONT REINF-CRCP)(10") | SY | \$36.14 | 1261.33 | \$45,582.63 |
| CONC CURB & GUTTER (TY II) | LF | \$13.23 | 946.00 | \$12,513.08 |
| CONC SIDEWALKS (6") | SY | \$46.16 | 525.56 | \$24,260.44 |
| BARRICADES, SIGNS AND TRAFFIC HANDLING | MO | \$3,825.32 | 5.00 | \$19,126.61 |
| CONC BOX CULV (6 FT X 4 FT) | LF | \$216.51 | 430.00 | \$93,098.07 |
| INLET (COMPL)(TY C) | EA | \$2,940.94 | 2.87 | \$8,430.70 |
| UTILITIES - WATER, ELECTRICAL | EA | \$75,000.00 | 1.00 | \$75,000.00 |
| PAVEMENT MARKINGS | EA | \$5,000.00 | 1.00 | \$5,000.00 |
| CONSTRUCTION SUBTOTAL 1 | | | | \$292,599.89 |
| MOBILIZATION (4.5%) | | | | \$13,167.00 |
| ENGINEERING & DESIGN (12%) | | | | \$35,111.99 |
| CONTINGENCIES (30%) | | | | \$87,779.97 |
| RIGHT OF WAY | | | | \$206,400.00 |
| TOTAL | | | | \$635,058.84 |

| NEAR NORTHSIDE 2-C Provide 5' sidewalks leading to light rail | | | | |
|--|------|-------------|----------|-----------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| EXCAVATION (ROADWAY) | CY | \$5.63 | 2416.6 | \$13,609.98 |
| CONC SIDEWALKS (4" DEPTH) | SY | \$38.88 | 14499.4 | \$563,792.92 |
| PREPARING ROW | AC | \$18,834.47 | 3.00 | \$56,423.41 |
| REMOVING CONC (SIDEWALKS) | SY | \$8.55 | 5191.1 | \$44,402.84 |
| CURB RAMPS (ASSUME 2 PER 400' OF SIDEWALK) | EA | \$1,042.36 | 65.2 | \$68,011.38 |
| CONSTRUCTION SUBTOTAL | | | | \$746,240.53 |
| LANDSCAPING (10%) | | | | \$74,624.05 |
| MOBILIZATION (4.5%) | | | | \$33,580.82 |
| ENGINEERING AND SURVEYING (12%) | | | | \$89,548.86 |
| CONTINGENCIES (30%) | | | | \$223,872.16 |
| TOTAL | | | | \$1,167,866.43 |

| NEAR NORTHSIDE 2-D Provide 5 bike share stations in Near Northside | | | | |
|---|------|-------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| BIKE SHARE STATION | EA | \$30,000.00 | 5 | \$150,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$150,000.00 |
| CONTINGENCIES (15%) | | | | \$22,500.00 |
| TOTAL | | | | \$172,500.00 |

| NEAR NORTHSIDE 3-A Provide pedestrian lighting along major corridors | | | | |
|---|------|-----------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| Pedestrian lighting along Quitman Street | | | | |
| PEDESTRIAN LIGHTS | EA | \$2,000 | 108 | \$216,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$216,000.00 |
| MOBILIZATION (4.5%) | | | | \$9,720.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$25,920.00 |
| CONTINGENCIES (30%) | | | | \$64,800.00 |
| SUBTOTAL - QUITMAN ST | | | | \$316,440.00 |
| Pedestrian lighting along Main Street | | | | |
| PEDESTRIAN LIGHTS | EA | \$2,000 | 44 | \$88,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$88,000.00 |
| MOBILIZATION (4.5%) | | | | \$3,960.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$10,560.00 |
| CONTINGENCIES (30%) | | | | \$26,400.00 |
| SUBTOTAL - MAIN ST | | | | \$128,920.00 |
| TOTAL FOR 3-A | | | | \$445,360.00 |

| NEAR NORTHSIDE 4-A Easier crossings on Quitman Street Construct curb extensions - cost for one intersection | | | | |
|---|------|------------|----------|-----------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| PREPARING ROW | STA | \$2,583.09 | 1 | \$2,583 |
| REMOVING CONC (SIDEWALKS) | SY | \$8.55 | 89 | \$760 |
| CURB RAMPS (TY 7) | EA | \$1,042.36 | 8 | \$8,339 |
| CONC SIDEWALKS (4") | SY | \$38.88 | 422 | \$16,418 |
| CONC CURB & GUTTER (TY II) | LF | \$13.23 | 320 | \$4,233 |
| BARRICADES, SIGNS AND TRAFFIC HANDLING | MO | \$3,825.32 | 1 | \$3,825 |
| DRAINAGE MODIFICATIONS | EA | \$5,000.00 | 2 | \$10,000 |
| PEDESTRIAN LIGHTING | EA | \$2,000.00 | 8 | \$16,000 |
| CONSTRUCTION SUBTOTAL | | | | \$59,575 |
| CONTINGENCY (30%) | | | | \$17,872 |
| MOBILIZATION (4.5%) | | | | \$3,485 |
| ENGINEERING AND SURVEYING (12%) | | | | \$7,149 |
| TOTAL | | | | \$88,081 |

| NEAR NORTHSIDE 4-B Light rail Crossings Raise intersection and install hybrid pedestrian beacon at one intersection | | | | |
|---|------|--------------|----------|------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| PREPARING ROW | STA | \$2,583.09 | 1 | \$2,583 |
| REMOVING CONC (PAV) | SY | \$4.44 | 511 | \$2,269 |
| LIME TRT (SUBGR)(DC)(6") | SY | \$2.15 | 562 | \$1,209 |
| LIME (HYD, COM OR QK) (SLRY) OR QK (DRY) | TON | \$145.53 | 7 | \$1,022 |
| CONC PVMT (CONT REINF-CRCP)(10") | SY | \$36.14 | 511 | \$18,471 |
| CONC CURB & GUTTER (TY II) | LF | \$13.23 | 200 | \$2,645 |
| BARRICADES, SIGNS AND TRAFFIC HANDLING | MO | \$3,825.32 | 2 | \$7,651 |
| HYBRID PEDESTRIAN BEACON | EA | \$100,000.00 | 1 | \$100,000 |
| CONSTRUCTION SUBTOTAL | | | | \$133,266 |
| RAIL MODIFICATIONS CONTINGENCY | | | | \$25,000 |
| CONTINGENCY (30%) | | | | \$39,980 |
| MOBILIZATION (4.5%) | | | | \$7,796 |
| ENGINEERING AND SURVEYING (12%) | | | | \$15,992 |
| TOTAL | | | | \$222,034 |

| NEAR NORTHSIDE 4-C Bike route on Henry Street | | | | |
|--|------|------------|----------|-------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| NEW SIGNAGE | EA | \$2,084.11 | 1 | \$2,084.11 |
| CONSTRUCTION SUBTOTAL | | | | \$2,084.11 |
| CONTINGENCIES(30%) | | | | \$625.23 |
| MOBILIZATION (4.5%) | | | | \$93.78 |
| TOTAL | | | | \$2,803.13 |

| NEAR NORTHSIDE 4-D Bike lanes on Hogan Street | | | | |
|--|------|-------------|----------|--------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| REMOVE EXISTING PAVEMENT MARKINGS | EA | \$5,262.24 | 1 | \$5,317.54 |
| NEW PAVEMENT MARKINGS | EA | \$23,627.70 | 1 | \$23,627.70 |
| NEW SIGNAGE | EA | \$3,334.58 | 1 | \$3,334.58 |
| SUBTOTAL | | | | \$32,279.82 |
| CONTINGENCIES (30%) | | | | \$8,374.61 |
| MOBILIZATION(4.5%) | | | | \$1,452.59 |
| ENGINEERING AND SURVEYING (12%) | | | | \$3,873.58 |
| TOTAL | | | | \$45,980.60 |

Appendix I: Market Basket Survey for Near Northside



Most Found Foods: Availability by Store Type

| Item | Grocery | Convenience | General | Total |
|-------------------------------------|---------|-------------|---------|-------|
| Corn (can) | 3 | 20 | 3 | 26 |
| Green Beans (can) | 2 | 18 | 2 | 22 |
| Mixed Fruit (can, heavy) | 3 | 11 | 3 | 17 |
| Mixed Vegetables (can) | 3 | 12 | 2 | 17 |
| Peas (can) | 3 | 17 | 3 | 23 |
| Beans (can) | 3 | 18 | 3 | 24 |
| Refried Beans (can) | 3 | 17 | 0 | 20 |
| Dried Beans | 3 | 10 | 2 | 15 |
| White Rice | 3 | 16 | 2 | 21 |
| Regular Pasta | 3 | 16 | 2 | 21 |
| Regular Bread | 3 | 12 | 2 | 17 |
| White Flour | 3 | 13 | 2 | 18 |
| Whole Milk (gallon and half gallon) | 3 | 22 | 2 | 27 |
| Frosted Flakes Cereal | 2 | 11 | 2 | 15 |
| Sugared Fruit Rings Cereal | 2 | 15 | 2 | 19 |

Least Found Foods: Availability by Store Type

| Item | Grocery | Convenience | General | Total |
|-----------------------------------|---------|-------------|---------|-------|
| Apples (bagged) | 1 | 0 | 0 | 1 |
| Blueberries (frozen) | 1 | 0 | 0 | 1 |
| Carrots (frozen) | 1 | 0 | 0 | 1 |
| Grapefruit | 1 | 0 | 0 | 1 |
| Grapefruit (bagged) | 1 | 0 | 0 | 1 |
| Greens | 1 | 0 | 0 | 1 |
| Honeydew Melon | 1 | 0 | 0 | 1 |
| Leaf Lettuce | 1 | 0 | 0 | 1 |
| Mandarin Oranges (can, heavy) | 0 | 0 | 1 | 1 |
| Mango (frozen) | 1 | 0 | 0 | 1 |
| Mixed Berries (frozen) | 1 | 0 | 0 | 1 |
| Mixed Fruit (frozen) | 1 | 0 | 0 | 1 |
| Onion (bagged) | 1 | 0 | 0 | 1 |
| Oranges (bagged) | 1 | 0 | 0 | 1 |
| Peas (frozen) | 1 | 0 | 0 | 1 |
| Strawberries | 1 | 0 | 0 | 1 |
| Tomato (can) | 1 | 0 | 0 | 1 |
| Watermelon | 1 | 0 | 0 | 1 |
| Low-fat Cottage Cheese | 1 | 0 | 0 | 1 |
| Low-fat Yogurt | 1 | 0 | 0 | 1 |
| Low-fat Cheddar Cheese | 0 | 0 | 0 | 0 |
| Fat-free Cheese Slices | 1 | 0 | 0 | 1 |
| Queso Oaxaca | 1 | 0 | 0 | 1 |
| Queso Panela | 1 | 0 | 0 | 1 |
| 1% Milk (all sizes) | 1 | 0 | 0 | 1 |
| Skim Milk (quart and half gallon) | 1 | 0 | 0 | 1 |
| Whole Wheat Hamburger Buns | 1 | 0 | 0 | 1 |
| Whole Wheat Hotdog Buns | 1 | 0 | 0 | 1 |

Appendix J: Cost Estimates for Kashmere Garden Projects

| KASHMERE GARDENS 1-A Neighborhood park on southwest side of study area | | | | |
|---|------|-------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| LAND ACQUISITION | EA | \$30,000.00 | 1 | \$30,000.00 |
| LIGHTING | EA | \$2,000.00 | 10 | \$20,000.00 |
| AMENITIES | EA | \$150,000 | 1 | \$150,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$200,000.00 |
| MOBILIZATION (4.5%) | | | | \$9,000.00 |
| DESIGN & ENGINEERING (12%) | | | | \$24,000.00 |
| CONTINGENCIES (30%) | | | | \$60,000.00 |
| TOTAL | | | | \$293,000.00 |

| KASHMERE GARDENS 1-B Provide basketball facilities and other sports at local parks | | | | |
|---|------|-------------|----------|-----------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| COURT | EA | \$26,400.00 | 1 | \$26,400 |
| FENCING | EA | \$5,300.00 | 1 | \$5,300 |
| SEATING | EA | \$800.00 | 1 | \$800 |
| LIGHTING | EA | \$6,000.00 | 1 | \$6,000 |
| BACKBOARDS WITH POST | EA | \$1,800.00 | 1 | \$1,800 |
| CONSTRUCTION SUBTOTAL | | | | \$40,300 |
| CONTINGENCY (30%) | | | | \$12,090 |
| MOBILIZATION (4.5%) | | | | \$1,814 |
| TOTAL | | | | \$54,204 |

| KASHMERE GARDENS 2-A 10' Trail along Hunting Bayou | | | | |
|---|------|--------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| PREPARING ROW | STA | \$2,583.09 | 48.0 | \$123,988.56 |
| CONC SIDEWALKS (4") | SY | \$38.88 | 5333.3 | \$207,380.05 |
| RAIL (PEDESTRIAN RAIL) (42 IN) | LF | \$80.00 | 480.0 | \$38,400.00 |
| CL C CONC (RAIL FOUNDATION) | CY | \$365.99 | 65.3 | \$23,892.05 |
| LIGHTING @ 150' SPACING | EA | \$2,000.00 | 32.0 | \$64,000.00 |
| HYBRID PEDESTRIAN BEACON AT QUITMAN STREET | EA | \$100,000.00 | 1.0 | \$100,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$557,660.66 |
| LANDSCAPING (10%) | | | | \$55,766.07 |
| MOBILIZATION (4.5%) | | | | \$25,094.73 |
| ENGINEERING AND SURVEYING (12%) | | | | \$66,919.28 |
| CONTINGENCIES (30%) | | | | \$167,298.20 |
| TOTAL FOR 2-A | | | | \$872,738.93 |

| KASHMERE GARDENS 2-B Trail connection to LBJ Hospital | | | | |
|--|------|------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| PREPARING ROW | STA | \$2,583.09 | 18.0 | \$46,495.71 |
| CONC SIDEWALKS (4") | SY | \$38.88 | 2000.0 | \$77,767.52 |
| RAIL (PEDESTRIAN RAIL) (42 IN) | LF | \$80.00 | 180.0 | \$14,400.00 |
| CL C CONC (RAIL FOUNDATION) | CY | \$365.99 | 24.5 | \$8,959.52 |
| LIGHTING @ 150' SPACING | EA | \$2,000.00 | 12.0 | \$24,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$171,622.75 |
| LANDSCAPING (10%) | | | | \$17,162.27 |
| MOBILIZATION (4.5%) | | | | \$7,723.02 |
| ENGINEERING AND SURVEYING (12%) | | | | \$20,594.73 |
| CONTINGENCIES (30%) | | | | \$51,486.82 |
| TOTAL | | | | \$268,589.60 |

| KASHMERE GARDENS 2-C 10' wide trail along Hunting Tributary south of Hutcheson Park | | | | |
|--|------|------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| PREPARING ROW | STA | \$2,583.09 | 55.0 | \$142,070.22 |
| CONC SIDEWALKS (4") | SY | \$38.88 | 6111.1 | \$237,622.98 |
| RAIL (PEDESTRIAN RAIL) (42 IN) | LF | \$80.00 | 550.0 | \$44,000.00 |
| CL C CONC (RAIL FOUNDATION) | CY | \$365.99 | 74.8 | \$27,376.30 |
| LIGHTING @ 150' SPACING | EA | \$2,000.00 | 37.0 | \$74,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$525,069.51 |
| LANDSCAPING (10%) | | | | \$52,506.95 |
| MOBILIZATION (4.5%) | | | | \$23,628.13 |
| ENGINEERING AND SURVEYING (12%) | | | | \$63,008.34 |
| CONTINGENCIES (30%) | | | | \$157,520.85 |
| TOTAL FOR 2-A | | | | \$821,733.78 |

| KASHMERE GARDENS 2-E Provide 5' sidewalks along and connecting to Lockwood | | | | |
|---|------|-------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| EXCAVATION (ROADWAY) | CY | \$5.63 | 990.7 | \$5,579.78 |
| CONC SIDEWALKS (4") | SY | \$38.88 | 5944.4 | \$231,142.35 |
| PREPARING ROW | AC | \$18,834.47 | 1.23 | \$23,132.32 |
| REMOVING CONC (SIDEWALKS) | SY | \$8.55 | 2577.8 | \$22,049.36 |
| CURB RAMPS (ASSUME 2 PER 400' OF SW) | EA | \$1,042.36 | 53.5 | \$55,766.26 |
| CONSTRUCTION SUBTOTAL | | | | \$337,670.07 |
| LANDSCAPING (10%) | | | | \$33,767.01 |
| MOBILIZATION (4.5%) | | | | \$15,195.15 |
| ENGINEERING AND SURVEYING (12%) | | | | \$40,520.41 |
| CONTINGENCIES (30%) | | | | \$101,301.02 |
| TOTAL | | | | \$528,453.66 |

| KASHMERE GARDENS 3-A | | | | |
|--|------|-----------|----------|--------------|
| Enhanced lighting at local parks (assume 25 new pedestrian lights per park at 3 parks) | | | | |
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| PEDESTRIAN LIGHTING AT PARKS | EA | \$2,000 | 75 | \$150,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$150,000.00 |
| CONTINGENCIES (30%) | | | | \$45,000.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$18,000.00 |
| MOBILIZATION (4.5%) | | | | \$6,750.000 |
| TOTAL | | | | \$213,000.00 |

| KASHMERE GARDENS 4-A | | | | |
|--|------|-------------|----------|----------------|
| Enhance Lockwood Drive cross section to ease pedesrian crossings | | | | |
| Reconstruct Lockwood Drive with 2 lanes in each direction, a central median, new sidewalks, new curbs between Minden Street and 300 feet north of Cavalcade Street | | | | |
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| PREPARING ROW | STA | \$500.00 | 22.00 | \$11,000.00 |
| REMOVE EXISTING ASPHALT | SY | \$2.59 | 11733.33 | \$30,389.33 |
| EXCAVATION (ROADWAY) | CY | \$3.86 | 6453.33 | \$24,908.64 |
| LIME TRT (SUBGR)(DC)(6") | SY | \$2.15 | 12906.67 | \$27,749.33 |
| LIME (HYD, COM OR QK) (SLRY) OR QK (DRY) | TON | \$145.53 | 161.17 | \$23,455.47 |
| CONC PVMT (CONT REINF-CRCP)(10") | SY | \$36.14 | 12906.67 | \$466,426.93 |
| CONC CURB & GUTTER (TY II) | LF | \$13.23 | 7920.00 | \$104,760.69 |
| CONC SIDEWALKS (6") | SY | \$46.16 | 2688.89 | \$124,123.20 |
| NEW CURB RAMPS | EA | \$1,042.00 | 26.00 | \$27,092.00 |
| BARRICADES, SIGNS AND TRAFFIC HANDLING | MO | \$3,825.32 | 5.00 | \$19,126.61 |
| INLET (COMPL)(TY C) | EA | \$2,940.94 | 14.67 | \$43,133.82 |
| PAVEMENT MARKINGS | EA | \$10,000.00 | 1.00 | \$10,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$912,166.03 |
| MOBILIZATION (4.5%) | | | | \$41,047.47 |
| ENGINEERING & DESIGN (12%) | | | | \$109,459.92 |
| CONTINGENCIES (30%) | | | | \$273,649.81 |
| TOTAL | | | | \$1,336,323.23 |

| Kashmere Gardens 4-B Improvements to pedestrian realm at intersections along Lockwood Drive Crosswalks, curb ramps, pedestrian signals, ped refuges, and new sidewalk | | | | |
|---|------|-------------|----------|--------------------|
| Kelley at Lockwood | | | | |
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| CROSSWALK MARKINGS | FT | \$1.90 | 400.00 | \$761.00 |
| REMOVE EXISTING CURB RAMPS | EA | \$20.53 | 4.00 | \$82.13 |
| NEW CURB RAMPS | EA | \$1,042.00 | 8.00 | \$8,336.00 |
| REMOVE EXISTING SIDEWALK | FT | \$3.42 | 240.00 | \$821.33 |
| ADDITIONAL SIDEWALK | FT | \$26.58 | 240.00 | \$6,378.67 |
| CONSTRUCTION SUBTOTAL | | | | \$16,379.13 |
| MOBILIZATION (4.5%) | | | | \$737.06 |
| ENGINEERING & DESIGN (12%) | | | | \$1,965.50 |
| CONTINGENCIES (30%) | | | | \$4,913.74 |
| TOTAL - KELLEY AT LOCKWOOD | | | | \$23,995.43 |
| Lockwood at IH 610 Frontage Roads | | | | |
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| CROSSWALK MARKINGS | FT | \$1.90 | 412.00 | \$783.83 |
| REMOVE EXISTING CURB RAMPS | EA | \$20.53 | 4.00 | \$82.13 |
| NEW CURB RAMPS | EA | \$1,042.00 | 4.00 | \$4,168.00 |
| PEDESTRIAN REFUGE AREA | EA | \$30,000.00 | 2.00 | \$60,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$65,033.96 |
| MOBILIZATION (4.5%) | | | | \$2,926.53 |
| ENGINEERING & DESIGN (12%) | | | | \$7,804.08 |
| CONTINGENCIES (30%) | | | | \$19,510.19 |
| TOTAL - LOCKWOOD AT IH 610 | | | | \$95,274.76 |
| Lockwood at Pardee | | | | |
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| CROSSWALK MARKINGS | FT | \$1.90 | 80.00 | \$152.20 |
| NEW CURB RAMPS | EA | \$1,042.00 | 2.00 | \$2,084.00 |
| ADDITIONAL SIDEWALK | FT | \$26.58 | 80.00 | \$2,126.22 |
| CONCRETE PIPE | LF | \$48.56 | 30.00 | \$1,456.80 |
| CONSTRUCTION SUBTOTAL | | | | \$5,819.22 |
| MOBILIZATION (4.5%) | | | | \$261.87 |
| ENGINEERING & DESIGN (12%) | | | | \$698.31 |
| CONTINGENCIES (30%) | | | | \$1,745.77 |
| TOTAL LOCKWOOD AT PARDEE | | | | \$8,525.16 |
| Lockwood at Rand | | | | |
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| ADDITIONAL SIDEWALK | FT | \$26.58 | 70.00 | \$1,860.44 |
| CONCRETE PIPE | LF | \$48.56 | 30.00 | \$1,456.80 |
| CONSTRUCTION SUBTOTAL | | | | \$3,317.24 |
| MOBILIZATION (4.5%) | | | | \$149.28 |
| ENGINEERING & DESIGN (12%) | | | | \$398.07 |
| CONTINGENCIES (30%) | | | | \$995.17 |
| TOTAL LOCKWOOD AT RAND | | | | \$4,859.76 |

| Lockwood at Cavalcade | | | | |
|--|------|------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| REMOVE EXISTING CURB RAMPS | EA | \$20.53 | 4.00 | \$82.13 |
| NEW CURB RAMPS | EA | \$1,042.00 | 8.00 | \$8,336.00 |
| REMOVE EXISTING SIDEWALK | FT | \$3.42 | 60.00 | \$205.33 |
| ADDITIONAL SIDEWALK | FT | \$26.58 | 60.00 | \$1,594.67 |
| CONSTRUCTION SUBTOTAL | | | | \$10,218.13 |
| MOBILIZATION (4.5%) | | | | \$459.82 |
| ENGINEERING & DESIGN (12%) | | | | \$1,226.18 |
| CONTINGENCIES (30%) | | | | \$3,065.44 |
| TOTAL LOCKWOOD AT CAVALCADE | | | | \$14,969.57 |
| Lockwood at Crane | | | | |
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| NEW CURB RAMPS | EA | \$1,042.00 | 4.00 | \$4,168.00 |
| REMOVE EXISTING SIDEWALK | FT | \$3.42 | 60.00 | \$205.33 |
| ADDITIONAL SIDEWALK | FT | \$26.58 | 330.00 | \$8,770.67 |
| CONCRETE PIPE | LF | \$48.56 | 60.00 | \$2,913.60 |
| CONSTRUCTION SUBTOTAL | | | | \$16,057.60 |
| MOBILIZATION (4.5%) | | | | \$722.59 |
| ENGINEERING & DESIGN (12%) | | | | \$1,926.91 |
| CONTINGENCIES (30%) | | | | \$4,817.28 |
| TOTAL LOCKWOOD AT CRANE | | | | \$23,524.38 |
| Lockwood at Collingsworth | | | | |
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| CROSSWALK MARKINGS | FT | \$1.90 | 280.00 | \$532.70 |
| REMOVE EXISTING SIDEWALK | FT | \$3.42 | 480.00 | \$1,642.67 |
| ADDITIONAL SIDEWALK | FT | \$26.58 | 480.00 | \$12,757.33 |
| CONSTRUCTION SUBTOTAL | | | | \$14,932.70 |
| MOBILIZATION (4.5%) | | | | \$671.97 |
| ENGINEERING & DESIGN (12%) | | | | \$1,791.92 |
| CONTINGENCIES (30%) | | | | \$4,479.81 |
| TOTAL - LOCKWOOD AT COLLINGSWORTH | | | | \$21,876.41 |
| TOTAL - ALL INTERSECTIONS | | | | \$193,025.47 |

| KASHMERE GARDENS 5-A Landscaping and pedestrian lighting at intersection nodes | | | | |
|---|------|-----------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| PEDESTRIAN LIGHTING | EA | \$2,000 | 8 | \$16,000.00 |
| STREET TREES AND LANDSCAPING | EA | \$15,000 | 1 | \$15,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$31,000.00 |
| CONTINGENCIES (30%) | | | | \$9,300.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$3,720.00 |
| MOBILIZATION (4.5%) | | | | \$1,395.00 |
| RIGHT OF WAY ON CORNERS FOR LANDSCAPING | | | | \$1,800.00 |
| SUBTOTAL PER INTERSECTION | | | | \$47,215.00 |
| TOTAL FOR 6 INTERSECTIONS | | | | \$283,290.00 |

Appendix K: Market Basket Survey for Kashmere Gardens



Most Found Foods: Availability by Store Type

| Item | Grocery | Convenience | General | Total |
|----------------------------|---------|-------------|---------|-------|
| Pineapple (can, lite) | 2 | 7 | 1 | 10 |
| Corn (can) | 2 | 10 | 2 | 14 |
| Green Beans (can) | 2 | 10 | 2 | 14 |
| Mixed Vegetables (can) | 2 | 9 | 1 | 12 |
| Peas (can) | 2 | 8 | 1 | 11 |
| Tomato (can) | 2 | 7 | 1 | 10 |
| Refried Beans (can) | 2 | 8 | 2 | 12 |
| Beans (can) | 2 | 9 | 2 | 13 |
| Dried Beans | 2 | 12 | 1 | 15 |
| Regular American Slices | 2 | 7 | 1 | 10 |
| Whole Milk | 2 | 11 | 2 | 15 |
| Oatmeal | 2 | 7 | 1 | 10 |
| Cheerios | 2 | 8 | 1 | 11 |
| Frosted Flakes | 2 | 8 | 2 | 12 |
| Sugared Fruit Rings Cereal | 2 | 11 | 2 | 15 |
| Corn Tortillas | 2 | 7 | 1 | 10 |
| Regular Bread | 2 | 13 | 1 | 16 |
| Regular Pasta | 2 | 13 | 2 | 17 |
| White Rice | 2 | 14 | 1 | 17 |
| White Flour | 2 | 10 | 1 | 13 |

Least Found Foods: Availability by Store Type

| Item | Grocery | Convenience | General | Total |
|--|---------|-------------|---------|-------|
| Apples (bagged) | 1 | 0 | 0 | 1 |
| Blueberries (frozen) | 0 | 0 | 0 | 0 |
| Broccoli | 1 | 0 | 0 | 1 |
| Cantaloupe | 1 | 0 | 0 | 1 |
| Carrots (bagged or frozen) | 1 | 0 | 0 | 1 |
| Corn | 1 | 0 | 0 | 1 |
| Grapefruit (bagged) | 0 | 0 | 0 | 0 |
| Honeydew Melon | 1 | 0 | 0 | 1 |
| Leaf Lettuce | 1 | 0 | 0 | 1 |
| Mango (fresh or frozen) | 1 | 0 | 0 | 1 |
| Mixed Berries (frozen) | 1 | 0 | 0 | 1 |
| Mixed Fruit (frozen) | 1 | 0 | 0 | 1 |
| Onions (bagged) | 1 | 0 | 0 | 1 |
| Oranges (bagged) | 0 | 0 | 0 | 0 |
| Papaya | 1 | 0 | 0 | 1 |
| Peaches (fresh or frozen) | 1 | 0 | 0 | 1 |
| Pears | 1 | 0 | 0 | 1 |
| Pears (can, lite) | 0 | 0 | 1 | 1 |
| Squash | 1 | 0 | 0 | 1 |
| Strawberries (fresh or frozen) | 1 | 0 | 0 | 1 |
| Watermelon | 1 | 0 | 0 | 1 |
| Fat-free Cheese Slices | 0 | 0 | 0 | 0 |
| Low-fat Cheddar Cheese | 0 | 1 | 0 | 1 |
| Cottage Cheese (regular or low-fat) | 1 | 0 | 0 | 1 |
| Low-fat Yogurt | 1 | 0 | 0 | 1 |
| Queso Fresco | 1 | 0 | 0 | 1 |
| Queso Oaxaca and Panela | 0 | 0 | 0 | 0 |
| Skim milk | 0 | 0 | 0 | 0 |
| Whole Wheat Flour | 1 | 0 | 0 | 1 |
| Whole Wheat Hamburger Buns, Hotdog Buns, Tortillas | 1 | 0 | 0 | 1 |

Appendix L: Cost Estimates for Pasadena Projects

| PASADENA 1-A Neighborhood park on Harris Avenue | | | | |
|--|------|--------------|----------|-----------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| LIGHTING | EA | \$2,000.00 | 50 | \$100,000.00 |
| AMENITIES | EA | \$500,000.00 | 1 | \$500,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$600,000.00 |
| MOBILIZATION (4.5%) | | | | \$27,000.00 |
| DESIGN AND ENGINEERING (12%) | | | | \$72,000.00 |
| CONTINGENCIES (30%) | | | | \$180,000.00 |
| LAND ACQUISITION | | | | \$800,000.00 |
| TOTAL | | | | \$1,679,000.00 |

| PASADENA 2-B 10' concrete trail and linear park along Vince Bayou | | | | |
|--|------|-------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| EXCAVATION (ROADWAY) | CY | \$5.63 | 1018.5 | \$5,736.23 |
| CONC SIDEWALKS (4") | SY | \$38.88 | 6111.1 | \$237,622.98 |
| PREPARING ROW | AC | \$18,834.47 | 1.26 | \$23,780.89 |
| CONSTRUCTION SUBTOTAL | | | | \$267,140.09 |
| LANDSCAPING (10%) | | | | \$26,714.01 |
| MOBILIZATION (4.5%) | | | | \$12,021.30 |
| ENGINEERING AND SURVEYING (12%) | | | | \$32,056.81 |
| CONTINGENCIES (30%) | | | | \$80,142.03 |
| TOTAL | | | | \$418,074.25 |

| PASADENA 1-C Provide activities and improve walkability at City Hall complex Replace some parking with grass; provide pedestrian lighting and amenities such as benches, water fountains, and play features | | | | |
|---|------|--------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| FILL IN PARKING LOT WITH GRASS | EA | \$20,000.00 | 1 | \$20,000.00 |
| PEDESTRIAN LIGHTING | EA | \$2,000.00 | 50 | \$100,000.00 |
| AMENITIES | EA | \$100,000.00 | 1 | \$75,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$195,000.00 |
| MOBILIZATION (4.5%) | | | | \$8,775.00 |
| DESIGN AND ENGINEERING (12%) | | | | \$23,400.00 |
| CONTINGENCIES (30%) | | | | \$58,500.00 |
| TOTAL | | | | \$285,675.00 |

| PASADENA 2-C Construct 5' sidewalks leading to major destinations | | | | |
|--|------|-------------|----------|-----------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| EXCAVATION (ROADWAY) | CY | \$5.63 | 2416.6 | \$13,609.98 |
| CONC SIDEWALKS (4") | SY | \$38.88 | 14499.4 | \$563,792.92 |
| PREPARING ROW | AC | \$18,834.47 | 3.00 | \$56,423.41 |
| REMOVING CONC (SIDEWALKS) | SY | \$8.55 | 5191.1 | \$44,402.84 |
| CURB RAMPS (ASSUME 2 PER 400' OF SIDEWALK) | EA | \$1,042.36 | 130.5 | \$136,022.99 |
| CONSTRUCTION SUBTOTAL | | | | \$814,252.13 |
| LANDSCAPING (10%) | | | | \$81,425.21 |
| MOBILIZATION (4.5%) | | | | \$36,641.35 |
| ENGINEERING AND SURVEYING (12%) | | | | \$97,710.26 |
| CONTINGENCIES (30%) | | | | \$244,275.64 |
| TOTAL | | | | \$1,274,304.59 |

| PASADENA 2-A 10' wide trail and linear park along Little Vince Bayou | | | | |
|---|------|-------------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| EXCAVATION (ROADWAY) | CY | \$5.63 | 1055.6 | \$5,944.82 |
| CONC SIDEWALKS (4") | SY | \$38.88 | 6333.3 | \$246,263.81 |
| PREPARING ROW | AC | \$18,834.47 | 1.31 | \$24,645.65 |
| CONSTRUCTION SUBTOTAL | | | | \$276,854.28 |
| LANDSCAPING (10%) | | | | \$27,685.43 |
| MOBILIZATION (4.5%) | | | | \$12,458.44 |
| ENGINEERING AND SURVEYING (12%) | | | | \$33,222.51 |
| CONTINGENCIES (30%) | | | | \$83,056.28 |
| TOTAL | | | | \$433,276.95 |

| PASADENA 2-D Elaine Ave. extension to City Hall | | | | |
|--|------|--------------|----------|-----------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| PREPARING ROW | STA | \$500.00 | 23.00 | \$11,500.00 |
| REMOVE EXISTING PAVEMENT | SY | \$5.00 | 2955.56 | \$14,777.78 |
| EXCAVATION (ROADWAY) | CY | \$3.86 | 3373.33 | \$13,020.43 |
| LIME TRT (SUBGR)(DC)(6") | SY | \$2.15 | 6746.67 | \$14,505.33 |
| LIME (HYD, COM OR QK) (SLRY) OR QK (DRY) | TON | \$145.53 | 84.25 | \$12,260.82 |
| CONC PVMT (CONT REINF-CRCP)(10") | SY | \$36.14 | 6746.67 | \$243,814.08 |
| CONC CURB & GUTTER (TY II) | LF | \$13.23 | 5060.00 | \$66,930.44 |
| CONC SIDEWALKS (6") | SY | \$46.16 | 2811.11 | \$129,765.16 |
| BARRICADES, SIGNS AND TRAFFIC HANDLING | MO | \$3,825.32 | 5.00 | \$19,126.61 |
| CONC BOX CULV (6 FT X 4 FT) | LF | \$216.51 | 2300.00 | \$497,966.40 |
| INLET (COMPL)(TY C) | EA | \$2,940.94 | 15.33 | \$45,094.45 |
| UTILITIES - WATER, ELECTRICAL | EA | \$100,000.00 | 1.00 | \$100,000.00 |
| PAVEMENT MARKINGS | EA | \$5,000.00 | 1.00 | \$5,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$1,173,761.49 |
| MOBILIZATION (4.5%) | | | | \$52,819.27 |
| ENGINEERING & DESIGN (12%) | | | | \$140,851.38 |
| CONTINGENCIES (30%) | | | | \$352,128.45 |
| DEMOLITION | | | | \$100,000.00 |
| RIGHT OF WAY ACQUISITION | | | | \$1,665,719.10 |
| TOTAL | | | | \$3,485,279.68 |

| PASADENA 3-A Pedestrian lighting along Pasadena Blvd. | | | | |
|--|------|-----------|----------|---------------------|
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| Pedestrian lighting along Pasadena north of Harris | | | | |
| PEDESTRIAN LIGHTS | EA | \$2,000 | 64 | \$128,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$128,000.00 |
| MOBILIZATION (4.5%) | | | | \$5,760.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$15,360.00 |
| CONTINGENCIES (30%) | | | | \$38,400.00 |
| SUBTOTAL - PASADENA NORTH | | | | \$187,520.00 |
| Pedestrian lighting along Pasadena south of Harris | | | | |
| PEDESTRIAN LIGHTS | EA | \$2,000 | 108 | \$216,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$216,000.00 |
| MOBILIZATION (4.5%) | | | | \$9,720.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$25,920.00 |
| CONTINGENCIES (30%) | | | | \$64,800.00 |
| SUBTOTAL - PASADENA SOUTH | | | | \$316,440.00 |
| Pedestrian lighting along Harris | | | | |
| PEDESTRIAN LIGHTS | EA | \$2,000 | 52 | \$104,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$104,000.00 |
| MOBILIZATION (4.5%) | | | | \$4,680.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$12,480.00 |
| CONTINGENCIES (30%) | | | | \$31,200.00 |
| SUBTOTAL - HARRIS | | | | \$152,360.00 |
| Pedestrian lighting along Thomas | | | | |
| PEDESTRIAN LIGHTS | EA | \$2,000 | 52 | \$104,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$104,000.00 |
| MOBILIZATION (4.5%) | | | | \$4,680.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$12,480.00 |
| CONTINGENCIES (30%) | | | | \$31,200.00 |
| SUBTOTAL - THOMAS | | | | \$152,360.00 |
| TOTAL FOR 3-A | | | | \$808,680.00 |



| PASADENA 3-B | | | | |
|--|------|-----------|----------|--------------|
| Pedestrian lighting at schools, historic district, and Memorial Park | | | | |
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| Pedestrian lighting along Jackson | | | | |
| PEDESTRIAN LIGHTS | EA | \$2,000 | 132 | \$264,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$264,000.00 |
| MOBILIZATION (4.5%) | | | | \$11,880.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$31,680.00 |
| CONTINGENCIES (15%) | | | | \$39,600.00 |
| SUBTOTAL - JACKSON | | | | \$347,160.00 |
| Pedestrian lighting along Shaver | | | | |
| PEDESTRIAN LIGHTS | EA | \$2,000 | 80 | \$160,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$160,000.00 |
| MOBILIZATION (4.5%) | | | | \$7,200.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$19,200.00 |
| CONTINGENCIES (15%) | | | | \$24,000.00 |
| SUBTOTAL - SHAVER | | | | \$210,400.00 |
| Pedestrian lighting along Main | | | | |
| PEDESTRIAN LIGHTS | EA | \$2,000 | 80 | \$160,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$160,000.00 |
| MOBILIZATION (4.5%) | | | | \$7,200.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$19,200.00 |
| CONTINGENCIES (15%) | | | | \$24,000.00 |
| SUBTOTAL - MAIN | | | | \$210,400.00 |
| Pedestrian lighting along Eagle | | | | |
| PEDESTRIAN LIGHTS | EA | \$2,000 | 28 | \$56,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$56,000.00 |
| MOBILIZATION (4.5%) | | | | \$2,520.00 |
| ENGINEERING AND SURVEYING (12%) | | | | \$6,720.00 |
| CONTINGENCIES (15%) | | | | \$8,400.00 |
| SUBTOTAL - EAGLE | | | | \$73,640.00 |
| TOTAL FOR 3-B | | | | \$841,600.00 |

| NEAR NORTHSIDE 4-A | | | | |
|--------------------------------------|------|-------------|----------|-------------|
| Build out on-street bicycle network | | | | |
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| Shaw Street bike route | | | | |
| NEW SIGNAGE | EA | \$3,334.58 | 1 | \$3,334.58 |
| CONSTRUCTION SUBTOTAL | | | | \$3,334.58 |
| MOBILIZATION (4.5) | | | | \$150.06 |
| CONTINGENCIES (30%) | | | | \$1,000.37 |
| SUBTOTAL - SHAW STREET BIKE ROUTE | | | | \$4,485.01 |
| Eagle Street bike route | | | | |
| NEW SIGNAGE | EA | \$2,084.11 | 1 | \$2,084.11 |
| CONSTRUCTION SUBTOTAL | | | | \$2,084.11 |
| MOBILIZATION (4.5) | | | | \$93.78 |
| CONTINGENCIES (30%) | | | | \$625.23 |
| SUBTOTAL - EAGLE STREET BIKE ROUTE | | | | \$2,803.13 |
| Park Lane bike route | | | | |
| NEW SIGNAGE | EA | 2917.74 | 1 | 2917.74 |
| CONSTRUCTION SUBTOTAL | | | | \$2,917.74 |
| MOBILIZATION (4.5) | | | | \$131.30 |
| CONTINGENCIES (30%) | | | | 875.32 |
| SUBTOTAL - PARK LANE BIKE ROUTE | | | | \$3,924.36 |
| Randall Street bike route | | | | |
| NEW SIGNAGE | EA | \$5,001.87 | 1 | \$5,001.87 |
| CONSTRUCTION SUBTOTAL | | | | \$5,001.87 |
| MOBILIZATION (4.5) | | | | \$225.08 |
| CONTINGENCIES (30%) | | | | \$1,500.56 |
| SUBTOTAL - RANDALL STREET BIKE ROUTE | | | | \$6,727.52 |
| Harris Boulevard bike lane | | | | |
| REMOVE EXISTING PAVEMENT MARKINGS | EA | \$5,902.47 | 1 | \$5,902.47 |
| NEW PAVEMENT MARKINGS | EA | \$34,254.21 | 1 | \$34,254.21 |
| NEW SIGNAGE | EA | \$5,418.69 | 1 | \$5,418.69 |
| CONSTRUCTION SUBTOTAL | | | | \$45,575.37 |
| MOBILIZATION (4.5) | | | | \$2,050.89 |
| CONTINGENCIES (30%) | | | | \$13,672.61 |
| ENGINEERING & SURVEYING (12%) | | | | \$5,469.04 |
| SUBTOTAL - HARRIS BOULEVARD | | | | \$66,767.92 |
| TOTAL | | | | \$84,707.93 |

| Pasadena 4-B | | | | |
|--|------|------------|----------|--------------------|
| Improvements to pedestrian realm at intersections along Pasadena Boulevard | | | | |
| Crosswalks, curb ramps, pedestrian signals, ped refuges, and new sidewalk | | | | |
| Pasadena Blvd at Thomas Ave | | | | |
| DESCRIPTION | UNIT | UNIT COST | QUANTITY | COST |
| CROSSWALK MARKINGS | FT | \$1.90 | 160.00 | \$304.40 |
| REMOVE EXISTING CURB RAMPS | EA | \$20.53 | 2.00 | \$41.07 |
| NEW CURB RAMPS | EA | \$1,042.00 | 8.00 | \$8,336.00 |
| PEDESTRIAN SIGNAL AND PUSHBUTTON | EA | \$1,600.00 | 8.00 | \$12,800.00 |
| ADDITIONAL SIDEWALK | FT | \$26.58 | 40.00 | \$1,063.11 |
| CONSTRUCTION SUBTOTAL | | | | \$22,544.58 |
| MOBILIZATION (4.5%) | | | | \$1,014.51 |
| ENGINEERING & DESIGN (12%) | | | | \$2,705.35 |
| CONTINGENCIES (30%) | | | | \$6,763.37 |
| SUBTOTAL - PASADENA AT THOMAS | | | | \$33,027.81 |
| Pasadena Blvd at Jackson Ave | | | | |
| Description | UNIT | UNIT COST | QUANTITY | COST |
| CROSSWALK MARKINGS | FT | \$1.90 | 412.00 | \$783.83 |
| NEW CURB RAMPS | EA | \$1,042.00 | 8.00 | \$8,336.00 |
| PEDESTRIAN SIGNAL AND PUSHBUTTON | EA | \$1,600.00 | 8.00 | \$12,800.00 |
| CONSTRUCTION SUBTOTAL | | | | \$21,919.83 |
| MOBILIZATION (4.5%) | | | | \$986.39 |
| ENGINEERING & DESIGN (12%) | | | | \$2,630.38 |
| CONTINGENCIES (30%) | | | | \$6,575.95 |
| SUBTOTAL - PASADENA AT JACKSON | | | | \$32,112.55 |
| TOTAL - ALL INTERSECTIONS | | | | \$65,140.36 |

| Pasadena 4-C | | | | |
|--|------|--------------|----------|---------------------|
| Traffic signals on Ellaine Ave. to improve access to Walmart | | | | |
| Description | UNIT | UNIT COST | QUANTITY | COST |
| TRAFFIC SIGNAL | EA | \$200,000.00 | 2.00 | \$400,000.00 |
| CONSTRUCTION SUBTOTAL | | | | \$400,000.00 |
| ENGINEERING & DESIGN (15%) | | | | \$60,000.00 |
| CONTINGENCIES (10%) | | | | \$40,000.00 |
| TOTAL | | | | \$500,000.00 |



Appendix M: Market Basket Survey for Pasadena

| Item | Grocery | Convenience | Food Drug | General Discount | Total |
|--|---------|-------------|-----------|------------------|-------|
| Least Found Foods: Availability by Store Type | | | | | |
| 1% Milk (quart) | 0 | 0 | 0 | 0 | 0 |
| Mixed Berries (frozen) | 0 | 0 | 0 | 0 | 0 |
| Honeydew Melon | 0 | 0 | 0 | 0 | 0 |
| Mandarin Oranges (can, heavy) | 0 | 0 | 0 | 0 | 0 |
| Grapefruit (bagged) | 0 | 0 | 0 | 1 | 1 |
| Carrots (frozen) | 1 | 0 | 0 | 0 | 1 |
| Mango (frozen) | 0 | 0 | 0 | 1 | 1 |
| Peaches | 1 | 0 | 0 | 0 | 1 |
| Most Found Foods: Availability by Store Type | | | | | |
| Corn (can) | 3 | 13 | 1 | 3 | 20 |
| Green Beans (can) | 3 | 12 | 1 | 3 | 19 |
| Mixed Vegetables (can) | 3 | 12 | 0 | 2 | 17 |
| Peas (can) | 3 | 10 | 1 | 3 | 17 |
| Beans (can) | 3 | 14 | 1 | 3 | 21 |
| Refried Beans (can) | 3 | 12 | 1 | 3 | 19 |
| Dried Beans | 3 | 12 | 1 | 3 | 19 |
| Frosted Flakes Cereal | 2 | 13 | 1 | 3 | 19 |
| Sugared Fruit Rings Cereal | 2 | 13 | 1 | 3 | 19 |
| 2% Milk (half gallon) | 3 | 9 | 1 | 3 | 16 |
| 2% Milk (gallon) | 3 | 10 | 1 | 3 | 17 |
| Whole Milk (gallon) | 3 | 13 | 1 | 3 | 20 |
| Whole Milk (half gallon) | 3 | 13 | 1 | 3 | 20 |
| White Rice | 3 | 13 | 1 | 3 | 20 |
| Regular Pasta | 3 | 13 | 1 | 3 | 20 |
| Regular Bread | 2 | 9 | 1 | 3 | 15 |
| White Flour | 3 | 14 | 1 | 3 | 21 |
| Corn Tortillas | 3 | 11 | 1 | 2 | 17 |
| Flour Tortillas | 3 | 11 | 1 | 3 | 18 |

PEDESTRIANS
PROHIBITED

PEATONES
PROHIBIDOS



HEALTHY LIVING
MATTERS

Connecting Policy to the Future

A Houston/Harris County
Childhood Obesity Prevention Collaborative