

A Houston / Harris County Childhood Obesity Prevention Collaborative

HEALTHY LIVING **MATTERS**

Connecting Policy to the Future

Harris County Food System





This report was prepared for:



by Karen Banks
October 2013

Introduction 4

Healthy Living Matters & Childhood Obesity	4
Food Policy, Planning & Public Health	6
Consumer Food Environment	7

State of Agriculture 8

Texas 8

Gulf Coast Planning Region 9

Land in Farms	9
Fruits and Vegetables	12
Demographics	13

Harris County 14

Land in Farms	14
Local Producers	15
Community Gardens	16

Recommendations 20

Food Retail 26

Spatial Distribution of Grocery Stores	27
Retailer Interviews	29
Farmers' Markets and Farm Stands	30
Food Hub	30
Co-op	30
Food Pantry	30

Recommendations 31

Appendix 35

Appendix A 36

Appendix B 38

Appendix C 40

Appendix D 42

Appendix E 44

Introduction

Healthy Living Matters and Childhood Obesity

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 are 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

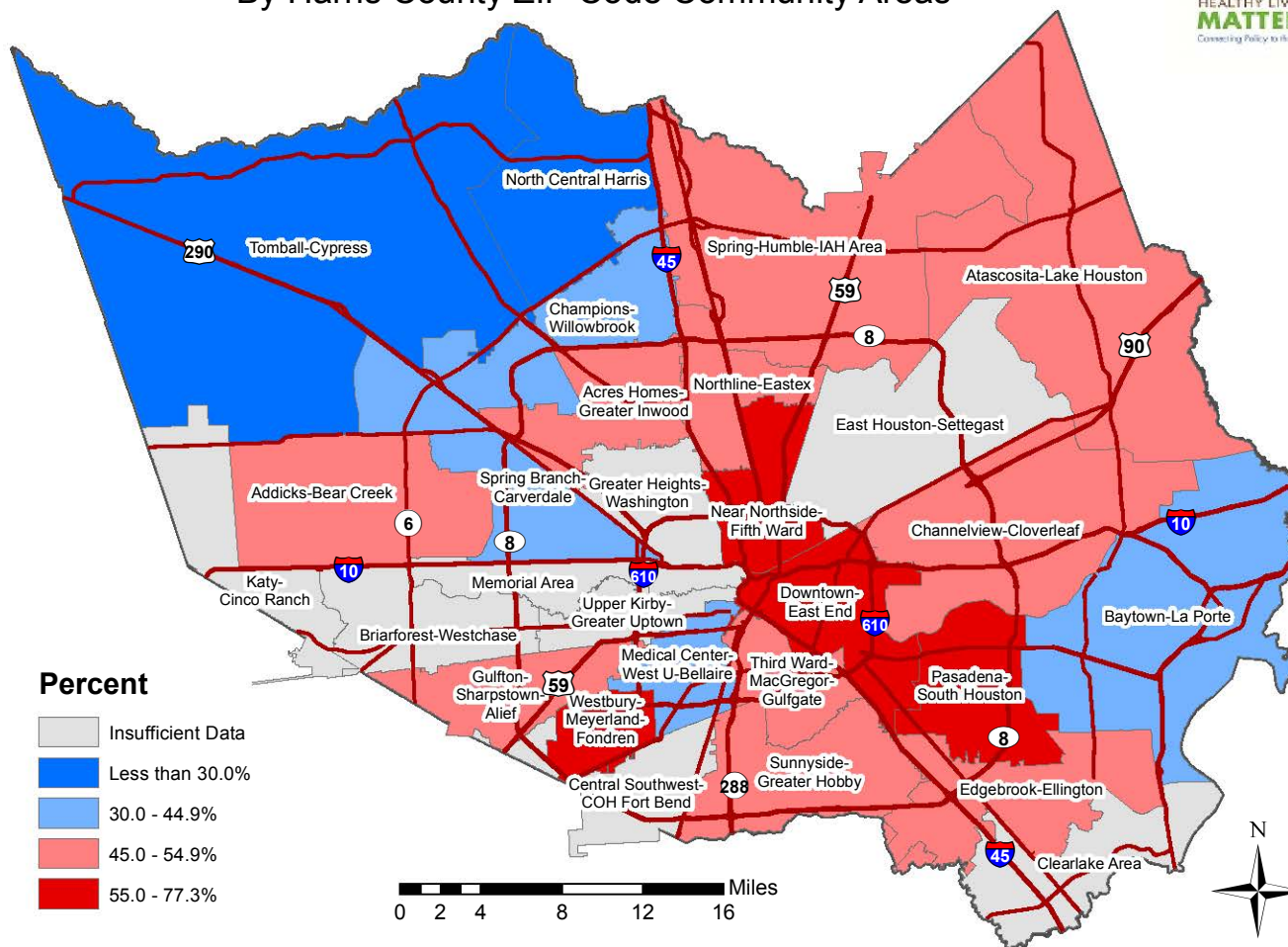
Quality of Life.

- Obese children are more likely to be bullied; obese adults are more likely to be overlooked for a job
- Obese adults 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 policy can encourage and discourage aspects of healthy living. This report focuses on one aspect of public policy for healthy living by examining the system for making healthy food available to children and families in Harris County.

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.

Percentage of Children Ages 5 to 17 Who Are Overweight or Obese By Harris County ZIP Code Community Areas



Data Source: Health of Houston Survey 2010, University of Texas School of Public Health

Introduction

Food Policy, Planning & Public Health

In June 2010, the American Public Health Association along with the American Planning Association, the Academy of Nutrition and Dietetics, and the American Nurses Association adopted a set of guidelines that recognize the influence of planning and policy on healthy consumer food environments - when people grocery shop, how far they travel to the supermarket, and what they can afford to buy. The Principles of a Healthy, Sustainable Food System promote healthy consumer food environments within sustainable, equitable and healthy food systems. The food system - how food is grown, how far it travels to the store, where the store is located, how the food is cooked, and the regulations around food - bears weight not only on the quality and availability of healthy foods but also the environment, economy and public health. The Principles therefore draw attention to the relationship between public health and “the entire lifecycle of how food is produced, processed, packaged, labeled, distributed, marketed, consumed, and disposed.”²

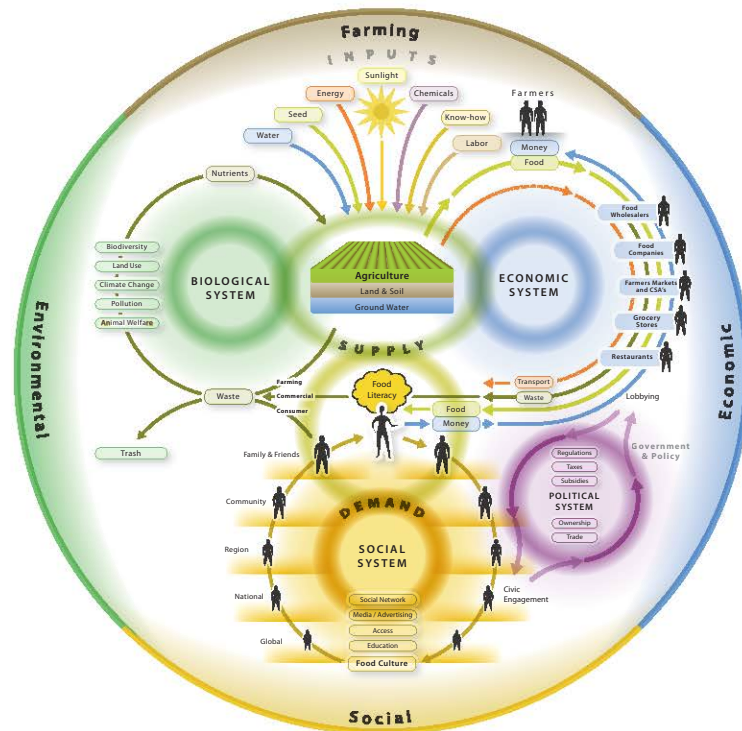
More and more, researchers, government agencies, and non-profit organizations are trying to align the food system with public health.³ The CDC offers several guides recommending farmers markets and local food projects as a means to increase access to fresh produce.⁴ The USDA offers the Community Food Security Assessment Toolkit and the Community Food Projects Competitive

² www.planning.org/nationalcenters/health/foodprinciples.htm

³ Haering, S.A. & Syed, S.B. (2009). *Community Food Security in United States Cities: A Survey of the Relevant Scientific Literature*. John Hopkins Bloomberg School of Public Health Center for a Livable Future. Retrieved from: http://www.jhsph.edu/sebin/s/c/FS_Literature%20Booklet.pdf

⁴ The CDC Guide to Strategies to Increase the Consumption of Fruits and Vegetables; The National Action Guide

Grants Program that help to promote healthy food systems and consumer nutrition environments. Through the Healthy Living Matters project, Harris County Public Health and Environmental Services is examining the role of the food system in fostering healthy food environments for children and families in Harris County.



Nourish Food Systems Map
Source: www.nourishlife.org/teach/food-system-tools/

Consumer Food Environment

According to the Centers for Disease Control and Prevention (CDC) Americans do not consume enough fruits and vegetables. Even though the 2010 Federal Dietary Guidelines for Americans recommend that children and adults eat more fruits and vegetables, over a third of U.S. adolescents in grades 9-12 eat less than one fruit (36%) and less than one vegetable (37.7%) a day. The median intake of fruits and vegetables by adolescents is 1.0 fruit and 1.3 vegetables a day. In Texas, daily intake is worse. The percentage of youth that eat less than one fruit and less than one vegetable a day is 42.1% and 47.5% respectively. The median intake of fruits and vegetables a day is on par with the rest of nation with youth eating 1.0 fruit and 1.0 vegetable a day.⁵ Youth consumption of fruits and vegetables can be affected by many factors: taste, appearance, parental guidance, and the availability of fresh produce where children live, learn and play. The impact of public policy and planning on the availability, accessibility and affordability of healthy food is of concern due to rising rates of childhood obesity.

There are myriad factors that affect a family's ability to eat healthy. The Community Nutrition Environments model theorizes that public policy, the food environment, and personal preference work together to affect a person's eating habits.⁶ A healthy consumer food environment means that families:

- 1) have a place to go to get food,
- 2) can easily and safely get to the place for food,

- 3) have healthy options from which to choose,
- 4) can afford to buy the healthy foods, and
- 5) know what it means to eat healthy, and how to shop for and cook healthy foods on a budget.

These elements are of concern in Harris County, particularly for children, due to the limited access of healthy, affordable food in some of Harris County's most vulnerable communities. There are over 700 permitted grocery stores in the County yet Houston has fewer supermarkets per capita than other major metropolitan areas.⁷ Supermarkets are important because they tend to stock a greater variety of goods at lower prices. They also tend to be less prevalent in low-income neighborhoods.⁸ Not every family in Harris County has easy access to a place to get food. Also, not every family in Harris County can afford to buy food. Almost one fifth (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 but do not receive Supplemental Nutrition Assistance Program benefits (SNAP, formerly food stamps) which 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.⁹ Through supportive public policies and targeted planning processes, communities can create systems that foster healthy consumer food environments.

⁵ Centers for Disease Control. (2013). *State Indicator Report on Fruits and Vegetables*, 2013.

⁶ 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.

⁷ Manon, M., Giang, T. & Treering, D. (2010). *Food for Every Child: The Need for More Supermarkets in Houston*. The Food Trust.

⁸ 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, 276-296; Ford, P. B. & Dziewaltowski, D. A. (2008) *Disparities in obesity prevalence due to variation in the retail food environment*. *Nutrition Review*, 66 (4), 216-228.

⁹ *Feeding American, Map the Meal Gap*, 2011.

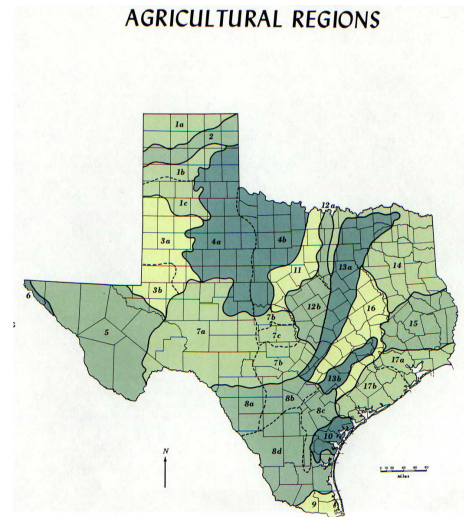
State of Agriculture

Texas

Agriculture is the second largest industry in the Lone Star state. Over three quarters (78%) of the land in Texas is used for agricultural production. Agriculture in Texas ranges from growing hay to raising cattle, from growing peaches to harvesting cotton. In the United States, Texas is number one for the production of cotton and cattle. Texas ranks 12th in the nation in the number of acres used to grow vegetables and melons. Almost 130,000 acres in Texas are used to grow vegetables and melons. The amount of land used to grow vegetables and melons in Texas is less than 1% (0.67%) of the total acres used to grow crops (cropland) in the state. Cropland refers to the acres used primarily to grow plants to be harvested, including cotton, wheat, corn, hay, oilseed, vegetables and fruit. Total agricultural land or land in farms includes cropland plus land used for grazing cattle or other animals, and some woodland. Texas ranks 34th in the proportion of the state's cropland devoted to growing vegetables and melon. While Texas has an abundance of agricultural land, the majority is used for non-edible crops and to raise cattle. The profusion of non-edible crops and cattle production has negative implications for small, diversified farms which are key to the local food system.

This report focuses on the state of agriculture in the Gulf Coast Planning Region, with emphasis on Harris County. For a review of agriculture in Texas, read *A Decade of Change in Texas Agriculture: Highlights and Trends from the Census of Agriculture* published by Texas AgriLife Extension.¹⁰

¹⁰ agecoext.tamu.edu/fileadmin/user_upload/Documents/Resources/Publications/CensusOfAg/DecadeOfChange.pdf



Texas Agricultural Experiment Station: Types of Farming in Texas, 1960

Land Area (acres)

167,188,294

Acres of Farmland

130,398,753

Number of Farms

247,437

Land Area in Farms

78%

Acres of Cropland*

19,174,301

Area in Cropland

14.7%

Acres of Vegetables

128,108

Average Farm Size

527 acres

Gulf Coast Planning Region

Much like a watershed, a region's local food system extends beyond the boundaries of a single county. The common geographic boundary to be considered local is within 100 miles. Within 100 miles of Harris County, there are over 20 counties and 4 regional councils of government. Harris County, the third most populous county in the nation, lies at the center of the Gulf Coast Planning Region, a 13-county area that contains the 4th most populous city in the nation: Houston. This report examines the local food system within the confines of the Gulf Coast Planning Region because the majority of farms that serve the Houston metro area are located within this region. Also, there is an established regional planning organization, the Houston-Galveston Council of Governments, that facilitates orderly development throughout the region which has an impact on farmland.

Land in Farms

A farm is a place where agricultural products are grown to sell. It encompasses the land where crops are grown or the farmland, the operators or farmers that plant and harvest the crops, and the financial gains and losses from the production and sale of crops. Unlike the state, only about half of the land in the Gulf Coast Planning Region is in farms. The majority

of this land falls in Brazoria, Colorado, Matagorda and Wharton counties. Of these, Matagorda and Wharton counties have the highest proportion of agricultural land, along with Austin, Colorado, and Waller counties. Galveston and Montgomery counties have the least amount of agricultural land while Harris and Montgomery counties have the lowest proportion of agricultural land. The majority of land in these three counties is unavailable for agricultural production due to urban development, or being covered by forest or wetland. These counties therefore, are reliant on the surrounding region for local food production.

Following national and state trends, the amount of land used for agriculture is declining in the Gulf Coast Planning Region. From 2002 to 2007, the amount of farmland in the region decreased by 326,121 acres. Brazoria County lost the most farmland, 84,934 acres. However, not every county in the region lost farmland. Walker County gained 17,739 acres in farmland. This decline in farmland is of concern because it has an impact on the capacity of the region to support a thriving agricultural industry, which includes local food producers.

At the same time that the majority of counties in the region are losing farmland, the number of farms is increasing causing farms to be smaller. Nationally,



Farmland surrounded by development in Fort Bend County

Region

Land Area (acres)

7,801,088

Acres of Farmland

4,559,055

Number of Farms

20,150

Land Area in Farms

58.4%

Acres of Cropland*

915,759

Acres of Vegetables

4,401

Land Area in Cropland

11.7%

State of Agriculture

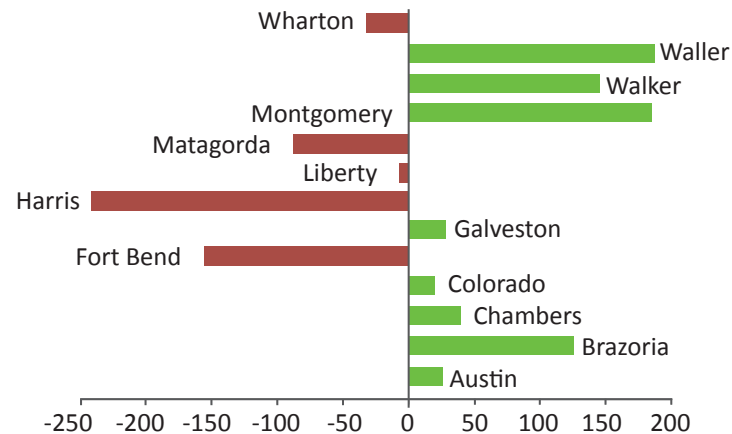
farms are getting smaller, due in part to uncontrolled development or fragmentation. Fragmentation of rural lands occurs primarily along the fringe of urban development, where urban meets rural. As land values increase with the encroachment of development, farmers will cash out, selling all or a portion of their land. From 2002 to 2007, every county in the region, except Walker County, saw an increase in the estimated average market value per acre of agricultural land. Austin, Montgomery, Harris and Waller counties have the highest average value per acre of agricultural land. In 2007, an acre of farmland cost \$3,372 on average in Harris County. The transition of farmland to developed land occurs piecemeal leaving behind a checkerboard of mixed land uses. Overall, land fragmentation diminishes the number of large contiguous parcels of farmland, disturbs wildlife habitat, and erodes water quality.¹¹

According to the American Farmland Trust, from 1997 to 2003, Chambers, Fort Bend, Harris, Liberty, Montgomery, and Waller counties were among the counties experiencing the most land fragmentation in the state.¹² Across the Gulf Coast Planning Region, the number of farm has increased by 231 farms, but not in every county. Harris County lost the most farms (242), while Fort Bend lost 156 farms. Farm size on the other hand has shrunk in every county except for Fort Bend and Matagorda counties. Since 2002, the Gulf Coast Planning Region gained more farms of 1-9 acres and 10-49 acres in size. It lost the most farms of 100-499 acres in size. Smaller farms are limited in their production capacity and their profitability which has implications for the ability of local farms to meet the food needs of a region and on the cost of local food.

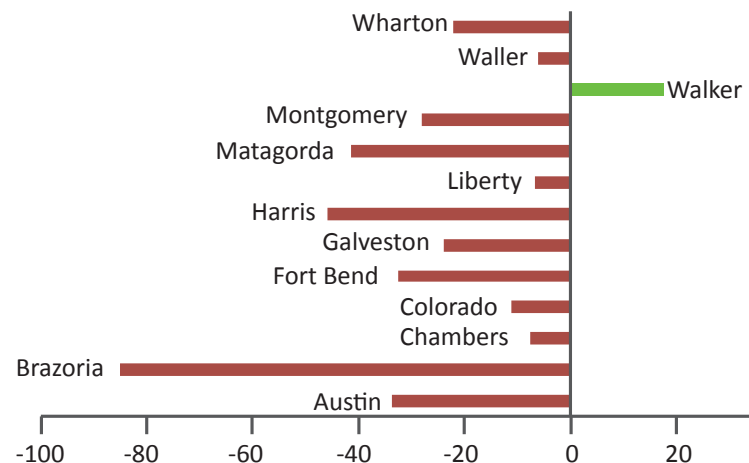
¹¹ American Farmland Trust. (2003). *Going, Going, Gone: Impacts of Land Fragmentation on Texas Agriculture & Wildlife*. Retrieved from: www.farmland.org/resources/reports/texas/fragmentation_GoingGoingGone.pdf

¹² American Farmland Trust, *Texas Special Report, Map of Texas Counties: farmland.org/resources/reports/texas/fragmentation_data.asp*

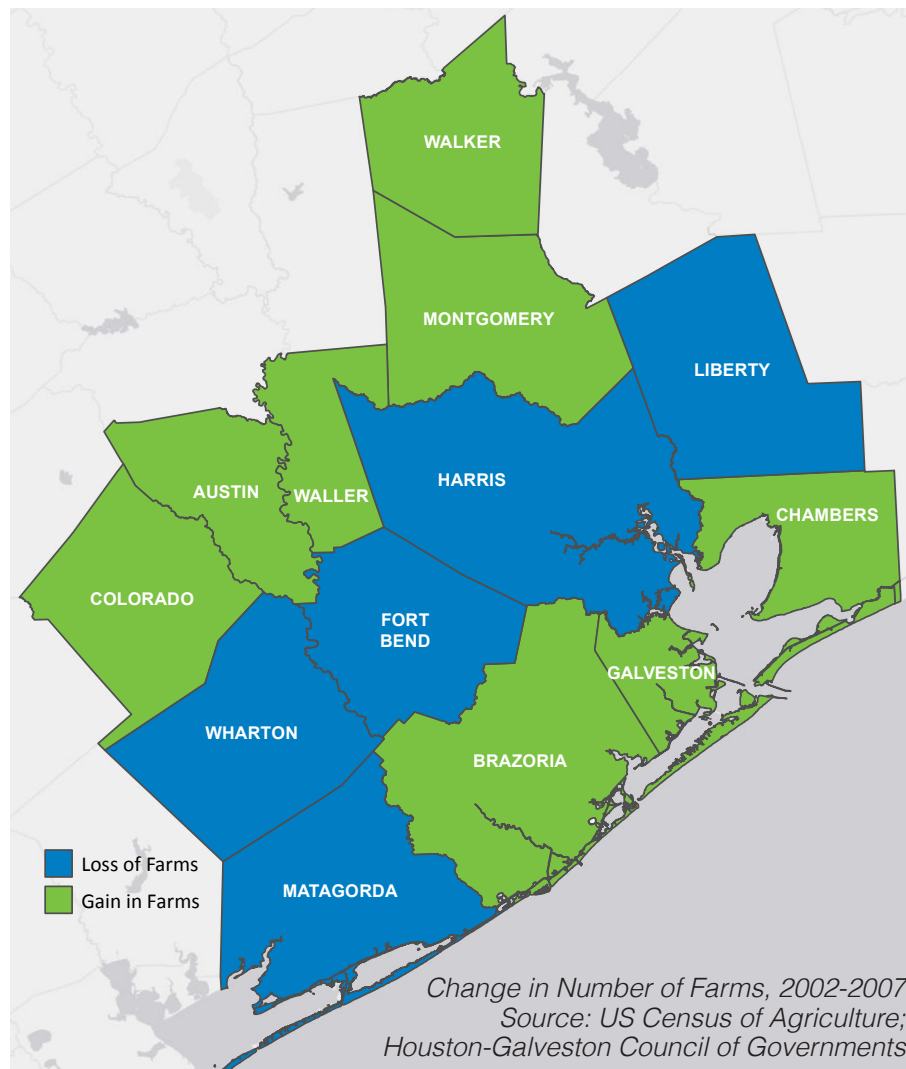
Change in Number of Farms, 2002-2007



Change in Farmland, 2002-2007 (in thousands of acres)



State of Agriculture



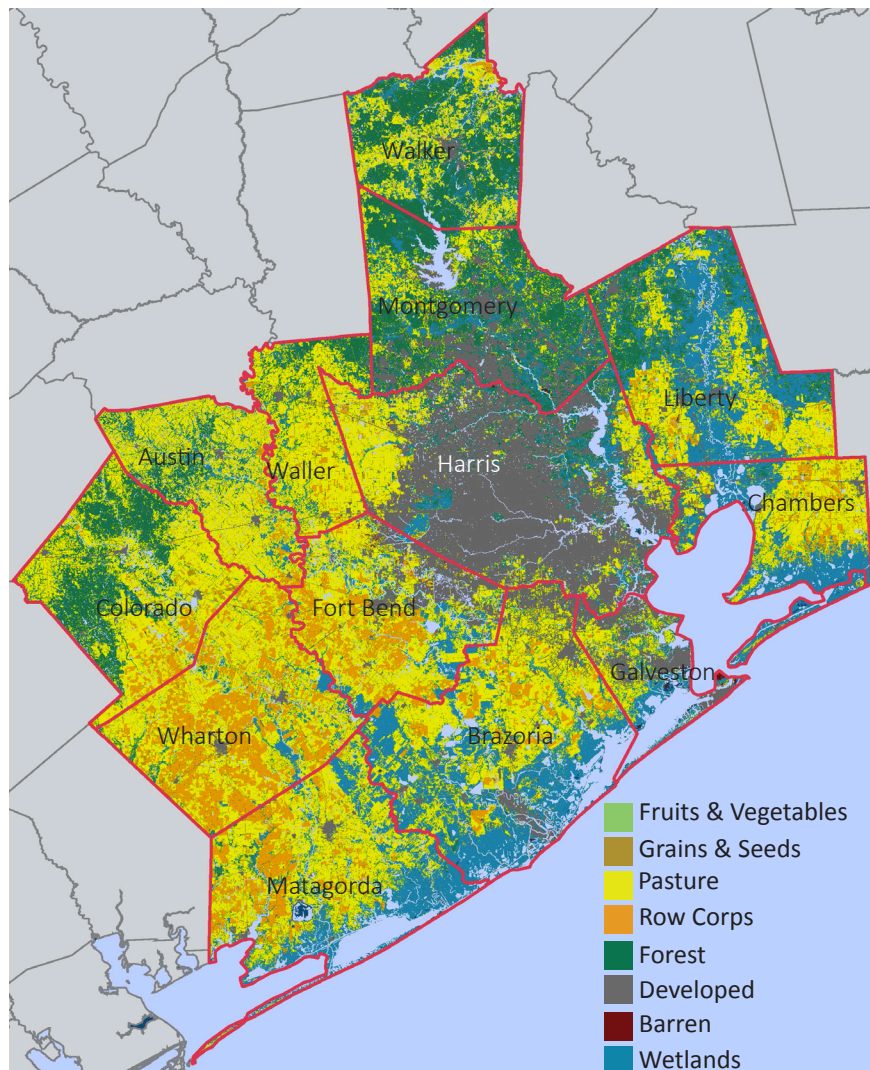
State of Agriculture

Fruits and Vegetables

In 2007, 11.7% of the agricultural land in the 13-county region was harvested cropland used to grow row crops, vegetables, orchards and berries. Fort Bend, Matagorda and Wharton counties have the greatest proportion of harvested cropland, with over 15% of the agricultural land used for harvested crops. Of all the agricultural land in the region, only 0.1% is used to harvest vegetables and 0.34% is used for orchards. Brazoria and Waller counties have the most acres in vegetable production, with over 1,000 acres in production in each county, while Harris and Waller counties have the most farms growing vegetables, with 23 and 24 farms respectively.

From 2002 to 2007, the number of acres used to grow vegetables increased in the region, from 3,451 acres to 4,401 acres. All counties except Harris County saw an increase in the number of acres for vegetable production. Harris County lost 274 acres of land used to grow vegetables. Waller County on the other hand gained 407 acres and 2 farms growing vegetables. In terms of orchards, Matagorda,

Crop	Farms	Acres
Watermelon	49	1,153
Green Beans	37	656
Sweet Corn	60	220
Cucumbers	49	151
Tomatoes	68	120
Mustard Greens	15	109
Cabbage	10	105
Potatoes	28	105
Cowpeas	26	81
Broccoli	10	50
Cantaloupe	24	50
Cauliflower	5	31
Collards	10	29
Squash	29	19
Peppers	28	9



Distribution of Cropland by Crop Type, 2012
Source: USDA NASS Cropland Data Layer, 2012; HGAC

State of Agriculture

Waller and Wharton counties have the most acres in orchards. Sweet corn and tomatoes are found most frequently on farms while watermelon and beans take up the most acreage for production.

Demographics

Like the rest of the state, the Gulf Coast Planning Region is no stranger to agriculture. Most farmers in the region have been on their farms for an average of 15 to 21 years. For only a quarter of the farmers (24.7%) farming is their primary occupation. Almost half (47.2%) have a job off the farm. While many farmers have held onto their land for close to two decades, the income generated from farming alone is not enough to sustain many farms. In 2007, almost three times as many farms incurred net cash income losses. The average net cash gain per farm was negative for most farms in the region, except for farms in Chambers, Colorado, Fort Bend, Matagorda, and Wharton counties. The average net income gain per farm ranged from \$2,657 in Colorado County to \$53,129 in Wharton County. Interestingly, Wharton County has the most farms that receive federal payments, either from conservation easements or wetland protection programs, disaster payments or other federal loans. Federal and state payments can influence what a farm grows by providing a financial boost for specified crops or growing techniques. Federal and state policies can also inhibit agricultural practices, like organic production by making the requirements overly cumbersome for small producers. Wharton County has the most acres in organic production, along with Matagorda County. Wharton County has the most acres being converted to organic production, along with Colorado County. While farms in Wharton County seem to fare well, not all farms in the region are as profitable so many farmers seek off-farm jobs to

supplement their income.

The trend toward off-farm employment is detrimental to the future of farming because it shows that agriculture is not a profitable occupation which is not appealing to the next generation. It also requires long hours and hard labor. The average age of farmers in the region ranges from 54 to 60 years old. Agricultural production is subject to heavy government regulation over subsidies for certain crops, primarily non-edible row crops, health and safety standards, and import-export regulations. These regulations and subsidies, along with weather, land, infrastructure, and labor costs all factor into the price of food.



*Gundermann Acres
Source: The Urban Rooster*

State of Agriculture

Harris County

Land in Farms

Unlike the state of Texas, Harris County lacks in agricultural land. From 2002 to 2007, Harris County lost farms, lost agricultural land, and the average farm size shrunk. In 2007, less than a quarter (23.8%) of the land in Harris County was used for farming. The majority of land was covered by urban development. Urban development continues to be the primary land use in Harris County. According to the Houston-Galveston Council of Governments, in 2010 only 23% of the parcels in Harris County were used for agriculture. Using satellite imagery from the USDA National Agricultural Statistics Service, it is possible to see the spread of urban development across the majority of the County from 2008 to 2012. The rapid expansion of urban development and the limited amount of farmland available in Harris County requires that County seek a regional approach to encourage a local food system.

Land Area (acres)

1,090,227

Acres of Farmland

259,039

Number of Farms

2,210

Land Area in Farms

23.8%

Acres of Cropland*

32,276

Acres of Vegetables

424

Land Area in Cropland

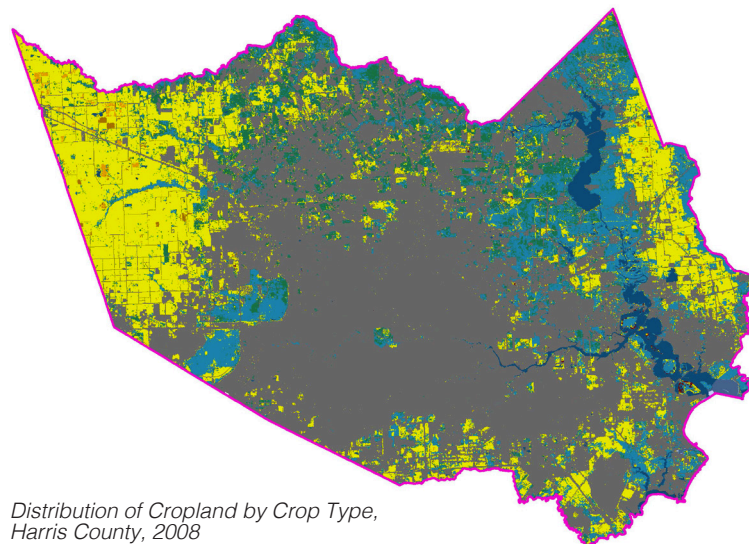
3%

Average Farm Size

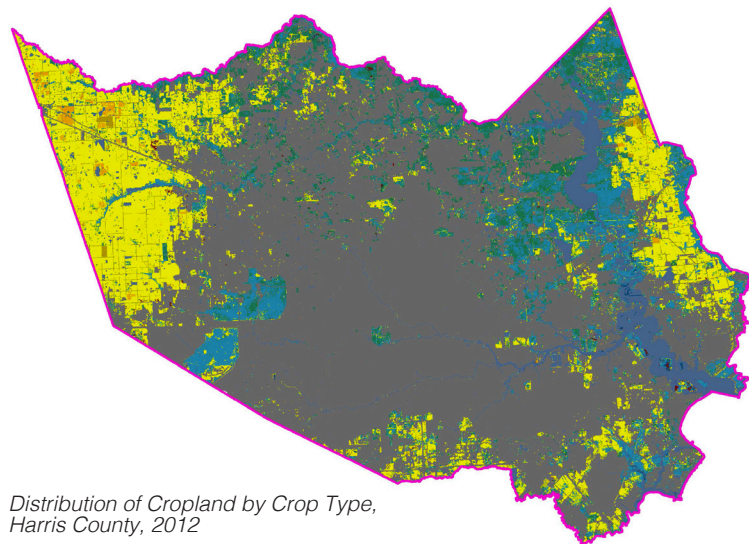
117 acres



Source: USDA NASS
Cropland Data Layer, 2008
& 2012; HGAC



*Distribution of Cropland by Crop Type,
Harris County, 2008*



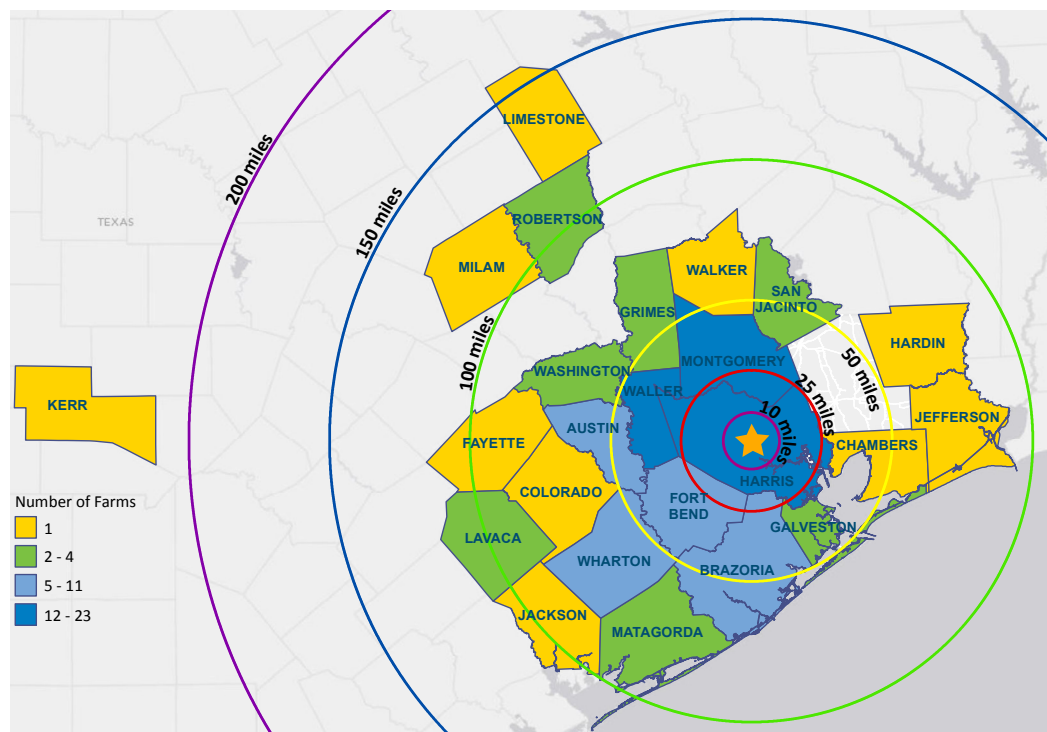
*Distribution of Cropland by Crop Type,
Harris County, 2012*

Local Producers

The Harris County food system is comprised of a network of approximately 131 farms from 23 counties surrounding Harris County who primarily serve customers in Harris County. While 19 of the producers are located in Harris County, the remainder are within a 150 mile radius of the center of the County. Most of the farms are located within 100 miles of the center of the County. The majority are in Montgomery and Waller counties. The farthest farm is over 200 miles away in Kerr County.

For these farmers, their primary sales outlets are customers in the urban center of Harris County. Customers include families at farmers markets, restaurants, community supported agriculture subscribers, farm delivery services, food cooperatives, and wholesale to grocery stores. Farmers use a variety of sales outlets depending on farm size, products for sold, and distance to the market.

These farmers grow everything from kale to tilapia. The majority grow fruits and vegetables, but may also raise chickens or goats. Most goat farms raise goats to make cheese. Most farms with chicken harvest eggs for sale. Several farmers catch seafood from the Gulf of Mexico, another specializes in wild game, and a few raise organic rice. One farm focuses on teaching youth about urban agriculture and two specialize in working with refugees. Farms range in size from two acres to 1,300 acres.



Number of Local Producers by County who Sell to Harris County, 2013

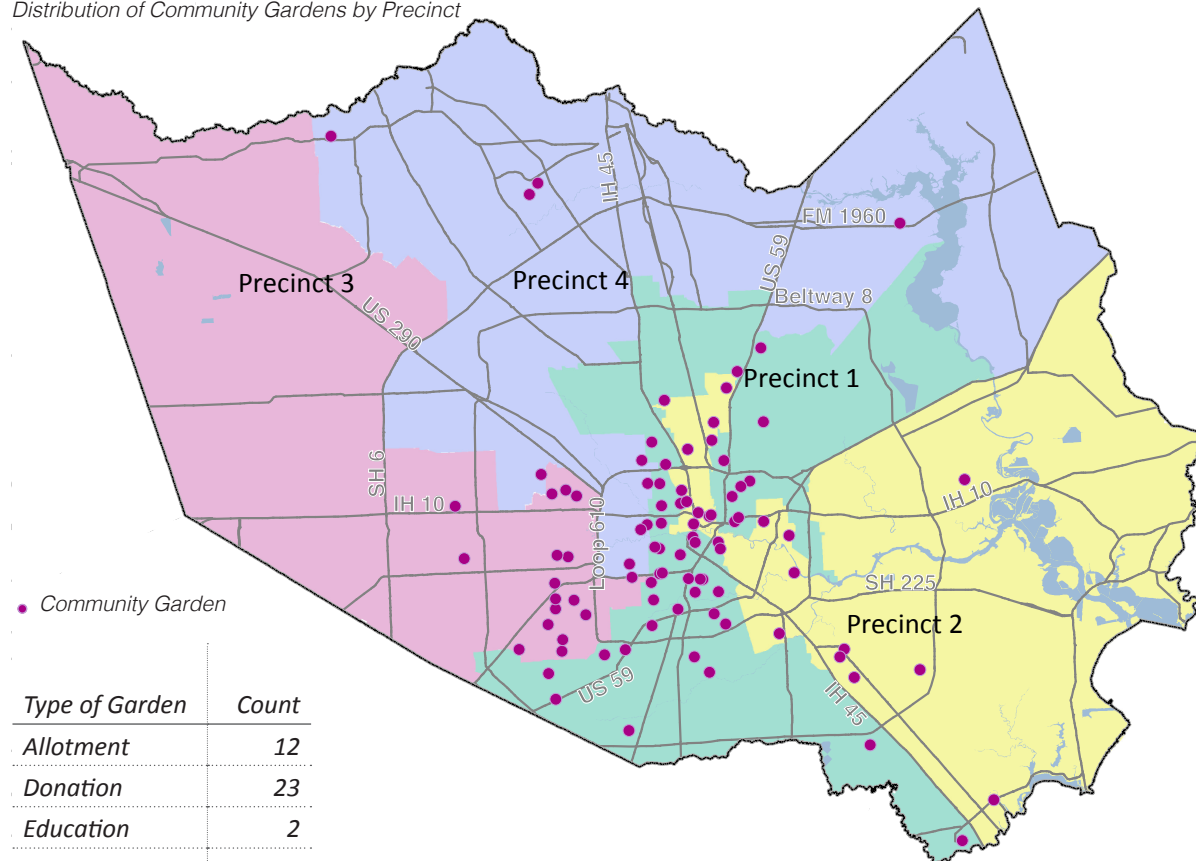
State of Agriculture

Community Gardens

In addition to a growing network of local farmers, Harris County also has an expanding network of community and school gardens. There are approximately 144 community and school gardens in Harris County. Most of the gardens are clustered in the southwestern portion of Harris County which has a higher population density and tends to have higher median household incomes.

Of the 144 gardens, almost half (70) are school gardens. Several organizations offer gardening education for the kids at schools with gardens in Harris County, including Recipe for Success, Urban Harvest, and Texas AgriLife Extension. The two education gardens are affiliated with institutions of higher learning. Excluding the school gardens, there is a community garden for every 59,079 people in Harris County.

Distribution of Community Gardens by Precinct



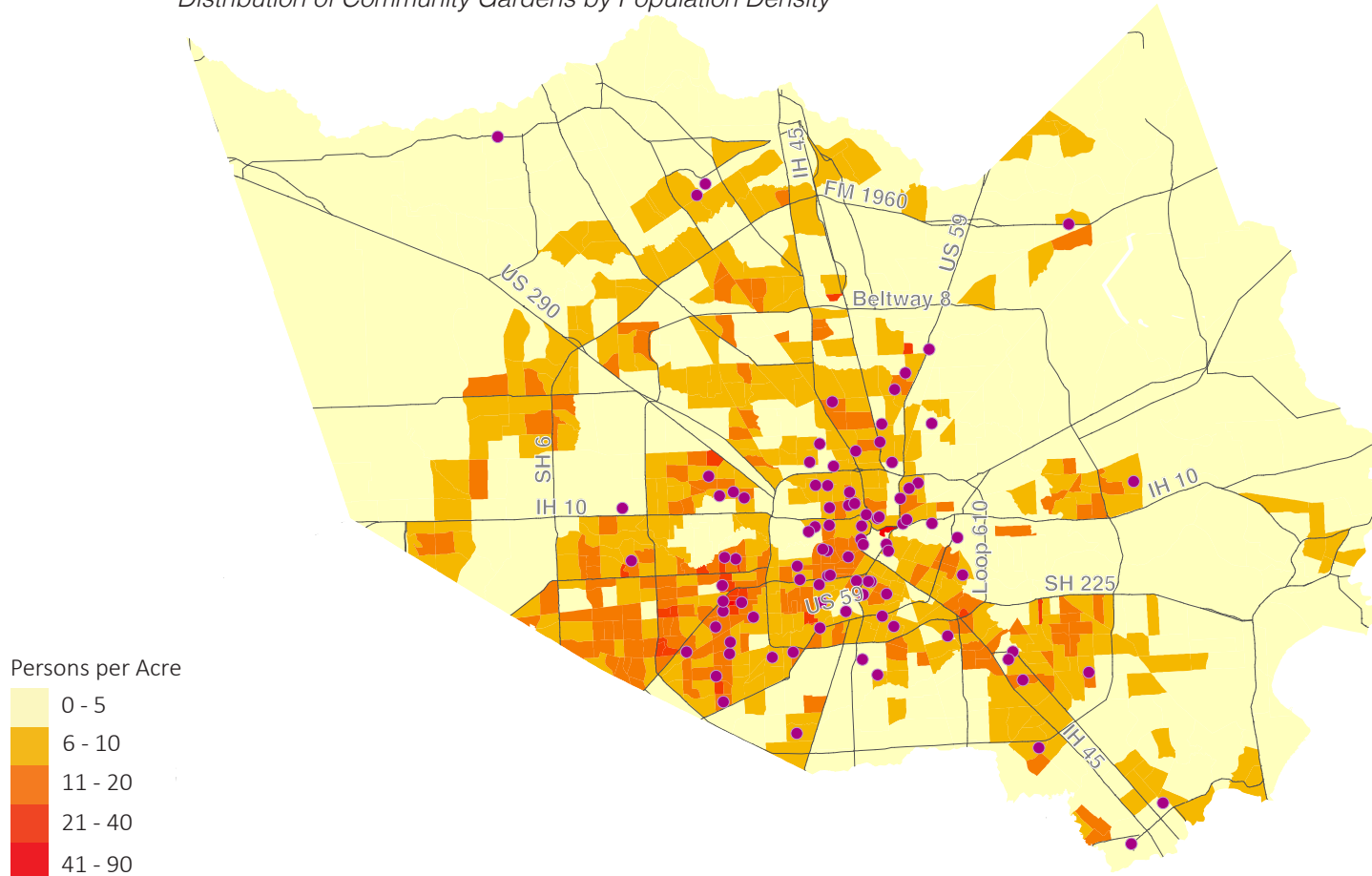
Type of Garden	Count
Allotment	12
Donation	23
Education	2
Neighborhood	37
School	70
Total	144

See appendix D for a list of the community gardens in Harris County and definitions of the different community garden types.

State of Agriculture

The map on this page shows the distribution of community gardens in Harris County by population density. The distribution of community gardens aligns with the densest parts of the County. Of note is the scarcity of community gardens along SH 6, or FM 1960, in northwest Harris County. While the population in this region is increasing however, development is scattered so the area is still fairly rural.

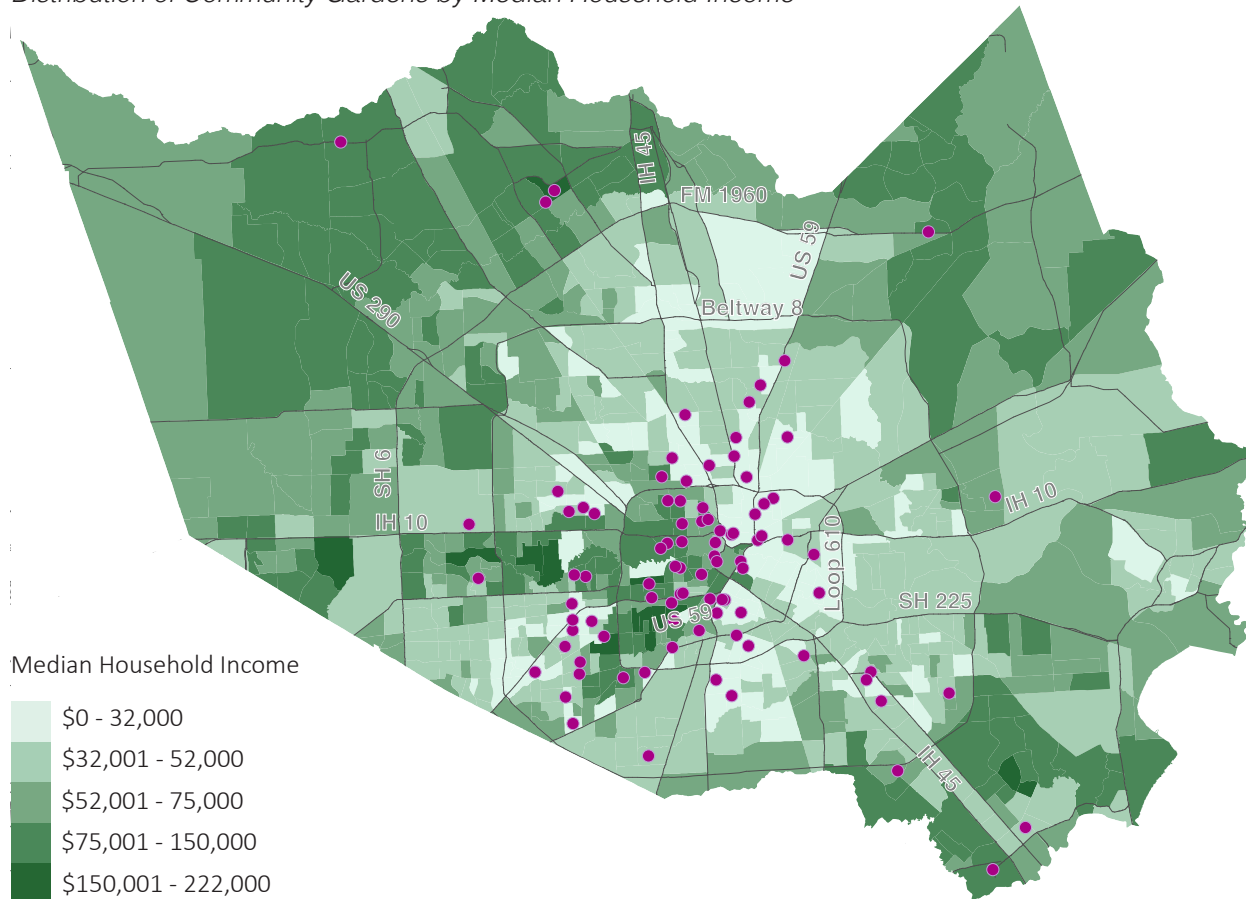
Distribution of Community Gardens by Population Density



State of Agriculture

The map on this page shows the distribution of community gardens in Harris County by median household income. Of note is the concentration of community gardens in southwest Harris County, an area that tends to have higher income households. There are however, numerous community gardens northeast of downtown Houston which tends to have lower income households.

Distribution of Community Gardens by Median Household Income



State of Agriculture

From March to June 2013, this project surveyed area farmers about the production capacity and challenges of their farm, as well as recommendations to better support local producers. Due to time constraints, only nine farmers responded. In addition, nine interviews were conducted with people involved professionally in the local food system in Harris County. Lastly, feedback on the state of the local food system was garnered during two presentations for the Houston Food Policy Workgroup and at the Prairie View A&M Urban Food Production Summit.

Harris County has a growing local food system. There is interest and demand from consumers for locally-grown food. There is an established workgroup of organizations and individuals collaborating to address challenges in the food system. There are non-profit organizations and a major land grant university providing educational and marketing support for local growers. There is not however public recognition and advertising of local farms. There are not efforts to protect local farms from a growing threat from development.

A multitude of challenges for the local food system were raised during the surveys, interviews and presentations including:

- costly and disjointed health permit requirements that vary by county
- a lack of business planning classes for new farmers
- cumbersome state and federal regulations regarding organic production, meat processing, and animal identification
- a diminishing water supply and the cost of water
- the availability and cost of land

- an aging population of farmers and lack of interest from younger generations
- a lack of labor
- not enough time
- weather

Of the challenges listed above, those cited most in conversations were time, labor, and farm capacity. Farm capacity is critical when considering the growing national demand for farm-to-school initiatives and the local demand for farmers markets. Currently, fruit and vegetable farmers in the Gulf Coast Planning Region do not have the capacity to supply more farmers markets, let alone provide for the more than 1,145,888 children in Harris County. In order for the region to encourage food systems, it has to encourage opportunities to increase the capacity of area farms. The recommendations that follow are intended to help foster a vibrant regional food system.

State of Agriculture

Recommendations

Collaborate regionally to devise strategies to preserve farmland in and around Harris County.

- Permit the use of under utilized public property in the City of Houston and Harris County for agricultural enterprises.
- Offer incentives to land owners who allow use of their property for farming.
- Minimize the impact of urban development and preserve farmland by designating areas of prime farmland in the Gulf Coast Planning Region as agricultural development districts.
- Charge farmers wholesale rates for water.
- Standardize agricultural appraisal requirements across the Gulf Coast Planning Region to recognize small producers.
- Offer business planning seminars for farmers.

Seek a regional approach to encourage a local food system.

- Establish a regional food policy council to cultivate a viable, local food system.
- Invite public health representatives to participate in regional planning processes.
- Continuously evaluate the influence of food systems and public health initiatives through community food and health impact assessments.

Implement a campaign to promote, educate and support the local food system in Harris County.

Foster partnerships between schools and farms, especially in socially disadvantaged areas to improve opportunities for families to learn and access fresh produce.

- Revise the bidding process and insurance requirements to enable local farms to sell to schools.
- Ensure all farmers markets accept federal nutrition benefits.
- Implement systems for providing double value incentives at farmers markets.

Expand educational opportunities for emerging farmers and offer more workforce development in agriculture.

Reduce the administrative burden on small, diversified farms to sell their products directly to consumers by standardizing health permit requirements and streamlining the application process across all counties.

State of Agriculture

Collaborate regionally to devise strategies to preserve farmland in and around Harris County.

According to Brad Stufflebeam of Home Sweet Farm in Washington County, it takes at least ten acres to make a profit farming in the Gulf Coast Planning Region.¹³ The viability of farms in the region is of concern due to diminishing farm size and rising land costs.

In Harris County, 13% of the land, 149,035 parcels, are either vacant, parks over five acres, flood control areas, or utility right away area. The City of Houston recently permitted the use of foreclosed lots for agricultural production through the Land Assemblage Redevelopment Authority. The City maintains close to 600 foreclosed properties. This land in the County and in the City provides ample opportunity for agricultural production however for-profit activities are restricted on these public properties. The state of Missouri passed legislation to similarly allow use of abandoned lots for agricultural production in designated urban agriculture zones. In these zones, farmers are charged wholesale rates for water and sales taxes are collected in a special fund for school districts to provide urban farming curriculum.

A slightly different strategy, the City of Baltimore, Maryland permits agricultural enterprises to use city property by charging an annual lease fee. Driven by strategies in the Baltimore Sustainability Plan to increase land under cultivation for agricultural production, the City methodically selected city-owned parcels to be used for agriculture. Farmers are asked to submit a proposal of qualification

to use the property which the city then uses to determine who is allowed to farm the city property. The rate to lease property from the city is \$100 a year and farmers can sell crops grown on the property.¹⁴ This enables the City of Baltimore to retain some level of control and involvement in the use of city property by for-profit ventures.

Use of privately-owned property is another option for urban farms. Supporting legislation to protect land owners from liability, offer property tax exemptions, and remove wastewater fees for land owners who permit their property to be used for agricultural production would also help to increase opportunities for urban farms.

Ultimately, a coordinated effort amongst the 13 counties is needed to sustain farming in the region. In 2001, the 77th Texas Legislature enacted Chapter 60 of the State Agriculture Code allowing for the establishment of agricultural development districts for the purpose of conservation and reclamation of agricultural resources.¹⁵ An agricultural development district can extend beyond county boundaries encouraging a regional approach to farmland preservation and the promotion of agricultural enterprises. A collaborative regional effort should be undertaken



Atkinson Farms
Spring, Texas

¹³ Presentation at the Prairie View A&M Urban Food Summit on April 26, 2013.

¹⁴ Planning / Baltimore Food Policy Initiative / Urban Agriculture. Retrieved from: www.baltimorecity.gov/Government/AgenciesDepartments/Planning/BaltimoreFoodPolicyInitiative/UrbanAgriculture.aspx

¹⁵ www.statutes.legis.state.tx.us/Docs/AG/htm/AG.60.htm

State of Agriculture

to identify and designate areas of agricultural importance as agricultural development districts.

Collaboration between counties is also necessary to provide fair property tax treatment for urban farms and small, diversified farms. Agricultural exemption qualifications in Texas are detrimental to small, diversified farms as they vary by county, are ultimately based on the evaluator's judgement, exclude urban farms, and require five years of continuous farming before consideration. Subjectivity and county variations is inherent in the agricultural appraisal process. According to the Texas Agricultural Appraisal Manual, in order for a property to qualify for an agricultural exemption, the land has to be "devoted principally to agricultural use to the degree of intensity generally accepted in the area."¹⁶ As cattle, corn and sorghum are the principal products raised in the region, polyculture is not typical for area operations and therefore may not qualify for an exemption. Altering the appraisal requirements to lower the lag time for qualification and allow for categorical valuation based on farm size and crop production would enable a more equitable evaluation of small, diversified or urban farms.

Within the state of Texas, the Farm and Ranch Freedom Alliance works to address many of the policy issues that inhibit the viability of small, urban farms. For information about legislation that FARFA is working to address in Texas, visit: farmandranchfreedom.org.

Seek a regional approach to encourage a local food system.

Like the City of Houston Healthy Houston Task Force, Harris County and the Gulf Coast Planning Region need a Healthy Food

¹⁶ *Agricultural Appraisal Manual. Qualifications of Land Tenure; Section 1-d-1. Retrieved from: www.window.state.tx.us/taxinfo/proptax/agland/part2.pdf*

Systems Task Force or a food policy council. A food policy council is a representative body that helps local governments address challenges to the food system. A food policy council can be a mandated committee of a city, county or state government or it can be an unofficial organization of local representatives. Food policy councils tackle issues from food deserts to water contamination, farmland preservation to childhood obesity. Regional coordination amongst government agencies, non-profit organizations and individuals in the Gulf Coast Planning Region is vital to enact policies that protect area farms.

Harris County already has two agencies that work regionally on issues of food, sustainability and natural resources: Houston-Galveston Council of Government (HGAC) and the Houston Tomorrow Food Policy Workgroup. Together, these entities provide a strong foundation for a regional food policy council. They bring to the collaborating table representatives from the fields of farming, public health, culinary arts, planning, policy and government. While the Houston Tomorrow Food Policy Workgroup works to unite resources and identify challenges in the local food system, the group lacks the political authority to effect policy change. The HGAC on the other hand thrives on promoting local government cooperation. The Houston Food Policy Workgroup needs the political support and regional coordination afforded through the HGAC to adopt actions that preserve local farms. The region needs a multi-county effort toward supporting the local food system given the expansion of development and the reliance on farms outside of Harris County. Since the 13-county region is a large area to coordinate efforts, a food policy council could start with the counties immediately surrounding Harris County that have extensive agricultural activity: Fort Bend, Montgomery, Waller and

State of Agriculture

Wharton. Efforts to unite these resources would greatly enhance support for the region's food system.

In addition to a food policy council, farmers, food policy experts, and public health officials need to be at the table during regional planning efforts. Many regional land use and transportation planning processes have not traditionally integrated local food systems or public health considerations. However, land use and transportation decisions have important, lasting impacts on the food system and public health.

Implement a campaign to promote, educate and support the local food system in Harris County.

In the Strolling of the Heifers annual ranking of states' commitment to local foods, Texas is dead last.¹⁷ According to farmers surveyed for this project, there is no recognition of local farms in the Gulf Coast Planning Region. The key to bolstering support for local agriculture is education. The demand for local food by chefs and school food service personnel, by residents and farm delivery service customers is growing but there is no unified resource for information on the food system in Harris County. Customer demand drives farm viability. A unified marketing campaign to educate the public about the value of local agriculture and to raise awareness about where people can find locally-grown products would improve the profitability of local farms.

One resource for information on local farm and food businesses is the Edible Communities Publication.¹⁸ Found in over 80 cities, states and regions across the nation, these magazines highlight people, places, programs, businesses, policies and events about all aspects of the local food system through articles and advertisements. There is yet to be an Edible Houston.

Another option is a buy local, eat local, grow local campaign. FoodRoutes.org offers tools and resources to start a Buy Fresh Buy Local campaign. In Minneapolis, Minnesota, a city-run campaign called Homegrown Minneapolis promotes and supports the local food system.¹⁹



Source: foodroutes.org



Source: coloradolocalfirst.com/eatlocal

¹⁷ www.strollingoftheheifers.com/locavore-index-2013/

¹⁸ www.ediblecommunities.com/content/

¹⁹ minneapolismn.gov/sustainability/homegrown/index.htm

State of Agriculture

Foster partnerships between schools and farms, especially in socially disadvantaged areas to improve opportunities for families to learn and access fresh produce.

Being a project about childhood obesity, one suggestion that arose frequently was to foster connections between farmers and children. School gardens, farm stands at schools, and farm delivery to schools all provide opportunities for children to engage with the local food system.

Similar to the model of Recipe For Success that pares local chefs with schools to teach kids about healthy eating, a program to pare local farmer with schools to teach students how to grow food would help draw the connection between food and agriculture. Permitting the farmer to host a weekly farm stand or buying produce from the farmer for the school cafeteria would further strengthen the connection and support the farmer.

Farm delivery services are another means to bring local food to schools. Direct delivery to the school is one option however, as indicated in the surveys of area producers, farmers lack for time. To help enable farmers to more easily sell local produce directly to area schools, the contract bidding process should be simplified, and insurance requirements reduced to minimize the administrative burden on farmers. Another option is direct delivery to parents. Central City Co-op in Houston has developed a delivery program for schools and institutions. Parents purchase shares of locally-grown produce through the Co-op that is then delivered to the school weekly.

Connecting farms and schools in underserved areas can improve access to healthy food for families. It is imperative though that all

farm markets in these areas accept federal nutrition benefits so that families can afford to buy the produce and so that farmers earn an income. Programs like the Wholesome Wave Double Value Coupon Program help to increase access by giving families an extra incentive to buy local produce.²⁰

Expand educational opportunities for emerging farmers and offer more workforce development in agriculture.

Repeatedly farmers in and around Harris County referenced a lack of available, dependable, skilled farm labor. Most often responses regarding a lack of labor were pared with a lack of time. A lack of farm help inhibits a farmer's production capacity. Crops may rot in a field because there is not enough help or time to harvest an entire crop. Educational programs to train young adults in the basics of agricultural production in Texas would help provide additional labor for farms and prepare a future generation of farmers.

One resource available in the region for agricultural training is Prairie View A&M. Prairie View A&M is a land-grant university and the first state supported college in Texas for African Americans. Agriculture is a core curriculum at the University. Strengthening relationships between the University and local farmers could result in internship opportunities for students and additional labor for farmers.

Another option would be to create a continuing education Farmer Training program for citizens of all ages. The University

²⁰ wholesomewave.org/dvcp/

of California at Santa Cruz and the University of Vermont both offer 6-month intensive programs that provide practical training in farming.²¹ At the end of the programs, graduates receive a certificate recognizing their training and preparation in farming.

A third opportunity would be to provide workforce development in agriculture for individuals experiencing difficulty entering the labor market, including those with a history of incarceration or substance abuse, and formerly homeless populations. Providing opportunities for all individuals to find a job helps to strengthen the local economy. In Illinois, Growing Home offers transitional employment and training in organic agriculture to individuals motivated to reenter the workforce.²² Some funding for the program was provided through the Local Initiatives Supporting Community (LISC) New Communities Program, a long-term community development program in 16 neighborhoods in Chicago.²³ In Houston, LISC Greater Houston runs a similar program called the Great Opportunities (GO) Neighborhoods.²⁴ Workforce development programs for agriculture that include skills training in business planning and management, and marketing would enhance the assistance offered to farmers and would expand job opportunities for laborers.

²¹ casfs.ucsc.edu/apprentice-training
learn.uvm.edu/sustainability/farmer-training/

²² www.growinghomeinc.org

²³ www.newcommunities.org/whoweare/

²⁴ www.lisc.org/houston/programs/go-neighborhoods/index.php

Food Retail

According to a report by The Food Trust, Houston has less supermarkets per capita than other major metropolitan areas.²⁵ This is particularly true of northeast Houston. The USDA Food Access Research Map identifies areas of northeast Houston as food deserts because the majority of residents are low-income and the nearest supermarket is more than half a mile away.²⁶ Responses from residents to a survey on the built environment and food access for this initiative confirm this reality. Over half (54%) of the residents in one of the HLM priority communities report to travel over 6 miles to go grocery shopping. In another HLM priority community, two thirds of the residents report to travel over 1 mile to go grocery shopping with 20% traveling over 6 miles to the store.²⁷ While there are supermarkets within proximity to residential areas in both neighborhoods, the availability of healthy options, store quality, and price caused residents to seek sources of healthy foods outside of their neighborhoods.

Travel to a grocery store outside of the neighborhood is an additional cost in gas and time, and is not feasible for every resident. Families without a car are reliant on neighborhood stores for their groceries, which may be more expensive and of poorer quality. Families without cars have alternative options to get to other grocery stores - take a bus, carpool with a friend, or hail a taxi; however, these options can be time consuming, limit the amount that families purchase due constraints on how much they can carry, are unreliable or at inconvenient times, and can be expensive. The location of stores and public transportation can

greatly impact a family's access to healthy food.

Furthermore, the price of healthy food makes it hard for families to eat healthy. For parents who participated in focus groups in the target Healthy Living Matters communities, price was cited in all eight discussions as the main barrier to eating healthy. Families will travel outside of their neighborhoods to shop at a store that offers quality, healthy foods at lower prices.



Healthy Living Matters Assessment Communities
Source: Healthy Living Matters Built Environment & Food Report

²⁵ Manon, M., Giang, T. & Treering, D. (2010). *Food for Every Child: The Need for More Supermarkets in Houston*. The Food Trust.

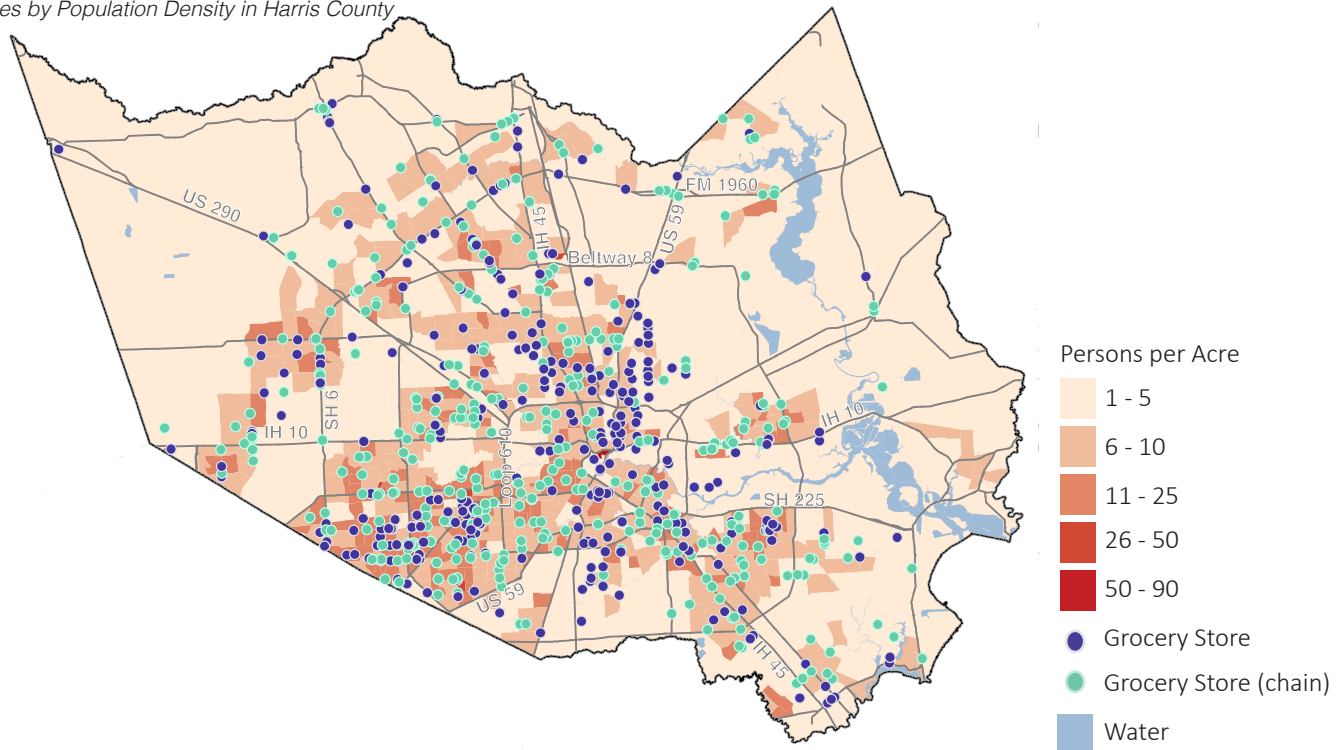
²⁶ USDA Food Access Research Map. Retrieved from: www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx#.UgDu9xZuVY4

²⁷ Healthy Living Matters Built Environment and Food Report., p. 105.

Spatial Distribution of Grocery Stores

In Harris County in 2012, there were 709 permitted grocery stores, including independently owned, franchise and corporate stores. The stores range in size, sales and product variety. There is roughly one store for every 6,000 people in Harris County. Of the 709 stores, 311 are chain supermarkets, like H-E-B, Kroger, and La Michoacana. For this report, chain stores are companies that own and operate more than 11 stores in the County. While La Michoacana stores tend to be smaller than Kroger, H-E-B or Wal-Mart, there are 53 locations in the County. They tend to specialize in fresh cut meats, but also stock a wide selection of fresh produce. In Harris County, there is a plethora of meat markets, many of them of a similar model as La Michoacana.

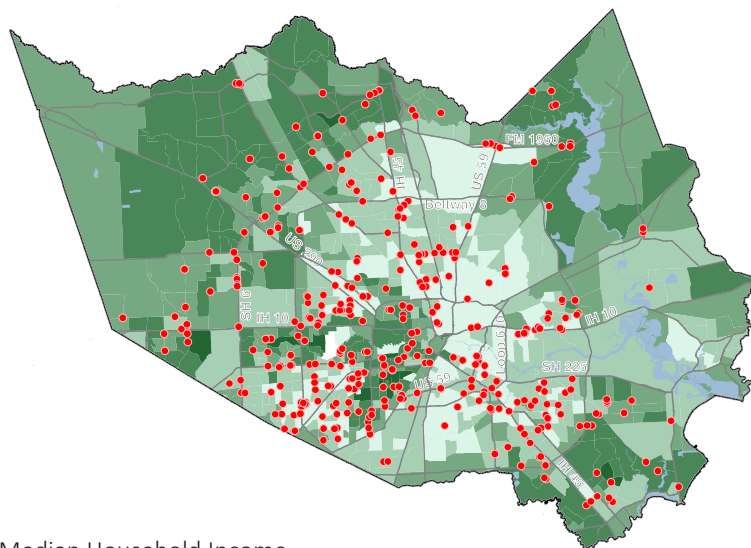
Distribution of Grocery Stores by Population Density in Harris County



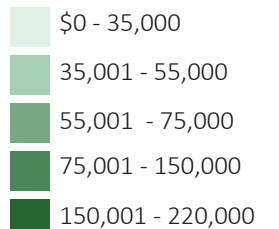
Food Retail

The maps on this page show the distribution of grocery stores in Harris County by income and SNAP participation. Of note is the scarcity of stores in northeast Harris County compared to southwest Harris County. Northeast Harris County has low median household incomes and higher rates of SNAP participation compared to the southwest part of the County.

Distribution of Grocery Stores by Median Household Income

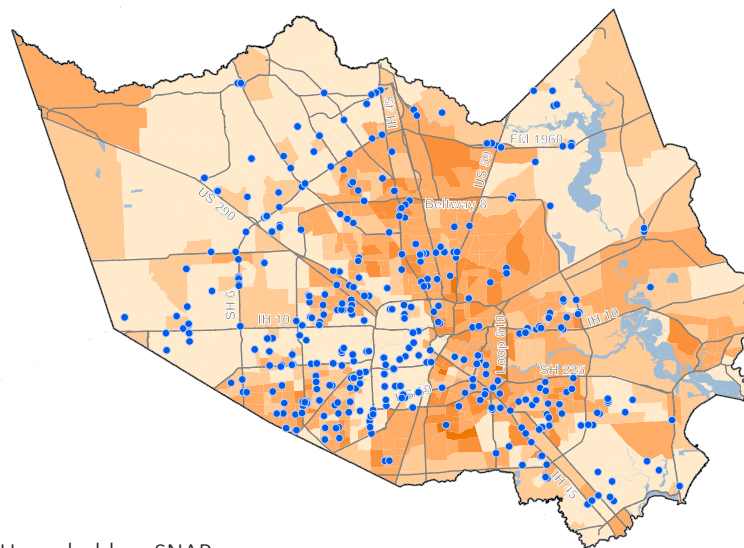


Median Household Income

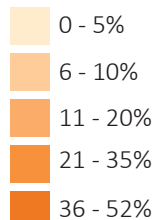


● Grocery Store (chain)

Distribution of Grocery Stores by Percent of Households Receiving SNAP



Household on SNAP



● Grocery Store (chain)

Retailer Interviews

According to stakeholder interviews in Harris County for this project, what drives food retail decisions is customer demand, particularly for smaller, independently owned stores. Stores stock what customers demand. This is particularly true for smaller stores. Since smaller stores tend to be more expensive, residents will travel to larger supermarkets that offer cheaper prices to buy groceries, relying on the smaller stores for non-essential items. For larger, chain stores, demand is influenced by customer requests along with trends in shopping patterns, loyalty card customers' purchases, competitors' offerings, and vendor promotions.

Grocers would like to stock healthier foods, like fresh produce and whole grains, however limited shelf life and the lack of a guarantee of the sale of less processed foods makes it riskier to stock fresh produce. This is especially true for smaller, independently owned grocers. While smaller store owners expressed wanting to carry healthier items, and have tried to stock alternative options, the loss of profit if the items do not sell is a waste of money. Smaller store owners will carry specialty items if requested by customers, like sugar free bread for a diabetic customer, when it is guaranteed that the person will purchase the item on a regular basis.

For food retailers in Harris County, support for consumer education about nutrition and cooking would be the most useful investment for improving access to healthy foods. This desire was shared by parent participants in focus groups in the target Healthy Living Matters communities. Focus group participants in all three target communities cited nutrition and cooking education, particularly parent knowledge, as being key to keeping kids healthy.

The other key is the price of healthy food. The number one barrier to eating healthy for focus group participants is that healthier foods are more expensive. The price of food is influenced by myriad factors from weather to export restrictions, farm yield, labor costs, the price of gas and government subsidies. Government subsidies can help influence what is grown, the amount harvested and the price of healthy food. Government subsidies can also be used to influence what foods store owners stock and the retail price.

Retailers, particularly small stores, need a guarantee that they will not lose money if they stock healthier foods. Investments in infrastructure or equipment are one-time costs. The issue is the long-term costs. Ongoing costs for the daily operation of the store, like labor and electricity, are covered by daily sales. Ultimately the guarantee that retailers will not lose profit is customer demand. Pilot programs that offer incentives for low-income customers to purchase fresh fruits and vegetables or healthier options would help cover the expense of healthy foods for customers and guarantee profit for retailers. Retailers interviewed for this project are very supportive of these pilot projects and would be interested in participating in them. The infrastructure to stock, track distribution, and administer an incentive program is already in place. Missing is funding for incentives and a nutrition and cooking education component for customers.

Having a place to get food means not only having supermarkets nearby but also looking to alternative sources for food. Farmers markets, co-ops, and food pantries are also sources of food for families.

Food Retail

Farmers Markets and Farm Stands

Farmers markets offer an outlet for farmers and gardeners to sell their products direct to consumer, enabling farmers to retain more of the profit from the sale of their goods. It is estimated that the farmer loses up to \$0.82 of every dollar in a conventional distribution chain.²⁸ Within a 50-mile radius of Harris County there is a growing network of 35 farmer's markets and farm stands, 22 of them are within Harris County. There is roughly 0.54 farmers markets per 100,000 people in Harris County compared to 0.7 farmers markets in Texas and 2.5 farmers markets nationally per 100,000 people. The number of farmers markets is increasing nationally as is the share of direct-to-consumer sales of all agricultural sales. According to the US Census of Agriculture, in 2007, farmers markets generated \$1.2 billion in agricultural sales. Direct-to-consumer agricultural sales are limited in Harris County due to the limited production capacity of local farms compounded by rising costs of land and the availability of labor in the region.

A barrier for low-income families to access fresh produce is that very few farmers markets in Harris County accept federal nutrition benefits, like the Supplemental Nutrition Assistance Program benefits (SNAP, formerly food stamps) or the Special Supplemental Women, Infants, and Children Farmers Market Nutrition Program (WIC FMNP) vouchers. The City of Houston is in the process of implementing an Electronic Benefit Transfer system to accept federal nutrition benefits however, it is imperative that all markets accept federal nutrition benefits. For a list of area farmers markets, see Appendix C.

²⁸ Hagan, E. & Rubin, V. (2013). *Economic and Community Development Outcomes of Healthy Food Retail*. PolicyLink. Retrieved from: [www.policylink.org/atf/cf/\[97c6d565-bb43-406d-a6d5-eca3bbf35af0\]/FINAL%20HER%20ECONOMIC%20WHITE%20PAPER%20FINAL_1%2018%2013.PDF](http://www.policylink.org/atf/cf/[97c6d565-bb43-406d-a6d5-eca3bbf35af0]/FINAL%20HER%20ECONOMIC%20WHITE%20PAPER%20FINAL_1%2018%2013.PDF)

Food Hub

Food hubs are organizations or systems that help address distribution and processing challenges for small farmers. In Harris County, there is one registered food hub: Divine Leaders, Inc. Living Grocery Store. The Living Grocery Store is a mobile produce stand that sells locally-grown produce at four locations, four times a week. Although it is not a registered food hub, CAN DO Houston also operates a mobile produce stand that delivers to two locations, twice a week.

Co-op

Food cooperatives are a way for families to pool their resources to purchase goods in bulk at wholesale rates. Harris County has two food cooperatives that source locally-grown produce: Central City Co-op and the S.H.A.P.E. Community Center Fruit and Vegetable Cooperative. Central City sells weekly shares while S.H.A.P.E. sells monthly shares. Central City members can shop for additional items, like eggs, meat and honey at the co-op when they pick up their shares.

Food Pantry

There are approximately 180 food pantries in Harris County that are part of the Houston Food Bank network. The Houston Food Bank works with farms in Texas to source donations of Grade 2 produce for food bank customers. Grade 2 produce is fresh fruits and vegetables that are not socially-acceptable for sale in stores.

Recommendations

Continue to provide financial support to improve healthy food options in existing store or for new stores, particularly in underserved neighborhoods.

Pilot an incentive program to promote the purchase of fresh fruits and vegetables.

Increase opportunities for families to enroll in SNAP.

Provide Electronic Benefits Transfer systems at all area farmers markets, farm stands, mobile farm markets and Community Supported Agriculture (CSA) sites.

Fund incentives that double the value of produce at farmers markets, farms markets, and mobile farm markets.

Expand opportunities for families to take cooking and nutrition education classes.

Advocate for healthy food policies.

Continue to provide financial support to improve healthy food options in existing store or for new stores, particularly in underserved neighborhoods.

Across the nation, efforts are being made to fill gaps in access to healthy food by providing financial incentives for corner stores to carry more, healthier foods and to build supermarkets. The New Market Tax Credit Program offers a tax credit to businesses to invest in stores in low-income communities.²⁹ The Healthy Food Financing Initiative legislation would create a national program to offer loans and grants to food retailers to overcome initial barriers to entry in underserved areas.³⁰

Locally, the City of Houston is exploring options to use Community Development Block Grants and the Texas Local Government Code Chapter 380 agreements to fund infrastructure investments for new grocery stores or to improve existing stores in food deserts.³¹ Initial infrastructure investments fall short however of covering long-term retail expenses. A study of food retailer practices and attitudes found that for retailers in Connecticut, the three incentives that would help most for retailers to carry healthier foods are monetary support for electrical utility costs, subsidies for healthy foods and consumer education about healthy food.³²

²⁹ www.cdfifund.gov/what_we_do/programs_id.asp?programID=5

³⁰ www.govtrack.us/congress/bills/113/s821/text

³¹ Houston/Harris County Community Transformation Initiative Health Equity Policy Scan Report 2012. Retrieved from: www.houstontx.gov/health/communitytransformation/Houston-Harris_CTI_Policy_Scan_FINAL-1.pdf

³² Andreyeva, T., Middleton, AE, Long, MW, Luedicke, J. & Schwartz, MB. (2011). Food retailer practices, attitudes and beliefs about the supply of healthy foods. *Public Health Nutrition*: 14 (6). 1024-1031.

Food Retail

It is imperative that nutrition and cooking education be provided alongside financial investments in grocery stores in underserved neighborhoods in Harris County.

Pilot an incentive program to promote the purchase of fresh fruits and vegetables.

In 2011, USDA Food and Nutrition Service implemented a pilot program called Healthy Incentives Pilot (HIP) to promote the purchase of fresh fruits and vegetables. The pilot targeted SNAP recipients and provided a \$0.30 incentive for every \$1 spent on specific fresh fruits and vegetables. The \$0.30 incentive was credited back to the customer's SNAP card after purchase. Based on initial results of the project, consumption of fresh fruits and vegetable increased by a 1/5 of a cup equivalent. The majority of participants reported wanting to continue to participate in the pilot.³³

Most of the infrastructure and desire to implement a similar project is already in place in Harris County. Grocers Supply, a local distribution company, has an inventory and tracking system for monitoring the distribution of stock to retail stores. The company is willing to offer specific healthy items at a reduced rate to retailers who could then sell the product at a reduced price to customers. Grocers Supply would need a sponsoring organization to reimburse them for the difference in cost for the goods sold to retailers.

Additionally, Kroger offers customers a loyalty card which currently only provides coupons for recommended items but could

be used to credit customers for purchases of select healthy foods. Funding, possibly from a Community Development Block Grant or the USDA FNS, would be required to improve technological systems for crediting and tracking incentives in smaller stores, and for educational programming and outreach.

Increase opportunities for families to enroll in SNAP.

This report reinforces the recommendation of The Food Trust in *Roadmap for Encouraging Grocery Development in Houston and Texas* that “the City of Houston should prioritize increasing enrollment in and utilization of the Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants and Children (WIC) and invest in outreach efforts citywide.”³⁴ 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 at yourtexasbenefits.com or at texascommunitypartnerprogram.com, in person at the Houston Food Bank, during an open enrollment event hosted by the Houston Food Bank, at a Houston Food Bank partner agency, and by calling 2-1-1. Other ways to increase access to SNAP are to train staff at public libraries to help patrons with the online applications or to station community liaisons at schools to help families apply for public benefits.

³³ USDA Food and Nutrition Service, Office of Policy Support. (2013). *Healthy Incentives Pilot (HIP) Interim Report - Summary*. Retrieved from: www.fns.usda.gov/ORA/menu/Published/SNAP/FILES/ProgramDesign/HIP_Interim_Summary.pdf

³⁴ Manon, M., & Koprak, J. (2012). *Roadmap for Encouraging Grocery Development in Houston and Texas: A Report of the Houston Grocery Access Task Force*. The Food Trust.

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.



EBT Machine and Double Value Tokens

Source: freshfarmmarkets.org/programs/matching_dollars_2013_campaign.php

Fund incentives that double the value of produce at farmers markets, farms 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 recipients without reducing the income for farmers. Double value programs typically target SNAP and WIC recipients, and provide them a cash incentive to shop at a farmers market with their benefits.

Fruit and vegetable prescriptions are also targeted for low-income families but are not necessarily tied to use of SNAP or 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.

Expand opportunities for families to take cooking and nutrition education classes.

Pared with financial incentives for customers, it is also imperative that customers learn how to prepare healthy meals in order to form health habits that extend beyond the life of public benefits or incentives. 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, Recipe for Success, and Cooking Matters®. Many of these programs also host grocery store tours to teach customers to be savvy shoppers: shop on a budget, select cheaper, healthier options, and shop the perimeter of the store.

Food Retail

Advocate for healthy food policies.

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 affect 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 offer subsidies for farmers that can affect what they choose to grow. In Maryland, in the wake of the national tobacco master settlement, the state began buying up the tobacco harvest from farmers to ensure farmers had the financial means to transition to production of a different crop. States can also 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, and funding 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 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

Summary

Harris County is the most populated county in Texas and the third most populated county in the nation. Ensuring that eating healthy is the easy choice for children and families in the county is no small feat. At a minimum, it requires that all families:

- 1) have a place to go to get food,
- 2) can easily and safely get to the place for food,
- 3) have healthy options from which to choose,
- 4) can afford to buy the healthy foods, and
- 5) know what it means to eat healthy, and how to shop for and cook healthy foods on a budget.

Fostering a healthy and sustainable food system that includes healthy consumer food environments will help to ensure that families have access to multiple points of purchase for healthy foods. Fostering a healthy and sustainable food system will require a multifaceted, regional approach that combines policy, financial incentives, education programs, public awareness campaigns and coordination across county boundaries. With the existing support from the community, local government and private industry, along with a base of programs, workgroups, task forces and research, Harris County is prime to implement changes that will help to end childhood obesity.

Appendices

Appendix A: Technical Notes	36
Appendix B: Food Resources	38
Appendix C: US Census of Agriculture	40
Appendix D: Farmers Markets	42
Appendix E: Community Gardens	44

Appendix A-Technical Notes

Region Definition

This report paints a picture of the food landscape in and around Harris County, from local farms to community gardens, from the distribution of supermarkets to the availability of alternative markets. For this report, the landscape in and around Harris County is defined as the 13-county Gulf Coast Planning region, which includes Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Harris, Liberty, Matagorda, Montgomery, Walker, Waller and Wharton counties. This is the same area as is served by the Houston-Galveston Council of Governments.

US Census of Agriculture

Information on the state of agriculture was gathered mainly from the United States Department of Agriculture (USDA) Census of Agriculture. The US Census of Agriculture is the primary source for information on agricultural production in the United States. The Census is conducted every five years. The last Census was in 2012. Due to timing in the release of data from the 2012 Census, the majority of information in this report is from the 2007 Census of Agriculture, with reference to earlier surveys for comparison.

Like the decennial population and household census, participation in the US Census of Agriculture is also required by law for any farm that produces or sells \$1,000 worth of agricultural products. Not all farms participate in the Census however. In 2007, the response rate was 85.2%.³⁵ For more information about the US

³⁵ www.agcensus.usda.gov/Publications/2007/Online_Highlights/Desktop_Application/AG2007help.pdf

Census of Agriculture, visit www.agcensus.usda.gov.

Data of agricultural production was also gathered from the National Agricultural Statistics Service: Cropland Data Layer and the Houston-Galveston Council of Governments.

US Census of Aquaculture

The US Census of Aquaculture is conducted separate from the US Census of Agriculture. In 2007, there were 55 operations in the Gulf Coast Planning Region that raise fish to eat, including catfish and trout. These were also 12 operations that raise crustaceans. Only Austin and Colorado counties did not have aquaculture operations.

Data Sources

Information on alternative sources for food, like community gardens, farmers markets and food pantries was gathered from Urban Harvest, City of Houston Health and Human Services, Houston Food Bank, Target Hunger, Wesley Community Center, Texas AgriLife Extension, Texas Department of Agriculture, the Houston Chronicle and internet searches.

Farm Product	Count of Farms
Aquaculture*	4
Chickens	19
Corn	1
Cows	18
Goat	9
Honey	1
Lamb	4
Pigs	9
Rice	6
Sprouts	1
Vegetables	61
Wheatgrass	1
Wild Game	1

Information on the location of supermarkets for 2012 was acquired from Harris County Public Health and Environmental Services, City of Houston Health and Human Services, City of Pasadena, and City of Webster. Grocery retailers with more than 11 stores in Harris County were classified as chain stores. These stores tend to be larger and carry a wider selection of foods and general merchandise.

Interviews

From December 2012 to July 2013, interviews were conducted with leaders from the non-profit, public and private sectors engaged with food in Harris County. Interviewees were asked about prevailing issues of food access and/or challenges for the food system depending on their area of expertise. They were also asked to recommend policies that would support a more robust and sustainable food system. Below are organizations interviewed for this project:

- Avenue CDC
- CAN DO Houston
- City of Houston Health and Human Services
- Central City Co-op
- Council member Stephen Costello's Office
- Fiesta Mart, Inc.
- Food Town
- Grocers Supply
- Houston Food Bank
- Houston ISD Food Services
- Kroger
- Plant-It-Forward

- Recipe for Success
- Texas AgriLife Extension
- Texas Children's Hospital
- Urban Harvest
- Wesley Community Center

Focus Groups with Families

In February and March 2013, Healthy Living Matters conducted eight focus groups with parents in the target communities for the built environment and food access assessments. 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. More information about the built environment and food assessments in the Healthy Living Matters target communities is available in the Healthy Living Matters Built Environment and Food Report.

Online and Print Survey

An online survey was developed to assess community perceptions of active living and access to healthy foods. Questions asked about walking and biking habits, factors impacting whether or not to walk or bike, grocery shopping and food preparation habits, and the availability of healthy foods. It was open to the public, and available in both Spanish and English. The survey was advertised on the Health Living Matters Website, on a Harris County website, and in various partner newsletters. Survey participation was bolstered within the target communities by distributing physical copies at various community meetings, and with focus groups.

Appendix B-Food Resources

Harris County

Alliance for Multicultural Community Services works with refugees, immigrants and low-income residents on the process of cultural adjustment and economic self-sufficiency. It also operates the Alliance Community Garden Project to train refugee arrivals in farming techniques suitable to the local environment.

allianceontheweb.org

CAN DO Houston focuses on preventing and reducing childhood obesity through environment, policy, and systems change. CAN DO operates a mobile farm stand and is piloting a healthy corner store in Sunnyside.

candohouston.org

City of Houston Health and Human Services manages three farmers markets and eleven community gardens primarily in food desert areas. The City offers guidance on how to set-up and operate a farmers market and community gardens. The City is working on setting up an electronic benefits transfer systems at area farmers markets to accept SNAP and WIC benefits.

houstontx.gov/health/Community

City of Houston Healthy Houston Task Force (Go Healthy Houston) is an initiative developed by the Mayor to reduce obesity by increasing healthy eating, promoting the availability of locally-grown foods, encouraging the development of sustainable food systems and promoting recreational opportunities.

houstontx.gov/mayor/press/20120912.html

Houston Food Bank collects and distributes food to a network of food pantries in ten counties, including Harris County. It also provides assistance in applying for federal benefit, and job training, and prepares meals for programs that serve both elderly and children.

houstonfoodbank.org

Houston-Galveston Council of Governments is a regional planning organization for the 13-county Gulf Coast Planning Region. It works to encourage local government cooperation, and promotes orderly development, and the safety and welfare of its citizens.

h-gac.com

Houston Tomorrow Houston Food Policy Workgroup strives to nurture a sustainable local food system, accessible to all, through education, collaboration, communication, and creation of a food policy council for the Houston region.

houstontomorrow.org/initiatives/story/houston-food-policy-workgroup

Hunger Free Texans Regional Coalition is made up of a diversity of public-private stakeholders from across Texas all working to reduce hunger and increase health and nutrition in the Lone Star state.

houstonfoodbank.org/get-involved/hunger-coalition

Plant-It-Forward helps economically disadvantaged refugees become self-sufficient by teaching them how to grow, harvest, and sell produce from a sustainable urban micro-farm.

plant-it-forward.org

Food Resources

Pro-Vision is an all boys school that runs Seeding Hope Urban Farm. The schools uses the farm to teach youth the value of positive community engagement, the importance of allocating resources for self sufficiency, and critical aspects of business and modern agriculture.

provision-inc.org/Seeding-Hope.html

Recipe for Success strives to change the way children understand, appreciate and eat food through cooking and gardening education programs in schools and for parents.

recipe4success.org

Target Hunger provides a holistic approach to hunger relief, focused on rebuilding and strengthening families by empowering clients to become self-sufficient. Target Hunger operates a number of food pantries and community gardens in Houston.

targethunger.org

Urban Harvest inspires and empowers people to grow and share healthy foods by working with community gardens, offering gardening education and managing farmers markets.

urbanharvest.org

Texas

Farm and Ranch Freedom Alliance advocates for farmers, ranchers, and homesteaders through public education and lobbying to assure independence in the production and marketing of food, and the prevention of unnecessary regulations.

farmandranchfreedom.org

National Center for Appropriate Technology (NCAT) helps people by finding small-scale, local, and sustainable solutions to reduce poverty, promote healthy communities, and protect natural resources. NCAT runs the **National Sustainable Agriculture Information Service** (ATTRA), a program to provide high value information and technical assistance to those involved in sustainable agriculture.

ncat.org/southwest

attra.ncat.org

Texas AgriLife Extension works to improve the lives of people, businesses, and communities across Texas and beyond through high-quality, relevant agricultural education.

agrilifeextension.tamu.edu

Texas Department of Agriculture is a state agency that provides value-added services through marketing and regulatory services in order to make Texas the leader in agriculture.

agr.state.tx.us

Texas Hunger Initiative (THI) is a capacity-building and collaborative project that seeks to develop and implement strategies to end hunger through policy, education, community organizing, and community development.

baylor.edu/texashunger/

Texas Organic Farmers and Gardeners Association is an association of ranchers, farmers, commercial plant growers, retailers, wholesalers, processors, distributors, and consumers who promote organic agriculture as a sustainable system for the production of food and fiber.

tofga.org

Appendix C-US Census of Agriculture

County	Land Area (sq mi)	Number of Farms		Acres in Farms		% land area in farms
	2010	2002	2007	2002	2007	2007
Austin	646.5	2,086	2,112	367,497	333,928	80.7
Brazoria	1,357.7	2,455	2,580	613,891	528,957	60.9
Chambers	597.1	610	650	274,853	267,343	69.7
Colorado	960.3	1,770	1,790	538,635	527,393	85.8
Fort Bend	861.5	1,560	1,404	415,251	382,740	69.4
Galveston	378.4	664	692	127,280	103,387	42.7
Harris	1,703.5	2,452	2,210	304,868	259,039	23.8
Liberty	1,158.4	1,596	1,589	304,574	297,855	40.1
Matagorda	1,100.3	991	903	619,142	577,594	82.0
Montgomery	1,041.7	1,701	1,886	197,892	169,914	25.5
Walker	784.2	1,043	1,188	206,311	224,050	44.6
Waller	513.4	1,453	1,640	277,000	271,004	82.7
Wharton	1,086.2	1,538	1,506	637,982	615,851	88.6
Region	12,189.2	19,919	20,150	4,885,176	4,559,055	58.4

US Census of Agriculture

Acres of Harvested Cropland		% land area cropland	Farms with Harvested Vegetables		Acres of Harvested Vegetables		Average Farm Size (acres)		County
2002	2007		2002	2007	2002	2007	2002	2007	
58,471	59,007	14.3	9	7	21	120	176	158	Austin
84,348	70,591	8.1	19	14	1,537	1,943	250	205	Brazoria
34,143	27,712	7.3	1	0	0	0	451	411	Chambers
77,404	75,713	12.3	1	6	0	4	304	295	Colorado
130,526	111,829	20.3	17	13	0	225	266	273	Fort Bend
7,441	7,713	3.2	12	9	41	38	192	149	Galveston
44,493	32,376	3.0	37	23	698	424	124	117	Harris
70,158	48,947	6.6	19	4	84	7	191	187	Liberty
135,809	121,997	17.3	3	4	0	11	625	640	Matagorda
19,189	23,130	3.5	16	25	37	38	116	90	Montgomery
18,883	20,425	4.1	5	13	0	139	198	189	Walker
53,308	51,888	15.8	22	24	812	1,219	191	165	Waller
297,315	264,431	38.0	16	10	221	233	415	409	Wharton
1,031,488	915,759	11.7	177	152	3,451	4,401			Region

Appendix D-Farmers Markets

Name	Address	City	Zip Code	Days	Hours	Type of Market
Airline Farmers' Market/ Canino Produce Co.	2520 Airline Dr	Houston	77009	Daily	6 am - 8 pm	Resale
Atkinson Farm Stand	3217 Spring Cypress Rd	Spring	77388	Mon - Sat Sunday	10 am - 6 pm 10 am - 2 pm	Farm Stand
City Centre Eco Farmers' Market	800 Town and Country Blvd	Houston	77024	Wednesday	4 - 8 pm	Farmers' Market
City Hall Farmers' Market	901 Bagby	Houston	77002	Wednesday	11 am - 1:30 pm	Farmers' Market
Debbie's Garden & Farmers' Market	10039 Huffmeister Rd	Houston	77065	Wed - Sun	9 am - 6 pm	Farm Stand
Dilorio Farms & Roadside Market	750 Hwy 290 East	Hempstead	77445	Daily	8 am - 7 pm	Farm Stand
Farm Stand at Petrol Station	985 Wakefield	Houston	77018	Saturday	9 am - 1 pm	Farmers' Market
Grogan's Mill Farmers' Market	7 Switchbud Place	The Woodlands	77380	Saturday	8 am - 12 pm	Farmers' Market
Clear Lake Shores Farmers' Market	1020 Marina Bay Dr	Houston	77565	Saturday	8 am - 12 pm	Farmers' Market
Farmers' Market at Imperial	198 Kempner St	Sugarland	77498	Saturday	9 am - 1 pm	Farmers' Market
Feast of Artisans Farmers' Market	1201 Lake Woodlands Dr	The Woodlands	77380	Wednesday	4 - 8 pm	Farmers' Market
Fifth Ward (Lyons Health Center)	5602 Lyons Ave	Houston	77020	2nd Tuesday	10 am - 2 pm	Farmers' Market
Froberg's Vegetable Farm Store	3106 Hwy 6	Alvin	77511	Daily	9 am - 6 pm	Farm Stand
Georgia's Farm to Market	12171 Katy Freeway	Houston	77079	Mon - Sat Sunday	7 am - 8 pm 7 am - 7 pm	Farm Store
Georgia's Farm to Market	420 Main Street	Houston	77002	Mon - Fri Saturday Sunday	7 am - 9 pm 8 am - 9 pm 9 am - 5 pm	Farm Store
H-E-B Montrose Farmers' Market	1701 West Alabama St	Houston	77098	Thursday	3 - 7 pm	Farmers' Market

Farmers Markets

Name	Address	City	Zip Code	Days	Hours	Type of Market
Kemah Farmers' Market	204 FM 2094	Kemah	77565	Saturday	9 am - 4 pm	Farmers' Market
Kingwood Farmers' Market	4403 Town Center Place	Kingwood	77339	Thursday	3 - 7 pm	Farmers' Market
LaCenterra Farmers' Market	23501 Cinco Ranch Blvd	Katy	77494	Saturday	8 am - 12 pm	Farmers' Market
Locavore Farmers' Market	11330 Louetta Rd	Houston	77070	3rd Saturday	9 am - 1 pm	Farmers' Market
Magnolia Multi-Service Center	7037 Capitol St	Houston	77011	2nd Thursday	10 am - 2 pm	Farmers' Market
Sweet Magnolia Pickins	FM 1488 and FM 1774	Magnolia	77354	1st & 3rd Sunday	11 am - 3 pm	Farmers' Market
Pearland Farmers' Market	2243 Grand Blvd	Pearland	77581	2nd & 4th Saturday	9 am - 1 pm	Farmers' Market
Rice Village Farmers' Market	2100 University Blvd.	Houston	77005	Tuesday	3:30 - 7 pm	Farmers' Market
Richmond Farmers' Market	Corner 90A and 2nd St	Richmond		Friday Sunday	2 - 6 pm 10 am - 2 pm	Farmers' Market
Spring Branch Farmers' Market	1504 Wirt	Houston	77055	Thursday	2:30 - 6:30 pm	Farmers' Market
Sunnyside Multi-Service Center	4605 Wilmington St	Houston	77051	1st Thursday	10 am - 2 pm	Farmers' Market
The Farmers' Market at Bridgeland	16902 Bridgeland Landing	Cypress	77433	1st Sunday	12:30 - 3:30	Farmers' Market
Theiss Farms	17045 Stuebner Airline	Klein	77379	Mon - Fri Saturday Sunday	9 am - 6:30 pm 9 am - 6 pm 10 am - 5 pm	Farm Stand
Theiss Farms	2008 Rayford Rd	Spring	77386	Mon-Sat Sunday	10 am - 6:30 pm 11 am - 5 pm	Farm Stand
Tomball Farmers' Market	FM 2920 and Cherry St	Tomball	77375	2nd & 4th Saturday	8 am - 12 pm	Farmers' Market
Urban Harvest Farmers' Market	3000 Richmond	Houston	77098	Saturday Sunday	8 am - 12 pm 12 - 4 pm	Farmers' Market
Waller County Farmers' Market	1901 Field Store Rd	Waller	77484	Saturday	8 am - 12 pm	Farmers' Market

Appendix E-Community Gardens

Garden type is designated based on the criteria used by Urban Harvest.

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 reenforced though 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 as well.

In Allotment Gardens, individuals rent plots for a monthly fee. As a group, they maintain the shared spaces.

Source: urbanharvest.org/typesofgardens

Name	Address	City	Zip Code	Type of Garden
Agape Community Garden	6401 Calhoun Blvd	Houston	77021	Neighborhood
Alabama Garden	2818 Alabama	Houston	77004	Allotment
Alcott Elementary	5859 Bellfort	Houston	77033	School
Alice Johnson Middle School	15500 Proctor	Channelview	77530	School
Alliance Community Garden Project	3324 South Richey St	Houston	77017	Neighborhood
Augustana Lutheran Church	1918 Wheeler St	Houston	77004	Donation
Austin High School		Houston	77023	School
BAUUC Community Garden	17503 El Camino Real	Houston	77058	Allotment
Benavidez Elementary	5801 Westward	Houston	77081	School
Berry Elementary	2310 Berry	Houston	77093	School
Blackshear Elementary	11211 Lacey Road	Tomball	77375	School
Bonham Elementary	8302 Braes River	Houston	77074	School
Bonner Elementary	8100 Elrod	Houston	77017	School
Braes Interfaith Ministries	4300 W. Bellfort	Houston	77035	Donation
Briargrove Elementary	6145 San Felipe St	Houston	77057	School
Briscoe Elementary	321 Forest Hill	Houston	77011	School
Bronson Community Garden	2218 Bronson	Houston	77034	Allotment
Brookline Elementary	6301 South Loop East	Houston	77087	School
Browning Elementary	607 Northwood	Houston	77009	School
Bruce Elementary	510 Jensen Dr	Houston	77020	School
Buffalo Creek Elementary	2801 Blalock Rd.	Houston	77080	School
Burnett-Bayland Park	6000 Chimney Rock	Houston	77081	Neighborhood
Casa Juan Diego	1218 Shepherd Dr	Houston	77007	Donation
Cedar Brook Elementary	2121 Ojeman	Houston	77080	School
Challenger 7 Park	2301 Nasa Road 1	Webster	77598	Donation
Christ of the Good Shepherd	18511 Klein Church Rd	Spring	77379	Donation

Community Gardens

Name	Address	City	Zip Code	Type of Garden
Christ United Methodist Church	3300 Austin Parkway	Sugarland	77479	Donation
City Gardens	611 Walker	Houston	77002	Allotment
City of Houston Permitting Office	1002 Washington Ave	Houston	77002	Neighborhood
Clarence Taylor Community Garden		Houston	77026	Neighborhood
Common Ground Garden		Houston	77020	Neighborhood
Condit Elementary	7000 South Third	Bellaire	77401	School
Cornelius Elementary	7475 Westover St.	Houston	77087	School
Cornerstone Elementary	1800 Chatham Ave	Sugarland	77479	School
Creston Missionary Baptist Church	3201 Creston Dr	Houston	77026	Allotment
Dean Garden		Houston	77026	Neighborhood
DeAnda Elementary	7980 Almeda Genoa	Houston	77075	School
Denver Harbor	6402 Market	Houston	77020	Neighborhood
DeZavala Elementary School	16150 2nd St	Channelview	77530	School
Dodson Montessori	1808 Sampson	Houston	77003	School
Dominican Sisters Garden	6503 Almeda	Houston	77021	Donation
Durkee Elementary	7301 Nordling Rd	Houston	77076	School
EA Jones Elementary	302 Martin Ln	Missouri City	77489	School
El Shaddi Community Garden		Houston	77026	Neighborhood
Fairmont Central Baptist Church Garden	3801 Preston Ave	Pasadena	77504	Donation
Fifth Ward Community Garden and Food Co-op	3707 Brill St	Houston	77026	Neighborhood
Fifth Ward Farmer St. Garden	4110 Farmer St	Houston	77020	Neighborhood
First Shiloh Community Garden		Houston	77020	Neighborhood
First Ward Community Garden	1406 Beachton St	Houston	77007	Allotment
Foerster Elementary School	14200 Fonmeadow	Houston	77035	School
Fondren Middle School	6333 South Braeswood	Houston	77096	School
Freed Park Community Garden	6818 Shady Villa	Houston	77055	Neighborhood

Appendix E-Community Gardens

Name	Address	City	Zip Code	Type of Garden
Gano Mission Community Garden	1815 Gano St	Houston	77009	Neighborhood
Garcia Elementary	9550 Aldine Westfield Rd	Houston	77093	School
Garden Oaks Elementary	901 Sue Barnett	Houston	77018	School
Gregory-Lincoln Education Center	1101 Taft St	Houston	77019	School
Hamilton Habitat & Energy Garden	138 East 20th St	Houston	77018	School
Harbach-Ripley Elementary School	6225 Northdale St	Houston	77087	School
Harry Holmes Healthy Harvest Community Garden	4646 Brinkley St	Houston	77051	Allotment
Hartsfield Elementary	5001 Perry St	Houston	77021	School
Harvard Elementary	810 Harvard St	Houston	77008	School
Helms Elementary	503 W 21st St	Houston	77008	School
Helping Hands Garden	31355 Friendship Dr	Friendship	77355	Donation
Herod Elementary	5627 Jason	Houston	77096	School
Hiram Clarke	3610 West Fuqua St	Houston	77045	Neighborhood
Huff Memorial Garden	431 Eldridge Rd	Sugarland	77478	Donation
Independence Heights Park Community Garden	601 East 35th	Houston	77022	Neighborhood
James Driver Community Center	10918 1/2 Bentley St	Houston	77093	Neighborhood
Janowski Elementary	7500 Bauman Rd	Houston	77002	School
Johnson Elementary	5801 Hamill Road	Houston	77039	School
Kashmere MultiService Center	4802 Lockwood Dr	Houston	77026	Neighborhood
Kashmere Community Garden		Houston	77026	Neighborhood
Kashmere High School		Houston	77028	School
Ketelsen Elementary School		Houston	77009	School
Keyes Park	791 Lester St	Houston	77007	Neighborhood
KIPP Dream Prep	4610 East Crosstimbers St	Houston	77016	School
KIPP Legacy Preparatory School	9636 Mesa Drive	Houston	77078	School
KIPP Shine	10711 Kipp Way	Houston	77099	School

Community Gardens

Name	Address	City	Zip Code	Type of Garden
Kolter Elementary School	9710 Runnymede	Houston	77096	School
Lamar High School	3325 Westheimer Rd	Houston	77019	School
Langston Community Garden		Houston	77026	Neighborhood
Louison Garden		Houston	77026	Neighborhood
Lyons Elementary School	800 Roxella St	Houston	77076	School
MacArthur Elementary	5909 England	Houston	77021	School
MacGregor Elementary	4801 La Branch	Houston	77004	School
Magnificat Houses Club House Vegetable Garden	3307 Austin	Houston	77004	Donation
Magnolia Roots Community Garden	8035 Avenue E	Houston	77012	Neighborhood
Mandell Park Community Garden	1500 Richmond Ave	Houston	77098	Neighborhood
Marcus Garvey Liberation Garden	5317 Martin L. King Blvd	Houston	77021	Donation
Meredith Gardens	Mandell St & Bonnie Brae St	Houston	77006	Neighborhood
Metropolitan Multi-Service Center	1475 West Gray	Houston	77019	Neighborhood
Midtown Community Garden	2720 Baldwin	Houston	77006	Allotment
Montgomery County Food Bank Good Food Garden	111 S 2nd St	Conroe	77301	Donation
Mustard Seed Community Garden	11303 Hughes Rd	Houston	77089	Allotment
NAM Garden of Plymouth United Church	5927 Louetta Rd	Spring	77379	Donation
Nellie Keyes Park Community Garden	801 Lester	Houston	77007	Neighborhood
Nitsch Elementary	4702 West Mount	Houston	77088	School
North Houston Heights Community Garden	4401 Gaston St	Houston	77093	Neighborhood
North Montrose Community Garden	1914 W Clay St	Houston	77019	Donation
North Stadium - HDHHS Central	8000 N Stadium Dr	Houston	77054	Education
Northeast	9720 Spaulding	Houston	77016	Neighborhood
Oak Forest Elementary	6400 Kingwood Glen Dr	Humble	77346	School
Park Place	7411 Park Place	Houston	77087	Neighborhood
Peavy Center	3814 Market St	Houston	77020	Neighborhood

Appendix E-Community Gardens

Name	Address	City	Zip Code	Type of Garden
Peck Elementary	5001 Martin Luther King Blvd	Houston	77021	School
Pilgrim Academy	6302 Skyline Dr	Houston	77057	School
Plant a Seed, Feed the Need	2508 St. Christopher Ave	League City	77537	Donation
Poe Elementary	5100 Hazard St	Houston	77098	School
Port Houston Elementary	1800 McCarty	Houston	77029	School
Reagan High School Bulldog Urban Garden Society	413 E 13th St	Houston	77008	School
Rice University Community Garden	2100 University Blvd.	Houston	77005	Education
Ridgecrest Elementary	2015 Ridgecrest Dr	Houston	77055	School
Rodriguez Elementary	5858 Chimney Rock	Houston	77081	School
Rusk Elementary	2805 Garrow	Houston	77003	School
Sam Houston Math, Science & Technology Center		Houston	77076	School
San Jacinto Neighborhood	2005 N 1/2 St	Galveston	77550	Allotment
Scarborough High School		Houston	77092	School
Second Chance Life Ministries, Think & Grow Green	4251 Schurmier	Houston	77048	Donation
Skinny River Community Garden	6138 County Road 288	Angleton	77515	Neighborhood
South Houston Community Garden	708 Michigan South	Houston	77587	Allotment
Southwest	6400 High Star St	Houston	77074	Neighborhood
Southwest Elementary	8440 Bissonnet St	Houston	77074	School
Spring Branch Elementary	1700 Campbell	Houston	77080	School
St Mark's United Methodist Community Garden	600 Pecore St	Houston	77009	Donation
St. Catherine's Montessori Garden	9821 Timberside Dr	Houston	77025	School
St. Luke's United Methodist Church	6856 Bellaire Blvd	Houston	77074	Donation
St. Mark Lutheran School	1515 Hillendahl Blvd	Houston	77055	School
St. Mary's Montessori School	3006 Rosedale St	Houston	77004	School
Sunnyside	4605 Wilmington St	Houston	77051	Neighborhood
Sunnyside Park	3502 Bellfort	Houston	77051	Neighborhood
Sutton Elementary	7402 Albacore Dr	Houston	77074	School

Community Gardens

Name	Address	City	Zip Code	Type of Garden
T H Rogers Elementary	5840 San Felipe St	Houston	77057	School
The Branch Schoolv	1424 Sherwood Forest	Houston	77024	School
The Shlenker	5600 N Braeswood Blvd	Houston	77096	School
Third Ward	3611 Ennis St	Houston	77004	Neighborhood
Tinsley Elementary	11035 Bob White Dr	Houston	77096	School
Tiny Mushrooms	1236 Studewood	Houston	77008	Neighborhood
Tomball Community Garden	16811 Farm to Market 2920	Tomball	77377	Donation
Travis Elementary	3311 Beauchamp St	Houston	77009	School
Trotter Family YMCA	1331 Augusta Dr	Houston	77057	School
Turning Point Garden	1702 Jacquelyn Dr	Houston	77055	Donation
University of Houston Community Garden	Cullen Blvd & Wheeler Ave	Houston	77004	Donation
Upper Kirby District Community Garden	3801 Eastside	Houston	77098	Allotment
Holthouse Boys & Girls Club	2411 Canal	Houston	77003	Donation
Veggie Village Community Garden	4751 Hwy 242	The Woodlands	77382	Donation
Volunteers of America Community Garden	4808 Yale St	Houston	77022	Allotment
Watkins Middle School	4800 Cairnvillage St	Houston	77084	School
Wesley Community Center	1410 Lee Street	Houston	77009	Neighborhood
West End MultiService Center	170 Heights Blvd	Houston	77007	Neighborhood
Westbury Community Garden	Greencraig at Dunlap	Houston	77035	Allotment
Westhollow Village	Cherry Hollow	Houston	77082	Neighborhood
Westside Community Garden	1200 Wilcrest Dr	Houston	77042	Neighborhood
Wheatley High School		Houston	77020	School
Whidby Elementary	7625 Springhill	Houston	77021	School
Whittier Elementary School	10511 La Crosse St	Houston	77029	School
Wilson Montessori	2100 Yupon	Houston	70006	School
Windsor Village Elementary	14440 Polo St	Houston	77085	School
Woodview Elementary	9749 Cedardale	Houston	77055	School