

Assessing Access to Healthy Food in Brooklyn Park



Prepared by

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Prepared on Behalf of

City of Brooklyn Park

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Problem statement:

Do residents living in the Zave Ave corridor of Brooklyn Park, MN have access to healthy, affordable, culturally relevant food?

Background:

Brooklyn Park has been focusing on access to healthy food (and physical activity) for the last few years. This has become a priority for the city, which is reflected in the Brooklyn Park 2025 comprehensive plan.

In 2014, Brooklyn Park designed an Access to Healthy Food Program. The goal of this program is *to increase access to affordable, nutritious food and information to make healthy decisions more attainable for community members*. Data from the SHAPE survey conducted in 2010 by Hennepin county, demonstrates some of the need for this program. Rates of high blood pressure and diabetes are more prevalent in Brooklyn Park than in the county as a whole. Obesity rates are also higher in Brooklyn Park.

Ideas to address these health outcomes and increasing healthy eating came from the Brooklyn Park/Brooklyn Center Community Listening Project conducted by Rainbow Research, in addition to past community-based nutrition interventions and the current literature on food access and nutrition. The Community Listening Project was a series of focus groups conducted in 2014 among the different racial and ethnic groups living in Brooklyn Park. This study provided qualitative insight into the enablers and barriers to healthy eating (as well as physical activity). One consistent barrier is access.

This not only includes physical access- like distance to food outlets, but economic access and cultural access. This issue of access is particularly relevant in the Zane ave corridor. An assessment conducted by African Career, Education and Resource (ACER) discovered that the Zane Avenue Corridor is essentially a “food desert”– defined as neighborhoods with limited access to affordable and nutritious food—and there was a need for more access to healthy food and active living opportunities. This definition has many nuances, but defined by the USDA, in urban areas a food desert is generally defined by residents who live more than 1 mile from a supermarket or grocery store.

Demographic Analysis

Improving food access in the Zane ave corridor is particularly important because of the demographic makeup of the area. It is the most populated, most diverse, and poorest area of Brooklyn park. The literature shows that, in general, populations living in areas demographically similar to the Zane ave corridor, experience lower access to healthy food, and disproportionately higher rates of obesity related disease than areas like the northern part of Brooklyn Park. This kind of health disparity is a major problem in the United States and a major problem in Minnesota. Even though Minnesota is considered one of the healthier states overall, the populations of color compared to white populations there is a large gap in health outcomes. This is an important issue to address.

Food Outlet Analysis

Understanding the demographic makeup of Brooklyn Park and the Zane ave corridor is an important step to understanding if there is adequate food access. The next step is understanding the food outlets themselves.

For the analysis, I broke down the food outlets in Brooklyn Park into eight categories. (places like churches, schools, day cares that have food licenses but are not available to the general population were not included).

- Grocery outlets
- Grocery outlets, culturally relevant
- Chain/franchise, restaurants
- Chain/franchise, fast food establishments
- Convenience stores
- Dessert/Beverage establishments
- Local restaurants
- Local restaurants, culturally relevant

Culturally relevant means that the store is tailored to the tastes or food traditions of any culture other than the dominant culture.

In mapping these food outlets, it's clear that overall, Brooklyn Park has more chain/franchise restaurants and fast food establishments than local restaurants. Many of these are located in or on the border of the Zane ave corridor. In general, these type of restaurants, especially fast food and convenience stores are less expensive and less healthy, and would not be considered culturally relevant or specific. However, almost all of the local restaurants either the in or bordering the Zane ave corridor are culturally relevant. These are primarily Vietnamese or Chinese, West African and Mexican.

There are five grocery outlets within the corridor parameters. Several of these are culturally relevant stores; mainly Asian or African specific stores. Originally I wanted to break these up into "full service" grocery stores and "not full service" stores with a one mile buffer around each to show where "food desert" areas would be. However, even with extensive research into each store I felt uncomfortable making this distinction. Traditionally defined "full service" stores in Brooklyn Park would be Hyvee, Walmart, Target, Cub and Aldi. Cub and Aldi being the only ones that are in the Zane ave range. However, nearly all of the culturally relevant stores, while smaller, have a variety of fresh fruits and vegetables, meats, and other staple food products. Additionally, there are much more nuanced factors that play into whether these stores are actually accessible, such as transportation, safety, affordability and whether or not the store sells culturally appropriate food. Whether or not the Zane ave corridor is a "food desert" depends on all of these factors.

For example: Looking at an overlay of grocery stores with the percent of residents using public transit gives some context to defining if grocery stores are physically accessible. Looking at the map is clear that there are some areas where up to 14 percent of the population uses public transit in the corridor, but there are also areas in the corridor where very few residents use transit. We don't know if those not using transit have cars, or if they bike or walk. This can have a major impact on whether these grocery stores are in reality, accessible.

Healthy vs unhealthy food is extremely hard to definitively categorize. Most people know generally what's healthy or not, but when it comes down to quantifying the two, it's very difficult because nutrition is complicated. In general however, (based on my own work in the field and the existing literature) unhealthy foods are high in trans fats, added sugar and sodium. These are generally highly processed foods. Healthy foods are low in added sugar, trans fat, sodium, but also high in fiber, lean protein, and micronutrients. These are generally fresh and minimally processed.

Using this criteria, food outlets were grouped into 2 categories "healthy options available" (healthy) and "few to know healthy options available" (unhealthy). All convenience stores were categorized in the unhealthy and most fast food and chain restaurants were categorized as unhealthy. Exceptions were places like chipotle and subway, however there is a caveat here on portion size. All grocery stores were categorized as healthy and so were some of the local restaurants. All but one of the local, non-culturally relevant restaurants as healthy and only about half of the culturally relevant ones. Dessert/beverage outlets were unhealthy. In general, there are more "unhealthy" food outlets than "healthy" ones in Brooklyn Park and many of these are clustered in the Zane ave range.

Next Steps

This analysis is one small piece toward defining food access issues in the Zane ave corridor. Having sales data from grocery stores, partifuary SNAP sales data would be interesting to see what kinds of items are actually being purchases and from what income demographic. It would also be helpful to know what kinds of products every outlet carries. Perhaps using a similar inventory analysis as the Staple Food Ordinance Study taking place in the city of Minneapolis could be useful or even passing a staple food ordinance in the city of Brooklyn Park. It is also important to consider other access issues such as transportation, safety, quality of food, etc. Regardless of the next steps taken, it is important to consider both the qualitative data and quantitative data. Brooklyn Park has taken many steps to obtain qualitative data on this issue and it should certainly be utilized. It is also key that the community is not only involved in the identification of the problem but also involved in the solution to improve healthy food access for all residents of the Zane ave corridor in Brooklyn Park.

Food Access in the Zane Ave Corridor

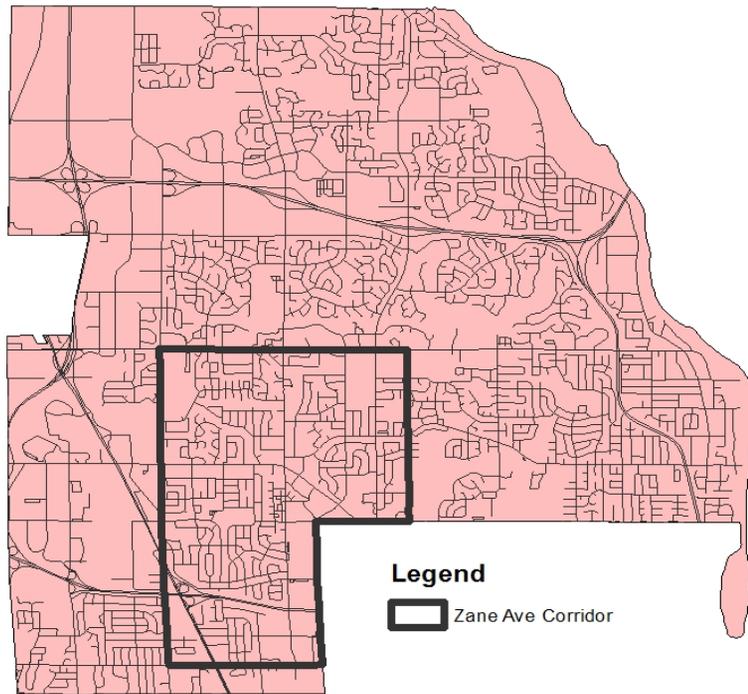
Natalie Loots

Do residents living in the Zane ave corridor of Brooklyn Park, MN have access to healthy, affordable and culturally relevant food?

SHAPE Survey: Selected resident health data, 2010	NW1/Brooklyn Center and Brooklyn Park	Hennepin County
Health Conditions		
High Blood pressure	19.9%	16.8%
Diabetes	5.7%	5.3%
Health Behaviors		
Overweight	37.3%	32.8%
Obesity	24%	20 %

Source: 2010 Hennepin County SHAPE. *Brooklyn Center and Brooklyn Park results are for SHAPE area NW1

Zane Ave Corridor



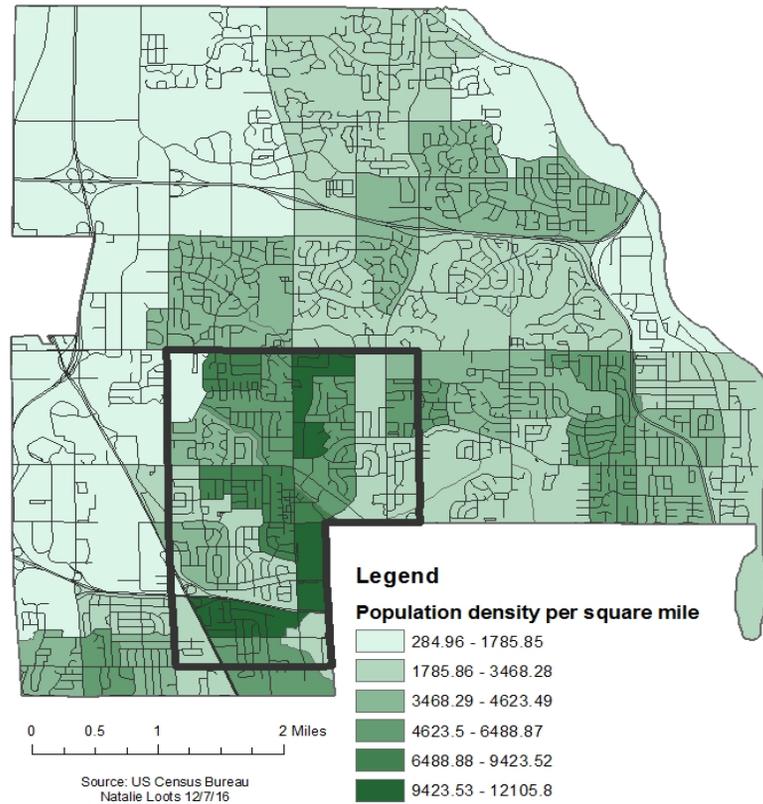
Legend

 Zane Ave Corridor

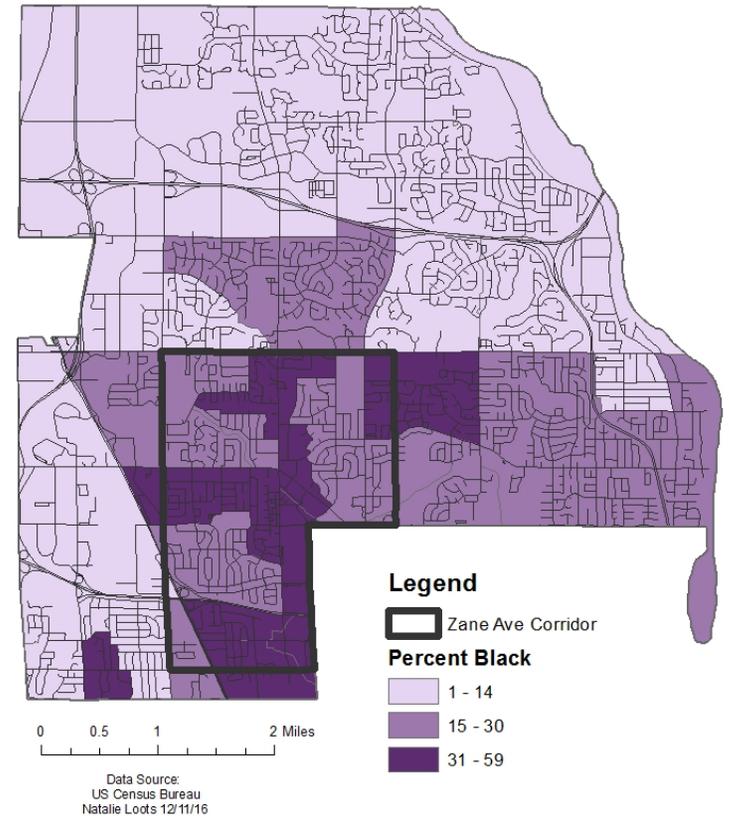
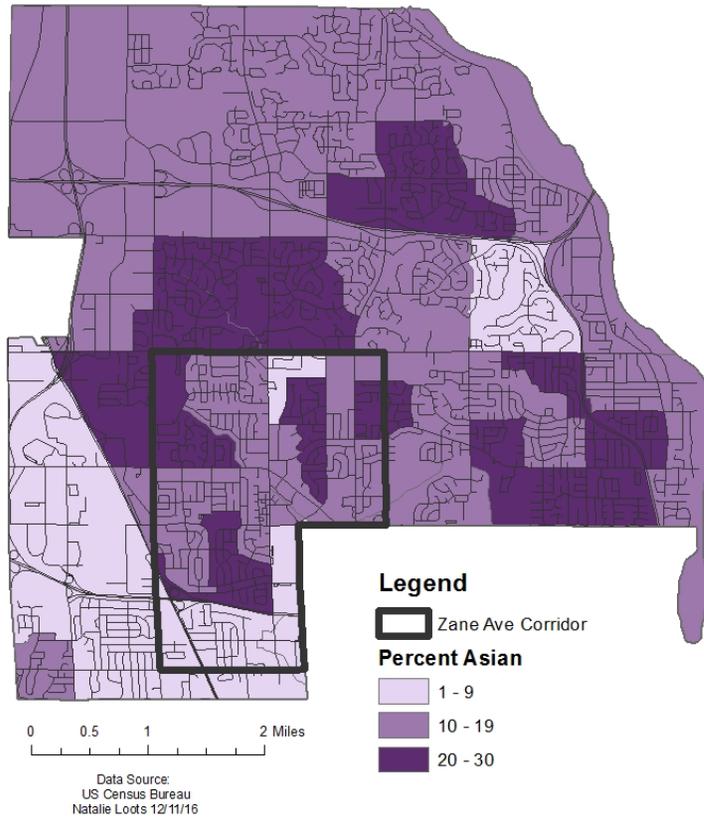
0 0.5 1 2 Miles

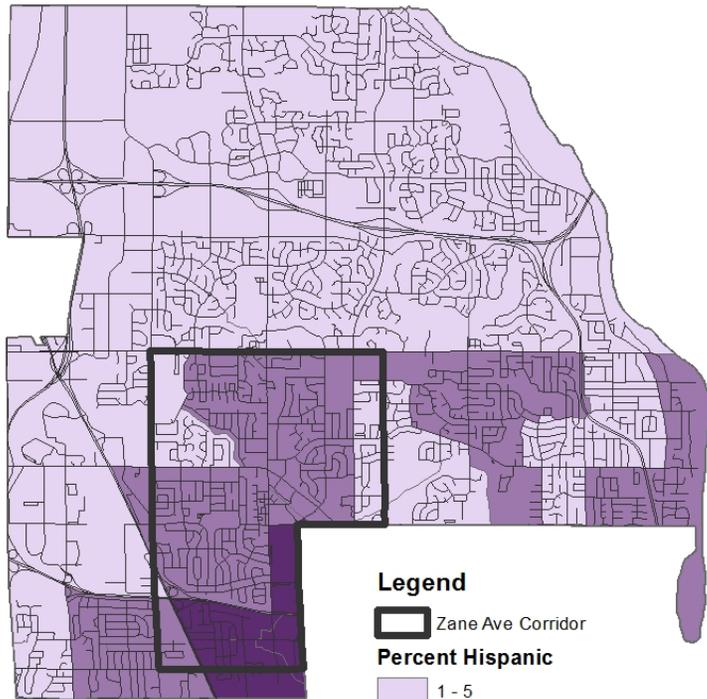
Data Source:
US Census Bureau
Natalie Loots 12/11/16

Population Density



Race





Legend

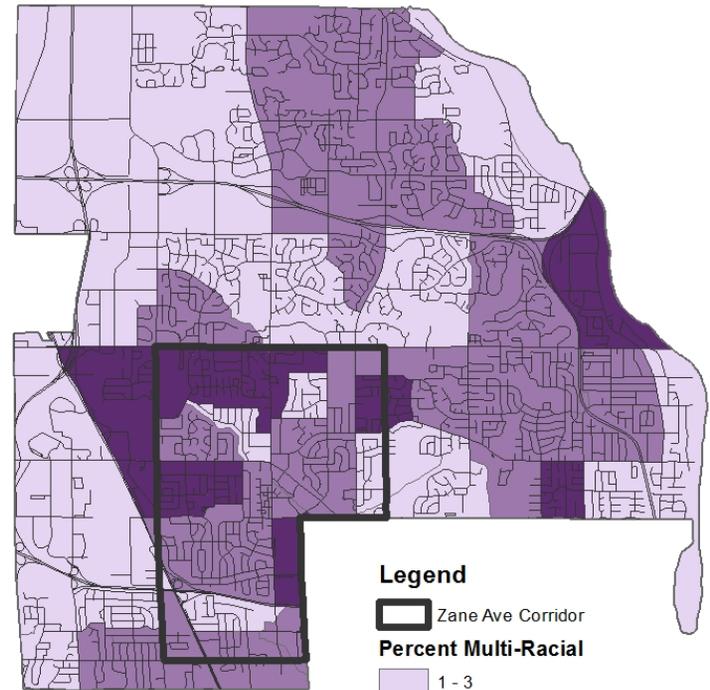
 Zane Ave Corridor

Percent Hispanic

-  1 - 5
-  6 - 12
-  13 - 29

0 0.5 1 2 Miles

Data Source:
US Census Bureau
Natalie Loots 12/11/16



Legend

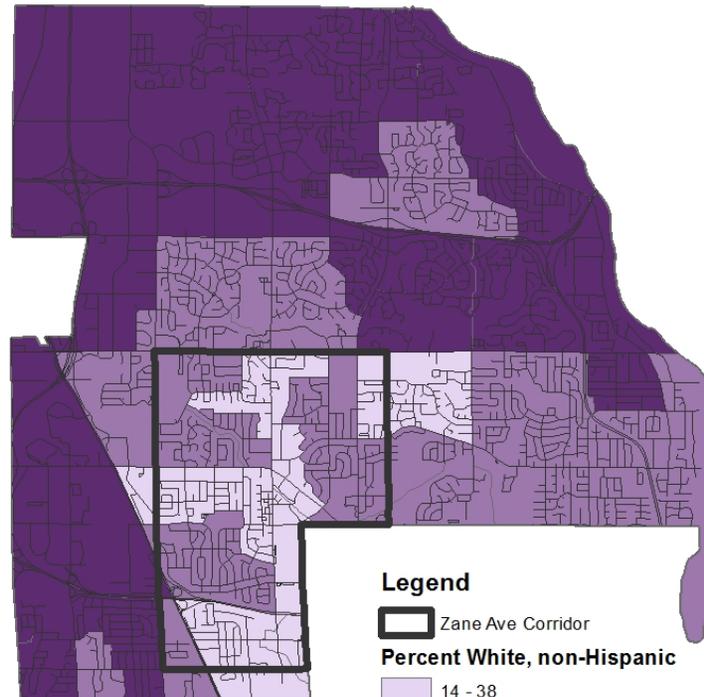
 Zane Ave Corridor

Percent Multi-Racial

-  1 - 3
-  4
-  5 - 6

0 0.5 1 2 Miles

Data Source:
US Census Bureau
Natalie Loots 12/11/16



0 0.5 1 2 Miles

Data Source:
US Census Bureau
Natalie Loots 12/11/16

Legend

 Zane Ave Corridor

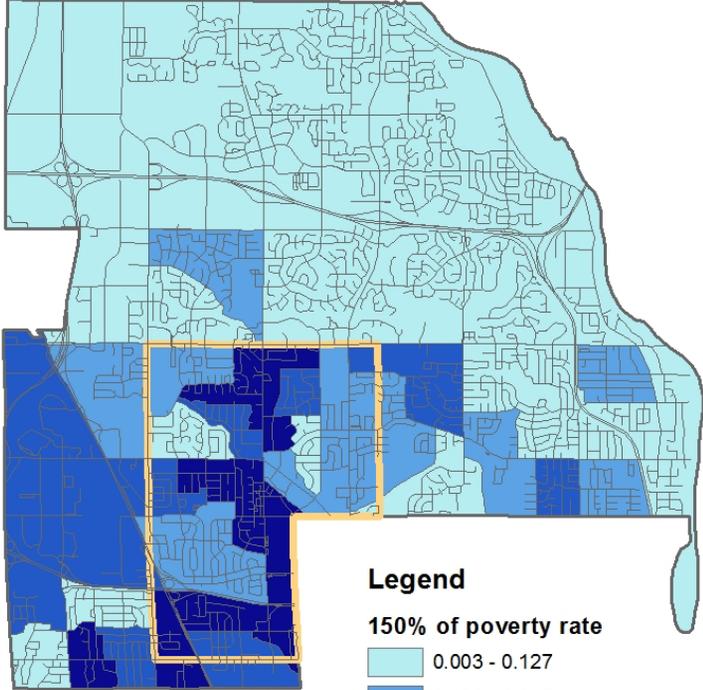
Percent White, non-Hispanic

 14 - 38

 39 - 61

 62 - 94

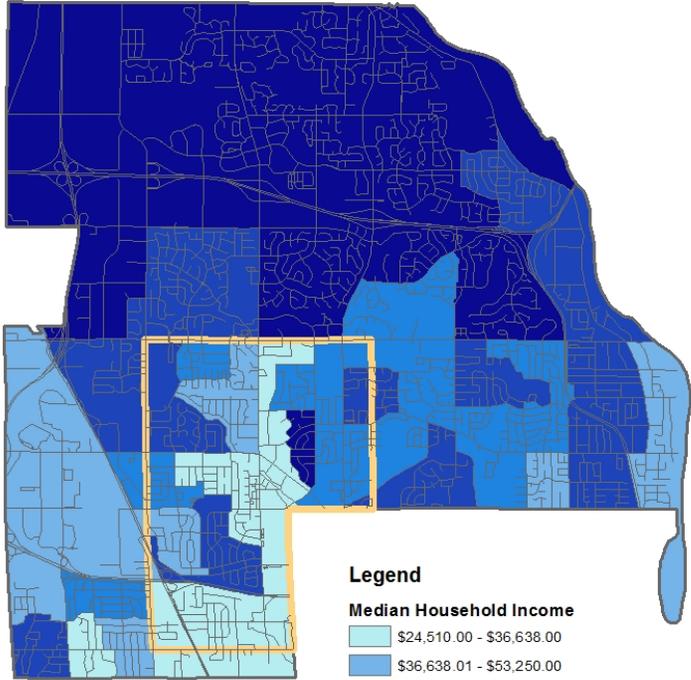
Income



5,800 2,900 0 5,800 Feet

Data Source: American Community Survey
Natalie Loots 12/6/16

- Legend**
- 150% of poverty rate**
- 0.003 - 0.127
 - 0.128 - 0.247
 - 0.248 - 0.419
 - 0.420 - 0.732
- Zane Ave Corridor



5,800 2,900 0 5,800 Feet

Data Source: American Community Survey
Natalie Loots 12/6/16

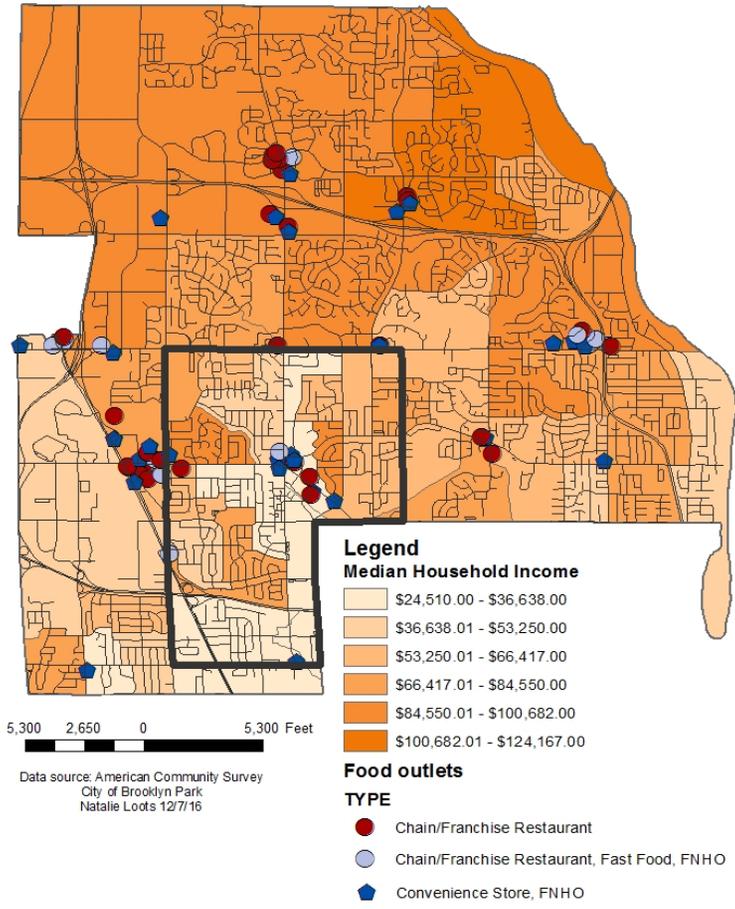
- Legend**
- Median Household Income**
- \$24,510.00 - \$36,638.00
 - \$36,638.01 - \$53,250.00
 - \$53,250.01 - \$70,662.00
 - \$70,662.01 - \$91,286.00
 - \$91,286.01 - \$124,167.00

Food Outlets

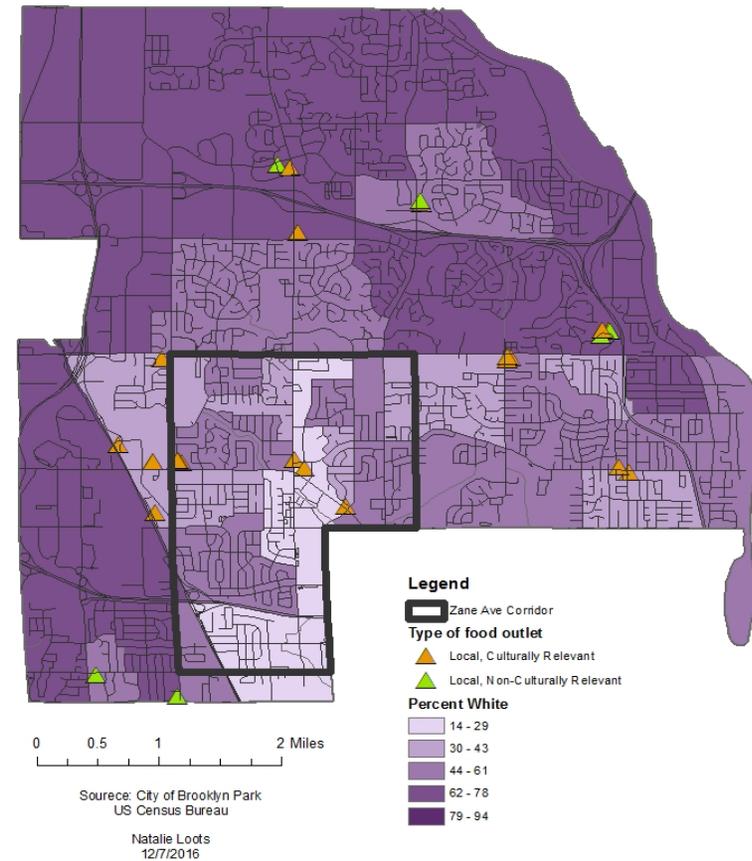
- Grocery outlets-- ex: Cub or Broadway Market
- Chain/franchise restaurants and fast food establishments-- ex: Applebee's or Taco Bell
- Convenience stores-- ex: Superamerica or Walgreens
- Dessert/Beverage establishments-- ex: Caribou
- Local restaurants-- ex: Mama Ti's African Kitchen or Roasted Pear

*** Culturally relevant or not***

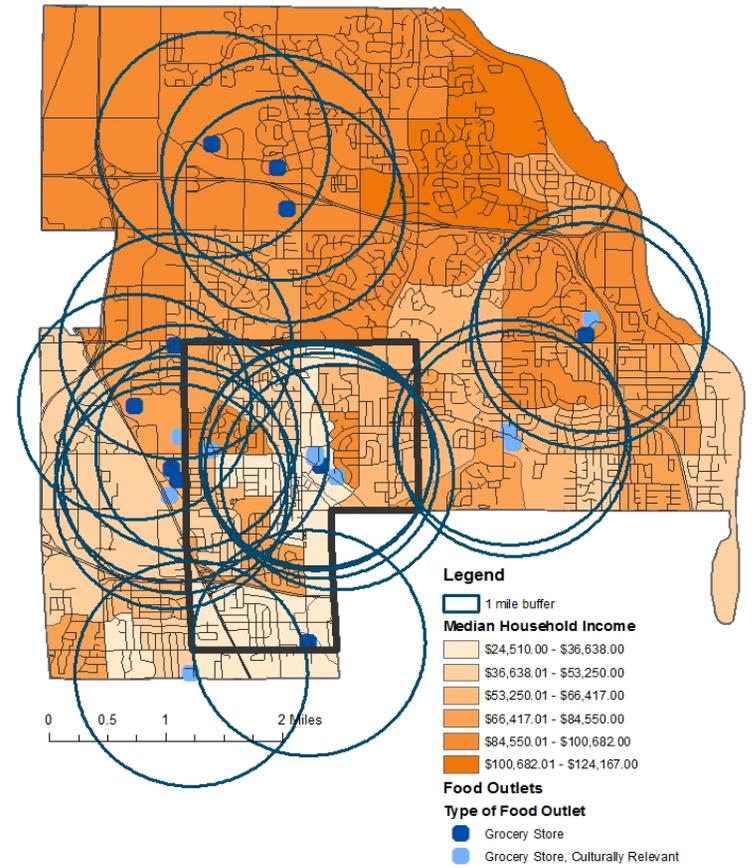
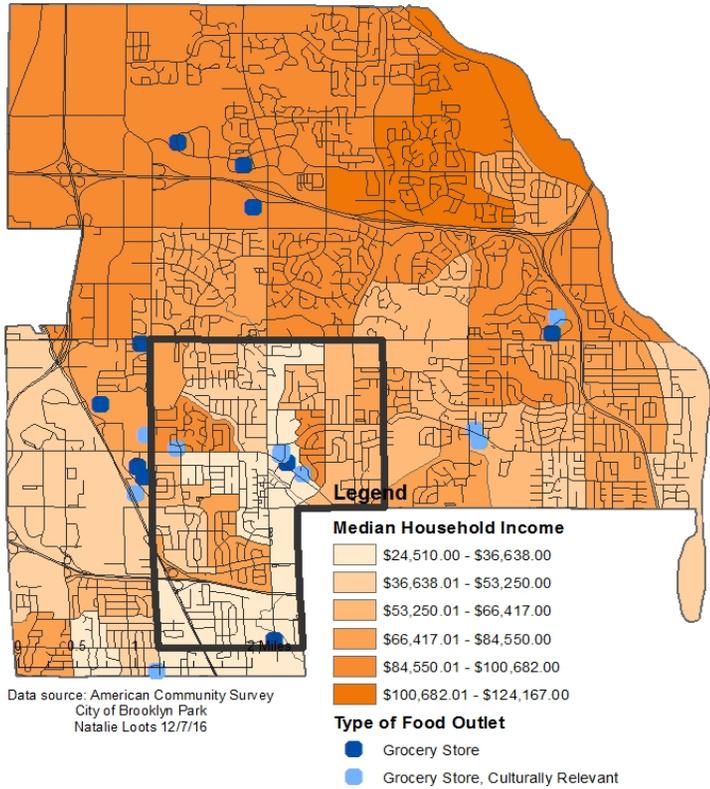
Chains, fast food, and convenience food outlets

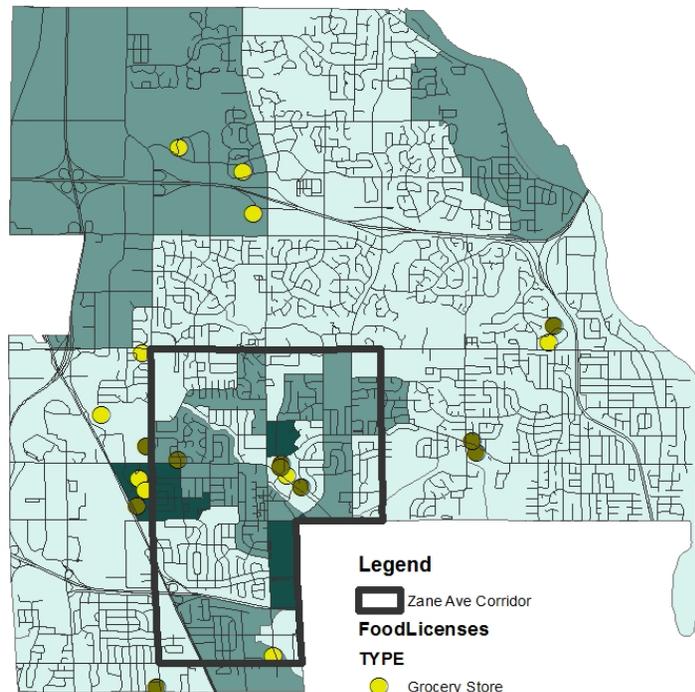


Local, culturally relevant food outlets



Grocery Outlets





Legend

Zane Ave Corridor

FoodLicenses

TYPE

Grocery Store

Grocery Store, Culturally Relevant

Percent using public transit

0 - 2

3 - 7

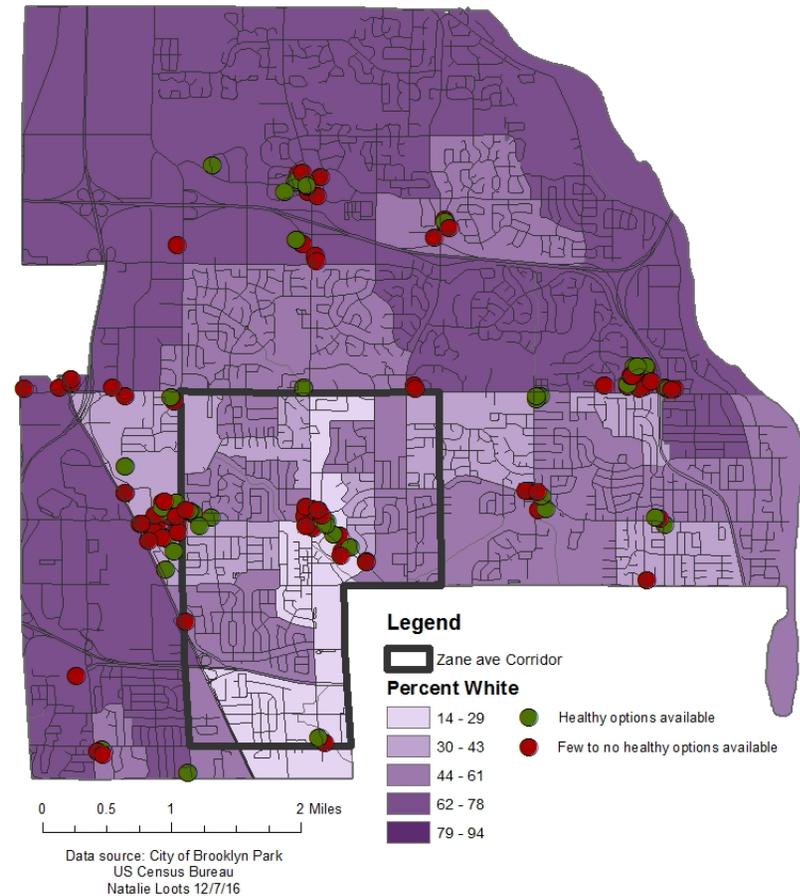
8 - 14

0 0.5 1 2 Miles

Data Source:
American Community Survey
City of Brooklyn Park
Natalie Loots 12/11/16

“Healthy” Vs “Unhealthy”

“That is another barrier. You can go anywhere and get a greasy taco or a greasy hamburger but you can’t find anything healthy here in the neighborhood, besides a grocery store.” (ACER focus group participant)



Data Sources

Data set needed	Source	Availability	Metadata?	Vintage
Block Level demographic data	US Census Bureau	Yes, downloads	yes	2010
Block Level demographic data	American Community Survey	Yes, downloads	yes	2010
Metro streets	Minnesota Geospatial Commons	Yes, downloads	yes	2014
Parcel data	Minnesota Geospatial Commons	Yes, downloads	yes	2010
Food Outlets	City of Brooklyn Park	Yes, downloads	no	?
Zane ave boundaries	City of Brooklyn Park	Yes, downloads	no	?

Next Steps

**In depth analysis on the items available at stores and what customers are purchasing-
- STORE study/Staple Food Ordinance**

Consider other issues: transportation, safety, quality of food, etc.

Combine qualitative and quantitative data

Ensure the community is involved in the solution

Assessing Access to Healthful Food

Transportation Barrier of Zane Avenue Corridor

Yun Taek, Oh

December 14th, 2016

Master of Public Policy Candidate 2018

Humphrey School of Public Affairs

University of Minnesota, Twin Cities

Brooklyn Park 

Executive Summary

- Transportation barriers on accessing to fresh food and regions without this accessibility were investigated. Food ethnicity was not taken into account in this study.
- There is no problem with accessing to grocery stores if residents can access the bus.
- There are three regions where distance from the nearest bus stop exceeds the walking distance (0.25 mile, taking walking-unfriendly winter season into account).
- Several alternative solutions were suggested, yet further investigation is needed for selecting short-term solution.
- Creating new bus routes or extending the existing bus routes is inevitable in long term. Working with Metro Transit is needed.

1 Problem Statement

According to project proposal #25, City of Brooklyn Park Administration discusses the current issue of limitations of accessing to fresh food in Zane Avenue Corridor. Series of focus groups along this corridor was conducted, and city administration collected some information about various barriers regarding healthful activities and nutrition in this region. Based on this information, the city administration concluded that ‘removing the barriers of accessing to fresh food will lead the residents to healthier lifestyle.’ As an extension to this research, this paper primarily worked on (i) finding the transportation barriers in this corridor and (ii) suggesting alternative solutions such as establishing Farmer’s market.

2 Data Sources

Dataset Needed / Wanted	Available?	Data Source	Vintage
Parcel & Street Information	Yes	Hennepin County Geographic Information Systems	2015
Zane Avenue Corridor ※ Received by the request	Yes	City of Brooklyn Park Administration	N/A
Household Car Ownership Parcel Data	No	N/A	N/A
Metro Transit (Bus Stop Locations)	Yes	Minnesota Geospatial Commons	2015
Bus Routes	Yes	Metro Council	2016

3 Itemize Gaps

3.1 Household-level Car Ownership Even though number of households with different number of cars is available, parcel data of house-hold level car ownership is unavailable. Availability of this data will help distinguish the regions by personal transportation accessibility, and thus allows more focus on the regions where public transportation is essential. Since data of car availability as a whole is available, comparison of car availability between this corridor and that of Brooklyn Park can be done, provided in the next page.

3.2 Grocery Stores by Food Ethnicity One of the main focuses of this project was to investigate the accessibility barriers regarding food ethnicity. In this paper, this issue was

excluded because investigation can be a lot more complicated by matching each household with its preferred food ethnicity. Data for food ethnicity of both grocery stores and households was either unobtainable or unavailable since it was not requested. Yet, this issue can be included in future investigation to find more precise reasons of accessibility barriers.

4 Analysis

Two analyses were done in this paper. First, bus stops, bus routes, and location of grocery stores were plotted on the map in order to investigate the accessibility of grocery stores by each bus route to see whether bus is a suitable mean of transportation to access fresh food or not. Second, distances between bus stops/grocery stores and residential area were measured in order to distinguish the regions that are outside the walking distance zone to access the grocery stores.

4.1 Grocery Stores & Bus Routes Figure 1 shows the location of grocery stores, bus stops, and local bus routes. Express bus routes were excluded because their schedules are not proficient to be utilized in this case. From the figure, it is possible to see that there are two locations where majority of grocery stores are located: (1) Zane Avenue & Brooklyn Boulevard and (2) Starlite Transit Center (both regions are circled in orange). Other than Route 722, covering the northeastern region of the corridor, every bus route passes at least one of these locations. Therefore, examining the accessibility of grocery stores or bus stop by walk is sufficient to show the accessibility of fresh food of this corridor.

4.2 Walking Distance Coverage Before the investigation, several assumptions were made. First, there are some residents who cannot access the grocery stores by personal transportation mean. Therefore, only way to access the stores far from their house is to take a bus. Table below provides a descriptive statistics on comparison of car ownership between every household in Brooklyn Park and Zane Avenue Corridor. It is possible to observe that significantly lower number of household in this corridor own a car.

	Household with:			
	No car	1 car	2 cars	3 or more cars
Brooklyn Park	12.54%	28.71%	37.89%	20.85%
Zane Avenue Corridor	19.74%	13.37%	29.54%	13.88%

※ Table and data are provided by City of Brooklyn Park Administration

Second, 0.25 mile is set as a walking distance. ArcGIS defines 3.1 miles as a walking speed per hour.¹ Considering the effort of bringing packages of food back from grocery store, deadly cold wind and slippery snows on the streets during winter, 0.25 mile is set to be a maximum walking distance in this case. Third, food ethnicity had not been taken into account for this investigation.

Figure 2 shows the walking distance zones of bus stops and grocery stores. There are three regions, notated by red, where they are out of both coverages. In region 1, there are bus stops crossing Candlewood Driveway and Douglas Driveway North, yet only express buses stop there. On the other hand, there is no bus stop located in regions 2 and 3. In other words, regions 1, 2, and 3 are out of walking distance from either a bus stop or grocery store. In order to let the residents in these regions to access fresh food, alternative solutions are needed.

4.3 Alternative Solutions There are four suggestions that can be implemented in order to give the residents in these regions to access fresh food.

4.3.1 New Bus Routes/Extension of Bus Routes The first suggestion is to create new bus routes or to extend existing bus routes in order to cover all these regions. It is necessary in long term, since transportation barrier cannot be removed unless access automobile is guaranteed. However, setting the bus routes cannot be done solely by the administration, but only by working with Metro Transit. Therefore, this remedy cannot be applied in short term, and possibility of setting these routes up is not guaranteed.

4.3.2 Bus/Van Pool for Accessing Grocery Stores Utilizing buses or vans to help the journey between house and grocery store can be done. Setting up the schedules for this travel and pickup locations of the residents are the only tasks. This remedy can be applied in short term. However, there are issues regarding equal opportunity for both prospective clients of this service and grocery stores. Setting up the pickup location at specific regions only may raise an opinion on equal opportunity. Even though the city administration sets up the pickup location with respect to equal opportunity for all the residents in Zane Avenue Corridor, equal opportunity issue can still arise from the grocery stores where buses do not visit. Since buses cannot visit every grocery store in Zane Avenue Corridor (and other grocery stores near the corridor), further negotiations

¹ For more information, please visit: <https://doc.arcgis.com/en/arcgis-online/use-maps/create-drive-time-areas.htm>

are necessary. Furthermore, because limited number of grocery stores will be chosen for this service, some of the ethnic food cannot be accessed.

4.3.3 Fresh Food Delivery Similar to the typical weekly-basis fresh food delivery service, the city administration can organize or subsidize the fresh food delivery service. Using this approach, residents can access fresh food without utilizing any public transportation. However, because the categories of fresh food are pre-chosen by the service provider, freedom of choice of food does not exist and some of the ethnic food cannot be access throughout this service.

4.3.4 Farmer's Market The city administration can organize and establish a Farmer's Market in the locations where they can be accessed easily by walk or bus from different regions. Since it cannot be opened in winter season, the opening period of Farmer's Market is during the warm season, and therefore the possible walking distance can be extended. Red and blue regions in Figure 3 represent the .50 mile walking distance zone, showing that bus stops or grocery stores can be accessed from almost all the regions.

Several locations, based on extended walking distance zone, can be suggested for the establishment: (1) Hamilton Park, and (2) Hartkopf Park (circled with numbers respectively). These places were chosen by satisfying of these criteria: (i) possibility of access by walk and bus, (ii) outdoor places, and (iii) can be utilized during weekdays and weekend. If the second and third criteria can be ignored, then high schools located in Zane Avenue can also be utilized if permission is provided. However, as it is mentioned, Farmer's Market cannot be a solution during winter. Furthermore, since Farmer's Market sells local-raised farm products, ethnic food may not be available.

5 Conclusion

Based on the analysis, it is obvious that there are regions where residents have a hard time accessing to fresh food. Several alternative solutions were suggested, and there are pros and cons for each solution. However, in order to provide fresh food accessibility to everyone in the corridor, creating new bus routes or extension of existing bus routes is inevitable in long term. Further investigation is needed in order to select the most effective short term solution.

6 Appendix

Figure 1. Grocery Stores, Bus Stops, and Bus Routes in Zane Avenue Corridor

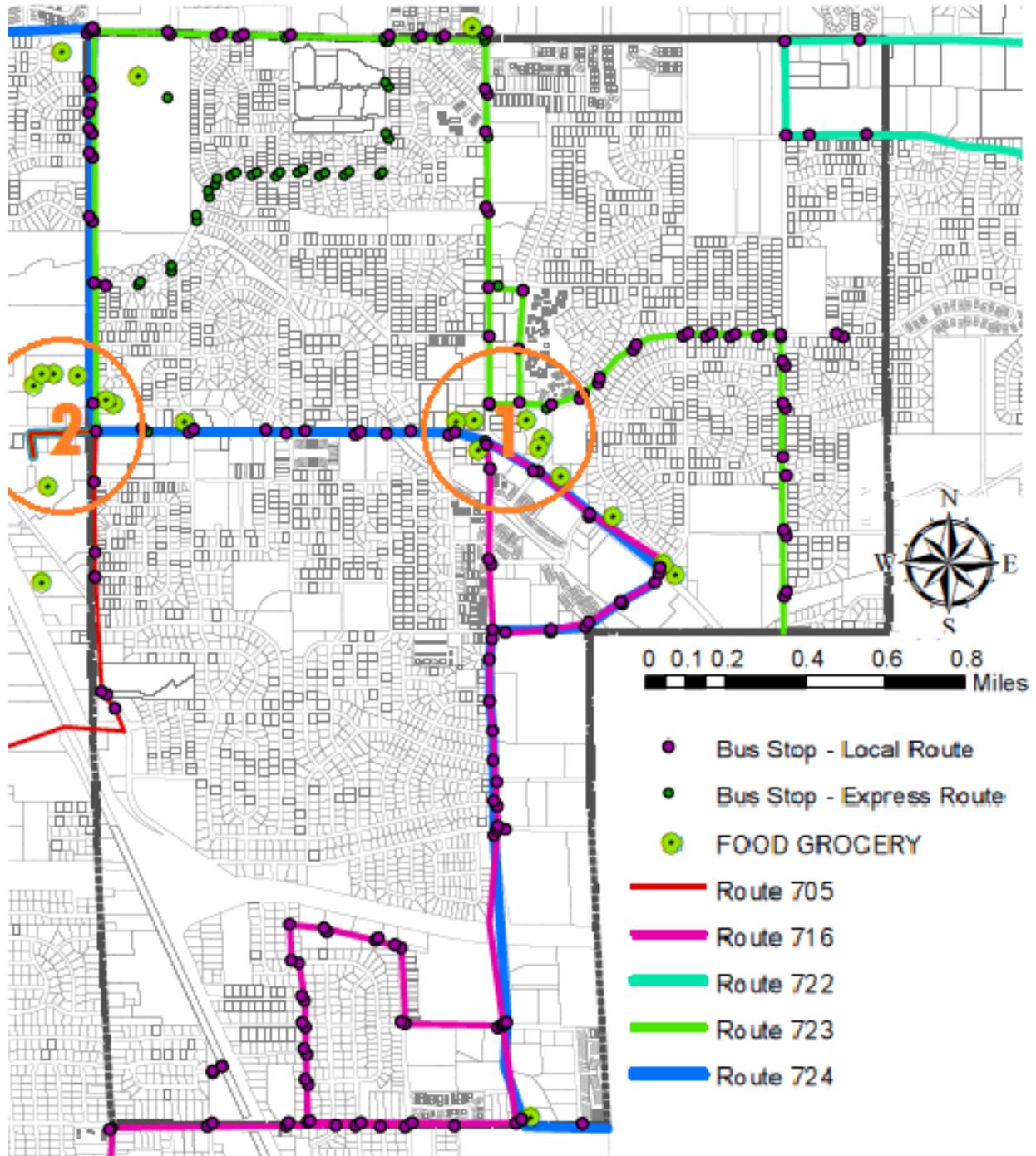
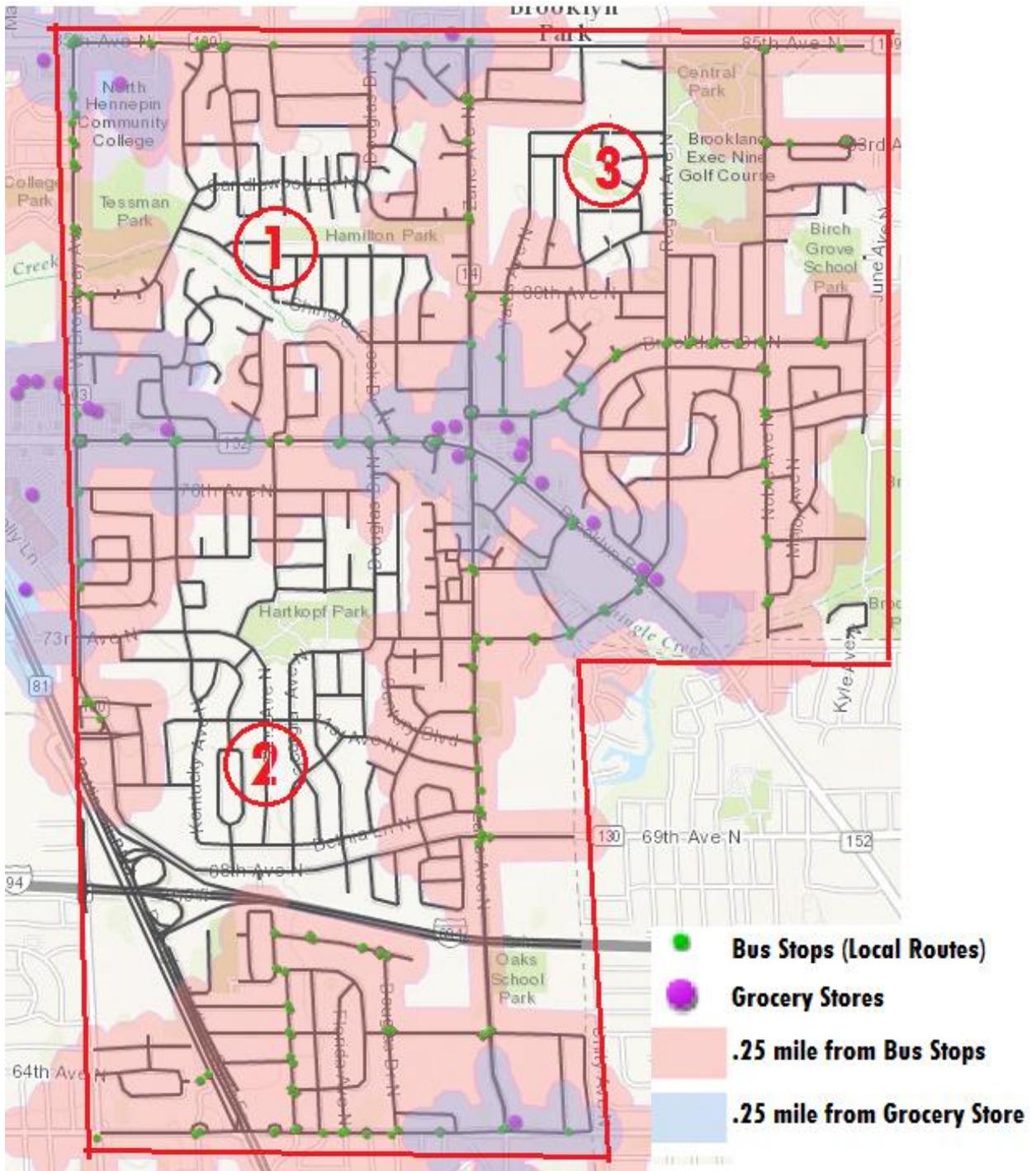
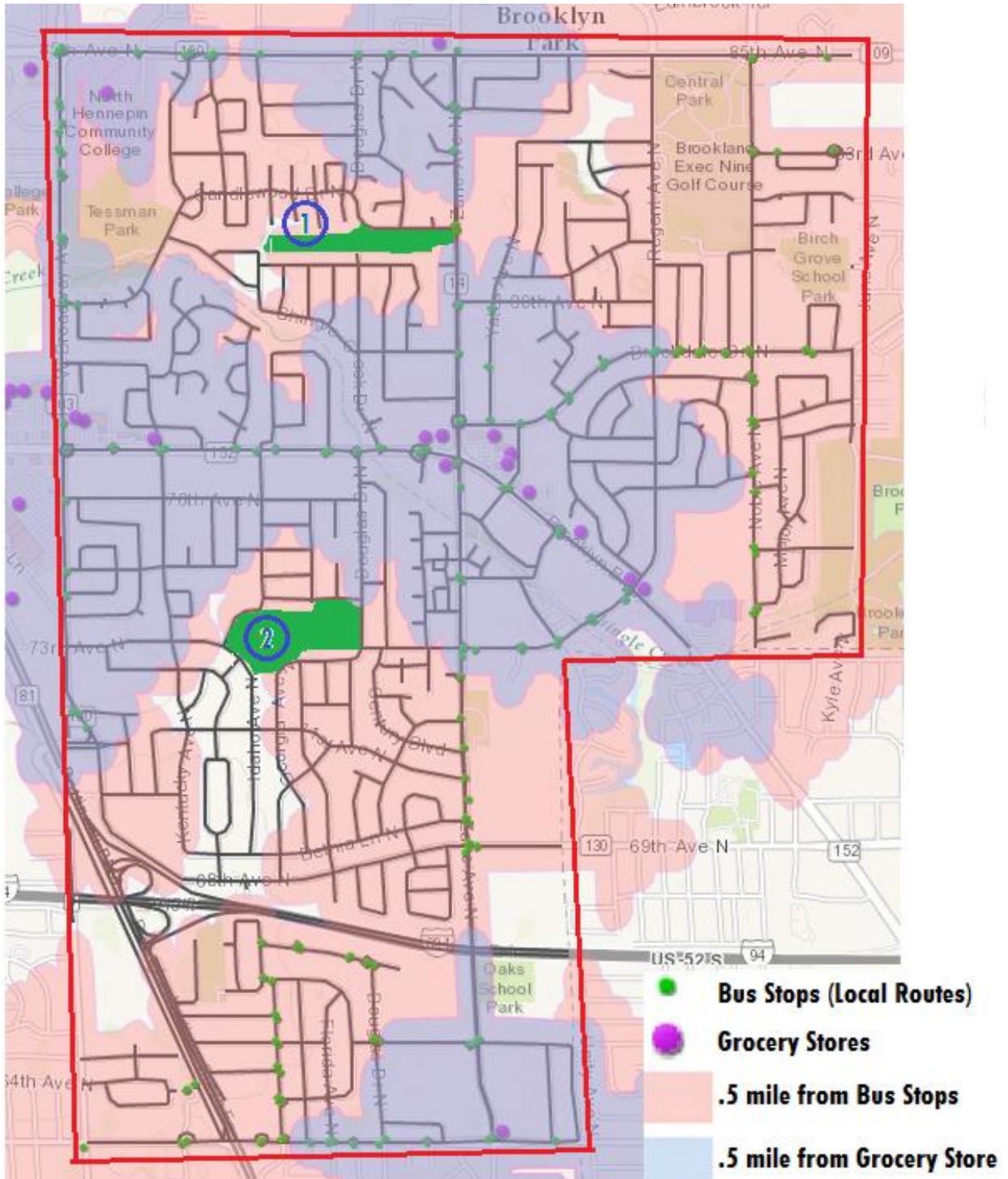


Figure 2. 0.25 mile Walking Distance Zone of Bus Stops and Grocery Stores



✂ This map is created by AcrGIS online

Figure 3. 0.50 mile Walking Distance Zone of Bus Stops and Grocery Stores



✂ This map is created by AcrGIS online

Assessing Access to Healthful Food

Transportation Barriers of Zane Avenue Corridor

YUN TAEK, OH

Humphrey School of Public Affairs

Master of Public Policy Candidate, 2018

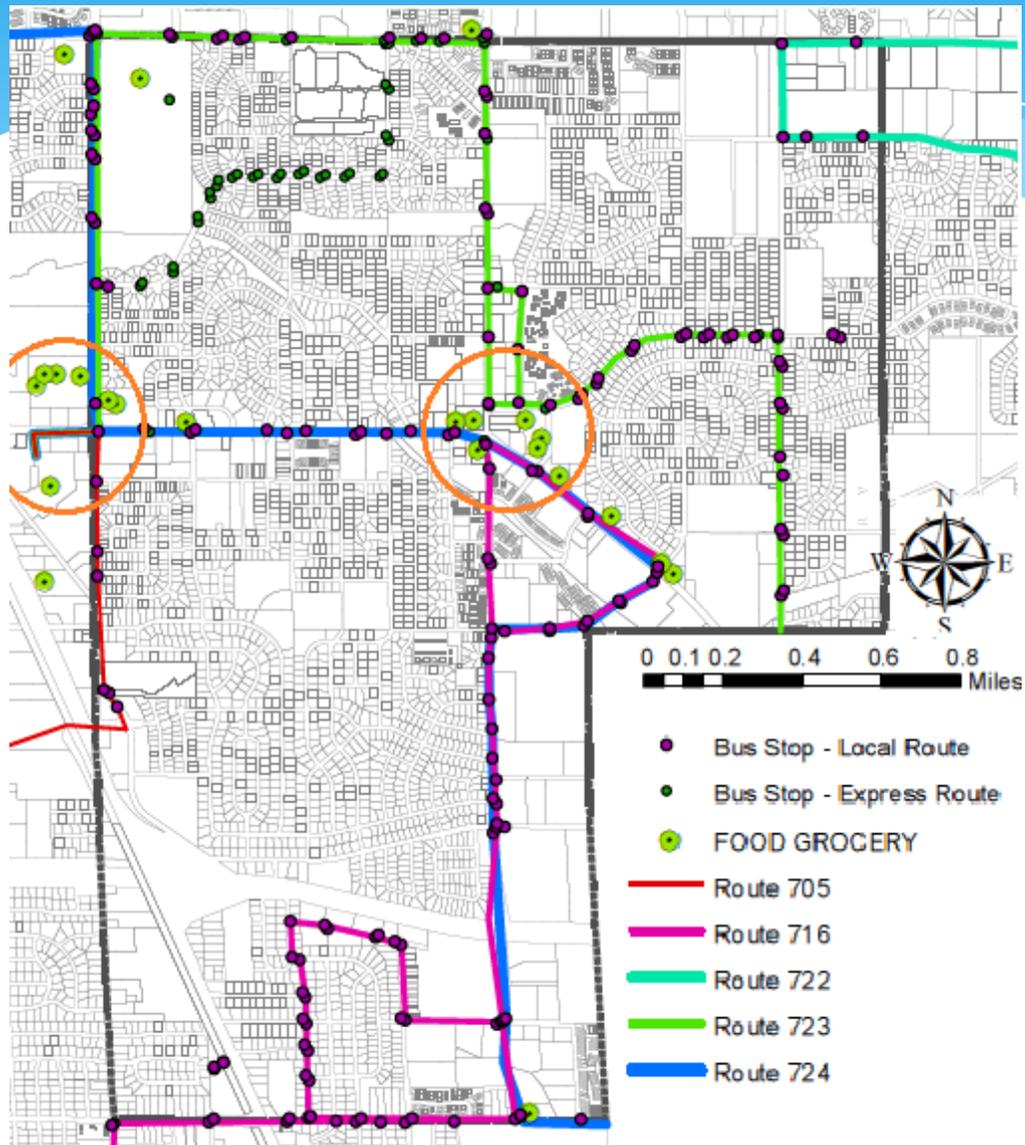
Problem Statement & Objectives

- * “What physical barriers to fresh food access exist?”
 - * Transportation barrier
- * Accessing grocery stores by bus or walk
 - * Assumption: No car ownership, 0.25 mile walking distance, no food ethnicity
 - * Who are the residents outside walking distance zone?
 - * Alternative solutions? (e.g. Farmer’s Market)

Data Sources

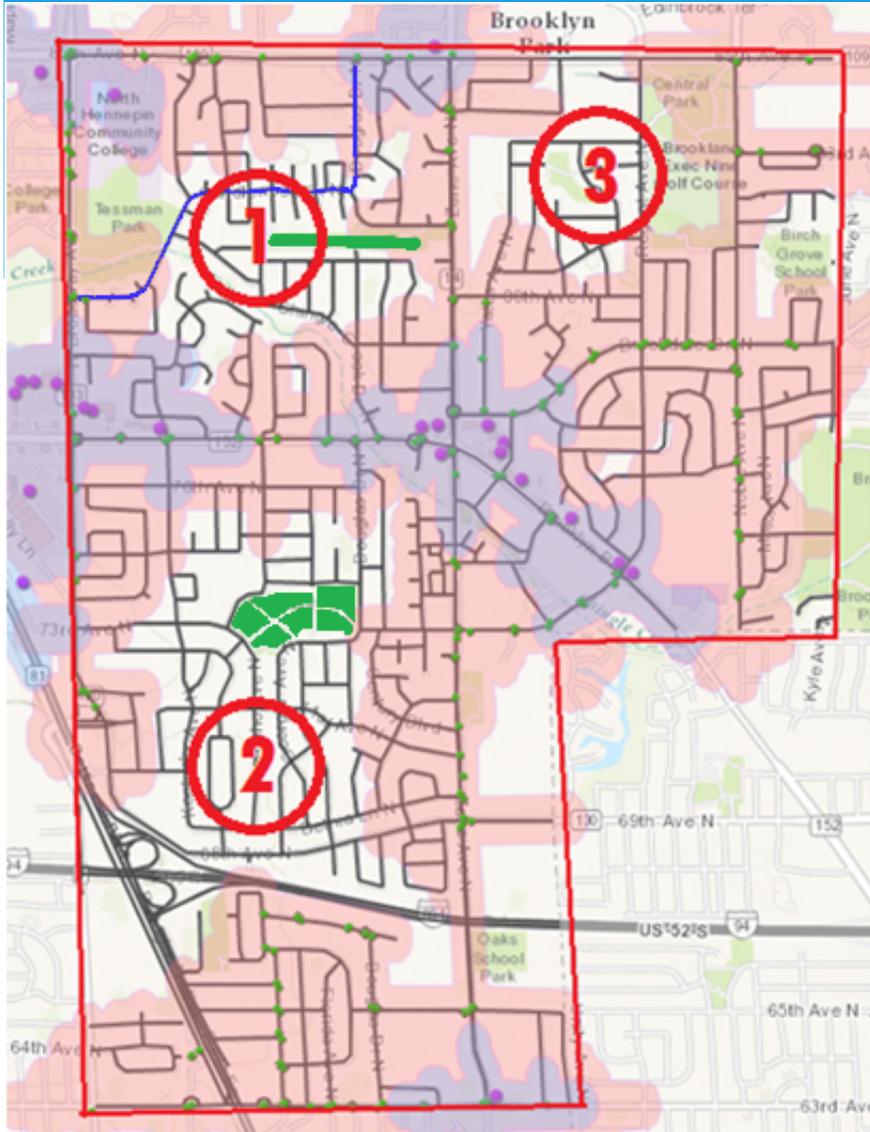
- * Parcel Data
 - * Hennepin County Geographical Information Systems
- * Metro Transit Data (Bus Stops)
 - * Minnesota Geospatial Commons
- * Zane Avenue Corridor & Grocery Stores
 - * City of Brooklyn Park Administration Department
- * Bus Routes
 - * Metro Transit

Grocery Stores & Bus Routes



- * Grocery stores located near:
 - (i) Brooklyn Blvd & Zane Ave
 - (ii) Starlite Transit Center
- * Grocery stores can be accessed by bus

Walking Distance



Map from ArcGIS Online

- * There are bus stops for express bus routes in ①
- * No bus stop or grocery in ② and ③

Bus stop (local route)

Grocery Store

0.25 mile walking distance from bus stop

0.25 mile walking distance from grocery store

Alternative Solutions (1/2)

1. New bus routes / Extending bus routes

- * Need to work with Metro Council
- * Applicable for long-term solution, but not short-term

2. City-driven bus pool for grocery store access

- * Equal opportunity issues for both customers & grocery stores
- * Food ethnicity can be ignored

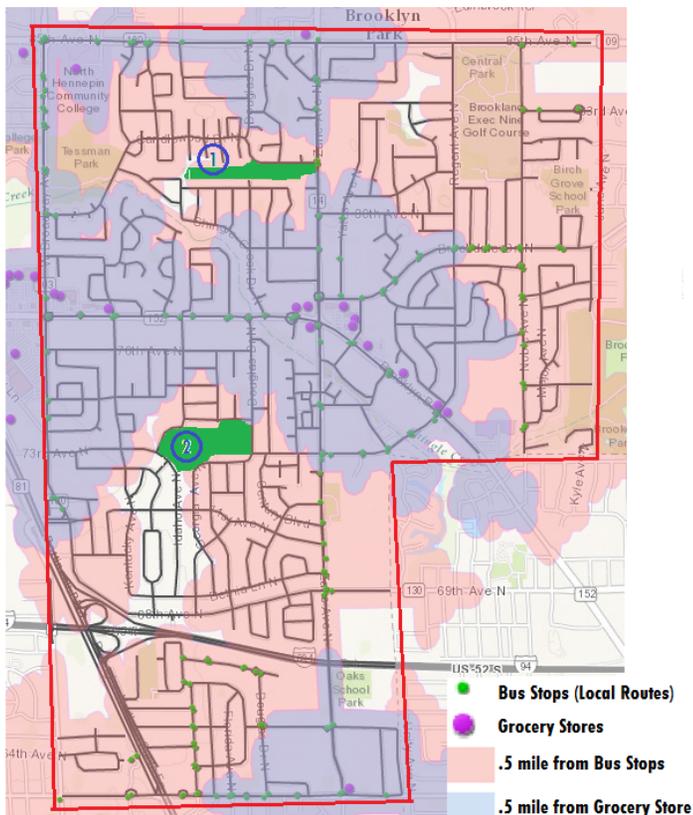
3. Fresh Food delivery

- * Unable to select the food by preference: food ethnicity ignored

Alternative Solutions (2/2)

4. Farmer's Market

- * Greater range of choices & better accessibility
- * Open during warm season \Rightarrow extended walking distance
- * Possible Locations:
 - Region ①: Hamilton Park
 - Region ②: Hartkopf Park
- * No Farmer's Market in winter season
- * Choice of food still limited - food ethnicity



Map from ArcGIS Online

Conclusion

- * There are certain proportions of neighborhood having hardship with accessing to grocery stores
- * Several alternative solutions, yet need further investigation
- * In long-term, change in public transportation is inevitable to increase the accessibility