

Planning a Healthy Delridge: Programs & Strategies for Active Living and Food Access

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ACKNOWLEDGEMENTS

We would like to express our appreciation to David W. Goldberg from the Seattle Department of Planning and Development, who granted us the opportunity to work on this important issue. We would also like to thank Professor Joaquín Herranz, Jr. at the Evans school who provided us with exceptional guidance and feedback throughout our Degree Project seminar.

We would also like to thank our peer student groups who reviewed our report and gave us excellent suggestions. In addition, many other people have been significantly supportive in this process:

Giulia Pasciuto, Research Aide for the Office Sustainability and the Environment
Marquise Bester-Robertson, White Center Community Development Association
John Vander Sluis, Seattle Department of Transportation (SDOT)

Jay Covington, City Administrator for the City of Renton
Julie Bryan, P-Patch Garden Coordinator for Department of Neighborhoods

Brian Dougherty, Safe Routes to School Coordinator SDOT

Thank you, this would not have been possible without your help.

EXECUTIVE SUMMARY

Delridge, a neighborhood located in West Seattle, currently faces major barriers that limit active living and access to healthy food. The primary focus of this report is to identify programs and strategies to improve the physical and social environment to create a healthier community of residents.

As graduate students from the University of Washington Evans School, we worked with the Seattle Department of Planning and Development (DPD) to answer the following research questions:

- What strategies can the City of Seattle use to encourage active living and access to healthy food?
- How can Delridge leverage its existing community assets and opportunities to support equitable health outcomes?
- What are some successful case studies that encourage healthy communities?
 What successes and failures did these case studies face? What strategies can build on past and existing programs to promote healthy people and families?

The four main components of our research included a literature review, analyzing case studies, conducting interviews and creating a map of community resources. We analyzed the benefits and tradeoffs of eight project and program options exemplified in 18 case studies that could be implemented in Delridge by the community or the City of Seattle to improve opportunities for active living and access to healthy food. The options were evaluated under the goals in the following table:

Table 1: Goals and Options for Active Living and Food Access

	Active Living	Food Access
Goals	The option will improve connectivity through the neighborhood.	The option will create a gathering place for the community that will build social cohesion and civic engagement. The option will facilitate entrepreneurship and economic opportunities.
	The option has adequate data supporting success in other neighborhoods or cities This option will build on existing assets in Delridge. This option will generate positive health impacts on diverse populations in Delridge.	
Options	Linear Parks Safe Routes to School Transportation Planning Adult Playgrounds Bicycle Education Programs	Mobile Markets Urban Agricultures Farmers' Markets Food hub

Three of the eight active living and food access programs fulfilled all of the goals above (table 1). These options were Linear Parks, Safe Routes to School, and Farmers' Markets. While the remaining five options did not fulfill all of the goals, each option achieved at least one of the goals that could lead to positive outcomes in Delridge. Some programs may yield greater benefits if implemented together. For example, Safe Routes to School could be implemented with the Commuter Education program to ensure greater safety of children and bicyclists.

We recommend the City of Seattle and community organizations explore a combination of one or more of the options. In addition, any option implemented should include outreach, education and marketing components in the program to encourage use of the program. Education and outreach can help provide residents with information to make use of the program's benefits. More importantly, any option implemented should be thoroughly examined and include culturally appropriate considerations to ensure suitability for the community and residents.

The recommendations section also include a host of resources and toolkits for addressing safety and planning for specific populations in Delridge. The recommendations and resources are designed to guide agencies as they consider adopting and implementing the options we analyzed this report.

CHAPTER 1. INTRODUCTION

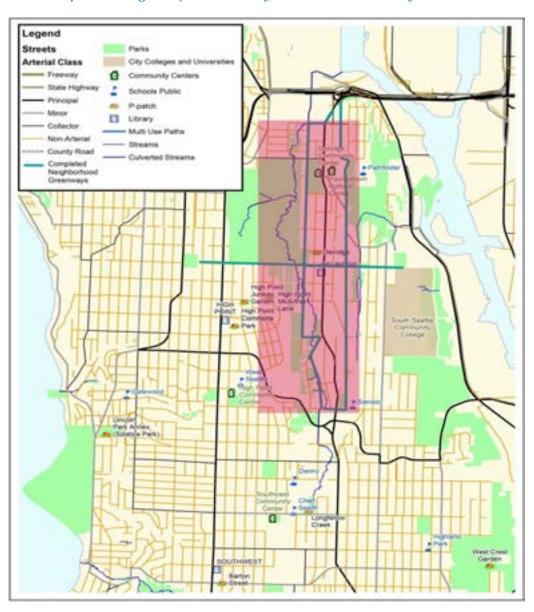
In 2014, the City of Seattle Department of Planning and Development commissioned students from the University of Washington to determine possible programs and strategies to improve health outcomes for current residents in the Delridge neighborhood of Seattle and build from previous research. In the past 30 years, a number of community initiated and City led efforts have attempted to improve the neighborhood's conditions for better active living opportunities and food access. However, high rates of obesity, diabetes and heart disease still persists among Delridge compared to other neighborhoods Seattle. Many past reports continue to point to Delridge's problems of physical barriers to active living and access to healthy food. 23

National research has shown that the way our communities are designed and built present major health implications for our physical health.⁴ In the last few decades, the national rate of obesity and diabetes in the United States has rapidly increased to be the second leading cause of death in the U.S. after tobacco. Physical inactivity also contributes to the second, third, and fourth leading causes of death—relating to obesity, high blood pressure, and high blood glucose, respectively.⁵ To date, a number of reports have classified Delridge as a neighborhood with low walkability and limited access to healthy food. Delridge has been categorized as a "food desert",⁶ or a region that lacks close and affordable sources to supermarkets and large groceries.⁸

Delridge's four-mile stretch corridor poses challenges for residents to easily access healthy food. Along Delridge Way, no major grocers exist, except mini-markets and gas stations with fast food options. Delridge's geography lends easier access from its north to south end but poses challenges for transit riders, bikers and pedestrians to travel from the east to west due to its hilly terrain and infrequent bus service. As a result of Delridge's topography, lack of street connectivity, and limited mass transit, present challenges for residents to reach grocery stores in and outside of Delridge without a car. 11

In addition, studies have found that health disparities often fall disproportionately more on vulnerable populations including demographic groups who are segmented by their level of income, ethnic and racial background. Delridge is currently one of the more diverse neighborhoods in Seattle, where more than 50% of the population of Delridge are people of color and 27% of residents speak a language other than English at home. Low-income districts and neighborhoods are even more at risk of facing health disparities that increase chances for obesity and chronic diseases. This is a concern for Delridge which has a comparatively lower per capita income of \$31,314, which is over 23% lower than the citywide average per capita income.

The Seattle Department of Planning and Development (DPD) is interested in conscious planning in underserved communities such as Delridge as a method to address the factors that affect the opportunities available for healthier people and communities. The primary focus of this report is to identify strategies to improve the social and physical determinants of health in Delridge through projects and programs that reduce barriers to food access and active living. We have identified eight active living and food access programs targeted to improve the Delridge corridor and the red area defined on the map below.



Map 1. Delridge Project Boundary Area and Community Resources

(Source: City of Seattle GIS Data, 2014)

Delridge is a community rich and full of valuable community assets such as Longfellow creek trails, South Seattle Community College, parks and open spaces, cultural resources and has a number of active community organizations. This report intends to build on existing resources to improve upon and create a healthier community. In the next section, we define what a healthy community looks like and how we use the terms active living and food access.

DEFINITIONS

How do we define a healthy community?

The World Health Organization defines a healthy community as "a community, or place, that is continually creating and improving the physical and social environments, and expanding community resources that enable people to mutually support each other in performing all of the functions of life and in developing their maximum potential." In a recent report, Policy Link identified four factors necessary for a healthy community, "economic environment, social environment, physical environment, and services." In a recent report, Policy Link identified four factors necessary for a healthy community, "economic environment, social environment, physical environment, and services."

In this report, we define a healthy community as one that supports social and economic opportunities, by improving the physical environment and community resources.

As part of the greater goal to create a healthy community, improvements for active living and food access should be considered. In the following sections, we offer several definitions from other organizations but have crafted our own definitions we used throughout this report.

How do we define active living?

The Active Living Research Institute of University of California: San Diego defines active living as "a way of life in which people are physically active during their daily routines." The International City/County Management Association has a similar definition, and describes an active living community as "designed with a pedestrian focus and provides opportunities for people of all ages and abilities to engage in routine daily physical activity." This activity includes not only sports or trips to the gym, but incorporates physical movement integrated into different aspects of community life, such as walking or bicycling, playing in the park, taking stairs, gardening or using recreation facilities. Rather than focusing on the type of activity, the goal is for residents to find ways to be active for at least 30-45 minutes daily in

order to prevent obesity and lower the risk of coronary heart disease, hypertension, colon cancer, and diabetes.¹⁹

Many of the approaches used to encourage active living can be found in solutions for changing the physical environment and encouraging more active transportation to promote physical activity such as walking and biking. Active transportation is defined as human powered modes of transportation. The modes used most widely for active transportation are walking and bicycling, though skateboarding, canoeing, roller-skating can all be considered forms of active transportation. Designing the streetscape to encourage active transportation can help improve factors such as safety and access to transit, further opening up more opportunities for people to make behavior changes towards healthier options on a daily basis.

In this report, we define active living as activities that can be integrated into daily community life and result in least 35-45 minutes of physical activity.

Physical activity and spaces designed for active living are important factors in creating a healthy community. As part of the greater challenge, improving food access to increase the opportunities for healthy food will be discussed in this report. In the next section, we explain how we define food access.

How do we define Food Access?

The USDA defines food access as "the ease at which households and individuals can get to stores that sell the foods they want at affordable prices." They also distinguished "food access" from a related concept, "food security" which focuses "less on physical access and more on whether a household can afford food."²¹ In a study recently commissioned by the City of Seattle, a focus group of Delridge residents created their own definition for food access. This included "balanced diet and exercise; feeling good about yourself regardless of size; colorful food; safe social and physical environment; a balance between fruits, vegetables and protein; not too much meat; whole; real; and conducive to life," and "easy to get to; available; affordable."²²

In this report, we will define food access as available fresh, healthy and culturally relevant food without barriers to safety, physical access and affordability.

These terms and definitions will be used throughout the rest of the report. The next sections cover past programs and research relating to active living and food access initiatives led by the Delridge community and the City of Seattle.

PAST PROGRAMS AND RESEARCH

Active Living Initiatives in Delridge

Active living efforts have been initiated at many levels by the city and the community over the years. The Seattle Department of Transportation (SDOT) has been responsible for street and safety improvement plans and projects completed in Delridge. One of overarching proposals SDOT's had for Delridge Way SW was to provide safer pedestrian crossings to improve walkability. In 1988, SDOT improved pedestrian crossings by reducing the number of lanes to one lane of travel for each direction, including one center turn lane along Delridge Way.²³

In 1999, the Delridge Neighborhood Plan recommended streetscape improvements to include bike lanes and on-street parking on both sides of the street, as well recommendations for more parks and open spaces.²⁴

During Delridge Days in 2007, efforts to create one contiguous open space along Delridge Way SW and 26th AVE SW and North of SW Brandon St was celebrated. The open space and park area including three interconnected parks known as the Puget Boulevard Comments Development and Cottage Grove Park Development, and Greg David Park Improvement project has active recreational elements including sports fields, playgrounds, grass court for lawn games and a renovated P-Patch. ²⁵

In 2007, the Bicycle Master Plan passed by City Council identified bike lanes and pavement markings for shared bicycle lanes along the corridor to provide north-south connections through Delridge. These bike lanes provide better connectivity for non-motorized users between Westwood, Highland Park and South Delridge Triangle neighborhoods.

In 2009, the W.K. Kellogg Foundation awarded a grant to a coalition of community organizations to fund the King County Food and Fitness Initiative.²⁶ The grant led to a report from the University of Washington Urban Form Lab which benchmarked Delridge's access to food sources and physical activity facilities. The report found the southern half of Delridge was more walkable than the northern half of the neighborhood and that the built environment in Delridge is not as supportive of walking as many of the other neighborhoods in Seattle and dense areas in King County.²⁷ The report also identified a list of areas for activity including, the Delridge Community Center, sports fields, Longfellow Legacy Trail, as well as parks like the Puget Boulevard Park.²⁸

In September of 2011, the Seattle Parks and Recreation department officially opened the skate park along Delridge Way SW and received strong community support from the neighborhood. City Council approved the construction of the 13,000 square foot skate park and funded

\$750,000 for the project.²⁹ The skate park is located in a complex where existing baseball, soccer, and tennis courts exist.

Widened sidewalk Connection to West Seattle Bridge Trall NEW crossing improvements All-way stop Crosswalk NEW crossing improvements · Curb ramps Crosswalk Crossbike Curb extension Curb ramps Rapid flashing beacon Widened sidewall NEW curb ramp West Seattle Repave two blocks on Myrtle NEW accessible connection on 17th Ave SW **NEW crossing improvements** Crosswalk Crossblke NEW traffic signal and Curb ramps crossing improvements SW HOLDEN ST Crosswalk Curb extension Curb ramps NEW crossing improvements Crosswalk Crossbike Curb ramps NEW crossing improvements Crosswalk New rain gardens built Crossbike on your street Curb extension Curb ramps Rapid flashing beacon Completed connection to White Center LEGEND

Map 2. Neighborhood Greenways with street improvement

(Source: Seattle Department of Transportation, 2014)

Proposed Greenway

and improvements

In 2014, Delridge's first neighborhood greenway officially opened along the 1.5-mile stretch of 26th Ave SW from Andover Street to SW Graham Street.³⁰ The project included elements of speed humps, wayfinding signs and a decreased speed limit of 20 MPH to encourage safety for bicyclists and pedestrians. SDOT is currently planning the second phase of additional segments to the existing Neighborhood Greenways program, sited for 21st AVE SW and 17th AVE SW.31 Detailed street improvements such as better connectivity to shopping nodes in White Center, additional traffic signals, and crossing improvements can be identified in the map to the left. The second phase of the Neighborhood Greenways is expected to be constructed in 2015.

As you can see, a number of past projects have been planned to improve walkability in Delridge. The next section will introduce the past food access initiatives completed in Delridge.

Past Food Access Initiatives in Delridge

Food access projects have been initiated at both the city and community level in Delridge. In 1974, the City of Seattle developed a P-Patch community garden in Delridge at 25th Ave SW and Puget Blvd SW. ³² The garden is still run managed by the City's P-Patch program, under the Seattle Department of Neighborhoods. The garden is open to Seattle residents and managed by volunteers. The garden has 30 plots for individual rental with an average wait time of one year. ³³ ³⁴

In 2006, the Food Empowerment Education Sustainability Team (F.E.E.S.T.) began a youth community cooking and dinner program as part of the King County Food and Fitness Initiative. Since that time, the program grew to include other youth programs focused on food including a community garden and internship program.³⁵ They are now in the process of trying to expand their program to new cities.³⁶

In 2010, The Healthy Food Here pilot began as a coalition of City and county agencies through a grant from the Center for Disease Control. This pilot program worked to bring healthy food to corner stores, convenience stores and neighborhood markets by connecting them with suppliers, providing technical assistance and updating store layout. They worked with 47 stores overall and two in Delridge and nearby High Point. The stores encountered many challenges, but continue to sell fresh produce.³⁷ ³⁸

In July 2011, a store called *Stockbox* ran an eight-week trial period in Delridge. The store was housed in a small 160 square feet shipping container³⁹ in a parking lot next to an apartment complex. The trial store stocked around 300 different items and mostly dry goods.⁴⁰ They found that they needed to change their inventory several times to meet customer demand⁴¹, and that residents desired more fresh foods including dairy and meat.⁴² After the trial period, *Stockbox* decided to open their first permanent brick and mortar store at a location in the South Park neighborhood, and opened second store in First Hill in August 2012.⁴³

In March of 2014, the Seattle's Women's Commission along with the Seattle City Councilmember Mike O'Brien's office, and the Office of Sustainability and the Environment released a report on "Seattle Women and Food Access," highlighting the major contributing factors affecting food access in Delridge. The report found that women in Delridge lacked access to affordable food and food education. In addition, women in Delridge were interested in obtaining better paying jobs to increase their access to affordable food.

In August 2014, a member-owned food co-op will open in the retail space on the ground floor of the Downtown Emergency Services Center, located along Delridge Way.⁴⁴ The co-op's mission is to provide the Delridge community with access to fresh, whole, organic and local food at an affordable price.⁴⁵ They are currently seeking founding members at a price of \$100 to join.⁴⁶

Also in August of 2014, the Little Red Hen Project acquired a gardening space at the Delridge Community Center.⁴⁷ The project has worked with Delridge residents to help them grow edibles in their backyards as well as provide cooking education.⁴⁸ Starting this summer, the organization will be hosting gardening workshops at the Delridge Community Center.⁴⁹

The Delridge Community Center, run by Seattle Parks & Recreation, also holds cooking classes. They offer classes on a variety of cuisines from different ethnic backgrounds. The classes are \$25 to \$27 and accommodate up to eight students at a time.^{50 51 52}

HOW WILL OUR WORK BUILD ON PREVIOUS RESEARCH AND PROGRAMS?

While work has been done in the programs mentioned previously, ample research has been conducted in Delridge indicating that barriers continue to exist for food access and physical activity. Furthermore, previous research in Delridge has generated a multitude of recommendations that have not been thoroughly explored. In order to help the city move forward with planning efforts, we examined national and local case studies exemplifying successful programs that model development for positive health outcomes. By evaluating the potential for these options to be implemented in Delridge, we aim to help determine the next course of action as well as considerations necessary for implementation.

The next section of this report will introduce the research questions explored in this report and the four components of our research.

CHAPTER 2: RESEARCH QUESTIONS AND RESEARCH METHODS

RESEARCH QUESTIONS

This report sets out to answer the following research questions:

- What strategies can the City of Seattle use to reduce barriers to active living and access to healthy food?
- How can Delridge leverage its existing community assets and opportunities to support equitable health outcomes?
- What are some successful case studies that encourage healthy communities? What successes and failures did these case studies face? What strategies can build on past and existing programs to promote healthy people and families?

RESEARCH METHODS

We used four methods to answer our research questions. We conducted a literature review, analyzed case studies, interviewed experienced individuals working on activity and food access projects and created a map of existing community resources.

1) Literature Review

Synthesizing Past Research in Delridge

Conducting a literature review was an in integral part of understanding and evaluating how the city and community can address active living and access to food in future planning. An important element to this research was to aggregate the information on existing barriers to healthy in Delridge and then synthesize previous recommendations for action. This method enabled us to draw a relatively full picture of the previous studies and programs, identify gaps, and make recommendations that systematically build on past efforts.

Researching National Trends

In our literature review, we looked to national studies to understand the current knowledge on health implications for neighborhoods like Delridge. We researched studies pertaining to the causes of limited food access and activity options, as well as recent trends in possible solutions. Understanding the national trends helped to identify potential solutions that were the most likely to achieve greater community health in Delridge.

2) Peer Neighborhood Case Studies

Many neighborhoods across the U.S. grapple with similar issues to what Delridge is experiencing. These peers have attempted to alleviate barriers to healthy living by introducing community-based programs or city planned improvements targeted to reduce health inequities in their communities. We identified a list of national and local case studies in neighborhoods comparable to Delridge, specifically examples that were implemented in low-income and racially diverse communities. We worked with the DPD to develop a list of goals by which to evaluate the case studies programs and planning projects and determine which would be best suited for Delridge. Through the case studies, we also analyzed the barriers, risks, and implementation strategies for each option, and derived an analytical report discussing the pros and cons of each case. The purpose of this approach is to provide the city a list of the national and local programs that can potentially be implemented in locally.

3) Interviews

We interviewed the following individuals to gain insight on current community needs, past efforts and successful endeavors completed by other communities to model after. We focused our interviews on active living information since a wealth of interviews on Delridge food access were recently conducted and presented in a report by Seattle's Women's Commission.⁵³

- Marquise Bester-Robertson: White Center Community Development Association
 Marquise Bester-Robertson helped us gain a better understanding of community views
 and history regarding food access and active living components in Delridge.
- John Vander Sluis: Seattle Department of Transportation (SDOT)
 John Vander Sluis was one of the project leads for SDOT's second phase of the Neighborhood Greenways planning in Delridge.
- Jay Covington: City Administrator for the City of Renton
 Jay Covington helped provide history and context for one of the park case study examples.
- Julie Bryan: P-Patch Garden Coordinator for Department of Neighborhoods
 Julie Bryan helped provide general information about the existing Market Gardens and
 P-patch Garden programs under the coordination of Department of Neighborhoods.
- Brian Dougherty: Safe Routes to School Coordinator for the City of Seattle
 Brian Dougherty helped provide general information about current and completed Safe Routes to School projects in Delridge.

4) Map of community resources

In order to better understand Delridge's valuable assets, we created a map of the existing resources along the Delridge corridor. We used geographic information systems (GIS) and aggregated layers from the City of Seattle to include attributes of the built environment, such as existing parks and trails, as well as important institutions such as the South Seattle Community College. This map is Map 1, located in the introduction chapter.

METHODOLOGY LIMITATIONS

Much of our analysis was based on secondary research articles that were often self-published by independent organizations. Many of these studies used small sample sizes and their results may not representative of programs around the United States. Furthermore, these studies were often conducted by non-profit advocacy organizations and may have been connected to programs and biased by a desire to present results that showed success. In addition, many of the case studies we examined had no formal program evaluation to determine their success. To remedy this, we took into account the availability of reliable data when evaluating the potential for programs to work in Delridge. Finally, what works in one place may not always work in another. As a unique neighborhood, Delridge may have hidden challenges could affect the result of any program initiated from this report. However, we took care to include as much information about possible risks and strategies for implementation to ensure a program or project can be adopted successfully.

The next research component contains the literature review. The literature review includes a comprehensive understanding of the national and local research currently available in the realm of active living and food access programs and impacts.

CHAPTER 3. LITERATURE REVIEW

NATIONAL AND LOCAL RESEARCH: HOW THE BUILT ENVIRONMENT IMPACTS HEALTH

Since the 1996 publication of US Surgeon General's report on physical activity and health, public health specialists and urban planners have become increasingly aware of the health benefits gained from moderate physical activity in daily activities.⁵⁴ There is a strong relationship among health, physical activity and the way cities plan and design our communities.⁵⁵ ⁵⁶ ⁵⁷ ⁵⁸ Many experts agree the most practical way to increase physical fitness and health outcomes is to encourage walking and bicycling for both transportation and recreational use.⁵⁹ Thirty minutes of moderate physical activity a day, for five days a week, is enough to provide health benefits such as reductions in obesity levels, coronary heart disease, and hypertension.⁶⁰ ⁶¹

Many communities currently lack the design and land features that enable and encourage active living, making ways to integrate activity into daily life more difficult for residents.⁶² These areas have designs that favor the automobiles over pedestrians,⁶³ ⁶⁴ and essential services, healthy food options, workplaces and other destinations are frequently not located within easy walking or bicycling distance from where people live. In addition, low income neighborhoods often lack insufficient infrastructure to promote walking such as adequate sidewalks⁶⁵ ⁶⁶ ⁶⁷ Delridge is one of these neighborhoods and has many areas of low walkability compared to other parts of Seattle and dense areas in King County.⁶⁸ In addition, one study a found the link between public transit use increased walking.⁶⁹ However, Delridge residents are primarily car dependent as over 62% of residents drove to work in 2010 and over 52% of households own 2 or more vehicles.⁷⁰

Perceived issues with community safety can affect decisions to use active transportation. Women tend to be more concerned with these factors and sensitive to safety risks in the environment, altering their walking behavior in response to their feelings of physical safety in their walking environment. ⁷¹ Studies have found that the negative perception of passengers about transit security influenced riders' decisions to use transit. ⁷² Barriers include cleanliness and transit stops that are located in unsafe locations, such as at dangerous intersections, on highway shoulders, or on streets with narrow or no sidewalks. ⁷³ ⁷⁴

NATIONAL AND LOCAL TRENDS: ENCOURAGING HEALTHIER, ACTIVE LIVING AND ACTIVE TRANSPORTATION

Let's Move!

On February 9, 2010, First Lady Michelle Obama launched the Let's Move! Initiative dedicated to solving the challenge of childhood obesity. This focused on programs to encourage children to participate in activity and make better food choices through community collaboration with cities and organizations.⁷⁵ Organizations including the National League of Cities, the Robert Wood Johnson Foundation, the Blue Cross Blue Shield Association, and KaBOOM have committed new resources to help hundreds of local elected officials advance goals of Let's Move! in their communities.⁷⁶ As a result, more than 150 local elected officials have already committed to the goals of the initiative and have begun implementing healthy activity and food options in their communities.⁷⁷

Safe Routes to School

In 2005, Congress passed the Moving Ahead for Progress in the 21st Century legislation that helped establish the national Safe Routes to School Program to encourage local, regional and national efforts to increase safe walking and bicycling for school aged children.⁷⁸

The national program has proven to be successful thus far. Data from 4,700 U.S. schools from 2007-2012 show more K-8 students walking to and from school across the country. According to the data, the K-8 students who walked to school increased from 12.4 percent to 15.7 percent. K-8 students who walked home from school increased from 15.8 percent to 19.7 percent. Though the program included students who attended low, median and high income schools, walking increased especially among students who attended low-income schools.

Active Living by Design

The Active Seattle partnership's vision is to create walkable neighborhoods for Seattle neighborhoods, where children can walk safely to school and the streets are safe for all pedestrians of all ages. So far, projects have been completed in five Seattle neighborhoods, including Delridge. Active Seattle conducts walking audits, identifies problem sidewalk areas that can be enhanced by SDOT, and developed a walk-to-shop initiative to allow Delridge residents to walk with shopping carts to their homes. In 2006, the partnership successfully advocated for \$875,000 in the mayor's budget for sidewalk construction and \$1.8 million for crosswalk and sidewalk improvements. The core partnership groups include Feet First, Department of Public Health Seattle and King County and SDOT. Other key partners include Seattle Public Schools, Puget Sound Neighborhood Health Centers, Cascade Bicycle Club, the

Injury Free Coalition for Kids of Seattle, City Council, Mayor Greg Nickels, and the University of Washington.⁸⁴

Seattle Neighborhood Greenways

Seattle Neighborhood Greenway's defines a greenway as streets designed along the main arterial streets, typically with low volume cars driving through and with speeds slow enough for people to walk or ride bicycles safely and comfortably.⁸⁵ As described by the Seattle Neighborhood Greenways organization, greenways help improve the safety of streets for pedestrians, bicyclists and drivers and help improve the streetscape.⁸⁶ They provide safe connections for bicyclists and pedestrians and guide people along the route they were going by improving crossings and curb ramps to make walking easier and safer to parks, schools and business districts.⁸⁷

Bike Share Programs

Nationally, bike share programs have sprouted across the nation. Bike share programs are designed for users to grab a bike at one stop and return it wherever the next nearest station is located. The Portland-based company Alta Bike Share already operates bike share programs in Washington, D.C., Boston, and Chattanooga, Tennessee and plans to launch its program in Seattle during the summer of 2014.88 Seattle cyclists will be able to check out bikes at 50 street-side locations in the Seattle downtown area. The bike share program is estimated to cost \$3.7 million and funds from both private and public sources will be used to launch the program.89 The costs from bikes, bike racks, helmets and kiosks were factored into the estimated costs. Some of the existing bike share programs offer low and subsidized rates for low income bike-share users for as little as \$5.

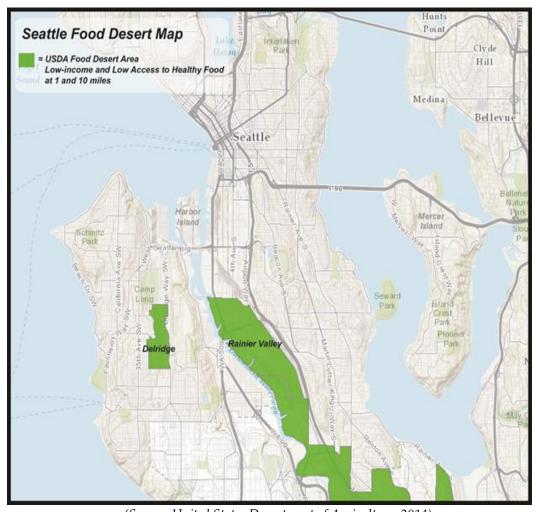
NATIONAL AND LOCAL RESEARCH: CAUSES OF FOOD INACCESSIBILITY

A plethora of research has been conducted to determine the causes of inadequate food access in neighborhoods around the United States. This research has confirmed that a lack of access to healthy foods can contribute to an increased risk in diet-related illnesses, and that racially diverse and low-income populations are more likely to experience this challenge. 90 91 92 93 94 However there many barriers to healthy food have been examined and there is no consensus on any one cause. One major barrier that has recently been contested is the issue of proximity to a grocery store and "food deserts." The USDA's definition of a food deserts takes into account the barriers of both proximity and affordability, by including only communities that are both lowincome and that "at least 500 persons and/or at least 33% of the census tract's population live

more than one mile from a supermarket or large grocery store (10 miles, in the case of non-metropolitan census tracts)."95

However, local qualifications for food deserts may rely only on a measure of distance to grocery store. The definition of a food desert by Seattle King County Food Access Policy Council includes, "where residents have to travel more than 30 minutes on public transit to reach a major grocery store." This is significant as the official food desert designation often determines if a community will receive resources or funding. An extensive literature review conducted by the Food Trust and Policy Link in 2013 found numerous studies that support the connection between better geographic accessibility to grocery stores and healthier food consumption or better health outcomes. However, there have been a growing number of studies that do not find a strong association for that connection and question the theory of a geographical food desert. However, we see that the support is geographical food desert.

There has also been recent research showing a larger correlation between healthy nutrition and factors other than location. A 2014 study in Seattle and Paris comparing food environment to obesity rates found a stronger relationship between socioeconomic status and obesity than obesity and distance to supermarkets. Furthermore, a recent evaluation of high-profile program in Pennsylvania that worked only to reduce geographic distance by adding more stores selling fresh food found little improvement in dietary habits and healthy outcomes after implementation. Instead, efforts that address multiple issues including encouraging the demand for healthy food have been shown to be more effective. Instead of the state of



Map 3. Seattle Food Desert

(Source: United States Department of Agriculture, 2014)

While Delridge has been labeled a food desert by the USDA (as shown in the map above), ¹⁰⁸ the other factors beyond distance may be more relevant to finding a solution for Delridge. The 2009 study by the University of Washington Urban Form Lab suggested that food access in Delridge wouldn't necessarily be improved by adding a new store. ¹⁰⁹ Furthermore, a consultant hired by the City to assess the possibility of attracting a new supermarket found that demographic conditions as well as nearby store competition did not support efforts to bring a new store to the neighborhood. ¹¹⁰

The literature review conducted by the Food Trust and Policy Link found research indicating that the other major barriers to food access include disparities in disparities in the quality, variety, quantity, and price of healthy foods among low-income communities and communities of color. These are also often combined with a high number of inexpensive fast-food outlets that

offer less healthy alternatives.¹¹¹ ¹¹² A 2008 outreach study by University of Washington Students found that while Delridge residents are physically not that far from grocery stores like QFC and Safeway, respondents felt the quality of produce was poor and too expensive."¹¹³ A later study found that fast food and convenience stores were closer to residents than grocery stores or traditional restaurants.¹¹⁴

Another major barrier to food is lack of adequate transportation. While the majority of people in the United States drive to buy groceries, low-income areas often experience lower rates of automobile ownership as well as a lack of affordable mass transportation. The Factors such as distance, child-care obligations and auto-centric built environment all make grocery shopping easier for those with a car. The Low-income residents who don't own a car will often borrow one from friends or family, share rides or take a taxi to visit a grocery store. See of Delridge respondents said that they drove to the store in a 2008 study. In addition, they found that most respondents usually traveled with three to five full bags of groceries from the store, confirming that good transportation is important for residents for the physical hauling of goods from the store to their homes.

A study produced this year from the Seattle Women's Commission identified major priorities and barriers for access to healthy food in Delridge through surveys and focus groups with women and youth residents. This research found that women and youth in Delridge prioritized economic opportunities such as higher-paying jobs and more affordable food options as the primary way to increase access to healthy food. Improved transportation options and permanent healthy food retail located centrally along the Delridge corridor were also important to Delridge women and youth as these were seen as additional, but secondary barriers to income generation and affordability. Participants in the study also valued ways to build social capital and learn about growing and cooking healthy food more than the possibility of adding more stores. The report included several recommendations for solutions to address these barriers from all sides; including the implementation of a Food Hub and advocating for the restoration of Federal and State funds to supplemental food programs (SNAP/WIC), whenever possible.¹²³

NATIONAL AND LOCAL TRENDS: IMPROVING ACCESS TO FOOD

The USDA categorizes policy options to improve access to healthy food into 6 categories: "Incentive Programs To Entice New Stores or Improve Existing Stores," "Community-Level Interventions," "Transportation-Related Improvements," "SNAP Retailer Policy," "Housing and Community Development-Related Policy" and "Anti-Poverty Policy." ¹²⁴ Past initiatives in Delridge have focused on "Incentive Programs to Entice New Stores or Improve Existing Stores". ¹²⁵ These address situations when the cost to develop is too expensive or credit is not

available to fund the development of new stores in distressed areas. There are also programs that help existing convenience stores to start selling healthier options such as the Healthy Foods Here Pilot. These programs addresses the issue that packaged, junk food and convenience items have a longer shelf life and are easier to sell for store owners. Options for policy include zoning laws, tax incentives, grants, loans or other assistance to corner store owners that help them improve their stores with tools like refrigeration or marketing for carrying fresh produce. 127

Other programs that have been tried in Delridge can be categorized as "Community-Level Interventions" These options provide a way for a neighborhood to get access to food without a using a traditional grocery store. They don't always focus only on providing retail opportunities to purchase food, but find creative ways for residents to take part in food production or distribution. Past programs such as the F.E.E.S.T community kitchens and Little Red Hen garden projects fall under this category. These programs are effective in situations where traditional food retail is unaffordable for residents and incentives for new stores are not available. They also address aspects of food inaccessibility such as the need for incomegenerating opportunities and can add value to a neighborhood by providing opportunities for community building.

"Transportation-Related Improvements," "SNAP Retailer Policy," "Housing and Community Development-Related Policy," and "Anti-Poverty Policy" address additional barriers in food access such as lack of affordable transportation and cash assistance. The complexity of this issue involves address food access needs from various policy positions. In this report, we focus our analysis on four program options that are considered "Community-Level interventions." This is because this category is the most appropriate when planning for food access improvements on a neighborhood scale and the options we examine will build from previous efforts that have been implemented in Delridge.

CHAPTER 4: LIST OF PROGRAM OPTIONS AND EVALUATION GOALS

There are several programs and strategies the city or community could implement in Delridge. Understanding that the city has received numerous recommendations for solutions through studies done over the years, we narrowed the options into a shorter list that could be evaluated on their potential for success based on a set of goals. This section lists the options we chose and explains the goals those options are intended to achieve. We then evaluated the options based on how they have met these goals in case studies. The following options were chosen for evaluation as they encourage active living or food access that may lead to positive health outcomes.

Table 3: Active Living and Food Access Program Options

Active Living Program Options

- Option 1: Linear Parks
- Option 2: Safe Routes to School Transportation Planning
- Option 3: Adult Playgrounds
- Option 4: Bike Education Programs

Food Access Program Options

- Option 1: Mobile Markets
- Option 2: Urban Agriculture
- Option 3: Farmers Markets
- Option 4: Food hub

Goals for Both Active Living and Food Access Programs

The option will build on existing assets in Delridge.

Delridge has a wealth of physical and social assets in the form of parks, urban creeks, trails, gardens, active neighborhood organizations as shown in the community resources map (see Map 1). Building from existing community assets will affirm and gain from the multitude of work already started in the Delridge neighborhood. Doing this can also help increase the opportunities for success by aiding the implementation process or making it easier for residents use the program. In order to meet this goal, a program or project must utilize resources from existing organizations or physical attributes located in Delridge.

The option will generate positive health impacts on diverse populations in Delridge.

In order for the program or plan to be successful, the program must have a significant possibility of leading to positive health outcomes for the Delridge community. As Delridge is an ethnically and economically diverse area with low connectivity for travel throughout the neighborhood, it is important for an option to be beneficial for various members of the community taking into account culture, income and location. Programs and projects that can generate positive health impacts for a diverse population and those who are most vulnerable are more likely to meet this goal.

Adequate data is available supporting the option's success in other neighborhoods or cities.

Programs and projects that have been recently implemented in peer neighborhoods may not have data that evaluates their level of success. Types of projects that have more data available provide stronger evidence for successful implementation and can help identify potential risks when planning and implementing the program. An option that has a more extensive body of research on its effects will be more likely to work in Delridge and better equipped to meet this goal.

Goals for Active Living Programs

The option will improve connectivity through the neighborhood.

An assessment by the DPD noted that ways to travel throughout Delridge are lacking, especially from east to west.¹³⁰ Improved connectivity can affect the degree to which transportation networks, such as streets, bike lanes and trails connect people to their destination.¹³¹ A well connected path network can make destinations easier to reach. Increasing connectivity to park, schools and other places residents frequent can also make active transportation more convenient.¹³² This goal requires that the option increase connectivity to locations in the neighborhood.

Goals for Food Access Programs

The option can facilitate entrepreneurship and economic opportunities.

Economic and entrepreneurship opportunities were listed as one of the main priorities for women and youth in Delridge in the recent report by the Seattle Women's Commission.¹³³ In order to meet this goal, an option should bring opportunities for jobs requiring a range of skill levels and other forms of income-generation, as well as affordable, high quality produce.

Economic opportunity can also include other forms of social capital such as cooking or gardening.¹³⁴

The option can create a gathering place for the community that will build social cohesion and civic engagement.

The most recent neighborhood plan for Delridge prioritized the idea of creating "nodes" or places along the Delridge corridor that concentrate community activities for a "richness and community identity." This goal is related to that idea creating a place for community members to interact and work together can facilitate connections between neighbors and lead to more cultural, economic, social and ecological activities. As food can also be an important way for people to share their cultural traditions and community experience, on option that creates a space centered on food can help strengthen ties between Delridge residents and contribute to this goal.

The established goals helped us evaluate the eight programs and strategies we identified for active living and food access. We analyzed each program under the stated goals to assess whether this program could be successful in Delridge.

CHAPTER 5: ACTIVE LIVING CASE STUDIES AND ANALYSIS

Through researching the national and local trends for encouraging active living included in our literature review, we identified four project options that could be implemented in Delridge. These options are Linear Parks, Safe Routes to School Transportation Planning, Adult Playgrounds, and Bicycle Education Programs. We searched for case studies that exemplified each of these options and provided information about implementation that we could learn from. These case studies are listed in Table 4. The following analysis section provides a description of each option, information about its case studies, an analysis of the option's ability to meet the goals described in the previous chapter, and a table of benefits and tradeoffs for the option.

Table 4. Case Studies for Active Living Options

	Option Name	Case Study List
Option 1 Option 2	Linear Parks Safe Routes to School	 Burnett Linear Park (Renton, WA) Trail of Two Cities (Arlington and Grand Prairie, TX) Schuylkill Banks (Philadelphia, PA) Michigan Department of Transportation (MDOT)
, K	Transportation Planning	Wilmington, Delaware and Delaware Department of Transportation (DelDOT)
Option 3	Adult Playgrounds	 New York City's First Adult Playground (Bronx, NY) MOMentum (Auburn/Redmond/Bitterlake neighborhood in Seattle, WA)
Option 4	Bicycle Education Programs	Create a Commuter Program (Portland, OR)Neighborhood Bike Works (Philadelphia, PA)

In the following section, the listed case studies are analyzed for suitability and potential success in Delridge. We identified the potential benefits and tradeoffs each program may face if implemented in Delridge.

OPTION 1: LINEAR PARKS

Description: What are linear parks?

Traditional parks are designed purely for recreation,¹³⁷ linear parks can serve as a throughway and provide an interactive experience for the user. The term "linear parks" was first coined by Frederick Law Olmsted in 1925, and used to describe elongated parks that possessed landscape features to connect two or more parks.¹³⁸ Linear parks today provide urban spaces designed for visitors to enjoy



(Source: West 8, 2011)

active recreation. Characteristics of linear parks include: 139

- High density places with destinations that people can travel to on foot or bike
- Designed attractively and offer changing views
- Be wide enough to safely accommodate bikers and pedestrians
- Opportunities to purchase food and pleasant places to take occasional breaks.
- Park areas that expand at least half-mile long

Case Studies:

Burnett Linear Park (Renton, WA)

The Burnett Linear Park is a small 1.21 acre park in the South Renton neighborhood, lined with a ten-foot wide promenade sidewalk. This park was completed in 2007 and connects the south half to the north half of the park. The park features a playground, six picnic tables and a plaza showcasing the art sculptures.

The park property was originally the Great Northern Railroad Right of Way when it was acquired by the City of Renton in the 1970's. In 1978 the City developed a Parks Plan through public outreach efforts and master planning for a potential park in the corridor. During this time, the rail lines had been removed and all that existed was gravel used for parking. The City thought a new park facility would be a tremendous improvement to the quite bleak area. In 2005, the parks plan was revisited. What exists today is the re-master planned and reconstructed park.

Some of the hurdles the City of Renton had to face was acquiring the prime strip of land in the downtown core that would eventually become Burnett Park. Residents generally supported the

idea of creating a public space, which helped this project become an on-going success. The City of Renton works hard to keep the park well-maintained and safe from criminal activity. The park is well used by the neighborhoods and residents living nearby who provide more "eyes on the street" to discourage crime. On any given day, local residents can be seen walking on Burnett Park's pathways, parents playing with children at the playground, barbecuing, and just generally using the area as an extension of their front yards.¹⁴⁰

Schuylkill Banks (Philadelphia, PA)

Schuylkill Banks riverside trail is located in central Philadelphia and allows pedestrian bikers to travel from the densest, historic neighborhoods to Valley Forge, which is more than 20 miles away. The park is located in an area was once known for drug dealing and related crimes. After extending the last mile and a half of improvements on the riverside, along an active freight line, crime has decreased and the trail is now popular for fishers, runners, and bikers. The trail also leads to the Philadelphia Museum of Art, restaurants, and magnificent views of the river. The changing views and amenities appeal to trail users. Farther along the trail, the last part of the segmented trail supports local commerce on a nearby main street.¹⁴¹

In the initial stages, the Schuylkill Banks linear parks system relied on some government sponsorship, but mostly sponsors of the project came from non-profit organizations. Citizen sponsorship was also a critical component to making the project successful, even though it was a lengthy process.¹⁴²

Trail of Two Cities (Arlington and Grand Prairie, Texas)

The "Trail of Two Cities" provides Arlington and Grand Prairie access to seven miles of continuous concrete trails, connecting the Grand Prairie-Arlington city line. 143 The trail provides a 4.29 mile bike and hiking trail that winds along Fish Creek, connecting several neighborhoods together. Along the trail are intermittent rest stops, and parks including a basketball court, a ½ basketball court, four playgrounds, a pavilion, two multi-purpose fields, a practice backstop, and individual picnic tables. 144

Analysis – Overall evaluation:



Linear parks present the opportunity to expand on Delridge's existing park system and improve the connectivity from one park to another park for pedestrians and bicyclists, especially along Delridge Way. Similar to the Trail of Two Cities example, Delridge's existing

parks system includes a skate park, football field, basketball courts, an existing trail system along Longfellow Creek, and Puget Boulevard Commons. Building on existing public park and trail assets may be possible and can help the overall connectivity between the various activities offered in Delridge. Similar to Burnett Linear Park, attracting more users to the park can help add more "eyes on the street" and in help reduce suspicious activity. Another example of reduced crime in public spaces is the Schuylkill Banks case study, where the extension of the trails along the riverside helped turn an area known for crime and drug dealing to a place that invites fishers, runners, and bikers.

Urban linear parks will require Delridge to continue developing food and other destinations along the route to increase the density in Delridge. Design elements can be supported by offering healthy food choices along the route to encourage people to choose healthy snacks for breaks along their walk or biking experience. Currently, there are few case studies examining linear parks, but the ones represented in this report seem successful enough to replicate in Delridge.

Table 5. Benefits and Tradeoffs of Linear Parks

Benefits **Tradeoffs** Linear parks build on the existing Delridge may not have the population parks system and assets such as density compared to successful cases Longfellow Creek in Delridge Land use issues with connecting • Linear parks can reduce perceived parks may require zoning changes and acquiring property crime in Delridge's existing parks and trails Perceived safety issues in parks can be an issue Linear parks encourage a number of physical activities such as walking, biking, running to and from the parks as well as brings people to existing sports courts Linear parks improve the overall connectivity of parks system in Delridge for multiple uses

OPTION 2: SAFE ROUTES TO SCHOOL TRANSPORTATION PLANNING

Description: What is Safe Routes to Schools?

Safe Routes to School (SRTS) is a local, state, and national movement to make it easier and safer for students to walk and bike to school. Encouraging walking and biking to destinations where children go to everyday can help increase their daily amount of physical activity by redefining the time spent traveling to school as a form of exercise.

Nationally, the percent of children walking and bicycling to school has decreased dramatically over the past several decades. The new norm relies on parents to drop their children off at school in cars, which reduce the amount of physical activity parents and children experience daily and contributes to more cars on the road, further discouraging active transportation.



(Source: Safe Routes to School National Partnership, 2010)

Delridge is home to low-income families who may rely more on walking as a method to commute to school than higher income families. The Safe Routes to School National Partnership reports children from low-income families are twice as likely to walk to school compared to higher-income families. However, low-income neighborhoods often lack sufficient and well-maintained infrastructure to promote walking such as sidewalks, thus increasing their risks of being injured as pedestrians. Children between the ages of 5-14 are especially at risk, considering pedestrian injury is the second leading cause of unintentional injury-related deaths, and children living in poor neighborhoods are more likely to be hit by cars. 149 150

Perceived fear among children and parents can present additional barriers for walking or bicycling to school. A study done in Seattle found children were five times more likely to walk or bike to school when neighborhood safety was not a primary concern for parents.¹⁵¹

The City of Seattle's SRTS program has already begun making some improvements in the Delridge neighborhood. The initial planning began in 2010 and as of March 2014, the City of Seattle's SRTS program have improved crosswalks surrounding the K-5 STEM at Boren public school. A study performed in Seattle from 2007 to 2013 found that walking and biking to school has increased at 26 of 28 schools. The efforts to improve crosswalks were first initiated by the K-5 STEM Parents Teachers Association (PTA). The parents were very involved and wanted these improvements to help slow cars down near school zones to improve pedestrian safety.

By 2015, the City plans to improve traffic safety at Arbor Heights Elementary School by reducing speeds to 20 miles per hour and adding additional crosswalks. Both projects were

fully funded by the City of Seattle. No other major SRTS projects are currently planned by the City's SRTS program in the Delridge area.¹⁵⁴

Case Studies

Michigan Department of Transportation (MDOT)¹⁵⁵

MDOT proactively facilitated SRTS activities in the eight poorest urban communities in the state to help determine the barriers in attitudes and the physical environment critically affecting whether kids walked or biked to school. In the beginning, MDOT collaborated with schools to apply for federal SRTS funds to implement school-specific plans around schools to encourage walking and biking. MOD was aware that developing these plans would be challenging in schools, especially in schools located in low-income communities. To help build relationships, MDOT relied on existing relationships developed through the Governor Granholm's Cities of Promise Initiative. This group was an existing inter-departmental collaboration including state agencies, nonprofits, and community advocates who were already committed to focusing resources in the eight low-income communities. Under the direction of the Michigan State Housing Development Agency's Urban Revitalization Division, they elicited the help from AmeriCorps staff to coordinate with schools in each of the eight targeted communities. For schools in these eight communities, MDOT performed all of the SRTS project administration which included hiring contractors to plan, design and construct the SRTS plans and ensure they were complying with federal and state regulations. With MDOT serving as the administrative lead for the SRTS coordination, projects were made possible even if communities lacked the staff or financial capacity to handle the improvements. This alleviated the financial and administrative burden on communities who received the award by avoiding the need for communities pursue funding based on a reimbursement basis.

Wilmington, Delaware and Delaware Department of Transportation (DelDOT) 156

Wilmington, Delaware is an urban community with a population of about 70,000 people in Southbridge. The Southbridge neighborhood of Wilmington is identified as a lower income, working-class community, where 89 percent of students are eligible for free or reduced lunch. ¹⁵⁷The racial demographics include 82 percent black and 12 percent Latino. ¹⁵⁸ Southbridge has been identified as one of the region's targeted Environmental Justice neighborhoods. The Wilmington Area Planning Council (WILMAPCO) is a metropolitan planning organization that creates and identifies transportation priorities for the region, and aims to ensure federal funding will be spent to support minority and low-income populations. ¹⁵⁹

Beginning in 2005, WILMAPCO worked with the Southbridge community to address the neighborhood's growing transportation issues around pedestrian safety in a neighborhood

where over 90 percent of Southbridge elementary school students rely on walking to school. Parents were most concerned about speeding traffic, heavy truck movement, and walkability. Next, WILMAPCO established a collaborative partnership between civic associations, the City of Wilmington, DelDOT and other health agencies to secure a \$130,000 Safe Routes to School grant to plan and construct pedestrian improvements. The established team focused on walkability improvements and safety by adding sidewalks, stripping crosswalks, adding curb ramps and improving traffic signage. ¹⁶⁰

DelDOT's role in this planning was critical. DelDOT was responsible for administering all SRTS projects and activities at the state level. To help with the planning and design process, DelDOT hired consultants to provide assistance to communities who specifically requested planning and design assistance for SRTS. Consultants worked with communities to develop plans and and documents to help facilitate the construction. As DelDOT was also responsible for ordering all materials and services needed for non-infrastructure programs, this did not present any financial burden on SRTS recipients and did not require them to handle the procurement process or face any regulatory compliance issues. Each recipient simply signed an agreement with DelDot to allow the state permission to do the work and outlines the recipient's responsibilities to use the materials and services soley for SRTS purposes, to maintain the infrastructure improvements, and to participate in statewide program evaluation. Part of the statewide program evaluation included programs such as *Steps Across Delaware*, which provided students with maps and pedometers to measure and evaluate the success of the program, by routinely evaluating the program. ¹⁶¹ In addition, the state also provided statewide SRTS training opportunities, supplies, and incentive materials.

The process of the program was very successful overall and 40% of Delaware's SRTS award recipients with at least 50% low-income students were able to successfully receive SRTS projects around their schools.¹⁶²

Analysis - Overall evaluation:



SRTS is a program well-supported at the local and national level. Locally, some improvements have been made in Delridge, and one more project is on the horizon for Arbor Heights elementary school. With the help of the PTA's interest and initiative, SRTS was made possible at two of the nearby elementary schools.

Nationally, many state DOTs have partnered with agencies and cities to make improvements in lower-income urban neighborhoods. Efforts to provide better walking and biking infrastructure

for children to safely get to school have been made through pedestrian improvements such as adding sidewalks, striping sidewalks, adding flashing beacon signs, adding curb ramps and improving existing signage.

While there has already been some efforts completed in Delridge within the last year, and one project underway at Arbor Heights, there are no other additional projects planned on the horizon. The City's SRTS program can expand pedestrian improvements around schools in the Delridge neighborhood by providing better traffic calming and pedestrian infrastructure at all schools. SRTS has the potential to improve connectivity of streets around school campuses. Many of the improvements typically involve improving existing sidewalks and roads and adding flashing lights or signs to signal to drivers that they are approaching a school zone. These improvements build off existing assets in Delridge and can enhance existing roads for both drivers, pedestrians and bicyclists. Considering SRTS' wide net of support on the local, state and national level, there is ample data supporting the program's success in other neighborhoods. The Safe Routes to School National Partnership provides a planning toolkit specifically focused on implementing SRTS in low-income and diverse neighborhoods. The toolkit provides several examples covering programs like *Steps Across Delaware*, which provided students with maps and pedometers to measure and evaluate the success of the program, by routinely evaluating the program.¹⁶³ A link to this toolkit is located in <u>Appendix A, Table 16</u>.

The case studies mentioned above all included engineering of better sidewalks and crosswalks. Improvements such as the flashing beacons and improved signage helped educate and alert drivers to slow down near school zones. For the planning and implementation to be successful, parents and partners must be involved and encourage these efforts on the community level. This can be seen from the recent SRTS project in Delridge at the K-5 STEM School, where parents from the PTA encouraged and advocated for safer street improvements. The evaluation process is critical to assessing whether programs are achieving program goals. The Wilmington case study provided one method to evaluate the successes from the program by giving out pedometers to students to measure the number of steps they took as a result of better pedestrian infrastructure. In order to begin the evaluation, it is recommended that schools or program implementers measure the baseline before the improvements and measure the amount students walk before and after the improvements.

Table 6. Benefits and Tradeoffs of Safe Routes to School

Benefits Tradeoffs

- Improves pedestrian safety and sidewalk connectivity around Delridge schools
- Provides safe pedestrian and bicycle routes to and from places where children and families go every day.
 By walking or bicycling to school,
- There are several resources and successful case studies available for planning and implementing SRTS in lower income and diverse neighborhoods
- Additional enforcement may be needed to maintain school zone laws and speed limits

OPTION 3. ADULT PLAYGROUNDS

Description: What are adult playgrounds?

Adult playgrounds have spread nationally and internationally and offer free access to traditional gym equipment to the public for free. 164 Many people are drawn to outdoor parks because it offers another approach to outdoor physical activity. These playgrounds are useful for low-income populations who are often more at risk for health ailments and are less likely to have access to a gym. 165 Adult playgrounds can include traditional fitness equipment like elliptical, leg press machines, bench



(Source: Cassandra Daily, 2012)

presses, and sit-up stations. The Great Outdoor Gym Company from the UK, one of the earliest companies to specialize in providing outdoor gym equipment state that cost and accessibility are two main barriers for people wanting to exercise, and that adult playgrounds help remove these barriers and make it easier for people to participate in exercise. Gutdoor gym equipment has already been implemented in low-income neighborhoods all over the country and in major cities like New York. For the country and in major cities like New York.

Case Studies

New York City's First Adult Playground (Bronx, NY)

New York City built one of its first adult playgrounds in the Bronx, at Macombs Dam Park. The Bronx is the city's poorest district and experiences troubling health statistics, where nearly 4 in 10 adults do not exercise at least 20 minutes a day and more than 9 in 10 adults say they eat fewer than 5 servings of fruits and vegetables per day. With such staggering statistics, the city has pursued efforts to expand the addition of adult parks throughout the city.

Beginning in 2012, New York City built its first adult playground on top of a parking lot between a track, basketball court and handball court. Within 18 months of building the first adult park, New York City decided to build 24 more adult playgrounds all across New York City. In terms of how successful obesity public policies go in New York, adult playgrounds have proved to be more convincing to motivate behavior more effectively than other antiobesity measures such as banning soda. The cost of the adult playgrounds in New York City range from \$75,000 for the smallest version with five pieces of equipment to \$200,000 for the largest. For comparison, children's playgrounds typically run for \$500,000 to \$1 million to \$2 million.

MOMentum (Auburn/Redmond/Bitterlake neighborhood in Seattle, WA)

Two mothers Paige Dunn and Kelly Singer, started a grassroots campaign in 2010, with the mission to help mothers exercise for 30 minutes a day. The intention behind MOMentum's plan to help build adult playgrounds in neighborhoods was specifically to help new mothers shed their baby weight and allow women to get adequate exercise while watching their children at the park. Each outdoor gym offers low-impact cardio equipment and strengthening machines that focus on arms, abs, hips and thighs. The adult parks will typically include free-standing, permanent machines that are fully powered by the user without the need for electricity. Equipment includes incline benches for sit-ups, elliptical for aerobic exercise, Captain's chair for abdomen exercises or can be used as a dip-bar to tone arms as well as pull-up bars for arms.¹⁷¹

Between 2010 and 2014, the women successfully helped raise enough money for three adult playgrounds located in Auburn, Redmond and the one in the Bitterlake neighborhood in Seattle.¹⁷² The women raised \$30,000 to open the first adult playground in Auburn. The second park was dedicated in Marymoor Park in Redmond, Washington and the most recent park opened in November 2013 in Bitterlake, Seattle. MOMentum partnered with the government departments such as Seattle Parks Foundation, the Trust for Public Land and King County Parks as well as private partners such as Luna and Gene Juarez to help leverage resources to build these parks.¹⁷³

While no formal evaluations have been found, a few websites have offered first hand experiences from using the equipment at Marymoor Park. Users have found the outdoor gym equipment as a good beginning step to get mothers active, however some of the machines were reported as offering minimal strenuous activity without the option to increase the resistance on the elliptical machines.

Analysis – Overall evaluation:



Delridge already has a number of existing parks scattered along Delridge Way. Adult playground equipment is an option that can be easily added to the existing parks and helps encourage adults to get active while watching their children at the park, as the MOMentum program was designed. In addition, adult playgrounds have been supported and implemented in some neighborhoods in America with the highest rates of obesity as a method to encourage more physical activity. The testimonials from those who use the adult playground equipment in the Bronx have been well supported by the community and low-income residents as a free outdoor gym space.¹⁷⁴ Many users see value in the adult parks and compare these spaces to having a free membership to the gym. Adult parks are perceived as free outdoor gym spaces, which can help address one of the major barriers for people to gain adequate access to spaces for physical activity and encourage physical activity for all income levels. As equipment is likely to be placed at existing parks, it will help create destinations for residents to visit, however their stationary nature does not improve connectivity throughout Delridge. So far, the data evaluating this option has found mixed results. In the Bronx, New York users reported high levels of satisfaction.¹⁷⁵ In the MOMentum case study, where the equipment was generally installed and targeted towards mothers, responses have been critical about the level of control the user has to adjust the equipment. 176

Table 7. Benefits and Tradeoffs of Adult Playground

Benefits	Tradeoffs
 Provides a public space for strength-building for all to use at no cost Allows parents to do something active with their families at the park In comparison, equipment is not as costly as traditional children's parks 	 Equipment may require maintenance Equipment may only be used depending on the weather Some testimonials indicate the equipment is not as effective or adjustable for increasing resistance

OPTION 4: BICYCLE EDUCATION PROGRAMS

Description: What are bicycle education programs?

Bicycle education programs provide new bicyclists with the confidence and knowledge to safely use neighborhood biking infrastructure. Inexperienced cyclists may feel less inclined to use existing bike lanes if they do not know the basics to bicycle safety and the rules of the road. According to Jennifer Dill, from Portland State University, about 60% of the general U.S. population are interested in bicycling but are concerned about their safety while riding a bike. Supporting bicycle education programs will help bicycles feel safer using bicycle infrastructure and encourage them to use active transportation more often.

Delridge currently does have some bicycle education programs in existence. Since 2013, Delridge Inspire Youth Bikes was a project formed under Sustainable West Seattle. The mission of DIY Bikes is to empower youth to do their own bike repair by providing a workspace, tools, and educational services to help youth learn how to fix their own bikes. The program's main focus is on maintenance education. Several programs around the nation have similar focuses but incorporate elements of safety education and take the program one step further to help youth learn the value of earning and a bike.

Case Studies

Create a Commuter Program (Portland, OR)

The 'Create a Commuter' program is run by the Community Cycling Center, a non-profit in Portland Oregon that hosts a number of bicycle safety education programs and workforce development training. The program partners with a number of partner agencies involved in workforce training, immigrant and refugee community organizations and many others targeted to help the low-income population within 150% of the Federal Poverty Guidelines connect to work or workforce development through bicycling. Programming includes basic bicycle maintenance and safety programs including: safe riding skills, helmet fitting, map reading, hand signals and maintenance training. 180

Since 2001, the Create a Commuter program has been fully funded through the Federal Job Access Reverse Commute fund administered by TriMet, the leading transportation agency in the Portland area. To date, the Create a Commuter program has successfully provided bicycles and bicycle education to over 2,300 adults throughout the Portland Metro area.¹⁸¹

Neighborhood Bike Works (Philadelphia, PA)

Neighborhood Bike Works (NBW) is a non-profit that provides educational, recreational, and career-building opportunities for urban youth in underserved neighborhoods in the greater Philadelphia through bicycling. The non-profit also works to promote cycling as a healthy, affordable, environment-friendly form of transportation. Since 1999, NBW has introduced biking to over 4,500 young Philadelphia residents. NBW offers free or low-cost youth programs including the Earn-a-Bike program, Group Rides, and summer camps, which reaches over 500 youth a year. ¹⁸²

The Earn-a-Bike program is NBW's flagship program and focuses on educating youth about the basics of bike repair, maintenance, safe riding, health and nutrition through the course of 15 sessions. Graduates from the Earn-A-Bike program can continue working in the shop and earn work hours credits in which they can trade for more bikes, parts and accessories. These programs come at no cost to the participants between the ages of 8-17. NBW partners with other neighborhood organizations to help supplement the costs for the program.

Adult programming is also offered at two of their sites West and North Philadelphia. NBW operates a retail bike shop in North Philadelphia, which helps raise funds to support on-going programs such as the Earn-A-Bike program and other trainings for young mechanics.¹⁸⁴

Analysis – Overall evaluation:



Existing national data to support the success of bicycle education program is not overwhelmingly strong and mainly come from the program implementers themselves. However, both the Create a Commuter program and Neighborhood Bike Works programs are targeted towards helping underserved, urban and diverse communities and providing them with basic bicycle skills that help make bicycling a safe alternative for transportation to work and recreation which does suggest its potential to provide health outcomes to diverse populations. While bicycle education programs do not directly help achieve the desired connectivity in Delridge as mentioned in our goals, it does help encourage the use of existing bike routes that lead to downtown, and to the Junction and Alki neighborhoods. It can also help with the adoption of future bike routes and Neighborhood Greenways in Delridge. While there are already some bike education supported groups such as Delridge Inspire Youth (DIY) Bikes, who provides a space, tools and educational services for bicyclists to learn how to fix their own bikes, the current program does not address the fact that many residents may not already have a bike. The Neighborhood Bike Works case study provides an example of a successful program

designed and focused around education and earning a bike after completing the training program. While both case studies focus on teaching basic maintenance skills, the Create a Commuter program is oriented towards educating bicyclists about the rules of the road and creating confident riders to help encourage bicycle knowledge and safety. In addition, the Neighborhood Bike Works program offers bike rental. If a similar model is hosted in Delridge, then residents can rent bikes as well as participate in programs similar to the Earn-A-Bike program. This helps reduce the barriers to owning a bike and educates the youth about maintenance and bicycle safety.

Table 8. Benefits and Tradeoffs of Bicycle Education Programs

Benefits	Tradeoffs
 Focuses on educating people about	 Need to identify partners and
general biking knowledge such as	resources who are interested in
safety and maintenance.	running a nonprofit with a similar
 Helps reduce some barriers to owning	business model to Neighborhood Bike
a bike for low-income residents	Works

This concludes the analysis of the individual options and case studies that provide opportunities for active living. A synthesis of these findings is located in our results section in chapter 7. In our next chapter, we include an analysis of the options that address improving access to healthy food.

CHAPTER 6: FOOD ACCESS CASE STUDIES AND ANALYSIS

Through researching the national and local trends for improving access to healthy food included in our literature review, we identified four project options that could be implemented in Delridge. These options are Mobile Markets, Urban Agriculture, Farmers' Markets and Food Hubs. We searched for case studies that exemplified each of these options and that provided information about implementation that we could learn from. These case studies are listed in Table 9. The following analysis section provides a description of each option, information about its case studies, an analysis of the option's ability to meet the goals described chapter 4, and a table of benefits and tradeoffs for the option.

Table 9. Case studies of Food Access Options

	Option Name	Case List
Option 1	Mobile Markets	People's Grocery (Oakland, CA)
		 My Street Grocery (Portland, OR)
		• Peaches & Greens (Detroit, MI)
Option 2	Urban Agriculture	• Seattle P-Patches and Market Gardens (Seattle, WA)
		 City Slicker Farms, (Oakland, CA)
Option 3	Farmers' Market	 City Heights Farmers' Market (San Diego, CA)
		• East New York Farms! (ENYF!), (Brooklyn, NY)
Option 4	Food Hub	The Stop (Toronto, Ontario)
		Detroit Eastern Market (Detroit, MI)

OPTION 1: MOBILE MARKETS

Description

In the past few years, about 40 mobile markets in the United States have been operating in communities with low food access. ¹⁸⁵ ¹⁸⁶ ¹⁸⁷ Mobile food delivery markets are trucks that deliver healthy food to people at scheduled locations or travel throughout neighborhood routes. Farm produce, cooked meals, and meal kits with recipes can often are often sold in these trucks. Some mobile markets have brick and mortar grocery stores, but others find that truck service provides more flexibility and



(Source: Sustainable Ventures, 2013)

lower overhead costs compared to traditional storefronts.

Case Studies

People's Grocery (Oakland, CA)

The People's Grocery mobile market started in Oakland, California. Their mission is to provide a marketing and purchasing outlet for minimally processed, high quality nutritional food and other goods and services, as desired by members at the best possible price. ¹⁸⁸

The People's Grocery has built a comprehensive list of programs and projects such as the Growing Justice Institute, the California Hotel Garden and Greenhouse, and Wholesale Hookup, targeted at different aspects of food inaccessibility that include social justice, entrepreneurship facilitation and food education. ¹⁸⁹ They also partnered with People's Community Market to assist in building a healthy, reachable, and affordable local grocery store, as well as bring jobs to the area. ¹⁹⁰

My Street Grocery (Portland, OR)

My Street Grocery is a scheduled mobile grocery program in Portland, Oregon. The trucks run weekly routes to bring food from local farms to residents with barriers to healthy food access such as senior residences and low-income areas. ¹⁹¹ Their mission is to offer affordable, convenient, quality foods to all, promote community health through nutrition awareness and education, and enhance economic vitality through job creation. Their truck sells in-season

produce, traditional grocery staples (milk, bread, eggs), and also offers Meal Kits with prebundled ingredients and recipes. ¹⁹² In addition, the food truck partners with the farmers and wholesalers, and directly purchases product from them. ¹⁹³ ¹⁹⁴ ¹⁹⁵

Peaches & Greens (Detroit, MI)

Peaches & Greens that combines a brick and mortar grocery store with mobile food truck that travels in 2 mile radius around the store. Similar to the traditional ice cream trucks seen driving in neighborhoods, this mobile market operates on a neighborhood route until residents flag it down or temporarily locates in public places where people often gather. During the winter months, the truck has designated stops at public health facilities, residences and senior centers. Peaches & Greens sells local farm produce, milk, eggs, cooked meals, beverages, etc. around the year with schedule listed on their website. 198

Analysis – Overall evaluation:



Mobile markets are growing around the US in the past few years and operate in urban and diverse neighborhoods similar to Delridge.¹⁹⁹ They operate with a relatively new business model but and only a few evaluations of their success.²⁰⁰ One of the first mobile markets, People's Grocery, moved on to develop a stationary market after receiving feedback that the mobile market was not adequate for the community.²⁰¹ ²⁰² Regardless, some reports do show evidence of mobile markets resulting in positive health outcomes for diverse communities similar to Delridge. A study conducted at the University of Wisconsin-Madison found that shoppers at four mobile markets ate significantly more fruits and vegetables than those who did not shop at the markets.²⁰³ This study also found no statistical difference between customers from the mobile markets and non-shoppers based on race, gender, and SNAP usage. This indicated there were no additional barriers affecting diverse groups.²⁰⁴

In some ways, mobile markets are better equipped than stationary markets to reach residents in various locations of Delridge because they are able to move geographically. However because the mobile markets only operate at a specific times and locations, they may not be convenient for all residents.²⁰⁵ Another tradeoff to the roaming market is that they do not provide a gathering place for communities nor any specific opportunities for social cohesion or civic engagement. Finally, mobile markets provide very limited economic opportunities. They are by nature a small operation with few job opportunities. Mobile Markets can use supplemental education programs to increase social capital and provide additional skills for residents.

Examples of this include free recipe cards from My Street Grocery and tangential gardening programs run by People's Grocery.

Table 10. Benefits and Tradeoffs of Mobile Markets

Benefits	Tradeoffs
 Evidence of positive health outcomes for diverse groups Able to serve residents at several neighborhood locations 	 Relatively new with little evidence of success Does not provide a physical space or programs for social cohesion Limited economic opportunities

OPTION 2: URBAN AGRICULTURE

Description

Market Gardens is the name of the program in Seattle, but this option is also known as "urban agriculture" elsewhere. They are different from community gardens in that they are geared toward income-earning opportunities through food production for the urban community. 206 Gardening can take place on small areas of land in a variety of locations such as vacant lots, city parks, rooftops, median strips, front or back yards, and on land that can be owned by local governments, non-profits, a land trust, or individuals. 207 A Market Garden is currently in use in the nearby High Point neighborhood, and a P-Patch garden (non-income generating) exists in Delridge. 208 The report from the Seattle Women's Commission recommended the City expand the current Seattle Market Garden program run by a collaboration between the Seattle Housing Authority and City of Seattle Department of Neighborhoods to convert the existing P-Patch into a Market Garden. 209 210 Produce from urban agriculture programs can be sold through individual farm stands, farmers markets, or through community supported agriculture (CSA) subscription programs. 211

Case Studies

Seattle P-Patches and Market Gardens (Seattle, WA)

Seattle Market Gardens is collaboration between the non-profit, GROW, formally known as the P-Patch Trust, and the City of Seattle's Department of Neighborhoods' P-Patch Community Gardening program.²¹² Seattle P-Patch Market Gardens' mission is to help establish safe, healthy communities and economic opportunity through development of community supported agriculture (CSA) and Farm Stand enterprises in low-income neighborhoods.²¹³ In 1995, P-Patch began its collaborative efforts with the Seattle Housing Authority to begin the Market Gardens

program with P-Patches on Seattle Housing Authority's property. Market Gardens currently operates two gardens in the New Holly and High Point neighborhoods.²¹⁴

The program focuses on education and honoring the history and skills of immigrant and refugee communities living in affordable housing on Seattle Housing Authority's property. Market Gardens helps refugees and immigrant families, primarily from Southeast Asia and East Africa create meaningful means for income and provide education business skills for conducting business in Seattle, as well was where and how to market their produce. Each garden sells produce on site at a weekly farm stand that accepts EBT as well as through a CSA in which produce harvested through the garden is sold to subscribers who pay for weekly "shares" throughout the growing season. The non-profit GROW markets manages the subscriptions for the two Seattle Market Gardens and serves as the fiscal agent to provide financial support. The Department of Neighborhoods employees staff to work with residents to develop and manage the gardens.

City Slicker Farms, (Oakland, CA)

The City Slicker Farms mission is "to empower West Oakland community members to meet the immediate and basic need for healthy organic food for themselves and their families by creating high-yield urban farms and backyard gardens." The Community Market Farms program repurposed vacant or underutilized land for farming and the organization now has five public Community Market Farms, a greenhouse, education programs, as well as over 180 Backyard Gardens. City Slicker farms distribute all of the food produced at a farm stand. They use a sliding scale system so that low-income residents of West Oakland can pick up produce for free or at below market-rate prices, while customers with higher incomes can purchase at market price. Place of the produce of the price of the price.

Analysis – Overall evaluation:



Urban agriculture has been recommended by experts, a limited amount of data has been developed documenting its effects. ²²¹ There are some case study examples that show that several small urban agriculture programs can help reduce food insecurity, ²²² and an economic model in the City of Cleveland suggested the possibility that a city could achieve self-reliance for some basic food items like eggs and fresh produce through urban agriculture. ²²³ There is also evidence from the existing Seattle program that urban agriculture can produce positive health impacts for residents. In 2013, the Market Gardens programs provided 57 households with fresh produce for over 20 weeks. ²²⁴ Surveys also found that the City's gardening programs covered

30-60% of participating families' produce.²²⁵ If used with a CSA delivery or pick up program as Seattle's Market Gardens do, this option may be accessible to more residents than other types of programs with limited operating hours and locations. Residents can coordinate the pick up or drop off of their share at a convenient time that fits with their individual schedules. However, if the produce is sold only at a farm stand, there may be hidden barriers for low-income EBT users. A 2009 evaluation found that the Seattle P-Patch Market Garden stands encountered several challenges in accepting EBT cards mostly due to the small size of their operation.²²⁶

In terms of economic outcomes, research suggests that urban agriculture can provide reasonable income for participants.²²⁷ ²²⁸An evaluation of the Seattle gardens showed that the average gross income per farmer was \$1,374 in 2008.²²⁹ In addition, this program provides training that builds on the agrarian heritage of many of the immigrant and refugee participants, while also teaching business skills related to marketing their produce. City Slicker Farms provides additional education services such as internships, youth programs and workshops on farming techniques that can provide opportunities for additional social capital.²³⁰

Urban agriculture also provides gathering places that can foster a sense of community. Many urban agriculture programs beautify vacant lots or underused spaces with gardens that can help create neighborhood pride. Residents with diverse backgrounds can farm together and build connections across the community. In addition, research indicates that high participation in farms and gardens can help increase voter registrations and civic responsibility in a community, while reducing rates of crime, violence, trash dumping and mental illness.²³¹ ²³² ²³³

Finally, urban agriculture can directly build on assets in Delridge. The neighborhood has one existing P-Patches currently in operation and three in nearby neighborhoods, as well a good amount of parks and green space that could be locations for more gardens. Since the City has successfully converted two P-Patches into Market Gardens, the expansion of this program to Delridge can build from the existing administration and apply the lessons learned. Additionally, the City could collaborate with the community garden being developed at the Delridge Community Center run by the Little Red Hen Project by helping them sell produce through the Market Garden system.

Table 11. Benefits and Tradeoffs of Urban Agriculture

Benefits

- Builds on existing P-Patch, parks and City programs
- Helps create neighbor connections through collective farming and leads to social cohesion.
- Local peer neighborhood evidence of income-generation and skill-building opportunities for participants.

Tradeoffs

- Limited amount of data predicting health outcomes.
- Barriers exist for EBT users if produce is sold at a small farm stand.

OPTION 3: FARMERS' MARKET

Description

The USDA defines a farmers' market as "a multi-stall market at which farmer-producers sell agricultural products directly to the general public at a central or fixed location, particularly fresh fruit and vegetables (but also meat products, dairy products, and/or grains)"²³⁴ In some markets, prepared food and other goods are sold. They can range in size from small community-based markets to



(Source: Discover Sycamore, 2014)

accommodating several thousand shoppers. They are usually held once a week, and organized by a nonprofit or community-serving entity.²³⁵ In 2013, the USDA reported that there were over 8000 farmers' markets nationwide.²³⁶ This option was recommended in the Seattle Women's Commission's report as a possible fit for Delridge. The report suggested the market be placed near The Home Depot or the Boren School.²³⁷

Case Studies

City Heights Farmers' Market (San Diego, CA)

The City Heights Farmers' Market operates on Saturday mornings and has stalls with fresh organic produce and seedlings from farmers, as well as hot foods from local vendors.²³⁸ The

market also has craft sellers, community information stalls, and children's activities.²³⁹ City Heights is neighborhood in San Diego with high levels of ethnic and linguistic diversity, as well as low-income and immigrant populations.²⁴⁰ The City Heights Farmers' Market was created in 2008 by the San Diego International Rescue Committee (IRC) to address food access inequities in this community.²⁴¹ The market also partook in an innovative program to address a historically subpar CalFresh (state SNAP program) participation rate and became the first food stamp accessible farmers' market in the county as well as the only market in the county operating in a low-income neighborhood.²⁴² The program, called "Fresh Fund" works as a cash incentive designed to make the locally grown produce at the market accessible to everyone in the neighborhood. Participants receive tokens to spend at the market when they sign up for CalFresh and additional SNAP benefits when they buy healthy produce at the market.²⁴³ As of September 2009, the market's total sales amounted to \$183,000.²⁴⁴ As of July 2011, over 100 individuals had enrolled in SNAP through Fresh Fund and distributions accounted for 30% of total market sales.²⁴⁵

East New York Farms! (ENYF!), (Brooklyn, NY)

The East New York Farms Project organizes two community-run farmers' markets in the neighborhood of East New York.²⁴⁶ The neighborhood has a poverty rate of 36.2% and a sizable immigrant population.²⁴⁷ The organization was founded in 1998 by a local coalition. ²⁴⁸ Their mission is to "organize youth and adults to address food justice in our community by promoting local sustainable agriculture and community-led economic development.²⁴⁹ East New York Farms! is a project of the United Community Centers in partnership with local residents." The organization also has two urban farms and local gardeners and vendors are the primary sellers at the market in addition to three regional farms.²⁵⁰ The markets operate on Saturdays and Wednesday evenings in the summer and fall. Goods include homemade crafts and produce including Caribbean specialty crops like karela, bora and callaloo. The markets also act as a "safe public space for families" and ENYF! runs an annual youth internship and other community education programs.²⁵¹

Analysis – Overall evaluation:



Evaluations of farmers' markets have shown them to be successful in address food access concerns in other low-income neighborhoods. ²⁵² ²⁵³ ²⁵⁴ ²⁵⁵ Several studies in recent years have shown that farmers' markets have led to increase purchases and consumption of fruit and vegetables even for low income populations. ²⁵⁶ ²⁵⁷ Furthermore, they have been implemented

successfully and adapted to the needs of neighborhoods with low income, racially diverse and immigrant residents as seen in both City Heights Farmers' Market and East New York Farms!. Despite a common misconception that farmer's markets are more expensive than stores, studies have shown that farmers' markets can be more affordable than traditional supermarkets. The project for Public Spaces & Columbia University conducted a study of eight farmers' markets in low-income neighborhoods and higher than average ethnic and minority compositions. They found that 60% of shoppers in low-income neighborhoods believed their market had better prices than the grocery store, and 17% cited price as a barrier. Another study in North Carolina found that shopping at produce items cost 18% less on average at farmers' markets than at grocery stores. So

However, despite City Heights' success with Fresh Funds, some markets have witnessed unexplained barriers for SNAP and WIC users. Project for Public Spaces & Columbia University found that even at markets that accepted these benefits, WIC and SNAP users were not using their benefits there.²⁶⁴ They attributed this to a possible lack of information or stigma attached to using food benefits at mainly cash markets.²⁶⁵ In addition, a recent evaluation of Seattle's Fresh Bucks program, which offers double assistance for SNAP participants at farmers' markets has shown that cost is still the most significant barrier to participants at farmers' markets.²⁶⁶ Furthermore more, the Seattle Women's Commission found and that many Delridge residents were not aware of the program's existence.²⁶⁷ Another barrier to diverse use comes with the limited operation of farmers' markets. Because they operate seasonally and usually once or twice a week with limited hours, some residents may not be able to visit markets while they're open.

Farmers' markets also offer the ability for residents to sell prepared food or goods from small businesses at the market. While economic estimates place the number of jobs created only between 2.4 and 5.4 per market, ²⁶⁸ there are still opportunities for income generation and social capital building for residents selling goods at the market. The East New York Farmers' Market provides a space for 23 local gardeners and 11 local vendors to sell their goods. ²⁶⁹ In addition, farmers' markets offer a great opportunity for socialization and community building. Residents can establish relationships with neighbors through buying and selling food from each other. By operating at a set time and location, the market becomes a regular feature of the neighborhood where residents can plan to gather for other activities. By offering an established public gathering space and time, farmers' markets are key location for community organizations and local government agencies to conduct outreach and direct service with the community. For example, the City Heights farmers' market hosted a free immunization clinic from a local medical foundation. ²⁷⁰ This community gathering space also provides opportunities for local entertainers or artists to perform and adds cultural expression through events like the Lion

Dance for Chinese New Year at City Heights.²⁷¹ Finally, farmers' markets can be placed in a variety of locations from parks to parking lots. Given that Delridge has these spaces available, including the two locations recommended by the Seattle Women's Commission report, this option can build on existing assets without requiring new construction.

Table 12. Benefits and Tradeoffs of Farmers' Market

Benefits	Tradeoffs
 Provides a defined public gathering space and time for community engagement Expected increase in fruit and vegetable consumption Evidence of success in several other neighborhoods. 	 Few operation hours limit accessibility to residents who are unable to attend. Barriers to SNAP and WIC users Seasonal, small operation means fewer entrepreneurial opportunities.

OPTION 4: FOOD HUB

Description

The food hub is an organization or business that manages the aggregation and distribution of locally or regionally produced fruits and vegetables. Many operations are placed close together to create opportunities for local food connections that strengthen the farm sector and community health. Food Hubs take on variety of forms and sizes to fit the needs of the community they are located in.²⁷² ²⁷³ ²⁷⁴ ²⁷⁵ Food Hubs around the US offer operations including



(Source: Gourmet Gorilla, 2014)

aggregation, distribution and storage, processing and commercial kitchens, teaching and learning spaces, community gathering spaces, direct marketing, front- line services, food retail, office space, as well as green design and quality public realm.²⁷⁶ Though they have similarities to traditional farmers' markets, Food Hubs often provide farm to business or institution distribution as well as to consumers.²⁷⁷ This option was recommended in the Seattle Women's Commission's report as a possible fit for Delridge. This report suggested that the food hub in Delridge could take a "hyper local approach" that includes the operation of several other

project options such as a farmers' market and a space for neighborhood market gardens to sell their produce.²⁷⁸

Case Studies

The Stop (Toronto, Ontario)

This food hub opened in the mid-1970s originally as a food bank. It's located in in one of Toronto's lowest income neighborhoods, Davenport West. The Stop is now a food center for the community that still provides emergency food service as well as education programs and skill building related to food security. Their programs include a "drop-in" safe space, food bank, a sustainable food production and education center, urban agriculture, community advocacy, bake ovens and markets, and other community programs.²⁷⁹ ²⁸⁰

Detroit Eastern Market (Detroit, MI)

The Detroit Eastern market is the largest public market in the United States. It was founded in 1891, and is located on 43-acres of land and is set about one mile northeast of the downtown core. The main facility includes a six-block public market with warehouses and permanent buildings housing both wholesale and retail food sales. The market also includes restaurants, shops, and several independent food processors and distributors. Surrounding the market are privately owned offices, restaurants and shops related to the food industry. Altogether, the market and surrounding district include more than 250 independent merchants, vendors, wholesalers and retailers. \$25 million is generated annually through the market alone. The non-profit, Detroit Eastern Market Corporation (EMC) manages the market while the City owns its assets. Other initiatives by the EMC include development of a value-added processing facility, urban agriculture demonstration projects, organization of a food and agricultural business network, and helping Detroit Public Schools partner with local, healthy food outlets. 281 282 283

Analysis – Overall evaluation:



There is limited information on the overall impact of food hubs as they are a relatively new concept.²⁸⁴ The National Food Hub Survey conducted in 2013 found that 62% of food hubs began operations only within the last five years.²⁸⁵ Furthermore, the majority of food hubs found through our research worked on a regional level, rather than on a micro level as the Seattle Women's Commission report recommended. The majority of food hubs researched also worked with a dedicated farm sector. While about half of all food hubs include increasing food access and community development as part of their operational commitment, other food hubs

tend to focus on supporting local producers rather than consumers. ²⁸⁶ ²⁸⁷ ²⁸⁸ The Stop in Toronto is a unique example in that it focuses on helping an urban, low-income population at the neighborhood scale. In their 2013 annual report, The Stop reported that a majority of surveyed participants made healthy changes to their diets and experienced improved physical and mental health due to education or programs that they received through the organization. ²⁸⁹ However, this could be related to their additional nutrition programing in combination with the food hub. Therefore, there is little indication that creating a food hub would directly lead to positive health outcomes for Delridge residents.

The design of a food hub and its services also determines its ability to promote social cohesion and civic engagement. Food hubs that offer retail to customers are more likely to perform community services such cooking education and donation to food banks.²⁹⁰ The Stop annual report surveys found that their 89% of their participants had made friends through these types of programs and 81% felt a sense of community in the organization.²⁹¹ In addition, a central aspect of a food hub is to provide a physical center that can create connections for the local food sector based on proximity.²⁹² Food hubs also have a strong potential for positive impacts on the local economy.²⁹³ ²⁹⁴ The average food hub includes 19 paid positions on its own.²⁹⁵ The infrastructure and equipment included in food hubs can support new entrepreneurial businesses such as storage and kitchens.²⁹⁶ However, acquiring these assets can also be a barrier to the creation of a food hub. They require a large physical location as well as buildings and supplies that can be used for storage, processing and distribution.

The development of a food hub is currently planned in the South Seattle neighborhood Rainier Beach with the intention to sell to larger consumers.²⁹⁷ If a food hub is planned for the Delridge neighborhood, it would be beneficial to coordinate with the Rainier Beach food hub to share knowledge and resources rather than to compete for customers and support.

Table 13. Benefits and Tradeoffs of Food Hub

Benefits	Tradeoffs
 Strong evidence for entrepreneur opportunities Able to combine the benefits from multiple options Potential for community building 	 Very few examples where hubs have worked on a smaller, neighborhood scale Limited research on health outcomes Requires a lot of land, buildings and equipment

This concludes the analysis of the individual options to improve access to healthy food. In our next chapter we include a synthesis of the findings for all of the food access and active living options together.

CHAPTER 7: RESEARCH RESULTS

This section is intended to compare the overall differences between the programs and projects for active living and food access. We summarize the key advantages and disadvantages determined from our analysis of the case studies through a "Star Table" which presents the evaluation of each option's ability to meet the overarching goals we defined. If the option significantly meets the objective of a defined goal, it is given a star in that category.

ACTIVE LIVING EVALUATION RESULTS

Table 14. Star table of Active Living Options

	Improves Connectivity throughout Neighborhood	Data Available From Peer Communities	Builds on Existing Assets	Generates Health Outcomes for Diverse Population
Linear Parks	*	*	*	*
Safe Routes to School	*	*	*	*
Adult Playgrounds	_	_	*	*
Bicycle Education	_		*	*

According to the analysis in the previous chapters, all four of the options evaluated were likely to achieve positive health outcomes for diverse residents in Delridge and build on existing assets. Out of all of the options, Linear Parks and Safe Routes to School were likely to achieve all four goals. Linear Parks improves connectivity by creating new paths for active transportation around the neighborhood. Safe Routes to School Transportation Planning improves connectivity by improving the safety for pedestrian and bicyclists as they travel to and from school. Adult Playgrounds do not improve connectivity due to their nature as an activity destination rather than as a path for travel. Bicycle Educations Programs do not improve connectivity because they do not add to or modify existing infrastructure. Linear Parks and Safe Routes to School were also the only two options that had sufficient evidence indicating they were implemented successfully in peer neighborhoods. However, the benefits of Adult Playgrounds and Bicycle Education Programs make them worthwhile endeavors despite their risk from lack of data.

FOOD ACCESS EVALUATION RESULTS

Table 15. Star table of Food Access Options

	Provides Economic and Entrepreneurial Opportunities	Builds Social Cohesion	Data Available From Peer Communities	Builds on Existing Assets	Generates Health Outcomes for Diverse Population
Mobile Markets	-	_	_	_	*
Urban Agriculture	*	*	_	*	*
Farmers' Market	*	*	*	*	*
Food Hub	*	*	_	_	

The Farmers' Market was the only program that was able to meet all five goals. Its main strength comes from a history of many Farmers' Markets around the country operating successfully for years. These markets have been rigorously studied and shown proven health outcomes among a wide-array of diverse populations. The Farmers' Market is also strong in its ability to provide a regular space for economic opportunity through food vending and for exchange and interaction between residents for social cohesion. Urban Agriculture also meets the majority of the goals, through both its communal space for gardening and ability to sell produce. As a fairly recent concept in urban areas, it lacks sufficient data from peer neighborhoods. However, the fact that this program has been introduced in Seattle may reduce the risk of failure.

While the Food Hub's strength is in its ability to create various programs for economic vitality and social cohesion, it is too new to have acquired sufficient evidence of success or demonstrate health outcomes for diverse populations. It also requires a large investment of infrastructure which does not currently exist in Delridge. Finally, Mobile Markets come with similar concerns to the Food Hub. In addition, its roaming nature does not provide a place for social or economic engagement for community members. That being said, Mobile Markets are still effective in providing positive health outcomes, and their ability to travel throughout the neighborhood allow them to reach a more diverse group of residents.

Although some options may have met more goals, we do not rank or recommend one or two specific options above the other options. This analysis merely identifies potential risks and

uncertainties for DPD and policymakers as they consider these options suitable for different goals addressed beyond in this analysis. In the following chapter, we provide recommendations that may be helpful for implementing the programs to encourage success of the program in Delridge. These recommendations are included in the following chapter.

CHAPTER 8: ADOPTION AND IMPLEMENTATION RECOMMENDATIONS

As stated in our research results section, we are not recommending one program or project option above another as all of the options would work towards at least one of the goals for Delridge. There are several aspects related to introducing an active living or food access project that are important for all of the options we have analyzed. In addition to the recommendations below, we have also included a list of toolkits and resources in <u>Appendix A</u> related to implementation of these types of programs.

RECOMMENDATIONS FOR ALL PROGRAMS

Combination of Options: Any of the options that we evaluated could be combined or used in tandem to multiply the benefits for each. For example, the produce grown in an Urban Agriculture garden could be sold at a Farmer's Market or through a Mobile Market to provide more opportunities for sale, interaction with neighbors, and to reach a greater portion of Delridge's population. This type of combination has been tried by some of the organizations in the case study analysis.²⁹⁸ ²⁹⁹ ³⁰⁰ For active living, Bicycle Education Programs could be combined with Safe Routes to School Transportation Planning to increase user knowledge and participation.

Education, Outreach and Marketing: Several case studies experienced challenges with getting customers familiar with their new form of distribution, or simply finding out that the program existed.^{301 302 303 304} Any program efforts should make sure to include a way to encourage demand as well as provide information and skills that can help residents make use of the program's benefits. This includes education programs, as well as publicity and advertising of the program.

Cultural Considerations: Any option should make sure to accommodate the cultural diversity in Delridge and the traditions that go with it. It's important for any food access program to find ways to offer traditional foods that residents need, such as halal meat or tortillas. For active living projects, organizers and planners should be aware of cultural customs that make it difficult for women to walk alone or bike. Furthermore, cultural considerations are important when working with vulnerable community members that may perceive these programs to be for-profit businesses that may take advantage of them. It is important to communicate and build trust with residents so that they can be full participants in the project.

ACTIVE LIVING SPECIFIC RECOMMENDATIONS

Attractive Design: Creating an inviting setting for active living options including Linear Parks and Safe Routes to School is essential for encouraging resident use. Paths created in linear parks

or Safe Routes to School should be both attractive and interesting, offering changing views, as well as be wide enough to safely accommodate bikers and pedestrians. It can also be helpful to provide opportunities to purchase food and pleasant places to sit or take breaks.³⁰⁵ Adult playgrounds should also incorporate attractive and functional design to encourage user interest.

Safety Enhancements: Past reports have identified safety concerns for vulnerable populations like women, youth and the elderly. Participants in the Seattle Women's Commission Report reported that they did not use active and public transportation due to safety concerns regarding high speed traffic and perceptions of crime.³⁰⁶ Design features can include adequate lighting at night,³⁰⁷ sidewalks and curb ramps, improving crosswalks, and coordinating with neighborhood greenways to promote safe driving around the project area.³⁰⁸

FOOD ACCESS SPECIFIC RECOMMENDATIONS

Planning Tools to Encourage Development: DPD can influence greater food access by utilizing a number planning tools to encourage food innovation. A similar effort is currently underway in the Rainier Beach food innovation zone. Examples of tools include: ³⁰⁹ ³¹⁰

- Local zoning ordinances establish zones where the programs are an approved land use.
- Streamlined permitting processes for organizations involved in these programs.
- Tax incentives for businesses in the food industry.
- Land banking or secure long-term use of land through local government policies, land trusts, or permanent land ownership.
- Ongoing assistance through free services such as water, waste disposal and compost, as well as tools and storage facilities.

Supplemental Nutrition Assistance Program (SNAP) and Women Infant and Children (WIC):

As many of Delridge residents rely on SNAP and WIC food assistance to purchase their food, it is essential that these programs be integrated into any new food access project or program. One way to do this is by making sure Seattle's Fresh Bucks program is available for purchasing food in any project or program implemented. This program operated at 17 Seattle farmers' markets in 2013 311 and doubled participants SNAP and WIC assistance up to \$10. Expanding Seattle's Fresh Bucks program will reduce cost barriers for participants while encouraging more residents to utilize the adopted program or project.

CHAPTER 9: CONCLUSION

We evaluated eight strategies that the City of Seattle and neighborhood organizations can use to reduce barriers to active living and access to healthy food in Delridge. We determined options for programs and projects that build on past and existing work in the community and evaluated case studies in peer neighborhoods where these options have been implemented successfully. We analyzed the suitability of each option for implementation in Delridge based on six goals (see Table 1).

We found that all eight of the options were likely to achieve at least one of the goals, while only Linear Parks, Safe Routes to School Transportation Planning, and Farmers' Markets were able to meet all of the stated goals for active living or food access. Because some options may be preferable or more feasible to adopt for reasons beyond the goals included in this analysis, we recommend that City and neighborhood organizations find ways to combine multiple options to maximize their benefits. Program implementers should incorporate elements of education, outreach and marketing for any program or project, as well as take into account cultural considerations to increase access for diverse populations in Delridge. For active living options, projects should also focus on engineering and design, as well as safety enhancements. We also included planning tools to support the development of food access programs, and recommended integrating SNAP and WIC benefits.

The analysis of these strategies identified benefits and tradeoffs to inform neighborhood planning for Delridge, as well as provide information for other neighborhoods struggling with barriers to food access and activity. It is important to recognize that Delridge has hosted a number of studies and programs on active living and food access from dedicated agencies. Future work in Delridge should work towards setting measurable goals and evaluating programs' effectiveness. Evaluating successes and failures over time can provide valuable information to ensure programs are achieving the targeted health outcomes and help determine future courses of action. Finally, it is important that agencies working in Delridge collaborate and share resources to ensure that Delridge supports physical activity in daily life and provide available fresh, healthy and culturally relevant food. Through a partnership between residents, non-profit organizations and the City, Delridge can become a healthier community with resources for social and economic opportunities.

This research is intended to help policymakers locally and nationally understand the impacts and importance community design has on health outcomes. Many of the barriers existing in communities today can be alleviated through pursuing programs that are focused on building on existing assets in the community and targeted towards improving health outcomes for vulnerable populations who lack access to physical activities and healthy food.

APPENDIX A: TOOLKITS AND RESOURCES TABLE

Table 16. Toolkit box

What Does it Address?	Description	Resources/Toolkits	
Information on Food Access Programs and Policies	Case studies, how to use it, challenges, key players, success factors, financing, policy recommendations	"Equity Tools." <i>PolicyLink</i> . Accessed May 27, 2014. http://www.policylink.org/equity-tools/equitable-development-toolkit/health-equity-and-place .	
Safe Routes to Schools in Low- Income Communities	Implementing Safe Routes to School in Low-Income Schools and Communities	Safe Routes to School National Partnership. "Implementing Safe Routes to School in Low-Income Schools and Communities," June 2010. http://www.saferoutespartnership.org/sites/default/files/pdf/LowIncomeGuide.pdf .	
Implementation of Programs	10 Key Questions and Lessons for Launching Government Programs	Key Questions for Launching an Effective Government Program." Governing. Accessed May 28, 2014. http://www.governing.com/blogs/bfc/col-10-key-questions-lessons-launching-government-program.html .	
Supporting Food Access Programs	Includes roles that planners, economic developers, elected officials and community champions have in food innovation district development and the steps they can take. Includes a how-to worksheet and zoning guidance	Cantrell, Patty, Kathryn Colasanti, Laura Goddeeris, Sarah Lucas, Matt McCauley, Michigan State University Urban Planning Practicum 2012. Food Innovation Districts: An Economic Gardening Tool. Northwest Michigan Council of Governments. March 2013. http://www.nwm.org/userfiles/filemanager/1753/.	
Safe Routes to Schools	Describes five recommendations to encourage the development of safer routes to schools and active transportation: Engineering, Education, Encouragement, Enforcement, Evaluation	"About Safe Routes to School." Seattle Department of Transportation. Accessed May 27, 2014. http://www.seattle.gov/transportation/safero utes about.htm.	

Food Entrepreneurialism	Provides land use tools for communities seeking to create and expand a regional food industry	Dansby, Nicholas, Zane Grennell, Michelle Leppek, Sean McNaughton, Marlon Phillips, Kirstie Sieloff, Claire Wilke, Michigan State University School of Planning, Design and Construction. Food Innovation Districts: A Land Use Tool for Communities Seeking to Create and Expand a Regional Food Industry. April, 2012. http://www.reicenter.org/upload/documents/food-report.pdf .
Land Use Policies for Farmer's Markets	Provides land use policies to protect and promote farmers' markets	Wooten, Heather, Amy Ackerman. Change Lab Solutions. From the Ground Up: Land Use Policies to Protect and Promote Farmers' Markets. http://changelabsolutions.org/sites/default/files/From-the-Ground-Up-Farmers_Markets_FINAL_20130415.pdf .
Food Hubs	Provides an overview of successful food hubs and key challenges and strategies for supporting them	"Food Hubs." Healthy Food Access Portal. Accessed May 27, 2014. http://healthyfoodaccess.org/retail-strategy/food-hub?destination=node/321 .
Linear Parks, Recreation, and Open Space Planning	Provides parks planning processes and criteria for linear parks	Washington State Department of Community, Trade and Economic Development, Interagency Committee for Outdoor Recreation, Local Government Division, and Growth Management Services. "Planning for Parks, Recreation, and Open Space in Your Community," February 2005. http://www.commerce.wa.gov/Documents/GMS-Planning-for-Parks-Recreation-Open-Space.pdf .

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