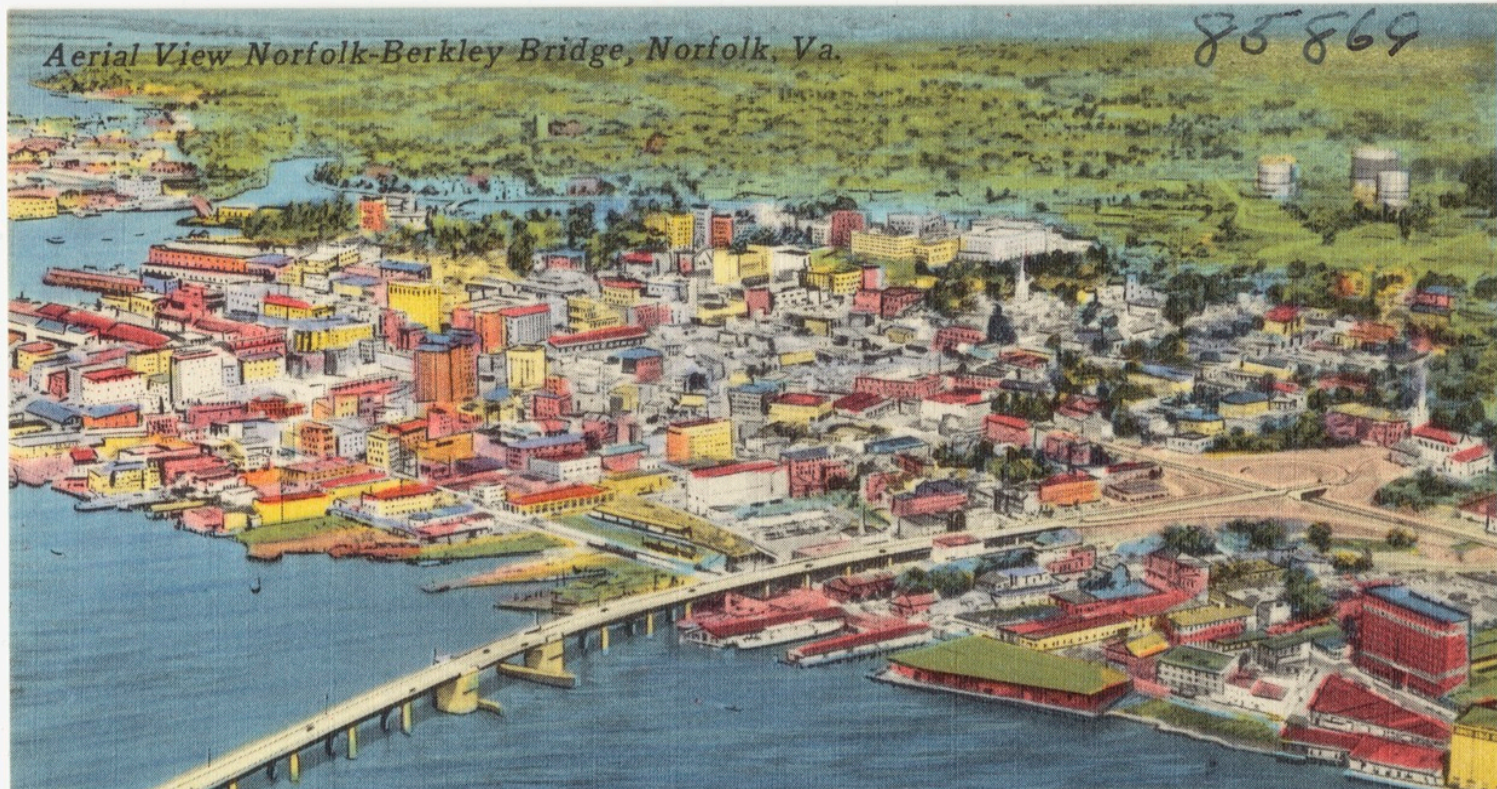


Aerial View Norfolk-Berkley Bridge, Norfolk, Va.

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Decreasing Norfolk Obesity Rates

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Policy Alternatives to Increase Healthy Food
Access and Consumption

By Norah McDonald

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Decreasing Norfolk Obesity Rates:

Policy Alternatives to Increase
Healthy Food Access & Consumption

Prepared for:

Morgan Whayland

Intergovernmental Relations Officer

Office of the City Manager, City of Norfolk

Norfolk, Virginia

By:

Norah McDonald

May 2019



UNIVERSITY *of* VIRGINIA

FRANK BATTEN SCHOOL *of*
LEADERSHIP *and* PUBLIC POLICY

The author conducted this study as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author, and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other agency.

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I would like to dedicate this report to my late father, Vincent Thomas McDonald (*April 14, 1959 - February 28, 2019*). My dad was my most supportive and constructive critic. Without his influence and inherited passion and work ethic, I would never have made it to the University of Virginia, let alone the Frank Batten School for Leadership and Public Policy. When it became clear that my dream was to change the world through the power of healthy food, he joined me in my fight. He cut out magazine and newspaper articles on food and nutrition policy and bought me books and memoirs like *How to Change the World* and *Off-Centered Leadership*. He passed away, unexpectedly, midway through the composition of this report.

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List of Acronyms

AARP - American Association of Retired Persons
BCC - Broad Community Connections
BCHD - Baltimore City Health Department
BFBLHR - Buy Fresh Buy Local Hampton Roads
CHIP - Community Health Improvement Plan
EBT - Electronic Benefit Transfer
ERS - Economic Research Service (of the USDA)
FNS - Food and Nutrition Service (of the USDA)
HCSI - Healthy Corner Store Initiative
IGS - Internet Grocery Store
MAPP - Mobilizing for Action through Planning and Partnerships
NDPH - Norfolk Department of Public Health
NHCSI - Norfolk Healthy Corner Store Initiative
OCM - Office of the City Manager
RHCSI - Richmond Healthy Corner Store Initiative
RPOS - Recreation, Parks, & Open Space
SES - Socioeconomic Status
SNAP - Supplemental Nutrition Assistance Program
TCC - Tidewater Community College
USDA - United States Department of Agriculture
VDH - Virginia Department of Health
WED - Workforce & Economic Development
WGs - Work Groups

Key Definitions

Diet-Related Diseases: In this report, these are chronic health problems associated with a diet high in unhealthy foods; these diseases include: obesity, heart disease, diabetes, etc.

Food Desert: “Geographic areas with insufficient quality or quantity of food or where healthy foods are available at relatively high prices; concern in mostly poor areas” (Bitler & Haider, 2011). Also, see the USDA definition (page 16).

Food Insecurity: Inadequate and inconsistent food consumption due to a lack of money and other resources (Nord, Andrews, & Carlson, 2005).

Healthy Foods: “Nutritious and unprocessed fruits, vegetables, meat, dairy, and whole grains, which may be fresh, frozen, and/or dried,” (Cameron, 2012).

Limited Access to Healthy Foods: In this report, this refers to “people who are low-income and do not live close to a grocery store” and healthy food options (RWJF & UWPHI, 2019).

Obesity: “Percentage of the adult population (age 20 and older) that reports a body mass index (BMI) greater than or equal to 30 kg/m²,” (RWJF & UWPHI, 2019).

Unhealthy Foods: Processed foods that are high in sugar, sodium, saturated fat, and cholesterol (Alcott et al., 2018).

Executive Summary

In Norfolk, one in three residents are obese (RWJF & UWPHI, 2018). Obesity is a chronic disease that disproportionately harms Norfolk residents who live in poverty and are the least educated (City of Norfolk & VDH, NPHD, 2017). Many of these residents live in Southside, an area of the city with a history of limited access to healthy food. In the summer of 2018, Southside became a food desert. The City of Norfolk is exploring options to provide access to affordable grocery options for Southside residents. However, the root of the problem is not food access, it is high levels of obesity linked to unhealthy food preferences.

This report provides two causal models to connect obesity to healthy food access as discussed in the literature, four alternative options for increasing healthy food access to decrease obesity rates, and a final recommendation. The four proposed alternatives are:

1. Backfill Site with Traditional Grocery Store
2. Create Southside Market, an Educational, Alternative Grocery Store
3. Create the Virtual Supermarket, an Internet Grocery Service
4. Launch the Norfolk Healthy Corner Store Initiative

Each alternative was evaluated based on four established criteria: (1) Effectiveness, (2) Equity, (3) Sustainability, and (4) Political Feasibility. Due to the scope of this report, cost estimates for sustainability are uncertain. Qualitative estimates are provided for the remaining criteria. Based on the analysis and consideration of the tradeoffs of each alternative, it is recommended that the City of Norfolk OCM **create Southside Market, an alternative, educational grocery store to increase healthy food access and the desire for healthy food, decreasing the obesity rate for those living in poverty.**

Introduction and Problem Statement

In Norfolk, Virginia, 31 percent of residents are obese (RWJF & UWPHI, 2018). While this is a decline from 35 percent in 2014 and 2015 (RWJF & UWPHI, 2014; RWJF & UWPHI, 2015), contributing factors of obesity and diet-related diseases in Norfolk have still become increasingly problematic. In 2018, 19 percent of Norfolk residents were food insecure and 8 percent had limited access to healthy food (RWJF & UWPHI, 2018). These numbers are not significantly different from 2017 except that the number of people with limited access to healthy foods doubled¹. In 2018, Norfolk ranked 119 out of 133 localities in Virginia in health factors, a downturn from 2017's 113th ranking (RWJF & UWPHI, 2017).

According to the Norfolk Department of Public Health, Norfolk residents most likely to be obese, or have another diet-related disease, are those who live in poverty and are the least educated (City of Norfolk & VDH, NPHD, 2017). Residing in the lowest socioeconomic (SES) neighborhoods of the city, these residents also have limited access to fresh and affordable produce. One such area in Norfolk is Southside. During the summer of 2018, the main source of healthy foods and other groceries, Farm Fresh, in Southside closed. Today, the only immediate access to food in Southside is available from fast food restaurants and corner and convenience stores - sources of unhealthy, highly processed foods that contribute to obesity.

¹ The averages for the entire Commonwealth of Virginia in 2018 were: 28 percent adult obesity, 11 percent food

Background: Southside Story

In Norfolk, those most disproportionately impacted by obesity also tend to be the least educated and live in poverty. Many of these people live in Southside - the lowest SES area in Norfolk. While genetics have a role in obesity, diet is also important. An unhealthy diet increases the likelihood of obesity. In Southside, fast food restaurants and corner and convenience stores² are the only sources of immediate access to food. Today, due to limited access of healthy foods and high poverty rates, Southside is considered a food desert. During the summer of 2018, the only grocery store, Farm Fresh, in the area closed. This further exasperated Southside's ongoing issue of limited access to healthy foods. The City of Norfolk is exploring options to increase healthy food access in Southside.

The following section shares the story of Southside, connecting high obesity rates in the area to the Farm Fresh closure. This story is followed by a discussion of the two potential causes of food deserts – a lack of healthy food or a lack of desire for healthy food.

Farm Fresh Closure

In March 2018, “[SUPERVALU] - the parent company of the regional grocery chain, Farm Fresh - announced the closure and sale (where applicable) of all its stores/locations,” (City of Norfolk, personal communication, April 9, 2018; Appendix B). According to SUPERVALU, the closures were made in the long-term financial and strategic interest of the company. Six Farm Fresh stores in Norfolk were closed; three of these stores were sold to other grocery chains (SUPERVALU INC., 2018), while there were no plans of replacement for the other three.

The Farm Fresh closures created two ‘food deserts’, areas with limited access to fresh, healthy foods, in East Ocean View and in Southside. The East Ocean View location was purchased by Harris Teeter, but at the publication of this report, a new store has yet to be opened. The Harris Teeter is set to open by summer 2019 (Adhikusuma, 2018). The Berkeley Farm Fresh closed with no plans for replacement. The City of Norfolk anticipated this closure to “most negatively impact its customers due to a lack of current nearby alternative options,” (City of Norfolk, personal communication, April 9, 2018; Appendix B). This Farm Fresh was located in and served the residents in Southside. “Southside is home to 8,600 people, a significant percentage of which [26

² For the remainder of this report, both corner and convenience stores will be referred to as ‘corner stores’.

percent] do not have access to a vehicle - double the percentage city-wide,” (City of Norfolk, personal communication, April 9, 2018; Appendix B). Based on Census data (Table 1), 37 percent of Southside residents live below the poverty line and 47 percent receive Supplemental Nutrition Assistance Program (SNAP) benefits.

Table 1: Census Data on Southside, Norfolk

	Norfolk	Total both Census tracts
Total population	245,724	8,623
Total households	87,367	2,605
Average household size	2.52	3.31
Median household Income in 2016 Dollars	\$ 45,268	\$ 26,422
Number/Percentage of households with no access to a vehicle	11,298 / 13%	679 / 26%
Number/Percentage of households with one or more people in the household 60 yrs & over	25,440 / 29%	734 / 28%
Number/Percentage of households with children under 18 years	27,528 / 32%	1,282 / 49%
Number/Percentage of households receiving food stamps/SNAP	15,030 / 17%	1,224 / 47%
Number/Percentage of households Below poverty level	16,719 / 19%	952 / 37%
Number/Percentage of households with one or more people with a disability	20,208 / 23%	804 / 31%

Note: Total both Census Tracts refers to the two Census tracts, 50 and 51, which make up Southside.

Source: City of Norfolk, personal communication, April 9, 2018; Appendix A.

History of Food Access & Food Deserts in Norfolk

Food deserts are defined in various ways, both quantitatively and qualitatively. The United States Department of Agriculture (USDA) characterizes a census tract as a food desert if it meets both the low-access and low-income thresholds. A census tract is low-access if at least 500 people and/or at least 33 percent of the tract population live more than one mile from a supermarket or large grocery store. A tract is low-income if the poverty rate is 20 percent or greater, or the median family income is at or below 80 percent of the statewide or metropolitan area family income (Ver Ploeg, Nulph, & Williams, 2011). Southside is comprised of Census Tracts 50 and 51, which both meet these requirements (Table 1).

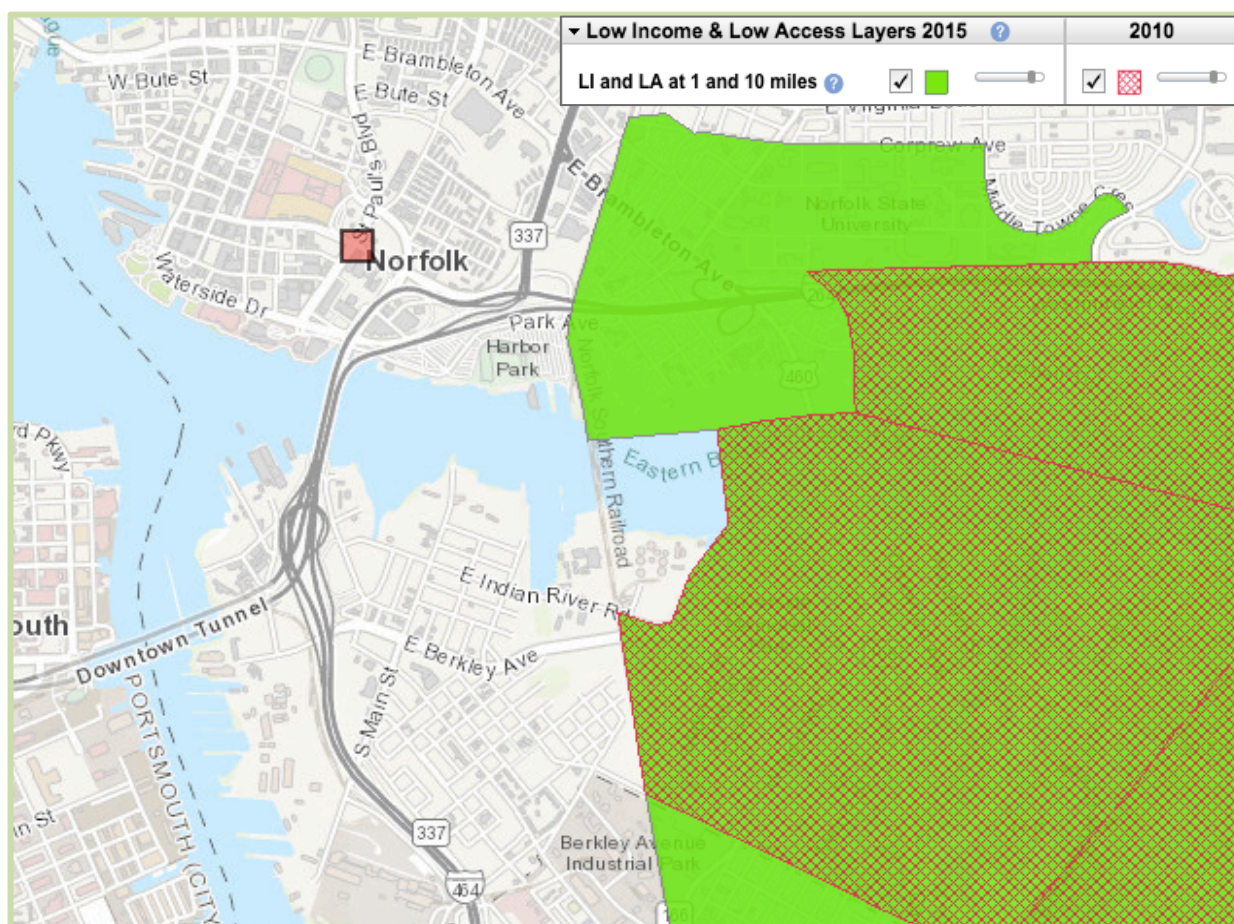
Other sources define food deserts more quantitatively, for example, “Geographic areas with insufficient quality or quantity of food or where healthy foods are available at relatively high prices; concern in mostly poor areas” (Bitler & Haider, 2011).

Food deserts tend to have smaller populations, residents with lower levels of income, and higher rates of abandoned or vacant homes, unemployment, dependence on public assistance, and poverty

(Dutko, 2012; Dutko, Ver Ploeg, & Farrigan, 2012). Studies have confirmed that poverty is a significant predictor of low food access, especially in dense, urban areas (Dutko et al., 2012). Food deserts can often also be described as food swamps, areas with more fast food restaurants and convenience stores (Karsten & West, 2017).

The primary metric for healthy food accessibility is distance to a grocery store, supermarket, or supercenter. In this report, these three healthy food retail options will be used interchangeably (Karsten & West, 2017). Healthy foods can be purchased at grocery stores. To be sufficient for food access standards, healthy foods must be available in enough quantity and variety in a store for one to do their weekly grocery shopping. Unhealthy foods can be purchased at grocery stores, corner stores, and fast food restaurants. They are associated with adverse health outcomes - obesity, diabetes, and other diet-related chronic diseases (Alcott et al., 2018; Florida, 2018).

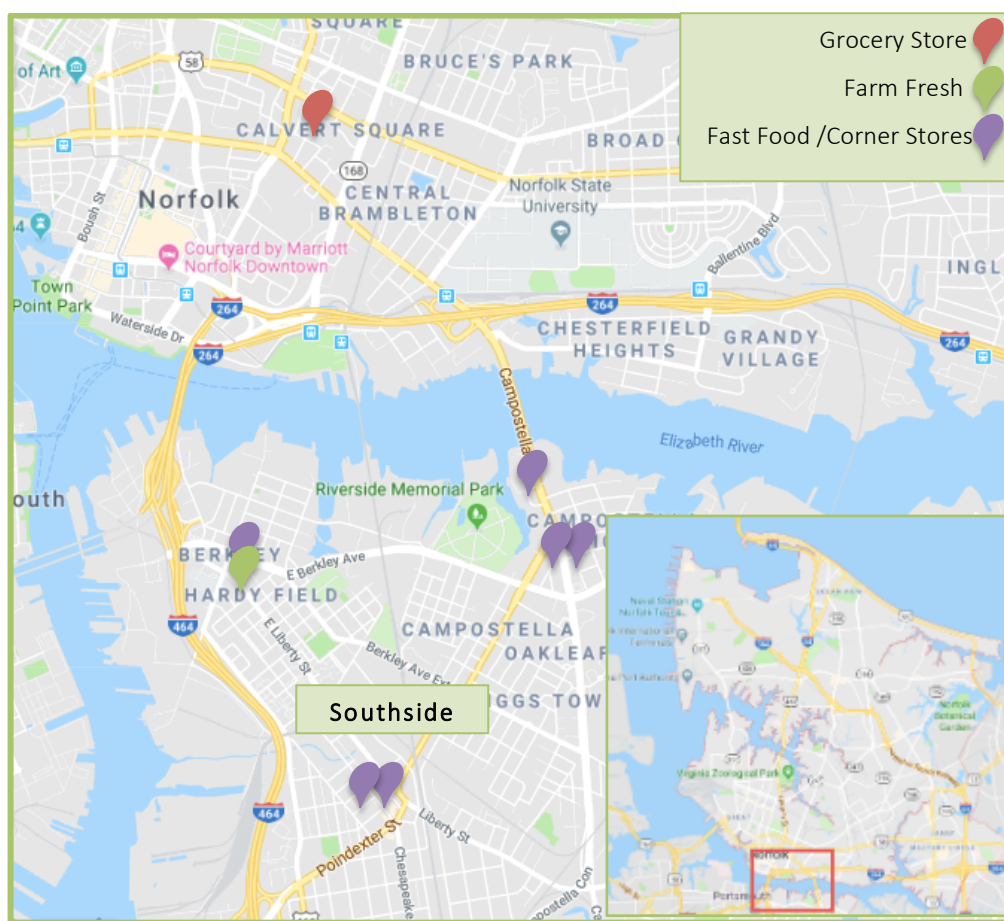
Map 1: Southside Food Desert Map, 2010 & 2015



Source: USDA ERS Food Access Research Atlas

As seen in Map 1, the east part of Southside in Norfolk has been considered a food desert since at least 2010³. The west part of Southside, where the former Farm Fresh was located, was not considered a food desert until the only grocery store left. Without Farm Fresh, there is no longer a grocery store in Southside. In all of Norfolk in 2017, four percent of people had limited access to healthy foods. In 2018, the number of people with limited access doubled to account for eight percent of Norfolk residents. Based on Map 1, and a food desert map of all of Norfolk⁴, this increase is driven primarily by the Berkeley Farm Fresh closure.

Map 2: Food Retail Options in Southside, 2019



Source: Google Maps

As seen in Map 2, the Elizabeth River separates Southside from the rest of Norfolk. To grocery shop, Southside residents must now drive at least two to three miles north to the nearest grocery store in Norfolk, Save A Lot, or five to eight miles south to the nearest store in Chesapeake, VA

³ The USDA ERS Food Access Research Atlas only includes data from 2010 and 2015.

⁴ This map is not included in the report but can be found through the USDA ERS Food Access Research Atlas.

(not pictured)⁵. However, 26 percent of Southside residents do not have access to a vehicle, and public transportation would add more time to a grocery trip than these residents can afford. Without Farm Fresh, the only immediate access to food in Southside is corner stores and fast food restaurants.

Norfolk Community Health Improvement Plan (CHIP), 2017-2022

Efforts to improve Norfolk's food environment are already underway. In 2016, the Norfolk Department of Public Health (NDPH) set out to co-create the Norfolk Community Health Improvement Plan (CHIP). One of CHIP's three priority areas is Chronic Disease Prevention. The plan outlines strategies for the City, community organizations, and residents to improve health outcomes through increasing healthy food access.

The following section describes CHIP and its creation process. CHIP was created through a process of co-creation between NDPH, community organizations, and residents. Resident values regarding a healthier, equitable food environment from CHIP are stated in this report (page 20). These values led to the objectives and strategies recommended in CHIP, as well as guided the policy alternatives in this report.

CHIP, published in June 2017, is a strategic plan to improve the health and wellbeing of Norfolk residents over the next five years, until 2022. From December 2016 to May 2017, CHIP was created in partnership between NDPH, 50 community organizations, and residents. The purpose of CHIP is to create a common health improvement agenda to improve health outcomes through action and collaboration across sectors. CHIP focuses on three priority areas for action:

- 1) Safe Communities/Community Violence
- 2) Chronic Disease Prevention
- 3) Sexual Health

These three priority areas were selected through the 2016 Mobilizing for Action through Planning and Partnerships (MAPP) process using data, community input, and four criteria: (1) resources, (2) feasibility, (3) long-term impact, and (4) equity. In the interest of the policy problem, this report will focus on the findings and goals of the Chronic Disease Prevention priority area.

⁵ These distances are based on directions from Google Maps.

To gather community data and perspectives, the CHIP development process relied on Work Groups (WGs) for assistance and input in creating an action plan. WGs took part in community based asset mapping and community listening meetings, attended by 10-20 residents and community leaders. The intent of the listening meetings was to design an action plan that meets the needs of the community. Chronic Disease Prevention community listening meetings took place at five locations in five different communities across Norfolk. Two of these locations are in communities that, one year later, became food deserts when Farm Fresh closed. Community listening groups in Southside provide community input for the area of Norfolk the City is most concerned with increasing food access.

At the community listening groups participants identified obesity, cancer, high blood pressure, and diabetes as the four top ten health problems facing Norfolk residents and disproportionately harming Norfolk neighborhoods with higher levels of poverty. Through MAPP's Community Themes and Strengths survey, participants identified the top four ways residents could be healthier: (1) eating healthier foods, (2) being more active, (3) increased access to healthy foods and places to be active, and (4) quitting smoking. Key themes discussed as problems during the Chronic Disease Prevention meetings included:

- Affordability of healthy foods
- How/Where unhealthy foods are marketed in grocery stores
- Lack of healthy choices at neighborhood grocery stores
- Lack of accessibility to healthy foods
- Lack of knowledge of how to cook healthy foods
- Community culture of health
- Lack of social connectedness

To at least temporarily mitigate the impact of the Southside food desert, the City of Norfolk has begun exploring options to increase grocery access in Berkeley. This exploration is what motivated this report. Through a better understanding of the root causes of food deserts, there is an opportunity for the City of Norfolk and NDPH to work together to both increase food access and decrease obesity rates and the prevalence of other chronic, diet-related diseases.

The next sub-section outlines the potential options explored by the City. The following section discusses the potential causes of food deserts, understanding food deserts to not be an issue of a lack of healthy foods, but the result of low demand for healthy foods. This understanding motivates the four policy alternatives in this report, combining the goals of both the City of Norfolk and CHIP.

Potential Solutions Explored by the City of Norfolk

The City of Norfolk has explored options to provide access to affordable grocery options for Southside residents, the former customers of the Farm Fresh store in Berkley. These options include, but are not limited to, the following:

- Create a program that leverages existing online ordering and delivery systems
- Backfill the former Farm Fresh, Berkeley site with another grocery store
- Explore existing and potential new online delivery pilot programs
- Explore delivery-oriented partnership opportunities with local Norfolk area grocery stores

The City acknowledges that the current market conditions make the backfilling option particularly challenging in the near term, yet efforts to collaborate with the shopping center's ownership and to attract a replacement grocery store continue as the primary concern. In the short-term, the City will focus on launching an Internet grocery store (IGS) pilot program through "leveraging the existing online grocery ordering and delivery services that Amazon currently provides in Hampton Roads for its Whole Foods business line," (City of Norfolk, personal communication, April 9, 2018; Appendix B). Proposed parameters for households eligible to participate in the program are:

- Residence within one-mile radius of the affected Farm Fresh locations
- Household qualifies for Supplemental Nutrition Assistance Program (SNAP) benefits
- Member of household possesses a bank account with direct debit capability

Food Deserts: Not Enough Healthy Foods or Not Enough Demand?

There are two models that explain the potential causes of food deserts. The first model, the supply model, explores the idea that nutritional disparities exist between SES groups because there are not enough healthy foods in low-SES neighborhoods (Powell, Slater, Mirtcheva, Bao, & Chaloupka, 2007).

The second model, the demand model, suggests that nutritional disparities exist between SES groups because there is not enough desire for healthy foods in low-SES neighborhoods. While inequitable access to supermarkets does exist between low and high-SES neighborhoods, nutritional disparities are driven by differences in education levels and nutritional knowledge (Alcott et al., 2018). To better understand these two models, the remainder of this section further explains the factors, solutions, and limitations of each.

Not Enough Healthy Foods: The Supply Model

The supply model understands the cause of food deserts to be a lack of healthy foods in low-SES neighborhoods. Popular from 1990-2010, evidence for this model comes from the second half of the 20th century. As a result of globalization and urban flight, three major changes in the American food system occurred: (1) the rise of chain grocery stores over independent stores, (2) the evolution of grocery stores into supermarkets, and (3) the concentration of retail into supercenters with larger store formats and product offerings (Walker, Keane, Burke, 2010). Other contributing factors of food deserts were found to include: limited mobility of those living in food deserts, crime and safety concerns in food desert neighborhoods, demographic patterns, and supermarket perceptions that building in lower income areas is not profitable (Bitler & Haider, 2011).

The concentration of retail made accessing healthy foods a challenge for many Americans, particularly those living in low-income, minority, or ethnic neighborhoods and rural areas (Karpyn & Treuhaft, n.d.). Remaining convenience stores and fast food restaurants limited residents' diets to energy-dense, caloric, and innutritious foods. Studies that supported the supply model were motivated to better understand racial, ethnic, and income disparities within food deserts. This was due to increased attention at the time to reduce and eliminate health disparities between these groups. Supply model research can be summarized into four major themes: (1) access to

supermarkets, (2) racial and ethnic disparities in food deserts, (3) income disparities in food deserts, and (4) factors associated with store type (Walker et al., 2010).

Access to Supermarkets

Access to supermarkets measures the availability of healthy, nutritious foods within communities. Understanding limited access to supermarkets to be the cause of food deserts suggests that a city's layout plays an important role (Walker et al., 2010). The supply model believed that access to healthy foods alone increases healthy eating, as studies found that increased produce availability correlates with high consumption (Karpyn & Treuhaft, n.d.).

Other barriers to access include: transportation, the built environment (i.e. non-pedestrian friendly streets), and individual characteristics (i.e. busy work schedule, single parent, etc.). The supply model assumed that people only shop for food available to them in their immediate area, for convenience and transportation limitations (Walker et al., 2010).

Racial and Ethnic Disparities in Food Deserts

The supply model also found a systematic gap in food access among racially and ethnically defined areas, especially in African American neighborhoods. African American neighborhoods have less access to supermarkets than white neighborhoods. Additionally, African Americans are less likely than white people to own a car, increasingly the likelihood of shopping at nearby, low quality stores (Walker et al., 2010).

Income Disparities in Food Deserts

Disparities also exist between high- and low-income neighborhoods. High-income communities have more retail options for healthy foods. Most stores that exist in low-income areas are small and have low quality, higher priced foods, as well as a limited quantity and variety. Additionally, like African Americans, lower income households are less likely to own a car or be able to afford transportation costs (Walker et al., 2010).

Factors Associated with Store Type

Factors associated with store type is the final, major theme of the supply model. Small, non-chain stores constitute the majority of the food retail in urban areas, including food deserts. These types of

stores are associated with higher prices, less variety, and poorer quality of food than larger, chain stores (Walker et al., 2010).

Solutions to Increase the Amount of Healthy Food

Supply model solutions attempt to build supermarkets in food deserts. Most solutions are policy interventions aimed at overcoming perceptions that building in low-income areas is not profitable (Cameron, 2012). In 2010, the Obama Administration launched the Healthy Food Financing Initiative to improve food store access. Grants and low-interest loans were provided to build supermarkets in food desert neighborhoods. State and local governments have also attempted to attract supermarkets to underserved neighborhoods, as well as improve the types of foods served at preexisting stores (Yeoman, 2018).

Other solutions include: attracting healthy food retail, developing alternative food retail outlets like farmers markets and mobile vendors, increasing quantity and quality of produce and other healthy foods at corner stores, and improving transportation to grocery stores and farmers markets (Cameron, 2012).

Limitations of the Supply Model

The supply model is inadequate because original studies used poor research methods, limiting the scope. The supply model framed food deserts as an access issue, focusing studies around the number and types of stores in an area. Policy interventions were motivated based on a positive correlation found between diet quality and supermarket access. Other potential causes for food deserts were never considered (Ver Ploeg & Rahkovsky, 2016).

Not Enough Demand for Healthy Foods: The Demand Model

Through correcting the limitations and fallacies of the supply model, the demand model finds the supply model to be misleading. Since 2010, there has been a growing body of evidence that increasing food access has little to no impact on healthy foods consumption of food desert residents (Cummins et al., 2014; Payne et al., 2017; Handbury, Rahkovsky, Schnell, 2016; Ver Ploeg & Rahkovsky, 2016). When a new supermarket opens in a food desert, low-SES residents still choose to buy unhealthy foods (Alcott et al., 2018; B. Loosemore, personal communication, February 13, 2019; Handbury et al., 2016; Rahkovsky & Snyder, 2015). The demand model finds that differences in eating habits are not a result of food access but driven by differences in educational attainment

between high and low-SES people. Educational attainment impacts nutrition knowledge, influencing the types of food people prefer. Additionally, regional food preferences impact a community's diet more so than local food access (Alcott et al., 2018; Yeoman, 2018).

The demand and supply models come to some similar conclusions about food desert characteristics. Limited healthy food access and nutritional deficiencies disproportionately harm low-income neighborhoods (Alcott et al., 2018;). High-income households buy and eat significantly more healthy foods than lower income households (Alcott et al., 2018).

A key difference between the two models is that the supply model believed low-income people shop at local corner stores because it was more convenient than driving to a farther away grocery store. However, the demand model finds that both high and low-income households mostly shop at supermarkets (Alcott et al., 2018). This suggests, and has been proven, that low-income people go beyond the closest food retail store to shop for food. Additionally, both high and low-income households travel similar distances to the supermarket; the average American travels five and a half miles. Low-income households in urban food deserts travel less than this; the average travel distance is two miles. Critics of the supply model believe this shows that food deserts do not actually exist, as low-income residents are not limited by their neighborhood food retail options (Alcott et al., 2018; Florida, 2018). Understanding that access similarities exist between low and high-income households, the demand model corrects the supply model fallacies, asking new questions about the effect of SES on healthy, nutritious food consumption.

Effect of Income on Nutritional Disparities

Comparing healthy food purchases of both low and high-income people living in low food access areas, studies have found that being low-income is more strongly associated with purchasing unhealthy foods than is living in an area with limited food access (Rahkovsky & Snyder, 2015). However, the difference between income levels is not driven by price differences between healthy and unhealthy foods. Healthy foods cost more than unhealthy foods, but not as much as is believed (Alcott et al., 2018; Rahkovsky & Snyder, 2015). Most healthy diets cost approximately \$1.50 more per day than unhealthy diets (Rao, Afshin, Singh, & Mozaffarian, 2013). The price difference is driven by fresh produce. However, the difference adds up to \$550 per year, a significant amount of money for low-income households (Alcott et al., 2018; Yeoman, 2018).

Effect of Education on Nutritional Disparities

Compared to income, education is a greater predictor of household food preferences. Greater nutritional inequalities exist between families with and without college educations. High-SES households spend more money on healthy foods due to higher education levels and better information about the benefits of healthy foods, as well as more time and resources (Florida, 2018; Handbury et al., 2016).

Even if a low-SES household understand the importance of a nutritious diet, aspects of poverty create barriers that make it difficult to prioritize health; barriers include: low wages, crowded housing, job discrimination, longer commutes, diminished educational opportunities, greater overall emotional stress, etc. (Handbury et al., 2016; Horst, Subhashni, & Brinkley, 2016; Yeoman, 2018). Additionally, low-SES people might still choose to eat unhealthy foods because they do not face the full healthcare costs of eating poorly, discount the future benefits of healthy foods, and see the “trendiness” of healthy foods as urban elitism (Alcott et al., 2018; Bitler & Haider, 2011; Florida, 2018; Yeoman, 2018).

Solutions to Increase the Demand for Healthy Food

The demand model calls for multi-pronged solutions that focus on increasing both the amount of and demand for healthy food. Increasing access to affordable, healthy foods is important; but to improve health outcomes of low-SES people, solutions must change perceptions of healthy foods to shift food preferences (Handbury et al., 2016; Neighmond, 2014). Increasing education and information about healthy eating habits among low-SES households is the most efficient path for policy. Solutions must also help low-SES people devote more time and attention to health by reducing poverty related barriers (Alcott et al., 2018). However, solutions that increase information have limitations. Calorie and ingredient information is already printed on most, if not all, food products (except for fresh produce).

Other interventions motivated by the demand model aim to increase income and reduce the price of healthy foods. These interventions include: a higher minimum wage, stronger labor protections, more generous government benefits or benefits targeted at healthy foods, universal free school lunches, and subsidy programs for farmers to grow produce⁶ (Yeoman, 2018).

⁶ These programs already exist for commodity crops (corn, sugar, soybeans, etc.).

Limitations of the Demand Model

The demand model is only nine years old. Few studies have measured the effect of solutions aimed at increasing healthy food demand. While the studies that do exist show that increasing nutrition education among low-SES is effective at increasing healthy food consumption, more research is still needed to understand the magnitude of the effect.

Internet Grocery Stores

One option the City of Norfolk has considered to increase food access in Southside is an Internet grocery store (IGS) program. IGS allows customers to shop online for groceries and be delivered to their front door. IGS is a new, potential solution to increase food access in neighborhoods without a supermarket. IGS does not face the same barriers as a brick and mortar grocery store, such as building a new store and the costs and challenges of the built environment. Additionally, IGS allows for more scale and variety (Appelhans et al., 2016; Ekrann, 2015). For customers, IGS is convenient and overcomes transportation barriers.

IGS requires Internet access and may have higher than traditional stores, as well as minimum and delivery fees (Appelhans et al., 2016). Some IGS programs accept EBT/SNAP benefits. However, they cannot always be used to cover delivery costs (Karsten & West, 2017). For example, AmazonFresh accepts EBT/SNAP benefits only for food purchases. However, IGS might still be cheaper than a brick and mortar grocery store when accounting for other costs of grocery shopping, such as wages lost and money spent on gas (Ekrann, 2015).

IGS increases access to food, but not necessarily healthy foods. As the demand model suggests, food preferences must shift towards healthy foods to improve diet outcomes. This is not guaranteed by IGS. However, IGS has the potential to help low-SES customers make healthier, cost-effective choices. IGS can reduce impulse shopping and allows for easy comparison of products and prices (Ekrann, 2015). At the present moment, IGS is not a panacea for exterminating food deserts or the nutritional disparities between low and high-income neighborhoods, but presents an opportunity.

Methodology

The purpose of this report is to propose and evaluate policy options that address the high obesity rate in Norfolk, VA. Each option provides a comprehensive strategy that increases healthy food access in the city. The following section of this report explains the four evaluative criteria that will be used to analyze the four policy options. The remainder of this report explains each policy option. A logic model is included when applicable. Each option includes a thorough evaluation of the tradeoffs based on the four criteria. Following the explanation and evaluation of the fourth alternative, a final outcomes matrix is provided for a summary analysis of the alternatives. The second to last section of this report consists of a final recommendation to the client, the City of Norfolk OCM, which will identify the alternative that most effectively addresses the problem statement detailed at the beginning of this report. A brief discussion explains why the other three alternatives were not recommended. This report concludes with implementation strategies and considerations to ensure success.

Evaluative Criteria

Four criteria will be used to evaluate the four policy options described in the next section. The criteria were selected based off of the desired impacts as determined by the CHIP Prevent Chronic Disease WGs, as well as effectiveness impacts described by the demand model. While the proposed policy options may positively impact all Norfolk residents, the policy options' outcomes are estimated for the impact on health outcomes of low-SES, Southside residents. Due to the nature of the data, each option will be measured against the criteria using a qualitative ranking. See Appendix A for a description of how scores were determined. Comparing each of the proposed policy options against the same four criteria allows for an evidence-based analysis. The option with the highest scores across the criteria will be the final recommendation.

The alternatives will be evaluated based on the following four criteria:

Criteria:

1. Effectiveness
2. Equity
3. Sustainability
4. Political Feasibility

- 1) Effectiveness: The effectiveness of addressing the problem is defined as increasing healthy food consumption to decrease obesity. Effectiveness will be based on four subcategories.
 - a) *Increase Nutrition Knowledge and Education*: Does the proposed policy alternative have a *very high*, *high*, *medium*, or *low* chance of increasing nutrition and health knowledge among Southside residents? This is measured by number of opportunities for Southside residents to participate in hands-on classes, lecture-style classes, and one-on-one time with program staff. Increasing nutrition knowledge is important for increasing healthy food consumption and improving health outcomes as education has been found to be the greatest predictor of household food preferences (Florida, 2018; Handbury et al., 2016).
 - b) *Positively Change Perception and Preferences of Healthy Foods*: Does the proposed policy alternative have a *high*, *medium*, or *low* chance at changing Southside residents' perceptions and preferences of healthy foods? A change in food preferences shifts local culture to emphasize

health. This is measured through increased marketing and advertising of healthy foods, educational opportunities, increased sense of community, shift in food culture, and acceptance of EBT/SNAP benefits. To increase healthy food consumption, a program must shift preferences so residents purchase and consume more healthy foods. Even if low-SES people know the benefits of a healthy diet, they do not always choose to eat nutritious foods. This includes a couple reasons: they do not face the full healthcare costs of eating unhealthy foods; they may discount the future benefits of eating a healthy diet today (Alcott et al., 2018; Bitler & Haider, 2011; Florida, 2018; Yeoman, 2018).

- c) *Positively Change Healthy Food Availability*: Does the proposed policy alternative have a *high, medium, or low* chance at changing the quality and variety of food for sale in Norfolk? A positive change is reflected in an increase in the amount of healthy food and a decrease in the amount of unhealthy food available. Ultimately, increased healthy food access is shown by an increase in the percent of low-SES residents who have limited access to healthy foods, as measured by Virginia County Health Rankings. To reduce the impact of a food desert on health outcomes, only healthy food availability must increase. An increase of unhealthy foods contributes to the already high obesity rate (Brownson, Haire-Joshu, & Luke, 2006).
 - d) *Decrease Barriers Purchase and Prepare Healthy Foods*: Does the proposed policy solution have a *high, medium, or low* chance of being implemented in Southside households through lowering purchase and preparation barriers? This considers household agency, available resources and kitchen equipment, grocery budget, and the opportunity cost of purchasing and preparing healthy foods. Decreasing barriers is important for improving health outcomes because even if a low-SES resident understands the benefits of nutritious foods and wants to eat healthy, aspects of poverty make it difficult to act on this knowledge and desire (Handbury et al., 2016; Horst, Subhashni, & Brinkley, 2016; Yeoman, 2018).
- 2) Equitable: Does the proposed policy alternative have a *high, medium, or low* chance of ensuring fair and identical access to healthy foods across different SES neighborhoods in Norfolk? The equity of addressing the policy problem considers if an alternative increases food access for low-SES residents.
 - 3) Sustainability: Does the proposed policy alternative create a model that is financially and administratively sustainable for the City of Norfolk OCM? The sustainability of addressing the policy problem will be based two subcategories, financial and administrative, in the short and long terms, resulting in four total sustainability subcategories:

- a) *Financial Sustainability*: Does the proposed policy alternative create a model that is financially sustainable? Is the model profitable enough to stand alone without subsidies to operate? In other words, is the alternative more similar to a social enterprise⁷ or a non-profit?
 - i) *Short-term (0-1 year)*: Is the proposed policy alternative financially feasible? Costs that will be considered are initial investments to implement the alternative (e.g. outreach, new hires, transformation of lots/buildings, and start up capital).
 - ii) *Long-term (2+ years)*: Is the proposed policy alternative financially feasible? Costs that will be considered are those that are paid annually (e.g. salaries and rent).
- b) *Administrative Sustainability*: Does the proposed policy alternative create a model that places *extensive, considerable, or limited* administrative burdens on the City of Norfolk OCM? This criterion will consider the logistics of implementing the alternative: staff, skill level, administrative coordination between City departments, and the number of community, public, and private agencies necessary for success.
 - i) *Short-term (0-1 year)*: Are the burdens of implementing the alternative *extensive, considerable, or limited*?
 - ii) *Long-term (2+ years)*: Is the alternative able to operate on its own? Do the burdens remain *extensive, considerable, or limited*?
- 4) Political Feasibility: Does the proposed policy alternative have a *high, medium, or low* chance of being approved and readily adopted by Norfolk Council City and OCM? This criterion considers how the alternative will be prioritized as compared to other city goals, namely workforce and economic development and a permanent grocery solution, approval of proposed funding strategy, and individual City Council members' approval.

⁷ A social enterprise is a business that seeks “to maximize profits while maximizing benefits to society and the environment,” (Barone, 2019). The primary driver of a social enterprise is accomplishing its social goal, such as improving the lives of vulnerable populations. Profits are reinvested into the enterprise’s social mission (Barone, 2019).

Policy Alternatives

Four policy alternatives were determined for creating a comprehensive strategy to bolster the supply and quality of foods available in Southside, ultimately improving healthy food consumption and health outcomes of residents. Each option presents a strategy to increase the supply and/or desire for and consumption of healthy foods. Each alternative is followed by a table that evaluates the option against the four policy criteria. A more detailed analysis is included in the Summary Outcome Matrix (page 51).

The four alternatives are:

1. *Backfill Site with Traditional Grocery Store*
2. *Create Southside Market, an Educational, Alternative Grocery Store*
3. *Create the Virtual Supermarket, an Internet Grocery Service*
4. *Launch the Norfolk Healthy Corner Store Initiative*

Alternative 1: Backfill Site with Traditional Grocery Store

Overview: Continue collaborating with shopping center ownership to attract a replacement grocery store to Southside.

Description: As discussed as the primary concern in the ‘Connecting a Norfolk Food Desert to Grocery Delivery Services’ memo (Appendix B), the City continues to pursue backfilling the former Berkley Farm Fresh site with another, traditional grocery store, such as a Harris Teeter or Kroger. This option requires a working relationship with the shopping center ownership to increase the attractiveness of the store location to another supermarket. Additionally, this may involve City resources to enhance location attractiveness, such as financial incentives.

Based on the amount of time that has passed without a supermarket opening in the facility, attracting a new store may take an aggressive marketing strategy. This strategy must prove that a new store would be successful in the shopping center. The two most common barriers for a local government seeking to attract a grocery store are 1) site availability and development costs, and 2) negative perceptions of the area. Fortunately, there is already an available site zoned for food retail purposes. The City may need to streamline parts of the regulatory process necessary for permits for a new supermarket. Additionally, the City might consider subsidizing any renovation costs to the

storefront or inside the store. This is not necessary, but may accelerate the process of attracting a new supermarket. As a low-income area, there are potential negative perceptions of Southside. A new store may not believe it is economically feasible to locate in an area with a low, average household income and high rates of crime (Shelton, n.d.).

Table 2: Alternative 1 Evaluation

Evaluative Criteria	Analysis
Effectiveness	Low - This option includes no opportunities to increase nutrition and health education. Without educational opportunities or any other form of intervention to change the perception of healthy foods, preferences will not change. Low-SES residents are likely to buy predominantly unhealthy food, leading the store to meet demand through increasing the supply of unhealthy foods and decreasing healthy foods (Alcott et al., 2018; B. Loosemore, personal communication, February 13, 2019). Additionally, this option lowers barriers to access only in that it provides one outlet for residents to purchase food without leaving Southside. It may accept SNAP/EBT benefits, but this is uncertain.
Equitable	Low - Backfilling the site with a traditional grocery store increases the overall food supply in Norfolk, but not necessarily with healthy foods. However, located at the former Berkley Farm Fresh site, this option does increase access to food for low-SES residents in Norfolk, but not equally across Southside. Southside residents in Berkeley have closer access to the store than residents in farther away neighborhoods, like Campostella.
Sustainability	High - For the City of Norfolk, this option is highly sustainable. If the City chooses to work with the shopping center ownership to attract a new grocery store, administrative and financial burdens are limited, meaning sustainability is high. In the short-term, the City may use financial incentives to attract a supermarket. In the long-term, the City is not involved. If the City chooses to wait for a supermarket to come, there are no administrative or financial burdens in the short or long-terms.

<p>Political Feasibility</p>	<p><i>High</i> - Replacing the former Farm Fresh with a new grocery store is the primary concern of OCM for increasing food access in Southside. This option requires little to no funding, so Council is likely to approve backfilling the site. Although this option only impacts Ward Four, little to no resources are necessary for implementation, so does not limit resources available to other wards⁸.</p>
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Alternative 2: Create Southside Market, an Educational, Alternative Grocery Store

Overview: Create Southside Market, an innovative and alternative fresh food grocery store, at the former Farm Fresh site in Southside. Southside Market increases the supply of and desire for healthy foods.

Modeled After: Southside Market is modeled after an ongoing initiative in New Orleans, Louisiana, the ReFresh Project. “The ReFresh Project is a collaborative food hub that opened within an abandoned grocery store in 2014. The \$20 million project is anchored by a Whole Foods Market, which the company built as a pilot ‘urban format’ store. The hub includes programs that teach people how to cook healthily, grow produce and work in a professional kitchen. It’s also home to the Boys Town children and families center and several offices for food-related agencies,” (Loosemore, 2019a). The success of the Refresh Project relies on a long list of cross sector community partners. Broad Community Connections (BCC), a local, community development non-profit, leads the project. BCC’s mission is to revitalize the Broad Street corridor in New Orleans through “promoting the health and economic, residential, and cultural development of its diverse surrounding neighborhoods,” (Broad Community Connections, n.d.). The purpose of the ReFresh Project is to be a catalyst for workforce and economic development through the provision of healthy and affordable food, health and wellness education, and training opportunities for the surrounding community (Broad Community Connections, n.d.).

Description: Located at the former Berkley Farm Fresh site, Southside Market is an all-encompassing solution to provide healthy, quality food and increase nutrition and cooking education. Southside Market has two main functions: a grocery store and an educational kitchen, or classroom. Figure 1 (page 38) maps out the logic model for Southside Market. The logic model clearly lists the inputs

⁸ Norfolk is divided into seven wards. One member of City Council represents each ward. Southside is in Ward Four.

and activities described in the following paragraphs. The model also includes the outputs, outcomes, and impacts discussed in Table 3 (page 40).

The layout of the grocery is designed in such a way that customers are not overwhelmed by an overabundance of options, allowing them to quickly and easily find the food they need to prepare homemade, healthy meals. Food is subsidized and the store accepts SNAP/EBT benefits. Southside Market only sells healthy, fresh, as well as minimally processed, foods. Some of these foods are grown and produced locally. For example, rather than sell highly processed LEAN CUISINE© Frozen Entrées to be heated up at home, Southside Market sells hot, prepared food that is made fresh daily. This food can be enjoyed in the cafe area of the market allowing customers to share a meal with others in their community.

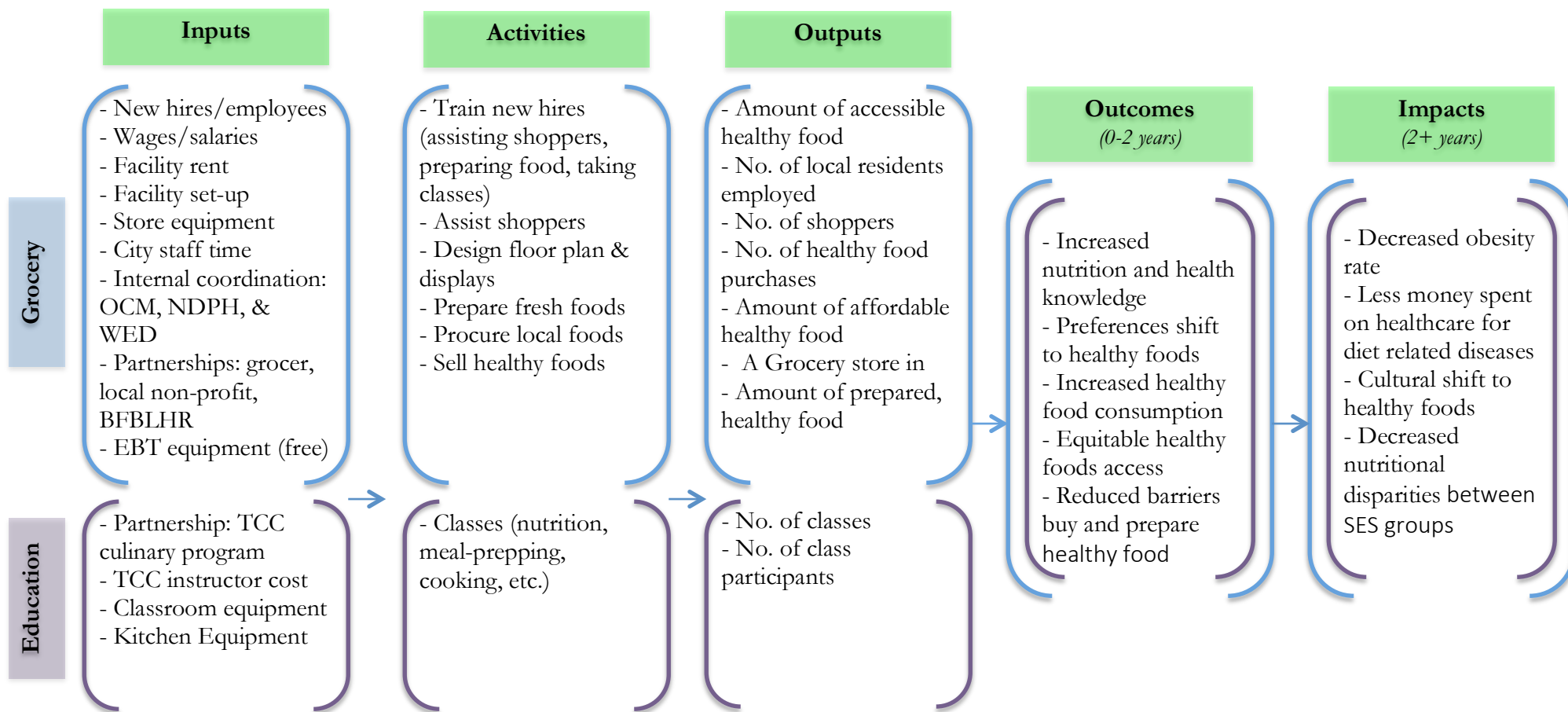
Southside Market employs Southside residents. Employees prepare the hot, fresh food and complete other store functions, like shelving and checkout. Employees are taught how to cook healthy foods, as well as the importance of a healthy diet, through the markets educational kitchens. Employees are trained to be “assistant shoppers”, walking around the store with customers to help them make appropriate purchases for their lifestyles and families.

The educational component of Southside Market includes classes on cooking, nutrition, and meal prepping. These classes are available for all Norfolk residents but are targeted at and free for Southside residents, as well as other Norfolk residents who receive SNAP/EBT benefits. Although findings from CHIP WGs suggest that Southside residents are internally motivated to attend these classes, participants also receive coupons redeemable at Southside Market.

Following the example of the ReFresh Project, Southside Market relies on partnerships for goods, services, and resources. Within the City of Norfolk, internal partnerships include OCM, NDPH, and WED. Outside the City, external partnerships include a grocery store, BFBLHR, a local non-profit, a registered dietician (RD), and TCC’s culinary program. The grocery store anchors Southside Market and provides the majority of produce and other foods for sale. BFBLHR allows for Southside Market to easily procure local foods through pre existing networks. A local non-profit helps operate the market. The RD helps create nutrition and health programming. TCC teaches the classes.

The initial start-up costs for Southside Market are paid for through the City's budget. However, if Southside Market is launched in partnership with a non-profit, like the Refresh Project, the non-profit can help pay upfront costs.

Figure 1. Southside Market Logic Model



Assumptions: This logic model assumes that the City of Norfolk handles all cost and initial planning.

Table 3: Alternative 2 Evaluation

Evaluative Criteria	Analysis
Effectiveness	<p><i>High</i> - Southside Market increases access to healthy foods in Southside while simultaneously changing preferences to increase demand for healthy foods. Educational opportunities ensure healthy foods are purchased and consumed. Through increasing information about the importance of a nutritious diet, food preferences of low-SES residents shift, resulting in increased consumption of healthy foods. Low-SES residents begin to take their long-term health more seriously, decreasing obesity rates (Alcott et al., 2018; Bitler & Haider, 2011; Florida, 2018; Yeoman, 2018). This option increases the availability of healthy food sold in Norfolk without also increasing the availability of unhealthy food. The opportunity for low-SES residents to buy and prepare healthy foods increases, as Southside Market is located in the lowest SES area of Norfolk with the most limited access to healthy foods. All consumers shop in the same store and can share meals together, increasing the sense of community and shifting local culture to emphasize health (Payne et al., 2017). Additionally, Southside Market lowers poverty related barriers: food is subsidized and the store accepts EBT/SNAP benefits, increasing the affordability of healthy foods; and the floor plan of the store is designed to make shopping quick and easy. Finally, store signage only advertises healthy foods, changing perceptions. Through healthier food consumption, the rate of obesity, and other diet-related diseases, is reduced.</p>
Equitable	<p><i>Medium</i> - While any Norfolk resident is welcome to shop and attend classes at Southside Market, due to its location in Berkley, the majority of customers are anticipated to be Southside residents. The store only provides immediate access for residents in one area of Norfolk. However, this area has the most limited access to food and lowest SES residents. Still, with only one location in Southside, it does not improves access to healthy food equally for all Southside residents. Southside residents in Berkeley have closer access to the store then residents in farther away neighborhoods, like Campostella.</p>

Sustainability	<p><i>Uncertain</i> - The overall sustainability of Southside Market is uncertain because of the total costs. Due to the scope of this report, total costs in the short and long-terms are unable to be calculated⁹. Potential short-term costs of the market are included under Inputs in Figure 1 (page 38). Long-term costs include, but are not limited to, rent, wages/salaries, and class costs. Long-term financial sustainability must also account for store revenue, which is used to pay for costs. The administrative sustainability of Southside Market is <i>extensive</i> in the short-term as the City is essentially starting a business. This includes City staff time needed for start-up, hiring & training of new hires, internal coordination between three City departments, and external partnerships between the City, a grocer, a non-profit, BFBLHR, a RD, and TCC. Additionally, the City must secure the empty facility at the shopping center. In the long-term, administrative sustainability is <i>considerable</i> as the market operates as a social enterprise or non-profit. Market employee new hires, not previously employed city staff, execute the store's daily functions.</p>
Political Feasibility	<p><i>Medium</i> - In line with the OCM's goal of replacing Farm Fresh, this option provides a new grocery store for Southside. This option also advances workforce and economic development goals as it hires Southside residents and sources from small, local businesses, food producers and urban farms (no traditional farms exist within city limits). Total costs for this option are uncertain, thus Council approval is uncertain. If initial costs are high, funding approval for the program may be unlikely. However, this option creates revenue to pay for long-term costs. This program also has extensive, initial administrative costs. A concern of Council members may be that this program focuses city resources in Ward 4, reducing resources available for the other wards.</p>

⁹ To determine financial sustainability, total costs in the short and long-terms must be calculated. This is out of the scope of the author's training, thus is would not be responsible to estimate total costs. Total costs are uncertain for Alternatives 2, 3, & 4.

Alternative 3: Create the Virtual Supermarket, an Internet Grocery Service (IGS)

Overview: Implement a traditional IGS coupled with an educational program to assist participants in making healthy, online grocery purchases. This Virtual Supermarket increases the desire for healthy food and, in turn, the supply.

Modeled After: Norfolk's Virtual Supermarket is modeled after an ongoing program in Baltimore, Maryland. To better serve Baltimore City through improving health equity and resident's health and wellbeing, the Baltimore City Health Department (BCHD) created *Baltimarket*, a community-based organization responsible for transforming communities through three food access and food justice programs. One of these programs is the Virtual Supermarket, which works with communities to increase access to healthy foods for low-SES Baltimore residents (Baltimore City Health Department, n.d.).

Baltimarket's Virtual Supermarket program uses IGS to bring food to residents with limited or no vehicle ownership/access and limited access to healthy foods. Resident's can order and pick up groceries from 14 designated locations, libraries, public housing, low-income senior/disabled housing, or from any computer. There are no registration or delivery fees, and groceries can be paid for using EBT/SNAP benefits, as well as cash, credit, or debit. BCHD staff and Neighborhood Food Advocates, community volunteers trained to initiate community-driven approaches to improve the local food environment, are available on site to teach residents how to shop online for groceries and choose healthy foods (Baltimore City Health Department, n.d.). Groceries are ordered through the IGS ShopRite©. *Baltimarket's* Virtual Supermarket is funded by the American Association of Retired Persons (AARP) Foundation, the Public Health National Center for Innovations, and the City of Baltimore (Baltimarket, n.d.)¹⁰.

Description: Norfolk's Virtual Supermarket has two main purposes, increasing the desire for healthy food through the educational program and the supply of healthy food through IGS. Figure 2 (page 44) maps out the logic model for the Virtual Supermarket.

¹⁰ To learn more about this program, contact James Smith at james.smith2@baltimorecity.gov or call (410) 396-6903.

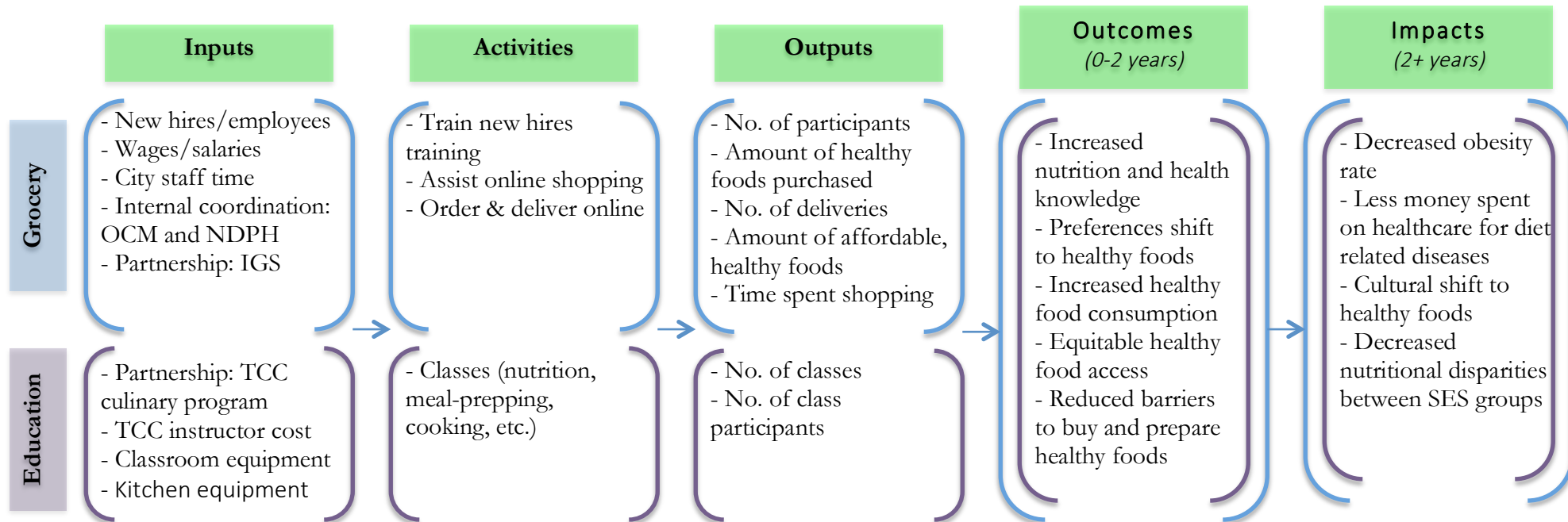
NDPH operates the Virtual Supermarket. Three times per week during different hours each day, for example, Monday from 9-12, Wednesday from 5-8, and Friday from 12-3, NDPH staff responsible for the program set up at different community centers, schools, libraries, and public-housing centers around Southside. Staff helps residents use IGS to order groceries, teaching them how to make healthy purchases appropriate for their lifestyles and families. Prior to being able to use the service, participants must partake in a 30 minute long class on the importance of a healthy diet. Follow-up nutrition, cooking, and meal prep classes are available for those who wish to participate. These classes are available at no cost for residents who qualify for EBT/SNAP benefits.

An initial pilot program is launched in Berkeley, as the highest needs area for such a service. The program would then expand to other lower-SES areas of Norfolk.

The IGS function of the Virtual Supermarket is operated in unison between OCM, NDPH, and a preexisting IGS, such as Amazon Fresh. Groceries are delivered and ready for pick up three times days of the week at the same locations from which they were ordered. The program has no delivery fees and accepts EBT/SNAP benefits. The initial five grocery orders must be made at one of the designated locations with NDPH staff to help residents practice the lessons they learned during the 30-minute class. After the initial class and five training purchases, participants are able to order from wherever they have Internet access. To continue making guided purchases on their own, participants can opt to order a HelloFresh™ style meal-kit that includes quick, step-by-step recipes with the pre-measured ingredients required to make the meal (HelloFresh, n.d.).

The Virtual Supermarket requires staff time and part-time hires to lead classes and ordering. The City must partner with an IGS and negotiate the terms of the program (e.g. delivery fees, EBT/SNAP benefits). Additionally, the City must work with the IGS to create a webpage that only allows participants access once they have completed the 30-minute class and initial training orders, as well as offers meal-kits. Finally, the City must reserve space at the Virtual Supermarket locations. These facilities are owned by the City and have both Internet and computer access. The initial start-up costs for the Virtual Supermarket are paid for through the City's budget.

Figure 2. Virtual Supermarket Logic Model



Assumptions: This logic model assumes that staff that help participants place orders are paid.

Table 4: Alternative 3 Evaluation

Evaluative Criteria	Analysis
Effectiveness	<p><i>Very High</i> – The educational opportunities provided by the Virtual Supermarket increase nutrition knowledge, shifting preferences towards healthy foods. This increases the demand for healthy foods among low-SES residents. They choose to order nutritious foods, directly increasing the amount of healthy foods delivered to the city. The Virtual Supermarket earns a score of <i>very high</i> as participating in the educational opportunities is required. The Virtual Supermarket travels to low-SES communities, reducing the time it takes residents to go to the grocery store, as well as the time it takes to walk around the store and compare products. This can all easily be done on a home computer or one at a nearby facility. Participants purchase food and take classes with their neighbors, increasing the sense of community and shifting culture to emphasize health (Payne et al., 2017). Additionally, advertisements on the IGS only market healthy foods, which are affordable and can be paid for with EBT/SNAP benefits. As low-SES residents take their health more seriously, more healthy food is desired, purchased, and consumed, decreasing obesity rates (Alcott et al., 2018; Bitler & Haider, 2011; Florida, 2018; Yeoman, 2018).</p>
Equitable	<p><i>High</i> - Using the Virtual Supermarket IGS and education programs, participants choose to increase the supply of healthy food order it themselves. Additionally, low-SES residents have access to this option at multiple locations throughout Southside, including facilities in their apartment complexes and neighborhoods.</p>
Sustainability	<p><i>Uncertain</i> - The sustainability of the Virtual Market is uncertain because of the total costs. Potential short-term costs of the market are included under Inputs in Figure 2 (page 44). Long-term costs of the program include wages/salaries and class cost. The administrative sustainability of Southside Market is <i>considerable</i> in the short-term. This includes City staff time needed for start-up, hiring & training of new hires, internal coordination between two City departments, and an external partnership with an IGS. Securing a facility for operation is not considered in</p>

	administrative sustainability as the program is run in City-owned facilities. In the long-term, administrative sustainability is <i>low</i> as market employees operate the market.
Political Feasibility	<p>Low - The Virtual Supermarket does not advance any of the specified City goals. While OCM is looking for a temporary, IGS solution to connect Southside to grocery delivery services, the City’s primary concern is attracting a replacement grocery store. Total costs for this option are uncertain, thus Council approval is uncertain. If the City chooses to not partner with a local non-profit or create a volunteer program to support the market, initial funds for the program come from the City budget. If initial costs are high, funding approval for the program may be unlikely. Necessary financial and administrative costs are likely to decrease in the long-term, which City Council must take into consideration. In the short-term, this program only impacts Ward Four, so determining individual Council Members approval is not possible without knowing total costs. However, long-term administrative costs are expected to be <i>limited</i>, increasing the likelihood individual City Council members approve, as less City resources are needed. Additionally, if the pilot program is successful, this program is expanded to all low-SES communities in Norfolk, impacting multiple wards.</p>

Alternative 4: Launch the Norfolk Healthy Corner Store Initiative

Overview: Launch the Norfolk Healthy Corner Store Initiative (NHCSI) to transform corner stores in Norfolk into miniature, health food stores. This increases the supply of healthy foods available in Norfolk.

Modeled After: NHCSI is modeled after an ongoing program in Richmond, VA. The Richmond Healthy Corner Store Initiative (RHCSI) was first launched in 2013 through public-private partnerships between local farms and urban agriculture organizations in Richmond. RHCSI’s goal is to provide access to healthy food options for those living in a food desert. Working with RHCSI, “store owners buy the locally grown fruits and vegetables along with some brought in from a distributor at prices lower than the wholesale cost,” (Lacey, 2017). Storeowners then sell the produce

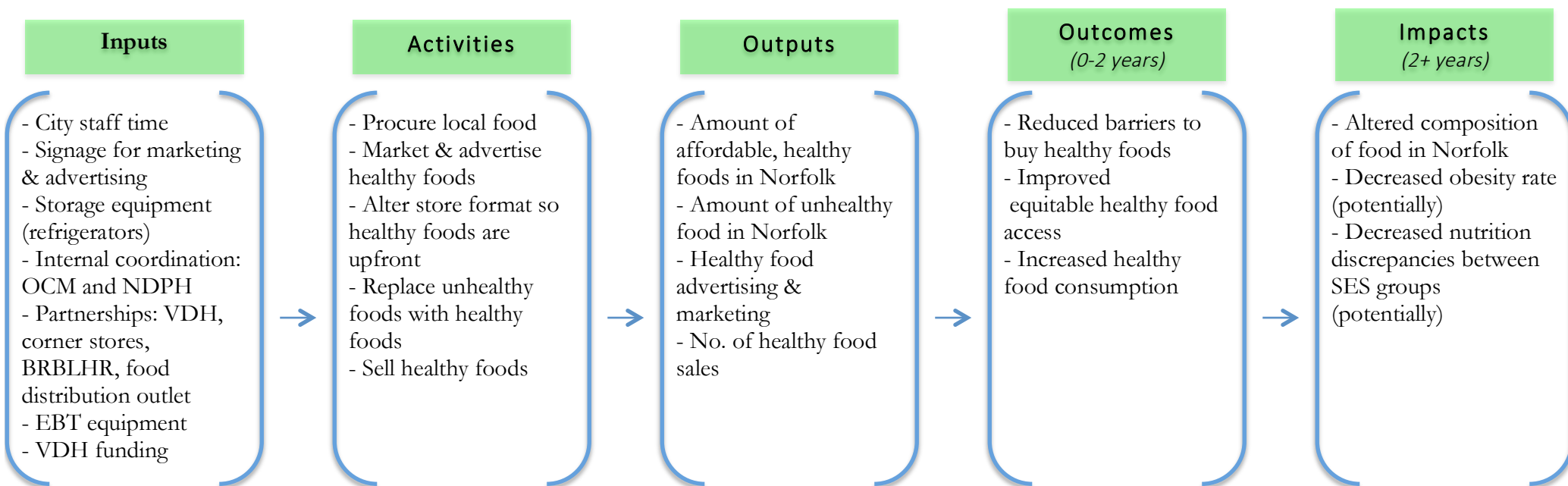
at prices comparable to or cheaper than a supermarket (Lacey, 2017). To advertise and store the fresh produce, signage and refrigerators are provided by a non-profit (Lacey, 2017). RHCSI has already transformed 29 corner stores in low-SES areas of Richmond with limited access to healthy foods. RHCSI is part of a larger program, the Healthy Corner Store Initiative (HCSI), funded in part by the Virginia Department of Health (VHD).

Description: At corner stores throughout Norfolk, as well as most in Hampton Roads, Virginia, and the country, unhealthy, processed foods are available in high quantity. These foods are strategically marketed and located at the front of the store to nudge customers to purchase. Through a partnership between the City and corner storeowners, NHCSI has three main functions. First, NHCSI replaces some of the unhealthy foods sold with healthy foods. Second, NHCSI modifies the store layout by placing healthy, fresh foods at the front of the store, and less healthy, more processed foods at the back of the store. Third, signage on the front and in the store advertises the healthy food options for sale, rather than the highly processed foods. These three functions are mapped out in the NHCSI logic model, Figure 3 (page 48).

NHCSI is led through a partnership of OCM and NDPH. The two City departments partner with corner storeowners to transform the stores, providing funds to assist with implementation costs. The City helps the storeowners connect with BFBLHR to procure local, fresh produce. Supplemental produce and other healthy foods are purchases from a food distribution outlet. Additionally, if the stores do not yet accept EBT/SNAP benefits, the City helps storeowners apply for and obtain EBT/SNAP benefits. Following the model of RHCSI, partial funding is possible through VDH. The remainder of the initial costs is paid for through the City's budget.

In the long-term, NHCSI can transform corner stores throughout Norfolk, but a pilot program is first launched in Southside.

Figure 3. NHCSI Logic Model



Assumptions: This model assumes the City of Norfolk secures the same VDH funding at RHCSI. Additionally, this model assumes the city pays for storage equipment and signage.

Table 5: Alternative 4 Evaluation

Evaluative Criteria	Analysis
Effectiveness	<i>Low</i> - NHCSI alters the food supply and advertisements in corner stores to sell and market healthy foods rather than unhealthy. This option addresses the difference in healthy food accessibility between low and high-SES neighborhoods, but it does not address the gap in nutrition education. However, during the CHIP WGs, low-SES residents expressed a preexisting desire for healthier food options and new marketing tactics that advertise nutritious foods. Altering the supply and marketing of food in Southside, coupled with the residents' desire to eat healthier, can lower the obesity rate. NHCSI also reduces some of the barriers low-SES residents face when trying to eat healthier, such as accessibility and affordability. Corner stores are located throughout Southside and accept EBT/SNAP benefits. However, NHCSI simply alters the composition of the food supply by replacing some healthy foods with unhealthy foods. Highly processed foods are still available for purchase and healthy food sold at these stores is limited. Consumers will still need to find another store to purchase groceries.
Equitable	<i>High</i> - This options increases healthy food access at multiple locations. Corner stores are located throughout Southside, increasing access for the majority of low-SES residents in this part of Norfolk.
Sustainability	<i>Uncertain</i> - The sustainability of NHCSI is uncertain because of the total costs. Potential short-term costs of the market are included under Inputs of the NHCSI Logic Model, Figure 3 (page 48). The administrative sustainability of Southside Market is <i>considerable</i> in the short-term. This includes City staff time needed for start-up, hiring & training of new hires, internal coordination between two City departments, and external partnerships with VDH, corner storeowners, BFBLHR, and a food distribution outlet. Securing a facility for operation is accounted for through the partnership with storeowners. In the long-term, administrative sustainability is <i>low</i> as storeowners operate the program.

Political Feasibility	<i>Medium</i> - NHCSI is likely to be approved by City Council. The option advances workforce and economic development goals as it supports local, small businesses, the corner stores, and sources from local food producers and urban farmers (no traditional farms exist within city limits). Total costs for this option are uncertain, thus Council approval is uncertain. However, if the City secures funding from VDH, this decreases the total costs of the program paid for by the City, increasing the likelihood council approves. This option is only implemented in Ward Four but uses less City resources overtime, as administrative costs are <i>considerable</i> in the short-term, and <i>low</i> in the long-term. This increases the likelihood that Council members of other wards approve.
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Table 6. Summary Outcome Matrix

Outcome Matrix						
Evaluative Criteria	Impact Category		Policy Alternatives			
			1. Backfill with Traditional Grocery Store	2. Create Southside Market	3. Create Virtual Supermarket	4. Launch NHCSI
Effectiveness at Increasing Healthy Food Consumption	Increase Nutrition Knowledge and Education		Low	High	Very High	Low
	Positively Change Perception & Preferences of Healthy Foods		Low	High	High	Medium
	Positively Change Healthy Food Availability at Stores		Low	High	Medium	Medium
	Decrease Barriers to Purchase & Prepare Healthy Foods		Low	High	High	Medium
Equity	Fair & Identical Access to Healthy Foods in All Stores		Low	Medium	High	High
Sustainability	Financial	Short-term (0-1 year)	High	Uncertain	Uncertain	Uncertain
		Long-term (2+ years)	None	Uncertain	Uncertain	Uncertain
	Admin.	Short-term (0-1 year)	Low	Extensive	Considerable	Considerable
		Long-term (2+ years)	None	Considerable	Limited	Limited
Political Feasibility	Likelihood of Successful Adoption		High	Medium	Low	Medium

Final Recommendation

Led by OCM, the City of Norfolk could best decrease the obesity rate by mitigating the city's food desert issue through **creating Southside Market (Alternative 2)**. This recommendation is based on an evaluation of each alternative's overall effectiveness, equity, sustainability, and political feasibility. Each option brings a unique approach to reduce the obesity rate by mitigating the city's food desert issue. Key features of the options differ on the scope, vehicle to increase supply, and magnitude of education interventions. After careful consideration of the effectiveness, equity, and sustainability of each alternative, as well as the goals of the city and values of Southside residents, Alternative 2 has the greatest potential to increase nutrition and health knowledge, shifting the culture in Southside to be health-focused and improving health outcomes for Southside residents of all generations.

Alternative 1, Backfill Site with Traditional Grocery Store, was not recommended because while it is essentially a hands-off option for the City, it is not as effective as the other three options. A traditional grocery store increases access to food in Southside, but does not guarantee this is healthy food. Additionally, without an educational component to this alternative, Southside residents are less likely to purchase healthy foods instead of unhealthy foods. Alternative 1 may help resolve the limited access to healthy food issue in Southside, but does not directly work to decrease obesity rates.

Despite its high effectiveness and equitable nature, Alternative 3, Create the Virtual Supermarket, was not recommended because the City of Norfolk seeks to replace the former Farm Fresh with another grocery store. In the interim, the City may implement an IGS, but does not believe this to be a long-term solution. Additionally, the Virtual Supermarket does not create the same sense of community that a single grocery store creates, something Southside residents desire (City of Norfolk & VDH NPHD, 2017; Payne et al., 2017). However, depending on the financial costs and amount of resources available to the City, the Virtual Supermarket could be implemented in the interim either in its entirety, or just the IGS function (without the educational component) to increase access to food while the recommended alternative is implemented.

Alternative 4, Launch Norfolk Healthy Corner Store Initiative, was not recommended because although it increases the supply of healthy food, creates equitable access for residents across

Southside, and is administratively sustainable in the long-term, it is not as effective as Alternatives 2 and 3. Alternative 4 advertises healthy foods rather than unhealthy foods, but does not include an educational component. This creates less of an impact on shifting preferences to prefer healthy foods to unhealthy foods. With an increased healthy food supply, Southside residents are more likely to prepare healthy food, but they may still not know how or why a healthy diet is important. Additionally, the amount of healthy food sold is not enough for a well-rounded diet.

Based on the analysis, it is recommended that the City of Norfolk, led by OCM, **create Southside Market, an educational, alternative grocery store, to both increase the supply of and desire for healthy food in Southside.** Even though this option has the greatest administrative burdens of the four proposed alternatives and primarily increases food access for the west side of Southside, the educational component is the most effective at increasing nutrition knowledge and shifting food preferences. Alternative 2 has the greatest potential to decrease the obesity rate, justifying the large amount of initial work and potentially high costs necessary to implement Southside Market. Additionally, Southside Market meets the goals of the City as well as the values of Southside residents. Southside Market is not a quick fix, but a long-term strategy to decrease obesity rates among the low-SES residents in Norfolk through generational change, increasing nutrition education and shifting local culture to one that celebrates fruits, vegetables, and overall health.

Implementation & Considerations

Key to the success of Southside Market is the educational component and partnerships. This section begins with a discussion on maximizing the effectiveness of classes. Next is a discussion of the necessary partners, as well as their roles and responsibilities. Following the discussion of partnerships, a timeline outlines the activities necessary to launch Southside Market. This section concludes with considerations regarding EBT equipment and metrics of success

Educational Component

In conducting research on effective strategies for mitigating food deserts through shifting food preferences, one major theme occurred that is worth reiterating to ensure success of Southside Market. This theme is the importance of increasing nutrition education among low-SES residents. The latest research has found that the driver behind nutritional disparities is differences in education. Higher SES people spend more money on healthy foods due to higher education levels and better information about the benefits of healthy foods (Handbury et al., 2016).

Southside Market works to decrease obesity rates in Southside through the educational component of the grocery store. It is vital to the success of the market that the classes offered are valued by Southside residents so they are motivated to attend. To ensure this, the schedule, length, and content of classes must be created in partnership with Southside residents. Co-creation allows classes to include *what residents want*, not what the City or NPHD *think residents want*. This is possible through working with the original Southside CHIP WG, as well as getting input from more Southside residents. Additionally, Southside Market coupons are a second motivator to encourage residents to attend classes.

Second to the impact education has on diet, low-SES residents have less time and resources to devote to health and wellbeing (Florida, 2018). Southside Market increases the opportunity for low-SES residents to prepare healthy food at home, but to ensure these opportunities are helpful for residents, the City and NPHD must work with the WG to co-create the activities that make this possible. Besides the classes, Southside Market formats the store in such a way to make shopping quick and simple. Input from residents can help the market understand how best to do this.

Partnerships

The implementation and success of Southside Market includes key partnerships both internally within the City of Norfolk and externally. Partnerships within the City include OCM, NDPH, and WED. Externally, partnerships include Southside community representatives, a grocery store, BFBLHR, a RD, a local non-profit, and the TCC culinary program. The roles and responsibilities of each partner are outlined below, in Table 7.

Table 7. Partner Roles & Responsibilities	
OCM Staff Member	<ul style="list-style-type: none">Responsible for establishing this project as a top City priority and overseeing the committee and partnerships and establishing roles.
NPHD Staff Member	<ul style="list-style-type: none">Responsible for working with residents to co-create Southside Market classes and activities, as well as being the voice of “health” in establishing the market.Responsible for managing the market until a manager is hired.
WED Staff Member	<ul style="list-style-type: none">Responsible for hiring local Southside residents to work at the market, as well as working with NDPH to train new hires to carry out the activities of the market.
Southside Community Representatives	<ul style="list-style-type: none">Responsible for co-creating Southside Market with the City by providing the valuable perspective of Southside community members.
Grocery Store	<ul style="list-style-type: none">Responsible for being the anchor of Southside Market; provides the majority of produce and food products for saleWhole Foods is a potential option for a grocery partnership. Alternatively, Kroger is another grocer that works with similar projects. Either grocery partnership is adequate for Southside Market, but the resources either store is willing to give may be different. For example, this may impact the extent to which food is subsidized.
BFBLHR	<ul style="list-style-type: none">Responsible for local food procurement; connects Southside Market to BFBLHR’s preexisting network of local farmers and food producers.
Local Non-Profit	<ul style="list-style-type: none">Responsible for operating the market after implementation is complete.A local non-profit is not essential to the success of Southside Market, but reduces some of the long-term administrative burdens on the City. This suggestion follows the model of the Refresh Project, which is run by a non-profit.
TCC Culinary Program	<ul style="list-style-type: none">Responsible for teaching classes (cooking, nutrition, meal-prepping, etc.)
RD	<ul style="list-style-type: none">Responsible for co-creating the educational classes; brings nutrition and health perspective.Responsible for assisting with the training process; teaches employees how to be “assistant shoppers”.

- Responsible for assisting with store design.

Timeline

Southside Market implementation is anticipated to take one year. The following timeline (Table 8) outlines the activities of the four main phases, as well as the time each is anticipated to take.

Table 8. Timeline for Implementation

Adoption: Complete by Month 1

- OCM presents Southside Market concept to **City Council for approval**.
- Once City Council approves and funding is allocated, Planning, Phase I begins.

Planning, Phase I: Begin at Month 1, Complete by Month 5

- **A steering committee is created** to manage the implementation of Southside Market. This committee consists of five people: three City staff members - one member from OCM, NPHD, and WED - and two Southside community representatives.
- As needed, or as is appropriate, Council or the steering committee itself may choose to include other members.
- Once the steering committee is organized, the committee **contacts BCC for guidance**. The committee works with BCC to understand the implementation process of the Refresh Project. Using BCC's timeline, the committee makes necessary updates to this timeline and process. If possible, the committee travels to New Orleans, LA to meet with BCC and tour the Refresh Project.
- Following the conversation with BCC, the steering committee **negotiates rent prices** of the facility (former Farm Fresh site) **with shopping center ownership**.
- Simultaneously, the committee begins building external partnerships. The committee **contacts potential grocery stores** to anchor the project. The steering committee **creates an external committee** with TCC, BFBLHR, and a local non-profit (if applicable). This committee establishes the roles and responsibilities of each partner and negotiates potential costs.
- As needed, or as is appropriate, the steering committee may choose to add additional external partners.

Planning, Phase II: Begin at Month 3, Complete by Month 8

- The three City staff members on the steering committee create working groups to plan and organize the activities of Southside Market.
- NDPH, TCC, the RD, the two Southside community representatives, as well as other invited community members, work together to **design the classes for the market**.
- WED, NDPH, RD, and Southside community representatives work together to **design the training program** for market employees, as well as advertise the open positions to Southside communities.
- Throughout Planning, Phase II, the OCM staff member oversees the logistics. If working with a local non-profit, a non-profit staff member assists the OCM staff member so the project can eventually be handed off to the non-profit for

management and operation.

Set-Up, Design, & Training: Begin at Month 8, Complete by Month 12

- At Month 8, WED begins **hiring and training employees**.
 - Once the lease starts and the deal with a grocery store is signed, OCM **helps the store set-up**. This may require an external contract for any necessary building of classrooms and educational kitchens.
 - As necessary, NDPH and the RD work with the grocer to **design the store** in a manner that makes shopping quick and simple, as well as encourages healthy eating.
 - OCM **applies for and obtains EBT equipment** (See *Additional Considerations*).
 - Once Set-Up, Design, & Training is completed, Southside Market **has a soft opening** (during Month 11).
 - Following the soft opening, Southside Market **opens for business** at the end of Month 12.
-

Additional Considerations

An additional consideration for implementation includes applying for and obtaining EBT systems equipment. The application allows Southside Market to be an authorized SNAP retailer and accept benefits. Although most food retailers must pay for EBT equipment, as a non-profit food retailer, Southside Market does not have to as it meets the exception requirements laid on the USDA Food and Nutrition Service (FNS) website (USDA FNS, 2019).

Finally, to ensure the effectiveness of Southside Market in shifting food preferences to increase healthy food consumption and reduce obesity rates, the City and market management must measure outputs on a monthly basis, outcomes on an annual basis, and impacts on a bi-annual basis. These three categories are laid out in the Southside Market Logic Model, Figure 1 (page 38). Successful output scores mean Southside residents use both the grocery and education services provided by the market. Successful outcome scores mean residents value these services, applying lessons learned from classes to their grocery shopping and daily consumption habits. Finally, successful impact scores mean the vision of the market is being achieved, increasing the supply of and desire for healthy food is shifting culture to focus on health, decreasing obesity rates.

If these scores show that Southside Market is not meeting its goals, the City, NDPH, and market management must meet with customers, Southside residents, to understand why. Lessons learned from these meetings can then be applied to alter the services provided by Southside Market.

Appendix A: Determining Criteria Scores

1) Effectiveness

- a) *Increases Nutrition Knowledge and Education:* The scores for this subcategory were determined on a qualitative scale of *very high*, *high*, *medium*, or *low*. The more educational opportunities included in an alternative, the higher score the alternative received. A score of *very high* means there are many educational opportunities and they are required for participants; a score of *high* means there are many educational opportunities; a score of *low* means there are few to no educational opportunities. Educational opportunities accounted for are:
- Hands-on classes (e.g. cooking and meal-prep classes)
 - Traditional, lecture-style classes (e.g. nutrition classes)
 - One-on-one time with program staff
- b) *Positively Change Perception and Preferences of Healthy Foods:* The scores for this subcategory were determined on a scale of *high*, *medium*, or *low*. The more activities that shift perception and preferences included in an alternative, the higher score the alternative received. A score of *high* means there are many perception/preference shifting activities; a score of *low* means there are few to no perception/preference shifting activities. Perception and preference shifting activities accounted for are:
- Shift in marketing and advertising from unhealthy to healthy foods
 - Educational opportunities
 - Chance for increased sense of community
 - Shift in culture from focus on unhealthy to healthy foods
 - Accepts EBT/SNAP benefits
- c) *Positively Change Healthy Food Availability at Stores:* The scores for this subcategory were determined on a scale of *high*, *medium*, or *low*. A score of *high* means the alternative directly replaces unhealthy food with healthy food. A score of *medium* means the alternative has the potential to shift the food composition, but this depends on the type of food consumers choose to purchase. A score of *low* means the alternative does not change the food composition in Norfolk, replacing unhealthy food with healthy food.
- d) *Decrease Barriers to Access to Purchase and Prepare Healthy Food:* The scores for this subcategory were determined on a scale of *high*, *medium*, or *low*. The more opportunities included in an alternative to decrease the barriers (or increase the opportunity) for lower SES residents to

purchase and prepare healthy food, the higher score the alternative received. A score of *high* means the alternative significantly increases the opportunity to prepare healthy food through decreasing barriers; a score of *low* means the alternative has a low chance of increasing the opportunity for lower-SES residents to prepare healthy food. Opportunities to decrease barriers accounted for are:

- Amount of agency in choosing household food consumption (i.e. a parent has more agency than a child)
- Ease to prepare food at home (e.g. kitchen appliances and tools)
- Number of points of access to program (i.e. proximity to residents)
- Time participation takes (e.g. getting to location, shopping time, etc.)
- Ease to prepare food at home
- Supports low-cost grocery budget

2) Equity

The scores for this criterion were determined on a scale of *high*, *medium*, or *low*. A score of *high* means the alternative increases the healthy food supply at more than one location in Southside. A score of *medium* means the alternative increases the healthy food supply at one location in Southside. A score of *low* means the alternative increases the food supply of healthy and/or unhealthy food at one location in Southside.

3) Sustainability

- a) *Financial Sustainability*: To determine financial sustainability, total costs in the short and long-terms must be calculated. This is out of the scope of the author's training, thus it would not be responsible to estimate total costs. Total costs are left uncertain for Alternatives 2, 3, & 4.
- b) *Administrative Sustainability*: The scores for this subcategory were determined on a scale of *extensive*, *considerable*, or *limited*. A score of *extensive* in the short-term means implementation of the alternative requires many administrative burdens; in the long-term, *extensive* means the activities of the alternative require many administrative burdens, so the alternative is unable to operate on its own. A score of *low* means the alternative requires few administrative burdens, making the implementation process simpler in the short-term and increasing the likelihood that the alternative can operate on its own in the long-term. Administrative burdens accounted for are:

- City staff needed to implement alternative
- Hiring & training process
- Securing non-City owned facility
- Amount of internal coordination needed between City departments
- Number of external partnerships

4) Political Feasibility

The scores for this criterion were determined on a scale of *high*, *medium*, or *low*. A score of *high* means there is a high chance that City Council will adopt the alternative; a score of *low* means there is a low chance that City Council will adopt the alternative. Complete political feasibility must account for total costs. However, total costs are uncertain for Alternatives 2, 3, and 4. Thus, total costs are not accounted for in this evaluation. Determinant factors accounted for are:

- Alignment with other City Council and City Department goals (e.g. WED goals and the goal to replace Farm Fresh with a new grocery store)
- Approval of funding strategy
- Individual City Council members approval (considers how alternative implemented in one ward may impact another ward)

Appendix B: “Connecting a Norfolk Food Desert to Grocery Delivery Services” Memo



Connecting a Norfolk Food Desert to Grocery Delivery Services

Challenge

The purpose of this concept/proposal is to lay out an alternative option, or options, that leverages existing online ordering and delivery systems and creates a creative program to connect Norfolk’s in-need residents to affordable grocery services.

In March 2018, SuperValu – the parent company of regional grocery chain, Farm Fresh – announced the closure and sale (where applicable) of ALL its stores/locations. The closure of one location in particular, in the Berkley section of Norfolk, will most negatively impact its customers due to a lack of current nearby alternative grocery store options.

The City of Norfolk is exploring options to provide access, at least temporarily, to affordable grocery options for residents in close proximity to the Farm Fresh store in Berkley. These options including, but are not limited to the following: backfilling the site with another grocery store, exploring existing and potential new online delivery pilot programs, and delivery-oriented partnership opportunities with local Norfolk area grocery stores; while the current market conditions make the backfilling option at the Berkley site particularly challenging in the near term, online and delivery will be the focus for now; yet efforts to collaborate with the shopping center’s ownership and to attract a replacement grocery store will continue as the primary concern.

Background

Norfolk is a vibrant port city of nearly 250,000 in the heart of the 1.7 million Hampton Roads region (Virginia Beach-Norfolk-Newport News MSA). A defining feature of Norfolk and its surrounding region is water, which alternately connects and separates localities and even neighborhoods. One such area in the City of Norfolk is the Southside community, which is comprised of Census Tracts 50 and 51. Southside is home to some 8,600 people in 2,600 households, a significant percentage of which (26%) do not have access to a vehicle – double the percentage city-wide. The community recently lost a key amenity when the chain comprising its only grocery store closed creating a food desert.

	Norfolk	Total both Census tracts
Total population	245,724	8,623
Total households	87,367	2,605
Average household size	2.52	3.31
Median household Income in 2016 Dollars	\$ 45,268	\$ 26,422
Number/Percentage of households with no access to a vehicle	11,298 / 13%	679 / 26%
Number/Percentage of households with one or more people in the household 60 yrs & over	25,440 / 29%	734 / 28%
Number/Percentage of households with children under 18 years	27,528 / 32%	1,282 / 49%
Number/Percentage of households receiving food stamps/SNAP	15,030 / 17%	1,224 / 47%
Number/Percentage of households Below poverty level	16,719 / 19%	952 / 37%
Number/Percentage of households with one or more people with a disability	20,208 / 23%	804 / 31%

Concept

Leveraging the existing online grocery ordering and delivery services that Amazon currently provides in Hampton Roads for its Whole Foods business line, the city proposes a new pilot program to deliver groceries to certain households affected by the pending closing of the Farm Fresh stores in Berkley.

Proposed parameters related to household eligibility are as follows:

- Residence within one-mile radius of the affected Farm Fresh locations
- Household qualifies for Supplement Nutrition Assistance Program (SNAP) benefits
- Member of household possesses a bank account with direct debit capability

Frequency, duration, and cost sharing of grocery ordering and delivery services would be agreed upon by both Amazon and the City of Norfolk. The intent of this pilot program would be to serve as temporary bridge for most participants until new brick and mortar grocery services can be re-established in the Berkley/Campostella neighborhood areas. Households that choose to continue home delivery after the pilot period would incur the delivery costs.

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On my honor, I have neither given nor recieved aid on this assignment.

N. McDonald