Food Access in the Two Rivers Neighborhood

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Introduction

The healthy food system emphasizes three components which aim to enhance agriculture capacity, increase access to healthy foods in all neighbourhoods and improve community scale food services (Lees, Redman & Holy, 2014). Healthy food is defined as fresh produce and whole foods where unhealthy foods are processed and packaged (Lees et al., 2014). This research focused on the availability and access to food retail outlets in the Two Rivers neighbourhood. Within this focus, a main objective was to identify barriers residents face when accessing healthy foods. Further, this research aimed to determine if Two Rivers fits the label of a food desert, simply meaning where healthy food access is limited (Cerovec & Grunhagen, 2016). To reach these objectives, our research question was what food options are available in the Two Rivers area and how do these support or impede residents access to healthy food.

The first method of spatial observations confirmed that healthy food options were limited, concluding that Two Rivers fits the urban food desert definition. Secondly, the survey method provided insight into factors which influence resident’s decisions on where they can and choose to buy food. Main barriers from our survey results include price where the one grocery store in the neighbourhood is too expensive and location as the area lacks healthy food options. Furthermore, residents are limited to where they can buy food and how much depending on their mode of transportation along with how much time they have available for getting food. This research report aims to briefly discuss literature around food security, describe the two research methods used, present the findings, discuss main themes and lastly, conclude with recommendations for future research avenues.

Literature Review

According to the International Journal of Health Geographics, a food desert is defined as a “socially-distressed neighbourhood with relatively low average household incomes and poor access to healthy food” (Larsen & Gilliland, 2008). This definition was put into place in order to conduct a study determining the extent to which food deserts exist in London, Ontario. The study addressed three main research questions to guide their understanding of the situation of London neighbourhoods. These include “do systematic spatial inequalities in access to supermarkets exist, have spatial inequalities in access to supermarkets increased or decreased over time, and do systematic socioeconomic inequalities in access to supermarkets exist” (Larsen & Gilliland, 2008).

Research trends indicated that in the past decade, larger supermarkets with competitive prices have been emerging in suburban areas, putting smaller local inner-city grocery stores out of business (Larsen & Gilliland, 2008). The study suggests that with a lower rate of grocery stores in neighbourhoods, residents without access to private vehicles are left with increasingly
limited access to fresh produce and healthy food. While environmental inequity occurs when living conditions for residents of poorer demographics are exposed to LULUs (or locally unwanted land uses) such as pollution and toxic waste, food deserts are an environmental and health hazard for geographical areas in which desirable infrastructure— in this case grocery stores—are not present (Larsen & Gilliland, 2008). Food deserts are a huge problem for communities since their health is put at jeopardy if fruit and vegetable options are unavailable or unaffordable. The majority of chronic diseases are linked to a lack of intake of daily nutrients particularly those, which can be achieved through fresh-produce consumption (Larsen & Gilliland, 2008).

In order to put into perspective the relevance and background of the research we have done, it is necessary to touch on other research that has been done to highlight the state of food security across various neighbourhoods. Although there is a vast amount of research, which focuses on identifying at-risk areas in Guelph, food insecurity amongst many communities has only been increasing through the years. According to a 2013 report done by Wellington-Dufferin-Guelph Public health, the average cost for a nutritious food basket that would feed a family of four has increased in price by 14.5% from 2009-2012 (Seskar-Hencic, Campbell, Rainville & Brooks, 2013). While efforts are being made to support families in need such as food banks, community pantries, and other kinds of community-fostered services, the number of people in need of such services has only increased, making it more evident than ever why food accessibility is an important issue to continue monitoring and doing research on as people’s situations change, and prices and availability also changes (Seskar-Hencic et al., 2013). While it might seem easy to take comfort in the attention that research on food accessibility and initiatives inspired by such research, since before the 2008 recession, reliance on programs, which provide food aid, has risen 31% in Canada (Seskar-Hencic et al., 2013). These statistics of growing rates of food accessibility indicate that this topic is not only continually and increasingly important, but that deep investigation in why lack of food access exists for communities who persist to experience difficulties must be done to contextualize and authentically respond to barriers people experience. It is not enough however to maintain that a solution can be maintained for all members of a community, since different situations such as wealth, age, gender, occupation, time, cultural background, and family size also plays into the unique characteristics of difficulties that different people can have within one diverse community (Guelph Wellbeing, 2014).

Community built environment features, which have typically been identified to dictat food access, include agricultural capacity, geographically available and affordable healthy food options, and community scale food infrastructure and services (Lees et al., 2014). In our research, we aim to touch on all these questions of the built environment to understand what food options and services there physically are for residents to engage with, and to what degree they engage with each of them. According to Guelph—Wellington Senior’s association, 57% of
seniors eat three or fewer vegetables each day, and 27% report difficulties with cooking (Guelph Wellbeing, 2014). Children and youth who have trouble in food access and literacy often are more likely to experience difficulties in their health through their lifetime, and have difficulties with financial security as adults. In one study of youth aged 15-16, food insecurity was correlated to depression, thoughts of death and suicide attempts (Guelph Wellbeing, 2014).

The severity of issues related to food insecurity prompts us as researchers to investigate an area which already has programming such as the Two Rivers Neighbourhood group to see if services like this one are one’s residents access, and who might be left out of certain ongoing solutions. To achieve a more equitable and sustainable future it is vital to check in with people, their situations and stories and get to know information which will help guide and shed light on some of the nuance between overarching assumptions that statistical data can provide. In our survey results asked questions, which gave residents the opportunity to give a unique sample of their own experience, and still attempted to build on research, which identifies larger trends and systemic patterns.

Methods

For this study, our group has conducted two research activities which involved first, identifying, and mapping the locations of available food sources, and second, carrying out a short survey within our location to a select population group. For organizational purposes these activities have been defined as research stages 1 and 2.

Research Stage 1 required the group to physically explore the neighborhood of Two Rivers to identify all visible food sources available to the residents in the area. The support of mapping technologies (Google Maps) enabled the group to record the addresses and relative locations of these food sources efficiently and accurately. The group also explored the exterior main streets to identify possible food sources outside of the neighborhood which could be possible alternatives to those within.

Once all the available food sources were identified, and located accurately, the group proceeded to categorize the food sources into the options of healthy or unhealthy. After consulting with a public health expert, we decided that grocery stores and natural food sources would be categorized as healthy, and everything else ranging from convenience stores to restaurants would be categorized as unhealthy. These categorizations will provide the framework needed for the group to determine the proportional amounts of healthy, less healthy, and unhealthy food sources in the area. The geographic locations of the food sources have also provided a brief insight into their accessibility via closeness to the centre of the neighborhood, distance from public transport stops, and relative distance between the healthy and unhealthy food.
Stage 2 of the study consisted of a survey comprised of 10 closed ended questions and 2 open ended questions. This format allowed the group to obtain both specific data to generalize the sample group as well as personal reflections on the topic of accessibility to healthy food. The first section of questions opened conversation with the respondent before asking them for more personal questions involving their age, gender, and level of education. The questions specifically asked about where their food came from, why they chose to get their food from that location, reasons for food choices in general, as well as open ended questions directly related to our research question. A full copy of the survey can be found in Appendix A.

The last two questions are open ended. With only two questions to provide broad and general opinions, the length of the survey was short enough to keep the attention and engagement from the survey taker. These questions are also important because they provide a necessary context and rational understanding of the impersonal profile and attitude data sets. The questions could have been followed up upon by the interviewers as seen fit, however to this date we have had no respondents reach out to the department.

The subjects of the survey were asked to participate in the surrounding areas of the local food sources recorded and mapped in Stage 1. The surveys were directly targeted at the primary consumers of food. Targeting this specific group excluded those who had limited autonomy and information regarding the food they eat, where it comes from, and why it is that food that has been provided for them. The remainder of respondents comprised of those who have full autonomy in their food choices which is an important factor when discussing the nature and motivations of their decisions and opinions. The profiles developed contrasting with their attitudes on food accessibility allowed us to determine what different attributes of a person’s life correlate with the food choices they make. The open-ended questions provided further context to everyone’s profile and attitude, allowing us to make connections between the survey takers’ personal attributes and their responses.

To carry out stage 2 to the group members approached customers and onlookers of multiple local food sources. Surveys were completed at Angelinos Grocery, York Convenience, and inside the Quebec St. Mall. Due to unforeseen circumstances involving the quality of comfort in an outdoor environment, the group adjust to a high traffic indoor location close to the neighborhood. We had much more people stop and consider the survey, then screened with a coloured coded map to make sure they lived in the Two Rivers area. After reading and signing a consent form regarding the storage of information, the physical printed surveys were filled out by respondents while we provided support in clarifying any questions regarding the survey process. This allowed the group to collect the long answers exactly how the respondent expressed it; this section allowed for expression of issues or ideas not mentioned in the rest of
the survey. The long answer questions were coded according to regular occurring themes listed in the discussion to measure the frequencies of mentions of certain attributes affecting food access in the Two Rivers area.

The objectives of this study were to clarify the level of food accessibility in the Two Rivers area, identify supports and constraints to healthy food accessibility, and determine recommendations for improved accessibility. With the above methodology, we are confident that all the above objectives were met to answer our final question, “What food options are available in the Two Rivers neighborhood and how does this support or impede the residents access to healthy food?”

Findings

The findings from our two stages of research provided more information than anticipated when we started the research project. The first stage revealed to us that there was only one grocery store in the Two Rivers neighborhood, Angelinos, as well as two other healthy food options. Another healthy food option was the Two Rivers Community Garden, a collective effort between local volunteers to provide healthy food to those in need. The third and final healthy food option was Jacked Foods, a restaurant that was solely based around providing meals to supplement weightlifters after their time at the gym. Barriers existed for each of these locations; Angelinos and Jacked Foods are notoriously expensive for what they offer and aren’t viable options for shoppers on budget, while the community food source isn’t able to run in the winter months or diverts from the provided schedule on their website. Out of the 16 food venues recorded, only these three provided healthy food to the residents of the Two Rivers area.

After categorizing each food source into expensive, affordable, and cheap pricing categories, it was found that 8 of the options were expensive, 7 of the options were affordable, and only 1 option was a cheap food source in the area. The only cheap food source was the healthy community garden; however, this food course has greater barriers than most of the others recorded. It should be noted that most of the expensive food venues were independent restaurants as well as the only grocery store, Angelinos. The affordable food options were comprised only of convenience stores and chain restaurants such as Tim Hortons and Pizza Pizza. This revealed to us that considering the barriers to the community food source, there are no options in the Two Rivers area that are both healthy and affordable while providing year-round access to residents in the area. With half of the unhealthy options being categorized as expensive, most residents are forced outside their area to find an affordable and sustainable food source.
The last component of our observation method was categorizing the food venues into sources of grocery, community food, restaurant, takeout, and convenience. We recorded 1 grocery store, 1 community food source, three takeout venues, 7 restaurants, and 4 convenience stores. This data simply implies an absurd ratio of short term meal trips to long term food shopping intended to last up to a week. Pie charts representing each of these findings can be found in Appendix B.

The second stage of our research provided data reflecting the demographics of our respondents, personal attributes which affect their food choices, and their attitudes and opinions towards food access in the Two Rivers area. Out of 17 surveys completed, we found 16 got the majority of their food from a grocery store, and 1 relied heavily on the community food source. Of the 16 respondents who relied on grocery stores, only 1 Two Rivers resident got the most of their food from the only grocery store in their neighborhood, Angelinos. In the questions asking respondents to rate their attitudes towards the affordability and accessibility to healthy food in the Two Rivers area, the majority has positive feelings about healthy food being accessible, but negative feelings about that food being affordable. This section also included a question asking how many people the respondent bought (or made food choices) for. This question revealed that most of our respondents only bought food for 1 or 2 people, with 6 answers of 1 person and 8 answers of 2 people. The other 3 respondents bought food for either 3, 4 or more people including themselves.

The next section of our survey asked respondents to rank the factors most important to them when making food choices. On a scale of 1-4, 1 being the most important, they were to rank price, nutrition, location, and time it takes to get the food. These rankings were then aggregated to determine the average scores of each factor on the priority scale. The lowest score, and therefore the most important factor, was price with an aggregate score of 32. The next two factors, nutrition, and locations, each received scores of 38 and 39. The time it takes to get food was almost a non-factor as its aggregate score totaled at 59, meaning it was either the 3rd or 4th most important factor for every respondent. From this section, we were able to determine the order in which the average shopper considers these factors in making food choices in the Two Rivers area.

The next section was a simple profiling set of questions which asked respondents for their age range, identifying gender, and level of education. Of the 17 surveys completed, 7 were completed by females, 9 were completed by males, and 1 was completed by another gender identity. It was pleasing to have a decently balance spread of male and female respondents. The age categories were also relatively spread as we had 5 respondents in their 20’s, 3 in their 30’s, 2 in their 40’s, 2 in their 50’s, and 5 in their 60’s or older. The last demographic focused question record the different levels of completed education in the categories of some high
school credits, a high school diploma, some university or college credits, college diploma, undergraduate degree, and graduate or doctorate degree. We received 1 respondent with some high school credits, 2 with high school diplomas, 2 with some university or college credits, 2 college degrees, 7 undergraduate degrees, and 3 graduate or doctorate degrees.

From the above data, significant correlations were found between a few different variables. One of these relationships involved the age and gender of the respondent in relation to the number of people they bought food for. Both respondents who said they bought food for 4 or more people were women in their 40’s, and the only respondent who said they bought food for 3 people was a woman in her 60’s. On average, it was found that women buy food for 2.4 people while men only bought food for 1.5 people. Implications can be made about gender roles involving grocery shopping from this data.

Another relationship found between two variables was the periodization of different factors based off the respondent’s level of education. The data shows that respondents with some high school credits, a high school diploma, or some university and college credits are all more prone to favour nutrition over price, location, and time when making choices where to get their food. This finding can be held in contrast to those who have completed college, university under grads, and masters and doctorate degrees. The latter demographic values price over the other 3 factors. This may indicate why the average respondent favoured price, as the less educated group consisted of 5 respondents while those with post-secondary credentials make of the other 12 survey respondents.

Findings within the long answer questions revealed the most common food sources, the specific reasons for those venues, what barriers the face to accessing healthy food, and how these barriers could be broken. Most surveys mentioned that No Frills, Zehrs, and Market Fresh were their main food sources, all of which are outside the Two Rivers area. Common reasoning for these venues included a mixture of price, location, convenience, and nutrition, however there were little correlations between these answers and any other data excluding the aggregate ranking scale. Almost half of the respondents claimed that price was a barrier to accessing healthy food, with 8 answers mentions money, cost, price, or finance.

Another trend we found in the question asking how to overcome these barriers was the request for an affordable grocery store in the Two Rivers area. 8 respondents, including 5 of the last 8 mentioning price, claimed that the best way to overcome barriers to accessing healthy food in the Two Rivers area could be to add an affordable grocery store. An Excel sheet with all data appears in Appendix C.
Discussion

Four major themes surrounding food security will be focused on in this discussion relative to the findings. Although participants were asked to rank price, location, time, and nutrition in terms of importance when buying food, these topics can be widened to fit the context of food deserts. These topics also serve as overarching themes that can be drawn from this study with comparisons to outside sources. Through the findings, future research could be built to extend the knowledge and understanding gained to perhaps focus more on individual health and nutrition.

As indicated in the findings, price was an important factor to participants. Through the open-ended questions at the end of the survey, many participants suggested that lowering food prices would improve their access to healthy foods. Additionally, when asked about the statement “healthy food is affordable in the area”, there is no clear conclusion as respondent’s answers ranged from agree to strongly disagree. Cerovec and Grunhagen suggest that because of the variability in opinions and experiences relative to price and healthy food access, living in a food desert does not only impact low income residents, rather it influences all resident’s food choices (2016). Although this large scaled study was based out of Eastern Europe, that finding presents the complexities around food access. Their study further discusses that regardless of resident’s income and education, limited grocery store access correlates to increased obesity and poor nutrition overall. From the Two Rivers findings, those with an undergraduate, graduate or doctorate degree ranked price as the most important when making food purchasing decisions. Education level was used as a proxy for income. This result was expected to be the opposite because lower income earners are commonly associated with low willingness to pay and often search for cheaper alternatives. Although further research in the Two Rivers area would be needed to correlate resident’s health to the lack of healthy food choices, from the study out of Eastern Europe, it is clear that price does influence all resident’s choices when it comes to healthy food options.

Although residents ranked location in the middle of importance, perhaps it is the base factor that further influences price, time, and nutrition. From the spatial observation results, it is clear there is one grocery store in the area, multiple restaurants, convenience stores and nearby fast food options. As almost all residents indicated they travel outside the neighbourhood for groceries specifically at Zehrs, No Frills, Food Basics, and Metro. Similarly, a United States study found that with one store that sold fresh produce in the neighbourhood most residents went outside for food shopping (Dubowitz, Zenk, Ghosh-Dastidar, Cohen, Beckman, Hunter, Steiner & Collins, 2014). Additionally, many of the restaurants and convenient stores within Two Rivers are privately owned, likely family businesses. The study by Dubowitz et al. found similar results in one neighbourhood where most locations were “mom and pop” stores (2014). It is clear that there are food options available in the Two Rivers area, however most those options there were categorized as unhealthy. Simply, unhealthy is defined
as processed or packaged food whereas healthy foods are fresh produce and whole foods (Lees et al., 2014). Dubowitz et al. suggest that it is not the lack of full grocery stores that link to obesity and poor health, rather it is “too much access to fast food outlets and convenient stores” (2014). They emphasize this finding because fast food and convenient stores commonly do not offer fresh produce and often have “filler foods” which lack nutrients. As from the findings, Two Rivers does have food options available they lack choice of affordable healthy foods. Further research would be necessary to evaluate resident’s health status, however the study from the two United States neighbourhoods has shown similar results with regards to spatial observations of what food options are there.

Although time presented to be the least important factor to participants when asked to rank, outside the survey it is intertwined location. Informed by the spatial observations, main grocery stores are located outside the Two Rivers neighbourhood. The survey did not ask questions regarding resident’s mode of transportation for grocery shopping, however some indicated that transportation was a barrier when accessing healthy food. The study out of Eastern Europe found that residents without cars were reliant on other transportation or resort to purchasing food at an alternative store that is closer and easier to get to (Cerovec & Grunhagen, 2016). Further barriers include how much time residents must dedicate to grocery shopping if reliant on public transportation, their physical capabilities when transporting their groceries, and the quantity of food they intend to purchase (Cerovec & Grunhagen, 2015).

Nutrition and overall health although were not the primary focus of this study due to time and resource limitations, this research provides a sound base to build formal studies off. For instance, both the Eastern European and United States study of neighbourhoods correlated a lack of healthy food options with increased obesity rates and poor nutrition overall (Cerovec & Grunhagen, 2015; Dubowitz et al., 2014). Such findings point to the importance of more accessible healthy food options, and increasing awareness of healthy food and available sources. As food options in Two Rivers were simply categorized as healthy or unhealthy, a focus on health and nutrition of residents would add to the understanding of living in an urban food desert. Understanding the built environment and how it affects residents is crucial for effective public policy, marketing, and community development. Perhaps, a more in-depth research method would benefit the Two Rivers neighbourhood as it would bring the lack of healthy food options forward and potentially create a more accessible healthy food environment.

**Conclusion and Recommendations**

It was evident amongst all our respondents that an affordable grocery store in the area would be beneficial since as there is only one grocery store that is more expensive than the average outlet. Although Angelinos was central the neighbourhood, most of the respondents who we approached to survey did not even live in the neighbourhood and therefore could not
participate in the research we were doing. This indicates to us that Angelinos is not a venue built for the residents in the area itself and given its position as the only grocery store in Two Rivers, most residents who live there have virtually no grocery options. We realized that regardless of responses related to price, location, or nutrition, all three concerns intersected within the lives of our participants and our participants would be more willing to consider their nutrition if it was more convenient and accessible for them to do so.

Throughout all our research, it was very important for us to consider our research limitations. A small amount of time meant a smaller sample size, which might not have been reflective of a larger population. Our own invisible backpacks also limit us in seeing and understanding certain perspectives which we do not have ourselves. The recommendations posed by respondents to improve food access included more accessible public transportation routes, longer and more frequent farmer’s markets, greater access to food literacy such as having recipes in grocery stores, but most of all, what prevailed was simply more affordable grocery stores. Our own suggestions for city planners and future researchers would be to listen to the concerns that the residents themselves have since they are the experts on their own experience. In our initial research question, we were interested in examining whether two rivers itself is a food desert. According to the literature we consulted, food deserts occur when residents do not have proper access to healthy food options in a socially and economically distressed area (Larsen & Gilliland, 2008). Based on our observational research, the food options which exist in Two Rivers other than Angelinos do not provide any or have limited quantities of fresh healthy produce. It was through our survey respondents that it became evident that many people who live in Two Rivers are not regularly able to find healthy options for themselves within their own neighbourhood.

More research conducted to understand general socio-economic realities of people in the Two Rivers area would be beneficial in examining whether the area really is a food desert. As it stands now however, our limited research from the Two Rivers area does fit the definitions of an urban food desert. Future steps will be made to respond to the obstacles residents in the area face to finding healthy food. Regardless of if Two Rivers does or does not fit into a specific definition that we are working with, it is an area, which physically does not have healthy food options, and reliance on social programming alone will not always reach all residents who do not have the time, information, or education to turn to those options.
References


Appendix

A) Survey

Two Rivers Food Accessibility Survey

1) How did you get here today?
   a. Walk
   b. Bicycle
   c. Car
   d. Bus / public transit
   e. Taxi / Uber / private transport service
   f. Other (Please specify) ____________

2) Which food venue do you use to get the majority of your food?
   a. Grocery Store
   b. Convenience Store
   c. Sit-down Restaurant
   d. Take out / Fast Food
   e. Community Food source (ex: farmer’s markets, community potlucks, gardens, food shelves etc.)

3) How many people do you regularly make food choices or buy food for? (children, parents, spouses etc.)
   a. 0
   b. 1
   c. 2
   d. 3
   e. 4+

4) Please rank your reaction on the scale below to the following statement: Healthy food in the Two Rivers area is affordable.
   a. Strongly Agree
   b. Agree
   c. Neutral
   d. Disagree
   e. Strongly Disagree

5) Please rank your reaction on the scale below to the following statement: Healthy food locations in the Two Rivers area are easy for me to get to.
   a. Strongly Agree
   b. Agree
   c. Neutral
   d. Disagree
   e. Strongly Disagree
6) Please rank the following factors in terms of how much they influence your decisions when it comes to making food choices. (1 being the factor that is most influential, 4 being the factor that is least influential)
   a. Location of food venue
   b. Price of food
   c. Nutrition content of food
   d. Time spent getting food

7) How old are you?
   a. Under 20
   b. 20-29
   c. 30-39
   d. 40-49
   e. 50-59
   f. 60+

8) What gender do you identify with?   Male_____ Female_____ Other_____

9) What level of education have you completed?
   a. Some High school credits
   b. High School Diploma
   c. Some college/university credits
   d. College Diploma / Certificate
   e. Undergraduate Degree
   f. Graduate or Doctorate Degree

10) What specific food venue do you most often frequent? (e.g. Angelinos, Greek Gardens, Klops Meat Deli... specific food place) ______________________________

   Why do you visit that food venue over others? Please note below

11) What barriers do you face when it comes to accessing healthy food?

12) What suggestions do you have for improving access to healthy food for people that live around here?
B) Visual Data

Food Venue Categories

- Grocery: 6%
- Take Out: 19%
- Convenience: 25%
- Restaurant: 44%
- Community: 6%

Price Rankings of Food Venues

- Expensive
- Affordable
- Cheap

Nutritional Value of Food Venues

- Healthy
- Unhealthy

Chart Title

- angelinos
- zehrs
- No Frills
- Market Fresh
- Food Basics
- Farmers Market
- Goodness Me
- Metro

C) Excel Sheets submitted separately
D) Spatial Observations