

Conspicuously Healthy:

The Fiction of Health and Nutrition

Kelvin Kwong

Committee Members

Principal Advisor, Professor Jeremy Bowes and

Committee Advisor, Professor Kate Sellen

Submitted to OCAD University in partial fulfillment of the requirements for
the degree of Master of Design in Strategic Foresight and Innovation

© Kelvin Kwong, 2013

Toronto, Ontario, Canada

January 10, 2013

Major Research Project

Declaration

I hereby declare that I, Kelvin Kwong, am the sole author of this Major Research Project (MRP). This is a true copy of the MRP, including any required final revisions, as accepted by my examiners. I authorize OCAD University to lend this MRP to other institutions or individuals for the purpose of scholarly research. I understand that my MRP may be made electronically available to the public. I further authorize OCAD University to reproduce this MRP by photocopying or by other means, in total or in part, at the request of other institutions or individuals for the purpose of scholarly research.

Signature

A handwritten signature in black ink, appearing to read 'Kelvin Kwong', written in a cursive style.

Kelvin Kwong

January 10, 2013

Abstract

The rising trend in obesity rates has continued in North America despite widely publicized data and information about the benefits of eating nutritious food. Many people know the importance of nutrition, yet many people are not choosing to eat nutritious food.

A literature review and horizon scan of the driving forces behind food production and distribution, reveal some of the underlying factors that affect food availability. Semi-structured interviews with food advocacy leaders, food industry experts, and random anonymous surveys in the City of Toronto, were utilized in this project to investigate the factors affecting people's food choices and their attitude towards nutrition. Emerging themes from the investigation form the basis of exploration to combine strategies to make nutrition a higher priority for all stakeholders in Toronto.

Contents

Introduction	1
Research and Goal	3
Approach	4
Literature Review	4
Expert Interviews	4
Structured Surveys	6
Research Ethics	6
Analysis of Research Findings	7
Trends and Drivers	7
Trends	9
No Cooking Required (Social)	9
Plating by Numbers (Social)	10
Supersizing BMI (Social)	11
Too Little Play (Social/Technological)	12
A BRIC Foundation (Economic)	13
Super Selection (Social)	14
The Bachelor Pad (Values)	15
Local Food Porn (Social/Values)	16
One Mind Only (Political)	17
Press One for English (Values)	18
Panphobia (Values)	19
Cooking Together (Social/Political)	20
Drivers	21
Population Migration (Social/Political)	21
Socioeconomic Exclusion (Social/Economic)	22
Economic Inequality (Social/Economic)	23
Food Deserts (Social/Economic)	23
Mass Production (Economic/Technological)	26
Globalization (Economic/Political)	27
Food Production and Distribution (Economic)	28
Food Pricing (Economic/Political)	28
Suburbanization (Social)	29
Building Near Wealth (Economic/Political)	30
Cultural Capital (Social)	31
Nitrogen-enhanced Monoculture Farming (Economic/Environmental)	32
Corn Subsidies (Technological/Environmental)	32
Synthesis of Research	34
Influences on Choice	35
Influencing the Future	36
Developing Future Scenarios	37
Forming a Matrix for Future Scenarios	37

Scenarios of Future Food Choices	39
Scenario 1: The Dinner Party	41
Scenario Context	43
Backcast Timeline	44
Scenario 2: The Numbers	45
Scenario Context	47
Backcast Timeline	48
Scenario 3: The Lifecycle	49
Scenario Context	51
Backcast Timeline	52
Scenario 4: The Relocation	53
Scenario Context	55
Backcast Timeline	56
Scenario Implications	56
Existing Strategies	57
Strategies for Future Innovation	59
Strategy Direction 1: Change the Thinking	60
Strategies	61
Challenges	61
Strategy Direction 2: Encourage the Local	63
Strategies	64
Challenges	64
Strategy Direction 3: Cooking Desire	66
Strategies	67
Challenges	67
Combining and Coordinating Strategies for Action	69
Strategy Implementation Start Point: Education	72
Conclusion	74
Bibliography with Selected Summaries	76
Appendix A: Glossary	91
Appendix B: Expert Interview Questions	93
Appendix C: Expert Interview Summaries	94
Appendix D: Survey Questions	99
Appendix E: Survey Summary	100
Appendix F: Full Survey Results	101
Appendix G: Research Ethics Board Approval	107

List of Tables

Table 1: Backcast timeline for the Dinner Party	44
Table 2: Backcast timeline for the Numbers	48
Table 3: Backcast timeline for the Lifecycle	52
Table 4: Backcast timeline for the Relocation	56
Table 5: Measuring our goal with each future scenario	57
Table 6: Strategy directions to change the thinking	61
Table 7: Strategy directions to encourage the local	64
Table 8: Strategy directions for cooking desire	67
Table 9: Health organization strategies for action	69
Table 10: Government strategies for action	70
Table 11: Education strategies for action	70
Table 12: Business strategies for action	71
Table 13: Implementation steps for education in Ontario	73
Table 14: Survey questions	99
Table 15: Summary of results from structured survey	100

List of Figures

Figure 1: The visibility of trends and drivers	8
Figure 2: Typical fast-food restaurants and convenience stores in Jane-Finch	9
Figure 3: Typical fast-food restaurant in Regent Park	9
Figure 4: Typical convenience store in Woburn	9
Figure 5: Social housing in the Jane-Finch Corridor	22
Figure 6: Social housing in Regent Park	22
Figure 7: Social housing in Woburn	22
Figure 8: Map of Jane-Finch corridor	24
Figure 9: Map of Regent Park	25
Figure 10: Map of Woburn	25
Figure 11: The filter of choice between people and food	35
Figure 12: 2x2 matrix of scenarios	38
Figure 13: Measuring how a scenario fits with the stated goal	56
Figure 14: Product development methodology (PDM)	58
Figure 15: Influences on food choices	59
Figure 16: Influences on perception of health	60
Figure 17: Influences on food purchasing decisions	63
Figure 18: Influences on cooking for oneself	66
Figure 19: Combining strategies for action for all stakeholder groups	71
Figure 20: Customer development methodology (CDM)	72

Introduction

People need to eat. In order for the human body to function, a person needs to replenish the energy the body uses to survive. That requirement has not changed, but how people are eating has changed over many years.

In Western urban areas, most people no longer hunt and gather their own food. The challenge of capturing or growing their own food is no longer a problem for most people. The food people consume today are usually obtained through other means, often through bartering or a monetary exchange. Many people are no longer concerned about how they produce food, but rather what food they would like to obtain, and how they would obtain it. Obtaining food now is now based more on earning enough money to buy what one wants to eat, knowing what food to buy and how to access the desired food.

A combination of a person's social and economic status, and their ability to access food have combined to play role in a person's health and nutrition. Many people that have lower incomes and live in social housing clusters have many challenges in accessing healthy and nutritious food. These high-density and/or low-income urban areas have become known as "food deserts" (Besharov et al., 2011).

People are also influenced by the culture and media that surrounds them. Modern media is saturated with images of food that is made to look enticing, and ready for instant purchase. Television programming captivate viewers with celebrity chefs preparing meals that some people consider too complicated or time consuming to prepare. As a result, many people in modern Western urban societies have lost a connection to the actual production process of the food they purchase and eat (Ferguson et al., 2011).

The number of people that are either eating out at restaurants or purchasing prepared meals has increased over the last forty years (Ward et al., 2007).

The abundance of food choices in a large urban centre such as the City of Toronto makes it possible to obtain some sort of food in most parts of the city. Food purchasing options increased with the increase in Toronto's urban density and changes in socioeconomic conditions. People can now purchase food at a restaurant or prepared meals from grocery stores just as easily as they could purchase the raw ingredients to prepare their own meals. Today, many people are no longer cooking, are preparing fewer meals from scratch, and are instead "assembling" meals from several prepared food items (Engler-Stringer, 2010). Prepared meals and fast-food are often high in sugar, fat and sodium, which have been linked to heart disease and hypertension. The dangers of eating too much prepared food are well-documented, yet people are still choosing this type of food (Health Canada, 2012).

The change in the way people eat has been shown to be detrimental to health, as people's awareness of a food's nutritional value and health impacts have diminished over time (Burke, 2011). Society is paying a price with poor health, which in turn, causes cost escalation through increased use in the health system.

Research and Goal

There are many influencing factors that lead people to choose food that is low in, or has no nutritional value. Much research in food access has been done, such as the quantitative research by Páez et al., in 2010. However, this project's literature review finds that much of the research already done focuses solely on quantitative research such area mapping and health trends, or solely on qualitative research such as structured interviews and participant observation. Using a multi-disciplinary approach that combines quantitative and qualitative research with foresight methods, such as investigating the trends and drivers of food access, a better understanding of what influences people's behaviour and their food purchasing decisions will be uncovered.

The goal of this project is to develop potential concepts and strategies to encourage people to choose to eat more nutritious foods to better improve the health of people in the City of Toronto.

Focusing on people's choices and behaviour towards food and nutrition, the following research questions were developed:

- 1. What factors influence people's food purchasing decisions?**
- 2. What factors influence food distribution and access that may in turn lead to influencing people's food purchasing decisions?**

Approach

A broad scan of the driving forces behind food purchasing decisions is required to understand what influences people's choices. The process of researching this project utilized several methodologies:

Literature Review

There is a wide-ranging amount of published research on the topic of food access, nutrition, behaviour and health. The previously published research on food related topics range from population diversity (Caraher et al., 2010) to geographic data (Sparks et al., 2010), or social interactions (Bedore and Donald, 2010) to economic studies (Jetter and Cassady, 2010). Previous research that is related to this project were also reviewed.

Expert Interviews

Expert interviews help provide data on current, or past efforts around the topic of food access and behaviour. Several people in different fields were selected, ranging from community activists, to municipal government employees, and members of industry. Each were contacted and invited to be interviewed for this research report. Those that gave their consent to be interviewed were also informed of their right to withdraw their responses up until the completion of this project.

Lulu Cohen-Farnell, *Founder, Real Food for Real Kids*
Brian Cook, *Analyst, City of Toronto Public Health*
Danielle Franz, *Social Worker, City of Toronto Social Services*
Janaki Hadida, *Founder, Leslieville Farmers' Market*
Rory McAlpine, *Vice-President, Government and Industry Relations,*
Maple Leaf Foods
Sheena Robertson, *Teacher, Toronto District School Board and*
Founder, Whimsical Productions
Keltie Thomas, *Editor, Pearson Publishing*
Adam Vaughan, *Councillor, City of Toronto*
Michael Wolfson, *Manager, City of Toronto Economic Development*

Five questions were designed for the interviews to keep the interviews on the topics of food access and behaviour, but also to help prevent the participant from voicing any personal opinions about individuals or other organizations. Questions are available in Appendix B on page 93. Detailed notes were taken for all interviews and summaries are provided in Appendix C on page 94.

Structured Surveys

Engagement with the community is an important part in the study of choices and behaviour. This project devised a series of questions to ask individuals in the City of Toronto about how they feel about food and the choices they make, and also the types of stores they choose to visit. Questions are available in Appendix D on page 99. Individuals were randomly approached in large public areas such as the Toronto Eaton Centre, and the survey was also made available online through FluidSurveys; a secure, Canadian, online survey system. All participants were informed that the survey was anonymous, would not ask for any private details, that the participant had a right to refuse to answer any questions, and that they could obtain contact information to withdraw their responses until the completion of the project. Results of 110 individuals, from anonymous in-person interviews and online surveys, were combined and graphed. Summary of results are provided in Appendix E on page 100, and full results in Appendix F on page 101.

Research Ethics

The OCAD University Research Ethics Board was consulted for the expert interview questions and survey questions originally for the study and impact of urban food deserts (Kwong, 2011). The results of that previous study are applicable to this project as well. Approval to proceed was given with number, REB 2011-18, and renewed with number 2012-24 (11/18). (see Appendix G on page 107).

Analysis of Research Findings

The research findings gathered from literature reviews, expert interviews, and random surveys, produced a large amount of data. To make sense of the research, the data was categorized using the STEEPV methodology. STEEPV methodology is an acronym for social, technological, economic, environmental, political, and values of a particular group of people. This methodology analyzes the trends and drivers that might influence people in each STEEPV category. It is a proactive technique to research evidence of change that is occurring to develop alternative scenarios. In analyzing the research, certain categories, or themes emerged, and are discussed in further detail in the following Trends and Drivers sections.

Trends and Drivers

What are easily visible are the trends that may affect a large number of people and may have broader social, economic, or political implications. Trends are commonly seen when the change of a variable can be measured over time, such declining early mortality rates in Western countries, or the increase in the number of fast-food restaurants. Trends are not to be confused with fads, which have short life spans, and do not affect a wide range of people. Fads are often seen in fashion, where designers and manufacturers change the style of clothes seasonally.

While trends may be more visible and measurable, what is not as easily seen are the forces behind a trend. Drivers are the forces that cause a trend. The trend of declining early mortality rates can be attributed to advances in medicine and better safety technology. The two drivers in this example are the underlying forces of why people are living longer (Gordon, 2008).

The trends and drivers shown in figure 1, are a summary of the findings discovered for this research project. A glossary of terms used is available in Appendix A on page 91.

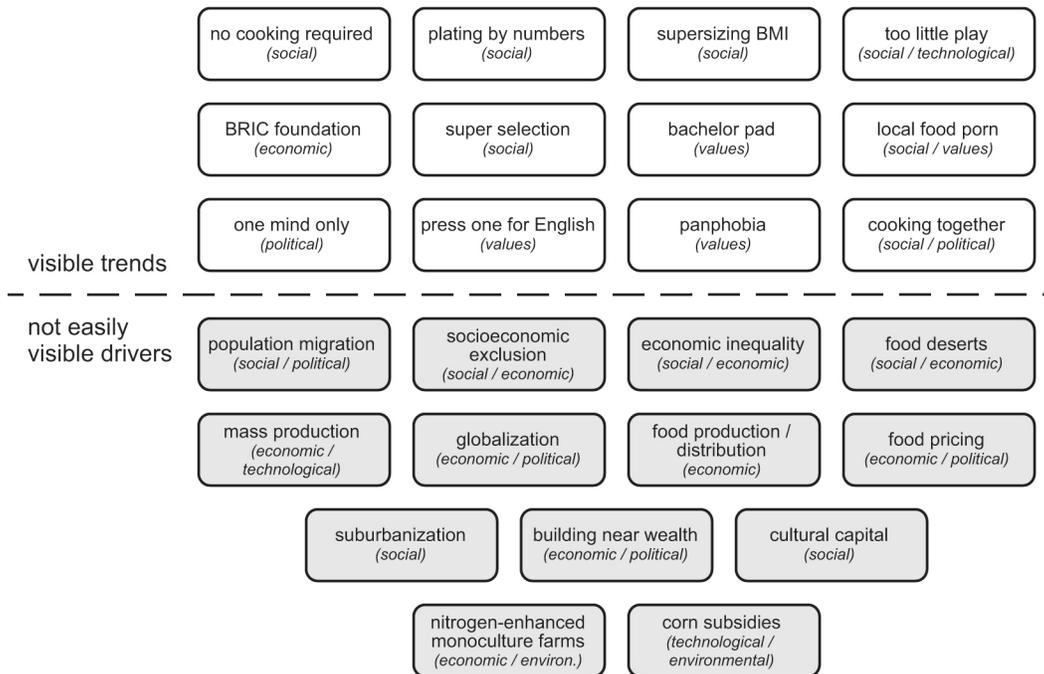


Figure 1: The visibility of trends and drivers.

Trends

No Cooking Required (Social)

Time and effort is required to obtain and prepare healthier meals. People in low-income areas often lack time because of employment commitments and do not have easy access to fresh food. Many people in these areas have instead turned to packaged processed food from convenience stores, or meals from fast-food restaurants because they are more readily available (Engler-Stringer, 2010). Observations in the Jane-Finch Corridor, Regent Park, and Woburn found that while there were not a large number of convenience stores and fast-food outlets in these neighbourhoods, they were more convenient to access locally than a grocery store.



Figure 2: Typical fast-food restaurants and convenience stores in Jane-Finch, Toronto.



Figure 3: Typical fast-food restaurant in Regent Park, Toronto. (Source: Google Maps)



Figure 4: Typical convenience store in Woburn, Toronto. (Source: Google Maps)

Signals to Indicate the Trend

- Low-income neighbourhoods often lack convenient access to nutritious food, such as fresh fruit and vegetables.
- Many people in low-income situations are often working many hours and may not have the time or energy to prepare their own meals.
- Fast-food meals often appear to be providing more food for limited budgets.

Plating by Numbers (Social)



Prepared food can be an entire meal, or a series of dishes. If a person chooses a series of dishes, they simply have to assemble the meal together from the individually purchased food items. Chef Mark McEwan of McEwan's Market stated in a radio interview that prepared food at his grocery store are the biggest selling items compared to uncooked ingredients. (McEwan, Glassman and Patterson, interview, 2012).

The shift in working hours and social time constraints for many individuals has meant that people are often choosing not to cook for themselves in Western countries. Many people do not have the time, or the means to prepare meals. Instead, many people are now able to stop at a fast-food restaurant or a grocery store with prepared food to purchase and take home. The trend of purchasing prepared food in the United States alone has increased greatly, particularly with young adults and teenagers (O'Neil et al., 2011).

Research done by Cooler Solutions in Toronto have found that there is a link between an individual's "lack of pleasure in preparing food" and their "disconnection" from the food system (Ferguson et al., 2011). Corporations such as Kraft Foods provide little information about how their food is produced and processed. From an early age in Western societies, many people simply do not know where their food comes from or how it is made (Patel, 2007). Many people growing up in a large urban area such as Toronto have never experienced how food is grown and prepared. Their concept of food is often what comes packaged in a store (Robertson, interview, 2012).

Signals to Indicate the Trend

- Prepared meals, such as roasted chicken are available at many grocery stores near the entrance for easy meal purchasing.
- Most chain supermarkets have large parking areas allowing for convenient parking.
- High-end food stores such as McEwan's and Pusateri's include menu items from popular, but expensive restaurants as part of their prepared meals section.
- Chef Mark McEwan reveals in a radio interview that his company earns most of its income from catering and prepared meals.
- Corporations routinely ask employees to work longer hours in an attempt to increase productivity.
- Many people feel they lack the time and skill to prepare complete meals.

Supersizing BMI (Social)

Poor access to grocery stores combined with the control and marketing might of large food corporations have contributed to growing health issues, particularly obesity. Obesity is defined as a person having a body mass index (BMI) of over 30 kg/m². In the United States, 26.7 percent of the adult population was considered obese in 2010. Obesity has been linked as a contributing factor to many diseases, such as heart disease and type 2 diabetes (Burke, 2011).

Obesity in urban areas is a trend that has been linked to a combination of poor access to fresh and healthy food, poor consumer food choices, and easy accessibility to unhealthy food, such as processed packaged or fast-food. Data from the Toronto Community Health Profiles Partnership website show there is a higher prevalence of diabetes and high-blood pressure among the Jane-Finch Corridor, Regent Park, and Woburn adult residents (Stewart et al., 2012). These low-income neighbourhoods only have distant grocery stores and a handful of fast-food outlets within easy access. This can lead to the

conclusion that the residents of these low-income neighbourhoods are not getting the proper nutrition due to diet and lack of access to fresh food.

Signals to Indicate the Trend

- Rise in obesity rates and type 2 diabetes with younger generation.
- Health Canada lowers recommended limit for sodium consumption to 1,500 mg.
- Children and teenagers are spending more time in front of computer screens rather than doing physical activity.

Too Little Play (Social/Technological)



The Internet has become an indispensable tool for many, from the business community to a person simply looking for new ways to cook chicken. It has also caused a certain amount of “screen addiction”, whether it is a laptop screen or an iPhone®. Many people have trouble disconnecting from their emails or online social accounts.

The younger generation in particular is now spending more time in front of a screen, rather than engaging in physical activity. The lack of physical activity has become a serious health issue when combined with increased diets high in sugar and fat.

Researchers have linked the lack of exercise and large amounts of sedentary screen time with the rising rates of obesity among the younger generation in North America (Active Healthy Kinds Canada, 2012).

Signals to Indicate the Trend

- Handheld screen devices such as Apple's iPhone® dominate the marketplace.
- Increase of Internet access speeds makes online group gaming in real time possible and popular.
- Social media sites makes it possible for people to know what their friends are doing, without actually having to meet them in person.
- Lack of physical activity in North American youth linked to increasing average weight, a rise in obesity rates and type 2 diabetes.

A BRIC Foundation (Economic)

The economic challenges of the established Western economies in 2008 have continued into 2012, while the countries of Brazil, Russia, India and China (BRIC) have seen their economies grow over the past ten years. BRIC countries are not an established and defined group such as the European Union, but the BRIC countries do share commonalities with abundant natural resources, such as oil and gas, lower labour costs, and lower environmental regulations. Many Western corporations have outsourced manufacturing to countries such as China and India in an effort to bring down costs and maximize profits (Sowinski, 2012).

The trend of outsourcing manufacturing and production to BRIC countries is not limited to material goods. Food production has also become globalized, with many products seen on grocery store shelves coming from other nations. Expanding the food chain around the world has allowed distributors to offer products at lower prices or products that cannot be grown in Canada due to climactic conditions. A global food supply chain benefits large retailers such as Walmart because it allows the company to continue offering lower prices than similar competitors (Sowinski, 2012).

Signals to Indicate the Trend

- Scandals continue to plague Western banks.
- Eurozone crisis causes Portugal, Italy, Ireland, Greece and Spain to require monetary bailouts.
- Resources and low manufacturing costs boost economies of BRIC countries.
- BRIC countries become part of the G20, the world's 20 largest economies.
- China becoming increasingly influential on economic world stage.

Super Selection (Social)

The current trend in grocery stores is to build a few, large grocery stores, rather than many smaller ones. Walmart has become one of the largest retail chains in North America through its model of building “superstores”. A single store will offer what many people would have purchased from a variety of retailers in the past. Surveys from this project have found that many people like the larger selection available and the convenience of being able to purchase all their required items in one trip. Many grocery store chains also prefer this type of arrangement because it reduces costs by having to manage fewer locations with fewer deliveries to restock stores (Basker, 2009).

Signals to Indicate the Trend

- Large discount retailers such as Target and Walmart begin offering groceries at their stores. To compete, grocery stores now often include other items, such as a clothing and housewares section.
- Continuing popularity of one-stop shopping is shown with the re-opening of the former Maple Leaf Gardens as a new Loblaws.
- Big box stores now common in the urban landscape.

The Bachelor Pad (Values)



The transition from being a teenager at home to a young adult in post-secondary education or working can be quite dramatic. There are different stresses such as workload or financial challenges that may contribute to unhealthy eating habits (O’Neil et al., 2011). According to Adam Vaughan, a councillor with the City of Toronto, there has been a reduction in the number of people eating at home as a “family unit”. Part of the reason he explains, is that the type of housing in Toronto, particularly the downtown core, has been redeveloped with only high-density, single occupancy units, rather than any larger family-size units because developers will make more money (interview, 2012).

Many of these units in Toronto’s downtown core attract young adults because of their proximity to employment and entertainment. Instead of preparing meals at home alone, many people living downtown choose to socialize more, which often includes eating at restaurants with friends (O’Neil et al., 2011).

Signals to Indicate the Trend

- More people now moving into Toronto’s downtown core.
- Toronto is currently building more high-rise condominiums than any other city in North America.
- New condominiums are built mostly with a large number of small units meant for single occupancy.

- More people choosing not to have children at a younger age, and instead focusing more on aspects such as career or lifestyle.
- Rising body mass index (BMI) rates in young adults.

Local Food Porn (Social/Values)

Organic food, free range, and free of pesticides, has become a major industry in North America. Combined with Toronto's cultural diversity and changing preferences over the years, the restaurant eating trends in Toronto have shifted rapidly. A more common thread heard now in the restaurant scene is local, "head-to-toe" dining, where a restaurant will feature many ingredients that they either grow themselves, or are bought from only just outside of Toronto from smaller, non-industrial farmers that have become more connected to the city. Mass media has turned chefs into celebrities themselves, and many local food restaurants hold special dinners with farmers as guests of honour. (Starr, 2010).

Signals to Indicate the Trend

- Highly stylized photos of food make them appear more desirable.
- The launch of the Food Network in the early 1990s popularized the idea that food can be glamorous, with hosts such as Nigella Lawson.
- Chefs such as Gordon Ramsay, spend more time producing television programs than cooking.
- Controversy over the use of bovine growth hormones and other chemicals in food increase the popularity of more organic alternatives.
- Increase awareness of challenges faced by farmers in Ontario from imported overseas products.
- High air pollutions counts in Toronto linked to heavy use of fossil fuels.

One Mind Only (Political)



There have been many changes in the political landscape over the years, but a noticeable feature is the lack of cooperation between political rivals. Rather than working together towards an agreed goal, the preference has become to shut out any other opinions that may differ. Not only is this observable in federal political parties, but it is also seen on a municipal level.

Bedore, Melanie, Donald and Betsy pointed out in their study of Kingston, Ontario, that there was little collaboration, and a great deal of mistrust between business groups, civic leaders, and social groups (2010). The lack of cooperation toward a common goal was only producing stagnation and apathy.

Signals to Indicate the Trend

- Continued Toronto City Hall paralysis over issues such as transit expansion.
- Partisan politics plainly evident in Canadian and U.S. politics.
- Many social policy reforms reviewed in this project focus on government regulation rather than cooperation with business.
- Culture of the Western provinces and many parts of the U.S., celebrate the freedom of decisions for the individual, rather than working with a community.

Press One for English (Values)

For many new immigrants to the City of Toronto, English is not their primary spoken language. Communicating their needs and desires are a challenge for many newcomers. Many are able to learn enough English to function in the City, but basic knowledge of a language does not necessarily allow a person to actually fully understand a language. In her work with new immigrants to the Regent Park neighbourhood, Sheena Robertson, a Toronto teacher found that many did not understand the concept of farmers' markets, even though they knew what the words meant. Since the newcomers did not fully understand the term, they were also suspicious of the concept (interview, 2012).

Robertson also found that a combination of low English communication skills and a lack of trust of new concepts was also carried through to new immigrants' children. As a child growing up in Toronto, many children became much more fluent in English than their parents, but at the same time, less fluent in their parents' native language. The children were often unable to communicate new ideas and concepts to their parents, so the parents would often prevent their children from exploring locations such as farmers' markets because they did not understand what a farmers' market was themselves. As a result, many of these children grew up never experiencing different areas of Toronto.

Signals to Indicate the Trend

- Vibrant neighbourhoods with an abundance of culture-specific stores in Toronto.
- Farmers' markets are rarely frequented by non-English-speaking newcomers.
- Farmers' markets are rarely well-publicized due to a lack of funding.
- Higher cost of food from farmers' markets a barrier to people with lower incomes.

Panphobia (Values)

In an “increasingly uncertain, complex and ambiguous world, people intuitively and emotionally react with an increased need for certainty”. Traditional certainties such as finding employment, a place to live, and financial security, are no longer available for many people. As a result, many look for certainty in other aspects of their lives to overcome the fear of what they do not know. People would rather know that their “garbage pickup will happen, or that their email is functioning”, rather than why these acts happen or how a device functions (Haldenby, Kwong and Ryan, 2011, Silva, 2012).

People have become more demanding in their everyday lives as events outside of their control become uncertain. “As climate patterns become more violent, or the stock markets fall making investors uneasy, most people are demanding more certainty” before they will take a risk that might cause change in their lives (Haldenby, Kwong and Ryan, 2011). Known brands such as McDonald’s continue to be popular because people know what to expect. The quality of the food and environment is secondary to the consistency of the brand.

Signals to Indicate the Trend

- “Companies such as McDonald’s and Nike continue to be popular due to their consistent and familiar products and experiences”.
- Increasing reliance on spell checking systems that provide spelling accuracy, but do not produce correct grammar or good writing.
- “Conservative governments have gained electoral ground worldwide, often on platforms of stability, simplicity, and certainty” (Haldenby, Kwong and Ryan, 2011).
- Technology and housing bubble crashes cause stock market uncertainty and investor fear.

Cooking Together (Social/Political)



Adam Vaughan pointed out that poverty is a “difficult cycle to break”. To help encourage people in low-income situations to cook for themselves and choose healthier options, the City of Toronto has implemented a series of community kitchen workshops across the city to teach people not only how to cook, but to also prove that it is more economical to cook for themselves rather than ordering fast-food (Vaughan, interview, 2012).

Both Danielle Franz and Lisa Shamai, who are involved with community kitchens in Toronto, have found that people in low-income situations are sometimes not interested in nutrition or cooking for themselves (interviews, 2011). American studies have found that people often “perceive” healthy foods as difficult to prepare and less convenient or less tasty compared to fast-food (Burke, 2011). Better access to fresh food may not be the only solution required for a healthier society. Attitudes toward food also need to change.

To help foster more awareness about food, local Toronto organizations such as The Stop have created a community hub where people can go to learn about food, grow food, and share skills and knowledge with other people. By building within a neighbourhood, The Stop is able to not only provide better access to affordable fresh food, but also build skills and increase the health of the surrounding community.

Janaki Hadida takes this a step further with the Leslieville Farmers’ Market by going outside of Toronto to help educate small farmers on how to get their produce to market,

without having to rely on large-scale distributors. Educating both the farmers and the consumers to bring them together at the market, Hadida is reducing the social distance most people have with the production of food (Hadida, interview, 2011).

Signals to Indicate the Trend

- Growing awareness of the environment and how long-distance transportation of food produces a larger carbon footprint.
- Issues with tainted food coming from overseas markets.
- Celebrity chefs' endorsement of local farmers.
- Health Canada warnings of high sodium levels in packaged and processed food.
- Increasing income disparity between high-income earners and low-income earners.

Drivers

Population Migration (Social/Political)



The world's population continues to grow, the migration of people to cities and towns is evident. The movement of people around the world has "occurred long before political boundaries were formed" between nations, provinces, and even municipalities (United Nations Populations Fund, 2012). Today, people are more likely to migrate to more urban areas because agriculture is no longer financially sustainable, or they are in search of more employment and a better standard of living (Garland, 2008). In Canada, more than

75% of the population live in cities or towns, and the United Nations predicts that more than half of the world's population will live in an urban area by the early part of the twenty-first century (United Nations Populations Fund, 2012).

Socioeconomic Exclusion (Social/Economic)

Cities struggled to find affordable ways to house people with the increase in population. Large-scale, uniform, high-density buildings were constructed that often become the homes for people with lower incomes.



Figure 5: Social housing in the Jane-Finch Corridor, Toronto.



Figure 6: Social housing in Regent Park, Toronto.



*Figure 7: Social housing in Woburn, Toronto.
(Source: Google Maps)*

The shifts to higher density housing not only formed a social barrier, but also an economic barrier. This is a “combined consequence” of both municipal planning and individual influences (Caraher, 2010). Municipalities clustered high-density social housing creating a physical and social divide that Bedore and Donald described as “social and economic exclusion”. In their research in Kingston, Ontario, large-scale, high-density buildings were more affordable for people with low incomes, but these neighbourhoods were often excluded from the city's public space economic revitalization efforts (2010).

Economic Inequality (Social/Economic)



Statistics Canada has shown that a large amount of wealth in Canada is concentrated to a relatively small percentage of people, sometimes referred to as the top one percent. Between 1989 and 2004, the income of the wealthiest ten percent rose by 22 percent, while the incomes of the lowest ten percent fell by 11 percent (Bedore and Donald, 2010). The widening wealth gap divides people socially and economically. People with the economic means are able to live in the more expensive areas of a city, while people with lower incomes are often forced to poorer neighbourhoods. The economic meltdown of 2008 in Western countries and the continuing Eurozone crisis in 2012, have many people believing that the much of the blame for the continuing economic instability lies with top one percent (Luk, 2011).

Food Deserts (Social/Economic)

In 2008, the U.S. Congress passed the *Food, Conservation and Energy Act*, which described a food desert as an area “with limited access to affordable and nutritious food, particularly such an area composed of predominantly lower income neighbourhoods and communities”. However, the phenomenon of food deserts is not limited to the United States. Research in urban centres show that this is a problem that may exist in all countries (Sparks et al., 2001).

Studies have shown that grocery stores should be within half a kilometer to be considered a comfortable walking distance carrying purchased groceries (Páez et al., 2010). The following Toronto street maps are of the Jane-Finch Corridor, Regent Park (Dundas Street East and Parliament Street), and Woburn (Ellesmere Road and Markham Road). The maps indicate the location of social housing clusters and approximate distances from grocery stores in the area. These areas have large-scale social housing projects and are home to low-income families (Cook, interview, 2011, Stewart et al., 2012). Retail outlets to purchase fresh fruit and vegetables are almost two kilometers away for some parts of the housing projects. Many low-income families lack a personal vehicle, making the transportation of purchased goods more difficult, particularly if there are mobility issues or increased difficulty of access during the winter months (Wolfson, interview, 2011, Vaughan, interview, 2012).

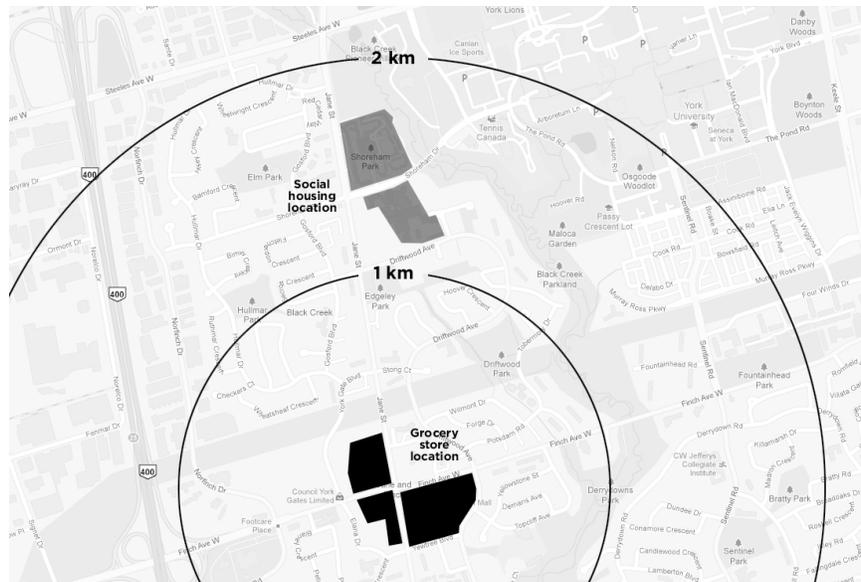


Figure 8: Map of Jane-Finch corridor, Toronto. ■ Social housing location ■ Grocery store locations
 Map source: City of Toronto and Google Maps.

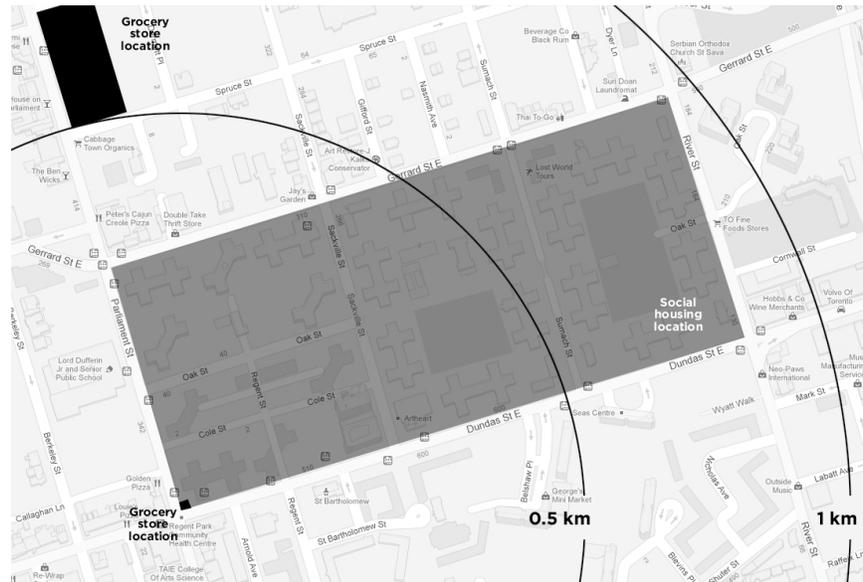


Figure 9: Map of Regent Park, Toronto. ■ Social housing location ■ Grocery store locations
Map source: City of Toronto and Google Maps.



Figure 10: Map of Woburn, Toronto. ■ Social housing location ■ Grocery store locations
Map source: City of Toronto and Google Maps.

Mass Production (Economic/Technological)



Adam Smith, the author of *The Wealth of Nations* in 1776, reasoned that it would be more efficient to divide the labour of building or assembling a product to several different workers, rather than one individual building the entire product. When several different workers build the same item, each item becomes unique, requiring custom-made parts by each worker. Dividing the process so that each worker would only build one component of the product allowed the use of standardized parts. Standardized parts made the process more efficient and cost-effective.

In the early 1900s, Henry Ford was able to successfully adopt the concept to produce the Model T in mass quantities and at a lower price compared to his competitors. The assembly line concept has been adopted by many industries, particularly in food production. Standardization has been used in establishing government hygiene guidelines for a particular food item, such as meat, and how it is handled. Producing the same size food product allows for standardized packaging, expiry dates, and has allowed for more efficient portion control, which in turn has enabled standardized cooking times. When a fast-food restaurant chain purchases large quantities of hamburger patties that are all the same size and weight, it is able to cook each hamburger for the same amount of time, making their own process more efficient with less waste (MacLennan, 1968).

Globalization (Economic/Political)

Discount retailers such as Walmart attract many people on low or fixed incomes by advertising that they can get “more for less”. Walmart is able to offer lower prices on goods compared to other retailers because they are able to use their corporate size to leverage better pricing from suppliers. Since Walmart is able to sell large quantities of product, suppliers will often “bend” to Walmart’s rules to remain a supplier (Basker and Noel, 2009). The supplier in turn has shifted much of their product production to developing nations where employment and material costs are lower. Using overseas production allows a supplier to keep their own costs down and still make money, despite Walmart’s pricing demands.

Using their supply model, Walmart has also moved into food retailing, and is able to sell food an average of ten percent less than other grocery stores. By 2002, Walmart had become the largest food retailer in the United States, with food retailing expansion projected for other countries. This has placed financial stress on existing grocery stores nearby, even causing smaller neighbourhood grocery stores to close. Even if the smaller grocery stores offer more local produce, many low-income families will still choose to shop at Walmart because of cost (Basker and Noel, 2009, Bonanno, 2010). The loss of smaller, neighbourhood grocery stores has meant less convenient access to fresh food for many neighbourhoods and people with lower mobility (Vaughan, interview, 2012).

Food Production and Distribution (Economic)

A change in the distribution and selling of food began to highlight the inequalities of food access, where lower income individuals were not able to easily access healthier and nutritious food. As far back as the 1930s, researchers in the United Kingdom identified the growing shift of how a population obtains food. The migration of people to urban areas for employment meant that people were no longer growing their own food or obtaining food from nearby farms. Instead, people in urban areas were obtaining food from a “central supply system controlled by a smaller and smaller number of companies” (Caraher, 2008). Distribution companies purchase food products from sources such as farms, then sell the products to grocery stores. The grocery store became the primary source for food purchasing for most consumers.

Food Pricing (Economic/Political)

“A global economy has made food distribution and pricing a complex issue. How food is bought and sold, distributed or traded around the world is no longer based solely on supply and demand. Interactions between governments and corporations, and between trading nations all play a part in how food is distributed and prices set” (Kwong, 2011).

The Kraft Foods Company is the world’s second largest food company (revenues of \$49.2 billion USD in 2010), with its iconic food brands such as Kraft Cheese and Maxwell House Coffee (Kraft Foods Company, 2011). Multinational agricultural corporations currently control over 40 percent of the world’s food trade. This control not only exists in the production of food, but also extends to its distribution. Large corporations are able to influence not only consumer purchasing habits, but government policies as well through trade agreements with other countries. This in turn, will influence the importing, exporting and distribution of food within a country, and eventually, what a consumer buys at a store to eat (Patel, 2007).

Suburbanization (Social)



The acceptance of the automobile made long-distance transportation more widely available to many people. North American housing developers began building housing outside of a city's core in the 1950s, enticing families to move into the suburban areas by promising neighbourhoods of orderly, individual detached homes and wide open spaces, unlike the chaos of a city core. This attracted many people that desired more space to start families (Papanek, 1984).

A car-centric culture developed as a part of family life in the suburbs, where the personal automobile is favoured as a primary mode of transportation. The food industry followed along, with “quickly prepared and affordable food” for new and busy families. The fast-food restaurant industry grew as the suburban neighbourhoods continued to expand away from city cores. Drive-through sections were established at many fast-food restaurants so that people could purchase food without ever leaving their vehicles (Levenstein, 1994).

Building Near Wealth (Economic/Political)



According to Michael Wolfson of the City of Toronto Economic Development department, grocery store chains are “in business to make a profit” (interview, 2011). The preference is to invest capital and resources in areas of a city where there may be higher profit margins. As a result, large grocery store chains will not build a grocery store in low-income neighbourhoods because of the prevailing notion that people with low or fixed incomes will not be able to generate enough sales (Lee and Lim, 2009).

The City of Toronto has attempted to encourage more grocery store development by changing zoning bylaws and requiring new condominium developers to partner with grocery stores in their buildings. This has met with some success as there are now more scaled down versions of larger grocery stores within condominium building settings. Started in 2005 in cooperation with the community and developers, Regent Park will be redeveloped over 16 years as a mix of social housing, market value housing and businesses. (Regent Park Community Health Centre, 2011). Wolfson said the developers were encouraged to partner with grocery stores, as well as other businesses to turn Regent Park into a more pedestrian friendly neighbourhood hub (interview, 2011).

Cultural Capital (Social)



Malcolm Gladwell wrote in *The Coolhunt*, about how two researchers for the Reebok apparel company specialized in discovering potential fashion trends among youth. This was important research for Reebok because the youth demographic would only purchase their shoes if they were considered “cool” (Gladwell, Schor and Hunt, 2000).

At one time, the labels on products were commonly hidden from view, either on the inside of a jacket, or the bottom of a kettle. Now, a company’s logo has almost taken centre stage, “loudly proclaiming” the owner’s choice in products (Klein, 2000). Similarly with food, certain product brands have a cultural status. The quantity of food served is less important than its origin. Displaying a logo demonstrates cultural capital, because it allows to owner to proclaim their wealth, or “coolness” to other people. Thorstein Veblen wrote in the late 1800s that conspicuous consumption was a sign of social and economic status, where an individual displays their wealth by the amount of goods they own. Displaying socially acceptable aesthetics as social status has become Western society’s new sign of status (Mintz, 2002). There is now more meaning to displaying a certain logo rather than the quantity of goods a person consumes (Klein, 2000).

Nitrogen-enhanced Monoculture Farming (Economic/Environmental)

It was considered a great discovery when the German chemist Fritz Haber was able to synthesize atmospheric nitrogen into ammonia fertilizer in 1909. The ability to increase crop yields on farmland using fertilizers on monoculture farms helps to maximize the amount of a particular crop, but it is also more harmful to the soil and to the environment. The soil suffers from depletion when only a single crop variety is grown over several seasons, and any chemical fertilizers that are not absorbed by the crops end up as pollutants to the land and nearby bodies of water from runoffs. Farming has shifted to larger, industrial-scale operations where fewer and more centralized farms produce a greater amount of food for more people. (Boody and DeVore, 2006).

Corn Subsidies (Technological/Environmental)

Corn is the most widely planted crop in the United States, accounting for almost 25% of the crops grown (Environmental Protection Agency, 2012). The common perception of the use of corn is for human consumption, but the starch in corn can be transformed into a variety of products ranging from animal feed, to pharmaceuticals and biofuels. The increasing demand for energy and the cost of imported high fossil fuel has also made corn the most “highly subsidized crop” in the United States (Lazo, 2010, Patel, 2009).

The government subsidies have made the corn derivative, high-fructose corn syrup; the sweetener of choice by food manufacturers. High-fructose corn syrup costs less than sugar, which is commonly derived from sugar cane, and is now found in most processed foods and soft drinks. Processed foods use lower quality ingredients to increase profit margins, and the addition of artificial sweeteners makes processed foods more palatable to the consumer.

Humans have an “inherent liking for sweets”, and combined with the lower cost of processed foods, an artificial need for sugar is created. In the past, sugar use was confined to making desserts and treats for special occasions, such as holidays and celebrations, but sugar consumption now accounts for 21% of total calorie intake of American diets (Alpert, 2012).

Synthesis of Research

This project explored the influential factors around people's food purchasing decisions. Research findings has revealed that many people living in urban areas are no longer cooking from scratch for themselves, or are choosing foods with low nutritional value.

The number of people in cities that are either eating out at restaurants or purchasing prepared meals has increased over the last forty years (Ward et al., 2007).

Prepared meals and fast-food are often high in sugar, fat and sodium, which has been linked to heart disease and hypertension. The dangers of eating too much prepared food are well-documented, yet people are still choosing this type of food (Health Canada, 2012). Despite the fact that nutritious food is available in Toronto, and many people know the benefits of nutritious food, we have to ask:

- 1. Why aren't people choosing to eat healthier?**
- 2. What new strategies can be developed to encourage people to choose nutritious foods?**

Influences on Choice

There are many factors influencing people to choose bad foods. When making decisions about food, we can hypothesize that people view foods through a filter of choice.

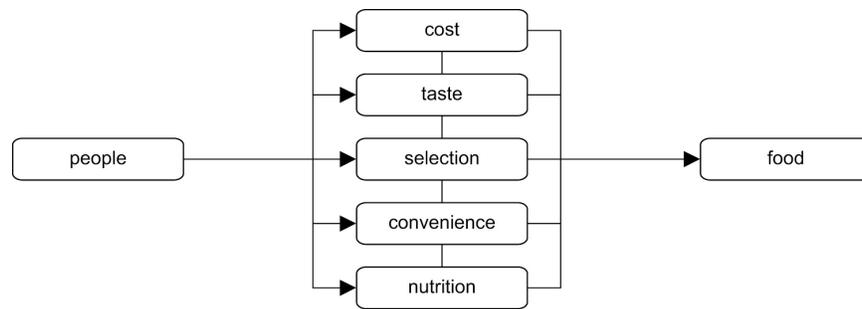


Figure 11: The filter of choice between people and food.

How the elements of cost, taste, selection, accessibility, and nutrition will be prioritized will vary based on the influences affecting each person. Many people have the knowledge about nutritious foods, and are able to make choices about what they eat, yet nutrition is often not a top priority (Martin et al., 1999). It would not be possible to legislate people to eat more nutritious foods, because people want to choose what they eat. Making nutrition a higher priority for people in the future requires changing some of the influences on people's decisions about food.

Influencing the Future

“You could buy meat anywhere! Eggs they had, real butter!

Fresh lettuce in the stores.”

– *Sol Roth to Detective Thorne, Soyent Green, 1973*

There are many trends and drivers that currently influence people’s filter of choice when purchasing food (figure 11). To influence people’s future food purchasing decisions, it would be helpful to know what a possible future would be like for people purchasing food. This is known as scenario development.

Developing scenarios about the future originated as a military process where different key events and assumptions were followed to a “logical conclusion”. This process produced a variety of scenarios and was about “thinking the unthinkable” (Gordon 2008). Scenarios are not predictions, but a way to acknowledge “challenges and opportunities” that were not part of an organization’s original plan. Instead of planning for only one outcome, scenarios help to realize that every developed outcome is possible. Scenarios may be of a desirable or undesirable future, and knowledge of a desirable future can help organizations develop potential strategies to make it happen (Van Der Heijden, 2005).

Developing Future Scenarios

The development of future scenarios of how people obtain food begins after discovering the trends and drivers around the subject. Using two drivers that are out of a person's control, a matrix can be formed to develop scenarios.

- 1. People may or may not have adequate food access due to social, economic or geographical conditions.**
- 2. Globalization may or may not influence how food is produced and distributed in urban areas such as the City of Toronto.**

Forming a Matrix for Future Scenarios

The 2x2 matrix is a scenario planning tool used by foresighters to frame two identified drivers against each other. These two drivers may change over time, and are known as the dimensions of the matrix. The two drivers are used to form two bisecting axis, with either end of each axis being the extreme of each driver (Lowy and Hood, 2004). Using the two drivers of food access and globalization, a 2x2 matrix is formed where each driver plays off each other by being high or low in an axis.

Organizations and individuals usually have little control over the matrix dimensions, and they may "resolve" themselves in a variety of ways depending on the driving forces behind them (Gordon, 2008).

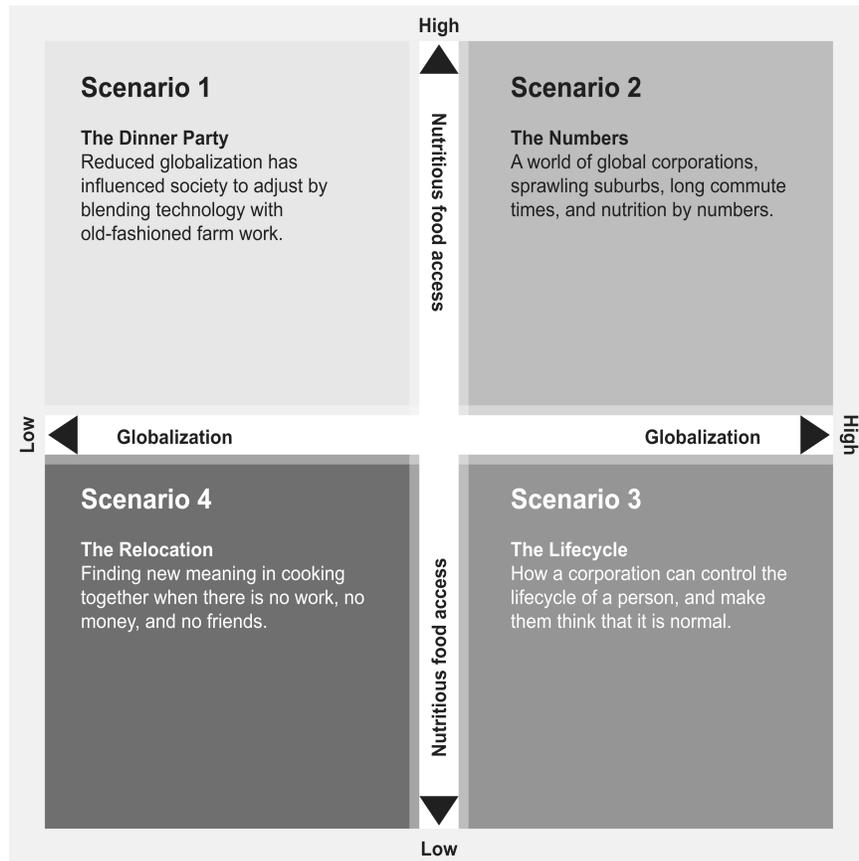


Figure 12: 2x2 matrix of scenarios.

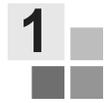
It is uncertain whether a scenario will unfold over a given timeframe, so as part of the future scenario planning process, we establish a backcast timeframe. Backcasting is an approach where the trends and drivers previously identified are grouped together that could lead to a potential future scenario. Each trend and driver acts as a “signpost” that will indicate a path toward a future scenario (Hines and Bishop, 2006).

Scenarios of Future Food Choices

The following scenarios are about exploring the driving forces of why people choose a particular food, and how these forces may come into play to influence how people may eat in 2022. Ten years may not seem like a long time span, but consider some of the things that were not conceivable to many not too long ago. In 2002, not many people could have imagined having a media centre in the palm of their hand in the form of an iPhone® or an Android-based device. Trading at an all-time low of almost 60¢ USD in 2002, few Canadians would have believed that the Canadian Dollar would trade at or above parity with the U.S. Dollar by 2012 (Bank of Canada, 2012).

The world will be a different place in 2022, and how people might eat will change as well. Looking at the possibilities of what may lie ahead will help those in city planning and health professionals think about the impacts to their own professions.





Scenario 1: The Dinner Party

Reduced globalization has influenced society to adjust by blending technology with old-fashioned farm work.

Wondering whether he had enough rosemary, William Turner turned around and headed back to the roof. The handful of hens clucked at him as he walked past to the herb garden. William carefully snipped out the best looking twigs, placed them in his basket, and headed back to his apartment. He wanted everything to look just right for his small, but important dinner party. Tonight, he and a few close friends were celebrating the launch of a new Toronto produced olive oil. An unusual product in the past for this type of product, but advances in solar technology allows for the replication of almost any climate on Earth, with minimal environmental impact.

Back in his apartment, William began preparing the pork cutlets he would be serving for dinner. His apartment building had traded some of the chickens they had raised for the pork the building next door was raising. Every new apartment building, and renovated older buildings in Toronto now had a minimum of a vegetable garden on the roof. Some buildings go further by having a small farm with livestock. Many neighbouring buildings have partnered together to diversify their mini roof-farms to trade whatever they produce. Tenants of buildings have access to the roof mini-farms simply by participating in the maintenance of the farm.

What the neighbouring buildings grew and traded were limited compared to what William could order online from MetroWestern. Formed out of the merger of several supermarket chains, MetroWestern is Canada's largest grocery retailer. The large supermarkets have all but disappeared in Toronto, being replaced by smaller, but more numerous outlets that contain only a few select goods, but instead serve as a pickup point for items ordered through their online system. William could order anything he wanted from Canada, but he instead like the challenge of cooking with limited ingredients. Being able to devise a meal with limited ingredients would impress his friends.

As William put the finishing touches on the evening's dinner, the first of his guests arrived. Lorie and Renault brought over several of bottles of their best wines. Having friends that are vintners is certainly a bonus William thought, as he pulled the seal from a bottle. "What are we having for dinner?" Lorie asked as she sat by the counter with a glass of wine.

"Tanya's pork from next door", William replied as he put out some bread.

"Lovely! Isn't she the one that feeds the pigs beer?"

"Yes, and they'll apparently have a lovely honey flavour too!", smiled William as he opened the door for more of his friends.

Scenario Context

By 2022, the seemingly continuous failures and bailouts of many of the world's major financial institutions have finally led to greater government regulation. The complete collapse of the Euro sent shockwaves throughout the financial system and even collapsing some national economies. The economic strife eventually led to people seeking employment in other countries that weathered the economic storm better. To slow down the migration of people, many countries restricted the movement of people, even barring entry. This in turn led retaliatory trade embargoes and tariffs which eventually decreased the trading of goods between nations.

The demand of previously imported goods had also had a triggering effect in Canada. Manufacturing had been shifting away from Canada, so more emphasis was placed in developing renewable energy sources and technology to reduce the reliance on imported goods, particularly food. Canadians had become largely accustomed to being able to purchase any type of food, from anywhere in the world at any time of the year, but that would change as the people and trade barriers began building. As a northern country, Canada simply cannot produce certain foods without the use of greenhouses that were heavy users of energy. The introduction of personal, low-cost, and reliable solar power technology meant that any person or organization could have their own power generation system without having to rely on one central power generation system.

The new solar technology allows a greenhouse to replicate almost any climate without using any energy from the old grid system. The reliance on imported foods drops as every region, every city, and even every building is able to produce its own energy.

The roofs of high-density buildings that cover Toronto’s landscape are put to good use when Toronto changes its municipal code to mandate all new and refurbished buildings to contain a minimum of a vegetable garden. This change not only makes energy use more efficient, but also increases the amount of fresh food in the city. The cool of having local food goes further when a person can boast about how few steps they had to take when they obtained the ingredients.

Backcast Timeline

Time	Event
Present	Euro monetary unit collapses.
	Global trade barriers form.
	Economic weaknesses force many companies to merge.
	Solar technology perfected and widely available.
	Corn subsidies end, farms grow other produce.
	Toronto changes code to mandate roof top gardens.
	Buildings go further by developing roof mini-farms.
	Supermarkets reduce in size but are more numerous.
	Barter system becomes popular again.
2022	Local food cool measured in steps.

Table 1: Backcast timeline for the Dinner Party.

2

Scenario 2: The Numbers

A world of global corporations, sprawling suburbs, long commute times, and nutrition by numbers.



Deborah Michaels woke up in a start. She glanced over at the clock near her bed and relaxed a bit when it read 5:27 am. She didn't oversleep and actually woke three minutes before the alarm would go off. Fearing that if she stayed in bed, she would fall into a deeper sleep, Deborah slowly struggled out of bed and headed for the shower. She figured that she would at least get to take a longer shower this morning.

Living in a new subdivision in Shelburne meant a much longer commute for Deborah to her office in downtown Toronto to start work at 9:00 am. She would prefer to be closer to her office, but that would've meant an unreasonable portion of her income would be for housing. Although Deborah didn't have to work at her office every day, managing the resources of Entergro still required the occasional appearance. Today is a special meeting with global eastern regional development teams. It's a chance for managers in

the East Asia Bloc to meet and discuss in person possible new developments and opportunities in India, Pakistan, Nepal, Bangladesh, Bhutan, and Burma. Much of Entergro's food production facilities for that part of the world are situated in East Asia Bloc countries. What originally began as coffee and tea production facilities expanded to include most packaged food products. Advances in the last ten years with irradiation and vacuum sealing package technology means that Entergro poultry farms in India are able to supply chickens to Entergro facilities, to be cooked, irradiated, and packaged for shipping to anywhere in the region. Deliberately keeping farms and production facilities fairly regional keeps transportation cost for Entergro lower, and allows for easier adjustment to regional cuisines.

Part of today's meeting would be to discuss new meal plans. Entergro East had managed to hire most of the regions' chefs, giving it not only command of food production, but the cooking style as well. Entergro originally devised a colour coding system to help people choose a series of raw ingredients that would work well together in a dish, such as chicken and lemons. This was expanded further when Entergro introduced entire meal plans that could be mixed with their raw ingredient offerings.

The Entergro chefs would devise entire meals coded with Entergro's trademark meal coding system. People didn't have to know or think about how to plan or cook a meal, they simply had to pick a collection of ingredients and foods that had matching colours with sequential numbers. Pick the colour orange, then simply pick other items numbering one, two, and three. So simple, anyone could do it. The coding system even took care of nutritional balance as well, so that no one needed to worry about too much or too little of a particular food. The coding system worked so well that even medical professionals refer to it when advising patients on what to eat.

Deborah always looked forward to sampling new the meal plans. It was a way of traveling to different parts of the world, without the hassle. She just wished that she could avoid the hassle of getting into the city.

Scenario Context

By 2022, the mergers and acquisitions of many of the world's largest corporations has resulted in almost all manufacturing work originally performed in Ontario to be shifted to facilities in various parts of Asia. This changed the economies of Asia, and they have strengthened to the point where two large trading blocs formed, the West Asia Bloc led by China, and Japan and the East Asia Bloc led by India. Much of their economies are based on technology and manufacturing.

The shift of manufacturing to Asia was a blow to Ontario's economy, but over the span of a decade, the province was able to transition its economy to more finance-based industries. Technology centres clustered around the City of Toronto where many companies located their head offices. The migration of people to the region seeking more affordable housing caused the Greater Toronto Area to expand further west, north, and east. The large number of high-rise condominiums are a familiar sight in Toronto, but the entire Greater Toronto Area's landscape is becoming similar to downtown Toronto. Many people avoid travel if possible, but when people do travel, they have to be prepared to have long commute times.

Food production has also shifted overseas when the use of gamma radiation to destroy food bacteria gained widespread use and acceptance. NASA's pioneering study in the use of gamma irradiated food for long-distance space flight has enabled a food production company to produce entire dishes or meals without resorting to the use of chemical preservatives. Sealing irradiated food gives it an extremely long, refrigerant-free shelf life. The success of irradiated meals has meant that many people in large urban areas have lost the ability to cook.

Backcast Timeline

Time	Event
Present	Mass manufacturing continues to shift to Asia.
	Ontario economy becomes more finance-based.
	Population in the Greater Toronto Area increases.
	Affordable housing only found outside of Toronto.
	Suburbs of the GTA expand further.
	More high-density condominiums built to answer demand.
	Arctic shipping lanes reduce time from Asia.
	Irradiated food gains widespread acceptance.
	Food production also shifts to Asia.
2022	Entire prepared meals can be bought off the shelf.

Table 2: Backcast timeline for the Numbers.

3

Scenario 3: The Lifecycle

How a corporation can control the lifecycle of a person, and make them think that it is normal.



Sam Christie waited impatiently at the nephrologist's office. This was the fourth specialist that he'd seen in the past year. The last thing Sam wanted was more tests and more medication to take, but he knew he had to be there after suffering from his second heart attack last year. Something in the back of Sam's mind made him think that he should change his eating. He vaguely remembers his mother telling him to eat more vegetables and cooking at home, but that seemed long ago now. Cooking for himself was not really a priority for Sam. His problem was that he was too busy at work to shop for food or cook, so he was a frequent purchaser of prepared meals. Besides, fresh food was something that few people bothered with anymore.

The Interhealth Corporation certainly made it easy and affordable for Sam to buy all his prepared meals. All their meal products are neatly packaged to fit in the small refrigerator

shelves common in Toronto's apartment buildings. The high cost of living in the Greater Toronto Area made buying and preparing meals from scratch a luxury of time to many people who worked longer hours. Interhealth brought the cost of eating down by mass producing through factory farming and packaging meals overseas. To reduce any fears of food safety, Canadian food inspectors are sent to their farms and factories in Asia to be regularly inspected. Compared to the frozen dinners of the past, Interhealth's meals were far tastier and could be mixed and matched. The prepared meals had become so common in the City that few people even knew what the raw ingredients looked like.

For the occasional treat, Sam liked to go to one of many Interhealth restaurants in the city. Each restaurant had two types of service. One where you could sit down for a meal and be served, and the other where it was for take out only. Always pressed for time, Sam usually went the take out route. It cost a bit more, but Sam liked the convenience. Many of Sam's friends preferred the food from Nutrisci, but Sam liked to stay loyal to Interhealth. After all, Sam also frequented Interhealth's healthcare system as well.

The nephrologist Sam was seeing is a part of Interhealth's healthcare system. Along with the nephrologist, Sam also saw a cardiologist, a gastroenterologist, and a urologist. Most of the population would not be able to afford all these specialists, but Sam knew he was lucky. He was able to afford the healthcare and pharmaceutical costs because he had a well paying job that subscribed to Interhealth's medical system. Most of the population in Canada were only provided six visits per year to a general practitioner.

"Mr. Christie?" Sam looked up from the magazine he was reading on his tablet.

"The doctor will see you now."

"Thank you." Sam put away his tablet and thought that maybe he would pick up some dim sum on his way home.

Scenario Context

Interhealth and Nutrisci are the two companies essentially dominating North America's food and healthcare landscape by 2022. The build up came slowly at first, with each company having its roots in mass production, monoculture farms, and meal factories in Asia. The lower cost of labour and materials in Asia allowed food production companies to grow and produce food at a lower cost than in North American, but also allowed the companies to maintain a high profit margin.

The polar ice caps continued to rapidly melt, and the opening of Arctic shipping lanes in 2015 allowed the production and shipping of food and materials from Asia to be more efficient and cost effective. Suppliers in North America were no longer able to compete on the levels of cost and speed. Many food production companies either shut down or were forced to merge with each other to survive, leaving only a handful companies to control the world's food supply. Not only did the companies control what kind of food was grown and produced, they controlled its distribution as well.

Two companies, not content with the food supply control, Interhealth and Nutrisci diversified into healthcare as well. The idea was to control not only what a person ate, but also their healthcare and pharmaceutical needs. The companies were forming a closed loop in the life of a person. A resounding success, many governments soon found themselves having to negotiate with Interhealth and Nutrisci in order to balance a country's food and healthcare needs.

Most people in North America never see any problems with the arrangement. They just see it as more convenient. The large number of monoculture farms each company owns allow food production to be varied and packaged for each region. The decline in nutritional knowledge has meant that people in North America are now consuming large quantities of highly processed food, high in fats and preservatives for a longer shelf life. By also controlling the healthcare system, companies such as Interhealth and Nutrisci generate enormous profits as they feed and care for a population.

Backcast Timeline

Time	Event
Present	Climate change results in melting polar ice caps.
	Most manufacturing moved to BRIC countries.
	Western countries shift economies to be finance-based.
	Work hours longer to be more “productive”.
	Arctic shipping lanes open.
	Most food production moved to BRIC countries.
	Nutrition no longer a priority for countries.
	Food companies buy or merge with healthcare companies.
	Many countries release healthcare to corporations.
2022	Fresh food rarely available, packaged only option.

Table 3: Backcast timeline for the Lifecycle.

4

Scenario 4: The Relocation

Finding new meaning in cooking together when there is no work, no money, and no friends.



Janet Thomas stared out the window at the CN Tower as the train slowly made its way into Toronto's Union Station. She had only visited Toronto once before when she was younger and on vacation with her parents. Now, she is relocating to the city after spending most of her life in Alberta, just outside of Fort McMurray.

The last few weeks were a whirlwind for Janet. She had been looking for work for several months after being released from Sinopetro. Once an almost unstoppable force on the economic landscape, production in the oil sands by Sinopetro have been dwindling steadily over the years. The widely popular, environmental regulation and carbon taxes have made the oil sands a costly place to produce a product that many people and organizations are declining to use because of its cost.

A computer engineer by trade, Janet managed the computer systems for Sinopetro's Athabasca oil sands production and refineries. At one point, Janet remembers an almost insatiable appetite for oil from the region. The decline in production wasn't noticeable at first, but the decline never stopped. The world did not want dirty oil anymore.

When Janet was finally released by Sinopetro, she immediately set her sight on finding a job. The preference to remain near her home in Alberta diminished as the weeks past. As her savings slowly diminished, Janet enrolled in community cooking classes to learn how to cook. It was a new experience for her. As a busy manager, she barely had any time to herself and usually bought prepared food. Even when she did have some time, Janet preferred to eat out to see her friends anyway. When Janet realized she would need to save money, she also realized that she barely knew how to cook or even what kind of food to buy. Deep frying was always a comfortable fallback. This was all a new experience for her.

Janet doesn't remember much of Toronto when she first visited as a child. Anything that she knows now is through the media and pictures. When she got the call with a job offer in Toronto after several video interviews, she immediately accepted. Janet wasn't overly desperate for money, but after several months of being out of work, she was feeling lonely and isolated. Having a small budget meant that she could not afford to go out with her friends. Her tiny bachelor apartment didn't lend itself to entertaining either. Slowly, Janet found herself somewhat isolated when she couldn't afford to go out.

The new job offer meant relocating to Toronto, but in Janet's mind, it was a chance for a fresh start. Her new company helped her find a small bachelor apartment towards the edge of Toronto's borders, and Janet made sure she researched the area online, so that she knew where all the grocery stores with local produce were located. Transportation of goods had become expensive from the cost of oil, so Janet knew she had find local food

sources. The new position wasn't as lucrative as her previous job, but Janet decided that she should make use of some of her new cooking skills. Saving some money on food could mean a few more opportunities to go out with new people. Janet knew that she wouldn't have much to start with, but at least she would have something to build on.

Scenario Context

Demand for bitumen from the oil sands was a large driver in Canada's economy. By 2022, the world had shaken its addiction to fossil fuels. The increase in greenhouse gases, poor air quality over cities, melting polar ice, and flooding shorelines finally pushed several industrial countries to cut back on pollution through legislation, carbon taxes, and heavy duties on any imported goods that had a large carbon footprint.

Large oil corporations became a popular target for carbon and pollution taxes, with much of the tax revenue going towards the cleanup of the environment. The pollution taxes have widespread public support despite to rise in oil prices. Many oil companies merge to survive, or downsize to maintain shareholder profit levels. The collapse of the Euro monetary unit due to the continuous bailouts of the weaker economies of Portugal, Ireland, Italy, Greece, and Spain, also played a part in the weakening of the economy.

The Euro collapse and the loss of oil revenue meant lost jobs in the oil sector, and people began migrating away from the oil sands to other parts of Canada. Many people that worked in the oil sands found themselves almost as outcasts within their own communities, unable to afford many items or luxuries such as being able to go out with friends. Large oil corporations were labeled as polluters, with the stigma of having worked for one, carrying over to employees.

Backcast Timeline

Time	Event
Present	Environment and air quality degrade rapidly.
	Governments imposes taxes on polluters.
	Pollution tax revenue funds environment cleanup.
	Price of oil skyrockets from tax increases.
	Transportation reduced or changed from oil cost.
	Oil companies either change or collapse.
	People migrate to look for work.
	Some cities struggle to house influx of people.
	Imported food items become very expensive.
2022	People learn to cook again to save money.

Table 4: Backcast timeline for the Relocation.

Scenario Implications

The previously developed scenarios were of possible futures based on the trends and drivers identified. It is uncertain which future may unfold over time, but each scenario should be considered as a potential future with outcomes that will have implications for present goals of an organization. If the scenario is ideal, a person or organization may attempt to address the driving forces behind the scenario in order to make that future happen. If it is an undesirable scenario, changes may be addressed to attempt to prevent that potential future. (Van Der Heijden, 1996).

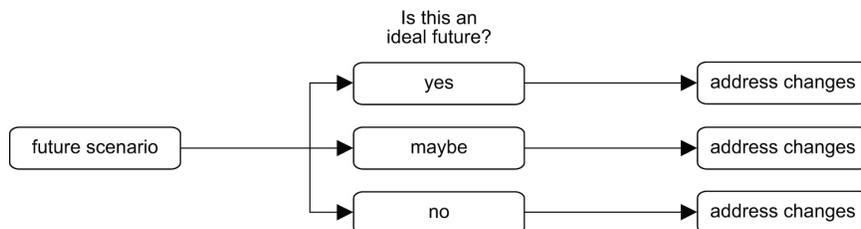


Figure 13: Measuring how a scenario fits with the stated goal.

Looking back at the goal stated at the beginning of this project, we can measure whether each developed scenario would be an ideal future for our goal.

The goal of this project is to develop potential concepts and strategies to encourage people to choose to eat more nutritious foods to better improve the health of people in the City of Toronto.

Scenario	Is this future ideal?
1. The Dinner Party	Yes. People have access to local nutritious food.
2. The Numbers	Maybe. People have access to nutritious food, but not necessarily to local sources.
3. The Lifecycle	No. Corporations control the entire life of a person.
4. The Relocation	Maybe. People do not have good access to nutritious foods, but locally-grown foods are available.

Table 5: Measuring our goal with each future scenario.

Existing Strategies

There are many current strategies in Toronto that attempt to change the way people think about food, and what they choose to eat. Health Canada produces Canada's Food Guide to inform the public about nutrition (Health Canada, 2011). Interviews with Lulu Cohen-Farnell (2012), Janaki Hadida (2011), and Lisa Shamai (2011) show that individuals and organizations are willing to promote and educate the public about the benefits of locally grown food and nutritious eating. Adam Vaughan (interview, 2012) and Michael Wolfson (interview, 2011) of the City of Toronto indicate that steps are being taken to improve access to more nutritious food in the city.

Despite these efforts, random survey results and the continuing declining health trend of the population is showing that the impact of these initiatives have been minimal. The trend of locally-sourced food may not last, and there may be overly optimistic projections about its longevity. The interviews with Cohen-Farnell, Hadida, Shamaï, Vaughan, and Wolfson reveal the many current strategies to increase the awareness of nutritious food benefits in Toronto are similar to the product development methodology (PDM).



Figure 14: Product development methodology (PDM).

Based on a person's or organization's idea, product development methodology (PDM) places most of the emphasis on the initial launch of a product or service as the indicator of success. The tendency is then to continue investing "substantial" time, money, and resources into the product or service without truly evaluating whether it was suitable for the market in the first place (Osterwalder and Peigneur, 2010).

In most initiatives, an assumption has been made that people want to eat nutritious food. Research findings are showing that most people are not choosing that type of food, so the question becomes:

What can influence people to choose more nutritious food?

Strategies for Future Innovation

In reviewing our research findings, we have discovered that there are many driving forces that influence people’s decisions around food. In the following diagram, we look at the decisions to eat nutritious food as being influenced directly and indirectly.

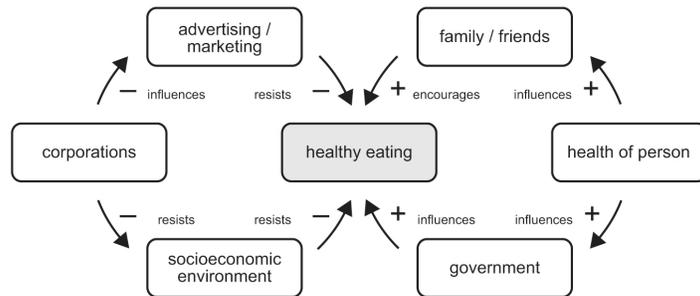


Figure 15: Influences on food choices.

Looking back the future scenarios that were developed, it was reasoned that *Scenario 1: The Dinner Party*, was an ideal future that would achieve the goal of having more people choose more nutritious food. Using only one strategy would not likely succeed, but a series of strategies that touches on each of the STEEPV (social, technology, economic, environment, political and value) categories may have a better chance of altering the driving forces that influence people’s decisions.

Strategy Direction 1: Change the Thinking

There are many factors that influence the health of a population, and one way to increase a population’s health is to get people to eat more nutritious foods. However, in a modern urban environment, people rarely like being told what to do. Current initiatives researched in this project are showing that they are not completely effective because health trends are still showing increasing obesity rates (Ludwig et al., 2001). In order to bring about more positive change, people’s thinking needs to be changed.

An underlying perception among many people is an incorrect notion of their own health.

Influencing the way a population thinks about food would not be an easy task, but people have to want to be healthier in order to change.

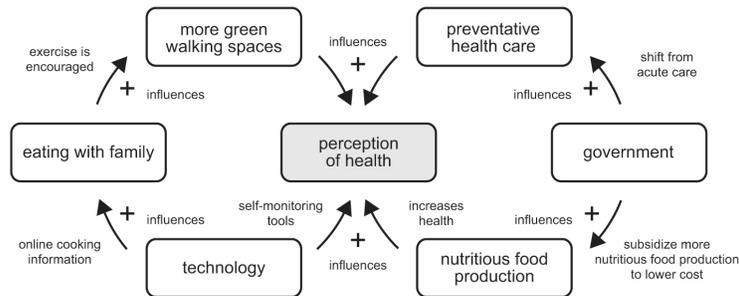


Figure 16: Influences on perception of health.

Strategies

Category	Strategy
Social	In Canada, the medical system is primarily for the treatment of people after a person has suffered an acute injury, or has been diagnosed with a chronic disease. Shifting the medical system more to preventative care would help prevent sickness and encourage a healthy lifestyle (Laux, 2012).
Technology	Making technology available to the general public would help many people monitor their own health. It could take the form of attachments for smartphones, scanning stations located throughout the city, or online access to medical staff for routine questions to allow for self-examination. Technology would not replace seeing a doctor or specialist in person, but would allow individuals to have a greater awareness of their own health.
Economic	Subsidizing nutritious food, both in cost and availability for the public would help encourage its consumption by making it more convenient and less expensive to buy. Subsidies would be eventually returned in lower public medical costs.
Environment	Changing the way people live in a city by redesigning transportation systems and walking areas, particularly in the Toronto downtown core, would change how people move and think about their active time (Rydin et al., 2012).
Political	Municipal legislation could be enacted to make fast-food outlets appear more generic and even less convenient. Adam Vaughan, a Toronto City Hall councillor is attempting to enact legislation that will require builders to build more family units in new condominium projects rather than single occupancy units. His idea is that when people eat together, they are more likely to cook together (Vaughan, interview, 2012).
Values	Making routine medical exams a part of society's thinking would require changing how medical care is provided. Many people do not visit a physician on a regular basis and assume that they are healthy because they are feeling no symptoms, and do not have any problems, but that may not be the case. Many symptoms may take time to develop or be masked until discovered through routine exams. Routine visits to a family doctor will provide a person with on-going knowledge of their own health.

Table 6: Strategy directions to change the thinking.

Challenges

Shifting the way medical care is provided is an enormous task. The current system is firmly entrenched not only in government legislation, but also with corporations that are involved with providing insurance, medical services or products, and in people's minds. For many people, going to see a doctor is a matter of inconvenience that is only done when the person is sick or injured. It is also unlikely that any legislation requiring regular medical exams would be very popular with the population (Laux, 2012).

Technology to monitor one's own health would help many people, but the current cost of medical technology would be prohibitive for widespread use. The sharing of personal medical monitoring devices would help to keep costs lower, provided that there is a willingness to share. Similarly, the cost of transforming a city's transportation system would be high and require time, but small changes could be achieved more quickly, such as increasing bike lanes and pedestrian-only areas in the downtown core. Any legislation to change building codes, or to subsidize any food items will face many hurdles (Vaughan, interview, 2012). Developers and food producers are not likely to agree to any legislation that limits their business, and as a result, they may attempt to stall or stop any new laws being written.

Subsidizing more nutritious food to make it more available to people would be a step towards reducing the desire to purchase prepared foods. The City of Toronto is already experimenting with making access to more nutritious food easier with food trucks that travel between lower-income neighbourhoods with low nutritious food access. People are able to purchase locally-grown vegetables from the City food trucks without having to travel and carry food over long distances (Wolfson, interview, 2011).

Many influences need to come together to encourage healthy lifestyles.

When healthy lifestyles have a greater appeal, people will want to eat more nutritious food.

Strategy Direction 2: Encourage the Local

The movement of goods through trade has increased over the years because of the promotion of “consumption-based growth” (Swinburn et al., 2011). This has had a detrimental effect on local food producers because imports are often less expensive than locally-produced food.

When a country reduces the reliance on global food distribution systems, it encourages local production (Starr, 2010).

The online survey done for this project showed that a third of the respondents cited budget as a challenge to their food purchasing (Appendix F). In order for local producers to thrive, a series strategies would be required to influence this outcome.

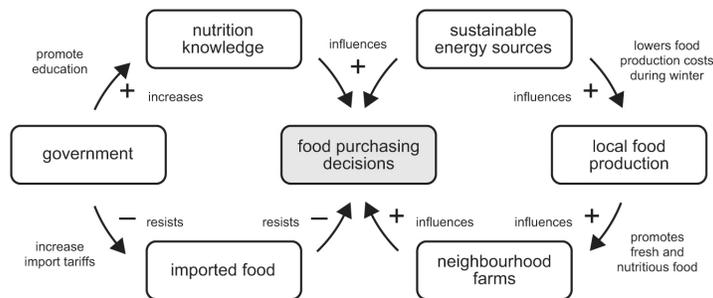


Figure 17: Influences on food purchasing decisions.

Strategies

Category	Strategy
Social	Locally-produced food is currently a trend, but it must gain more traction with the public in order to remain an influence. More public awareness of the people that produce food would give a personal connection that a factory farm would not be able to produce.
Technology	Canada's seasons make it challenging to produce food during the winter, and would likely require the use of greenhouses during those months. Technology, such as solar panels and windmills to increase the efficiency of greenhouses would lower the cost of producing food during the winter.
Economic	Subsidies for renewable energy technology in farming would encourage more implementation and in turn, lower the cost of locally-produced food.
Environment	Change Toronto city bylaws to encourage smaller, neighbourhood farms that can produce food for a few households. The use of existing space, particularly on top of buildings in the downtown core, would reduce the amount of transportation required for food shipments from outside the city.
Political	Winter may still require the importation of some food, but seasonal tariffs on any imported food that can be produced locally in a greenhouse could be taxed during the winter.
Values	Making nutritious and healthy food more important is challenging when survey results show that many people view their food budget as more important. Doing this would require more education for students from an early age so that they understand the importance of what they eat.

Table 7: Strategy directions to encourage the local.

Challenges

There are many global economic factors that influence how food is produced and distributed, and globalization is a major factor. Establishing trade tariffs would help local farmers because they would no longer have to compete with lower priced items from overseas markets. Tariffs on all imported food may be too wide-sweeping when taking into consideration the Canadian climate, so seasonal tariffs could be set on produce that is available in Ontario during the growing season. The trend of locally-produced food would have a better chance of continuing and firmly establishing itself in the mindset of the City's population. People would also begin to understand that food is seasonal, and that certain foods are not necessarily available year round (Starr, 2010).

The use of greenhouses to grow food during the winter months could increase through more subsidies to keep food purchasing costs lower for the consumer. Greenhouses do use a large amount of energy, so any additional greenhouse use must also include the use of renewable energy sources such as wind turbines. Rather than rely on a few very large greenhouses, new legislation could allow the building of small rooftop greenhouses to allow a building to grow their own food even during the winter.

Rooftop gardens are similar to many immigrants' vegetable yards in Toronto in the early 1900s. Growing their own produce at home was a common practice for many families with low incomes until supermarkets began to dominate the urban landscape (Vaughan, interview, 2012). The idea of growing one's own food is an idea that may take hold once more if it were made a part of the education system. Caring for a small vegetable garden at school could be made a part of the education curriculum from an early age. In addition, giving the younger generation a voice in food policies would encourage many to carry on advocating for more nutritious food access as adults (Sawyer et al., 2012).

Strategy Direction 3: Cooking Desire

In this project’s survey, many people responded that time and convenience were factors in choosing to purchase prepared food items such as whole roasted chickens. Their convenience make these items highly profitable for supermarkets according to chef Mark McEwan (interview, 2012). Prepared food items however, are detrimental to a person’s health because they are often high in sugar, sodium and fat (Burke, 2011).

Cooking from scratch, rather than buying prepared food items, allow a person to control their sodium and fat intake.

Influencing people so that they desired to cook for themselves would mean changing many of the driving forces at work. Research by Robert Albritton in 2009 found that for many people, a “lifetime” of eating habits can be “formed” at an early age. Using several strategies may help to change some habits, but also to form more nutritious eating habits in a younger generation (Sawyer et al., 2012).

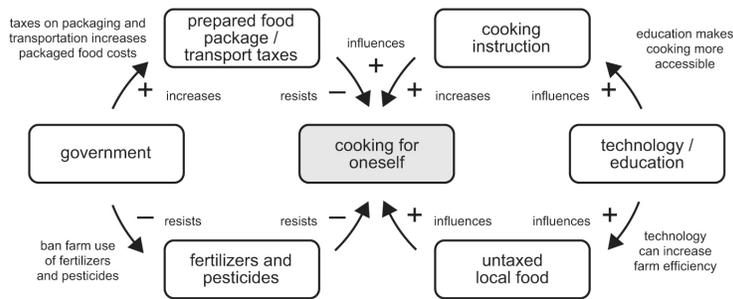


Figure 18: Influences on cooking for oneself.

Strategies

Category	Strategy
Social	Introducing cooking classes in schools at an early age for students would equip them with the knowledge of how to choose the proper foods and to cook later on in life.
Technology	Cooking could be assisted more by making online cooking instructions more personal. Websites could be customized to allow the input of various ingredients and be able to put together a variety of recipes.
Economic	Higher taxes on the packaging and transportation of prepared foods would discourage their purchase by most consumers. Local food producers would benefit and increase the popularity of foods traditional grown in the region (Gregory et al., 2005).
Environment	Many packaged foods start at factory farms where there is a heavy use of fertilizers and pesticides. Banning such products would force farms to rely on more sustainable farming practices and even reduce the size of farms.
Political	Similar to alcohol and tobacco laws, ban any advertising for imported, packaged and long-distance transported food items. Media is a heavy influencer on eating habits (Beard, 2003, Martin et al., 1999), so shifting the focus by subsidizing advertising for local food producers would help to influence people to purchase more locally-produced food.
Values	Adopt stricter work-to-life balance rules so that people will make the time to cook and eat with families. Current demands of many professions means that work also goes home for many people.

Table 8: Strategy directions for cooking desire.

Challenges

According to the United Nations, it is “every person’s right to have access to healthy and nutritious food” (United Nations, 1999), but many people are only choosing to eat based on time and convenience (Warde et al., 2007). The demands on people’s time have resulted in the popularity of “food assembly”, the combination of several prepared food items rather than cooking from scratch (Engler-Stringer, 2010).

Disrupting this pattern of eating would require time and several strategies employed together. Businesses are likely to resist any sort of legislation, but some may be required to ensure that once people are away from the workplace, they really are away from the workplace and not be expected to checking and responding to email communications. People’s own lifestyle continues to play a role in today’s trend of rising obesity rates

(O'Neil et al., 2011). Allowing people to achieve a more personally balanced work-to-life ratio could give people the sense that they have time to cook.

Additional legislation could be enacted on the federal, provincial or municipal level to further deter people from purchasing prepared foods. Banning the advertising that entice people to save time by purchasing packaged foods removes the messaging of convenience. Prepared foods also require packaging to transport, so imposing taxes on the packaging itself rather than the food, a cost deterrent is formed without creating the notion that food is being taxed. Additional taxes could also be added to the transportation cost of prepared food items from large processing facilities. Using a per kilometer tax, the farther a packaged and prepared food item has to travel, the higher the tax imposed.

The tax revenues in turn could be used to fund more cooking education in schools. By teaching students to cook at an early age, more nutritious eating habits are more likely to be formed and carried on to adulthood (Albritton, 2009).

When people have the knowledge and skill, and are able to make time for themselves, they are more likely to cook for themselves.

Combining and Coordinating Strategies for Action

The three strategic directions are broader in scope and influence by touching on each of the STEEPV categories (social, technology, economic, environment, political and values), but they must also be executed by all stakeholders groups, such as health organizations, government, education and businesses.

Health Organization Strategies for Action (includes Health Canada and healthcare facilities)	
Strategy	Action Points
Shift the health system from acute care to preventative care.	<ul style="list-style-type: none"> • More direct focus about prevention by doctors. • Equip healthcare facilities with more preventative health monitoring systems. • Monitor and enforce a policy of more visible amounts of nutritious foods available in grocery stores.
Encourage preventative health through more frequent self-monitoring.	<ul style="list-style-type: none"> • Promote smartphone apps that allow a person to self-monitor vital systems such as pulse and blood pressure. • More nurses in healthcare offices and schools to help monitor a person's health.
Connect with more people through the Internet and portable technology.	<ul style="list-style-type: none"> • Small mobile teams with technology in vehicles that can travel to different communities. • Internet access portals to talk to doctors.
More public awareness of preventative healthcare and self-monitoring.	<ul style="list-style-type: none"> • Encourage preventative health awareness through media campaigns and community groups. • Publish and enforce more food nutrition guidelines for grocery stores and restaurants. • Coordinate with the CRTC regarding food advertising guidelines and enforcement. • Restrict food advertising to certain broadcast times and media types.

Table 9: Health organization strategies for action.

Government Strategies for Action (all levels of government)	
Strategy	Action Points
Subsidies for locally-produced nutritious foods.	<ul style="list-style-type: none"> • Subsidize renewable energy sources for farms. • Transfer duty revenues from imported foods to local and regional farms. • Reduced corporate taxes for grocery stores that sell locally-produced nutritious foods. • Subsidize school nutrition programs. • Subsidize free delivery of online ordered nutritious foods to lower income families.
Make prepared foods less appealing to people.	<ul style="list-style-type: none"> • Generic packaging laws for prepared foods, including fast-food restaurants.
Taxes on prepared foods.	<ul style="list-style-type: none"> • Special tax on the packaging required for prepared food items, such as packaged lasagnas, french fries and roasted chickens.
Seasonal tariffs on imported food and prepared food items.	<ul style="list-style-type: none"> • When locally grown foods are in season, impose tariffs on the same imported foods. • Impose a transportation distance tax on foods coming from outside of the country.
Encourage sustainable farming.	<ul style="list-style-type: none"> • Ban fertilizers and pesticides for food production. • Ban any imported food item that uses fertilizers and pesticides in its production.
Encourage people to exercise more frequently.	<ul style="list-style-type: none"> • Redesign the city to make walking, biking and public transportation the priority. • Pollution taxes on personal combustion-based vehicles.

Table 10: Government strategies for action.

Education Strategies for Action	
Strategy	Action Points
Make food production a part of the school curriculum.	<ul style="list-style-type: none"> • Teach food production from an early age. • Establish school vegetable gardens.
Teach all students to cook.	<ul style="list-style-type: none"> • Make cooking classes part of the curriculum. • Build school kitchens for students to learn how to cook. • Have students cook lunches for the other students in the school for extra credits.
Encourage students to have a voice in food policies.	<ul style="list-style-type: none"> • Give students a voice in school food policy. • Place student representatives in local government meetings regarding city food policies.

Table 11: Education strategies for action.

Business Strategies for Action	
Strategy	Action Points
Promote local food producers.	<ul style="list-style-type: none"> • More prominently visible displays of nutritious local foods in grocery stores. • Include designated space in grocery stores for mini farmers' markets.
Make nutritious food more available.	<ul style="list-style-type: none"> • Reestablish the green grocer concept of small neighbourhood stores that sell only nutritious foods. • Mobile trucks that sell nutritious food to neighbourhoods with poor access to grocery stores. • More fresh produce available online with free delivery to lower-income families.
Fund community groups that teach and promote the use of locally-produced food.	<ul style="list-style-type: none"> • Donate fresh vegetables to community kitchen programs. • Donate food to school nutrition programs. • Provide space at grocery stores for community gardens.
Increase the health benefits of store prepared food items.	<ul style="list-style-type: none"> • Work with chefs and nutritionists to build healthier options in store prepared foods. • Reduce the use of fat, salt and sodium in prepared foods.
Better information to store customers of food nutrition information.	<ul style="list-style-type: none"> • More nutrition signage on all foods in store. • In-store nutritionists to answer customer questions. • Use of bar or QR codes to access more nutrition information through smartphone scanning. • Make healthy cooking information more accessible through store websites.

Table 12: Business strategies for action.

Past efforts to reduce smoking was found to be more successful over time when all stakeholder groups, from schools, to community groups and governments, combined their efforts (Wakefield et al., 2010). Therefore, combining and coordinating the strategic actions of all stakeholder groups for nutritious food choices are more likely to influence people to change their thinking about their own health, choose locally-produced nutritious foods and to increase the desire to cook for themselves.

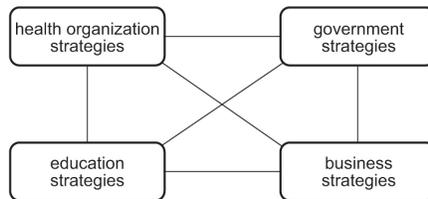


Figure 19: Combining strategies for action for all stakeholder groups.

Strategy Implementation Start Point: Education

Lifelong habits are often formed at childhood (Albritton, 2009), so children’s education would a logical place to start implementing some of the many strategies suggested in this research project. Currently, the Ontario curriculum does not include much education in regards to food, except for basic information in relation to choosing a balance of food groups based on the Canada Food Guide (Ontario Ministry of Education, Health, 2012). School food programs are often provided from other sources, such as community groups, including Lulu Cohen-Farnell’s Real Food for Real Kids (Cohen-Farnell, interview, 2012).

In the province of Ontario, the school curriculum is set by the Ministry of Education, and is in turn implemented by the individual school boards and teachers. The Ministry’s curriculum policy is advised by the Curriculum Council and individual school councils which are each comprised of educators and members of the community (Ontario Ministry of Education, Curriculum Policy, 2012). Making any changes or additions to Ontario’s curriculum would require several steps, but starting with only one school and following the customer development methodology (CDM), there is a better chance of success.

CDM starts with a smaller group and takes time to evaluate the success and failures of various implementation points. This allows an organization to mitigate the cost of implementing a new strategy by being able to make changes before organization-wide implementation (Osterwalder and Peigneur, 2010).

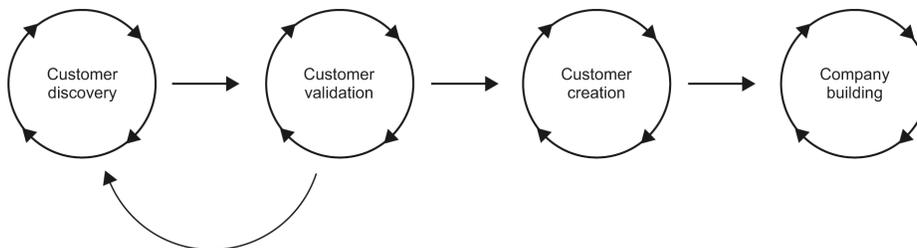


Figure 20: Customer development methodology (CDM).

Step	Implementation Actions	Time Frame	Approx. Costs (\$)
Influence Ontario Curriculum Council	<ul style="list-style-type: none"> Identify members of the Ontario Curriculum Council and a selected school council. Meet and lobby for the addition of a food program in elementary classrooms, using one school, or even one class as a start point. 	6 months	\$1,000 for information materials
Establish community and business partners	<ul style="list-style-type: none"> Meet with community and business groups to help participate in the program by donating resources, such as seeds. 		
Set up participating school	<ul style="list-style-type: none"> Set up at least one elementary classroom with: <ul style="list-style-type: none"> – information materials – seeds, soil, pots, trowels – standalone cooking burner, cooking utensils Set up small outside vegetable garden. 	1 week	\$4,000 per classroom of approx. 25 students
Implement program at one school	<ul style="list-style-type: none"> Teach students how to grow vegetables Teach how to cook vegetables Teach benefits of nutritious food Encourage students to influence parents 	1 year	N/A
Evaluate program	<ul style="list-style-type: none"> Ask students how they felt after eating their own vegetables. Ask students how they would like to cook the vegetables they grew. Ask students what type of vegetables they would like to grow next. Interview students and parents about student's desire to eat their own grown vegetables. Implement any suggested changes by students or parents. 		
Implementing program in Ontario	<ul style="list-style-type: none"> Evaluate all feedback from students, parents and teachers. Make any required changes and re-evaluate program in the same school. When program is considered satisfactory to all stakeholders, implement province-wide. 		

Table 13: Implementation steps for education in Ontario.

Continuous education about the benefits of nutritious food and hands-on activities such as the growing and preparation of food will give students a better understanding of how food is produced. Using CDM for implementing changes to the school curriculum in small steps, would keep initial costs down and allow time for adjustments to be made before a province-wide implementation. A similar CDM strategy could also be used to implement strategies for businesses, government and health organizations.

Conclusion

Many people in modern urban areas have lost a connection to the agricultural source and production process of the food they purchase and eat. When people migrated from rural environments to urban environments, the process of obtaining food shifted from self or locally-grown, to purchasing in grocery stores and restaurants. This research project began with a literature review, expert interviews and random surveys to discover:

- 1. What factors influence people's food purchasing decisions?**
- 2. What factors influence food distribution and access that may in turn lead to influencing people's food purchasing decisions?**

More people are now eating at restaurants or utilize prepared food assembly, rather than spending time preparing meals from scratch. Grocery stores include a large prepared meals section, where items such as pizza, lasagna, mashed potatoes and roasted chickens, may be easily purchased by people on their way home from work. This change in the way people eat has been shown to be detrimental to health, as people's awareness of a food's nutritional value and health impacts diminished over time, causing an increased use and burden on the health system (Burke, 2011).

The research in this project found that no one factor was responsible for influencing people's food purchasing decisions. By categorizing the gathered data into trends and drivers using the STEEPV methodology for this research project, a combination of many factors were discovered to be an influence on people's food purchasing decisions. Some factors such as population migration would influence where people lived, while globalization might influence where people bought food, and even the type of food. A number of the expert interviews and some of the literature reviewed also found that many of the current strategies to promote more nutritious food have been done in isolation and

based on the efforts of addressing one factor, such as education, rather than a number of influencing factors. Many past campaigns against prepared food have been “fractured” and “lost” in today’s media environment (Wakefield et al., 2010).

People have to desire to be healthy, without being told that they must be healthy. It may take a series of measures and many years to influence people. The future scenarios developed in this research project showed how trends and drivers may combine in different ways to influence a different potential future. Using the same idea, a more ideal future where people are choosing more nutritious foods could be influenced by using several strategies together, rather than in isolation. No one solution exists to make people want to eat more nutritious food.

Raising people’s sensitivity to nutrition would be better achieved through the combined and coordinated efforts of health organizations, all levels of government, education and businesses.

And over time, increasing the amount of nutritious foods people eat will ultimately increase the health of the people in the city.

Bibliography with Selected Summaries

Active Healthy Kinds Canada (2012). *Is Active Play Extinct? Report Card on Physical Activity for Children and Youth*. Retrieved from <http://dvqdas9jty7g6.cloudfront.net/reportcards2012/AHKC%202012%20-%20Report%20Card%20Long%20Form%20-%20FINAL.pdf>

Albritton, Robert (2009). *Let Them Eat Junk: How Capitalism Creates Hunger and Obesity*. Winnipeg: Arbeiter Ring Publishing.

World War II promoted a sense of community, but post-war, a sense of “individualism” developed after years of sacrifice (p. 72). Capitalism flourished in the 1950s and 60s because of the “fear” of being labelled a communist. As a result, corporations were allowed to operate as they pleased, largely unchecked (p. 61). For many companies, “consumerism is getting people to want what they do not need”, with marketing and advertising directed toward young children because they are “easily manipulated” and that “lifetime” eating habits are formed at childhood (p. 69). Advertising and marketing “influence” choice in people (p. 168), so consumer choice is actually “artificially” constructed through social structure and economic status (p. 166).

Alpert, P.T. (Apr. 2012). Sugar: the Good, the Bad, and the Ugly Facts. *Home Health Care Management Practice*, 24 (208). Retrieved from <http://hhc.sagepub.com.ezproxy-library.ocad.ca/content/24/4/208.full.pdf+html>

Arundel, C., Clutterbuck, P., and Cleverly, S. (Mar. 2005). Putting Theory into Practice: Asset Mapping in Three Toronto Neighbourhoods. Carly Arundel and Associates. Retrieved from <http://www.toronto.ca/demographics/sntf/rp5.pdf>

Bailey, M.A., Mumble, J., and Noel, H. (Jun. 25, 2012). Tea Party Influence: A Story of Activists and Elites. *American Politics Research*, 40 (5). 769-804. Retrieved from <http://apr.sagepub.com.ezproxy-library.ocad.ca/content/40/5/769.full.pdf+html>

Bank of Canada (2012). *Daily Exchange Rates*. Retrieved from <http://www.bankofcanada.ca/rates/exchange/10-year-lookup/>

Basker, E. and Noel, M. (Winter 2009). The Evolving Food Chain: Competitive Effects of Walmart’s Entry into the Supermarket Industry. *Journal of Economics & Management Strategy*, 18 (4). 977-1009. Retrieved from <http://onlinelibrary.wiley.com/store/10.1111/j.1530-9134.2009.00235.x/asset/j.1530-9134.2009.00235.x.pdf?v=1&t=h5mrv4v4&s=8575278185e6ad2aa2532a8f45722bab6eaa9726>

Batten, J. (2004). *The Annex: The Story of a Toronto Neighbourhood*. Erin: Boston Mills Press.

Beard, F.K. (Dec. 2003). College Student Attitudes Toward Advertising’s Ethical, Economic, and Social Consequences. *Journal of Business Ethics*, 48 (3). 217-228. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/25075179.pdf>

For many companies, college students with a larger disposable income are an important consumer segment because they are early adopters and trendsetters, influential to peers and parents, establish brand loyalties that last, and often have a higher standard of living after graduation (p. 218). Businesses feel that advertising is to “raise the level of education in consumerism” to function in the marketplace (p. 219). Beard studied the attitudes of college students to advertising and found a “healthy sense of skepticism toward advertising”, and its ability to “manipulate” people to buy what they do not need (p. 226).

Bedore, M. and Donald, B. (Dec. 20, 2010). Revisiting the Politics of Class in Urban Development: Evidence from the Study of the Social Dynamics of Economic Performance. *Urban Affairs Review, March 2011 (47)*. 183-217. Retrieved from <http://uar.sagepub.com/content/47/2/183>

In this article, the authors study the social class barriers that exist in the city of Kingston, Ontario. Rather than a class division between the rich and the poor, the class division that appears in Kingston is one of “social inclusion” and “social exclusion” (p. 189). The authors concluded that because Kingston’s economy is largely government-based, this has resulted in some stagnation in its social integration. The income gap between middle to high-income people and low-income people has widened over the years, resulting in a poor north end of Kingston.

Little collaboration between civic, business and social leaders, combined with the lack of “entrepreneurial innovation” (p. 199), has resulted in Kingston’s north end being largely excluded from any development or integration. The people of the north end have little easy access to healthy food options. Yet, continuing conflict and apathy between political, social and business groups have done little to help alleviate the situation.

Behar, R. (Jul. 16, 2012). Too Big to Fail. *Forbes, 2012 (Jul. 16)*. Retrieved from http://content.ebscohost.com.ezproxy-library.ocad.ca/pdf27_28/pdf/2012/FRB/16Jul12/77488269.pdf?T=P&P=AN&K=77488269&S=R&D=bth&EbscoContent=dGJyMMvI7ESeqLE4yOvqOLCmr0qep7JSsKu4SLCWxWXS&ContentCustomer=dGJyMPGstUu3rLFPuePfgex44Dt6fIA

The World Bank was created to help finance the rebuilding of Europe and Japan after World War II. It went on to also assist developing nations to build infrastructure in projects from roads to schools (p. 91). Donor nations provide the capital, while the World Bank is to distribute the money according to agreed to formulas by donor nations. Even with its seemingly simple mandate, Behar writes that the World Bank is also one of the most dysfunctional and corrupt organizations the seems to answer to one. Despite past efforts to clean up the culture and system, the bank is so “obsessed with reputation risk that it reflexively covers up anything that could appear negative” (p. 86).

Besharov, Douglas J., Bitler, Marianne and Haider, Steven J. (2011). An Economic View of Food Deserts in the United States. *Journal of Policy Analysis and Management, 1 (30)*. 153-176. Retrieved from <http://dx.doi.org/10.1002/pam.20550>

The U.S. Farm Bill of 2008 defined a food desert as “an area in the United States with limited access to affordable and nutritious food”, yet the authors of this article contend that still “no progress” has been made as to why food deserts exist (p. 154). Healthy and nutritious food must be “geographically close” to people to be useful (p. 155). The article examines the many factors that may contribute to the existence of food deserts.

Factors such as land cost, supply, demand, competition and distance were considered in why grocery stores were located in certain areas, but also the shopping patterns of people in lower-income neighbourhoods. For example, people with lower incomes were willing to travel longer distances and spend more time grocery shopping in order to obtain the best value for their money. The authors do acknowledge there are many variables to consider in determining a food desert. Overall, they believe a better understanding of food deserts by policymakers will help in developing interventions.

- Bieling, H-J. (Jul. 19, 2012). EU Facing the Crisis: Social and Employment Policies in Times of Tight Budgets. *Transfer: European Review of Labour and Research*, 18 (3). 255-271. Retrieved from <http://trs.sagepub.com.ezproxy-library.ocad.ca/content/18/3/255.full.pdf+html>
- Bleahu, A., Davies, M., Dávila, J.D., Friel, S., De Grandis, G., Groce, N., Hallal, P.C., Hamilton, I., Howden-Chapman, P., Lai, K., Lim, C.J., Martins, J., Osrin, D., Ridley, I., Rydin, Y., Scott, I., Taylor, M., Wilkinson, P., and Wilson, J. (May 30, 2012). Shaping Cities for Health: Complexity and the Planning of Urban Environments in the 21st Century. *The Lancet, Web*. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)60435-8/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)60435-8/fulltext)
- Bonanno, A. (2010). An Empirical Investigation of Wal-Mart's Expansion into Food Retailing. *Agribusiness*, 26 (2). 220-242. Retrieved from http://onlinelibrary.wiley.com/store/10.1002/agr.20215/asset/20215_ftp.pdf?v=1&t=h5mro8vb&s=9dd54dbf0799388d8052b230e55290dc4fddf090
- Boody, G. and DeVore, B. (Oct. 2006). Redesigning Agriculture. *Bioscience*, 56 (10). 839-845. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/10.1641/0006-3568%282006%2956%5B839%3ARA%5D2.0.CO%3B2.pdf?acceptTC=true>
- Brown, Peter (Sept. 9, 2008). Simplifying Food Labels: The UK's Omni-Standard System. *TrendHunter*, 2012. Retrieved from <http://www.trendhunter.com/trends/omni-flowers-food-labellingfor-a-complicated-world>.
- Bucholtz, M. (2002). Youth and Cultural Practice. *Annual Review of Anthropology*, 31. 525-552. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/4132891.pdf>
- Burke, J.D. (2011). Just Food: Obesity Trends Demand System Strategies. *American Journal of Lifestyle Medicine*, May/June 2011 (5). 222-228. Retrieved from <http://ajl.sagepub.com/content/5/3/222>

Joanne Burke observes in her article that there is a “complex relationship between food and health” (p. 222). In the United States, 26.7 percent of the adult population was considered obese in 2010. Obesity is defined as a body mass index (BMI) of greater than 30 (BMI equals weight in kilograms divided by height in metres squared). Burke points out in her article that obesity has transformed from an individual problem to a “societal problem” (p. 223), with much of it being linked to easy access to low-nutrition, large portion and calorie-dense foods.

Burke also writes that there are unfortunate perceptions by the American population that healthier foods are not easy to choose and prepare, while fast-foods are more convenient and tastier. Much of this can be linked to social and economic inequities. Burke concludes that it is only when the inequities are addressed, that progress can be made on obesity.

Business Monitor International (Aug. 2012). At Risk to Losing to Other BRICs. *Business Monitor International*, 16 (8). Retrieved from http://content.ebscohost.com.ezproxy-library.ocad.ca/pdf27_28/pdf/2012/178C/01Aug12/77698471.pdf?T=P&P=AN&K=77698471&S=R&D=bth&EbscoContent=dGJyMMvI7ESeqLE4yOvqOLCmr0qep7JSsKa4TLGWxWXS&ContentCustomer=dGJyMPGstUu3rLFPuePfgexy44Dt6fIA

The economies BRIC countries of Brazil, Russia, India and China are showing signs of slowing down, and even possibly declining (p. 1). Considered by some analysts at one time to possibly even eclipse Western economies, BRIC nations are showing continuing problems with corruption, lack of financial transparency, persistent government intervention, and poor internal infrastructure (p. 2).

Caraher, Martin, Lloyd, Susan, Lawton, Julie, Singh, Gulab, Horsley, Kayt, and Mussa, Fozia (May 4, 2010). A Tale of Two Cities: A Study of Access to Food, Lessons for Public Health Practice. *Health Education Journal*, 2010 (69). Retrieved from <http://hej.sagepub.com/content/69/2/200>

The authors of this article studied two specific areas, Deepdale and Ingol, located within the city of Preston, England. Two small cities of roughly 130,000 people each, to the northwest in England, Deepdale and Ingol are two of the most disadvantaged areas in the county of Preston. What differentiates the two areas is that the population of Deepdale is primarily a South Asian Muslim background while Ingol is primarily Caucasian (p. 201).

The study focused on the differences in healthy food accessibility, cost, and the eating habits of the residents. The study found that larger supermarket chains were not within easy access in both areas, local convenience store owners did not fully understand what was considered a healthy food and that Deepdale residents actually spent less on healthier food options than Ingol residents. While the study showed that Deepdale residents were able to find better deals on healthier food options, the study did make assumptions as to what constituted healthier foods. The study did not take into account the larger immigrant population of Deepdale, which may select different types of foods that may be just as healthy as the study's base examples for healthy food.

- Catalano, R.F., Fagan, A.A., Gavin, L.E., Greenberg, M.T., Irwin, C.E., Ross, D.A., and Shek, D.T.L., (Apr. 28, 2012). Worldwide Application of Prevention Science in Adolescent Health. *The Lancet, Web*. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)60238-4/fulltext#article_upsell](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)60238-4/fulltext#article_upsell)
- Christensen, C., and Raynor, M. (2003). *The Innovator's Solution*. Boston: Harvard Business School.
- City of Toronto (2010). *Distance to Supermarkets*. Retrieved from [http://wx.toronto.ca/inter/health/food.nsf/0dad47ac378eabca85256dcd0059fa59/4AA90EE71B7A73048525789300640BBD/\\$file/Distance%20to%20Supermarkets%20&%20Income%201500m+%20\(FINAL\).pdf](http://wx.toronto.ca/inter/health/food.nsf/0dad47ac378eabca85256dcd0059fa59/4AA90EE71B7A73048525789300640BBD/$file/Distance%20to%20Supermarkets%20&%20Income%201500m+%20(FINAL).pdf)
- City of Toronto (2009). Food Asset Map: Scarborough Rouge Ward 42. Retrieved from [http://wx.toronto.ca/inter/health/food.nsf/0dad47ac378eabca85256dcd0059fa59/1AE07BF4C64CF888852576D9006137A1/\\$file/Ward%2042%20Scarb%20Rouge%20River%20LR.pdf](http://wx.toronto.ca/inter/health/food.nsf/0dad47ac378eabca85256dcd0059fa59/1AE07BF4C64CF888852576D9006137A1/$file/Ward%2042%20Scarb%20Rouge%20River%20LR.pdf)
- City of Toronto (2009). Food Asset Map: Toronto Rosedale Ward 28. Retrieved from [http://wx.toronto.ca/inter/health/food.nsf/0dad47ac378eabca85256dcd0059fa59/0C2DF11053F0281E852576E10041FC6D/\\$file/Ward%2028%20Toronto%20Centre%20Rosedale%20LR.pdf](http://wx.toronto.ca/inter/health/food.nsf/0dad47ac378eabca85256dcd0059fa59/0C2DF11053F0281E852576E10041FC6D/$file/Ward%2028%20Toronto%20Centre%20Rosedale%20LR.pdf)
- City of Toronto (2009). Food Asset Map: York West Ward 8. Retrieved from [http://wx.toronto.ca/inter/health/food.nsf/0dad47ac378eabca85256dcd0059fa59/2970A96D6563C0D0852576DA004E1B30/\\$file/Ward%208%20York%20West%20LR.pdf](http://wx.toronto.ca/inter/health/food.nsf/0dad47ac378eabca85256dcd0059fa59/2970A96D6563C0D0852576DA004E1B30/$file/Ward%208%20York%20West%20LR.pdf)
- City of Toronto (Mar. 2012). *Immigration Characteristics*. Retrieved from http://www.toronto.ca/invest-in-toronto/immigration_char.htm
- City of Toronto Public Health (February 2010). *Food Connections: Toward a Healthy and Sustainable Food System for Toronto*. Retrieved from <http://www.toronto.ca>
- Food Connections is a report commissioned by the City of Toronto's Public Health department. The report details how food production is the number one industry in Toronto, yet one household in ten cannot afford to eat a healthy diet (p. 3). By combining the forces of the municipal government, industry and communities, society can shift the production of food from a profit-based industry, to a health-based industry. The shift can only occur when all parties work toward the same goal.
- The report ends with six directions that all people in Toronto could take to help shift the city to a more health focused food system. While the report is approachable in its nature, it does admit the suggested ideas are not comprehensive, but only a starting point for discussion. Also noted is that the report had only one industry contributor, while the balance consisted of members of government or food-related non-governmental organizations (NGOs).

City of Toronto Public Health (Apr. 2012). *The Walkable City: Neighbourhood Design and Preferences, Travel Choices and Health*. Retrieved from http://www.toronto.ca/health/hphe/pdf/walkable_city.pdf

City of Toronto Public Health (Jun. 2010). *What We Heard. Summary of the Toronto Food Strategy Consultation and Engagement*. Retrieved from <http://www.toronto.ca>

As a continuation of the earlier *Food Connections* report, the City of Toronto Public Health conducted a series of community-based discussions on the topic of food access. Toronto is a large city by area, so rather than force people to travel to City Hall for the discussions, open forums were set up in various communities across Toronto. This allowed those unable to travel easily to be heard as well.

The report summarizes the key themes consistently discussed at the community discussions: affordability of food, distance to food stores, newcomers adjusting to new foods, food skills and diets of the youth, food quality and safety, food banks, employment and small businesses, local agriculture and the role of the City (p. 8).

Eastlack Jr., J.O. and Gao, A.G. (Winter 1989). Advertising Experiments at the Campbell Soup Company. *Marketing Science*, 8 (1). 57-71. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/184102.pdf>

The bulk of Eastlack and Gao article were details of how the Campbell Soup company conducted their advertising experiments. The summary of findings was revealing, in that through Campbell's experiments, they found that it was not the amount of advertising that was done that mattered, but what the content was and how it was done (p. 70). With these findings, Campbell's Soup was able to tailor their advertising messages to suit particular demographics and increase sales.

Elliot, C. (Jun. 2008). Marketing Fun Foods: A Profile and Analysis of Supermarket Food Messages Targeted at Children. *Canadian Public Policy*, 34 (2). 259-273. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/25463610.pdf>

Engler-Stringer, Rachel (Aug. 2010). The Domestic Foodscapes of Young Low-Income Women in Montreal: Cooking Practices in the Context of an Increasingly Processed Food Supply. *Health Education Behavior*, 2010 (37). Retrieved from <http://heb.sagepub.com/content/37/2/211>

The quantity of prepackaged and prepared foods has increased over the past fifty years in North America. In her article, Rachel Engler-Stringer examines the relationships between low-income, food availability, cooking practices and health problems. Agriculture Canada reported in 2005 that consumers were becoming increasingly "disconnected from food preparation" (p. 212). The author defines food preparation as the skill to cook food from scratch, but what is changing in Western culture is that people are now doing "food assembly". Food assembly is described as putting together a meal from several prepared food items (p. 213).

The lack of food preparation skills, particularly those with low incomes, are related to several factors. Less access to grocery stores, smaller food budgets, longer travel times and a lack of confidence were factors the author discovered from interviews with volunteer participants. The author concludes that while there is a desire to

increase the health of the population, more must be done to address the needs of those without access to fresh food.

Environmental Protection Agency (2012). *Major Crops Grown in the United States*.

Retrieved from <http://www.epa.gov/oecaagct/ag101/cropmajor.html>

Ferguson, C., Galetanu, M., Kalocsai, C., Khayat, Z., McCune, M., Mok, H., Moynie, B., Randall, D., Sowa, V., Srivastava, J., and Thevarajah, D. (May 2011). *Design for Change: Eating Sustainably*. Toronto: Cooler Solutions Inc. Retrieved from http://coolersolutionsinc.com/images/FoodSustainability2011_May13.pdf

Garland, A. (2008). *Immigration and Integration in Urban Communities: Renegotiating the City*. Washington: Woodrow Wilson Center Press.

Historically and currently, the trend is for immigrants to settle in urban areas of industrialize nations to seek better economic prosperity (p. xi). Migrants are “actors” rather than objects where the host community imposes its will. Migrants do not adapt or assimilate to their new community, but rather sustain their own traditions. They themselves promote change in the community by their presence and behaviour (p. 2). Has been argued that multiculturalism is a “veil” masking social, economic and political inequalities, or that multiculturalism is “fragmenting” the national identity (p. 178). New immigrants often adopt the “discourse of citizenship rights”, regardless of culture, while existing, long-residing citizens often present the argument of “guardian of the landscape” (p. 186).

Gladwell, M., Schor, J.B. and Holt, D.B. eds. (2000). *The Coolhunt. The Consumer Society Reader*. New York: New Press.

Good, K. (2009). *Municipalities and Multiculturalism: The Politics of Immigration in Toronto and Vancouver*. Toronto: University of Toronto Press.

Gordon, A. (2008). *Future Savvy*. New York: AMACOM.

Gortmaker, S.L., Swinburn, B.A., Levy, D., Carter, R., Mabry, P.L., Finegood, D.T., Huang, T., Marsh, T., and Moodie, M.L. (Aug. 27, 2011). Changing the Future of Obesity: Science, Policy, and Action. *The Lancet*, 2011 (378). 838-47. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(11\)60815-5/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(11)60815-5/fulltext)

Gregory, P.J., Ingram, J.S.I., and Brklacich, M. (Nov. 29, 2005). Climate Change and Food Security. *Philosophical Transactions: Biological Sciences*, 360 (1463). 2139-2148. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/30041400.pdf>

This article examined some of the systems that may affect a nation’s food security, which is defined as being able to access nutritious food at all times to maintain health. Very few places are completely self-reliant on food, with some sort of exchange taking place to bring in more food (p. 2141).

Climate change is a factor that may help developed countries such as Canada to grow more food, but detrimental to developing countries in the form of drought conditions, which in turn would cause global food prices to rise due to increased demand on producing countries (p. 2140). In addition, economic growth in countries

- has caused changes to diets away from traditional foods, which impacts farmers that only grow traditional foods (p. 2145).
- Haldenby, T., Kwong, K. And Ryan, M. (2011). *The Future of Human Creativity in Design*. Toronto: OCADU.
- Health Canada (2011). *Canada's Food Guide*. Retrieved from <http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index-eng.php>
- Hines, A. and Bishop, P. (2006). *Thinking About the Future: Guidelines for Strategic Foresight*. Washington: Social Technologies.
- IDEO (2011). *Method Cards App*. San Francisco: IDEO.
Retrieved from <http://www.itunes.com>
- Iyer, G., Soberman, D., and Villas-Boss, J.M. (Summer 2005). The Targeting of Advertising. *Marketing Science*, 24 (3). 461-476. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/40056974.pdf>
- The primary purpose of this paper is to explain the benefits of targeted advertising. Through a series of formulas, the authors show how companies targeting advertising to customers with a distinct preference for their products is the most effective and least costly way of advertising (p. 473). Advertising to potential customers that do not know a particular product exists is to some benefit, yet the bulk of advertising by larger brand names is simply to keep their brand name at the top of mind to the consumer, without attempting to convey a specific message (p. 464).
- The least effective form of advertising is to comparison shoppers. What Iyer et al. discovered was that when companies attempted to differentiate products through comparative advertising, many consumers actually found no difference between various products. As a result, time and money is wasted on efforts that produce few results (p. 462).
- Jetter, K.M. and Cassady, D.L. (2010). Increasing Fresh Fruit and Vegetable Availability in a Low-Income Neighborhood Convenience Store: A Pilot Study. *Health Promotion Practice*, 2010 (11) 694. Retrieved from <http://hpp.sagepub.com/content/11/5/694>
- This study was conducted to see if adding more fresh fruit and vegetables in convenience stores in low-income neighbourhoods would help increase the consumption of healthier foods. It has been documented that low-income neighbourhoods have few supermarkets, which results in poorer health for the residents of the area (p. 694). The authors of this article developed an intervention where they were able to install a fresh produce counter in a neighbourhood convenience store to study purchasing patterns of the area residents.
- The study found that fresh fruit and vegetable sales were good when the counter was fully stocked, but the sales decreased as the stock lowered or was seen to be less fresh. The biggest challenge the authors found was the cost of installing and maintaining the fresh produce counter, as well as keeping the convenience store owners motivated to keep the counter fully stocked. The authors were able to conclude that there was a definite interest in low-income areas to purchase fresh,

healthier food if it was affordable and easily accessible, but a barrier continues to be cost, knowledge and motivation on the part of convenience store owners.

Joo, J. (2007). The Impact of the Automobile and its Culture in the U.S. *International Area Review*, 10 (1). Retrieved from <http://ias.sagepub.com.ezproxy-library.ocad.ca/content/10/1/39.full.pdf+html>

Kwong, K. (2011). *A Study of Food Deserts in the City of Toronto*. Toronto: OCADU.

Despite Toronto's wealth and the availability of food, there is a segment of the population living in neighbourhoods that have difficulty accessing fresh food. This research report focuses on the effects of food deserts on residents in low-income neighbourhoods in the City of Toronto and highlights some of the initiatives taken to increase access to affordable and nutritious food.

Kenney, C. (Jul./Aug. 2012). The Wealth of Nations. *Foreign Policy*, 2012 (Jul./Aug.). Retrieved from http://content.ebscohost.com.ezproxy-library.ocad.ca/pdf27_28/pdf/2012/FPO/01Jul12/77721058.pdf?T=P&P=AN&K=77721058&S=R&D=aph&EbscoContent=dGJyMMvi7ESeqLE4yOvqOLCmr0qep7JSsau4SLeWxWXS&ContentCustomer=dGJyMPGstUu3rLFPuePfgeyx44Dt6fIA

According to the World Bank, there are now fewer "poor" countries in the world, because many moved to a more "middle-income status" (p. 29). And as a result, previously classified "developing" countries such as the BRIC nations of Brazil, Russia, India and China, are now in better position to actually financially assist countries with poor economies. Some of the previously considered "wealthy" countries such as Portugal and Greece, with their established economies, now find themselves requiring monetary assistance from BRIC countries (p. 3).

Klein, N (2000). *No Logo*. Toronto: Vintage Canada.

Lazo, M.L. (2010). Agriculture and Energy Subsidy in US and Europe and the World Food Crisis. *Social Change*, 40 (345). Retrieved from <http://sch.sagepub.com.ezproxy-library.ocad.ca/content/40/3/345.full.pdf>

Laux, M. (Jun. 22, 2012). Aging Well. *IdeaCity, 2012*. Toronto: ZoomerMedia.

LeCompte, M. and Schensul, J. (1999). *Designing and Conducting Ethnographic Research (volume 1): Ethnographers Toolkit*. New York: Altamira Press.

Lee, Gyoungju and Lim, Hyunwoo (2009). A Spatial Statistical Approach to Identifying Areas with Poor Access to Grocery Foods in the City of Buffalo, New York. *Urban Studies*, 2009 (46). 1299. Retrieved from <http://usj.sagepub.com/content/46/7/1299>

Using the city of Buffalo, New York for their research, the authors of this report attempted to use a "spatial statistical approach" (p. 1299) to identify areas in Buffalo with restricted access to fresh food. Large grocery retailers had been observed to increasingly locate primarily in wealthier suburbs, so by using a formulaic approach, the authors wanted to show that this observation was spatially measurable in its effect on low-income areas as well as observable.

- The authors of the study wanted to show the imbalances that have occurred in food access in Buffalo. By using available data in their analysis and not just observation, hard facts could be presented so that intervention policies could be developed by the municipal government to improve accessibility to fresh food.
- Levenstein, H. (1994). *Paradox of Plenty: A Social History of Eating in Modern America*. New York: Oxford University Press.
- Lowy, A. and Hood, P. (2004). *The Power of the 2x2 Matrix*. San Francisco: Jossey-Bass.
- Ludwig, D.S. Peterson, K.E. and Gortmaker, S.L. (Feb. 17, 2001). Relation Between Consumption of Sugar-sweetened Drinks and Childhood Obesity: A Prospective, Observational Analysis. *The Lancet*, 357 (9255). 505. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(00\)04041-1/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(00)04041-1/fulltext)
- Luk, V. (Oct. 10, 2011). Occupy Wall Street Movement Sweeping Through Major Canadian Cities. *Postmedia News*. Retrieved from <http://ezproxy-library.ocad.ca/login?url=http://search.proquest.com.ezproxy-library.ocad.ca/docview/898113240?accountid=12991>
- MacLennan, H.A. (1968). Ready Foods: The Application of Mass Production to a la Carte Food Service with Prepared-to-Order Foods. *Cornell Hotel and Restaurant Administration Quarterly*, 8 (56). Retrieved from <http://cqx.sagepub.com.ezproxy-library.ocad.ca/content/8/4/56.full.pdf+html>
- Martin, A.R., Nieto, J.M.M., Jiménez, M.A.R., Ruiz, J.P.N., Vázquez, M.C.D., Fernández, Y.C., Gómez, M.A.R., and Fernández, C.C. (Aug. 1999). Unhealthy Eating Behaviour in Adolescents. *European Journal of Epidemiology*, 15 (7). 643-648. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/3582136.pdf>
- Through their research, it was found that there is a “large scale of bad eating habits” among young people (p. 647). The paper focused primarily on anorexia and bulimia among teenagers in school and found that while youth had good or better knowledge of nutrition, a high “preoccupation” with body image combined with advertising had direct influences on the way youth chose to eat (p. 647).
- The paper did not provide any possible solutions except to recommend working with youth to develop better body image views and eating habits at an earlier age.
- McEwan, M., Glassman, H. and Patterson, F. (Apr. 3, 2012). Interview with Mark McEwan. *Humble and Fred Radio Podcast*. (59 minute mark). Retrieved from <http://itunes.apple.com/ca/podcast/top-chef-mark-mcewan-04-02-12/id469406502?i=112587466>
- McKeown, D., MacCon, K., Day, N., Fleizer, P., Scott, F., and Scott, W.A. (Oct. 2008). *The Unequal City: Income and Health Inequalities in Toronto*. Toronto Public Health. Retrieved from http://www.toronto.ca/health/map/pdf/unequalcity_20081016.pdf
- Miles, I. (Nov. 2007). *Foresight Methods*. UNIDO Regional Initiative on Technology Foresight, Gebze, Turkey. Retrieved from https://www.unido.org/foresight/rwp/dokums_pres/foresight_methods_gebze_122.pdf

- Nolan C.J., Damm, P., and Prentki, M. (Jul. 9, 2012). Type 2 Diabetes Across Generations: From Pathophysiology to Prevention and Management. *The Lancet*, 378 (9786). 169-181. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(11\)60614-4/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(11)60614-4/fulltext)
- Ontario Ministry of Education (2012). *Curriculum Council*. Retrieved from <http://www.edu.gov.on.ca/curriculumcouncil/index.html>
- Ontario Ministry of Education (2012). *Curriculum Policy*. Retrieved from <http://www.edu.gov.on.ca/eng/document/curricul/curricul.html>
- Ontario Ministry of Education (2012). *Ontario Education Act*. Retrieved from <http://www.edu.gov.on.ca/eng/document/brochure/whosresp.html>
- Osterwalder, A. and Pigneur, Y. (2010). *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. New York: Wiley.
- Oxford Dictionaries (2012). Definitions. Retrieved from <http://www.oxforddictionaries.com>
- O'Neil, C.E., Deshmukh-Taskar, P., Mendoza, J.A., Nicklas, T.A. Liu, Y., Rely, G. and Berenson, G.S. (Oct. 14, 2011). Dietary, Lifestyle, and Health Correlates of Overweight and Obesity in Adults 19 to 39 Years of Age: the Bogalusa Heart Study. *American Journal of Lifestyle Medicine*, 2012 6 (347). Retrieved from <http://ajl.sagepub.com.ezproxy-library.ocad.ca/content/6/4/347.full.pdf+html>
- Páez, Antonio, Mercado, Ruben Gertes, Farber, Steven, Morency, Catherine, and Roorda, Matthew (Feb. 19, 2010). Relative Accessibility Deprivation Indicators for Urban Settings: Definitions and Application to Food Deserts in Montreal. *Urban Studies*, 2010 (47). 1415. Retrieved from <http://usj.sagepub.com/content/47/7/1415>
- This article looks to systematically identify food deserts in urban areas, specifically, the city of Montreal, Quebec. Using the geographical information system (GIS) methodology, the researchers attempted to discover patterns of food inaccessibility in relation to low-income neighbourhoods. Much of the data was compiled from available sources such as infoCanada and Environics Analytics.
- Previously available research had used “fixed cut-off values” such as, “500 metre walking distance” (p. 1443), so the authors were careful to consider variables such as travel behaviour with, or without a personal vehicle, or accessibility to fast-food restaurants. While the authors were able to note differences in accessibility to food depending on income status, the authors did discover that access to fast-food was relatively equal, no matter what income level.
- Papanek, V. (1984). *Design for the Real World*. Chicago: Academy Chicago Publishers.
- Paperny, A. (Feb. 11, 2012). The Poor in Toronto: They're Working but Not Getting Any Richer. *The Globe and Mail*, 2012 (Feb. 11). Retrived from <http://www.theglobeandmail.com/news/national/toronto/globe-to/the-poor-in-toronto-theyre-working-but-not-getting-any-richer/article2334814/>
- Patel, R. (2009). *The Value of Nothing: Why Everything Costs So Much More Than We Think*. Toronto: Harper Collins.

Patel explains in his book that without that taxpayers in the U.S. “subsidize” fast-food. For example, inexpensive hamburgers are made with beef fattened with corn, the most “highly-subsidized” crop in the United States (p. 44). Combined with the low wages of fast-food workers that require government social support, it can be argued that U.S. tax dollars are paying “billions” per year to the fast-food industry (p. 45).

Fast-food companies use the incentive of “free” to lure customers, by offering free or discounted food with the purchase of higher profit beverages (p. 53). This has contributed to the perception that fast-food is less expensive and more affordable for those on a budget. Most people do not actually realize what the actual cost of the they are eating actually is because few people examine the entire system. Patel does also claim that, “money is the right to have rights” (p. 113), in that large organizations with their large lobbying budgets are able to influence government policymakers.

Patton, G.C., Coffey, C., Cappa, C., Currie, D., Riley, L., Gore, F., Degenhardt, L., Richardson, D., Astone, N., Sangowawa, A.O., Mokdad, A. and Ferguson, J. (Apr. 28, 2012). Health of the World’s Adolescents: A Synthesis of Internationally Comparable Data. *The Lancet*, 379 (9826). 1665. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)60203-7/fulltext#article_upsell](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)60203-7/fulltext#article_upsell)

Popper, R. (2008). Georghiou, L., Cassingena, J., Keenan, M., Miles, I. and Popper, R. (eds.). *Foresight Methodology: The Handbook of Technology Foresight*. Cheltenham: Edward Elgar.

Powell, L.M. and Chaloupka, F.J. (Mar. 2009). Food Prices and Obesity: Evidence and Policy Implications for Taxes and Subsidies. *The Milbank Quarterly*, 87 (1). 229-257. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/25474366.pdf>

Ritvo, P. (May 15, 2012). Putting the Social in Ontario’s Innovation Program: A Regional Story. *Ontario Centers of Excellence Discovery Conference, 2012*. Toronto: Ontario Centers of Excellence.

Roberts, K.C., Shields, M., de Groh, M., Aziz, A., and Gilbert, J-A. (Sept. 2012). Overweight and Obesity in Children and Adolescents: Results from 2009 to 2011 Canadian Health Measures Survey. *Statistics Canada Health Reports*, 23 (3). Retrieved from <http://www.statcan.gc.ca/pub/82-003-x/2012003/article/11706-eng.pdf>

Rundle, A., Neckerman, K.M., Freeman, L., Lovasi, G.S., Purciel, M., Quinn, J., Richards, C., Sircar, N., and Weiss, C. (Mar. 2009). Neighborhood Food Environment and Walkability Predict Obesity in New York City. *Environmental Health Perspectives*, 117 (3). 442-447. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/25472610.pdf>

Using mapping data of food purchasing locations and New York City population health records, a correlation is shown between how far a person needs to walk to purchase healthy food, and their approximate body mass index (BMI). Virtually all of New York has unhealthy food within a half a mile walking distance, but only 82% of the population has access to some sort of healthy food store within the same

- distance (p. 444). The population in areas without easier access to fresh fruit and vegetables were found to have a higher and unhealthy BMI index on average.
- The article did point out that the research did not take into account the possibility that people may relocate to areas with healthy food selections and food retailers may only locate to areas where they feel the population would be receptive to their food products (p. 446).
- Rydin, Y., Bleahu, A., Davies, M., Dávila, J.D., Friel, S., De Grandis, G., Groce, N., Hallal, P.C., Hamilton, I., Howden-Chapman, P., Lai, K-M., Lim, C.J., Martins, J., Osrin, D., Ridley, I., Scott, I., Taylor, M., Wilkinson, P. and Wilson, J. (May 30, 2012). Shaping Cities for Health: Complexity and the Planning of Urban Environments in the 21st Century. *The Lancet*, 379 (9831). Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)60435-8/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)60435-8/fulltext)
- Sawyer, S.M., Afifi, R.A., Bearinger, L.H., Blakemore, S., Dick, B., Ezech, A.C. and Patton, G.C. (Apr. 25, 2012). Adolescence: A Foundation for Future Health. *The Lancet*, 379 (9826). 1630-1640. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)60072-5/fulltext#article_upsell](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)60072-5/fulltext#article_upsell)
- Schiweck, H., Clarke, M. And Pollach, G. (2012). Sugar. *Ullmann's Encyclopedia of Industrial Chemistry*. Retrieved from http://onlinelibrary.wiley.com.ezproxy-library.ocad.ca/store/10.1002/14356007.a25_345.pub2/asset/a25_345.pdf?v=1&t=h5mlizhs&s=97cddd1b7e718df17e986c5815c8e20a41391d61
- Siegel, N. (Summer 2008). Cooking Up American Politics. *Gastronomica*, 8 (3). 53-61. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/10.1525/gfc.2008.8.3.53.pdf>
- Silva, J.M. (Jun. 29, 2012). Constructing Adulthood in an Age of Uncertainty. *American Sociological Review*, 77 (4). 505-522. Retrieved from <http://asr.sagepub.com.ezproxy-library.ocad.ca/content/77/4/505.full.pdf+html>
- Sobel, R. And Dean, A.M. (Oct. 2007). Has Wal-Mart Buried Mom and Pop?: The Impact of Wal-Mart on Self-Employment and Small Establishments in the United States. *Economic Inquiry*, 46 (4). Retrieved from <http://onlinelibrary.wiley.com/store/10.1111/j.1465-7295.2007.00091.x/asset/j.1465-7295.2007.00091.x.pdf?v=1&t=h5mrq70d&s=96a71d02cfd9fedfac9ef444a32725b8c48387b2>
- Sowinski, L.L. (Mar. 2012). The Global Food Supply Chain: New Market Opportunities Mean Big Business, and Big Risk. *Food Logistics*, 136 (Mar. 2012). 14. Retrieved from <http://go.galegroup.com.ezproxy-library.ocad.ca/ps/i.do?id=GALE|A287112211&v=2.1&u=toro37158&it=r&p=GPS&sw=w>
- Sparks, Andrea L., Bania, N. and Leete, L. (Nov. 12, 2010). Comparative Approaches to Measuring Food Access in Urban Areas: The Case of Portland, Oregon. *Urban Studies*, June 2011 (48). 1715-1737. Retrieved from <http://usj.sagepub.com/content/48/8/1715>
- Using geographical information system (GIS) methods, the authors of this article attempted to measure food access for neighbourhoods in Portland, Oregon. Starting

- with the U.S. Congress definition of a food desert, “an area in the United States with limited access to affordable and nutritious food” (p. 1717), the authors compiled data from various sources, such as the U.S. Census and ReferenceUSA. An analytical approach using Euclidean equations helped show relationships between the accessibility of supermarkets with low-income neighbourhoods.
- The authors were able to show the relationships of longer average travel distances to supermarkets for low-income areas, but the authors did concede changing variables in their equations would produce different results. The other challenge found in this study was widely varied methods of defining a food desert in an urban area.
- Staiano, A.E., Baker, B.E., and Calvert, S.L. (Mar. 30, 2011). Dietary Digital Diaries: Documenting Adolescents’ Obesogenic Environment. *Environment and Behavior*, 44 (5). 696-712. Retrieved from <http://eab.sagepub.com.ezproxy-library.ocad.ca/content/44/5/695.full.pdf+html>
- Starr, A. (Jun. 13, 2010). Local Food: A Social Movement? *Cultural Studies/Critical Methodologies*, 2010 10 (479). Retrieved from <http://csc.sagepub.com/content/10/6/479.full.pdf+html>
- Stewart, G., Thorne, J., Martin, G., Stewart, B., Perrotta, K., Chirrey, S., McClelland, M., and Campbell, M. (Sept. 2012). *Toward Healthier Apartment Neighbourhoods*. Toronto Public Health. Retrieved from http://www.toronto.ca/health/hphe/pdf/healthier_apartments.pdf
- Stewart, H. and Davis, D.E. (Apr. 2005). Price Dispersion and Accessibility: A Case Study of Fast-Food. *Southern Economic Journal*, 71 (4). 784-799. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/20062080.pdf>
- Schwartz, P. (1996). *The Art of the Long View*. New York: Doubleday.
- Swinburn, B.A., Sacks, G., Hall, K.D., McPherson, K., Finegood, D.T., Moodie, M.L. and Gortmaker, S.L. (Aug. 27, 2011). The Global Obesity Pandemic: Shaped by Global Drivers and Local Environments. *The Lancet*, 2011 (378). 804-14. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(11\)60813-1/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(11)60813-1/fulltext)
- Townsend, E. (Winter 2005). The Cooking Ape. *Gastronomica*, 5 (1). 29-37. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/10.1525/gfc.2005.5.1.29.pdf>
- Tuchman, A. (Oct. 3, 2009). Diabetes and the Public’s Health. *The Lancet*, 374 (9696). 1140-1141. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(09\)61730-X/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(09)61730-X/fulltext)
- United Nations Economic and Social Council (May 12, 1999). *The Right to Adequate Food (Article 11)*. Retrieved from <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/G99/420/12/PDF/G9942012.pdf?OpenElement>
- United Nations Populations Fund (2012). *Migration and Urbanization*. Retrieved from <http://www.unfpa.org/6billion/populationissues/migration.htm>
- Van Der Heijden, K (2005). *Scenarios: The Art of Strategic Conversation*. Chichester: Wiley.

- Veblen, T., Schor, J.B. and Holt, D.B. eds. (2000). *Conspicuous Consumption. The Consumer Society Reader*. New York: New Press.
- Viner, R.M., Ozer, E.M., Denny, S., Marmot, M., Resnick, M., Fatusi, A. and Currie, C. (Apr. 25, 2012). Adolescence and the Social Determinants of Health. *The Lancet*, 379 (9826). 1641-1652. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(12\)60149-4/fulltext#article_upsell](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)60149-4/fulltext#article_upsell)
- Wakefield, M.A., Loken, B. and Hornik, R.C. (Oct. 9, 2010). Use of Mass Media Campaigns to Change Health Behaviour. *The Lancet*, 376 (9748). 1261-1271. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(10\)60809-4/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(10)60809-4/fulltext)
- Wang, Y.C., McPherson, K., Marsh, T., Gortmaker, S.L. and Brown, M. (Aug. 27, 2011). Health and Economic Burden of the Projected Obesity Trends in the USA and the UK. *The Lancet*, 378 (9793). 815-825. Retrieved from [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(11\)60814-3/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(11)60814-3/fulltext)
- Warde, A., Cheng, S., Olsen, W., and Southerton, D. (Dec. 2007). Changes in the Practice of Eating: A Comparative Analysis of Time-Use. *Acta Sociologica*, 50 (4). 363-385. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/20460016.pdf>
- Whitzman, C. (2009). *Suburb, Slum, Urban Village: Transformations in Toronto's Parkdale Neighbourhood, 1875-2002*. Vancouver: UBC Press.
- York University (2012). *Toronto Immigrant Employment Data Initiative*. Retrieved from <http://www.yorku.ca/tiedi>
- Young, L.R., and Nestle, M. (2007). Portion Sizes and Obesity: Responses of Fast-Food Companies. *Journal of Public Health Policy*, 28 (2). 238-248. Retrieved from <http://www.jstor.org.ezproxy-library.ocad.ca/stable/pdfplus/4498959.pdf?acceptTC=true>

Appendix A: Glossary

Backcasting

A foresight approach where trends and drivers are grouped together that may indicate a path toward a future scenario.

BRIC

Acronym for the countries, Brazil, Russia, India and China.

Celebrity chef

A person that specializes in the preparation of food, that has become famous for their abilities and achievements, often through media such as television programs.

Conspicuous consumption

Thorstein Veblen used the term in his 1899 book, *The Theory of the Leisure Class*, to describe how people with wealth would spend money on luxury goods in order to display their socioeconomic status.

Diabetes

A chronic disease with high levels of sugar in the blood caused by too little insulin, resistance to insulin, or both.

Drivers

Drivers are underlying factors that may be natural or influenced by humans that will cause change in a system. They are long lasting and may influence multiple trends.

Fast-Food

Food that can be prepared in large quantities using standardized methods, that can be served quickly to consumers in restaurants or be taken away.

Food desert

A populated area within an urban environment where there may be limited access to affordable and nutritious food, such as fresh fruit and vegetables.

Heart disease

A broad term that can describe a range of diseases affecting the heart, the term has become synonymous with cardiovascular disease, where there is a narrowing of the blood vessels and arteries that can lead to a heart attack or stroke.

Obesity

Accumulation of 20% or more body fat over a person's ideal body weight. Has been associated with an increased risk of illness (Burke, 2011).

Panphobia

The fear of everything or the unknown.

Prepared food

Food or meals that have been prepared and packaged for purchase that may be immediately served, or only require reheating.

Sodium

Sodium is a chemical element and a mineral helping to regulate blood pressure, fluid volume, and pH balance in the body. Excessive sodium intake has been linked to high blood pressure.

STEEPV

A foresight methodology for analysis, STEEPV is an acronym for social, technological, economic, environmental, political and the values of a particular group of people.

Trends

Trends are patterns of change that may have broad ranging implications from social, to economic and political. Trends may be short or long in duration and often have underlying drivers of change.

2x2 matrix

A scenario planning tool used by foresighters to frame critical uncertainties against each other. Two critical uncertainties are used to form two bisecting axis, with either end of each axis being the extreme of each critical uncertainty or variable.

Appendix B: Expert Interview Questions

1. What is your name, place of employment and job title?
2. What activities do you perform in relation to food and the community?
3. How are your activities coordinated with the government, corporations and communities?
4. What are the ultimate goals for your organization that are related to food and the community?
5. Does your involvement with food in the community have some relation to help with the problem of food access in the city?

Appendix C: Expert Interview Summaries

Expert interviews help provide expertise on current and past efforts with neighbourhood population patterns and accessibility to nutritious food options. The following people with expertise in Toronto urban or food policies were contacted and invited to be interviewed.

Lulu Cohen-Farnell, Real Food for Real Kids

Real Food for Real Kids is a private corporation that caters local, non-processed food to elementary schools in Toronto, supporting farmers in Ontario. As an avid food advocate, Cohen-Farnell has intimate contact with families and communities in Toronto, and the challenges for parents in being able to provide healthy meals for their children. Real Food for Real Kids caters to almost 8,000 children in Toronto through the Toronto District School Board, the Toronto Catholic District School Board, and various public and private daycare centres. Using locally-sourced ingredients, Cohen-Farnell founded Real Food for Real Kids with the hope of educating children growing up in the city about local food with global flavours, the joys of eating together, and learning to how to cook together.

Brian Cook, City of Toronto Public Health

Brian Cook's role with the City of Toronto Public Health is to analyze and map all food procurement areas within the City of Toronto. Techniques include determining local area income, grocery store distances, transit mapping and community consultation. Cook says the City prefers not to use the term food desert, but simply "low access to food", because all areas of the City can be somehow accessed.

Even with the different mapping techniques, Cook says there are areas of the City with low access to food that do not show up in their data, but are known poor access areas to the local community. Often, these areas exist because they are extremely close to areas

with high income levels. These areas often skew the food access data because the high income residents often have their own vehicle to access food from greater distances.

Danielle Franz, City of Toronto Social Services

As a case worker with the City of Toronto Social Services, Danielle Franz sees all aspects of individuals requiring assistance from the City. For these individuals, most, or a large portion of their budget goes towards shelter and food. Franz helps people to find employment in Toronto's food services industry by sending applicants to obtain food handling certificates. To increase their understanding of nutrition, applicants are also sent to community kitchens where they learn the basic skills of cooking.

Janaki Hadida, Leslieville Farmers' Market

As a business graduate of McMaster University, Janaki Hadida understands how business and social activism must work together to affect positive change. Her interest in food led her to start the Leslieville Farmers' Market in south central Toronto. The market not only sells fresh farmers' produce, but also helps to educate the consumers about where food comes from, and also the farmers themselves on how to sell their produce within the City. Hadida's work takes her outside of Toronto to farmers, and in particular, small or new farms where the owners are unsure about how to enter the industry on their own, or sell their products to the public.

Rory McAlpine, Maple Leaf Foods

Maple Leaf Foods do not sell food directly to the consumer, but one of their core philosophies is food philanthropy. Rory McAlpine is the vice-president of government and industry relations, and oversees how Maple Leaf Foods reaches out to the community. As a supporter and partner with other agencies, Maple Leaf participates in food health seminars, community events, school nutrition and food recovery and distribution.

Sheena Robertson, Toronto District School Board and Whimsical Productions

A certified elementary school teacher with the Toronto District School Board and founder of her own company, Whimsical Productions, Robertson has worked closely with disadvantaged youth and families in the Regent Park area of Toronto. While there are several community programs for education and physical activities in Regent Park, there are no programs that are dedicated to educating about food. Many of the young people she has worked with have little knowledge of fresh fruit and vegetables, or even nature itself. Living in low-income neighbourhoods has often meant that health is not a priority.

Lisa Shamai, Lisa Shamai Cuisiniere

An owner of a small, independent business, Lisa Shamai is a chef that runs a catering business and also teaches cooking in community centres in conjunction with the City of Toronto Social Services. The community kitchen was established by Shamai as a way to teach people with low incomes that it is not difficult or time consuming to cook for themselves. The ultimate goal of the program is to increase the health of low-income individuals by cooking for themselves.

Shamai does also find challenges within the program, in that there are many agencies to coordinate in order for a teaching session to come together. She also finds that there needs to be a better incentive solution to encourage participation in the community kitchen program. Most people in low-income situations simply do not understand the benefits of cooking for themselves and will not sign up or attend classes.

Keltie Thomas, Pearson Publishing

A writer and editor with Pearson Publishing, Keltie Thomas is responsible for developing educational materials for children and teens. Pearson Publishing's mandate is that learning should be a lifelong experience, so they publish a range of educational materials for students and educators, and for all age groups. With the continuing development of

non-print media, Pearson has been branching out to other forms of education such as interactive media or producing materials to help form group learning sessions.

Pearson is essentially a for-profit organization, so much of their content is also based on what will make the company money. Thomas admitted that Pearson does not have a great deal of material about food or cooking, but what they do have, the focus has always been on healthy eating. Whether Pearson will produce more materials about healthy eating will depend entirely on school curriculum demand.

Adam Vaughan, City of Toronto Councillor

Adam Vaughan is the councillor for Toronto's Ward 20 Trinity-Spadina. He is a strong advocate neighbourhood planning with a focus on developing communities that can be an affordable place to live and work. As people have sprawled into the larger area suburbs over the decades, Vaughan feels that many people have lost the sense of connection with a neighbourhood and its people. Now, as people are moving back into Toronto's downtown core, many are choosing to live in single occupancy, high-density, high-rise condominiums.

Developers prefer to build this type of high-rise because there is a greater profit margin with smaller units. Living in smaller units, people are no longer eating at home as a family unit, and instead, choosing to eat out, often to be more sociable. Coming from a strong activist family, Vaughan is proposing future high-density housing policies that include family units.

Michael Wolfson, City of Toronto Economic Development

A food and beverage specialist, Michael Wolfson combines the challenges of Toronto's food issues with economic development. Since the private sector is mainly concerned with profit, Wolfson says his biggest challenge is being able to bring the private sector to the table in establishing policies that would help people with food access issues. Grocery stores simply do not want to build in low-income areas because they feel it will not be profitable. Better success has occurred when many different industry players are involved in projects. The redevelopment of Regent Park to include a grocery store was able to happen the condominium developer was encouraged through policies and incentives to build mixed-use buildings, rather than buildings that are entirely residential.

In addition to his work with industry, Michael Wolfson also helps encourage and establish new food entrepreneurs in the City. Food production is Toronto's largest employment industry, so Wolfson helps people with small business ideas in food to start and tap into the available resources of the food industry in Toronto.

Appendix D: Survey Questions

Question	Multiple-choice Responses
1. Gender	<input type="checkbox"/> Female <input type="checkbox"/> Male
2. What approximate age group are you in?	<input type="checkbox"/> Under 20 <input type="checkbox"/> 30 – 50 <input type="checkbox"/> Over 50
3. What is your nationality or cultural background?	<input type="checkbox"/> Canadian <input type="checkbox"/> American <input type="checkbox"/> Asian <input type="checkbox"/> European
4. How often do you shop for food?	<input type="checkbox"/> Daily <input type="checkbox"/> Once a week <input type="checkbox"/> Twice a week <input type="checkbox"/> Three times a week <input type="checkbox"/> Monthly
5. Are you the primary food shopper?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Shared
6. Where do you buy most of your food?	<input type="checkbox"/> Chain supermarkets <input type="checkbox"/> Farmers' markets <input type="checkbox"/> Culturally-specific supermarkets <input type="checkbox"/> Restaurants <input type="checkbox"/> Small specialty stores
7. Approximately how far is where you buy most of your food from your home?	<input type="checkbox"/> Less than 1 km <input type="checkbox"/> 1 – 5 km <input type="checkbox"/> More than 5 km
8. What kind of transportation do you use to do buy food?	<input type="checkbox"/> Bicycle <input type="checkbox"/> Car <input type="checkbox"/> Walk
9. What challenges do you have in buying food?	<input type="checkbox"/> Budget <input type="checkbox"/> Carrying purchased food <input type="checkbox"/> Lack of selection <input type="checkbox"/> Special diet <input type="checkbox"/> Time <input type="checkbox"/> None
10. What types of food stores would you prefer to shop at instead of your usual store?	<input type="checkbox"/> Chain supermarkets <input type="checkbox"/> Farmers' markets <input type="checkbox"/> Culturally-specific supermarkets <input type="checkbox"/> Restaurants <input type="checkbox"/> Small specialty stores
11. Why would you prefer to buy food at this type of store?	<input type="checkbox"/> Convenience <input type="checkbox"/> Cost <input type="checkbox"/> Diverse selection <input type="checkbox"/> Food quality <input type="checkbox"/> Service
12. What kind of food have you purchased at a neighbourhood convenience store?	<input type="checkbox"/> Staples (bread, eggs, milk) <input type="checkbox"/> Snacks <input type="checkbox"/> Non-food items <input type="checkbox"/> None
13. What would persuade you to buy more food at a neighbourhood convenient store?	<input type="checkbox"/> Convenience <input type="checkbox"/> Cost <input type="checkbox"/> Fresh food, quality, selection
14. Instead of cooking from scratch, what would be a reason to buy packaged or prepared food, such as whole roasted chickens?	<input type="checkbox"/> Convenience or impulse <input type="checkbox"/> Cost <input type="checkbox"/> No cooking skills <input type="checkbox"/> Time <input type="checkbox"/> None <input type="checkbox"/> Quality of prepared food.
15. What would influence you to eat out at a restaurant instead of cooking at home?	<input type="checkbox"/> Convenience <input type="checkbox"/> Cost <input type="checkbox"/> Specialty cuisine <input type="checkbox"/> Large number of people <input type="checkbox"/> Special occasion <input type="checkbox"/> Time

Table 14: Survey questions.

Appendix E: Survey Summary

Surveys Results	Survey Question Comments	Related Theme
73% female and 27% male	Quantitative data shows that more females were willing to answer questions than men.	
48% are between 30 – 50	48% are between ages 30 – 50.	
63% identify as Canadian	Canadian, European, and Asian were the primary cultural groups identified.	Population migration
75% are the primary food purchaser	The food shoppers are often the decision-makers for the type of food purchased.	
42% purchased food once a week	Frequency of grocery shopping indicates the person's time constraints and desire to purchase food.	
81% shop at chain supermarkets	Indicates most convenient location to purchase food.	Cultural capital
35% travel less than 1 km to purchase food	Less than one kilometer generally indicates that nutritious food is more readily available.	
68% use a car to buy food and 29% walk	Transportation of purchased food is always a consideration. Participants with cars are more likely to purchase greater amounts of food in a single visit. Participants that walked were more likely to purchase food more frequently.	Sub-urbanization
32% cite budget as a challenge	No physical or mobility challenges were identified.	Super-grocery stores
45% prefer chain supermarkets 33% farmers' markets 15% specialty stores	Large preference for chain supermarkets followed by farmers' markets.	
39% prefer food quality 26% prefer selection	Diverse selection and quality of food were the major reasons given for choosing a particular type of store.	
38% have bought only staple food items at a convenience store 37% do not buy anything at such stores	Identifies general food purchasing perceptions of a neighbourhood convenience store.	
42% would require fresher food to buy more food at a convenience store	Fresh food with a constant turnover rate would need to be established to change perceptions about neighbourhood convenience stores.	
28% buy prepared food for convenience 33% to save time	Prepared meals in grocery stores give the perception of fresh, healthier food, as compared to prepared, packaged food for heating in a microwave.	Health and obesity
50% go to restaurants for special occasions	Eating out on a special occasion imply visits to full-service restaurants are for enjoyment.	

Table 15: Summary of results from structured survey. Full results in Appendix F on page 101.

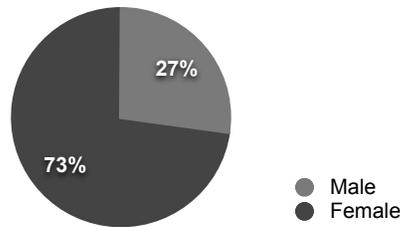
Appendix F: Full Survey Results

Gender, Age Group and Cultural Background

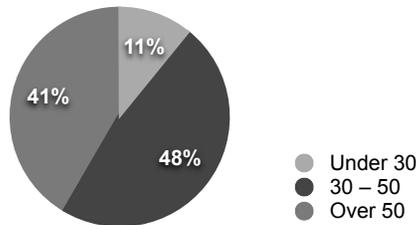
These questions help to establish a quantitative basis of the individuals participating.

While an effort was made to approach a diverse number of individuals, the data shows that more females were willing to answer questions than men. In terms of nationality, all participants identified themselves as Canadian, while a number were also able to identify their cultural background from their parents' identities.

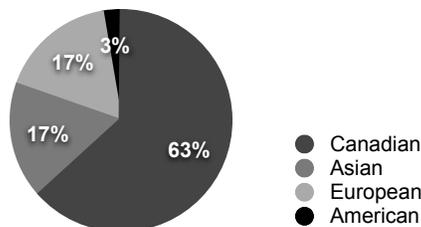
1. Gender



2. What approximate age group are you in?



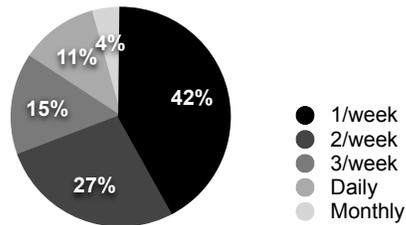
3. What is your nationality or cultural background?



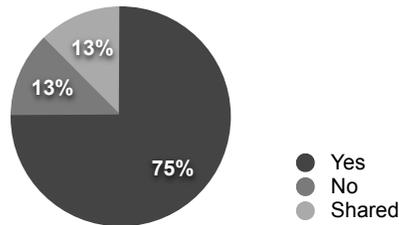
Food Purchasing Frequency and Primary Shoppers

The frequency of food shopping and decision-making indicate time constraints and desire to do food shopping. Buying food weekly may also imply that meals are planned weekly due to time constraints.

4. How often do you shop for food?



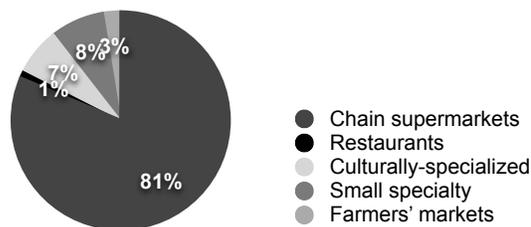
5. Are you the primary food shopper?



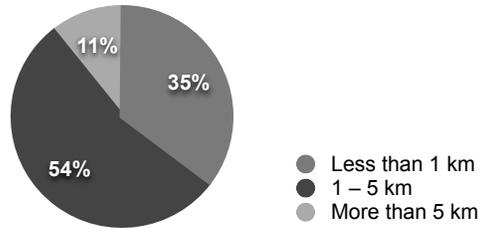
Primary Food Purchasing Locations and Distance

This question helps to establish food store preferences and the relative distances of food stores to the participant’s home. Food store locations of less than one kilometer generally indicate that the participant has readily available fresh food.

6. Where do you buy most of your food?



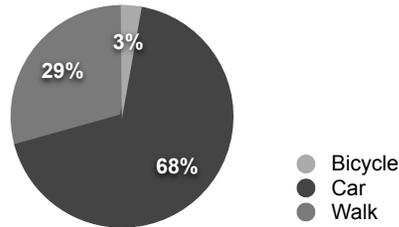
7. Approximately how far is where you buy most of your food from your home?



Transportation

Transportation of purchased food is always a consideration for people. Participants with cars are more likely to purchase greater amounts of food in a single visit, thereby reducing the number of shopping days per week. Participants that walked to their food store were more likely to purchase food a greater number of times during the week, due to the difficulty of transporting a large amount of food. This is also an indication of the close proximity to nutritious food.

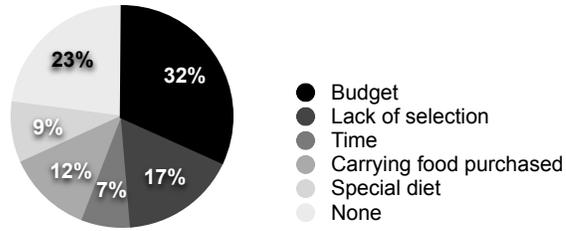
8. What kind of transportation do you use to do buy food?



Food Purchasing Challenges

None of the participants surveyed identified any physical or mobility challenges to purchasing food. More common challenges were identified as budget constraints and the lack of selection at some stores, meaning a required item would have to be purchased at another store.

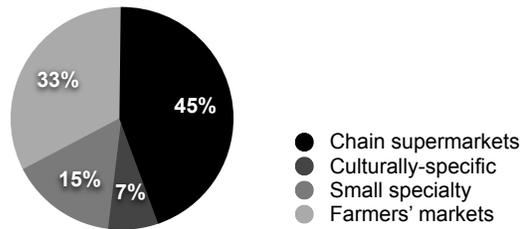
9. What challenges do you have in buying food?



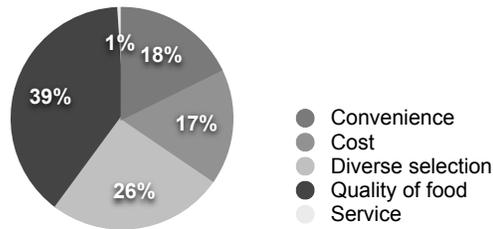
Food Store Preferences

People generally shop at a particular store due to the store’s proximity to their home. Respondents were preferred large chain supermarkets, followed by farmers’ markets. The quality of food were the major reasons given for choosing a particular type of store.

10. What types of food stores would you prefer to shop at instead of your usual store?



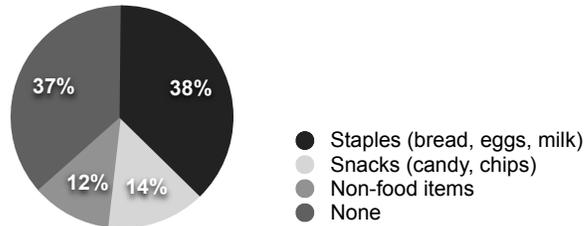
11. Why would you prefer to buy food at this type of store?



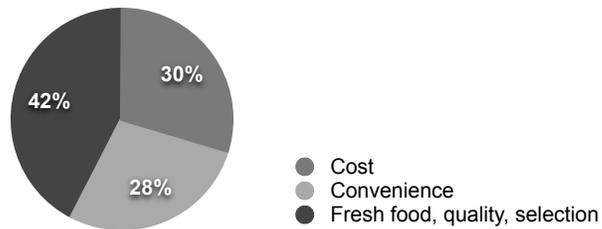
Convenience Stores

These questions help to identify the participants’ general perceptions of a neighbourhood convenience store. Many considered these types of stores as locations for a few staple items such as bread or milk, and snack items such as candy or chips. To change perceptions about neighbourhood convenience stores, most participants answered that more nutritious food would have to be more available.

12. What kind of food have you purchased at a neighbourhood convenience store?



13. What would persuade you to buy more food at a neighbourhood convenient store?

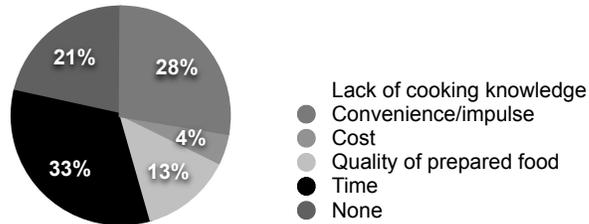


Prepared Foods and Restaurants

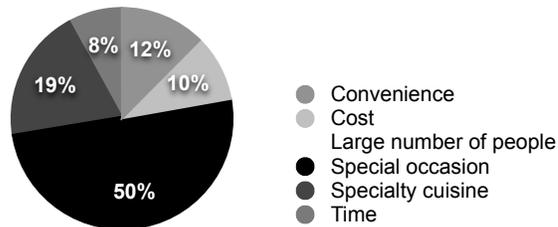
Many grocery stores have an area of prepared meals to satisfy people short on time or skills to cook for themselves. Prepared meals give the perception of fresh, healthier food, as compared to prepared, packaged food for heating in a microwave. In addition to full-serve restaurants, fast-fast-foodfood restaurants also offer full meals that are ready to eat in minutes, and to the perception of many, less expensive than cooking for themselves.

These questions help to identify why people may purchase prepared food, or eat out at restaurants. Primary reasons given by respondents for purchasing prepared foods at grocery stores are convenience and time. This suggests the lifestyle plays a factor in their decisions. The large number of responses for eating out on a special occasion suggests that respondents tend to visit a full-service restaurant for enjoyment, rather than just a fast-food restaurant for a meal.

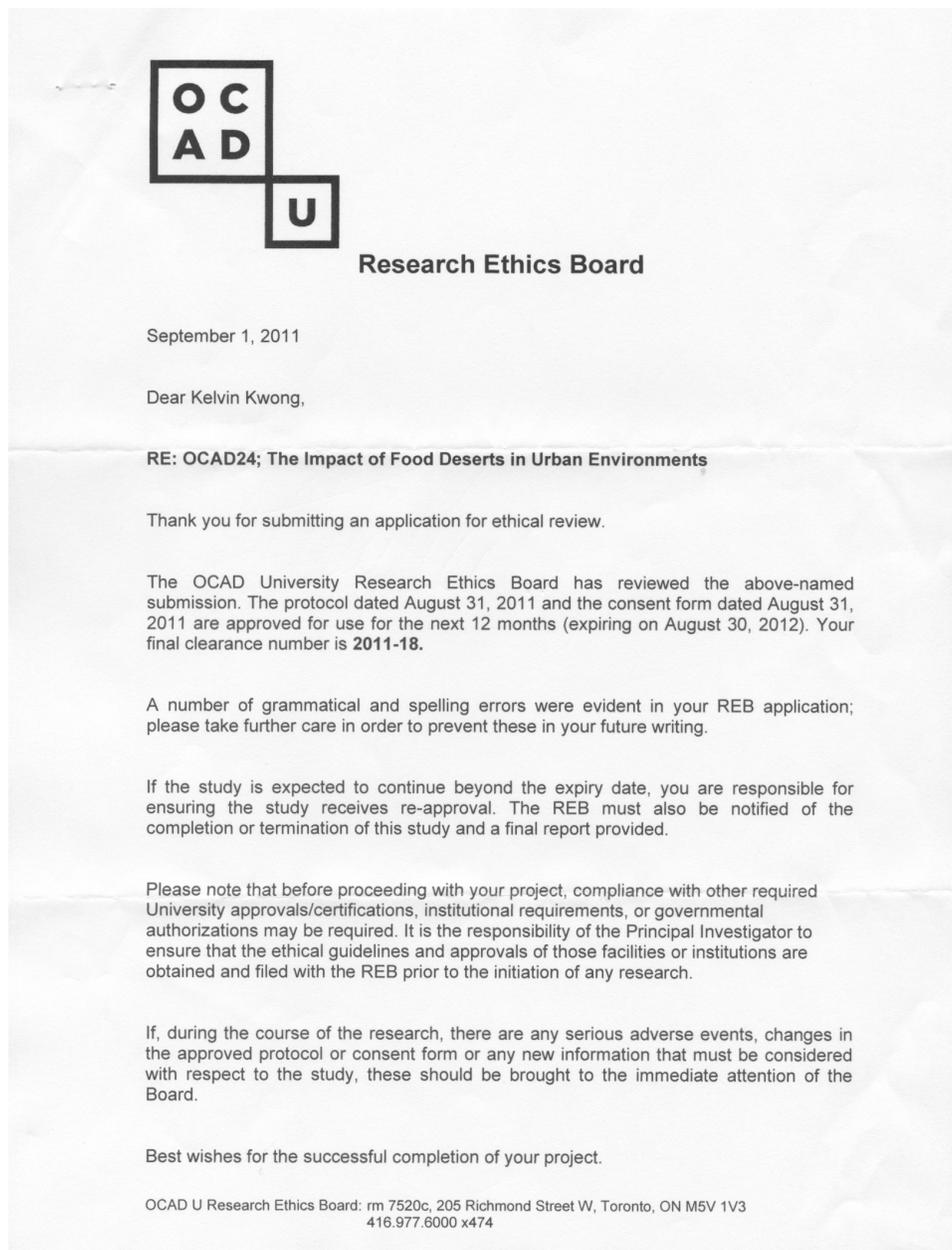
14. What would be a reason to buy packaged or prepared food?



15. What would influence you to eat out at a restaurant?



Appendix G: Research Ethics Board Approval





Research Ethics Board

August 22, 2012

Dear Kelvin Kwong,

RE: OCADU 71; The Impact of Food Deserts in Urban Environments (Renewal)

Thank you for submitting your revised questions and request for re-approval. Your renewal number is 2012-24 (11/18). It expires on August 21, 2013. If your study is expected to continue beyond that date, you will need to again reapply.

Please note that, as with the previous approval, before proceeding with your project, compliance with other required University approvals/certifications, institutional requirements, or governmental authorizations may be required. It is your responsibility to ensure that the ethical guidelines and approvals of those facilities or institutions are obtained and filed with the REB prior to the initiation of any research.

If, during the course of the research, there are any serious adverse events, changes in the approved protocol or consent form or any new information that must be considered with respect to the study, these should be brought to the immediate attention of the Board.

The REB must also be notified of the completion or termination of this study and a final report provided.

Best wishes for the successful completion of your project.

Yours sincerely,

A handwritten signature in cursive script, appearing to read 'Tony Kerr'.

Tony Kerr
Chair, OCAD U Research Ethics Board

OCAD U Research Ethics Board: rm 7520c, 205 Richmond Street W, Toronto, ON M5V 1V3
416.977.6000 x474