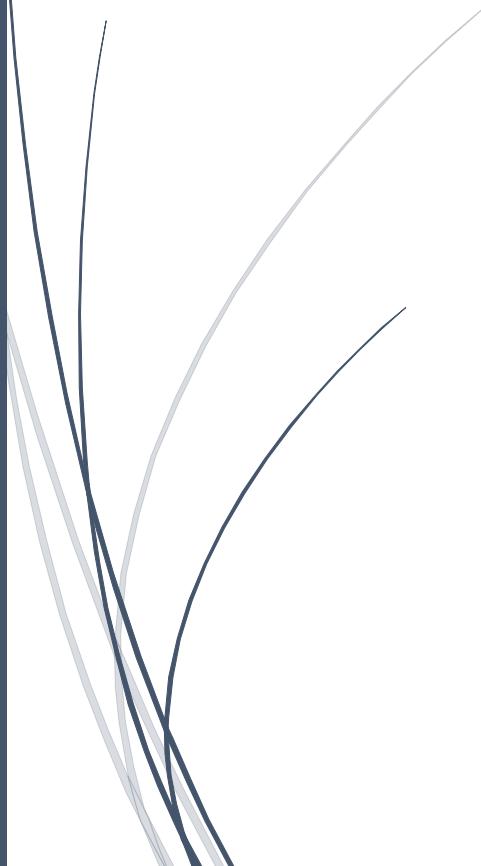


The School Meal Challenge in Canada: Kingston's Response and Ways Forward



Prepared for Dr. Betsy Donald, The Food Sharing
Project Kingston and all who are concerned about
the healthy eating of kids in Kingston, Ontario

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Preface

This report was written and compiled by the students in the fourth year honours seminar class, ‘Sustainable Food Systems’, in the Department of Geography and Planning, Queen’s University. The document was written in Winter Term of 2018, under the guidance of the course’s instructor, Dr. Betsy Donald, and her Teaching Assistant Morgan Sage. The final report was presented to Timothy Brown and Brenda Moore of The Food Sharing Project, Kingston and other interested parties on Tuesday, April 10, 2018.

Students were divided into three groups:

- International: This group contrasted and critiqued Canada’s lack of action at the federal level relative to the more nationally-organized school meal programs in various industrialized nations, namely Japan and the United States. Also, this group incorporated a number of statistical data sources, as well as relevant transnational case studies to provide empirical evidence.
- Provincial: This group examined some of the current initiatives that the Ontario government has in place that prioritize the importance of educating youth about the importance of living a healthy lifestyle. This group was also tasked with discussing various prospective strategies and solutions on a provincial level that encourage education focused on healthy living.
- Local: This group focused on outlining relevant demographic information with qualitative information and created maps to conceptualize spatial disparities in food security across Kingston. This demographic data, along with exemplary case studies in the Kingston area served as a basis for the creation of a number of grass-roots solutions led by volunteers to ensure school meals were distributed in Kingston’s educational institutions.

Methodology

This report is premised on academic literature, statistical data and in-person information gathering interviews with individuals that have worked in non-profit food sharing organizations. At a broad level, the report seeks to provide a variety of thoughtful prospective solutions, which focus on prioritizing accessibility and availability of nutritious meals to school-age children in Kingston, Ontario and Canada, more generally.

Executive Summary

Nutrition and healthy eating are essential for ensuring the growth and development of children. As a result of children spending the majority of their waking hours in a school setting, it is crucial to provide and encourage them to eat nutritious meals. In Kingston (Ontario) specifically, there is a clear-cut need to provide healthy meals in schools. To address this need, several charitable organizations, in partnerships with local school boards, public health and civil society have programs in place to feed children in schools and educate them on healthy eating. While these programs and partnerships are effective at educating and delivering healthy food to children in need, there are still children who are food insecure, leading to questions as to whether there are further ways healthy food could be delivered into Kingston's schools. Surprisingly, Canada is the only industrialized country in the world that does not have a national school meal program. Given this reality, schools in Kingston (like other regions in Ontario and Canada) depend on the goodwill of volunteers and non-profit organizations to fill in the gap. Despite the best efforts of several charitable organizations, the budgets of these organizations are often "shoe-string" and are heavily dependent on volunteers. These organizations understand the local needs 'the best', but they are still underfunded; questions arise as to whether there are other ways to further build food security for school age children in Kingston. One notable fact is that unlike in other parts of the world, Canada has no regulated government policies in place to ensure that children are consistently fed at Kingston schools. This may in part explain why there are still children who are often hungry or food insecure in Kingston's classrooms. This is the problem that needs to be addressed. The purpose of this report is to provide an overview of school meal policies in other jurisdictions in the hope that by observing what has worked in other locations in addition to

understanding policies that are currently in place in Canada and locally, we can become more well-equipped to tackle the issue of availability of school meals in Kingston, Ontario.

Chapter One: International and National Context

The purpose of this chapter is to provide a framework of what the international community has accomplished, in regard to implementing successful systems that feed children in school settings. The first section of this chapter examines aspects of The United Nations' Sustainable Development Goals that relate to food security. These UN goals highlight a number of strategies that pertain to a range of food security and sustainability issues. Furthermore, the section highlights the ways in which the World Food Programme has been able to focus on implementing meal programs in schools around the world. With an understanding of the directive of the international community, the chapter moves on to two case studies. These case studies speak to the success of both Japan and the United States in implementing effective federal school meals programs. Understanding how the Japanese and American federal governments have succeeded in implementing policies for school meals helps to provide a basis for Canada to model a potential future program that caters to the provision of school meals on a federal basis. The chapter concludes by discussing the lack of federal policies for school meals in Canada and how the implementation of such policies would help food insecurity within the country.

Chapter Two: Provincial Context

As outlined in the international and national summary, the lack of a federal school meals program in Canada is contributing to negative health outcomes in the nation's youth. To be specific, these include far higher rates of preventable diseases, such as obesity and Type 2 diabetes in children from the ages of 2-17 (Rodd & Sharma, 2016). In response to this, the provincial government in Ontario has introduced a number initiatives that prioritize the importance of educating youth about the importance of living a healthy lifestyle. These initiatives include The Policy/Program Memorandum No. 150 – School Food and Beverage Policy (PPM 150) (Ontario Ministry of Education) and the Student Nutrition Program (Ontario Ministry of Children and Youth Services). The function of each initiative will be outlined further in Chapter Two of this report. Additionally,

this section will also include three case studies that benefit youth across various regions in Ontario. Lastly, various prospective strategies and solutions that encourage education focused on healthy living (e.g., in-school gardens and snack and lunch programs) are discussed.

Chapter Three: Local Overview

Unfortunately, there is evidence that many elementary school students in Kingston suffer from hunger and improper nourishment. Despite living in a wealthy country and city, there are many children in the Kingston area that face challenges when it comes to bringing healthy lunches to school. Chapter Three begins by highlighting relevant demographic information (populations, families/marital status, education and income) pertaining to the spatial distribution of poverty in Kingston. These findings are complimented by a number of maps, which denote how the most under-privileged neighbourhoods are disproportionately located in the north end of Kingston. Following this, three individual case studies pertaining to school meal distribution programs (Food Sharing Project, GROW Project and the Queen's partnership with Sodexo Foods) in Kingston are outlined. Each of these case studies delves into individual strengths, weaknesses and next steps associated with each project. This is proceeded by a series of prospective strategies and solutions that may help to ensure the sustainable provision of healthy meals for all elementary school-age students in Kingston into the future.

Chapter 1: International & Federal Overview

Highlights:

- Japan's national school lunch program, kyushoku, feeds every child in the country who attends school (Moffat & Thrasher, 2014).
- In the United States, the National School Lunch Program is a federally assisted meal program that fed nearly 31 million children in 2016, with over 19 million receiving free or reduced-priced lunches every day (USDA, 2017; Gunderson et al., 2012).
- Canada is the only industrialized nation in the world without a comprehensive national policy on school meals (Food Secure Canada, 2017).

1.1 International Overview

On September 25th 2015, the United Nations General Assembly established 17 Sustainable Development Goals (SDG), with 169 targets to be completed by 2030 (UN G. A., 2015). These targets prioritize lessening global poverty, protecting the planet, and ensuring international prosperity (UN G. A., 2015). These goals build on previous objectives established by the Millennium Development Goals (MDG) and improve on what these goals were unable to achieve. Specifically, the 17 SDG broadens the scope to include all nations, as opposed to only developing countries (UN G. A., 2015). The purpose of the SDG is to provide a framework for national governments to unanimously tackle global issues, in terms of what any given nation is capable of contributing. For the purpose of this report, sustainability in food systems can be defined as a dynamic collection of solutions which “need to be located, tested and shared” among individuals (Hinrichs, 2010, p. 19). Sustainability in this way provides a more inclusive understanding of responsibility, because it emphasizes how efforts need to be collectively distributed among all of the countries in question (UN G. A., 2015). These changes are the by-product of a growing need for long-term strategies that address social, economic and environmental issues (UN G. A., 2015).

It is important to note here that the completion of one goal of the SDG might also inhibit progress towards completing others. For instance, Goal Two, which strives to achieve zero hunger might require greater land use and subsequent environmental strain. This in turn would have adverse

effects on Goal 12 (protection of life below water) and Goal 13 (address the need for climate action) and Goal 15 (protection of life on land) (Costanza, et al., 2016). This requires a more nuanced understanding of sustainability, as well as recognizing the interlinkages between ending poverty, protecting the planet, and ensuring global prosperity. Although this framework is not legally binding, it provides a baseline for unifying goals to achieve sustainability transnationally.

In the present day, an uneven spatial distribution in terms of accessibility and availability to sustainable nutritious food is a pertinent global issue. This is because food is fundamental to human survival, as well as sustaining society in general. The second goal of the SDG is to secure zero hunger by 2030. This UN initiative strives to achieve food security, improve nutrition and promote sustainable agriculture (United Nations, n.d.). Strategies for satisfying the goal of zero hunger include making food systems sustainable from production to consumption, doubling small scale sustainable farmer incomes, eliminating waste and loss of food, making quality food accessible and available year-round (Zero Hunger Challenge, n.d.).



Figure 1.0 – The Zero Hunger Challenge Initiative (Zero Hunger Challenge, n.d.)

As a group, children are most susceptible to the detrimental effects of malnourishment, hunger and food insecurity. The Zero Hunger Challenge alleviates this by providing a platform that can be implemented in an integrated approach through creating partnerships, with the private sector, public sector, local communities and nations (both UN and non-UN organizations) that are dedicated to developing solutions addressing the aforementioned areas . The provision of

food is fundamental to children's development, especially of those in school, because hunger limits the cognitive potential of students, reduces general health and their ability to study in school (Belot & James, 2015). As a result of this, students need to be made a priority of this program.

One of the leading organizations to mitigate hunger in student populations is the UN World Food Program (WFP), which is dedicated to a number of zero hunger initiatives. The WFP is considered the largest humanitarian organization in the world and aligns their efforts and strategies with the UN's Sustainable Development Goals. The organization's strategies address a variety of food security issues, primarily by providing food aid to nations plagued by natural crises', and by providing the means for urban rehabilitation and development.

The WFP development programs focus on nutrition for new born children under the age of two, as well as on students by way of school meal programs (World Food Programme, 2018). This strategic arrangement stems from the fact that these years are considered to be the most crucial for cognitive development (World Food Programme, 2018). According to the organization, "in 2016, [the] WFP implemented or supported school meals programmes in 69 countries [...] provided school meals to 16.4 million children in 60 countries. It also built the capacities of 60 governments, which led to improved national school meals programmes for another 45 million children" (World Food Programme, para. 3). These school meals programs differ in terms of how they are implemented; they are tailored to suit the nutritional needs of local communities. Additionally, these efforts emphasize the importance of sourcing food from local farmers, in order to increase local economic activity. para. 3). These school meals programs differ in terms of how they are implemented; they are tailored to suit the nutritional needs of local communities. Additionally, these efforts emphasize the importance of sourcing food from local farmers, in order to increase local economic activity.

In recent years, one of the WFP's most successful initiatives has been in shifting its focus from food aid to prioritize food assistance. This involves cash-based transfers through physical

banknotes, bank transfers, food voucher and electronic mobile e-transfers. These measures are designed to reach a wider range of people, while simultaneously reducing resource expenditures (World Food Programme, 2018). The increasing popularity of this model is a by-product of the autonomy it awards individuals, in terms of their food choices. Furthermore, the inclusion of this model permits people to purchase locally produced food and stimulate the economy, by increasing the purchasing power of communities.

There is valid concern over misuse of funds for purchasing of temptation goods (such as alcohol or tobacco). However, an analysis conducted by the World Bank, in which 30 different studies were analyzed from across the globe concluded that populations tended to purchase negligible amounts of temptation goods (Evans, et al., 2017). Instead, the data findings associated with these cash-based programs suggest that irrespective of nationality, people tend to make beneficial changes in their own lives, as well as in their communities when receiving choice-based aid. This is the directive of the international community and continues to implement these programs for its positive returns in mitigating food insecurity (World Food Programme, 2018, para. 5).

On the international scale, the organizations of the UN and national governments provide a unified global framework for the sustainable development of a school meals program. In order to achieve the Sustainable Development Goals (SDG) of the UN by 2030, it requires an integrated approach of multi-scalar governments and private - public partnerships to develop effective solutions. In the context of Canada, it is the only industrialized nation without a comprehensive national policy on school meals (Food Secure Canada, 2017a). Current oversight of school meals programs is delegated to the provincial scale, however, there is demand for a comprehensive national strategy to meet the growing needs of Canadian youth. We look at the case studies of Japan and the United States as two examples to guide Canada's own implementation of an effective school meals program.

Canada is the only industrialized country without a comprehensive national policy on school meals.

1.2 Case Study: Kyushoku - Japanese School Lunch Program

On a daily basis, at lunch time, Japanese students sit at their desks and say “”itadakimasu” (I humbly receive), prior to receiving a healthy meal provided by their school (Moffat & Thrasher, 2014). This is a by-product of Kyushoku, Japan’s national school lunch program, which feeds almost every child in the country (Moffat & Thrasher, 2014).

Following World War II, the Japanese government decided to prioritize health and education, in order to narrow the gap between Japan and other industrialized nations in the western world (Harlan, 2013). At the time, there were near-famine conditions across a majority of the country and food-based provisions were implemented into schools in urban areas (Harper et al., 2008). This became more prevalent over time and eventually these programs were mandated under federal law in 1954 under the School Lunch Program Act (Harper et al., 2008).

The school meals program falls under Japan’s shokuiku policies, which are federal laws that advocate for food education across the country. To provide context, shokuiku is a national health-based law that encourages citizens to explore the importance of food and nutrition in Japanese society (Yotova, 2016). The Japanese government views kyushoku as an integral part to food education. More importantly, governmental support has allowed it to become one of the most renowned school meal programs in the world. As of 2014, 99.2% of all elementary schools and 85.4% of all junior high schools provided school meals to their entire student body (Government of Japan, 2014).

Nutrition:

The Ministry of Education, Culture, Sport, Science and Technology (MEXT) views the national school meal program as a fundamental component in ensuring healthy lifestyles in Japanese children (Harper et al., 2008). Students eat in their classrooms, as opposed to a cafeteria (Figure 1.1). Additionally, it is not uncommon during this lunch hour for teachers to provide presentations on the dishes that they are being served and their relationships to Japanese traditions (Yotova, 2016). Japan’s federal government provides schools with a basic set of

nutritional guidelines, but maintain the authority to stop schools from serving unhealthy foods. This intervention is unnecessary for the most part, as schools make it their prerogative to create healthy and varied daily menus. Throughout this process, schools hire nutritionists to create recipes that consist of soup, rice, meat or fish, and vegetables, along with a carton of milk to drink (Harlan, 2013). The Board of Education estimates that meals for children between the ages of 6 and 12 contain about 650 calories, which pertains to a third of their daily energy requirements (Harper et al., 2008). It is also important to note that on a monthly basis, students take home a menu to their families that contains information on nutrition, calorific value, and fat and salt content (Harper et al., 2008).

Every so often, students are provided with what one nutritionist calls a “fun meal” (Yotova, 2016). These “fun meals” aren’t particularly nutritious, but are used as a way to teach students about the importance of moderation and having a balanced diet. (Moffat & Thrasher, 2014). These initiatives are relatable to the broader shokuiku policy, which encourages children and families to engage in healthy lifestyles and balanced lifestyles. As such, these programs do not solely focus on food; rather, they strive to provide education about the importance of relationships with food, in a personal, local and global sense (Yotova, 2016). Unsurprisingly, an expansion in Japan’s shokuiku and kyushoku programs are correlated with a decline in Japan’s historically low childhood obesity rate, as well as an increase in national life expectancy (Weller, 2017).

Accessibility:

The Japanese government has designed the school meals program in a way that ensures equal accessibility to food among all students. To delve into the specifics, the labour costs associated with food preparation are covered by the municipal government, which ensures that costs for individual families are low (Harlan, 2013). Students are provided with a healthy meal every day, and parents are billed monthly with a cost of around 300 Yen (\$3.50 CDN) per day (Harper et al., 2008). For families that cannot afford this price, the municipal government subsidizes these costs to ensure a unanimous provision of meals, irrespective of one’s socioeconomic status (Moffat & Thrasher, 2014). In recent years, there has been an increasing incidence of families failing to pay

for this service. For instance, in Utsunomiya there is currently a non-payment rate of 4-5% (Moffat & Thrasher, 2014). This is concerning because it is representative of a broader concern across urban areas in Japan.

The equality employed by this system actively mitigates stigma that is typically associated with school meals because children at school institutions do not know whether an individual's parents pay for their lunches, or not (Moffat & Thrasher, 2014). The effectiveness of this program is well-documented. For instance, government data highlights that malnutrition is virtually non-existent (Harlan, 2013). This example is indicative of the efficacy of school meal programs that are supported by all involved parties.

Sustainability:

Japan began implementing school meal programs across the country in the mid-twentieth century, and by the 1980s, these programs began resembling those in Japan in the present day (Harlan, 2013). The widespread approval of this program is also indicated by strong resistance by the public to make any changes to it (Weller, 2017). This alludes to Japan's successful creation of a sustainable school meal program, which could be adopted in other nations, according to the country's federal government (Yotova, 2016). Masahiro Oji, a government director of school health education, said "What is most difficult for me to explain is why we can do this and other countries cannot" (Harlan, 2013).

In regard to environmental sustainability, Kyushoku strives to incorporate local products in their food as much as possible, in order to provide children with culturally relevant food and to reduce emissions from food transportation (Yotova, 2016). This began in 2008, when the Local Production for Local Consumption Act was passed across Japan. This policy requires that a minimum of 30 percent of the menu be local, to which school meal programs adhere (Moffat & Thrasher). As of 2016, 27% of ingredients were sourced locally, and the government of Japan pledged to bring that up to 30% by the end of 2018 (Edahiro, 2017).

Overall, Japan's Kyushoku program has remained sustainable over several decades, and it is unlikely to change in the short-term because of its widespread popularity. This is in part because the program is enjoyed by citizens and the government. As discussed above, costs are kept at reasonable levels through the provision of municipal funding and a subsidy program. As a result of this, Japan's citizens are healthier, more educated on food, and have a longer life expectancy than residents of other industrialized nations (Harper et al, 2008).



Figure 1.1 – Students in Tokyo, Japan preparing to eat lunch in their classroom (Toru Hanai)

This case study is difficult to translate into a Canadian context, due to the differences in culture and population dynamics. The Kyushoku program is part of

a greater effort by Japan's federal government to protect traditional Japanese food culture (Yotova, 2016). Canada is a much more diverse nation than Japan, and it would be more difficult to implement a universal school meals program that is culturally sensitive to all students. The following case study on the United States is more comparable to Canada with respect to demographics.

1.3 Case Study: United States

In the United States, the National School Lunch Program (NSLP) is a federally assisted meal program run by the Child Nutrition Division of the Food and Nutrition Service under the United States Department of Agriculture (USDA) (Harper et al., 2008; USDA, 2017). In 2016, almost 31 million children were fed by the program, with over 19 million receiving free or reduced-priced lunches every day (USDA, 2017; Gunderson et al., 2012).

The NSLP began in 1946 with the introduction of the *National School Lunch Act*, after it was decided that the program previously implemented from 1939-1942 during WWII should be continued (Harper et al., 2008). This program provided free school lunches in schools and strives to maintain children's' health and wellbeing using American agricultural commodities (Kennedy & Guthrie, 2016; Harper et al., 2008). The *National School Lunch Act* incorporates two programs; the NSLP and the National School Breakfast Program (NSBP). Both programs were reviewed in 2004, which awarded the NSBP more power to promote healthy choices among children (Harper et al., 2008).

The program costs around \$10 billion per year (Gunderson et al., 2012), and funding comes from the USDA at the federal level. Conversely, state education agencies operate the programs alongside school food authorities at the local level. In contrast, the Canadian federal government doesn't provide any funding for school meals programs aside from for Indigenous communities (Food Secure Canada, 2017b), as school meals are considered a provincial responsibility. The lack of national standardisation has led to inconsistency between provinces which provide different amounts of funding (Food Secure Canada, 2017).

The majority of schools in the country serve lunch, usually in school canteens, although situations range from satellites kitchens that serve pre-cooked meals to full scale central kitchens (Harper et al., 2008). There are three categories which determine how much meals cost the students; free, reduced price, and full price (Gunderson et al., 2012). To receive free or reduced meals, eligibility requirements must be met. Students from households who earn less than 130% of the poverty line receive free meals, while those earning 130%-185% receive reduced price meals (Gunderson et al., 2012). The average price of a regular lunch is \$2, and the USDA supports deficit from reducing prices by providing cash reimbursement for each meal served; \$0.21 for full priced meals, \$1.84 for reduced meals, and \$2.24 for free meals (Harper et al., 2008).

Nutrition:

The program aims to provide nutritionally balanced food to the children taking part (USDA, 2017). It is important to note that these meals comply with nutrition standards established at the federal level (Kennedy & Guthrie, 2016). New guidelines were introduced in 2012, which provided minimum and maximum energy requirements across each age group. These policies also ensured that a serving of both fruit and vegetables were included in every meal (Smith & Cunningham-Saba, 2014). The benefits of these efforts are confirmed in the findings of Kennedy and Guthrie's (2016) study, as the NSLP improved food nutrient quality while maintaining or decreasing caloric intake.

Conversely, there are many who argue that the program has had a negative effect on nutrition and overall health in children. Childhood obesity rates are increasing across the country; from 1999/2000 to 2003/2004 they rose from 14% to 17% (Campbell et al., 2017). This study also found that the quantity of food consumed by children in the program was significantly higher than those not participating, while the number of vitamins and minerals consumed per gram were very similar (Campbell et al., 2011). It is very difficult to discern how much of an impact the NSLP has on rising obesity rates, as the food children consume at home is a crucial factor that cannot be properly analyzed (Gunderson et al., 2012). In addition, for the NSLP to impact health, the meals provided needs to actually be eaten by the students (Kennedy & Guthrie, 2016). Research into investigating the amount of food left on children's plates has highlighted that many elementary and middle school students leave the fruit and vegetables offered as part of program, meaning that they are failing to meet nutritional guidelines (Smith and Cunningham-Saba, 2014). Students sometimes have alternative options as competitive foods are sold alongside food provided by the school. On average, a third of elementary students and over half of secondary students were found to consume at least one competitive food, the most popular options being desserts, sweetened beverages, salty snacks, pizza, or sweets (Kennedy & Guthrie, 2016).

New measures need to be implemented to tackle some of the issues associated with the NSLP's nutritional standards. For starters, an emphasis needs to be placed on improving the quality of

the food served rather than quantity (Campbell et al., 2011). Alongside the provision of food, complementary strategies need to be devised to ensure students themselves are making nutritious choices to make sure that students are consuming nutritious foods (Smith & Cunningham-Saba, 2014). This might occur by adopting a broader approach, which would address rising obesity rates through the inclusion of more physical activity during school hours and clearer communication with parents about healthy choices (Kennedy & Guthrie, 2016). If a similar program were to be implemented in Canada, the nutritional quality of the food provided should be a key priority. This could be addressed using a policy framework like that of the school and food beverage policy (PPM 150) in Ontario, which provides a set of nutritional standards which must be met by all food sold in schools (Ontario Ministry, 2011).

Accessibility:

Providing reduced, or free meals for children from less affluent families helps makes the NSLP accessible for people across all socioeconomic statuses. The program has been proven to reduce food insecurity (Arteaga & Heflin, 2014), and lower the risk of food insufficiency by approximately

The NLSP has been proven to reduce food insecurity (Arteaga & Heflin, 2014), and lower the risk of food insufficiency by approximately 14% (Huang & Barnidge, 2016).

14% (Huang & Barnidge, 2016). This improvement is crucial, as food insecurity impacts child development, and is typically associated with poor academic performance at school. This is a result of a direct effect on cerebral functioning, and an indirect effect on physical and psychological health, which can lead to

children being more easily distracted, having low motivation, or not attending school (Arteaga & Heflin, 2014). 1 in 6 Canadian children are affected by household food insecurity (Ke et al., 2015), so adopting a similar program which would provide free or reduced meals to children from poorer backgrounds would help tackle this issue.

The NSLP only provides food during the school year, which means that the summer months are characterized by far higher rates of food insufficiency. Currently, this is being addressed by the

Summer Food Service Program and the Seamless Summer Option, but both of these programs need to be expanded to reach more children (Arteaga & Heflin, 2014).

Sustainability:

Although the program's long history is suggestive of the NSLP being a well-designed and functional program, it is difficult to discern how sustainable the operation truly is, especially in respect to environmental sustainability. This speaks to a prominent flaw of the current model, which prohibits food providers from choosing locally-grown foods over other foods, as federal regulations prohibit 'geographical preferences' for sourcing (Harper et al., 2008).

The National School Lunch Program adopted in the United States aims to provide nutritional food that is accessible to all (USDA, 2017). Questions have been raised about the effectiveness of the program, especially with regard to nutritious quality (Campbell et al., 2011). Despite these claims, the provision of free or reduced meals, to those eligible is found to reduce food insecurity (Arteaga & Heflin, 2014). Overall, the program provides an example of how a country like Canada can implement a national school meal program which addresses issues of nutrition and accessibility. However, it is important to consider that the introduction of a national school meal program will not solve the problem of child food insecurity. Instead, it must be implemented as part of a mosaic of initiatives which together address the associated issues, such as nutritional understanding and education, and children's access to healthy food outside of school.

1.4 Canada Federal Policy Overview

Food insecurity and diet related health problems are more prevalent in Canada than the average Canadian might realize. Canada is one of the world's largest food exporters and one of the world's wealthiest countries, yet nearly 4 million Canadians struggle to satisfy their daily food needs (Ke et. al, 2015). Household food insecurity effects as many as 1 in 6 Canadian children, whose daily routines involves spending a considerable portion of their day at educational institutions (Ke. et al, 2015). Due to the amount of time children spend in the classroom, schools are representative of a promising vehicle for alleviating food insecurity, and ensuring widespread accessibility to

nutritional food (McKenna, 2010). In a transnational context, *Canada is the only industrialized nation without a comprehensive national policy on school meals* (Food Secure Canada, 2017a). In the present day, school meals fall under provincial jurisdiction, and they are regulated by guidelines provided to schools by the Ministry of Education in each province (Food Secure

Canada ranks 37th out of 41 developed countries in terms of access to healthy food for children.

Canada, 2017b). Various international comparisons suggest that the Canadian government needs to emphasize issues related to food insecurity, as well as the creation of a federal school meals program. In addition to the millions of food insecure Canadians, according to a UNICEF report, Canada ranks 37th out of 41 developed countries in terms of access to healthy food for children (Brazier, 2017).

A prominent issue with the existing policy framework in Canada is the fragmentation of issues such as health, environment, agriculture, social development, and economic growth across different ministries. In actuality, these issues are interrelated, especially when considering broader issues such as food insecurity and unhealthy eating in schools. This divide proves to be challenging, because assigning these issues to a variety of institutions can impede collaboration. (Food Secure Canada, 2017a). According to Tarasuk et. al (2015), similar to the case of school meals, there is no publicly funded initiative relating to food insecurity. Currently, it appears that bureaucracy within the Canadian government is preventing a more concentrated effort being made towards alleviating food insecurity and promoting healthier eating (Food Secure Canada, 2017a). Instead, a more feasible short-term solution might involve the creation of a novel governing body, which is responsible for raising financial public and private contributions, in order to respond to issues associated with school meals and food insecurity. Moreover, this governing body could work doubly to increase the funding available to each individual school meals program to levels comparable in other developed countries (such as the United States). The organization would be able to ensure that a concentrated effort is being made at a federal level to create policies that will begin to address this problem as a whole, as opposed to in the current system, in which different components of the issue are divided across numerous ministries. As previously mentioned, the NSLP provides funding to meal programs across the U.S.,

amounting to roughly \$1.57 USD per student as of 2015 (Food Secure Canada, 2017b). While this funding appears insignificant, the Government of Canada (federal level) provides zero funding to school meals programs outside of Indigenous communities on a federal basis (Food Secure Canada, 2017b). Rather, funding efforts are at the jurisdiction of individual provinces, and are typically raised through grants and other related initiatives. To provide evidence of the inconsistency between provinces, British Columbia provides \$0.18 per student, the Yukon provides \$0.11, and Ontario provides a low of \$0.08 per student. (Food Secure Canada, 2017).

Canada's struggle with food insecurity has a variety of societal implications. The Canadian National Longitudinal Survey of Children and Youth demonstrates that hunger early on in life contributes to mental health problems such as suicidal ideation and depression during late adolescence and young adulthood, even when accounting for external factors (Ke et. al, 2015). Economically, Tarasuk et. al (2015) found that in Canada, individuals from households experiencing severe food insecurity were nearly two times more likely to access government health services. Additionally, the individual health costs of providing care to food secure individuals are greater compared to those not experiencing health insecurity (Tarasuk et. al, 2015). Evidently, this is an important issue that has not received enough national attention, especially considering how much Canada struggles in comparison to its counterparts in the international community. These findings suggest that from both a social and economic standpoint, it is in Canada's best interest to create policy to improve the health of its population.

The non-government organization, Food Secure Canada, provides a list of recommendations for remedying the nation's lack of a federal food-based policy. Specifically, these recommendations argue for an equitable and sustainable food system, with a focus on schools. The necessity of taking a systems-based approach while acknowledging that issues such as poverty, food insecurity, and sustainability are interrelated is integral for solving all of the issues in question. Their report, *Building a Healthy, Just and Sustainable Food System: Food Secure Canada's Recommendations for A Food Policy for Canada* makes recommendations to address the current fragmentation of food related issues (Food Secure Canada, 2017a). The policy briefing attempts

to align its recommendations with goals already made public by the Trudeau government. A table highlighting the goals and recommendations pertinent to this report can be found in Figure 1.2. Additionally, the report stresses the importance of reconciliation with Indigenous peoples in the process of developing a national food policy, especially given the disproportionate effects felt in geographically isolated First Nations communities relating to food insecurity (Food Secure Canada, 2017a). Acknowledging the need for reconciliation is significant, as much of the research relating to the implications of food insecurity among children fails to consider Indigenous populations, bringing to light that more research needs to be conducted in this area (Ke. et al, 2015) (Food Secure Canada, 2017a).

Goals	Recommendations for “A Food Policy for Canada”
<i>A Food Systems Perspective</i>	<ul style="list-style-type: none"> ➔ In partnership with the provinces and territories, [the government should] create a cost-shared national Universal Healthy School Food Program to ensure that all school children learn basic food skills and have access to healthy, nutritious meals every day.” (Food Secure Canada, 2017a, p. 10) ➔ Updating Canada’s Food Guide to incorporate the principles of sustainability
<i>Reconciliation with Indigenous Peoples</i>	<ul style="list-style-type: none"> ➔ “Work with Indigenous Services and Indigenous leadership to create a Universal Healthy School Food Program for schools within First Nation reserves” (Food Secure Canada, 2017a, p. 10)
<i>A rights based approach to food insecurity</i>	<ul style="list-style-type: none"> ➔ Ensure there is an income floor below which no Canadian will fall so that everyone can afford adequate, nutritious food” (Food Secure Canada, 2017a, p. 8).

Figure 1.2 – Highlighting Food Secure Canada’s Goals/Recommendations to assist in the creation of a “Food Policy for Canada”

As emphasized above, food insecurity is an issue that is rooted in poverty. Research suggests that the creation of a basic minimum income for all Canadians might be the most effective method for solving the issues that contribute food insecurity (Ke et. al 2015). Despite this claim, such a policy would incur a large cost to taxpayers and may not be widely supported. A more feasible solution in the short term might be for the newly created governing body on school meals and food insecurity to receive funding from both the government as well as from private donors (Food Secure Canada, 2017a). This governing body could work doubly, to increase the funding available to each individual school meals program to levels that compare with other developed countries (such as the Japan and the United States), while ensuring that a concentrated effort is made at a federal level to create policies that will begin to address the problem as a whole (Food Secure Canada, 2017a). Compared to the current system, in which different components of the issue are divided across various government institutions, a systems-based approach would help the Federal government create more effective policy initiatives to improve the quality, accessibility and sustainability of school meals (Food Secure Canada, 2017a).

Chapter 2: Provincial Overview

Highlights:

- The Province of Ontario currently has two policies: the School Food and Beverage Policy (PPM150) and the Ministry of Child and Youth Services Student Nutrition Program Guidelines, to mitigate poor health outcomes in school age children.
- There are numerous examples of the Provincial government prioritizing accessibility and availability of nutritious foods in school-age youth.
- Various in-school initiatives, such as community gardens, snack and lunch programs, as well as the incorporation of more volunteers are making an impact across the province.

2.1 Introduction

The lack of a national food policy contributes to perpetuating the issue of food insecurity of children in Canada. As a result, children often arrive to school with non-nutritious foods, or without food at all. Food insecurity is prevalent across all provinces and territories in Canada, despite not always being visible to the public eye. In 2014, 9 provinces and territories, including Ontario, participated in measuring food insecurity. The results of these findings show 12% of households in Canada had experienced food insecurity in the past twelve months (Tarasuk et al, 2016). In Kingston specifically, there are approximately 20,000 people living below the poverty line (Sobel, 2014). For many families living below the poverty line, parents and other caregivers favour non-nutritional convenience and highly-processed foods because these foodstuffs are an inexpensive option for families. Research shows that healthier options are more expensive than processed foods. Often, the lack of nutritional knowledge also contributes to the purchasing of these foods. The purchasing and eating of these foods is problematic because the consumption of nutritious food is directly related to students' ability to focus and learn, as well as overall healthy development. Providing children access to nutritious food mitigates health risks associated with hunger and obesity and aids in developing lifelong healthy eating patterns.

A Canada wide community health survey in 2005 with 31,030,722 participants, individuals indicated the level of food insecurity they experience.

Figure 2.0 provides the summary:

Food insecure without hunger	1,411,416
Food insecure with moderate hunger	586,147
Food insecure with severe hunger	129,469
Food insecurity, not stated	197,217

Figure 2.0: Food insecurity in Canada (Statistics Canada 2005)

Since the Canadian Community Health Survey (CCHS) began monitoring food insecurity more than 10 years ago, the issue has not significantly improved and its prevalence is largely underestimated (Tarasuk et al, 2016). The 9 provinces and territories who participated in the 2014 CCHS study measuring food insecurity represent 1.3 million households, or 3.2 million individuals, including 1 million children under the age of 18 (Tarauk et al, 2016). Across Canada, statistics indicate that households with children experience higher rates of food insecurity than those without, at 15.6% versus 10.4% (Tarasuk et al, 2016). 1 in 6 children under the age of 18 live in a household that experiences food insecurity (Tarasuk et al, 2016). In addition, food insecurity is found to be highest in single parent households with children under 18 years old, at 22.6% (Hawkins & Roshanafshar, 2015).

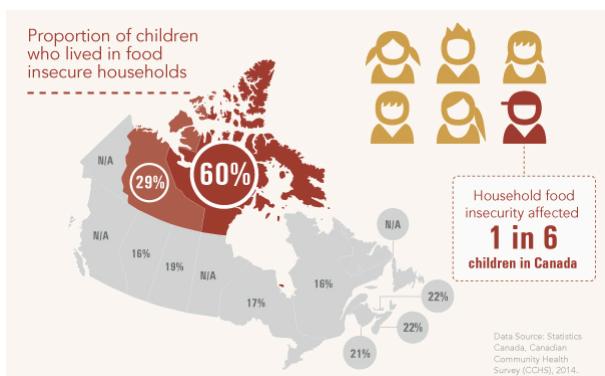


Figure 2.1 – Image retrieved from: Tarasuk, 2016. Household Food Insecurity in Canada, 2014. Toronto: Research to identify policy options to reduce food insecurity (PROOF). Retrieved from <http://proof.utoronto.ca>

Since Canada began monitoring food insecurity in 2005, food insecurity has risen to the highest levels in Nunavut (46.8%) and the Northwest Territories (24.1%), and has dropped in the provinces, although not enough for statistical significance (Tarasuk et al, 2016). In Ontario specifically, there are more than 594,900 food insecure households (Tarasuk et al, 2016). In addition, families in urban areas experience slightly higher rates of food insecurity than those living in rural areas – the highest prevalence of food insecurity in a Canadian city being Peterborough, Ontario, where more than 1 in 6 households are food insecure (Tarasuk et al, 2016).

Along with hunger, obesity is a consequence of food insecurity. Restricted access to nutritional food is a major contributor to obesity and other health risks. Non-nutritional, processed food is less expensive and more accessible for individuals who are food insecure. In 2004, the World Health Organization classified obesity as a world health epidemic (Weis, 2007). Rates of childhood obesity increased from 23.3% in 1978 to 34.7% in 2004 between children aged between 2 and 17 (Rodd & Sharma, 2016). In 2016, a social survey conducted by Statistics Canada was used to examine nutritional information associated with packaged foods. This survey found 19% of women and 34% of men never consult nutritional information on packaged foods (Statistics Canada, 2018). In the case of school lunches, packaged foods were often bought by parents because of their affordability and convenience. In examining why parents ignored nutritional information, 45% of individuals stated they did not care, 5% did not know what to believe or trust, 6% did not know how to interpret the nutritional information, and 11% stated other (Statistics Canada, 2018). This distinction is crucial, because the documented rise in global obesity rates in children is directly related to an increase in the consumption of non-nutritional packaged foods.

2.2 Ontario Policies & Programs

As a result of increasing health issues associated with overweight and obese youth, Ontario Public Health called for a provincial intervention (Vine & Elliot, 2013). In response to this statement by Ontario Public Health, the Ontario Ministry of Education developed Policy/Program

Memorandum No. 150 (PPM 150) (Vine & Elliot, 2013). In addition to PPM 150, the Ministry of Children and Youth Services developed a School Nutrition Program (SNP), which is largely funded by the Ontario government's Trillium Fund. Both PPM 150 and SNP fall under the ministry Nutrition Guidelines (Ministry of Education). The Ontario provincial government states that the nutrition guidelines and policies were developed because of the importance of ensuring students' ability to access healthy food-based options, while at school.

PPM 150: Ontario School Food and Beverage Policy

Policy/ Program Memorandum No. 150 (PPM 150), also known as the school food and beverage policy, is a nutrition policy that was implemented by the Ontario Government in 2011. This program provides an objective set of nutritional standards, which have to be met in order for food to be sold in school settings. For instance, under PPM 150, Ontario school boards are required to ensure all food and beverages sold at school meet the nutritional standards set by the memorandum. These standards include a limit to the number of days allowed to sell "unhealthy" food to 10 per school year, including pizza lunches, bake sales, etc. (Ontario Ministry of Education, 2011). Most schools however, are not embracing the policy, rather according to a recent study by Ontario Society of Nutrition Professionals in Public Health (OSNPPH), schools see it as a burden to meet the minimum standards (OSNPPH, 2012). Overall, there is a widespread lack of knowledge and misinterpretation about the policy resulting in stigmatization and financial inaccessibility. For example, many elementary schools have misinterpreted PPM 150, telling parents to follow the nutrition standards of the program when packing their children's lunches and analyzing the food packed in lunches, which stigmatizes children and their families (OSNPPH, 2012).

The Ministry of Education is responsible for upholding the Ontario government's commitment to ensuring school environments are a healthy place for students, in order to enhance student success, as well as social and emotional well-being. The Ministry argues that by establishing the necessary conditions it will help students in reaching their potential (Ministry of Education, 2018). However, PPM 150 only addresses food sold in schools, rather than addressing nutrition in the

entire school environment (OSNPPH 2012). As a result, the program fails to address the issue of food security in youth and therefore perpetuates struggles for a subset of students.

Another issue expressed in the OSNPPH report is that these regulations increase the prices of food sold at schools because nutritional options are more expensive, therefore limiting the accessibility of food to some students from low income families. For these reasons, PPM 150 has been somewhat ineffective since its implementation in 2011 and experts agree that comprehensive, “whole school” policies are more likely to be effective in improving student nutrition (OSNPPH, 2012).

Student Nutrition Program Guidelines

An Ontario Toronto District School Board report in 2006 found that 45% of students in grades 7 and 12 did not eat breakfast every day and 27% did not eat lunch daily while at school (TDSB Student Census, 2006). In addition, there were notable differences with the consumption patterns among genders, and various ethno-racial backgrounds. For instance, female students were less likely to eat daily meals compared to male students (TDSB Student Census, 2006), along with Aboriginal (45%), Black (45%), Southeast Asian (48%), Mixed (49%), and Middle Eastern (50%), indicating the likelihood of coming to school without eating breakfast (TDBS 2006 Student Census). These consumption patterns are largely attributed to the prevalence of food insecurity in immigrant households (12%-15.2%), as well as Aboriginal or black (25.7% and 29.4% respectively), as found by the 2014 CCHS (Tarasuk et al, 2016).

In efforts to provide nutritious food to students at school, the Student Nutrition Program (SNP) Guidelines provide nutritious food through the provision of breakfast, lunch, or snack programs to Ontario elementary school children (Ministry of Children and Youth). There are 14 lead agencies that oversee the program administration and grants; these organizations determine the needs of individual schools. From a logistical standpoint, the SNP is able to operate because of additional help stemming from community partnerships and local sponsors. Unfortunately, one weakness associated with this program is its fundamental reliance on external assistance.

Without adequate numbers of volunteers, many schools experience operational inefficiencies (OSNPPH, 2012).

The food provided by the SNP must meet the nutritional guidelines put in place by the Ministry of Children and Youth Services. However, meeting these guidelines is synonymous with increases in the program's cost, because nutritious food tends to be more expensive from a monetary standpoint. As a result, students are finding the SNP to also be financially inaccessible due to increased costs (Vine & Elliot, 2013). Therefore, the need for external support for schools in operating the program as well as the costs of the program for students and stigmatization, causes the program to be somewhat problematic and not sustainable long-term in providing nutritional food for students.

Trillium Fund

The Ontario Trillium Foundation (OTF) awards approximately \$136 million in grants each year to more than 1,000 community organizations, priding itself on being Canada's largest granting foundation with the ability to "create significant opportunities for positive community change" (Government of Ontario, 2018). The organization's mission is to "build healthy and vibrant communities throughout Ontario by strengthening the capacity of the voluntary sector, through investments in community-based initiatives" (Government of Ontario, 2018). The OTF values guide the foundation, aiding in determining where there is a need for the funding. The OTF states that private foundations, provincial/federal agencies, university/colleges, hospitals, schools, for profit organizations, unincorporated branch chapters, conservation authorities, and municipalities with populations over 20,000 and their agencies do not qualify for the Ontario Trillium Foundation grants (Government of Ontario, 2018). Based on their standards, the groups that do qualify for funding from the OTF (pending further criteria being met) include: charitable organizations, organizations incorporated as not for profit, First Nation communities or municipalities with populations of 20,000 or less or their cultural and recreational agencies (Government of Ontario, 2018).

Based on the criteria of the OTF, individual schools and/or classes are not able to receive assistance from the Trillium foundation on their own for individual school food programs. However, grassroots organizations such as Kingston's Loving Spoonful are able to access the grants as a resource for funding a school meals program. In the short term, grassroots organizations that provide school meals are an extremely valuable resource, however they are often not sustainable long term. The long-term viability of such a program requires a high level of volunteer commitment and undetermined amounts of funding on a yearly basis. This fragile arrangement does not always allow for a continual and ongoing schools meals program in a particular place. This is because organizations need a consistent budget to plan as well as coordinate efforts to deliver effective school meals.

2.3 Ontario Case Studies

School meals programs, or SNPs are beneficial and often imperative for students and their ability to succeed in the classroom. Not only do students who participate not have to worry about food insecurities, but there are strong educational and behavioural benefits that are a by-product of such programs (Muthuswami, 2012).

Within Ontario, there are several ways in which these programs operate. The following examples provide insight into the actors and methods involved with the SNP's. SNPs are coordinated by 14 lead agencies across Ontario that oversee administration and funding (Pratley, McPhail, & Webb, 2014) as well as build partnerships with program sponsors and community partners to support local programs (Ministry of Child & Youth Services, 2014). The 14 agencies are listed in the table on the following page.

Algoma Family Services (Algoma)	Canadian Red Cross (North East)
Canadian Red Cross (Thunder Bay & District)	Community Living North Bay (Nipissing-Muskoka-Perry Sound)
Haldimand Norfolk R.E.A.C.H. (Hamilton-Niagara)	The Hastings and Prince Edward Learning Foundation (South East)
Kitchener-Waterloo YMCA (Central West)	Northwestern Health Unit (North West)
Ottawa Network for Education (Ottawa)	Peterborough Family Resource Centre (Central East)
Sudbury Better Beginnings Better Futures Association (Sudbury-Manitoulin)	Toronto Foundation for Student Success (Toronto)
Upper Canada Léger Centre for Education and Training (Eastern Ontario)	Victorian Order of Nurses (South West)

Figure 2.2: 14 Lead Agencies (Student Nutrition Ontario, 2018)

Volunteers most commonly included community members, teachers and parents (Pratley, McPhail, & Webb, 2014). In 2014, the Government of Ontario announced additional funding to SNPs to expand more programs across Ontario and enhance existing ones in the next three years (Ministry of Child & Youth Services, 2014).

In 2012, the Government of Ontario set out a goal to reduce childhood obesity to twenty percent in the next five years (Pratley, McPhail, & Webb, 2014). Part of this process was for the Province to establish the Healthy Kids Panel (HKP) in 2013. This panel released their campaign *No Time to Wait: The Healthy Kids Strategy* (HKP, 2013) with a list of several key recommendations. Recommendation 2.8 of their campaign was to “establish a universal school nutrition program for all Ontario publicly funded elementary and secondary schools” (HKP, 2013, p.3) along with guidelines to reach this goal.

Below are listed a select few of the key guidelines towards a comprehensive SNP outlined in their statement.

- Extend existing SNPs and implement new programs so that it reaches every child
- Make every effort to ensure that these programs are culturally sensitive
- Ensure a long-term commitment
- Integrate the nutrition program within the curriculum (HKP, 2013)

It is also important to consider the three pillars of *Ontario Bill 36: The Local Food Act* which are to (a) improve local food literacy, (b) increase use of local food by schools, and (c) increase access to local healthy foods, so SNPs can have the potential to support this Bill (Ontario Ministry, 2011).

The following case studies have the potential to reach the three pillars of Ontario Bill 36. Some of the case studies involve one school while others involve an entire district. While each differs in their functionality and purpose, many of the challenges faced and overall outcomes overlap.

3Acres Tastebuds Local Harvest Program

Background:

The 3Acres Tastebuds Local Harvest Program exists in seven facilities including elementary schools, after school programs, and youth centers in the Hamilton region. It began in the fall of 2013, and runs from September to December, delivering local fresh produce into these programs using a sustainable delivery system. This program hires a transportation service called “The Hammer Active Alternative Transportation Co-op” cyclists. This service delivers fresh produce from a central hub that local farmers bring their food to by bicycle to these facilities, taking a total of about three hours to deliver to all seven programs. 3Acres staff sorts the food for the schools before delivery and from there, schools are able to use these fresh ingredients in recipes or as snacks throughout the day (Hamilton Taste buds, 2013).

Strengths:

This SNP benefits several actors in the community. Five local farmers gained a new market to sell food to, leading to a more self-sufficient food economy (Pratley, McPhail, & Webb, 2014). It reaches all three of the pillars of Ontario Bill 36, giving youth the opportunity to foster a connection with local foods in their community as well as receive a unique opportunity to expand their food literacy. This allows children to better understand how their food choices impact their bodies and overall health. All of these experiences can provide the framework to motivate



Figure 2.3 –
Hamilton
Taste Buds
(Hamilton
Taste Buds,
2013).

children towards a healthier lifestyle and support local food sustainability. Throughout the seven different programs, local food was served to 830 students in the first year and has continued to grow ever since (Hamilton Taste Buds, 2013).

Challenges and Limitations:

The biggest challenge that 3Acres currently faces is the lack of cooking facilities in some of the schools (Pratley, McPhail, & Webb, 2014). Without access to adequate cooking facilities, the program has limited options regarding meals they are able to provide to students. This SNP also has limitations since it only runs throughout the fall portion of the school year (September to December) and access is primarily for students of lower socioeconomic status rather than all students (Hamilton Taste Buds, 2013).

Next Steps:

Moving in a forward direction is challenging when budgeting is limited. While 3Acres does have the staffing to organize their program (Hamilton Taste buds, 2013), volunteers are essential to help make things work. Hamilton is a large city that is home to many post-secondary students. Recruiting these students to 3Acres would be a great opportunity for them to assimilate into the community and give back. When money can be saved by using volunteers, then funding can be distributed elsewhere to fill in the gaps. Most importantly would be to put this money towards a program that can last year-round and find appropriate methods of food transportation in the winter months.

Halton Food For Thought Farm To School Program

Background:

The Halton Food For Thought (HFFT) started in 1997 when a group of began to notice that there were a substantial amount of children who were coming to school without nutritious meals. As of September 2017, the HFFT has partner programs in 130 schools across the Halton region of



Figure 2.4 –
Halton Food
For Thought
(Halton Food
For Thought,
2017).

Southern Ontario and is feeding more than 27,000 students a week. The program has become its own incorporated, registered charity with its own Board of Directors. There are over 2,100 volunteers, with 930 being students, and many community partners working together to feed the students in this community. This SNP harvests meals and snacks for all students ranging from kindergarten to high school, free of charge (Halton Food For Thought, 2017).

Strengths:

The HFFT SNP has several different components within their program. They provide breakfast, a lunch salad bar, as well as snack bins (Halton Food For Thought, 2017). The program also works with local farmers, which is beneficial to the food economy within the area (Pratley, McPhail, & Webb, 2014). Students are eating healthy meals and snacks which, in turn, shows an outcome of better results in the classroom and improves their behaviour in ways such as improving inattentiveness, forgetfulness and limits restlessness, helps with anxiety, and has even shown to limit hyperactivity, specifically in children diagnosed with ADHD (Health Food Guide, 2010). Children are being exposed to nutritious foods which helps them to learn the importance of having a balanced diet while also promoting a healthy lifestyle. The HFFT mission is that no child will be hungry at school and their programs are open to any child regardless of the family's socioeconomic status (Halton Food For Thought, 2017).

Challenges and Limitations:

The HFFT program operates mostly in the fall portion of the school year, when farmers are still in business before the winter season. This limits the amount of available food in the winter months, making it difficult to sustain the same quantity of fresh fruits and vegetables during this time (Pratley, McPhail, & Webb, 2014). HFFT, like many other SNPs of its kind, struggles with financial funding and support to maintain the program at the capacity that it needs to operate, obstructing it from growing. Moreover, only having one central hub can make delivery costs very pricy for schools further out in the community (Halton Food For Thought, 2017) (Pratley, McPhail, & Webb, 2014).

Next Steps:

Again, the HFFT faces challenges that could be fixed with supplementary funding towards their program. The prioritization of SNPs by the government would be extremely beneficial for these kinds of programs to flourish. In the meantime, the HFFT program would benefit from developing partnerships with local greenhouses that grow vegetables in the winter months to maintain the demand for fresh fruits and vegetables that are needed in that time (Pratley, McPhail, & Webb, 2014). The Ontario Vegetable Greenhouse Growers, for example, would be a positive addition to the list of partnerships in order to provide children with fresh vegetables during the winter months.

Wake Up Wellington Program

Background:

Wake Up Wellington is located at a local high school in Fergus, Ontario. This program focuses on reaching out to students who need a nutritious meal in the morning before they start the day. Students in the culinary classes prepare food for the week which includes things such as bread, muffins, and oatmeal. Breakfast is free with the option to put money in a donation jar, and for lunch everyday there is soup and a bun available for \$1. The breakfast program serves between 400-500 students and teachers daily, while lunch serves about 150 students daily (Pratley, McPhail, & Webb, 2014).

Strengths:

Wake Up Wellington is available five days a week, all year round. It is strongly encouraged for all to use, including teachers, which helps reduce the stigma around SNPs (Pratley, McPhail, & Webb, 2014). Culinary program students contribute to the school community, are exposed to new foods, and get the experience of making foods from scratch. This program integrates the nutrition program within the curriculum, so students understand the nutritional values as well as have a proper meal every morning to start the day. This SNP is a long-lasting commitment, as it is run all year (Pratley, McPhail, & Webb, 2014).

Challenges and Limitations:

As a result of this program being the responsibility of a class, it makes it challenging for there to be enough time in a semester to cover all learning outcomes outlined in the curriculum. Since a high proportion of class time is dedicated towards food preparation, Chef DeBeyer, the teacher who runs the culinary class, finds there are times he is dismissive of certain areas of the curriculum in order to have food prepared on time (Pratley, McPhail, & Webb, 2014). Funding is another limitation, making it challenging to afford a variety of fresh fruits and vegetables as opposed to the same recurring meals. For the aforementioned reasons, despite this program working seamlessly in high school settings, it is not as easy to implement in elementary schools.

Next Steps:

For the Wake Up Wellington program to thrive, there is an innate need for additional volunteers that help the program to function. Securing a sufficient base of volunteers is essential, especially because Chef DeBeyer will likely retire in the near future. Additional assistance would resolve the challenges referenced above, which would allow the Chef to focus on providing education within the scope of his curriculum. Developing partnerships in the future with local farmers could assist with extending the range of available food options once reorganizing the budgeting allocated for this program.

2.4 Strategies & Solutions

The Ministry of Education's Healthy Schools initiative promotes child and student wellbeing as one of four key goals under "Achieving Excellence: A Renewed Vision for Education in Ontario" (Ministry of Education 2018). The Ontario Ministry of Education recognizes that the provision of nutritious food is essential for ensuring students reach their potential (Ministry of Education 2018). The current policies and programs in place by the Ontario government are not successfully meeting these goals due to the financial inaccessibility of SNP's rising costs as well as the financial barriers caused by PPM 150's nutritional food standards.

Paragraphs 29.3 and 29.4 of subsection 8(1) of the *Education Act*, state that the Minister of Education has the authority to establish a policy, in respect to nutrition standards and of food and beverages provided on school property (Ministry of Education 2018). This legislative authority therefore has the responsibility to develop a province-wide nutritional food program that is financially accessible to all students.

Informal food programs have been developed in low-income Ontario towns for students that typically arrive at school hungry. These programs have been found to be beneficial to all students in the schools by ensuring all students had access to nutritious food to eat (Edward 2001). In these cases, students are able to focus more on their education and less on their hunger. These programs set an example for what the positive outcomes can be. Despite the community capacity building of these programs and the urgent job they do in feeding hungry children in Ontario, more needs to be done. Additional, long-term government funding and support is needed to ensure these programs can be sustainable into the future.

In schools with programs where students grow gardens and compost, school food programs are found to be most successful. These programs reported above demonstrate improvements in improving academic progress, bettering attitudes towards healthy foods, and improving behavioural outcomes (Stone, 2007). These findings are indicative of the potential for the province to become a leader in developing a school meals program.

There are a number of measures that can be adopted to begin improving provision of healthy foods at the provincial scale. Adopting a staffing geared towards healthy eating is capable of sparking students' interest in the matter. Additionally, providing nutritional training and professional development for all school staff would also improve their knowledge and enhance cooperation across the board of all faculty. As such, ensuring school boards, teachers, parents and children are on the same page across the province will be integral for improving current policies and programs that address healthy eating.

2.5 Conclusion

In Canada, the lack of a national school meals program makes it difficult for students to access nutritious foods, without having to worry about financial constraints. There is a strong disconnect between Canada's governing bodies' surrounding policies and programs available for nutritional food at school. As noted throughout the provincial section above, high levels of youth food insecurity and a lack of nutritional understanding contribute to students' lunches being comprised of non-nutritious foods. More importantly, researchers have found that these factors are contributing to the dramatic increase in childhood obesity rates across Canada (Robin, 2007), and impede students ability to learn and perform to the best of their ability in school-based settings.

In Ontario, the Public Health Unit, Ministry of Children and Youth Services and Ontario's Ministry of Education have developed nutritional standards, the PPM 150 and the SNP to combat these issues. Despite the relative success of these programs, their policies, which are put in place by the provincial government are often inadequate, because they marginalize food insecure individuals. In a majority of cases, PPM 150 and the SNP are viewed by many schools as necessary, yet problematic and somewhat of a burden (OSNPPH, 2012). As a result, many schools are resorting to partnerships with grassroots organizations, in order to support and feed their students.

Provincial funding is available to local organizations to provide healthy food for students in schools. Grant opportunities through the Trillium Fund provides financial support for grassroots organizations such as Kingston's Loving Spoonful, 3 Acres Taste-buds, Halton Food For Thought, and Wake up Wellington, who take initiative in supporting schools in providing food for students through the SNP. Across Ontario, the SNP relies primarily on these external grassroots organizations to supply and deliver nutritious, accessible food to schools for the students. That being said, this model is not perfect; these organizations are required to distribute their resources evenly, to continue receiving money. This means that a school in a neighbourhood with high food

insecurity receives the same level of assistance as an institution in an upper-middle class neighbourhood.

Despite their positive intentions, the adoption of PPM 150 and the SNP in school settings is unsustainable in the long-term. This is due to inconsistencies between schools and a disproportionate reliance on volunteers and grassroots organizations. As a result of this, many students are disadvantaged in the Province and still experience food insecurity despite the measures these programs attempt to put in place. The inconsistency in the accessibility of nutritious food and the disconnect between local organizations and provincial funding bodies highlight the need for a national school meals program.

Chapter 3: Local Overview

Highlights:

- Demographic information on Kingston highlights a disproportionate clustering of underprivileged neighbourhoods in the City's north end.
- Unfortunately child hunger and inadequate nourishment are commonplace in Kingston and this food insecurity can have a significant effect on children's ability to perform in academic settings.
- A new-found emphasis on local food sharing efforts, by various organizational bodies is helping to improve the health outcomes, academic performance and overall well-being of youth in Kingston.

3.1 Introduction

In Kingston, Ontario, many elementary schools fail to provide nutritious foods to students in a regular and sustainable fashion. Students whose families experience food insecurity often arrive at school with unhealthy lunches or with no lunches at all. Additionally, many children whose families are food secure are not consuming foods with adequate nutritional value throughout the day, because of a lack of knowledge, in regard to the importance of healthy eating. As a consequence of hunger and improper nourishment, children can demonstrate problematic behaviour, decreases in attention, and reduced academic achievement (Kristjansson et al., 2006). As such, feeding students properly is fundamental for ensuring students' behavioural, attentional, and academic success.

In the absence of a standardized healthy lunch program across the city of Kingston, a variety of initiatives are being undertaken at the local level to help improve the quantity and quality of food available for school meals. Most of these initiatives are accessible for all elementary school students, regardless of whether they are food insecure or food secure. To begin, this section of the report will provide contextual information relevant to the issue of school meals. Specifically, demographic information pertaining to family structure, housing, education, income, and food security in Kingston will be explored. Then, the strategies currently in place to increase Kingston

students' accessibility to healthy school meals will be discussed. Within this section, case studies regarding The Food Sharing Project, Loving Spoonful and the GROW garden initiative, and Queen's Leonard Cafeteria will be presented. Lastly, this section will propose novel strategies and solutions that, if implemented, could drastically improve students' access to meals while at school.

3.2 Demographics

Overview

The city of Kingston is located on Lake Ontario, 175 km southwest of Ottawa and 260 km east of Toronto. Regarding its population base, it is the second largest city in Eastern Ontario (Osborne, 2012). Kingston is an urban area, having earned its designation as a city in 1846 (Osborne, 2012). Kingston's population centre as designated by Statistics Canada extends southward to Lake Ontario, northward to Highway 401, slightly east of Highway 15 and west to County Road 6. These boundaries are illustrated below in Figure 3.0. Kingston's population centre is home to a population of approximately 117 660 and occupies approximately 75km² of land (Statistics Canada, 2017).

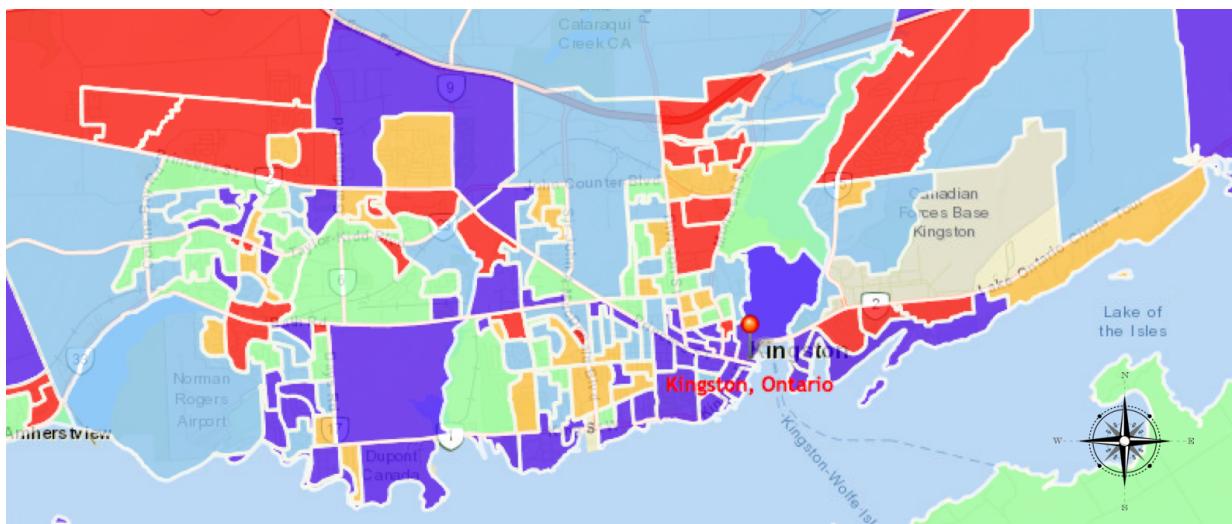
The following paragraphs will provide information regarding Kingston's demographic composition and connect demographic variables including population, family structure, education and income to food security. One fundamental issue that will be discussed in depth is the Rideau Heights neighbourhood. Rideau Heights is a community located in the northern end of Kingston that has historically been characterized as a statically disadvantaged neighborhood, in terms of education, employment, income, and health. The City of Kingston defines Rideau Heights as the area extending from Highway 401 to the north, Joseph Street to the south, the Cataraqui River to the east, and Division Street to the west. A concentration of social housing and lower market rental apartment units are located in the community, which is home to approximately 2000 residents and a disproportionately concentrated youth population (Meagher, 2007). The demography of this neighbourhood suggests the presence of food insecurity and need for a comprehensive school meals program.



Figure 3.0: Kingston Population Centre, as defined by Statistics Canada (Source: Statistics Canada, 2016)

Population

Kingston's population characteristics are similar to those of the majority of cities in Eastern Ontario. Kingston has a population density of 1573.7 people per square kilometre (Statistics Canada, 2017). Of the total population of over 117,000, the median age of the population is 41.0. The majority (65.8%) of the population is between the ages of 15 and 64, while 15% is under the age of 15 (Statistics Canada, 2017). Figure 3.1 highlights the areas within Kingston that are home to high populations of infants and children. The map denoted in Figure 3.1, depicts a high concentration of infants and children between the ages of 0-4 in the north end of the city, as well as certain neighborhoods in the east and west ends. Regarding gender, Kingston's population is 52% female and 48% male. While the majority of the population is English-speaking, approximately 13% of the population speaks English and French. Less than 1% of the population speaks neither English nor French. Approximately 4,210 people, or 3.7% of Kingston's population identifies as Aboriginal (Statistics Canada, 2017).



Percent of the Population Age 4 and Under

- 0 – 3.30
- 3.31 – 4.31
- 4.32 – 5.32
- 5.33 – 6.67
- 6.68 – 19.35

Figure 3.1: Percentage of the Kingston population age 4 and under.

Source: PHIMS, 2018.

Families, Marital Status, & Housing

According to 2016 Census data there are 31,955 families living within the Kingston population centre (Statistics Canada, 2017). The average size of census families is 2.7 (Statistics Canada, 2017). Approximately 53% of the population aged 15 years and over is married or living in a common law relationship. Of those who are not married or living in a common law setting, the majority (62%) have never been married, 16.1% are divorced, 14.3% are widowed, and 7.3% are separated (Statistics Canada, 2017). In Kingston, there are 6,125 lone-parent families and approximately 80% of lone-parents are female. 46% of couples in Kingston have children, while 54% do not. There are 51,355 occupied private dwellings in Kingston, with the most popular housing type being a single-detached house. Kingston's rental market is the tightest in Ontario, as demonstrated by a vacancy rate of 0.7%, which represents the lowest vacancy level since 1989. The increased demand offsets the increase in supply for rental apartments, due to higher net

migration and fewer households moving out of rental units (Canadian Mortgage and House Corporation, 2017).

Education

Ensuring children have access to a proper education from an early age is fundamental for assuring their long-term well-being. In the Kingston area, there are 49 elementary schools in the Limestone District School Board (LDSB, 2013), and 33 elementary schools in the Algonquin and Lakeshore Catholic District School Board (ALCDSB, 2018), which account for a total of 82 elementary schools between the two school boards. As well, there is one French Catholic elementary school which is a part of the Conseil Des Ecoles Catholiques du Centre-Est de l'Ontario and one elementary school that is a part of the Conseil des Ecoles Public de l'Est de l'Ontario (Kingston Economic Development Corporation, 2017). According to the 2016 Census data, there are 12,235 elementary students in the Kingston area (Statistics Canada, 2017).

The population of school-aged children in high school is 6,855 individuals (Statistics Canada 2017), and combined with elementary students in the city, there are a total of 19,090 school-aged children. Additionally, in Kingston, 58.4% of the population has obtained higher than a high school degree, with the remaining 41.6% of the population having a high school degree or no diploma (Statistics Canada, 2017).

Within the city's boundaries, there are areas of educational disadvantage, which are represented by the subset of the population that has no educational diploma or certificate (Pathways to Education, 2018). Two areas within Kingston that present an educational disadvantage are Rideau Heights and East Bayridge, which have rates of 20% and 24% respectively (Pathways to Education, 2018). These rates are significantly higher than the rest of the city of Kingston.

Income

Statistics Canada defines low-income for a household of four-persons as \$42,500 and below (2015). According to the 2016 Census, 28% of Kingston's household working population has a yearly earning of under \$40,000, compared to Canada's household working population, which only reports 24.6% of people earning a similar level of income. Unemployment rates for residents in Rideau Heights (15.9%) are also more than double the rate for the rest of Kingston (6.9%) (Meagher, 2007). Various communities throughout Kingston are characterized by various mean levels of income, however, it is crucial to note that Rideau Heights consistently ranks as the neighborhood with the lowest average income annually. This is confirmed in Meagher's (2007) study, as approximately 67% of residents in Rideau Heights had yearly earnings of less than \$40,000. It is difficult for a single person to sustain themselves with inadequate financial resources, however, it is much more difficult with families, especially single-parent families/households, as they are supporting multiple bodies on a single income.

A distribution of material deprivation is useful for further examining the disparity between Rideau Heights, in comparison to the rest of Kingston. Figure 3.2 depicts the distribution of material deprivation, the deprivation of goods and conveniences. Material deprivation includes indicators such as average household income, unemployment rate, and high school education rate (Pampalon & Raymond, 2000). The darker shades of green indicate areas with the higher levels of deprivation, whereas lighter shades of green indicate lesser deprivation. Through this diagram, it is clear that the area with the most material deprivation is in the north end of the city, which is where Rideau Heights is located. Furthermore, information and data collected and produced by Statistics Canada and Pathways to Education (Figure 3.3 and Figure 3.4), highlight that Rideau Heights has the highest proportion of low-income individuals in Kingston. Additionally, it is evident that communities located further west of the city centre have a far lower proportion of low-income individuals.

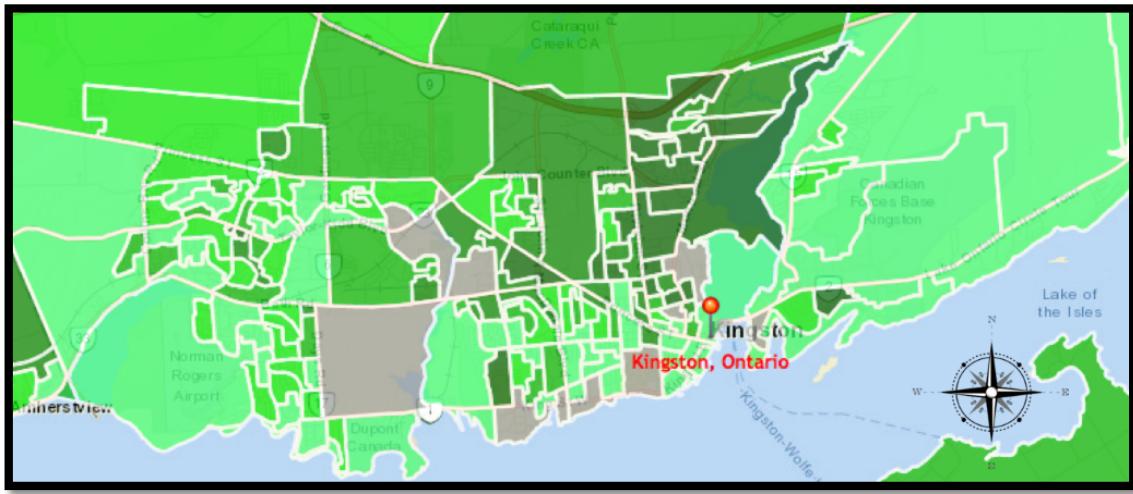


Figure 3.2: Material deprivation index in Kingston, ON. (Source: PHIMS, 2018).

Deprivation Index (Material)

- Q5 (Most Deprived)
- Q4
- Q3
- Q2
- Q1 (Least Deprived)
- NO DATA

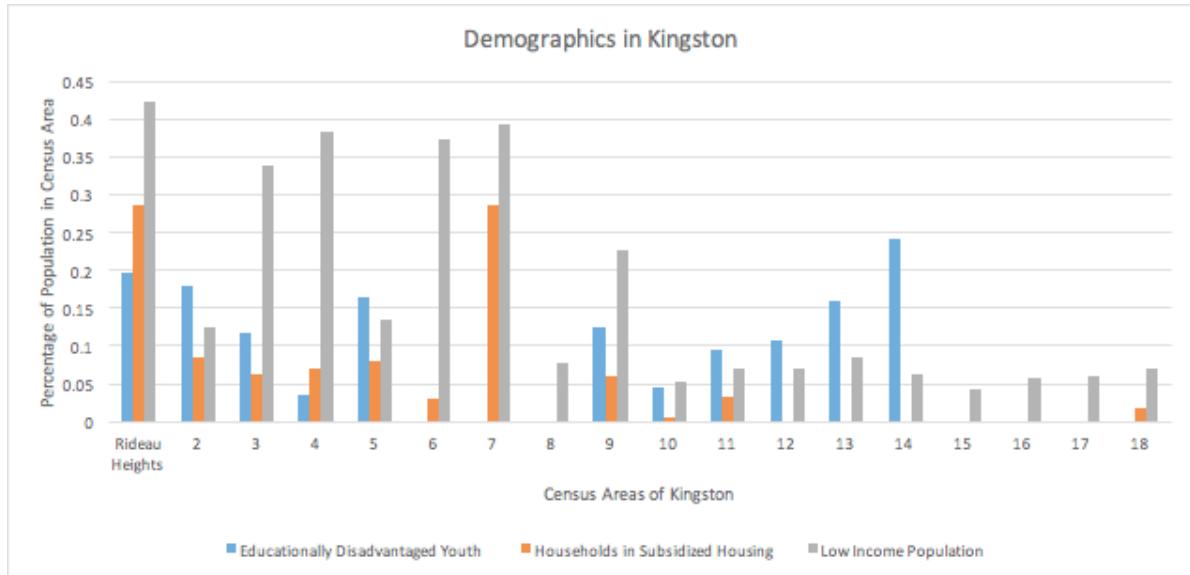


Figure 3.3: Demographics in Kingston per Census Area. (Source: Pathways to Education, 2016).

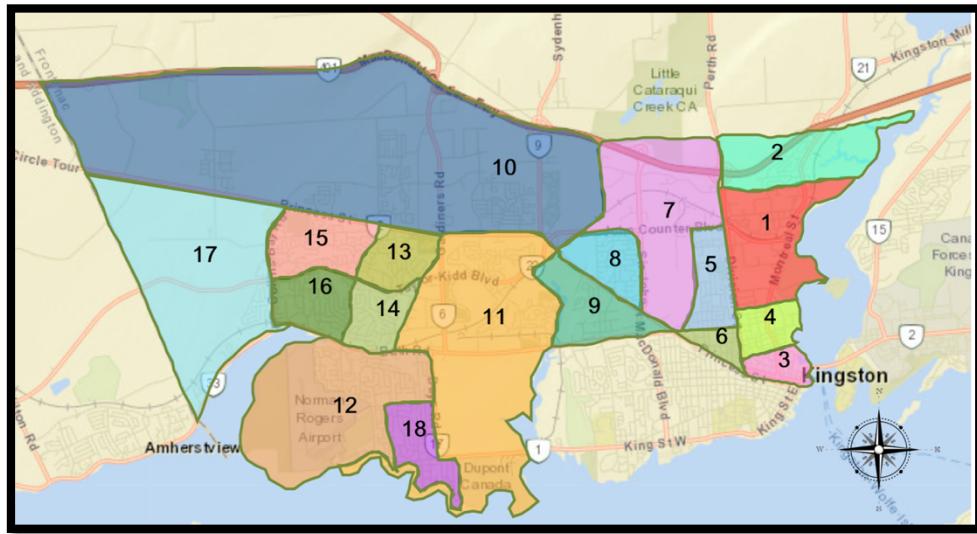


Figure 3.4: Map of Census Divisions in Kingston in accordance with graph in Figure 3.3. (Source: <https://arcg.is/j48fx>)

Food Security Implications

The World Food Programme defines food security as having access and availability to sufficient, safe, nutritious food, which is integral for maintaining a healthy and active lifestyle (World Food Programme, n.d.). Conversely, food insecurity refers to inadequate or inconsistent access to food due to financial constraints (Tarasuk et al., 2016). This distinction is important, because food insecure households are likely to compromise their food intake or quality, reduce their food intake, and/or experience disrupted eating patterns (KFL&A Public Health, 2017). According to the Kingston Frontenac Lennox & Addington Public Health Unit (2017) approximately 10% of households in Kingston experience moderate or severe food insecurity, which is similar to the rest of Ontario and Canada. Interestingly, moderate to severe insecurity is most prevalent in households with children, in comparison to families comprised of adults only. This is because it costs \$888 a month for a family of four to eat healthy in Kingston, which is equivalent to approximately 12% of a monthly income for Ontario's median income earners and 30% of monthly family income for minimum wage earners (KFL&A Public Health, 2017).

It is important to consider the factors that can lead to food insecurity. In terms of parental composition, single mothers have the highest prevalence of food insecurity nationwide (KFL&A Public Health, 2013). To demonstrate the severity of this finding, 80% of the 6125 lone-parent

households in Kingston are being led by a female parent. Additionally, food insecurity is directly related to low income and socioeconomic status, both of which are typically associated with minimal consumption of healthy foods (Deprivation Index, 2010). The maps in Figure 3.2, Figure 3.3 and 3.4 depict how food insecurity is more prevalent in Kingston's northern neighbourhoods, specifically Rideau Heights. The Material Deprivation Index (See Figure 3.2) highlights how Rideau Heights residents are deprived of many goods and conveniences that other areas have. Moreover, the graph and map exhibited in Figure 3.3 and 3.4 illustrate that the neighborhood is subject to a disproportionately high level of educationally disadvantaged youth, the highest percentage of households living in subsidized housing, as well as the highest percentage of residents living below the poverty line. These findings are important, as individuals at an educational disadvantage tend to pursue further education less frequently, which affects their ability to earn a sufficient income to afford food.

Conclusion

This in-depth demographic analysis highlights a number of crucial factors that are capable of influencing the spatial distribution, and prevalence of food insecurity in Kingston. One notable finding is that Rideau Heights in northern Kingston experiences high levels of material deprivation, lower income, and a high density of children under the age of four. This spatial mismatch is historical, as the community has long been characterized as a statistically disadvantaged community in terms of education, employment, income, and health. Thirty-one percent of the families living in Rideau Heights are lone parent families and 32% of residents did not receive their high school diploma. Moreover, less than one-third of residents have a college or university degree, and the rate of full time employment is lower than the rest of Kingston (Meagher, 2007). Food insecurity is prevalent in this community, which directly correlates with higher rates of obesity and diabetes in the neighborhood, when compared to Kingston as a whole (2010 Deprivation Index, 2010). These statistics highlight the presence of food insecurity in Kingston's north end, as well as the large percentage of children ages 0-4 living in this area. This means that the need for initiatives to feed hungry children at school will continue to grow in this area of Kingston in the coming years.

In addition to the high levels of material deprivation in the northern part of Kingston, there are also high deprivation levels in the Portsmouth, Bayridge, and Cataraqui Woods neighbourhoods. It is likely that food insecurity may be an issue in these areas of Kingston as well. Cataraqui Woods, a neighbourhood in Kingston's west end, also has a large proportion of children ages 0-4, as illustrated in Figure 3.1. This is significant because it alludes to a growing need to provide children with healthy, substantial meals in schools in the future.

Caution with Place-Based Poverty Mapping

While statistical mapping of place highlights neighbourhoods in need and places for social investment, one of the limitations of using statistics to determine poverty, is that it has the effect of stigmatizing places. Using statistics to map the patterns of food insecurity in Kingston can undermine the rich and deep community fabric of the North end of Kingston and its neighbourhoods. For many working and living in the North part of Kingston, these statistics are not new information; however, for those unfamiliar with Kingston, this statistical exercise can help to highlight where some of the needs are and direct attention to programs and policies that can help.

3.3 Case Study - The Food Sharing Project

Background

Mission and Purpose:

The Food Sharing Project (FSP) began in 1982 and is a non-profit, charitable organization that provides students in Kingston, Frontenac, Lennox, and Addington (KFL&A) with nutritious food (Food Sharing Project, 2016). The FSP is the first program in Ontario that distributes food to schools (Food Sharing Project, 2016). Their mission is to "provide nourishment for students in need to improve their readiness to learn" (Food Sharing Project, 2016, n.p.). Further, the FSP seeks to ensure students attending schools in the KFL&A region are receiving proper nutritious meals through the implementation of breakfast, lunch, and hearty snack programs (Food Sharing Project, 2016). These programs are crucial, because they invite students to eat in a space where

they can interact with others at school in a relaxed and friendly environment. According to Brenda Moore, the Chair of the FSP, “we all do better when we eat.” For example, during her tenure as an elementary school principal, Brenda discovered that students with behavioural issues were often hungry. Thus, the FSP believes children should be fed at school, as schools have the ability to promote, and facilitate academic, social and physical growth of their students (Food Sharing Project, 2016). As an organization, Food Share recognizes the current issue that students are coming to school with unhealthy food or nothing to eat at all. Therefore, the FSP strives to address the physical need that exists for students and their families, due to the various aforementioned demographic reasons. In partnering with the School Boards, as well as community groups and businesses, the FSP is able to support children who are hungry, while simultaneously reducing the stigma surrounding food programs (Food Sharing Project, 2016).

How it works:

The FSP was created in 1982, and at the time was comprised of 13 volunteers, mainly teachers, who used their personal vehicles to buy groceries and deliver food to local schools (Food Sharing Project, 2016). Since its inception, the FSP has increased in scale by working in collaboration with the Limestone District School Board and the Algonquin and Lakeshore Catholic District School Board. On a weekly basis, the FSP receives food orders from 87 schools who must place their orders prior to the end of the day every Monday (Food Sharing Project, 2016). This strict deadline is set in place due to time sensitive schedules associated with distribution; orders must be placed as soon as possible to ensure the food is delivered to the schools on time. The FSP places its order on Tuesdays and Wednesdays by combining all the individual school orders to purchase the food in bulk (Food Sharing Project, 2016). As an organization, the FSP has tremendous buying power because they purchase approximately 7 tonnes of food per week. For instance, the FSP often partners with Costco to purchase fresh produce, baked goods, dairy products, and general grocery supplies because the FSP is able to obtain discounts and reduced prices for purchasing such large quantities (Food Sharing Project, 2016). Once the orders are placed, the FSP typically receives their shipments of food every Thursday and Friday. On average, the FSP ships around 26

tonnes of food to partner schools, spending \$50,000 a month on food in order to feed around 15,000 students (Food Sharing Project, 2016).

The FSP's success is rooted in participation by its volunteers. On a weekly basis, over 250 boxes of custom food orders are delivered and must be packaged and shipped (Food Sharing Project, 2016). This task would be insurmountable without the help of a consistent base of volunteers. Additionally, The FSP is able to partner with three bus companies and ten volunteer drivers who assist in transporting the nutritious food to each school (Food Sharing Project, 2016). While the FSP has its own delivery van, it is not able to make all the deliveries due to the sheer volume of food. Thus, the FSP relies on local bus companies such as Stock Transportation, First Student, and Robert Hogan Bus lines, as well as the volunteer bus drivers to deliver the food from the warehouse to the schools in question (Food Sharing Project, 2016). The FSP's partnership with the local bus companies aids in lowering associated costs since the bus drivers volunteer their time. After bus drivers drop off the students at school, they collect the food orders from the warehouse and deliver them to the schools on their designated routes. Due to the strict schedules of the bus drivers from dropping the students off, delivering food, and then driving students back home, the help of volunteers is instrumental for efficiently unloading food at each delivery destination.

The inner-workings of how food from the FSP is used within each school is at the discretion of the teachers, educational assistants (EAs), parents, and community members, who help to oversee the program. Additionally, a school coordinator is needed to partake in roles such as organizing volunteers, placing the weekly food orders, and ensuring the appropriate supplies are received and prepared (Food Sharing Project, 2016). Schools are given autonomy to decide on logistical matters, such as how the program will be run in the school; there is no unanimous standard for operations. For example, some schools provide hot meal breakfast programs, while others offer a 'grab and go' style program or classroom snack bins. At Loughborough Public School they provide students with nutritious snacks and lunch sandwiches that students are able to pick and choose what they would like to take from the bins, which is demonstrated in Figure

3.5. Each school, in partnership with the FSP, is to submit a food request, which is chosen from a standard order form that is in compliance with the Ontario Ministry of Education's nutritional guidelines. The number of students that participate in the program varies depending on the school, ranging from serving three students to the entire student body (Food Sharing Project, 2016). Often, staff members will encourage students to use the nutritious resources made available to them, especially those who would substantially benefit from a healthy meal or snack. It is important to note that the FSP is not just for students who are hungry and in need. This is rooted in the FSP's organizational values, as it prides itself on the fundamental aspect that no student is turned away if they are interested or hungry (Food Sharing Project, 2016). Students who participate in the program are expected to behave appropriately and are also encouraged to help the volunteers and staff members with preparation, serving, and cleaning the facilities (Food Sharing Project, 2016). As a result of the FSP programs, during the 2016- 2017 school year, approximately 14,947 students across 87 schools were fed as a result of the FSP programs (Food Sharing Project, 2016). In addition, around 950,000 snacks and meals were served, including 381,700 breakfasts, 155,000 lunches, and 418,200 snacks (Food Sharing Project, 2016).



Figure 3.5. Food Sharing Project (FSP) snacks and meal options for students at Loughborough Elementary Public School (Food Sharing Project, 2018)

Strengths

Volunteers and Partnerships:

The most prominent strength associated with the FSP is their devoted volunteers involved in the program as well as their various local partnerships throughout the community. The FSP only has three paid employees and the rest of the organization relies on assistance from volunteers. It is due to the numerous school volunteers and bus drivers, who sacrifice their time, that make this project feasible.

Additionally, the FSP's partnership with the school boards has allowed the project to increase in scale and reach as many students as possible. Their collaboration with the school boards has also resulted in putting the FSP as part of an Educational Assistant (EA)'s job description, in order to help the operation run smoothly in each school. Also, the FSP has recently been invited to the table during the planning stages of building new schools in order to get spaces for fridges, stoves, and eating areas that would support the program. For example, Molly Brant Elementary School contains a new kitchen with stoves and a sliding door fridge, which was made possible due to the partnership the FSP has with the Limestone District School Board. The inclusion of the FSP during the planning stages of building new schools is beneficial because it considers the needs and resources of the FSP, thus allowing the program to be executed as efficiently as possible.

Other FSP community partnerships include working with Public Health to ensure that the program consistently delivers nutritious foods and follows the proper guidelines outlined by the Ontario Ministry of Education. Potential challenges associated with meeting the nutritional requirements due to restrictions on processed meats and sugar content is an issue of concern for the FSP. Also, the FSP works in collaboration with local community businesses such as Pan Chancho. For example, Pan Chancho donates fresh bread with cheese to four local schools and fundraises for the FSP by hosting a charity breakfast, with all proceeds going to the FSP. This partnership with Pan Chancho is crucial since it helps to provide healthy and nutritious snacks and meals to students in the local community.

Does not stigmatize:

Another strength of the FSP is that it is actively reducing the stigma surrounding school meal programs. Specifically, the FSP reduces the stigma by providing a program that does not single out certain schools or needy individual students; rather, all students are welcome to partake in the meal program whether they are hungry or just interested. By offering a welcoming and inclusive environment where students are able to get food and interact with their peers, it promotes student engagement with the program. Also, since schools and students do not have to pay for the FSP programs offered, it refrains from stigmatizing individuals or putting a monetary expectation on the program (Food Sharing Project, 2016).

Challenges

Logistics:

While the FSP has many strengths that contribute to the program's success, they also experience some challenges. The biggest challenge concerns the logistics required to run a large project because it requires simultaneously organizing multiple moving parts. For instance, the FSP purchases 7 tonnes of food weekly, which is an obstacle because of previously lacking the facilities needed for adequate refrigeration. Refrigeration is expensive and some food must be refrigerated during transportation, especially during the warmer months of the school year and for schools that are located further away from the warehouse. This issue presents subsequent challenges, as the FSP has to ensure that they follow food safety guidelines pertaining to the proper distribution of food in a safe manner in order to prevent spoilage and contamination during deliveries. Despite these challenges, by forming a partnership with the school boards, the school boards are able to supply a refrigerated delivery van that the FSP can use to deliver the food.

Funding:

Another significant challenge that the FSP faces is funding. The 2016-2017 budget was approximately \$640,000 to support the program (Food Sharing Project, 2016). Since the FSP is a non-profit, charitable organization that does not require schools to pay for the snacks and meals

it provides, it relies solely on fundraising and grants to keep the program running. None of the food that the FSP provides to schools is donated, instead, it is all purchased fresh. Thus, the cost to feed thousands of students on a daily basis is significant, reaching an annual cost of over \$50,000 (Food Sharing Project, 2016). Currently, the FSP receives its largest portion of funding, approximately 50%, from the Ministry of Children and Youth Services Student Nutritional Program and also outlines the nutritional guidelines that the FSP must follow for snacks and meals (Food Sharing Project, 2016). Additional sources of funding originate from United Way, who provides annual financial aid, as well as other charitable organizations such as the Breakfast Clubs of Canada and Breakfast for Learning Foundations (Food Sharing Project, 2016). Additionally, the local community assists in providing the FSP with funding, by way of various community and church groups, local businesses, charities, and individual donations (Food Sharing Project, 2016). Lastly, the school boards in partnership with the FSP provide financial assistance in order to help fund the program with individual schools and student councils providing support through various fundraising activities (Food Sharing Project, 2016). All of these resources and support systems are necessary to maintain the FSP's operations.

Next Steps

During the interview with Brenda Moore, she outlined various next steps that would ensure that all children are fed nutritious meals and do not go through the school day hungry.

Volunteers:

Due to the FSP's reliance on volunteers, it is constantly in need of more volunteers to support the continued growth of the program. In speaking to the potential involvement for Queen's University students, Brenda explained that volunteering their time to help prepare or serve the food to children would be beneficial. In addition, different clubs on campus can also become involved with the FSP by volunteering or hosting fundraising events.

Filling in the Gaps:

Another future endeavor of the FSP involves ensuring consistent availability of healthy foods. Despite the FSP's ability to provide children with snack and meal options during the school day, they are unable to reach children beyond school hours. For instance, many children are not receiving healthy food during the evenings, weekends, or summer breaks. This existing gap in healthy food distribution can be a result of the various aforementioned demographic reasons that families in Kingston encounter, such as poor socioeconomic status. The FSP recognizes the need to fill the gap between students eating healthy at school and when they are not at school. As an organization, the FSP is working to improve year-round consistency, by implementing park snack programs, where children can travel to the park to receive free and healthy foods. Alternatives to minimize the gap include partnerships with community programs to ensure healthy food choices are available and accessible to children, even while they are away from school.

School Meals Program:

After speaking with Brenda, the next step that the FSP hopes to see in the future is a national school meal program. The importance of such a policy was made clear when Brenda highlighted that she "would love to be out of business... A national school meal program would be good in so many ways." For example, a national school meal program would significantly reduce healthcare expenditures, while subsequently improving academic performances and graduation rates. In

Brenda mentioned that during her time as an elementary school principal, one student told her that he would never have graduated high school if he had not been fed at school.

referencing her own experience, Brenda mentioned that during her time as an elementary school principal, one student told her that he would never have graduated high school if he was not fed at school. By there being one less meal that his mother needed to provide him

with, he was able to stay in school rather than dropping out and contributing to the family income by working. This example demonstrates the power of school meal programs and their ability to positively impact local communities across Canada. While the FSP is a good starting point in providing students with nutritious foods, further steps are necessary to ensure all students are

not going through the school day hungry. Therefore, next steps towards implementing a national school meal program will involve the Federal Government and Ontario Ministry of Education – in partnership with other Provincial Governments -- making school meals a priority.

3.4 Case Study - The GROW Project

Background

Loving Spoonful

Loving Spoonful is an organization in Kingston, Ontario that strives to achieve a “healthy food-secure community (Loving Spoonful, 2018b). Loving Spoonful works to promote community engagement, skill



Figure 3.6 – Loving Spoonful (Loving Spoonful, 2018b).

development, and access to health foods through Kingston (Loving Spoonful, 2018b). In speaking to the organization’s community engagement efforts, Loving Spoonful works with over 70 community members to provide education to the Kingston Community, by way of various programs (Loving Spoonful, 2018b). These programs will be discussed in-depth below. They have raised over 1.2 million dollars since the organization was founded. This has improved their ability to distribute fresh produce to a number of agencies, as well as fresh food stands that are integral for providing food to Kingston’s food insecure population (Loving Spoonful, 2018b). To provide background on its organizational structure, the Loving Spoonful’s staff and board of directors are comprised of 13 individuals. As such, the following paragraphs will be dedicated to providing background information on two of Loving Spoonful’s flagship programs.

GROW Project:

The GROW project is a community-based interactive program that works in the local Kingston community to provide education on healthy and nutritious foods. This initiative works in elementary schools, specifically catering to students between grades 4-8, in order to educate students on health foods, community connections, and collaboration (Loving Spoonful, 2018a).

The GROW Project is currently in twelve schools across the Limestone District School Board.

Looking forward, GROW will be expanding into six new schools in the 2018/2019 school year and an additional five the following year (Loving Spoonful, 2018a).

The GROW Project's mission is to provide a connection to the local community through workshops, the fence mural project, as well as donations of locally grown foods to shelters and meal programs (Loving Spoonful, 2018a). Within the program, the GROW Project

provides 7 interactive curriculum-connected workshops, providing hands-on lessons for the students to engage with (Loving Spoonful, 2018a). Students will learn about food systems, social justice, food security, food and culture, healthy gardens, and cooking (Loving Spoonful, 2018a). Alongside the curriculum lessons, GROW also provides a 12 by 24-foot garden on school property, to encourage a hands-on approach, and to present many other opportunities for community members. GROW encourages community involvement during summer months through two paid youth internships, as well as opportunities for parents and local farmers to share their knowledge and understanding of healthy foods with the community (Loving Spoonful, 2018a). Aside from providing valuable knowledge for the students, the program also encourages healthy eating. "Kids who grow greens, eat greens" (Loving Spoonful, 2018a). Encouraging students at a young age to make healthy and nutritious food choices is crucial in their development, as well creating lifelong eating patterns.



Figure 3.7 – GROW Project garden at Rideau Heights Public School (Loving Spoonful, 2018a).

Challenges

Funding:

Although the GROW Project has recently received grant for the continuation of their project, Sarah Keyes, Food Education Manager of GROW, explains that maintaining funding is a paramount challenge. Despite the provision of a three-year grant will allow GROW to expand into 11 new schools in the upcoming years, new funding will need to be sought after in 2020. Following the expiration of the current grant, the organization will need to secure additional funding to ensure their continued success and future growth (Loving Spoonful, 2018b). As a result of Loving Spoonful being the only organization in the Kingston area that provides this sort of practical, hands-on education, thus, maintaining funding is integral for ensuring its long-term success.

Size of the Company:

The company's current size only allows for so many provisions to be made. Keyes emphasized her hope to build the capacity into schools, so that each school can benefit from this program in a self-sustaining manner. This will be especially important as the number of schools involved grows. According to Keyes, the GROW Project currently has few full-time staff members, and thus, in order to expand the project into more schools, securing grants will be instrumental for protecting the organization's growth. This would allow for more interactive education on healthy eating, hopefully expanding to all grades, starting the education process young.

Strengths

Community Collaboration:

The GROW Project has a strong community connection allowing students to learn about and further contribute to their community. Having GROW embedded into the community has created a positive environment for students to learn more about their community, while working to improve it as well. As previously mentioned, GROW works with parents, community members, and local farmers to encourage involvement and education for all (Loving Spoonful, 2018b). Creating a connection between farmers and students allows for the development of a more

thorough understanding of the logistical backdrop that precedes production at a commercial scale.

The use of volunteers during the summer months is crucial to the continuation of the GROW Project. Connections with volunteers, parents of students, and teachers are rooted in the survival of the GROW Project. This community engagement will become increasingly important, because an addition of 11 schools in the next 3 years will require more volunteers and deeper-rooted community-based connections (Loving Spoonful, 2018b).

3.5 Case Study - Queen's Cafeteria in Partnership with Sodexo

Background

Queen's cafeteria feeds approximately 23,000 students a week during September to October, and approximately 19,000 from January to March (Carroll, personal communication, 2018, March 5). This is significant, considering that the cafeterias have to consider the individual dietary needs of students, while striving to serve the most nutritious foods possible. Leonard cafeteria has a large industrial kitchen, which features mass amounts of storage, including refrigerators and freezers. This is made possible by Sodexo, who works with Queen's University in hospitality services to improve the quality of life, by attending to the basic needs of good food and nutrition (Sodexo, 2017). Queen's University partnered with Sodexo (a global food and facility management service) to provide the most nutritious and cost-effective meals possible.

The Queen's cafeteria is compliant with the Healthy Menu Choices Act which began in 2015, encouraging the display of nutritional information, inspections, and regulations for all food handled on the premise (Government of Ontario, 2017). The Queen's cafeteria employs approximately 650 staff for all campus cafeterias, and relies on this staff to help in the organization, cooking, and cleaning to create a smooth operation (Carroll, personal communication, 2018, March 5). At such a large scale, the cost of food per person, per meal is \$3.50. This is made possible as a result of the cost savings associated with buying in bulk (Carroll, personal communication, 2018, March 5). Queen's University and Sodexo have created a well-

organized meal plan that provides the resources needed to offer meals to thousands of students daily. Their recipe program provides all available recipes, which determines the exact amounts of every product needed for the estimated number of students being fed. The detailed meal program allows Queen's University to limit the costs of labour and food, in order to provide nutritious and inexpensive foods.

Challenges

Mass Production Requirements:

With the number of students that Queen's Cafeteria feeds weekly, there is a need for a large volume of food as well as work space to prepare meals. Luckily, Queen's has the space and proper tools to prepare meals for large numbers of students. In order to decrease manual labour needed for food prep, some food is bought already peeled or cut. Onions, for example are bought pre-chopped to reduce the manual labour required (Carroll, personal communication, 2018, March 5). Due to the sheer number of students, Queen's cafeterias can only order so much from local farms due to the required volume of foods. For instance, Leonard cafeteria goes through 79,000 bananas in an 8-month period (Carroll, personal communication, 2018, March 5). As such, proactive long-term planning, as well as using mass deliveries to reduce transportation costs, are instrumental for maintaining reasonably "all you can eat" style cafeteria offerings.

Strengths

Donation of Unconsumed Foods:

The Queen's cafeteria works with the Soul Food Organization, a student run organization that delivers unconsumed foods from the cafeterias to local shelters in Kingston daily (Queen's University, n.d.). This student run organization is beneficial because it provides hot meals to those in need in the local community. This is confirmed in the group's mission statement, as it aims to provide food to the community, while also raising awareness of those who are food insecure (Queen's University, n.d.). Food that is not picked up by the Soul Foods Project is often collected by Loving Spoonful, who then distributes the food to a multitude of different agencies (Loving Spoonful, 2018).

Is This Transferable to Elementary School Meal Programs in Kingston?

Although Sodexo and Queen's University have built a very efficient and effective food program, the scale between their operations are different than those in elementary schools. Nevertheless, the process by which the meals are created could be seen as a good model for school meals programs because of the provision of a thoroughly planned menu that adheres to dietary restrictions and cultural requirements.

The challenge in transferring this program to school meals is the size of the facilities needed. Although Queen's University is fortunate enough to have commercial kitchens, the same cannot be said for elementary schools in Kingston. At best, a limited number of elementary schools in Kingston have large kitchens that include materials for cooking programs such as Molly Brant, a newly developed school that worked alongside the Food Sharing project to create an efficient space for food prep and storage. Unfortunately, without access to proper kitchen facilities, such as those at Queen's, the cafeteria model is not transferable. It might be viable in the future if it were able to be scaled down to a smaller scale, but this could in turn impact associated costs. These cost savings are essential, as they are the basis for ensuring accessibility to all students in the KFLA region.

Strategies and Solutions

Since 1982, the Food Sharing Project (FSP) has supported schools throughout Kingston, Frontenac, Lennox, and Addington in preparing and distributing nutritious food to schools (Food Sharing Project, 2016). As mentioned earlier, the program is structured in such a way that schools submit a weekly order to the FSP. Once submitted, volunteers source the food and supplies, then package and deliver the food throughout the Kingston area. While the program is streamlined and efficient for schools, there are three areas worthy of more consideration to strengthen nutrition programs in schools: a more holistic approach to using volunteers and establishing community partnerships, a coordinated approach and shared accessibility to government funding, and an integrated mandate that includes education and sustainability within local school communities.

Volunteers and Community Partnerships:

The current FSP has a strong reliance on volunteers to prepare and deliver food. This is a strength of the program and, as demands for nutrition programs become greater, there is a potential to engage other community partners and stakeholders. Currently, many of the volunteers are adults who deliver the food. The volunteer program could continue to expand and involve local high school students in a variety of capacities. For example, every high school student is required to complete 40 hours of community service in order to obtain their OSSD (Ontario Ministry of Education, 2016). Some of these hours could be completed by volunteering in their associated feeder school to prepare or serve meals to the elementary school students. In addition, some secondary schools offer Cooperative Education classes and/or a Specialist High Skills Major (SHSM) programs, the latter of which are “ministry-approved, specialized, career-focused programs that allow students to acquire technical knowledge and skills in specific economic sectors while meeting the requirements of the Ontario Secondary School Diploma (OSSD)” (Limestone District School Board 2013, n.p.). In the 2016/17 school year, SHSM programs focused on Health and Wellness were offered at LaSalle Secondary School, Frontenac Secondary School, and Granite Ridge Education Centre. SHSM programs that were focused on Hospitality and Tourism were offered at Bayridge Secondary School and Loyalist College and Vocational Institute (Limestone District School Board, 2013). SHSM programs require contextualized learning in the industry. Secondary students could be actively involved in food preparation, food delivery or education regarding healthy eating. This would allow students to gain practical, hands-on experience, while continuing to expand and diversify the volunteer catchment of the FSP.

Funding

Organizations that coordinate school meals in Kingston, including the Food Sharing Project, can continue to explore approaches other school boards use to feed students at school. A model similar to Kingston's FSP is used in the Toronto District School Board to provide healthy meals and snacks to students at school. However, schools in the TDSB often have more greater autonomy over their own school nutrition programs. The Toronto Foundation for Student

Success (TFSS), a charitable organization, receives government funding and donations for student nutrition programs and allocates it to individual schools to help them run their own food programs. A portion of this grant can be used towards salary to hire someone to coordinate the on-site program (Toronto Foundation for Student Success, 2018), perhaps allowing it to run more smoothly with hired help. Through this model, TFSS serves “820 school and community based Student Nutrition Programs (SNPs) [and they] provide over 195,000 nutritious meals every school day” (Toronto Foundation for Student Success, 2018).

FSP has the hope to serve more schools and communities in the future, and this program can become more sustainable. There is potential for school meal programs in Kingston to grow and for schools to become more autonomous. Giving schools the opportunity to run their own programs could lead to more student involvement, as well as more student interest in healthy eating and their community. Additionally, as noted in the Queen’s Cafeteria case study, an online program could be used to calculate the quantity of food that needs to be ordered, which could prevent the purchase of excess food, leading to unnecessary food waste. A similar program could be used on an individual school basis, and the hired on-site program coordinator can decide where the school will order from and how much food should be ordered. This is one way schools could further develop their own autonomy over their school nutrition programs in coming years.

Education:

A holistic approach to addressing hunger and nutrition involves accessibility to nutritious food, and also educating children and youth on proper nutrition. Schools and local organizations can continue to educate students about the food they eat and the basics of food security and insecurity. This information can be worked into the elementary curriculum, and students can learn about the nutritional and environmental factors surrounding food. This would aid them in understanding where their food comes from, as well as further information on healthy eating and how and why healthy food is important. Furthermore, schools can run additional food days other than ones run by the GROW Project, where students get to learn where foods come from and how to prepare easy snacks. Food-focused clubs could also be formed throughout schools

where students, with the guidance of a teacher or school volunteer, can relay information to their peers. These strategies would keep students interested in food, and could compel them to be more interested in the environment around them, as well as interested in healthy eating and nurturing themselves.

Other Considerations:

One may argue that mandating and funding local nutrition programs at the local school level leaves more work on the school staff; however, this does not have to be the case. In order to ensure successful implementation in individual schools, a comprehensive step by step guide could be developed for administrators to follow. In regards to the educational aspect, Loving Spoonful has already created programs and curriculum surrounding healthy eating. One approach they could use to secure funding in 2020 would be to help create a program similar to Ontario Eco-Schools, that is easy to follow and allows students to teach each other. Loving Spoonful could also teach high school students how to administer and lead programs in their feeder elementary schools. Thus, as the program grows, there will be more people to help sustain it.

Sustainability:

It is important not only to ensure that hungry children have access to food while they are at school, but to also make sure that the food they are receiving is healthy, fresh, sustainable. This can be done by building on programs already in place, such as the Food Sharing Project. Currently the Food Sharing Project sources their food from Costco, local restaurants, and local suppliers (Food Sharing Project, 2016). While they try to support local suppliers, they cannot realistically afford to purchase a substantial amount of organic food given their budget limitations. Partnering with a local supplier like The Grocery Basket could help to ensure that more of the food provided is local, while also providing the opportunity to incorporate more organic food into the program. The Grocery Basket is a local business in downtown Kingston that offers fresh local produce, baked goods, meats and cheeses, dairy products, pantry products, and ready-to-go meals, all of which are sourced from local suppliers. The manager of the Grocery Basket, Nicole Carson,

expressed an interest in contributing to the program and helping provide school meals to children in Kingston. Partnering with The Grocery Basket would also support local farmers and businesses in the Kingston area. They could prepare food at their facilities where it would then be sent out to the schools, or they could source the supplies needed and volunteers could prepare meals and snacks. Working with a local supplier, such as The Grocery Basket, limits the transportation of the food and makes it a more sustainable option. There are also many positive benefits of eating organic foods. In general organic crops provide greater levels of vitamin C, iron, magnesium and phosphorous (Crinnion, 2010). They also have higher levels of antioxidant phytochemicals, while having fewer insecticide residues than conventional foods (Crinnion, 2010). Therefore, including more organic food in the school meals program would be beneficial for students. A partnership with The Grocery Basket would help reduce the environmental impact of transporting foods, as all the food would come directly from local farmers, making it overall a more sustainable option.

Other Programs & Queen's University Involvement:

Moving into the future, those involved with current school meals initiatives will continue to address their main concern: what happens to students on the weekends, during holidays, and throughout summer vacation. There are a few initiatives that could be put in place to continue to address this concern and involve Queen's students in community action projects relating to food security. First, The Grocery Basket has recently purchased Rooted Foods, a company that focuses on delivering local and sustainable groceries to university students at their homes. Working with The Grocery Basket could create the possibility of finding a way to deliver groceries to students during the periods of time when they are out of school. Currently, the company targets deliveries to university students, but the Grocery Basket is looking to expand the demographic of who they deliver to. This would give students access to local and sustainable food outside of school hours. A program would need to be established to help cover the cost of the local and organic groceries. Rooted Foods was originally started by three Queen's University students who would deliver the groceries themselves. If there was a program in place that involved Queen's students or even high school students in the area helping to pick up and deliver

the groceries, that could help reduce the cost of the service. Reaching out to local farmers and suppliers who might be interested in donating some of the food or reducing rates could also help.

Another way to help children in Kingston from going hungry outside of school would be starting a program similar to Hope Blooms. The program is a youth run organization that started a garden in the inner city of the North End of Halifax (Hope Blooms Inc., 2017). A community dietitian saw that there were many people in the community who could not afford to buy healthy food, so she came up with the idea of starting a community garden (Hope Blooms Inc., 2017). Currently, the garden is tended to by over 40 youth and their families, providing them with food, teaching them how to grow fruits and vegetables, how to cook and prepare meals, and most importantly, how to successfully market value-added products and raise money for their community (Hope Blooms Inc., 2017). The community now sells fresh herb dressings, made from the produce grown in their gardens, and the money they make goes directly towards the community. There is also a donations page on their website where they accept donations for the community. A program similar to this in Kingston would be beneficial, not only to the children, but to the community as a whole. This would ensure that children had access to fresh healthy foods outside of school and it could also help fund more food-related programs in the community. There is potential for an upcoming community garden initiative at Queen's University to expand and include community members including high school and public school students.

Lastly, there is a program called Isthmus or Blessings in a Backpack in Kingston that aims to eliminate childhood hunger on weekends through a national program of school based food relief (Isthmus, 2017). Blessing in a Backpack provides food to families on weekends. There currently is a Queen's University chapter that helps provide students with food. They focus on schools in lower socioeconomic areas and ensure that students will have food on the weekends when they are not in school. This is another great way for Queen's students to help make a difference when it comes to child hunger in Kingston.

3.6 Conclusion

In conclusion, the introduction of new strategies for reducing hunger and improving nutrition among elementary school students in Kingston is instrumental for ensuring their long-term well-being. It is especially important that these strategies are implemented in Kingston's most impoverished neighbourhoods, including the Rideau Heights community. One viable strategy might be to redirect provincial funding to school boards rather than third party service providers to increase efficiency, reduce costs, promote nutrition education, and strengthen partnerships between elementary schools, high schools, and local food vendors. Additionally, partnering with organizations like The Grocery Basket would enable schools that lack the resources needed to prepare such large quantities of food for lunch programs to use the facilities of other local entities, such as the Queen's cafeterias. Furthermore, elementary schools could collaborate with companies such as Rooted Foods to deliver fresh, healthy foods to students to ensure that they are eating properly on weekends and holidays. In combination with existing initiatives like Loving Spoonful and the GROW Project, the new initiatives proposed will help ensure that all students have access to adequate amounts of nutritious foods at lunch. As a result of investment in school meal programs, the health and well-being of Kingston's elementary school students will improve significantly. In turn, students' attention, behaviour, and academic performance will also increase. Overall, these strategies will benefit all children in the Kingston community, whether or not their families are food insecure.

Limitations and Future Research

Although this project accomplished its goal of exploring and addressing hunger and nutrition in Kingston's elementary schools, there were some unavoidable limitations. First, the authors were not able to conduct in-depth semi-structured interviews with members of the Kingston community or with key stakeholders in the issue of school meals. To organize in-depth interviews, ethics approval at Queen's University is required. Due to the time constraints of this research, we were not able to engage in this important approval process. As a result, we were not able to visit elementary schools and gather more profound information on children's personal experiences with school meals. By obtaining ethics approval, we might have been able to present a more comprehensive picture of the reality of the school meals problem. Second and related to this point, our time constraints limited the depth of the research and analysis we were able to conduct. The idea of a photo voice mapping approach on the types of school lunches children bring to school was something we wanted to explore, but time constraints permitted this. If we had more time to complete this exploration, we could have developed more extensive solutions to the issue. Third, the lack of evidence available restricted the solutions that we could develop. In particular, more evidence is needed regarding the food that Ontario students are consuming while at school, the nutritional quality of the food provided, and the locations in the province in which children experience the greatest food insecurity. To develop a thorough and effective evidence-based policy, more information is necessary.

To enrich the findings of the study, further research could be conducted. Specifically, a future project could collect baseline data regarding all of the different school meal programs in Ontario. The data could then be used to compare the programs and demonstrate which elements of the initiatives are effective and which are ineffective. Future research in this direction would provide a greater understanding of the number of children who are food insecure in Kingston schools; it would also present a clearer picture of the best strategies to implement to ensure that students receive access to adequate, nutritious meals at school. Moreover, additional research should explore how Queen's students can help alleviate food insecurity in elementary schools. For instance, new initiatives like the Queen's Urban Agriculture Club aim to create and maintain

gardens on campus to grow vegetables to donate to local charities. This club also connects student volunteers to a variety of local organizations. Evidently, Queen's associations can make a significant contribution to school meal programs by providing food, as well as the volunteers on whom such programs depend. Therefore, more research is needed to assess the potential contributions of the Queen's community to improving Kingston's school meals.

Final Conclusions

From a long-term standpoint, the future of school meals in Canada is contingent on further involvement from both provincial and federal governmental bodies. Prioritizing accessibility and availability of healthy meals in schools is integral for improving children's well-being, cognitive development, behavioural outcomes, and academic performance. In terms of solutions for Kingston at the local scale, continuing to emphasize and fund partnerships between local schools and community organizations will improve food accessibility across Kingston.

This report has identified a series of recommendations to assist in the sustainable development of the school meals programs in Kingston. Final recommendations include:

- The implementation of a federal program (modelled after Japan) that subsidizes the provision of affordable and healthy school meals nationally.
 - In particular, this program will focus on providing more equal access to healthy foods and will seek to mitigate the stigma associated with school meals in Canada through government subsidies and acceptance by all involved parties.
- Mitigating the stigma that is currently associated with food insecurity, as well as school meal program in Canada, by encouraging school staff members, students, parents and other related parties to participate.
- Prioritizing indirect means of improving student wellness (physical education, autonomy in food choices in children, etc.).
- Improving food-related education (cooking classes, in-school gardens, etc.), locally, provincially, and federally.

- Improving region-specific economic conditions by incorporating locally grown foods into children's school meals.
- Encouraging partnerships with universities, local high schools and other entities to ensure non-profit organizations have a sufficient number of volunteers for their food-sharing operations.
 - As discussed, these partnerships allow for which are integral for the provision of healthy foodstuffs to elementary school students in Kingston and across Canada.

Canada is currently at a crossroads in determining how to prioritize the provision of healthy, subsidized meals for school-aged children. As it stands, school meals fall under the jurisdiction of the individual provinces; but in actuality, health related outcomes are a federal concern. As such, the nation would do well to follow suit in respect to other industrialized nations to develop an all-encompassing federal school meals program that would be universal. The overwhelmingly positive results of such policies have been demonstrated in the cases of the United Kingdom and Japan. Changes also need to be made at the provincial level. Namely, this involves creating some degree of consistency between inter-provincial levels of funding. In terms of solutions that are specific to Kingston, further partnerships between non-profit organizations and schools will allow a greater number of institutions to have access to healthy foods for their students. This seems simple, but it is contingent on being able to scale up operations accordingly with the help of a sufficient level of dedicated volunteers.

Appendix 1: Definitions

Culturally Sensitive: Being aware that cultural differences and similarities between people exist without assigning them a value (Red Shoe Movement, 2017)

Food Security: Having access and availability to sufficient, safe, nutritious food, which is integral for maintaining a healthy and active lifestyle (World Food Programme, n.d.).

Food Insecurity: Inadequate or inconsistent access to food due to financial constraints (Tarasuk et al., 2016).

Material Deprivation: The inability for individuals or households to afford consumption goods and activities that are typical in a society at a given point in time. The Material Deprivation Index includes indicators such as average household income, unemployment rate, and high school education rate (Glossary of Statistical Terms, 2007).

Obesity: Overweight and obesity are defined as excessive fat accumulation risking impaired health. For children, overweight and obesity is measured with standard deviations from weight-for-height or though Body Mass Index (BMI). (World Health Organization, 2018).

Poverty Line: Also known as the "low income measurer" (LIM), defined as household earnings of less than 50% the national median income (Government of Canada, 2016).

Sustainability: Sustainability in food systems can be defined as a dynamic collection of solutions which "need to be located, tested and shared" among individuals (Hinrichs, 2010, p. 19).

Sustainable Development: Maintaining economic progression and growth, while protecting long-term interests of social and environmental values (Emas, 2015, p. 1).

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