Executive Summary

This report entitled, “Can you Dig it? Accessibility in Community Garden Policies and Lessons from Two Canadian Cities” analyses the community garden policies of Kingston, Ontario and Victoria, British Columbia in order to investigate how both municipalities address physical, geographic and economic accessibility within their policy.

The majority of research on community gardens is focused on the environmental, social, and economic as well as health related benefits of gardening. An in-depth literature review uncovered that there is currently limited research which investigates the relationship between municipalities and community gardens. Research also uncovered that in the last ten years municipalities in Canada have been increasingly adopting community garden policies to regulate the development of community gardens on public and even private land. Therefore, this report is a preliminary evaluation which will address one aspect of municipal community garden policies; accessibility.

Objective

The objective of this research is to uncover how Kingston, Ontario and Victoria, British Columbia address physical, geographic, and economic accessibility in their community garden policies. The second objective of this study is to develop recommendations on accessibility for municipalities that wish to amend or develop a community garden policy.

Research Methods

The research methods used in this report include a detailed literature review, a review and analysis of municipal policy documents, as well as semi-structured interviews with a key informant from the City of Victoria. The use of these three research methods resulted in the triangulation of data. This benefited the construct validity of the research as well as the mitigation of researcher bias. An analytic chart was developed in order to compare the policy statements on accessibility which were found within the City of Kingston and City of Victoria community garden policy. This chart was then used to conduct a parallel analysis on the similarities and differences between the policy statements of both cities.

Analysis and Recommendations

An analysis of data acquired through a review of literature, policy review, and interviews with key informants resulted in the creation of a series of three recommendations. These three recommendations cover areas related to physical, geographic, as well as economic accessibility. The findings from an analysis of Kingston and Victoria cannot be generalized for all municipalities in Canada. However, the recommendations made from this report can be reviewed by municipalities amending or creating a community garden policy to assist in the process of policy development.
Based on the research findings, the following recommendations are proposed to municipalities looking to amend or develop their own community garden policy.

1. **Collaborative, Comprehensive Municipal Accessibility Policy**

   It is recommended that municipalities work collaboratively with organizations, residents, businesses municipal departments and other municipalities to develop a municipally-wide and comprehensive accessibility strategy. Accessibility strategies such as Facility Accessibility Design Standards (FADS) have been adopted by municipalities across Canada with the goal of supporting the creation of accessible community facilities, which includes community gardens. Having a FADS document is important because it allows a municipality to return to a set strategy or policy when planning and designing municipal facilities.

2. **Geo-Spatial and Demographic Analysis**

   It is recommended that municipalities perform a geo-spatial and demographic analysis of the municipality using GIS or other computer software. This will assist decision makers in gaining a better understanding of where gardens should be geographically located to ensure that residents are able to access the garden. Factors which can be mapped to gain and understanding of the municipality include: the location of bus routes, age distribution, population density, household income, location of pre-existing gardens, transportation statistics etc.

3. **Sliding Scale Fee Program and Municipal Support**

   Finally it is recommended that municipalities develop a carefully managed sliding scale gardening fee program which supports the inclusion of individuals and families of various economic backgrounds. A sliding scale system allows individuals to pay the fee that they are able to pay depending on their income. Partnerships should be developed which support the inclusion of low income individuals in a manner which does not identify the residents and marginalize their position within the gardening community. It is also recommended that municipalities carefully consider how they are financially and technically supporting community garden groups.

**Conclusion**

Developing an understanding of how municipalities address various forms of accessibility in relation to community gardening will assist planners and policy makers in understanding how a municipal policy can encourage an inclusive community gardening environment. It is hoped that this report will be used by municipalities and community garden organizations to facilitate the development of accessible community gardens.
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Chapter 1: Introduction:
1.1 Background Information:
Community gardening has existed in Canada since the economic depression of the 1890’s. Historically, community gardens have been developed on vacant land or degraded properties resulting in community gardens being used as a temporary community beautification tool. (Milburn, 2010, p. 72) Due to the temporary nature of community gardens, the development of gardens has been largely ignored in long range planning and policy documents. (Lawson, 2004, p. 151) However, in the last ten years planners, decision makers and residents across Canada are recognizing that the community gardens of today have countless social, economic, environmental and health related benefits which can assist in the creation of sustainable and healthy cities. (Boekelheide, 2005, p. 13). These benefits include: the ability of gardens to address food insecurity through the self-cultivation of food (Henderson, 2010); the creation of an economical recreational activity that promotes healthy eating (Armstrong, 2000); and the ability of community gardens to foster the building of relationships, a sense of community and inclusivity (Milburn, 2010). Residents and decision makers are increasingly recognizing the extensive benefits that community gardens can bring to communities. In recent years governments are beginning to take steps towards increasing their involvement in the development and regulation of community gardens. (Henderson, 2010) More specifically, municipalities across Canada have begun to develop community garden policies which have been created to regulate the development and maintenance of community gardens on public property.

This report entitled “Can you Dig it? Accessibility in Community Garden Policies and Lessons from Two Canadian Cities”, provides a preliminary investigation into municipal community garden policies through an examination of one aspect of community garden policies; accessibility. This report will explore how the municipalities of Kingston, Ontario and Victoria, British Columbia address physical, geographical and economic accessibility in their community garden policy. These two cities have been identified based on the fact that they are demographically, and socio-economically comparable medium-sized cities with a population between 80,000-130,000 people. Kingston and Victoria also have a community garden policy which was last updated or created in 2009. These two medium-sized cities have similarities and differences in the way they regulate and define community garden activities and regulations. A parallel analysis of the community garden policies of Kingston and Victoria will provide
planners, politicians, and government representatives with a preliminary investigation of one aspect of municipal community garden policies; accessibility.

Accessibility was chosen as the topic of evaluation through a detailed literature and document review. Current research on community gardening focuses primarily on qualitative and quantitative studies which investigate the benefits of community gardening. However, there is currently limited information available which investigates the relationship between municipal governments and the creation of policies which regulate the development of community gardens. Although research around accessibility and community gardens exists, it lacks a close examination of accessibility in municipal community garden policies.

Accessibility is relevant to community gardening because in order for society to benefit from the recognized social, economic, environmental and health related benefits of gardening, community gardening must first be accessible to community members in an equitable manner. Consequently, this report will look at three aspects of accessibility: physical, geographical and economic.

Physical accessibility is associated with the ability for individuals with mobility issues to access, maneuver and utilize a community garden space. Geographical accessibility is associated with the ability of residents to access a garden given its geographical location. Finally, economic accessibility is associated with the ability of residents of all economic backgrounds to financially afford the cost of community gardening. These definitions of accessibility were created by the researcher through a detailed review, analysis and synthesis of literature and documents on community gardening, accessibility, and the benefits of community gardening.

1.2 Why is Accessibility Important?

Research conducted on the benefits of community gardening demonstrates that community gardens can be described as a positive component of communities. Community gardens have the potential to create multiple social, economic, environmental and health benefits for the entire community. Gardens can be developed as an inclusive space where a diversity of community members can gather to take part in a healthy and sustainable outdoor activity. For example, Glover, (2010) supports the idea of community gardens as a space for community building where people of all backgrounds can gather, network, and form relationships, while enabling social interaction to foster a common identity together (p.143). Gardens are places where people can gather to interact in an informal setting. However, physical, geographic and economic barriers
exist which can lead to the marginalization of individuals in community gardening. Therefore, it is important to determine how gardens can be developed in way which supports the inclusion of a diverse group of members through making gardening accessible to different sectors of the population. When developing a community garden there are many aspects that should be considered to ensure that an inclusive environment is created. For the purpose of this report, three aspects associated with the creation of inclusive community gardens will be examined. These aspects include; physical accessibility associated with site design, geographic accessibility in terms of the location of gardening sites within a municipality, and economic accessibility which are related to the ability of residents of various socio-economic statuses to financially take part in gardening activities.

Accessibility is an important component to consider when aiming to create an inclusive, sustainable and healthy community. The physical, geographic and economic accessibility aspects of municipal approaches to regulate community gardens on publicly owned lands can be evaluated through an analysis of the community garden policies of Canadian Municipalities.

1.3 Research Question and Objectives:
The objectives of this research are to evaluate the municipal community garden policies of Victoria and Kingston for aspects related to physical, geographical and economic accessibility and make recommendations for policy development related to accessibility to assist other Canadian cities in developing or amending their community garden policy. The following research questions were used to guide the study:

1. How do the municipal governments of Kingston and Victoria address physical geographic and economic accessibility in their community garden policies?
2. What recommendations can be made to assist municipalities across Canada in addressing accessibility in the creation or revision of their community garden policies?

1.4 Report Outline:
Chapter 1 provides an introduction to the report including background information as well as the research questions and objectives of the study.
Chapter 2 provides information concerning the research methods used in the report as well as the limitations and challenges of the research.

Chapter 3 includes a literature review which includes a discussion of the academic as well as policy based research which exists on community gardening. This section includes; a brief history of community gardening, what community gardening is seen as today; a discussion on the relationship between municipalities and community gardens; as well as a discussion of physical, geographical and economic accessibility.

Chapter 4 presents a brief profile of the City of Kingston and Victoria. This includes highlighting the demographic and socio-economic statistics, as well as information on provincial disability rates, active transportation and an overview of each city’s community garden program and policy.

Chapter 5 provides a description of the results obtained from investigating the community garden policies of Kingston and Victoria. Within this section an analytic chart is used.

Chapter 6 includes an analysis of the research findings and a discussion of research which supports the findings.

Chapter 7 includes three main recommendations for other municipalities interested in developing or amending a community garden policy.

Chapter 8 includes a conclusion as well as advice for further research on community garden policies.
Chapter 2: Methodology

2.1 Research Approach:
This report was conducted using qualitative research methods. The aim of the research is to uncover the similarities and differences between the community garden policies of Kingston, Ontario and Victoria, British Columbia through an evaluation of accessibility. This report provides an initial investigation into how municipalities address physical, geographic and economic accessibility within community garden policy through an analysis of the policy statements of these two Canadian cities. Quantitative data collection was not used for this study due to the investigative nature of community garden policy in which statistical and mathematical analysis does not apply. Qualitative methods are used due to the emphasis on examining the relationship between community garden policy components and the existence and use of these components in the policy of two cities.

2.2 Methods Used in Data Collection:
The research methods used for this report include a review of the literature, a review of municipal policy documents, and semi-structured interviews with key informants. These three methods are then applied to an analytic framework. The first phase in research included conducting an in-depth literature review of documents and articles related to community gardening and municipal approaches to community gardening. This review enabled the researcher to narrow the scope of the report to look at three aspects of accessibility: physical, geographic and economic. Municipal community garden policy documents were then analyzed to develop an understanding of the key elements of a community garden policy. Finally, semi-structured interviews were conducted to fill in gaps in the analysis of the community garden policies of Kingston and Victoria which could not be obtained through a review of the policy itself. Interviews with key informants in each city also assisted the researcher in verifying research findings and supporting the recommendations made. Throughout the research process the researcher drew from the literature to give context and relevance to the findings and municipal policy documents were continuously analyzed.
2.2.1 Literature Review:

A literature review was conducted to form an understanding of the historical development of community gardens, their current importance to the development of healthy and sustainable communities and the role that municipalities play in community garden development. The literature review drew from multiple sources including: academic articles, books, newspaper articles, and related reports from organizations and municipalities on community garden and policy development. Developing a strong literature review supported the validity of the data analysis by allowing the research question to be approached in a comprehensive manner (Yin, 2009). The researcher continuously reflected upon the information gained and used the data gathered to support the analysis of the policies being evaluated and to inform the development of recommendations.

2.2.2 Review of Municipal Policy:

A document review of current municipal policies was conducted in order to evaluate the similarities and differences between approaches to community garden policy related to accessibility in Kingston and Victoria. More specifically, the policies were evaluated based on physical, economic, and geographic accessibility. Kingston and Victoria were chosen due to demographic, socio-economic, and gardening program similarities between the two locations. The policies of these two cities were also published in 2009, allowing for an analysis of community garden policy during a specific time in the evolution of municipal approaches to regulating community gardens. The key elements of these two policies were compared and contrasted using an analytic chart. This chart organizes sections of the community garden policies which pertain to the three aspects of accessibility (see Appendix A). A more detailed description on the development of analytic chart can be seen in section 2.2.4. The two main municipal documents that were analyzed are:

- City of Kingston: Community Gardens Development and Operations (2009)
- City of Victoria: Community Gardens Policy (2009)

2.2.3 Interview with Key Informant:

A semi-structured interview with a Community Gardens Representative from the City of Victoria was conducted to validate and verify the information gathered through the literature review and the findings discovered through an analysis of both policies. An interview was not
conducted with a representative from the City of Kingston due to the fact that a request for participation occurred at a busy time of the year. A semi-structured interview was chosen as the method of inquiry because this interview format is known to produce a more fluid interview process that supports the participant in including their own interpretation of the question (Yin, 2009, p. 106). This approach was considered valuable in gaining information on community garden policy that was not only associated with the legislation of policy but dug more deeply into the process of implementing community garden policy.

Participants were initially contacted by email and then subsequent email correspondence was conducted in order to obtain consent for participation and to arrange an appropriate interview method. In the end, an email interview was conducted with a municipal representative from the City of Victoria and a representative from the City of Kingston was not available. The researcher was unable to acquire a telephone interview or face-to-face meeting with City of Victoria participant due to the contacting having a busy schedule during the summer season and the distance between the researcher and Victoria, British Columbia. Questions proposed to the municipal representative were process-oriented and included questions such as experiences of policy implementation, background information on other policies which are associated with community gardening, and an explanation on what is meant by specific statements within the policy. A list of the interview questions proposed to participant can be found in the Appendix B.

The research participant at the City of Victoria was emailed a series of questions related to the implementation of the community garden policy. The participant was then invited to reply to the series of questions by inserting their answers and returning it to the researcher. A semi-structured email interview was conducted to allow the participant to provide detailed responses and to create an opportunity for the participant to explain complicated situations in less structured interview setting. This method is beneficial as it allows the researcher to gather information including; opinions, attitudes and perspectives on factual data (Yin, 2009, p.109). Interviews can offer specific knowledge related to how a municipality regulates and addresses aspects of accessibility through the implementation of a community garden policy. Information gathered through semi-structured interviews allowed the researcher to dig more deeply into issues and to gain valuable information that could not be obtained through reviewing the policy alone.
Therefore, semi-structured interviews allowed the researcher to incorporate the opinion, knowledge and perspective of municipal staff members who are working on the ground and implementing the policy contents.

The researcher received ethics approval to conduct these interviews by submitting a detailed application to the Queen’s University Graduate Research Ethics Board (GREB). The identity of each interview participant was protected by not including the name or department of the research participant and through the protection of the data being collected. The researcher obtained consent from each participant in order to record all interviews.

2.2.4 Analytic Framework:
In order to compare the policy statements of two different cities an analytic chart was developed to differentiate between the three components of accessibility in each policy; physical, geographic and economic. This chart was then used to analyze the differences and similarities between the policies. The structure of the chart consists of comparing the policy content of each municipality in a descriptive manner, followed by an analysis of the findings to uncover how Kingston and Victoria address accessibility and in their community garden policies.

The ideas surrounding the analytic framework of this report were based on the structure of the analytic chart developed by Miller (2011) in her report on backyard chicken policy. Miller’s data analysis consisted of comparing the backyard chicken policy of three North American cities using a list of fourteen components. This report used a similar analytic chart to organize and support a systematic evaluation of the community garden policy of two Canadian cities. However, the evaluative criteria for this report was taken from an in-depth literature review which uncovered the social and economic benefits associated with community gardening and the impact that community inclusion through accessibility can have on the development of sustainable and healthy communities. As previously stated, an evaluation of accessibility has been broken down into three sub categories of physical, economic and geographic accessibility.

The policies of Kingston, Ontario and Victoria, British Columbia were compared and contrasted in a descriptive and then analytic manner to discover similarities and differences between the approaches of the two Canadian cities. Upon completing this chart, the researcher further
analyzed the findings in order to develop recommendations related to accessibility which could assist municipalities in developing or amending their community garden policies.

2.3 Triangulation:
The well-documented use of three different qualitative methods support construct validity and reliability of the data through the use of multiple sources of evidence and the establishment of a detailed research protocol (Yin, 2009). During the analysis of data, pattern matching guided by the use of precedent models from previous reports, will be used to develop explanations to test the internal validity of the report. Integrating the research findings from three different research approaches will also mitigate researcher bias through the use of multiple sources of evidence to support the analysis of both community garden polices and to support the development of recommendations.

2.4 Limitations and Challenges:
It is recognized that researcher bias may have occurred due to the fact that the researcher supports the existence and spread of community gardens, and also has experience volunteering for a community garden organization and has taken part in community gardening in several cities in Ontario. To mitigate researcher bias, data was drawn from multiple sources of evidence which included a literature review, policy review, and interviews.

Another limitation of this study is the generalizability of the findings. The analysis and findings of this report pertain only to the operations of the two cities identified. Every city is unique and therefore has a different history, and approach to addressing issues. It will be difficult to generalize the findings to all municipalities that are interested in developing community gardening policy. However, a comprehensive literature review on community gardening in relation to accessibility and social capital was conducted to support the analysis of each policy and the development of recommendations for municipalities looking to develop or to amend their community garden policies.

Finally, conducting research during the development, growth and harvesting seasons of community gardening in Canada made scheduling interviews difficult as both participants communicated to the researcher that the summer is a busy time of the year. This resulted in the City of Kingston representative being interested in being a part of the study but unable to take part in an interview with the researcher during the summer season. This limitation could have
been mitigated by arranging to interview participants during the off gardening season which typically occurs from October until April.
Chapter 3: Literature Review:

3.1 History of Community Gardening in North America:
The activity of urban gardening appeared in North America during the late 19th Century and has continued to spread across Canada and the United States since this time. The concept of community gardening began in North America during the economic depression of the 1890’s. In 1893 the Mayor of Detroit encouraged unemployed urban individuals to grow food on vacant land (Hanna, 2000, p. 209). Communal gardening activities began as a form of economic relief for individuals facing unemployment and subsequent food insecurity. In 1913 school gardening was included in the Canadian school curriculum through the introduction of the Federal Agriculture Instruction Act (Shabbir, 2010, p. 7). Throughout this time period, community gardens were seen as an educational tool utilized as a beneficial component of the formal education system. As the economy gained strength after the rebound from the economic depression of 1890’s gardening as a form of economic relief became less common. However, a resurgence in urban allotment gardening was seen during the first and second world wars through the introduction of Victory Gardens. The Victory Gardens were seen as a way to address food shortages experienced as a result of food rationing (Twiss, 2003, p. 1435). At the end of WWII, the existence of Victory Gardens became superfluous as international food production increased and concerns over the war effort were replaced with post war rebuilding efforts. After WWII gardens began to be referred to as community gardens as they were associated with more localized and community driven efforts (Hanna, 2000, p. 209). During the 1970’s community gardening became aligned with environmentalism, social justice, and the human rights movements (Lawson, 2004, p. 163). During the 1960’s and 1970’s, community gardening was also beginning to be associated with urban greening and land reclamation for the purpose of urban renewal and beautification. Gardening on vacant land was informally encouraged by all levels of government and was seen by residents as a way to rebuild degrading urban communities (Lawson, 2004, p. 163). Since this time gardens have continued to be utilized as a means to beautify vacant land and assist in community building and regeneration (Barbolet, 2009, p. 5). From the economic depression of the 1890’s, through the 20th century community gardens played multiple roles in society. Their unique history has impacted the role that they play in communities of today.
3.2 Community Garden Today:
The historical evolution of gardening in North America reveals that the meaning and purpose behind community gardening has continuously been altered according to political, economic, and social circumstances. This has made it difficult to strictly define what a community garden is and what role it plays in society. For example, Barbolet (2009) defines a community garden as:

“any piece of land gardened by a group of people…urban, suburban, or rural. It can grow flowers, vegetables or community. It can be one community plot, or can be many individual plots. It can be at school, hospitals, or in a neighborhood. It can also be a series of plots dedicated to “urban agriculture” where the produce is grown for a market” (p.4).

This definition shows that the development of community gardens is very circumstantial and is dependent upon those involved, the location of the garden and the purpose behind the creation of a garden. This makes it difficult to strictly define a community garden. However, Community gardens share one common characteristic; they can create multiple benefits for communities.

3.3 Benefits of Community Gardens:
There are many recognized benefits associated with the development of community gardens. The Food Security Network of Newfoundland and Labrador (2011) recognizes that:

“a community garden can help improve food security for participants by increasing physical and economic access to adequate amounts of healthy food. Community gardens provide health, economic, educational, social, and environmental benefits to participants and the community at large” (p.5).

Gardens can be utilized to address multiple community issues and can aid in developing healthy and sustainable communities.

3.3.1 Economic Benefits:
Community gardens have the potential to create economic benefits for individuals, families and entire communities. Community gardens provide an opportunity for a diversity of people to access land where they are able to cultivate their own produce. The amount of food produced by community gardens is related to the size of the plot, the density of crops, as well as climatic and weather conditions during the growing season. However, one study found that a community garden which is able to produce year round can save families up to $475 dollars a year in groceries (Milburn, 2010, p. 72). Another study investigating the economic impacts of
community gardens found that seasonal gardens have the potential to produce up to $50-250 dollars of produce each season (Armstrong, 2000, p. 320). Produce can be one of the most expensive food groups to purchase, and self-cultivation provides an opportunity to consume high quality nutrient rich food that is cost effective (Henderson, 2010, p. 14). Community gardens can also specifically provide economic benefits to unemployed and economically marginalized individuals. Food produced in gardens can supplement limited incomes and increase people’s intake of fresh fruits and vegetables. In this way, gardens can also provide health related benefits to people of all socio-economic levels.

3.3.2 Health Benefits:
There are multiple health related benefits associated with gardening. A study conducted by Armstrong (2000) which investigated the health impacts of gardening found that community garden participants have a higher rate of vegetable consumption compared with non-gardeners and also a subsequently lower intake of sugary food and drinks (p.319). Furthermore, the fruits and vegetables which gardeners are consuming are more likely to be free from pesticides and harmful chemicals because gardeners are able to determine how they cultivate their own crops (Henderson, 2010, p. 14). Gardening can directly impact peoples health by increasing the likelihood of consuming fresh, organic, produce. The physical act of gardening also produces positive health benefits. Studies have found that gardening “enhances a person’s psychological, spiritual, and physical sense of well-being and reduces stress levels (Milburn, 2010, p. 72). Gardening is a common form of physical activity which can be utilized as part of a healthy active lifestyle and can positively impact one’s mental health through taking part in a relaxing activity.

3.3.3 Environmental Benefits:
Gardens create an inviting outdoor recreational opportunity which can assist people in reconnecting with nature. People are able to learn how to grow food for themselves and their families, while learning more about the environmental aspects of growing crops such as soil quality, nutrients, plant species, and climate. Creating a garden also increases ones connection to the space and the environment in a way which enhances people’s interest in protecting the natural environment (Milburn, 2010, p. 72). People are able to grow a variety of fruits, vegetables, herbs, and flowers and learn how to take care of these plants through connecting to the natural environment. As previously stated, community gardening can also be an environmentally conscious activity which allows people to grow organic produce close to home
(Henderson, 2010, p. 14). This means that gardening provides an opportunity for the production of pesticide free produce while creating a local alternative to purchasing fruits and vegetables from outside of the community which require shipping and a higher carbon footprint. Gardens also positively impact the built environment. Historically gardens were used by communities as a way to beautify urban environments (Lawson, 2004, p. 155). Today gardens continue to be beneficial as they are a cost effective tool that can create green development in urban environments which can beautify vacant land while aesthetically regenerating deteriorating communities.

3.3.4 Social Benefits:
Lastly, there is substantial evidence and research on the social benefits of community gardening. Through the process of creating and maintaining a garden, community members are able to come together, learn from one another and interact. This aids in the creation of a sense of community and establishes relationships which are beneficial to the social health of communities (Milburn, 2010, p. 79). Gardens create a space within a neighborhood where residents can meet, interact, and socialize. This develops social networks which can strengthen the community. The development of strong social networks and a sense of place are key elements of building social capital. The development of social capital is important in the creation of resilient and healthy communities. It is associated with community empowerment which enables residents to work together to shape their own future and create positive change in their community (Milburn, 2010, p. 72). Community gardens and activities associated with gardening can also be developed in a way which builds inclusivity and encourages the interaction of a diversity of individuals. For example, community gardens can provide a space for the meeting of different cultures. Community gardens provide an opportunity for residents to use a communal space to grow ethnic food, allowing individuals to express their local identity to other gardeners and even to the greater community (Irvine, 1999, p. 40). Gardens can also encourage the interaction of individuals with various levels of physical abilities by creating sites which are designed in an accessible manner. For example, through design considerations, gardens can provide communities with physically accessible spaces through the implementation of raised beds. Raised beds address mobility issues associated with physical limitations facing categories of people such as the elderly, those with injuries, or people in wheelchairs (Shabbir, 2010, p. 3). The implementation of garden beds which are raised off of the ground is just one example of
how gardens can be utilized as accessible and inclusive spaces which support the interaction of a
diversity of people. Social interaction is significant as it is a key component of the development
of healthy, prosperous and sustainable cities. Overall, gardens can be developed as inclusive
spaces which support the interaction of various members of the community. The development of
inclusive spaces supports the development of strong communities through the building of social
capital and the creation of vibrant and healthy communities.

3.4 Gardens as Part of Sustainable and Healthy Communities:
Gardens have the ability to create multiple and interconnected social, economic, environmental
and health benefits for all communities. This is highlighted by Boekelheide (2005) who believes
that the bottom line is that community gardens have countless benefits, and represent a uniquely
valuable tool for personal, neighborhood, and community development”(p.13). Gardens can
produce nutritious, economically viable, organic food in a community setting. The economic,
social, environmental, and health related benefits associated with community gardening are
interconnected and together can build the foundation for the development of healthy and
sustainable communities.

Community gardens are promoted across North America as a key approach to addressing
physical, mental, and spiritual health issues. For example, the organization California Healthy
Cities and Communities (CHCC) promotes community gardening projects across the state of
California as part of an organizational nutrition and physical recreation mandate. CHCC also
supports community gardening because representatives believe that a successful community
garden has the possibility to connect multiple community stakeholders in a positive relationship
which provides opportunities for learning new skills, while encouraging social interaction
(Twiss, 2003, p. 1435). Across Canada, many communities are utilizing community gardening
as way to increase the health and vitality of the community and its residents. For example, in the
Toronto neighbourhood of Regent Park, two community gardens produce fresh food for a local
community health centre, and for the participants of a literacy program. It has been reported that
both of these gardens have positively impacted the intake of fresh produce for community
members. In these two gardens, the health related impacts of gardening also impact the greater
community, as surplus food is donated to local food banks or emergency food programs to
address food security issues (Irvine, 1999, p. 40). Gardens provide an opportunity for enhanced
nutritional health and the creation of a more food-secure community. Therefore, community gardens can be utilized as one approach to increasing the nutritional health of communities.

The benefits associated with community gardening also aim to make communities more socially, economically, and environmentally sustainable; three components which are integral to sustainable development. Local approaches to developing sustainable urban land use strategies were discussed as a component of sustainable approaches to urban development during the 1992 United Nations Summit on the Environment and Development. Aspects related to urban agriculture were included in the production of Agenda 21 which highlighted ways that countries and communities can support “development that meets the needs of the present without compromising the ability of future generations to meet their own needs (IISD, 2013). This sustainable development attitude includes an interconnected approach to address social, economic and environmental societal needs in a way which promotes the current well-being of people and the environmental while ensuring that future generations are able to enjoy the same level of vitality in their lives.

Chapter 7 of Agenda 21 (1992) calls on municipal governments to act in a way which supports sustainable development. This chapter highlights the importance of “adopting innovative city planning strategies to address environmental and social issues including strengthening community-based land-resource protection practices in existing urban settlements” (Irvine, 1999, p. 35). Chapter 28 of Agenda 21 also calls on municipal governments to work with residents to support the development of sustainable policies which encourage the creation of sustainable communities (Irvine, 1999, p. 35). Community gardens are a sustainable development option because they are able to address a multitude of societal issues. Municipalities across Canada are beginning to recognize the benefits of supporting community garden development and part of a larger goal to build healthy and sustainable communities.

3.5 Relationship between Municipal Government and Community Gardens:

3.5.1 Historically:
The relationship between community gardening and municipal governments has historically been very distant. For many years municipal governments have allowed residents to garden on vacant lots temporarily while turning a blind eye to garden development or have assisted in the development of gardens on a case by case basis (Henderson, 2010, p. 13). Through an
investigation into the relationship between community gardening and municipal planning departments, Lawson (2004) found that due to the temporary nature of community gardens, municipal governments have historically ignored gardens in long-range planning and policy documents (p. 151). This has made it difficult to efficiently and effectively regulate the development of gardens at a municipal or regional scale. Gardens have also been traditionally viewed as community driven, participatory, grassroots activities. Lawson (2004) has also found that this has resulted in municipal planning departments implementing community gardens as a “user-initiated open space without attention to their long-term potential in city planning” (p.153).

Municipal governments have for the most part viewed community gardens as the responsibility of garden participants and have been reluctant to get involved in the activity at a municipal level. However, research has uncovered that the long term development of community gardens is supported by a network of resources from different levels of government, organizations and businesses (Milburn, 2010, p. 71). Community garden groups often rely on assistance from outside the immediate community to assist in the long term maintenance, and existence of community gardens.

3.5.2 Currently
Municipal governments are beginning to realize that community gardens are not only a grassroots activity but require municipal involvement for the long term success of community gardening. Municipal governments are utilizing the benefits of community gardens to address a variety of community problems associated with health, wellness, safety, beautification, and environmental issues. This has resulted in local governments taking a more active role in the creation and management of community gardens (Henderson, 2010, p. 13). Therefore, governments are supporting community gardens through avenues such as developing supportive policies, investigating how policy barriers can be removed, providing materials and other support, as well as ensuring that the protection and development of community gardens is incorporated into wider policy directives through overarching policy documents (Barbolet, 2009, p. 4). Local governments are beginning to recognize the long term benefits of community gardening and are supporting the development and protection of gardens through the creation of municipal community garden polices.
3.5.3 Literature on Community Gardening:
An in depth literature review uncovered that the majority of research on community gardening is associated with qualitative and quantitative studies which investigate aspects of gardening. As previously discussed, there are a number of studies which look at the history of gardening; land use implications of gardening; social, economic, environmental, and health related impacts of gardening; generalized findings on gardening or specific examples of gardens in certain locations; as well as theory on community gardens as a component of healthy and sustainable cities (Hanna 2000, Lawson 2004, Twiss 2003). More specifically, there was found to be a wealth of research which investigates the social and economic impacts of community gardening. Community gardens are highlighted as community resources which aid in the development of strong, resilient, healthy and sustainable communities (Armstrong 2000, Firth, 2011, Frumkin 2004, Kingsley, 2007). Community gardens are also highlighted through much of the research as community assets which promote the social interaction of residents and the building of positive relationships through the development of social capital (Kingsley, 2007). It is important that community gardens be built as inclusive environments in order to provide community members with an equal opportunity to benefit from the social, economic, and health related benefits that have previously been discussed.

3.5.4 Literature on Municipalities and Community Gardening:
Although there is a wealth of research on the social, economic, and health impacts of community gardening, it was found that there is limited information available which evaluates the relationship between municipal governments and community gardening. Only three main documents were found which explore one or more aspects of the relationship between local governments and community garden development. In the article entitled “The Planner in the Garden: A Historical View into the Relationship Between Planning and Community Gardens”, Lawson (2004) uncovers the chronological history of the development of community gardens in the United States, and highlights community gardens as temporary features which are ignored in long-range planning. In this article, community gardens are also highlighted as a complicated resource which has often been seen as both a public and private aspect of community (p.171). The article by Lawson (2004) provided an initial discussion into the relationship between community garden development and local government through the lens of municipal planning and policy development. The second article by Henderson (2009) discusses community gardens
as a tool used by municipal governments to engage citizens in the community. This article also recognizes that municipal governments are increasingly developing community gardening programs to address multiple community issues. Research by Henderson (2010) shows that gardens have historically been ignored by local governments; however, governments are continuously taking a more active role in the management and development of gardens (p. 13). Another key document which investigates the relationship between municipal governments and community gardening was developed by Barbolet (2009). This article entitled “Dig it! A Practical Toolkit: How Local Governments can Support Community Gardens” discusses why and how local governments would want to support community gardens while providing important information for municipalities on how to develop gardens, retain garden interest, and support the continued development of additional gardens within the community. The summary section of this article also highlights the fact that governments across British Columbia and North America are becoming more interested in supporting community gardening including the creation of garden policies and by-laws to support the development of gardens (p.39). This is significant as it provides supportive evidence on the increased involvement of municipalities in the development and regulation of community gardening.

3.5.5 Municipal Policy on Community Gardening

Overall, the literature review uncovered that there is limited research available which discusses the relationship between municipal government and community gardening. However, there is currently a lack of research which evaluates municipal support for community gardening through an examination of the components of municipal garden policies. Therefore, much of the research into community gardening is taken from a local government perspective but has failed to discuss evidence of how municipal government regulate, manage, develop and/or promote community gardens through the creation of policies. Due to the limited amount of background information on the creation and contents of municipal garden policies, and a wealth of information on the benefits and different aspects of community gardening, a preliminary evaluation of community garden policies can aim to discuss an aspect of community gardening policy. There is a wealth of information on the socio-economic and health benefits of community. However, in order for residents of all backgrounds to have an equal opportunity at taking part in community gardening, the topic of accessibility within community garden policy must be further analyzed. An
evaluation of community garden policies can seek to examine how municipal governments aim
to develop inclusive environments through including policy statements which address aspects of
accessibility. This specific area of evaluation has been chosen due to the quality and quantity of
existing research on community gardening and the development of accessible community spaces.
The following sections will contain a brief overview of the aspects of accessibility which will be
discussed in this report.

3.6 Evaluating Municipal Community Garden Policies:
The creation of policies to regulate the development of community gardens on a municipal scale
is gaining momentum. Barbolet (2009) has found that “a growing number of local governments
in Canada have identified community gardens as a way to help them create healthier, sustainable
and more resilient cities” (p.5). A handful of municipalities across Canada are developing
community garden policies as part of an overarching objective to build healthy and sustainable
communities. Some Canadian cities which currently have a community garden policy include:

- Barrie, Ontario (2011)
- Guelph, Ontario (2012)
- Hamilton, Ontario (2010)
- Kingston, Ontario (2009)
- Mission, British Columbia (2011)
- Nanaimo, British Columbia (2009)
- Owen Sound, Ontario (2011)
- Peterborough, Ontario (2013)
- Victoria, British Columbia (2009)

All of these cities have developed or amended their community garden policies between 2003
and 2013. This highlights the notion of community garden policies as a relatively new
phenomenon in municipal governance. Due to the fact that many of the community garden
policies have been developed in the past ten years, there is currently a lack of research
surrounding the development, implementation and make up of municipal community garden
policies. However, there is an abundance of research on the economic, health, environmental and
social benefits of community gardens as discussed above. In particular there is a wealth of
research and knowledge surrounding the economic, social and health related benefits of community gardens.

3.7 Evaluating Accessibility:
There are multiple aspects of accessibility, inclusivity, and equity in community gardening that can be included in this report. However, for the purpose of this report, three aspects associated with the creation of inclusive community gardens will be examined. These aspects include; physical accessibility associated with site design; geographic accessibility in terms of the location of gardening sites within a municipality; and economic accessibility which is related to the ability of residents of various socio-economic statuses to financially take part in gardening activities. When addressed by governments, these three aspects of accessibility can work together to create a more inclusive environment for community members.

3.8 Physical Accessibility:
Physical accessibility is associated with the design characteristics of a given space and of the overall built environment. Frank, Engelke and Schmid (2003) in (Frumkin, et al, 2004) have identified three elements of the build environment which play a role in influencing activity within a community. One of these elements is the design characteristics of a space which exist on a smaller scale and include aspects such as the design of a building and the width of sidewalks (p.99). For the purpose of this report the physical accessibility of the built environment which is associated with the ability of persons with disabilities to maneuver the build environment and take part in daily activities in an equitable way will be discussed. Accessibility of the built environment was recently brought to the global forefront of government decision making following the United Nations Convention on the Rights of Persons with Disabilities which was approved by 20 countries, including Canada in 2007. The UN (2007) defines accessibility as:

“to enable persons with disabilities to live independently and participate fully in all aspects of life. Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas.” (Article 9, UNCRPD).
A discussion of the physical accessibility of community gardens will be derived from this definition and will be associated with the ability of people with disabilities to equally take part in community gardening.

3.8.1 Federal Involvement in Physical Accessibility:
In March of 2010 the Government of Canada ratified the UN Convention on the Rights of Persons with Disabilities with the support and consultation of governments, organizations and individuals across the country. At the time of the Convention being ratified, the Minister of Foreign Affairs stated that “Canada is committed to promoting and protecting the rights of persons with disabilities and enabling their full participation in society” (DFAIT, 2010). The government of Canada defines persons with disabilities as “those who report difficulties with daily living activities, or who indicate that a physical or mental health condition or health problem reduced the kind or amount of activities they could do” (HRDSC, 2011, p.2). As of 2006, 14.3% of Canadians (over 4.4 million individuals) were living with some form of disability. Additionally, the disability rate for seniors who are 65 years of age and older is also higher than the overall population at 43.4% (HRDSC, 2011, p. 5). This is due to an increase in physical disabilities in older adults which is associated with pain, disease, and a corresponding decreased in mobility and agility.

A survey of persons with disabilities across Canada found that 1.4 million people in Canada between the ages of 24-54 have a reported disability, representing 10.6% of persons within that age cohort. Out of these individuals 64.1% of persons reported a mobility-related disability, while 63.1% of adults in this age category reported an agility-related disability. Although these numbers are only for one age category the data represents a large section of the overall population and highlights the fact that a large percentage of persons with a disability have a disability which impacts their mobility and agility. Further evidence conducted by HRDSC which highlights the mobility and agility related disabilities of each age category can be found in Table 1 below.
Research conducted by HRDSC also uncovered that persons with a disability have a lower, average employment income and higher rates of living below the after-tax low income rate. For example, younger working adults, age 25-54, have an average employment income of $32,155 while those in the same age category without a disability have average employment incomes of $43,785 (p.30). Additionally, in 2006, 20.5% of adults age 25-54 with disability lived below the after tax low income cut off (LICO) prescribed by Statistics Canada. This can be compared to 10% of persons without a disability living below the LICO status (p. 33). This demonstrates that in Canada, on average, persons with disabilities in this large age category face economic consequences associated with their disability. Through the support of the UN Convention on the Rights of Persons with Disabilities, Federal government legislation and direction, many provinces across Canada are also taking steps towards developing accessibility policies and strategies.

Table 1: Rate of Disability in Canada by Age Category

<table>
<thead>
<tr>
<th>Age Category</th>
<th>Overall Disability Rate of Persons in Age Category</th>
<th>Number of persons in Canada in age Category with a Mobility Disability</th>
<th>% of persons with a Disability who have a Mobility Related Disability</th>
<th>Number of persons in Canada with an Agility Disability</th>
<th>% of persons with a Disability who have a Agility Related Disability</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>27 540</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>5-14</td>
<td>174 810</td>
<td>23 150</td>
<td>13.2%</td>
<td>37 240</td>
<td>21.3%</td>
</tr>
<tr>
<td>15-19</td>
<td>96 060</td>
<td>36 340</td>
<td>20.8%</td>
<td>28 420</td>
<td>16.26%</td>
</tr>
<tr>
<td>20-24</td>
<td>99 440</td>
<td>41 640</td>
<td>41.9%</td>
<td>35 750</td>
<td>35.95%</td>
</tr>
<tr>
<td>25-54</td>
<td>1.4 million</td>
<td>898 010</td>
<td>64.1%</td>
<td>883 670</td>
<td>63.1%</td>
</tr>
<tr>
<td>55-64</td>
<td>824 920</td>
<td>604 780</td>
<td>73.3%</td>
<td>589 880</td>
<td>71.5%</td>
</tr>
<tr>
<td>65-74</td>
<td>739 500</td>
<td>532 890</td>
<td>72.1%</td>
<td>521 940</td>
<td>70.6%</td>
</tr>
<tr>
<td>75 and over</td>
<td>1 018 090</td>
<td>809 340</td>
<td>79.5%</td>
<td>759 920</td>
<td>74.6%</td>
</tr>
</tbody>
</table>


3.8.2 Provincial Approaches to Physical Accessibility:
Provincial governments are also taking steps to addressing the accessibility of the build environment. For example, the Ontario government passed the Accessibility for Ontarians with Disabilities Act (AODA). The Act states:

“Recognizing the history of discrimination against persons with disabilities in Ontario, the purpose of this Act is to benefit all Ontarians by:
• developing, implementing and enforcing accessibility standards in order to achieve accessibility for Ontarians with disabilities with respect to goods, services, facilities, accommodation, employment, buildings, structures and premises on or before January 1, 2025” (AODA, 2009).

The goal of the AODA is to ensure that Ontario is Accessible by 2025 through the implementation of accessibility standards which are orchestrated by the Provincial government. The AODA is supported under the definition of disability provided within the Ontario Human Rights Code (OHRA). The OHRA defines disability as:

• “any degree of physical disability, infirmity, malformation or disfigurement that is caused by bodily injury, birth defect or illness and includes diabetes mellitus, epilepsy, a brain injury, any degree of paralysis, amputation, lack of physical coordination, blindness or visual impediment, deafness or hearing impediment, muteness or speech impediment, or physical reliance on a guide dog or other animal or on a wheelchair or other remedial appliance or device,
• a condition of mental impairment or a development disability,
• a learning disability, or dysfunction in one or more of the processes involved in understanding or using symbols or spoken language,
• a mental disorder, or
• an injury or disability for which benefits were claimed or received under the insurance plan established under the Workplace Safety and Insurance Act, 1997.” (AODA, 2009).

The Human Rights Code protects the rights of all persons with disabilities. This report is limited to investigating disabilities which are related to physical disabilities which impact the ability for individuals to move around the built environment.

Other provinces within Canada are also addressing physical accessibility for individuals with mobility based disabilities through the introduction of overarching legislations. In 2010 the
Province of Newfoundland and Labrador put forth the *Provincial Strategy for the Inclusion of Persons with Disabilities in Newfoundland and Labrador*. This Strategy addresses the province’s objective to support efforts which increase the inclusion of residents of Newfoundland and Labrador who have disabilities (p.6). This strategy is supported by the Newfoundland and Labrador Human Rights Act, The Canadian Charter of Rights and Freedoms, and the UN Convention of the Rights of Persons with Disabilities (p.7). Furthermore, the Strategy is centered around a social model of disability which promotes inclusion which is defined by the provincial government as “when individuals have access and choices about participating in all aspects of life in Newfoundland and Labrador such as: going to school, getting a job, getting to a doctor’s appointment, picking up groceries, going to a movie and participating in community events” (Newfoundland and Labrador, 2010, p. 6). Overall, this Strategy provides an example of provincial legislation which demonstrates a commitment to making communities more accessible to persons with disabilities through providing regulations to support a more inclusive build environment.

### 3.8.3 Municipal Approaches to Physical Accessibility

The UN Convention of the Rights of Persons with Disabilities (2007) also addresses the inclusion of persons with disabilities into the local built environment on a more localized and community based scale. Article 19 of the Convention states that countries such as Canada who have ratified this Convention:

> “recognize the equal right of all persons with disabilities to live in the community with choices equal to others, and shall take effective and appropriate measures to facilitate full enjoyment by persons with disabilities of this right and their full inclusion and participation in the community, including by ensuring that: Community services and facilities for the general population are available on an equal basis to persons with disabilities and are responsive to their needs” (United Nations, 2007).

This section of the convention is directly related to the development of community facilities and community services which are open to the public. It highlights that addressing accessibility is also the responsibility of localized and community based governments. Municipalities across Canada are taking action to comply with provincial, federal and UN legislation on accessibility.
Many municipalities across North America have recently adopted their own Facility Accessibility Design Standards (FADS). In 2001, London, Ontario was the first municipality in Canada to develop a FADS document and since that time, with London’s permission, municipalities across Canada have reproduced, adopted or adapted London’s FADS document (London, 2007, p. ii). For example, in 2009, the City of Kingston approved the municipal FADS. This standard “addresses accessibility requirements for the design and construction of new facilities as well as the retrofit, alteration, or addition to existing facilities owned, leased, or operated by the City of Kingston” (p.1). The Kingston FADS was developed through the support of various municipal departments as well as the Kingston Municipal Accessibility Advisory Committee (p.i). The Advisory Committee is made up of one council member and 14 community volunteers. The majority of community volunteers have a disability (Kingston, 2013). Overall the City of Kingston FADS document provides an example of a municipal approach to integrating accessible site design into the development of services on public property, including community gardens. Having a FADS document is important because it allows a municipality to return to a comprehensive set strategy or policy when planning and designing municipal facilities. This includes the creation of community gardens on public property. Documents such as Facility Accessibility Design Standards help to ensure that individuals with physical disabilities are able to take part in community activities like gardening.

3.8.4 Physical Accessibility in Garden Design:
Addressing physical accessibility in garden design is one aspect of working towards the creation of more inclusive community gardening environments. Shabbir, (2010) highlights that “physical accessibility entails that garden design provides feasible and easy access for seniors and individuals with physical challenges such as those using a wheelchair” (p. 2). The Food Security Network of Newfoundland and Labrador supports the creation of community gardens as accessible spaces which support the inclusion of persons of all mobility levels. In their Community Garden Best Practices Toolkit the Food Security Network states one of the main principles for designing a successful garden is to ensure that the environment is physically accessible for community members with various mobility levels (2011, p. 16). It is important that individuals at various mobility levels are able to physically take part in community gardening activities. However it is also important to examine the geographic location of gardens within a community and the subsequent accessibility of garden sites to the overall population.
3.9 Geographic Accessibility:
The second aspect of accessibility in community garden policies which will be evaluated through this report is geographic accessibility. Geographic accessibility is associated with the location of gardens within the community and the ability of residents to reach community gardens. Geographic accessibility is also associated with the location of gardens and the demographics of the surrounding community or the ability to create gardens which target a specific sector of the population.

3.9.1 The Built Environment and Access to Community Gardens:
Developing geographically accessible communities is an important component in the development of healthy, sustainable and inclusive cities. It is important that community services and amenities be easily accessible through the use of alternative forms of transportation. Developing communities with walkable destinations can have a dramatic increase in levels of physical activity and can aid in the development of healthier and more sustainable communities. Decreased physical activity and poor dietary choices has led to an increase in the rate of obesity especially in children and adolescents. The development of the built environment has an immediate impact on the mobility patterns of children as well as all residents (Dannenberg, 2003, p. 1503). Therefore, it is important that communities be designed in a way which connects different land uses and supports the convenience of transportation options such as walking, bicycling, public transportation, and driving” (Frumkin et al., 2004, p. 99).

Designing a built environment which is conducive to multiple forms of transportation supports the creation of healthy and inclusive communities. When community amenities such as community gardens are located in geographic proximity to residential areas, individuals with mobility-based disabilities have a higher likelihood of being able to reach a gardening site and take part in gardening activities on a regular basis. Therefore, residents with various mobility levels are more likely to be socially integrated into the community. (Dannenberg, 2003, p. 1500) Research conducted by Baum & Palmer (2002) has also “identified that environmental design and layout of community places can influence social interaction” (Kingsley 2006, p. 526). The geographic location of gardens can impact the accessibility of the garden site. A garden site which is geographically accessible to residents has a higher likelihood of creating social interaction which assists in creating a more inclusive environment. Research conducted by
Emerson (n.d) also found that the location of gardens impacts the success of the garden. This is due to the fact that gardeners who are able to access a garden site that is in close proximity to their residence are more active and long term. When gardens are easily accessible they are more likely to be occupied which in turn results in a safer gardening experience as well as an increased in social interaction (Milburn, 2010, p. 81).

3.10 Economic Accessibility:
The final aspect of accessibility in community garden policy which will be discussed through this report is economic accessibility. Economic accessibility is associated with the ability of residents to financially afford taking part in community gardening. Economic accessibility also addresses the impact that inclusive gardening sites can have on the alleviation of food insecurity and the increased intake of fresh produce for all residents, especially residents facing food insecurity due to their economic status.

3.10.1 Food Insecurity in Canada:
Food insecurity is an issue facing many individuals and households across Canada. The act of being food insecure is defined as “the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so” (Kirkpatrick, 2008, p. 324). Being food insecure can range from lacking the ability to purchase food altogether to the inability to afford nutritional food, or the quantity of food necessary to support either yourself or your household. Often, the act of being food insecure creates a higher consumption of nutritionally inadequate foods such carbohydrates and processed foods and a lack of fresh fruits, vegetables, and milk products. This results in food insecure households facing a higher rate of physical, mental and social illness (Kirkpatrick, 2009, p. 135). Food insecurity also involves the inability to obtain sufficient food in a socially acceptable manner. This means that those unable to support themselves will be forced to rely on emergency food programs, charity, family, friends, or criminal activity in order to get food.

A recent (2004) study on household food insecurity in Canada revealed that almost one in ten households is experiencing food insecurity (Kirkpatrick, 2008, p. 325). Additionally, the report also exposed that 8.4% of Ontarians are food insecure including an estimated 379,100 households which equates to almost one third of all food insecure households in Canada.
This shows that a fairly large percentage of the overall population suffer from the inability to provide themselves and their households with both the proper amount and nutritionally adequate food. With almost one in ten Canadian households facing food insecurity, it is important to understand what causes food insecurity and who is the most at risk of experiencing this food deficit.

3.10.2 Causes of Food Insecurity:
Food insecurity is a complicated phenomenon. There are multiple personal circumstances which may lead an individual to lack the ability to provide adequate food for themselves or their household. However, the 2000/01 Canadian Community Health Survey (CCHS) revealed that in the past year 7% of respondents did not, at one or multiple times, have enough to eat because of a lack of money. Additionally, 28% percent of respondents who were identified as low or lower-middle income had faced the reality of not having enough to eat within the last year (Ledrou, 2005, p. 48). The national CCHS study findings also uncovered indicators which may increase the likelihood of food insecurity. Individuals who are low income, rely on welfare, are single mothers, lack home ownership, or identify as Aboriginal are the most susceptible to experiencing food insecurity due to their economic, political, and social circumstances (Kirkpatrick, 2008, p. 325). An analysis of the 2004 CCHC study findings by Ledrou (2005) discovered that women, at 16%, were slightly more likely to experience food insecurity then men (13%). This statistic was reinforced by the fact that 33% of lone parent mothers had experienced food insecurity during the previous year, while comparatively only 18% of lone parent fathers had experienced food insecurity (p. 48). These findings uncover that socioeconomic factors as well as gender can influence the income gaps which increase food insecurity. Additionally, 61% of individuals who relied on social assistance programs such as Ontario Works and Ontario Disability Support Program were food insecure (Tarasuk, 2009, p. 185). These programs provide recipients with a diminutive monthly budget often resulting in individuals being unable to financially afford their basic needs in a socially acceptable manner (Do the Math, 2012).

The statistical findings on the causes of food insecurity show that the financial status, income level, as well as socio-demographic factors combine to increase the likelihood of food insecurity within certain sectors of the population. The prevalence of food insecurity and the need for
acquiring emergency food in difficult circumstances has resulted in the emergence of community based programs to address individual and household food needs.

3.10.3 Economic Accessibility in Community Gardening:
Historically, community gardens have been used across North America to address food security issues during times of economic crisis. During the Second World War community gardens were more commonly referred to as Victory gardens. In 1944, there were 20 million Victory gardens across the United States which grew approximately 40% of the fresh vegetables consumed in the country throughout the year (Hanna, 2000 p. 215). This highlights the significant impact that community gardening can have on the production of fresh local food. Today, many communities are continuing to utilize community gardens as a tool to increase the production of fresh fruits and vegetables for all residents. More specifically, research conducted by Barbolet (2009) highlights the ability of community gardens to provide affordable healthy food options to low income areas, and to areas facing economic difficulties. Community gardeners reported a higher consumption rate of fresh, organic vegetables, while being able to lower their overall food bill (p.12). This study also highlighted the fact that some community gardens donate surplus produce to community based food programs such as food banks, community kitchens and emergency food programs (Barbolet, 2009, p.12). This is significant as it demonstrates the ability of gardens to address community food security issues at both the individual and community level. Gardens are able to provide individuals of all economic levels with an opportunity to grow fresh produce which has the possibility of lowering overall food bills through the self-cultivation of food and the availability of land in exchange for cultivation or a nominal fee (Shabbir, 2010, p. 14). At the same time, produce from community gardening can increase the community wide intake of fresh fruits and vegetables through the donation of produce to community based meal programs.

However, there are financial issues associated with community gardening. Through a qualitative study of gardeners Hannah (2000) discovered that “the amount of money spent in the past year buying plants and supplies ranged from less than $5 to more than $100 (p.213). It is important to recognize that there are costs associated with gardening which can create barriers to the inclusion of low income residents. This is supported by Henderson, (2010) who reveals that there are multiple and reoccurring costs associated with maintaining a community garden including: soil,
plants, seeds, sprays, equipment, water/irrigation systems, water, security features, storage, and gardening education (p.16). Financial and technical support is required to ensure that a community garden can be developed and maintained long term. Therefore, Henderson (2010) highlights that community gardens which are not supported in some way by the municipality will lead to the marginalization of lower economic individuals (p.16). This creates an exclusive gardening environment and does not support community gardens as inclusive activities which promote the interaction of a diversity of community members.
Chapter 4 Community Profiles:

4.1 Overview:
As of May 2013 a handful of cities in Canada were found to have amended Community Garden Policies. Some of these cities include the municipalities of Hamilton, Kingston, Barrie, and Peterborough Ontario as well as Victoria and Nanaimo British Columbia. It is outside of the scope of this project to evaluate the municipal community garden policies of all cities. Therefore, the cities of Kingston Ontario and Victoria British Columbia have been chosen based on similarities between their demographic makeup and community garden programs. Both cities can be described as medium sized cities and both cities have community garden policies which were passed in 2009. These two cities have also been chosen in order to evaluate community garden policies from different provinces. Expanding the scope of the evaluation to more than one province can assist in gaining an understanding of what is occurring in different parts of the country. The following section will include a brief overview of the demographic and socio-economic background of both municipalities, information on provincial disability statistics, as well as background information on the community garden program and policy of Kingston Ontario and Victoria British Columbia.

4.2 Kingston Ontario:
4.2.1 Demographics & Socio-economic Status
As of 2011 the City of Kingston had a population of 123,363 which is an increase from 117,207 individuals in 2006. The City of Kingston covers a land area of 451.17 square kilometers with a population density of 273.4 people per square kilometer. In 2011, the median age of the population sat at 40.3 years of age with 16.48% of residents being over the age of 65 (Statistics Canada). Furthermore, in 2005 the median income within the City of Kingston for all private households was $53,072 which was lower than the provincial median income of 60,455 (Statistics Canada). In terms of income disparity, the 2006 statistical report shows that 15.4% of individuals over the age of 15 were considered to be low income after tax. This was slightly higher than the provincial average of 14.7% (Statistics Canada, 2006 and 2011).

4.2.2 Disability in Ontario
As of 2006, 15.5% of the population of Ontario had a reported disability of any kind (HRSDC, 2006, p. 58). At this time 82,820 children age 0-14, 1,038,220 adults 15-64, and 732,540 seniors
over the age of 65 in Ontario had a reported disability. (HRSDC, 2006, p.59) In 2006, the average total income of men in Ontario aged 25 to 54 with a disability sat at $35,671 with the average total income of women being only $25,266. This is compared to the average total income of those (25 to 54) without disability sitting at $55,876 and $36,861 respectively (HRSDC, 2006, p. 58). In all age categories men and women with a disability face lower average total incomes a well as lower overall labour force participation compared to their peers without a disability (HRSDC, 2006, p.59). Individuals with disability have on average a lower economic standing and therefore face higher rates of poverty and marginalization.

4.2.3 Community Gardens in Kingston

In 2010 the City of Kingston approved the city’s first community garden policy entitled “Community Gardens Development and Operations”. This policy is supported by the Department of Recreation and Leisure Services. The purpose of this policy is to “establish guidelines for the development and operation of Community Gardens on municipally owned lands. This policy establishes the City’s role as a facilitator and provides a framework to ensure equal access for all residents” (p. 1). This community garden policy only pertains to gardens developed on municipally owned lands and therefore, does not include gardens on private property such as those associated with educational institutions, places of worship, nonprofit organizations, and businesses. After the approval of the Community Garden Policy in 2010, the City of Kingston established the Kingston Community Garden Network to “support the creation of new community gardens on public or private lands, and to assist with the retention of existing community gardens in the city.” (City of Kingston, 2013) This organization was created by the City of Kingston to assist individuals and groups who are interested in developing a community gardens. As of May 2013, there were 16 community gardens located across the City (City of Kingston, 2013).

Within the Community Garden Policy, the City of Kingston defines a community garden as “a site operated by community members and/or a community organization where municipally owned lands are used for the growing of produce, flowers and native plants for non-profit use through individual or shared plots located on municipally owned lands” (2009, p. 1). Overall, the Community Garden Policy guides the development and maintenance of community gardens which are on publicly owned lands.
4.3 Victoria British Columbia:

4.3.1 Demographics and Socio-economic Status:
As of 2011 the City of Victoria had a population of 80,017 which was an increase from 2006 when the population was 78,057. The City of Victoria covers a land area of 19.47 square kilometers which is significantly smaller than the City of Kingston. Victoria also has a much higher population density of 4,109.4 people per square kilometers. As of 2011 the median age of Victoria was 41.9 with 18.39% of individuals being over the age of 65. In 2005 the median income of all private households was $38,885 which was much lower than the provincial median income of $52,709. Furthermore, in 2005 17.2 % of all people over the age of 15 were considered low income before tax compared to 13.1% of people within the province of British Columbia (Community Profile 2011 & 2006).

4.3.2 Disability in British Columbia:
As of 2006, 16% of the population of British Columbia reported a disability of any kind (HRSDC, 2006, p.66). At this time 26,520 children age 0-14, 2 355 420 adults (15 to 64) and 256 690 seniors (65 and over) had a reported disability (p.66). In 2006, the average total income of men in British Columbia with a disability was $32,896 and the average total income of women with a disability was $23,560. In comparison the average total income for men without a disability was $52,414 and for women without a disability it was $31,496 (HRSDC, 2006, p.66). In all age categories men and women with a disability face lower average total incomes a well as lower overall labour force participation when compared to their peers without a disability (p. 66 & 67). Individuals in British Columbia with a disability have on average a lower economic standing and therefore face higher rates of poverty and marginalization.

4.3.3 Community Gardens in Victoria:
In 2005 the City of Victoria approved their first policy to govern the development of community gardens which was entitled the City of Victoria: Community Garden Policy. This policy was revised by council in 2009. The community garden policy and program are overseen by the Parks Department. The community gardens policy contains components which relate to the development of gardens on public and also private land. The City of Victoria program and policy covers two different types of gardens; common gardens and allotment gardens. A common garden is defined as “a garden plot, on public or private land, where community volunteers produce food, flowers, edible berries and food perennials. All residents are free to harvest these
products” (City of Victoria, 2013). While an allotment garden is a “garden plot, on public or private land, operated by member gardeners that is used to produce food, flowers and ornamental plants, edible berries and food perennials. The food that is produced is mainly for the use of gardeners” (City of Victoria, 2013). The main difference between these two types of gardens is that common gardens are more communal while allotment gardens are garden spaces which are the responsibility of an individual or a group of gardeners. As of July 2013 there were three Common Gardens and six Allotment Gardens within the City of Victoria (City of Victoria, 2013).

The City of Victoria defines a community garden as “a plot of land where community volunteers from a non-profit society produce food, flowers, native and ornamental plants, edible berries and food perennials on public and private lands” (City of Victoria, 2013). Overall, the City of Victoria Community Gardens Policy provides information to assist individuals and organization on how to develop gardens on public or private land.
Chapter 5: Key Findings

5.1: Descriptive Analysis Overview:
A table was compiled to compare the similarities and differences between aspects of physical, geographical and economic accessibility in the municipal community garden policies of Kingston, Ontario and Victoria, British Columbia (see Appendix A). These three aspects of accessibility were chosen based upon a detailed analysis of community garden policies in Canadian municipalities as well as a literature review on the impacts of community gardening. Each of the three aspects of accessibility in municipal community garden policy has been organized by the heading which appears in the policy document to enhance the ability of readers to reference the material being analyzed.

5.2: Policy Components:
The following section will discuss the contents of the community garden policies of Kingston, Ontario and Victoria, British Columbia in relation to components of each policy which address physical, geographic and economic accessibility. A more detailed discussion of each section will follow through an analysis of the findings.

5.2.1: Physical Accessibility and Site Design:
The Kingston Community Garden Policy defines accessibility as “barriers free accommodations for persons with a diversity of abilities” (p.7). The Kingston policy also states that gardens may feature “an accessible space as outlined in the City Facilitated Accessibility Design Standards (FADS) (p.2). In the Kingston Policy, the development of new gardening sites will be approved based on sites which meet specific requirements including site accessibility during the gardening season and the accessibility of parking. In order for a garden to be approved, a garden site plan must be prepared and the site plan must comply with Ontario provincial accessibility standards as well as the Kingston FADS and any other municipal by-laws (p.4). The policy states that an 18 foot set back from edge of garden plots is required for not only maintenance requirements but to meet accessibility standards (Kingston Community Garden policy, 2009, p.4). Finally, the Kingston policy states that each new community garden must consist of at least one raised garden bed that is between 18” to 30” high. The City of Kingston may also provide funding to assist in the creation of raised beds. The Kingston policy states that the City will create an
accessible pathway to the garden and will incorporate accessible pathways which lead to the
garden when upgrades or expansion projects are occurring (p.4).

The City of Victoria does not provide a definition for what is meant by accessibility. However, in
the background section of the policy, Victoria highlights the fact that community gardens are
invaluable to the social and ecological well-being of cities as they “promote an accessible
recreational activity that contributes to the health and well-being of residents and that residents
of all ages may enjoy” (p.7). The policy also discusses the physical accessibility of garden sites
by stating that new garden sites must be accessible year round (p.3). An investigation into the
City of Victoria uncovered the fact that the City does not currently have a FADS or an equivalent
policy to guide the development of accessible community spaces.

5.2.2: Geographic Accessibility:
The Kingston Community Gardens Policy (2009) and Victoria Community Gardens Policy
(2009) both address aspects related to the geographic accessibility of garden sites. For example,
the City of Victoria policy states that community garden areas should be accessible to the public
(p.2). Victoria’s policy also states that new garden sites should be chosen based on the year
round accessibility of the site, as well as access by public transportation (p.3). Finally, within the
background section of the policy it is stated that community gardens “promote an accessible
recreational activity that contributes to the health and well-being of residents and that residents
of all ages may enjoy” (p.7). The Kingston policy supports the development of new garden sites
that are in “close proximity to urban neighbourhoods and areas of population density” (p.3). The
Kingston policy also supports the development of garden sites which are accessible during the
gardening season (p.3).

5.2.3. Economic Accessibility:
Within the community garden policies of Kingston and Victoria, two different types of economic
accessibility are discussed. These includes aspects of community gardening which make
gardening economically accessible to the individual, as well as municipal strategies in the form
of municipal support which assists in the economic accessibility of gardening.

5.2.3.1: Economic Accessibility for Gardeners:
The City of Kingston and Victoria Community Garden policies address the economic
accessibility of gardening and the economic impact that gardens can have on a community in
three main ways. This includes the impact that gardening has on food security, the association between gardening and food donation, as well as the creation of gardening fees.

5.2.3.1.1: Food Security:
Both policies support the fact that community gardens promote local food security. The City of Kingston Policy states that gardens have the ability to “enhance local food security” (p.2). However, the Victoria policy recognizes the ability of gardening to produce economical, nutritious food production (p.2) as well as recognizing that gardens can assist low income people in obtaining fresh organic food at a low cost (p.7). In the City of Victoria Community Garden Policy food security is defined as a time when “all persons in a community have the access to culturally acceptable, nutritionally adequate food through local, non-emergency sources at all times” (p.6) while Kingston does not provide a definition for this term.

5.2.3.1.2: Donation of produce:
Both policies also address the relationship between the regulation of community gardens on public property and the donation of produce. For example, the Kingston policy states that gardeners can “donate surplus food to local food banks or other organizations” (p.3) while the Victoria policy states that community gardens can donate surplus food to food banks (p.2). Kingston also defines a donation plot as a plot of land where food is grown by an individual or a group for the purpose of being donated to a food bank, soup kitchen or other organization (p.2). Within the Operations portion of the policy, Kingston also states that there is funding available from the city for the development of donation plots (p.5). Both policies state that produce grown on garden sites is not to be used for profitable ventures but can be donated to community organizations such as food banks, soup kitchens and emergency food programs.

5.2.3.1.3: Fees:
The City of Kingston and Victoria address the creation of fees incurred by the resident in different ways. For example, in the City of Kingston policy, each gardening group which is associated with a specific garden must adopt a sliding scale or fee waiver in order to ensure that gardening is accessible to all community members (p.6). However, the City of Victoria states that gardens provide residents with a plot and services in exchange for a fee or volunteer labour (p.2). Additionally, in Victoria a user agreement which is created between a non-profit society and community garden members can include the terms of use associated with user fees for
garden use (p.4). The City of Victoria policy does not mention the use of a sliding scale or waived fees for residents.

5.2.3.2 Municipal Support:
Finally, the City of Kingston and Victoria both offer financial and technical assistance to garden members and gardening associations looking to create a garden. The City of Kingston provides residents with a City of Kingston staff representative who is a Community Garden Program Coordinator and is a resource for gardening inquiries. Kingston also supports the creation of a community garden network to assist in promoting and developing gardens within the city. The Victoria policy does not state that they appoint a staff member to oversee community gardens or provide support for the creation of a community wide network or gardening organization. However, on the City of Victoria website there is an email contact available for public inquiries on community gardening.

5.2.3.2.1 Financial
In terms of funding, the City of Kingston offers a garden start up and enhancement fund to assist in the creation or maintenance of gardens. Kingston also provides funding for the creation of raised beds and donation plots, as well as to assist groups in covering the cost of liability insurance (p.5). The City of Kingston will provide information on how groups or individuals can obtain other funding to assist with additional costs. Comparatively, Victoria offers financial assistance to gardening associations through the Neighbourhood Development Matching and Greenways Grants (p.3). The purpose of this funding is to provide community and neighbourhood associations with financial support to start or maintain a community garden.

5.2.3.2.2 Technical Support:
In terms of technical support, subject to available resources, Kingston will cover the cost of mandatory soil testing (p.4) while Victoria will conduct a Phase 1 Environmental Analysis to ensure the land is suitable for gardening (p.3). Other technical support offered by the City of Kingston includes support associated with advertising and promoting events and opportunities associated with a community garden. Kingston provides other technical support including: rain barrels for gardens not connected to municipal water; waste disposal from the garden sites that is in designated city garbage bins; as well as grass maintenance around the perimeter of the garden (p.5).
The City of Victoria policy takes a different approach to technical and financial support by stating that garden sites should be “developed at no cost to the City of Victoria, other than the Matching Grant or Greenways Program” (p.4). It also states that subject to available resources, the City will provide in-kind support and provide materials such as compost.(p.3). Victoria does not mention technical support associated with water, site maintenance, or waste collection.
Chapter 6: Analysis of Findings

6.1 Analysis of Physical Accessibility Findings:

6.1.1 Defining Physical Accessibility:

The municipal community garden policies of Kingston and Victoria provide different approaches to physical accessibility in community garden design, program development, and service delivery. Within the community garden policy, the City of Kingston (2009) defines accessibility as “barrier free accommodations for persons with a diversity of abilities” (p.1). A definition of accessibility was not found within the Victoria policy. However, within the Victoria website, the government states that “at the City of Victoria, we value accessibility and look to provide accessible options with all our services. Inclusivity is one of our core values, and we honor and celebrate out diversity” (Victoria, Accessibility, 2013). The Kingston definition is aligned with the Ontario Accessibility for Ontarians with Disabilities Act (AODA) (2005) definition as well as the definition proposed by the Federal Government and the United Nations, as previously discussed in the literature review. These upper level governments and global organization define accessibility as issues facing a diverse assortment of abilities and a range of disabilities. (AODA, UN, Fed Government). Kingston and Victoria have different approaches to the topic of physical accessibility. Therefore, aspects related to physical accessibility found within both municipal community garden policies will be analyzed further.

6.1.2 Kingston & Physical Accessibility:

At the City of Kingston, the development of community gardens on municipally owned lands is regulated by the Facilitated Accessibility Design Standards (FADS) (2009). This Standard aims to ensure that accessible community spaces, including community gardens are developed to meet the needs of persons with disabilities which includes individuals with physical disabilities (2009, p.1). The FADS document is supported by multiple upper level governmental policies including the AODA, Ontario Human Rights Code, and the Charter of Rights and Freedoms etc. The FADS (2009) is a comprehensive, policy which assists council to make final decisions regarding the development of facilities on public property which includes the development of community gardens (p.1). The Kingston design standard is aligned with the concept of universal design which is associated with designing the environment in a way that it is automatically usable to all individuals. (p.1). Universal design is associated with seven key principles which include;
equitable use, flexibility in use, simple and intuitive use, perceptible information, tolerance for error, low physical effort and size and space for approach and use. (p. 1) The Kingston FADS also provides key principles of Universal Design which is beyond the scope of this report (2009, p. 1). Section 5.5.3 of the Community Garden Policy states that prior to a community garden being approved a site plan must be prepared. The site plan must “comply with applicable provincial accessible standards, City Facilitated Accessibility Design Standards (FADS) and/or municipal by-laws. (p.4) Therefore, multiple sections within the FADS document apply to the development of community gardens.

6.1.2.1 Space and Reach Requirements:
Through an investigation of the FADS document it was found that multiple aspects of the FADS document can apply to community gardening. For example, sections 4.1.1 includes a discussion on space and reach requirements associated with the ability of mobility devices to maneuver around a given space. In this section many aspects of wheelchair mobility are discussed. Within one of the aspects of wheelchair mobility, the City states that “the space required for a wheelchair to make a 360-degree turn is a clear floor space of 96” in in diameter” (p.10). Additionally the minimum space required to fit a mobility device is 30 inches by 54 inches. (Figure 4.1.1.5 & 4.1.1.6) (p.10). For a full list of space and reach requirements found within the Kingston FADS document please see section 4.1.1 of the Kingston Facility Accessibility Design Standards document. Another section within the Kingston FADS which pertains to the development of gardens is Section 4.1.4 on Accessible Routes, Paths & Corridors. This section highlights the importance of not only having routes wide enough for a person to move through with a mobility device but also wide enough for people to turn around in and maneuver in a mobility device., Kingston prescribes that accessible routes be a minimum of 72” wide and that there be at least one route which leads from an accessible parking space, public streets, and sidewalks to the garden site. (p.13) Ensuring that a community garden site is accessible for all is an important component of ensuring that gardens are physically accessible to all. Other organizations in Canada also support the use of space and reach requirements to create accessible spaces. For example, the Newfoundland Food Security Network recommends that garden pathways built so they are wide enough for devices such as strollers and wheelchairs as well as wheelbarrows. (2011, p.17) The Kingston FADS document includes guidelines for the development of accessible pathways which are wide enough to suite mobility devices.
6.1.2.2 Surface Materials:
In terms of the physical accessibility of garden sites, the City of Kingston FADS provides an outline of accessible ground and floor surfaces. In relation to community gardens, the policy states that “ground and floor surfaces shall be stable, firm, slip-resistant and glare free.” (p. 11). Additionally “irregular surfaces such as cobblestone, pea-gravel finished concrete are difficult for both walking and pushing a wheelchair” (p.11) The Kingston FADS document is supported by the findings of the City of Vancouver Joint Subcommittee on Accessible Community Gardens. The committee recommends that paths from and within community gardens be accessible through the use of smooth, level, and wheel-able surfaces. The guidelines recommend that surface materials such as concrete and asphalt be used as they are safe, and the easiest surface for individuals requiring wheelchairs, walkers, canes and those with mobility issues (2011, p. 2) The guidelines also state that non-accessible path surfaces which include mulch, grass, dirt, gravel should not be used as they can be slippery and uneven. (p.3). Overall, it was found that the Kingston FADS document is aligned with the accessibility guidelines set forth by the City of Vancouver.

6.1.2.3 Accessible Parking:
The Kingston community garden policy states that when identifying a potential site for a new garden, priority will be given to sites which have an accessible parking option (2009, p.3). The Kingston FADS document states within a community facility such as a community garden, at least one accessible route must lead out of an accessible parking space. (p. 13) Furthermore, Section 4.3.12 of the FADS for Kingston provides a more detailed description of what is meant by accessible parking spaces. Within this standard it is recognized that parking spaces should be located near the entrance of a facility to accommodate individuals with limited mobility. The document also states that the route which connects the parking area to the facility should be marked and should not contain any steps, curbs or other obstructions (p. 58). In terms of design requirements, the City of Kingston FADS states that “designated parking spaces shall:

- Be located on an accessible route complying with 4.1.4;
- Have a firm level surface with a maximum of 1.5% running slope for drainage;
- Have a maximum cross slope of 1%;
- Have a height clearance of at least 9.5 feet at the parking space and along the vehicle access and the egress routes and;
Incorporate signage as outlined in this section.” (p. 58)

It is important to highlight that the design requirements for parking at public facilities only applies to the development of new parking lots. However, when parking spaces are being renovated the City supports the use accessible provisions for parking requirements wherever possible. (p. 58). The Kingston FADS also states that accessible parking spaces should: be a minimum of 12 feet wide and 20 feet long and should include appropriate pavement markings (p.59). For more information on the creation of accessible parking spaces see section 4.3.12 of the Kingston FADS document (2009, p.59).

6.1.2.4 Garden Beds:
Finally, section 4.3.14 on Landscaping Materials and Plantings also addresses the physical accessibility of community gardens. In this section of the Kingston FADS, the use of raised beds is encourage to accommodate individuals requiring a mobility device or with agility and mobility issues. The design requirements for raised beds include that all beds should be raised 18 inches off of the ground and also located on an accessible route as previously discussed in section 4.1.4. (p. 61). The height requirements of raised beds prescribed within the FADS is aligned with the design requirements of raised beds found within the Kingston Community Garden Policy. (2009, p. 4) The availability of raised beds in community gardens is a significant component of the development of accessible garden sites. Research shows that the creation of raised beds a can foster the inclusion of individuals with mobility issues. For example, in a study conducted by Austin et al., 2006 in Shabbir,2010, p. 3) a raised bed was located in a community garden in close proximity to a seniors centre. This created an opportunity for seniors in mobility devices or with mobility constraints to take part in gardening because the activity itself was made more accessible to them. Furthermore, Milburn (2010) found that the inclusion of gardening site features which address “height and reach limitations” (p.82) can create an more accessible garden space for disabled persons and elderly individuals. A raised bed which allows gardening to be raised off of the ground and located closer to the gardener can create an alternative gardening experience for individuals who are not able to garden on the ground due to mobility issues.

Overall, the City of Kingston’s FADS policy includes multiple provisions which can guide the development of physically accessible community garden sites. Additional aspects of this
document not discussed above include the development of accessible parking spaces, washroom facilities and which can apply to community garden sites and which are supported by the City of Kingston. A municipal FADS document is a comprehensive standard which guides the development of accessible public facilities. The implementation of a accessibility standard ensures that the construction and maintenance of public facilities is assessed against a set of comprehensive recommendations which have been developed to ensure that an inclusive environment is created for individuals of various abilities.

6.1.3 Victoria Accessibility:
The City of Victoria has a different approach to addressing accessibility on a municipal level. Email correspondence with a Community Gardens Representative from the City of Victoria uncovered that the municipal government does not have a specific policy or document which addresses or regulates accessibility. Instead, applicants are encouraged to provide accessible spaces through the designing of accessible pathways and accessible planting boxes. For example, a few gardens within the City of Victoria have created accessible spaces through the integration of accessible planting boxes. (Email correspondence, July 23, 2013) Furthermore, it was found that the province of British Columbia also does not have an accessibility policy, statement, or document to regulate the development of accessibility. The City of Victoria does not make any statements associated with the development of accessible garden beds. However, within the City of Victoria website there is a section which addresses accessibility. This portion of the municipal website states that “at the City of Victoria, we value accessibility and look to provide accessible options with all our services. Inclusivity is one of our core values, and we honour and celebrate out diversity” (City of Victoria, 2013a) This statement fails to address how the municipality is regulating the creation of a more accessible community, and how decision making can impact the creation of accessible spaces as prescribed in a document such as a municipal FADS or other accessibility legislation.

The City of Victoria policy (2009) states that when identifying new gardening sites, priority will be given to sites which are accessible year round (p.3) A City of Victoria Community Gardens Representative specified that this section of the policy relates to year round access to the garden site for operations and opportunities. This means that vegetation needs to be maintained so it does not cover trails and paths, and no barriers should be in place to limit access at any time. (E-
The policy also states that a garden area must be accessible to the public. (p.2) It was discovered that this section of the policy means that “no barriers or locked gates for physical access” should be present and that the “garden group needs to provide the broad community an opportunity to participate.” (Community Garden Representative, Email correspondence, July 23, 2013.) These two sections show that the City of Victoria Community Gardens Policy encourages the development of a gardening space which is open to the general public during all times of the year and is easily maneuverable through a maintained garden space. In terms of physical accessibility, the policy does not provide specific information regarding design requirements to ensure that all garden sites are developed based on a regulated standard of accessibility. For example, the City of Victoria does not provide recommendations on the design requirements of raised garden beds, surface material, space and reach requirements and other features which address the inclusion of individuals with physical accessibility needs.

6.2 Geographic Accessibility Findings:
For the purpose of this document, geographic accessibility is associated with the geographic location of community gardens and the ability of residents to access those gardens given their location. It is also associated with the geographic placement of gardens given the demographic and socio-economic background of the community.

6.2.1 Walkability and Alternative Transportation:
The municipalities of Kingston and Victoria both address the geographic accessibility of gardens and the ability of residents to reach garden sites using alternative forms of transportation. The City of Victoria, states that new garden sites that are developed should be accessible by public transportation (2009, p. 3) while the City of Kingston does not mention accessibility to public transportation. The availability of public transportation in relation to community garden sites is an important component of the community garden policy. Not all individuals are able to drive or have access to a vehicle at all times while some individuals make a conscious choice not to drive a vehicle. Therefore, within each community a percentage of the population utilizes public transportation as a preferred transportation method. For example, the 2006 census revealed that 5% (2,685 of the 53,135) of individuals over 15 years of age who were employed in the Kingston labour force and 12.6% (4,945 of the 39,150) of persons over the age of 15 in the labour force in Victoria use public transportation as their method of transportation to work (Statistics Canada, Kingston and Victoria, 2006). This statistics demonstrates the importance of ensuring that
Community gardens are located in proximity to public transportation routes to foster the inclusion of individuals who utilize this form of transportation.

Comparably, the City of Kingston states that new garden sites should be located in “close proximity to urban neighborhoods and areas of population density” (p. 3). This means that the City of Kingston supports the development of gardens which are geographically close to a large proportion of people. Research supports the notion that gardens should be in close proximity to dense urban neighborhoods. Community gardens should be within a walkable distance to residents. Barbolet (2009) states that the recommended distance between residential areas and gardens is a 5-10 minute walk (p. 42). This is because many individuals only participate in activities when transportation is easily accessible or available to them. When facilities, such as community gardens, are far away from residential areas, individuals are less likely to participate in such activities due to the associated difficulties in reaching the destination (Shabbir, 2010, p. 10).

Through research conducted on community gardens the Food Security Network of Newfoundland and Labrador also found supportive evidence for the geographic location of community gardens. In their report entitled *Community Garden Best Practices Toolkit* the organization suggests that “gardeners should be able to walk or drive a short distance to the garden” (2011, p. 14). Overall, there is a plethora of substantial evidence which supports the importance of developing gardens which are in close proximity to residential areas and therefore provide a walkable recreational opportunity which supports physical activity, health promotion and fosters the inclusion of individuals who use a variety of transportation options.

### 6.2.2 Demography of Surrounding Neighbourhoods:

Another aspect of geographic accessibility and the location of community gardens is the association between garden sites and the demographic and socio-economic background of the surrounding neighbourhood. In the Victoria Community Garden Policy (2009) the City states that when considering the development of new gardens priority will be given to underserved areas of the city (p. 3). The underserved areas include neighbourhoods which do not already have a community garden (Email correspondence, July 23, 2013). Studies conducted by Herbach (1998) reinforce the idea of underserved neighborhoods. Herbach argues that gardens are a lot more likely to be prosperous when there is an unmet community need for a garden (Milburn,
2010, p. 77). Herbach (1998) also believes that “neighborhoods with a high density or large percentage of renters and condominium owners are likely to have a “critical mass of people looking for a place to garden” (Milburn, p. 77).

Support for the creation of gardens in areas with a high population density, as prescribed within the City of Kingston policy, creates, an opportunity for the geographic placement of gardens in areas of a city which are accessible to a large portion of the population. However, it is also important to consider the demographic characteristics of the surrounding community. For example, Milburn’s (2010) research suggests that gardens which are located in close proximity to particular sectors of the population including: renters, condominium owners, senior citizens, low-income families and areas with ethnic diversity are more likely to be successful (p. 81). This shows that the development of community gardens can be strategically planned to be in close proximity to a critical mass of specific sectors of the population to increase activity around the garden and most importantly, to make gardening more accessible to sectors of the population who are interested or could benefit from an accessible garden space.

6.3 Economic Accessibility Findings:
Finally, an analysis of aspects of economic accessibility in the community garden policies of Kingston and Victoria was supported by findings from interviews with key informants as well as a review of the literature associated with economic accessibility. Economic accessibility is associated with how the municipality addresses gardens and the impact they can have on food security as well as municipal support for garden development associated with funding as well as technical support.

6.3.1 Economic Accessibility for Residents:
6.3.1.1 Food Security:
Both Kingston and Victoria support the concept that community gardens can promote local food security and is evidenced in the statements within their community garden policies. Victoria defines food security as the state where “all persons in a community have the access to culturally acceptable, nutritionally adequate food through local, non-emergency sources at all times (p. 6). Kirkpatrick (2008) also defines food security in a similar way by stating that the act of being food insecure is “the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do
so” (p.324). The City of Kingston does not define food security in the Community Gardens Policy (2009) but highlights that a community garden “may enhance local food security” (p.3). These definitions and statements are associated with the financial ability of individuals to secure an adequate quality and quantity of food given their economic status.

The City of Victoria community garden policy also addresses food security and states that “community gardens assist low income people by providing healthy fresh organic food at a low cost (p.7). The City of Victoria acknowledges that “community gardens can provide a cheap source of nutritious food in comparison to purchasing the food in markets. Additional harvest is also required to be donated and not commercially sold” (Community Gardens Representative, Email correspondence, July 23, 2013) This shows that the City of Victoria recognizes the impact that community garden can have on the food intake levels of residents facing food security issues due to a low income status. Gardens can aim to address food security by increasing the amount of fresh fruits and vegetables consumed by garden participants. In a study conducted by Alaimo (2008) garden participants in Flint, Michigan were found to consume 1.4 times more produce per day then non gardeners. Gardeners were also 3.5 times more likely to have at least 5 servings of produce per day (in Shabbir, 2010, p. 15). This study highlights the impact that gardening can have on the food security of garden participants. Furthermore, a study on the economic impacts of community gardening found that seasonal gardens have the potential to produce between $50-250 dollars’ worth of produce (Armstrong, 2000, p. 320). Community gardens can assist individuals and families by providing them with a space to cultivate their own produce, which can result in a decreased grocery bill through gardeners growing their own produce.

The community garden policies of Kingston and Victoria both demonstrate that community gardening can have an impact on the food security of individuals and communities. Although the City of Kingston does not provide a definition for food security, both municipalities address the economic impact of community gardening through including provisions for the creation of donation plots and through the addressing gardening fees and volunteer labour.

### 6.3.1.2 Donation of Produce

Food security impacts an entire community, and community gardens have the ability to address food insecurity at the municipal level. The Kingston and Victoria garden policies both state that gardens and individual gardeners are allowed to grow produce on publicly owned garden sites
for the purpose of donating the produce to food banks, soup kitchens and other community food programs (Kingston, p. 3 & Victoria p. 2). Kingston goes further by supporting the creation of donation garden plots through the allocation of funding for gardeners and garden sites who wish to build a garden site for community donations (p.5). This is significant because it highlights how the City of Kingston aims to utilize community gardens as an approach to addressing food insecurity. It is important to highlight that while produce can be donated to emergency food programs, researchers highlight the importance of communities not relying on charity in the forms of donations to achieve band-aid solutions to food insecurity (Barbolet, 2009, p.12). There are underlying issues which creates food insecurity amongst individuals and families which cannot be solved through donations. Community gardening can be utilized as one approach to address food security. Overall, community gardens can impact food security within a community by providing opportunities for residents to cultivate crops for the purpose of donating food to local food programs. This assists community service providers in supplying their clients with locally produced produce.

6.3.1.3 Gardening Fees:
An important aspect associated with the economic accessibility of community gardening is the creation of gardening fees. Gardening can be used as a way to address issues of poverty by increasing the intake of economically grown produce (Henderson, 2010, p. 14). There are many costs associated with the creation and maintenance of community gardens. These costs can vary according to the size, site characteristics, and purpose of the garden but include costs such as; soil testing, top-soil, plants, seeds, tools, fertilizer, water and irrigation systems, waste collection, security features, storage facilities, and other miscellaneous costs (Goodall, 2010, p. 5).

Therefore Kingston and Victoria (among other cities) have developed a gardener fee system to offset the overall cost of developing a garden site.

In Kingston and Victoria, fees are collected by the gardening group or gardening society responsible for a specific location. This gardening fee assists individual garden locations in the upkeep of their gardens by enacting a user fee on the gardener.

The City of Kingston Community Garden Policy (2009) states that “in order to ensure equal access and opportunity to all community members the fee structure must provide a fee waiver or sliding scale fee for those that indicate that they are unable to pay the garden plot fee” (p.6)
component of the policy is significant to the economic accessibility of community gardening because it supports the inclusion of low income individuals who may be unable to afford an annual garden fee.

The City of Victoria does not offer a legislated sliding scale or fee waiver option within their policy. Instead, the Community Gardens Policy (2009) states that residents are provided with a plot in exchange for a fee or voluntary labor (p.2). A discussion with a representative from the City of Victoria revealed that gardening is free to those participating in communal gardening, however the price varies for allotment gardening. The fee associated with allotment gardening is collected by the allotment gardening group and goes towards the operation of the garden in which the fee is collected from. The fee amount is determined by the non-profit group which oversees each individual allotment garden. Therefore, the city does not collect any administration fees from gardeners who are participating in communal or allotment community gardening (personal communication, July 23, 2013). It is important to highlight that the City of Victoria provides and regulates the development of communal community gardens are free to residents. This fosters the inclusion of residents from various economic backgrounds and provides an opportunity for low income individuals and families to take part in community gardening.

On top of communal gardening fees, participants also incur personal costs associated with growing their own produce. A study conducted by Hannah (2000) found that in Philadelphia gardeners spend between 5-100 dollars per season purchasing plants and other gardening supplies (p. 213). Residents who take part in community gardening in Kingston and Victoria may also incur personal gardening costs as well as communal gardening fees associated with the maintenance of the overall garden. These costs can create a barrier to community gardening by excluding residents who are financially unable to incur these costs. In order to address the economic accessibility of gardening, the City of Kingston has initiated a sliding scale and fee waiver option to support the inclusion of individuals who are unable to afford garden fees (p. 6). In the municipal community garden policies of Kingston and Victoria, aspects of both policies address how gardening can be utilized as an economically accessible activity for all residents.

6.3.2 Municipal Support:
Kingston and Victoria also provide financial and technical assistance which promotes the economic accessibility of community gardening within their given municipalities.
6.3.2.1 Financial Support:
Victoria and Kingston offer funding opportunities for individuals and groups interested in developing or promoting a community garden. Victoria offers direct financial support through their ‘Neighbourhood Development Matching’ and ‘Greenways’ grants (p.3). Additionally, the City of Kingston offers funding for the creation of gardens as well as the enhancement or maintenance of gardens. The Kingston policy also states that there is funding available to assist in the creation of raised garden beds for persons with disabilities and to assist in the costs of obtaining liability insurance which is required by the City of Kingston (p.4 & 5). Kingston also states that they will assist in proving more information about additional funding opportunities (p.5). The provisions within both policies are important when considering the economic accessibility of gardening. There are many costs associated with the development and maintenance of a garden site (Goodall, 2010, p.5). Cities which provide municipal funding to cover some of these incurred costs are recognizing the fact that without this additional funding, garden participants would have to incur many costs to take part in community gardening themselves. This could create a situation where community gardening is accessible to those who can afford these costs but is inaccessible to the rest of the community (Henderson, 2009, p. 16). By creating funding opportunities for community gardening, municipalities offset gardening fees and costs and are therefore, fostering the inclusion of a diversity of individuals in community gardening.

6.3.2.2 Technical Support:
The City of Kingston and Victoria promote economic accessibility within their community gardens policies by providing technical support to residents. For example, both cities state that they will cover the cost of soil testing to ensure that the ground is free from contaminants and safe for the production of food. Soil testing is an essential part of developing a garden. However, conducting a soil test on a garden site can cost over $2,000 (Henderson, 2009, p. 16). The City of Kingston provides additional technical support including support for; advertising, rain barrels, waste disposal, and grass maintenance around the perimeter of the site (p.5 & 6). This demonstrates that the City is prepared to provide technical support associated with the production and maintenance of a garden site (Henderson, 2009, p. 16). Cities which provide additional technical support to decrease costs incurred by residents are assisting in the creation of a more economically accessible recreational activity.
Chapter 7: Recommendations

7.1 Recommendations for Cities Amending or Creating a Community Garden Policy:
One of the main objectives of this report was to develop recommendations which will assist Canadian municipalities in amending or developing a community garden policy to regulate the development of community gardens. This objective was also supported by the research question “What recommendations can be made to assist municipalities across Canada in addressing accessibility in the creation or revision of their community garden policies?” The following section will provide a brief overview of recommendations for municipalities interested in addressing physical, geographic, and economic accessibility in their community garden policy. The recommendations were developed through an analysis of current literature on community gardening and municipal approaches to community gardening, as well as analysis of how Kingston, Ontario and Victoria, British Columbia address accessibility in their community garden policies.

7.2 Municipal Accessibility Legislation:
It is recommended that municipalities develop a municipality-wide approach to regulating the development of accessible community facilities. The existence of a comprehensive policy, standard, or strategy which regulates the development of accessible design criteria was found to be of importance when addressing physical accessibility. Documents such as a Facility Accessibility Design Standard (FADS) have been adopted by municipalities across North America.

Having a FADS document is important because it allows a municipality to return to a set strategy or policy when planning and designing municipal facilities. FADS documents are comprehensive in nature and provide an extensive set of development circumstances which can be applied to the development of new facilities or the maintenance of previously build areas. This includes the creation of community gardens on public property.

Cities interested in developing or amending their community garden policy should first assess the municipal approach to regulating the development of accessible community facilities. Cities
such as Victoria, British Columbia that do not currently have a accessibility policy or standard can examine the accessibility precedent set by municipalities such as the City of London and Kingston. Many cities across North America have received permission from the City of London, Ontario, to develop their own FADS document based off of London’s Standard. It is crucial that a collaborative approach is taken when developing an accessibility policy, strategy or standard. For example, the creation of the City of London FADS document included extensive research into universal design principles as well as an in-depth consultation and partnership with local organizations and residents impacted by accessibility issues (p.i). Furthermore, the City of Kingston’s FADS document was developed through the collaborative effort of an Accessibility Committee which includes community volunteers, representatives from various municipal departments, and an elected council member. (FADS, p. i) Overall, in order to develop a community garden policy which addresses multiple aspects of physical accessibility, it is important that municipalities have an accessibility policy or strategy which is comprehensive, developed collaboratively, and includes provisions for the development of accessible community garden sites.

7.3 Geo-Spatial & Demographic Analysis:
It is recommended that municipalities conduct a geospatial analysis of the municipality to determine where the best location for a garden may be. A community garden policy should address the implementation of a demographic and geo-spatial analysis of the municipality in order to geographically identify priority neighbourhoods and areas of the city where a community garden would be compatible. This could include utilizing Geographic Information System (GIS) software and other mapping tools to gain an understanding of the geographical and statistical distribution of factors such as:

- Population density
- Age
- Median household income
- Low income after tax
- Persons with disability
- Food insecurity and poverty statistics
- Mode of transportation statistics
- Public transportation routes
- Accessible sidewalk routes
- Home ownership and home type
- Location of publicly owned land
- Location of pre-existing gardens.

Conducting a comprehensive analysis of the municipality will assist in identifying areas of the municipality where gardens are needed, or geographic areas which, statistically, may result in a higher likelihood of garden success.

Mapping population density will give municipal officials and community members an idea of where the urban population density is located. Mapping the population density of a city will highlight which neighbourhoods contain a larger proportion of the population, and a higher accumulation of potential gardeners. This concept is supported by Herbach (1998) who found that neighbourhoods with a higher density will have more successful gardens because there will be a “critical mass” who are looking for gardening space. (Milburn, 2010, p. 77) Mapping where population density exists will also provide insight into where the most walkable and easily accessible garden sites can be located. Living closer to a garden site can make a garden more accessible by bike or foot. The Bicycle Federation of America (1998) has found that on average a garden should be a 5-10 minute walk or a ¼ to ½ of a mile from the gardeners home” (Milburn, p. 81) Therefore, a garden which is placed within a higher density neighbourhood will have more people who are in close proximity to the garden.

In terms of the geographical accessibility of a garden site, it is also recommended that the municipality map: the distribution of modes of transportation to work throughout the city; the location of public transportation routes; and the location of accessible sidewalk routes. Mapping the distribution of modes of transportation to work can provide decision makers, organizations, and residents with insight into where individuals, who are utilizing alternative modes of transportation, reside. This will provide information on the percentage of people in each neighbourhood who rely on alternative modes of transportation. Mapping the location of public transportation routes will assist in determining where garden sites can be located to be in close proximity to a public transportation route or stop. Finally, mapping the location of accessible
sidewalks will assist in determining accessible routes which will bring residents from residential areas to a garden site. These three aspects of geographical accessibility are important when determining the design of the built environment in relation to people’s activity choices. It is also important when determining the geographic accessibility of garden sites for individuals with physical disabilities. Dannenberg (2003) supports this notion as he believes that “communities that have user-friendly transportation systems and are compacted and walkable are more accessible for persons with disabilities, allowing them to participate more fully in the community.” (p.1504) Municipalities looking to amend or develop a community garden policy should examine how they can work with municipal departments, organizations, and residents to conduct a demographic and geo-spatial analysis of the community.

7.4 Sliding Scale Fee System & Municipal Support.
It is recommended that municipalities make gardening more economically accessible to the community by ensuring the implementation of a sliding scale for garden fees and by ensuring that the municipality provides financial and technical support to gardeners to offset the costs associated with gardening.

A sliding scale fee system is important because it allows for gardeners to pay a fee to the municipality or to their designated gardening group depending on the amount that they are able to contribute. However, it is important that the municipality determine how the sliding scale system should be implemented. It is also important that the municipality works with community organizations, community garden directors, and residents to ensure that the sliding scale program is implemented effectively and efficiently.

A policy which simply states that a sliding scale system is in place is not enough to address economic accessibility. In order for gardening to be accessible to low and medium income individuals and families, the sliding scale system must be carefully managed, as well as promoted as a means for including all residents in gardening. For example, municipalities can investigate how partnerships can be made with community organizations to ensure that low income individuals who are interested in gardening are made aware of a sliding scale program. Most importantly, the sliding sale program should not be advertised as a form of charity, and as hand-out for low income individuals. This practice perpetuates the marginalization of many
groups within society. Instead, the sliding scale program should be carefully managed discretely to ensure that the protection and dignity of residents is a priority.

It is also recommended that municipalities provide financial and technical support to gardeners and include information about the kind of support they will be offering in the community garden policy. It was found that some municipalities offer a one-time grant to gardening groups, while other municipalities offer a variety of financial and technical assistance including: waste collection, assistance with liability insurance, soil, composting, water, and funds for the creation of raised beds and donation gardens. (Kingston, 2009) It is recommended that municipalities review the services that they are offering residents to ensure that gardeners are not being inflicted with gardening costs which go above and beyond the garden fee which is paid to the municipality or garden group. When a municipality provides technical and financial support it decreases the costs of gardening incurred by the resident, making community gardening more accessible to residents of various economic backgrounds.
Chapter 8: Conclusion

8.1 Overview
Municipal interest in community gardening is growing. Municipalities across Canada are continuously recognizing the fact that gardening can address a variety of community issues associated with health, the environment, social sustainability, and the economic vitality of their communities. Community gardening has existed in North America since the 1890s; however, it was found that only a handful of municipalities in Canada have a municipal community garden policy which addresses the development and continued presence of gardening on publicly owned land. Of the handful of cities which had community garden policies, all of the policies had been developed from 2003 to 2013. This demonstrates that the development of community gardening policy and the regulated involvement of municipalities in community gardening is a relatively new phenomenon.

Community garden policies are an emerging trend in municipal policy development. Therefore, there is currently a lack of research on the creation, components, and implementation of these policies. This report aims to fill in the gaps of knowledge by providing a preliminary evaluation of one aspect of community garden policies through an evaluation of physical, economic and geographic accessibility components of two Canadian municipal community gardening policies.

This report provides three recommendations for municipalities looking to amend or develop a community garden policy. The three recommendations state how municipalities can address physical, geographic and economic accessibility through the introduction of legislated accessibility design standards, geo-spatial analysis of the community, as well as a sliding scale system to insure economic inclusivity in community gardening.

The analysis of Kingston and Victoria’s community garden policies and the recommendations provided in this report are an important addition to the body of literature on community gardening. There is currently a lack of research which examines the relationship between community gardening and municipal policy development. As communities continue to develop policies to regulate the development of community gardens it will be important for municipalities to address how their policies will impact the inclusion of all members of society in
gardening activities. Therefore, it is important that planners, policy developers, and government officials continue to conduct research on development of community garden policies and also continue to analyze the impact that these policies have on their community.

8.2 Areas for Further research

This report provides a preliminary evaluation of municipal community garden policies in Canada through an analysis of three aspects of accessibility in the policies of two Canadian cities. The research and recommendations presented in this report can be utilized as a first stage of research to assist municipalities in developing or amending their own community garden policy.

The creation of municipal community garden policies is a relatively new occurrence in policy development at the municipal level. There is also currently a lack of available research on the relationship between municipal involvement in community gardens and accessibility as well as a lack of information on the relationship between municipal governments and community gardens. Therefore, further research could address the following:

- A more comprehensive evaluation of community garden policies which examines multiple policy components such as how the policy addresses environmental, health, social, economic, and cultural concerns.
- An analysis of municipal community garden policies and other forms of accessibility such as cultural accessibility, hearing and visual impairments, and the application of universal design principles.
- An investigation of other social and economic aspects of municipal community garden policies such as the development of social capital, the creation of partnerships, public engagement techniques surrounding the creation of gardens and overall impacts of community building.
- A series of interviews with community gardeners in order to evaluate how the community garden policy is implemented on the municipal scale.
Bibliography


Community Gardens Representative, City of Victoria, E-mail correspondence with L. Gradeen, July 23, 2013


## Appendix A

**Table 1A. An Examination of Aspects of Accessibility in the Community Garden Policies of Kingston, Ontario and Victoria, British Columbia.**

<table>
<thead>
<tr>
<th>Evaluative Component</th>
<th>City of Kingston Community Garden Policy</th>
<th>City of Victoria Community Garden Policy</th>
</tr>
</thead>
</table>
| **Physical Accessibility** | Section 3.0 Definitions:  
a. “Accessibility” shall be defined as barrier free accommodations for persons with a diversity of abilities. | **Background:**  
5. Community gardens are invaluable to the social and ecological well-being of cities. Community gardens:  
- Promote an accessible recreational activity that contributes to the health and well-being of residents and that residents of all ages may enjoy.  

**Guidelines for Selecting New Sites on Public Property:**  
In identifying new sites for community gardens, the following guidelines should be considered:  
- Year-round accessibility of the site |

**Section 4.0 Community Garden Features:**  
4.1: A community garden may have the following features:  
4.1.3: Posted signage identifying the area as a community garden as well as an accessible space as outlined in the City Facilitated Accessibility Design Standards (FADS)  

**Section 5.0 Site Selection:**  
5.1: In identifying new community garden sites priority will be given to those sites that meet the following criteria:  
5.1.9: Site accessibility during gardening season  
5.1.10: Availability and accessibility of parking  

**Section 5.0 Site Selection:**  
5.5: A community garden site plan must then be prepared with the support of the Community Gardens Program Coordinator and other City staff. Community garden site plans must:  
5.5.3: Comply with applicable provincial accessibility standards, City Facility Accessibility Design Standards (FADS) and/or municipal
### Geographic Accessibility

**Section 5.0 Site Selection:**

5.1: In identifying new community garden sites priority will be given to those sites that meet the following criteria:

- 5.1.7: Close proximity to urban neighbourhoods and areas of population density.
- 5.1.9: Site accessibility during the gardening season.

**Guidelines for Selecting New Sites on Public Property:**

In identifying new sites for community gardens, the following guidelines should be considered:

- Year-round accessibility of the site
- Accessibility by public transport
- Priority for new sites should be for neighbourhood areas

**Policy Definition**

A community garden program may have the following features:

- Ensures that the public have access to the community garden areas

### Section 5.0 Site Selection:

5.5.4: Include an 18 foot set back from the edge of plots to allow for movement around the perimeter of the garden to permit for regular maintenance, where possible. The designated space between garden plots will be site specific, meeting accessibility standards.

**Section 6.0: Construction**

6.3: New community gardens must consist of at least one raised garden bed, between 18” to 30” high with clean fill, unless otherwise approved by the City. The City may consider additional funding to help cover the cost of raised beds. In new gardens, the City shall provide access to the garden by a pathway or flat surface. Accessibility to existing gardens will be incorporated during major upgrades or expansion. (p.?)
### Background

5. Community Gardens: Promote an accessible recreational activity that contributes to the health and well-being of residents and that residents of all ages may enjoy.

### Economic Accessibility

#### Section 3.0 Definitions:
- **“Community Garden”** shall be defined as a site operated by community members and/or a community organization where municipally owned lands are used for the growing of produce, flowers and native plants for non-profit use through individual or shared plots located on municipally owned lands. (p.1)
- **“Donation Plot or Garden”** shall be defined as a plot where food is planted and harvested by a group of garden members and donated to a local food bank, soup kitchen or other such related organization. (p.2)

#### Section 4.0 Community Garden Features:

4.1: A community garden may have the following features:

4.1.1: Plots and amenities such as water, soil tilling, and shared tools, usually in exchange for a fee or voluntary labour (p.2)

4.2: A community garden may:

4.2.2: Enhance local food security (p.3)

4.2.6: Donate surplus food to local food banks or other organizations (p.3)

#### Section 6.0 Construction

6.3: New community gardens must consist of at least one raised garden bed, between 18” to 30” high with clean fill,

### Policy Definition:

The City of Victoria recognizes community gardening as a valuable community recreational activity that contributes to... economical, nutritious food production and food security.

A community garden program may have the following features:

- Promotes urban agriculture, food security and food production.
- Provides to society members plots and services such as water, tilling and shared tools usually in exchange for a fee or volunteer labour exchange.
- Donates surplus produce to local food banks.(p.2)

### Background:

Community Gardens:

- Assist low income people by providing healthy fresh organic food at low cost. (p.7)

A. User Agreement between the Non-profit Society and Community Garden members. The non-profit [community garden] organization and/or a neighborhood association...
unless otherwise approved by the City. The City may consider additional funding to help cover the cost of raised beds. In new gardens, the City shall provide access to the garden by a pathway or flat surface. Accessibility to existing gardens will be incorporated during major upgrades or expansion. (p.4)

Section 7.0 Operations:
7.1: The City will establish an annual community gardens start-up and enhancement fund for the development of new Community Gardens and the enhancement/maintenance of existing Community Gardens as well as the development of donation plots. It can also be applied to the cost of obtaining Public Liability Insurance. (p.5)
7.3: The City will support the development of donation plots through the provision of extra funding from the community gardens start-up and enhancement fund. (p.5)
7.17: A fee structure may be developed by partnering groups and/or organizations in consideration of the expected operating costs of the community garden as well as the ability of garden members to pay. In order to ensure equal access and opportunity to all community members the fee structure must provide a fee waiver or sliding scale fee for those that indicate they are unable to pay the garden plot fee (if applicable). Fee structuring and collection will be the responsibility of each individual garden group. (p.6)

Section 8: Conditions of Use: agrees to develop, manage and operate the community garden according to a user agreement with their members which specifies the terms of use, management responsibilities, user fees, and access procedures which include the following:

- Produce grown on the site is not for private profit; excess produce can be donated.

Community Gardens on Private Lands:
Backyard gardening and sharing of backyard gardens are encouraged as additional ways of promoting food security and food production in the City.

Definitions:
Food Security: all persons in a community have access to culturally acceptable, nutritionally adequate food through local, non-emergency sources at all times.

Background:
3. There is a national trend towards urban agriculture that has increased the demand for community gardening...There are many other reasons for this interest including...economic food production.

Background:
5. Community gardens:
- Promote an accessible recreational activity that contributes to the health and well-being of residents and that residents of all ages may enjoy;
8.7 Produce grown in allotment plots within the community garden will be for the personal use and consumption of the individuals involved in the community garden. Produce sold by the garden as a whole from a dedicated plot for the purpose of fundraising for garden projects and programs is permitted given that all applicable permits and/or licenses are in place. (p.7)

Financial & Technical Support

Definitions:

g. “City of Kingston Community Gardens Program Coordinator” shall be defined as a City representative who acts as the first point of contact and as a resource for all community gardening inquiries.

Section 6.0: Construction

6.3: New community gardens must consist of at least one raised garden bed, between 18” to 30” high with clean fill, unless otherwise approved by the City. The City may consider additional funding to help cover the cost of raised beds. (Funding)

6.6: The City will cover the cost of mandatory soil testing for new gardens or expansion of existing gardens. (Funding)

Section 7.0 Operations:

7.1: The City will establish an annual community gardens start-up and enhancement fund for the development of new Community Gardens and the enhancement/maintenance of existing Community Gardens as well as the development of

- Assist low income people by providing healthy fresh organic food at low cost;
- Increase local food security.

Financial & Technical Support: City Support for Community Gardens:
The City of Victoria Supports community gardens by working with community associations and gardening organizations. Subject to available resources the City will:

- Where appropriate, offer Victoria-owned land as new community garden sites, such as undeveloped parcels, closed road right of ways, marginal park land and along Greenways as part of a Green Streets Program. (p.3)
- Assess site suitability for food consumption and production, perennials and flowers through a Phase 1 Environmental Analysis. (p.3)
- Through Neighbourhood Development Matching and Greenways Grants, provide Community and Neighborhood Associations with funds to start up and develop community gardens. (p.3)
- Provide in-kind support where feasible (i.e. excess materials like compost) (p.3)

Conditions of Use on City-owned Property:
| 7.14 | The City will provide rain barrels to community gardens where there is no access to municipal water. |
| 7.14 | The following conditions apply to community gardens sites on City of Victoria-owned land, and should act as a guideline for other sites in Victoria: |
| 7.14 | • The garden is developed at no cost to the City of Victoria, other than the Matching grant or Greenways program. (p.4) |
| 7.14 | The City will dispose of waste from the community garden site from the designated City garbage containers located within designated City parks. |
| 7.14 | 7.8 The City will provide grass maintenance around the perimeter of the community garden located in designated City parks. Community gardens will be responsible for grass cutting on pathways within the garden itself. |
| 7.14 | 7.7 The City will dispose of waste from the community garden site from the designated City garbage containers located within designated City parks. |
| 7.14 | 7.6 The City will provide some support to garden members regarding advertising and promoting opportunities for community garden events. |
| 7.14 | 7.5 The City will support the development of a community garden network with the common goals of sharing knowledge and skills, enhancing interaction between garden members and increasing awareness of and access to the City’s community gardens. |
| 7.14 | 7.3: The City will support the development of donation plots through the provision of extra funding from the community gardens start-up and enhancement fund. (funding) |
| 7.14 | 7.2 The City will provide information to garden members, organizations and groups on other sources of funding. (funding) |
| 7.14 | donation plots. It can also be applied to the cost of obtaining Public Liability Insurance. (funding) |
Sources:


Appendix B

Questions for the City of Victoria

Please feel free to type your answers in red or any other method which is convenient for you.

1. Does the City of Victoria have a policy, standard, or strategy to regulate the development of accessible spaces?

2. On page 2 under the heading Policy Definition the document states that “a community garden may have the following features: Ensures that the public have access to the community garden areas.”
   - What is meant by this section of the policy? What kind of access is included in this sentence?
   - How does the City of Victoria ensure that the public have access to community garden areas?

3. On page 3 under the section on Guidelines for Selecting New Sites on Public Property the document states that “In identifying new sites for community gardens, the following guidelines should be considered: Year-round accessibility of the site”
   - Can you please provide more details on what is meant by year-round accessibility of the site?
   - What are some examples of how a garden could be inaccessible during parts of the year? How does the City ensure that a garden is accessible year round?

4. On page 3 under the section Guidelines for Selecting New Sites on Public Property the policy states that “Priority for new sites should be for neighbourhood areas that are underserved”.
   - Can you please explain what is meant by “underserved neighbourhood”?

5. On page 7 under the section Background the document states that “community gardens: assist low income people by providing healthy fresh organic food at low cost.”
   - How do community gardens in Victoria assist low income people by providing health fresh organic food at low cost? Can you provide examples?
   - Ex. Are there programs in place to assist low income residents in securing a place in a community garden?
   - Ex. Are there partnerships with community gardens and community services to assist low income people?

6. On page 2 under the section Policy Definitions, the document states that a community garden may “provide to society members plots and services such as water, tilling and shared tools usually in exchange for a fee or volunteer labour exchange.”
o What is the fee for residents to take part in gardening?
o Does the fee go to the City of Victoria or to the garden where the resident has secured a
garden plot?
o Are there differences in fees from garden to garden, or does every gardener pay the same
fee? How is the money collected and distributed?
o What is a voluntary labour exchange? And how is a voluntary labour exchange conducted
in the City of Victoria?

Please let me know if you have any questions.

Thank you very much!
E-mail Script for Recruiting Potential Participants for Interviews

“Can you Dig It? Accessibility in Community Garden Policies and Lessons from Three Canadian Cities”

[Insert name of participant],

My name is Lindsey Gradeen, and I am a graduate student at the Queen’s University School of Urban and Regional Planning.

I am currently conducting research for my masters report entitled “Can you Dig it? Accessibility in Community Garden Policies and Lessons from Two Canadian Cities”. I obtained your contact information from the City of [insert name of City] website.

Based on your position at the City of [insert name of City], and your experience with policy development, I considered that you would have knowledge to contribute to my study. Would you be available and interested in participating in and approximately 30 minute interview to help collect information regarding the development and implementation of community garden policy in your municipality? I am amendable to the interview being conducted by telephone, in person, or over email.

I have attached a detailed letter of information and a consent form that further describes this project and our expectations. Should you be able to participate in the interview, please respond and we will set up a date and time that is mutually convenient. Thank you for your time and consideration.

Sincerely,

Lindsey Gradeen
M.Pl Candidate 2011
School of Urban and Regional Planning
Queen’s University
l.gradeen@queensu.ca
613-344-0609
Letter of Information

“Can you Dig It? Accessibility in Community Garden Policies and Lessons from Two Canadian Cities”

This research project is being conducted by Lindsey Gradeen under the supervision of Dr. Leela Viswanathan of the School of Urban and Regional Planning, Queen’s University.

What is this study about? The purpose of this research is to develop a series of lessons on how municipalities across Canada can develop thorough, progressive, and accessible community garden policies. This will be accomplished through an analysis of the community garden policies of two Canadian cities (Kingston Ontario and Victoria British Columbia). The study will be conducted through a review of academic literature, interviews with key informants representing each municipality being studied and by evaluating each city’s community garden policy against an analytic framework. Due to your knowledge and experience concerning community garden and/or municipal policy, and for the purpose of this study, you have been chosen as an interviewee participant.

The study will require one interview with you. The interview will be completed by telephone, in person or through email at your convenience, and will last approximately 30 minutes. Written notes will be taken during the interview process. However, those who are interviewed in person will also be provided with the opportunity to consent to the interview being audio recorded. Please see the consent form for more information regarding participant consent to audio recording of interviews.

Is my participation voluntary? Yes, your participation is voluntary. It would be greatly appreciated if you feel uncomfortable, or that you object to in any way. You may withdraw from the study before, during or after the interview by contacting the primary investigator using the contact information provided below. If you choose to withdraw from the study after the interview has been completed then please contact Lindsey Gradeen using the contact information provided below.

Are there any risks involved? The interview will be conducted in person, over the telephone, or via email. Due to the potential privacy issues associated with cyberspace communication, there is a small risk of a security breach (i.e. the security of e-mail communication cannot be fully guaranteed) should the interview be conducted over e-mail. The email account and computer of the researcher will be password protected to mitigate the risk of a security breach. Due to your municipal position and responsibility as the staff contact for inquiries regarding the community garden policy, there is a risk that your personal identity may be uncovered, creating potential economic risk. This risk will be mitigated by not including your name or the name of your department in any reports and by not asking interview questions that are of a professionally contentious nature. Also, prior to submitting her master’s report, the primary investigator will show you, for your approval, the sections of the report in which your interview data was referred to whether or not direct quotations are used. There are no other known physical, psychological, economic, or social risks associated with this study.

What will happen to my responses? Your responses will be kept confidential. Only the researcher will have access to the information and notes from the interview. The data gathered during this study may be published in professional journals or presented at scientific conferences, but any such presentations will
be of general findings and will never breach individual confidentiality. There will be no compensation for participating in this study.

**What if I have questions or concerns?** Any questions or concerns about the study or about your participation in the study can be directed to the primary researcher, Lindsey Gradeen at l.gradeen@queensu.ca and/or (613)344-0609 or to the project supervisor, Dr. Leela Viswanathan, at leela.viswanathan@queensu.ca and/or (613)533-6000 ext 75038. Any ethical concerns about the study can be brought to the attention of the Chair of the General Research Ethics Board at Queen’s University at chair.GREB@queensu.ca or (613)533-6081.

Again, thank you. Your interest in participating in this research study is greatly appreciated.
Consent Form
“Can you Dig It? Accessibility in Community Garden Policies and Lessons from Two Canadian Cities”

Name of Participant (please print clearly): ________________________________________

1. I have read the Letter of Information and have had any questions answered to my satisfaction.

2. I understand that I will be participating in the study called “Can you Dig It? Accessibility in Community Garden Policies and Lessons from Three Canadian Cities”. I understand that this means that I will be asked to participate in an interview in person, over the telephone or via e-mail about community garden policy in my municipality that will last for approximately 30 minutes.

3. I understand that my participation in this study is voluntary and that I may withdraw at any time, during or after the interview has taken place. If I choose to withdraw from the research after being interviewed, I will contact the primary investigator, Lindsey Gradeen. I may notify Lindsey Gradeen in person, by telephone or e-mail using her contact information noted in section 6 of this form. Once I withdraw from the study all paper data associated with my interview will be destroyed using a shredder and all electronic data will be deleted.

4. I understand that every effort will be made to maintain the confidentiality of the information that is collected now and in the future. Only the primary researcher, Lindsey Gradeen will have access to the information that is collected. To enhance confidentiality, the name and affiliated municipal department of each participant will not be used in the report. Any information will be presented as being obtained from a municipal staff member in the given municipality. Additionally, I understand that prior to the report being submitted, the researcher will show me sections of the report in which my data was referred to even if direct quotations are not used. The research findings may be published in professional journals or presented at conferences, but any such presentations and publications will be of general findings and will never breach individual confidentiality. I may request a copy of the findings.

5. I understand that written notes will be taken of our interview. If I am interviewed I will indicate whether or not I will provide consent for audio taping of the interview by initialing the relevant box below my signature on the consent form.

6. I am aware that if I have any questions, concerns, or complaints, I may contact project’s principal investigator, Lindsey Gradeen at l.gradeen@queensu.ca and/or (613)344-0609; project supervisor, Dr. Leela Viswanathan, at leela.viswanathan@queensu.ca and/or (613)533-6000 ext 75038; or the Chair of the General Research Ethics Board at Queen’s University at chair.GREB@queensu.ca or (613)533-6081.

I have read the above statements and freely consent to participate in this research:

Signature: ____________________________   Date: ____________________________

I give the researcher permission to digitally audio record my interview.

Initial here: __________

I do not give the researcher my consent to digitally audio record my interview.

Initial here: __________