

Analyzing for Age-Friendliness within Planning Policies in the City of Waterloo

By

Amanda Marsh

A thesis
presented to the University of Waterloo
in fulfillment of the
thesis requirement for the degree of
Master of Arts
in
Planning

Waterloo, Ontario, Canada, 2012

© Amanda Marsh 2012

Author's Declaration

I hereby declare I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

Planning for individuals with varying degrees of impairments has, over the past 40 years, challenged conventional approaches to community development. However, more recently there has emerged, both within research and greater society, a need to understand how the disabling nature of the built environment impacts our inevitably aging population. Recognizing such, this thesis research explores whether planning policies within the City of Waterloo reflect an age-friendly model of development. Moreover, recognizing that the aging population increasingly experiences some form of impairment, this research further utilizes universal design as means to more comprehensively review for an aging supportive model. The fundamental goal of an age-friendly approach is to address the needs of individuals at all stages of their life with an obvious emphasis on promoting longer independence. A number of literature sources were utilized in developing two separate analysis tools that focused on goal-oriented policies such as Official Plans as well as prescriptive planning policy including Zoning By-laws and Urban Design Guidelines. This research attempts to provide a means with which to determine the age-friendliness of planning policies, how age-friendly policies may incorporate provisions regarding accessibility, as well as changes that municipalities may wish to consider in the implementation of an age-friendly model.

Acknowledgements

I would like to take this opportunity to extend my sincerest thanks to all those individuals who supported me throughout this process. It has been a heck of a journey but I could not have accomplished it without your continued encouragement.

I would like to thank my thesis defence team. Thank you to my advisor, John Lewis for taking the time to guide me through this process and provide comments at many stages of this work. Additional thanks to Professor Markus Moos and Professor Joe Qian for providing the additional support needed to complete this research.

I would also like to acknowledge the financial support provided by the Social Sciences and Humanities Research Council (SSHRC) that made undertaking this research possible.

As well, a special thank you of course to friends who went through this process with me. To the duo of DB and Harms [a triple-threat when C was in town] for never hesitating to remind/show me the lighter side of things. Laughter was never too far away and for that I am sincerely grateful – I forgive you for the shenanigans had with the poker set at my expense! Thanks to all those in Ottawa for sticking by my side for the last year and helping me balance my academics and work - whether you were asking questions or just listening to me think out loud, it is all much appreciated. To Lori and Kelly still back in Waterloo, thank you for always finding time to sit down for wings and asking how things were going – the next round is on me.

Finally, my deepest thanks go out to my family for not letting me walk away from this opportunity and picking me up when the road got tough. Even though you asked me if I was finished my thesis about a week into the program, you never stopped asking and providing supportive words the whole way through. Whether it was academics or just life taking its course, your unconditional love and encouragement was always right there waiting for me. I can never tell you what that means to me – THANK YOU.

Table of Contents

Author’s Declaration	ii
Abstract	iii
Acknowledgements.....	iv
Table of Contents	v
List of Tables	viii
Chapter 1 Introduction	1
1.1 Introduction	1
1.2 The Research Problem	1
1.3 The Research Question	3
1.4 Research Objectives	3
1.5 Structure of the Thesis	3
Chapter 2 Literature Review	5
2.1 Introduction	5
2.2 Aging, Disability and Analysis: What’s the Connection?	5
2.3 Addressing our Aging Population.....	7
2.3.1 Where are the Elderly [expected] to be Living?	9
2.3.2 Successful Aging	10
2.3.3 Aging in Place.....	13
2.4 Theoretical Underpinnings of Disability Policy	15
2.4.1 Medical versus Social Models.....	16
2.4.2 Universal Design, Accessibility and Inclusive Design	18
2.4.3 Emancipatory Research: What is it?.....	23
2.5 The Theoretical Framework for this Research	26
2.6 Policy Analysis: An Overview.....	27
2.6.1 How is Policy Analysis Done?	28
2.6.2 Evaluation/Analysis Criteria	30
2.7 Summary	32
Chapter 3 Methodology	34
3.1 Introduction	34
3.2 Research Strategy.....	34
3.3 Case Study: Defined and Designed	35
3.3.1 Strengths and Weaknesses.....	36

3.3.2 Using a Case Study for this Research.....	37
3.4 Selected Case Study	37
3.4.1 Case Study Selection Criteria.....	38
3.5 Data Sources and Collection	39
3.5.1 Age-Friendly Plans, Studies and Publications.....	39
3.5.2 Provincial and Municipal Plans, Studies and Documents.....	40
3.6 Policy Analysis	41
3.6.1 Developing the Evaluation Guide for Prescriptive Policy	44
3.6.2 Interviews	47
3.7 Research Design Quality.....	50
3.8 Summary	52
Chapter 4 Findings and Analysis	54
4.1 Introduction to Research Findings	54
4.2 Are Waterloo’s Planning Policies Age-Friendly	54
4.2.1 Municipal Official Plans	54
4.2.2 Prescriptive Policy: Zoning By-laws	62
4.2.3 Prescriptive Policy: Urban Design Guidelines.....	66
4.3 Interview Findings	68
4.3.1 ‘Age-Friendly’ and ‘Accessibility’	69
4.3.2 Age-Friendly Housing: What are the Options?.....	70
4.3.3 Is Mixed-Use a Facilitator of Age-Friendly Development?	76
4.3.4 Is Planning Policy Truly Effective in Addressing an Aging Population?	78
4.4 Summary	79
Chapter 5 Conclusions and Recommendations	80
5.1 Introduction	80
5.2 Research Conclusions.....	80
5.2.1 Current Planning Policy and an Age-Friendly Approach.....	80
5.3 Recommendations	83
5.3.1 Age-Friendly Official Plans and Prescriptive Policies.....	84
5.3.2 Inclusivity Through and Through	86
5.3.3 Building upon Age-Friendly Community Development.....	88
5.3.4 An Integrated Approach	89
5.3.5 Alternative Housing Options	91
5.3.6 Zoning and the Lifecycle	92
5.3.7 What’s Already on the Ground?.....	93

5.3.8 Can Walkability be measured?.....	94
5.4 Final Remarks	95
Appendix A – Defining the Dimensions of Age-Friendly Communities.....	97
Appendix B – Age-Friendly Waterloo Checklist	101
Appendix C – Dimensions of Age-Friendly Communities within Zoning and Design.....	103
Appendix D – Evaluating for Age-Friendly within Prescriptive Policy.....	108
Appendix E – City of Waterloo Zoning Map.....	110
Appendix F – Interview Guide Waterloo.....	111
Appendix G – Interview Guide Ottawa	115
References	119

List of Tables

Table 1.0 – Mobility Stages among Older Individuals.....	8
Table 2.0 – Living Arrangements.....	9
Table 3.0 – Aging in Place Influences.....	14
Table 4.0 – Emancipatory Research Characteristics	24
Table 5.0 – Methods for Policy Analysis	29
Table 6.0 – Criteria for Policy Evaluation	30
Table 7.0 – Aging-Friendly Dimensions.....	43
Table 8.0 – Interviews Using Open-ended Questions.....	48
Table 9.0 – City of Waterloo Planning Policy Review Findings	56
Table 10.0 – Planning Act Provisions regarding Alternative Dwelling Types.....	63

Chapter 1

Introduction

1.1 Introduction

“The built environment is basically designed for the average human being, plus or minus half a standard deviation. From the perspective of a bell-shaped curve, persons with many types of disabilities that place them in the tails of the distribution are effectively isolated by their environment.” (Hahn, 1986 in Gleeson, 2001, p.256)

It is evident within the literature concerning planning and development that approaches to disability and the environment are continually evolving in order to better reflect the needs of disabled persons. However, more recently there has emerged a need to understand how the built environment impacts our increasingly aging population. Research from Statistics Canada (2003) and organizations such as the American Association of Retired Persons (2005) indicate that as people age they will inevitably experience some form of impairment and that these impairments will increase in complexity over time. The disability rate among older individuals provides some insight into the need for factors such as ‘age’ and ‘ability’ to be considered in conjunction with one another. Recognizing that the baby-boom generation represents a dominant demographic, it is imperative that planning practices reflect the needs of this age cohort. The utilization of a policy analysis at the municipal level can highlight the deficiencies within current practices, while also providing proactive and definable steps in order to better address the needs of an aging population.

1.2 The Research Problem

The quote at the outset of this thesis effectively outlines the purpose for conducting the following research, as individuals who do not fit the ‘average’ mold can be underrepresented or completely disregarded within development practices. Individuals classified as ‘disabled’

experience a lack of inclusion as a result of current development practices, in conjunction with a variety of physical, mental, and psychological impairments. Imrie and Hall (2001) discuss how the development industry approaches the designing of buildings and spaces based on a “singular and reductionist conceptions of users...ones which tend to be insensitive to racial and gender differences, while ignoring the multiple physiologies of the body” (p.3).

In addition, Gardner (2008) delineates three important gaps within healthy aging research and include (1) a lack of research regarding social and environmental factors upon aging, (2) there is a narrow range of methodological approaches (minimal qualitative versus quantitative; missing populations including disabled, gay/lesbian, culturally diverse and those already in poorer health), and (3) the ‘lived’ experience of the elderly is rare. Together, these challenges and/or deficiencies in previous research highlight the importance of conducting further research to address the needs of an aging population.

There is an obvious missing link between aging and disability, as is noted by Gardner’s second point above regarding the missing populations within aging research, as well as a 2006 study on accessibility in mid-size Canadian cities. The 2006 Master’s thesis research from Margaret Sanderson entitled “*An Examination of Accessibility Planning for Persons with Disabilities in Mid-size Canadian Municipalities*” focused on just that. Through interviews with key stakeholders it was suggested that the future needs of elderly individuals, who will experience greater accessibility needs as they age, must be addressed now. If we recognize future trends, than are we taking the appropriate and proactive steps to address any potential challenges?

1.3 The Research Question

As a result of previous research, the following question remains:

- (1) To what degree do current planning policies in the City of Waterloo reflect an age-friendly approach to planning?

1.4 Research Objectives

To facilitate the proposed study and maintain a focus on the research question above, the following objectives have been devised. The first objective is to review disability and aging research, predominantly independent of one another, and identify how each may be reflected within planning policy provisions. Understanding the progression of disability research will provide a more comprehensive basis from which to review an age-friendly model of planning that recognizes the link between aging and disability. The second objective is to research and define the concept of age-friendly planning, while determining whether or not the goals and objectives of such an approach are incorporated within current City of Waterloo planning policies.

1.5 Structure of the Thesis

The remainder of this thesis is organized into four main parts. Foremost, Chapter 2 reviews the relevant literature with regard to disability and aging as well as an overview of policy analysis as a research method. The literature reviewed delineates the theoretical underpinnings of a number of models used to date to address disability and aging. Literature concerning the progression of disability research includes the medical vs. social models of disability, universal design, inclusive design and emancipatory research, while aging research is predominantly focused upon aging in place and successful aging. Finally, the literature review

will outline research that has been conducted concerning the use of a policy analysis within research.

Chapter 3 outlines the methods. In particular, this chapter explores the case study approach and the development of age-friendly criteria for the conducting of a policy analysis. Criteria have been delineated for both the review of municipal Official Plans as well as those specific to prescriptive policy including Zoning By-laws and urban design guidelines. The collective methods were used in determining to what degree the provisions within current City of Waterloo policies were reflective of an age-friendly approach to planning.

Chapter 4 of the thesis will present the research findings. The hierarchy of policies within the planning process is utilized as a means to structure the chapter, moving from the Official Plan down to the prescriptive provisions of the Zoning By-laws. Findings from the policy analysis will provide the basis for the key informant interviews, which have been incorporated as a way to determine how ‘real world’ these research results are.

Chapter 5 will provide concluding remarks and recommendations. Emphasis will be on whether or not an age-friendly model is reflected within current City of Waterloo planning policies and how the City of Waterloo, as well as municipalities in general, can move forward in promoting and developing age-friendly communities.

Chapter 2

Literature Review

2.1 Introduction

Although the fields of disability and aging are large and varied within themselves, the focus of this research is how these fields are connected and what that connection means within a planning context. In order to understand how the planning profession is beginning to address the prevalence of disability and the inevitably aging population within community growth, it is imperative to outline the history behind both elements. Moreover, since this particular study relies on a policy analysis, literature concerning the use of this methodological approach has been additionally reviewed.

A number of sources have been drawn from the fields of policy analysis, disability, and aging/gerontology in order to address the above. Specifically, the progressions of disability research and the theory behind the aging process have been reviewed in order to understand where current development models were derived. Understanding the history and context of a particular models development may be able to link deficiencies within the policies and its subsequent implementation. The disability and aging models proposed to date are well documented through books, journal articles, forums and a number of additional sources, but it remains unclear what single, definitive approach is best in addressing the needs of these populations. It is therefore critical to bring these two fields together to determine how planning for the demographics that will drive future growth can be best accomplished.

2.2 Aging, Disability and Analysis: What's the Connection?

To date, there are a number of literature sources that have highlighted the relationship between aging and disability. Minkler and Fadem (2002) note that there is a lack of consideration

within aging research to the life course of an individual and, specifically, to the external influences such as race and disability. Moreover, some of the earliest models of aging including successful aging, as proposed by Rowe and Kahn, make particular reference to addressing disability and disease in order to maintain a high quality of life as one ages. Landorf et al. (2008) note that traditional methods used in measuring the health of a nation included sheer length of life and the occurrence of major diseases. However, the author further notes that “the inclusion of varying levels of disability provides a more complex view of population health than has traditionally been used to develop health policy and interpret health outcomes” (Landorf et al., 2008, p.500).

The baby boom generation is recognized as a key demographic in current society; one that poses challenges not only in the job market as baby boomers are entering retirement age but further characterizes the dominant demographic driving change within planning and the built form. In particular, Statistics Canada data for the City of Waterloo showed that 10,875 individuals or 11.2 % of the population were over the age of 65 as of 2006 (Statistics Canada, 2009). Moreover, statistics provide additional evidence to the increasing instance of impairment among those 65 years and older. Data from Statistics Canada (2003) estimates that 40% of individuals 65 years of age or older experience some form of impairment. Based on the 2006 data for Canada’s population, individuals 65 and older made up 13% of the population or an estimated 4.3 million people, which translates to a population of elderly persons experiencing some form of impairment (at the 40% rate) of approximately 1.72 million people (Statistics Canada, 2010). It is evident that addressing our inevitably aging population and disability are equally critical to future planning efforts. However, knowing that one is increasingly associated

with the other makes it even more imperative to understand and subsequently address these issues simultaneously.

Furthermore, in 2008 the Ontario Professional Planners Institute (OPPI) held their bi-annual symposium entitled *The Grey Tsunami: Aging Communities and Planning* and focused on the challenges to be faced within the planning profession as a result of an aging population. As a result of the symposium, OPPI put forth a 'Call to Action' that recognized "Ontario's current built environments are not well suited in all cases to address the range of emerging issues being posed by a growing and aging population" (Ryan, 2009, p.1). Some of the challenges associated with planning for these changing demographics include (1) the fact that individuals are living longer but the rate of chronic diseases continues to increase, and (2) that there are limitations to one's mobility while movement patterns remain less predictable as a result of such mobility limitations (Ryan, 2009). It is clear that even professional institutes have begun to recognize the link between aging and disability. OPPI makes this evidently clear by noting that accessibility legislation will motivate some change but may also act as a potential baseline for addressing concerns regarding aging.

2.3 Addressing our Aging Population

There is an evident relationship between health and aging, the state of one's health will inevitably decline over time, but the question of how fast or what causes such decline is less apparent. Maintaining social networks and an active engagement in daily activities has been linked with healthy aging (Gardner, 2008). Specifically termed by Fange & Ivanoff (2008), but inferred within the literature reviewed (Gardner, 2008; Landorf et al., 2008; Neal, 2007; Sabia, 2008), is that "home is the hub of health". The concept of home for each individual, as not everyone resides in a single detached dwelling, acts as a foundation for maintaining the

aforementioned social networks and active engagement. The familiarity of one’s home not only supports health but induces a sense of ‘wanting’ to maintain health. However, recent studies in both gerontology and planning indicate that the urban environment may also influence the health of elderly individuals (Landorf et al., 2008). It has been estimated that elderly individuals, those well past retirement age, spend an average of 80% of their time within their home or place of residence (Fange & Ivanoff, 2008). Not only will individual’s homes pose significant challenges in addressing aging, as this is the hub of one’s later years, but determining how the greater built environment can be adapted to meet such needs further poses significant challenges.

Before delineating the specific models or approaches to planning for our aging population, it is imperative to outline the fundamental reasons for an older person’s choice of accommodations. As noted above, the home is the primary choice for living arrangements as one ages, but the ‘where’ and ‘why’ of a particularly located home remains unexplained. According to Sabia (2008), there are three identifiable stages within which the elderly decide to move and what motivates each action. The following table outlines the three stages of mobility and the respective characteristics associated with each category.

Table 1.0 – Mobility Stages among Older Individuals

AGE COHORT	DESCRIPTION
Retirement (65 years)	Primary reasons for residence location are the availability of amenities and alternative housing.
Mid 70’s	Mobility is resultant from the desire to be closer to family for both health and financial support.
Varying Age Response	Characterized by the decline of health and functionality to the point that institutional care is necessary, of which occurs at various stages among older individuals.

(Sabia, 2008)

The table above illustrates that the ‘where’ and ‘why’ of one’s selected place of residence has been explored within aging research. However, in order to more comprehensively understand

other factors that influence the living accommodations for our aging population, the following section will explore options currently available for seniors housing.

2.3.1 Where are the Elderly [expected] to be Living?

Accommodations for the aging population are at the forefront of community planning, as this demographic represents the fastest growing group in Canada, with those older than 80 years of age experiencing the greatest increase (Ontario Professional Planners Institute [OPPI], 2009). As of 2006, approximately 37 million Americans (8% of the population, compared to Canada’s 13.7%) were 65 or older, with those 85 years and older representing the fastest growing demographic (Franklin and Tate, 2009). According to research conducted by Robert Schafer (1999), in conjunction with Harvard University, housing for the elderly can be organized into five types. These include assisted communities, unassisted 60 plus communities, shared housing, supported housing and conventional housing. The following chart outlines the aforementioned housing types and details any services that may be associated with such housing.

Table 2.0 – Living Arrangements

HOUSING TYPE	DEFINITION
Assisted Communities	Communities for the 60 or older combined with support services. Services can include on-site and/or off-site nursing as well as meals
Unassisted 60+ Communities	Housing without any support services but specifically designed for an age-restricted group of elderly individuals
Shared Housing	Exists in two situations (1) when a non-elderly person who is at least 18 years old moves in with an elderly person for the purpose of assisting the elderly person or (2) when an elderly person moves in with a non-elderly person who is at least 18 years old for the purpose of receiving assistance from the non-elderly person
Supported Housing	Occurs when an elderly person receives supportive help in their home from an organization or an individual who is not a family member

Conventional Housing

Personal homes where no special services are provided and where assistance is needed it is primarily provided by family members

(Schafer, 1999)

In addition to the research from Schafer, the Ontario Professional Planning Institute [OPPI] concluded, in a 2008 symposium on aging and communities, that most new housing stock is provided in the form of single-family homes with options for the elderly limited to institutionalized homes and senior's only communities (2009). While there are a number of living arrangements that have been identified, it was initially expected that most elderly individuals would prefer assisted living options over other proposed arrangements (Schafer, 1999). Mahoney (2003) notes that, "for most fragile elderly, assisted living is only a stop on the way to the dreaded nursing home, not a final destination in itself" (p.565). As a result, contrary to what researchers first expected, older individuals consistently stated that they would prefer to live their later days in the comfort of their own home.

"A home serves as a symbol of identity, a place where a person can create a material environment that embodies what he or she considers significant. It is a powerful sign of the self. Home involves elements of independence, familiarity, activities of home maintenance, a place to entertain friends and is the site of important and memorable life events" (Mahoney, 2003, p.565).

Although there are a variety of driving factors regarding residential options, it is most consistently noted that individuals try and remain within their home as long as is physically feasible. With such, there are two proposed models that facilitate this desire and include 'aging in place' and 'successful aging'.

2.3.2 Successful Aging

Literature from the field of gerontology notes a fundamental transformation within aging research, from a fatalistic to an optimistic view (Franklin and Tate, 2009). This primary change resulted in more studies focusing on why certain individuals aged better than others and brought

forth three predominant social theories of aging. These three theories, which include disengagement theory, activity theory, and continuity theory, are attributed to the evolution of social policy and the eventual development of the concept of ‘successful aging’ (Franklin and Tate, 2009).

Disengagement theory, proposed by Cumming and Henry in 1961, was the first identified change in thinking toward aging processes. Although it does not hold influence today, it was instrumental for the time (Franklin and Tate, 2009). Just as the name implies, disengagement theory suggests that as people age they will inevitably begin to pull away from social engagements and roles (Franklin and Tate, 2009). This initial theory transformed the way aging was subsequently approached. It inspired researchers to further consider ‘other’ factors influencing aging and what that may mean for future generations.

Only two years after Cumming and Henry proposed disengagement theory, Havighurst developed and termed his activity theory of aging (Franklin and Tate, 2009). The activity theory, seen as completely countering the work of Cumming and Henry, suggested that maintaining social activities and roles can be attributed to greater satisfaction in life experiences (Franklin and Tate, 2009). Moreover, Havighurst notes that as certain social roles are lost throughout the aging process, it is imperative to develop new roles so as to maintain a sense of fulfillment (Franklin and Tate, 2009). The activity theory provided more tangible steps that older persons could take in order to achieve a more satisfying later life, rather than simply identifying what the end goal was. This fundamental change from the disengagement theory to the activity theory led to more in depth approaches to aging.

The most recent social theory of aging, as noted by Franklin and Tate (2009), was proposed in 1989 by Atchley and is termed the continuity theory of normal aging. Just as

Havighurst developed his activity theory upon the shortcomings of the previous disengagement theory, Atchley utilized the activity theory as a basis from which to develop the continuity theory. The main assumption of the continuity theory is that continued health throughout the later stages of life is dependent upon one's ability to maintain their behaviors, preferences and relationships as were present in earlier stages of their life, while also being able to adjust to the challenges of aging through the substitution or redistribution of activities for consistency (Franklin and Tate, 2009). From the early 1960's to the late 1980's there was a dramatic shift within the social theories of aging. Each of these theories provided the framework for later concepts, such as successful aging, that further explore how the elderly population can experience the fullness of life throughout the later stages of their lives.

From the above, Rowe and Kahn proposed successful aging in 1987 and was characterized by a hierarchy of 3 components: (1) absence or avoidance of disability or disease, (2) maintenance of cognitive and physical function, and (3) an active social engagement in life (Landorf et al, 2008). Essentially, the concept holds that health related problems prevalent in older individuals are not the result of normal aging effects, but rather a combination of lifestyle choices and other factors that increase the potential of experiencing disease and disability in later life (Minkler & Fadem, 2002). In order to age more successfully, one must recognize the contributing factors to things such as heart disease and stroke. Even in its earliest form, successful aging exhibits influences from the activity and continuity theories.

Although the concept of successful aging brought disease prevention and health promotion to the forefront of gerontology research, it is more heavily criticized for its inefficacy in identifying externalities not necessarily controlled by the individual. Rowe and Kahn (1987) state that factors such as diet, exercise, personal habits, and the psychosocial remain

underestimated as facilitators of healthy aging. The reality, however, is that the incorporation of a proper diet regimen or maintaining an active lifestyle will not guarantee that one does not develop an impairment and/or disease within their lifetime. However, the main criticisms of the concept of ‘successful aging’ are a lack of understanding and attention to aging with regard to one’s life course, inequalities on the basis of race, ethnicity, gender and disability, as well as loss and gains experienced throughout one’s life (Minkler & Fadem, 2002). There are certain steps that one can take to more proactively mitigate age associated health concerns, including proper exercise and diet to maintain a healthy body weight, but these practices do not ensure that health concerns such as cancer and stroke will never arise in one’s life.

2.3.3 Aging in Place

In response to the criticisms concerning the successful aging approach, the concept of aging in place was put forth. Aging in place was initially proposed as an adaptive measure for elderly individuals’ home environments in order to make the completion of day-to-day tasks easier. According to Sabia (2008), concerning elderly housing surveys in the United States, there is an unprecedented desire for longer independent living. Similar to successful aging is the underpinning of ‘quality of life’ and the facilitation of autonomy by remaining in one’s own home as a familiar environment. Specifically, The Institute for Life Course and Aging (2007) at the University of Toronto, notes that aging in place “acknowledges that older adults wish to live in their own communities for as long as possible and that home and community services will support this aim while being cost-effective” (p.5). Both successful aging and aging in place are founded upon the activity and continuity theories through an emphasis on preserving familiar environments and promoting continued social engagement. Tools such as home health care and a

variety of supportive services are utilized in the implementation of aging in place (Landorf et al., 2008).

With the initial conception of aging in place found to be too narrow, the concept was adapted to further recognize influences of the broader environment, rather than focusing just on an individual’s home. The principal objective of aging in place is to ensure that individuals can remain within their community at all stages of life, maintain familiarity with the physical environment, and extensive social networks to not only prolong but enhance quality of life. What is more, the current stock of assisted living or long-term care facilities cannot accommodate the number of seniors entering retirement age and, with that, promoted the idea of aging in place (Behr, 2009). The following chart delineates the positive and negative facets associated with the decision to age in place.

Table 3.0 – Aging in Place Influences

POSITIVE	NEGATIVE
Increased home equity	Increased property taxes and utility costs
Greater financial resources	Changes in family composition
Stronger ties and a familiarity with the community	Diminished physical well-being

(Sabia, 2008)

Access to financial resources can be a determining factor in whether or not older individuals have the opportunity to age in place and, in turn, increase equity in their home. Moreover, a familiarity with the environment can promote a healthier aging process and was specifically noted within the literature concerning the development of the aging in place concept. However, a change in the family situation/structure, or the financial burden associated with taxes and utilities, may force some to choose institutionalized care.

“These programs [aging in place and similar in-home care] may unwittingly be contributing to older people remaining in older rundown housing that jeopardizes

their physical health, safety, or security, that advances the decline of their neighbourhoods or that forestalls neighbourhood revitalization efforts” (Golant & LaGreca, 1994, p.803).

Research from Golant & LaGreca indicated that certain groups of older individuals would experience different challenges with regard to home maintenance and living conditions. These challenges may be a contributing factor to neighbourhood character but, more importantly, to the ability of one to age in place. As well, when one’s health deteriorates to a certain point, aging in place is no longer an option. Aging research from The Institute for Life Course and Aging (2007) indicates that “community supports for aging in place are not an ‘add on’ to an already overburdened healthcare system but rather a cost effective alternative to acute and institutional care” (p.39) and “the extent of over care and under care is a clear signal that programs and policy frameworks would benefit from more extensive implementation of evidence-based practice” (p.9). It is important to recognize all the factors contributing to older individuals living arrangements and have that reflected within planning policies.

2.4 Theoretical Underpinnings of Disability Policy

As a result of identified gaps within the aging research outlined above, the history of disability research has been further explored as a means to more comprehensively understand a planning model best supporting an aging population. It is essential that theoretical frameworks provide the basis from which to approach complex social issues. These frameworks highlight the perspective from which particular phenomena have been and/or may be explored, providing a basis to expand upon or challenge the current knowledge base. In particular, the development of disability policy should go beyond simply ‘what’ is disability, although the understanding of ‘what’ disability is represents a critical starting point for the development of theoretical frameworks and resultant policies. Policies must, as a result, build upon the ‘what’ and more

comprehensively address ‘how’ social processes influence the development and implementation of accessibility standards. In order to analyze the influences upon the development of disability policies, the following theoretical frameworks will be considered: the social and medical models of disability, the concepts of universal design, inclusive design, accessibility planning and an emancipatory approach.

2.4.1 Medical versus Social Models

History has seen the development of accessibility policies alternate between two opposing models of disability: (1) a medical model where disability is a condition of the body, and (2) a social model that recognizes the varying degree of impairments experienced by individuals and where disability is the result of implemented barriers hindering an individual from fully participating in society (Woodhams & Danieli, 2000).

“From the point of view of the medical model it is the individual, the impairment or the medical condition. Problems of communication emanate from the fact that the individual is deaf, or ‘has aphasia’ or is a ‘stroke victim’.” (French & Swain, 2004, p. 221)

Essentially, the medical model associates disability with the individual and is something requiring ‘treatment’ via medical procedures, where the social model recognizes that individuals may experience an impairment but being disabled is caused by a number of externalities not controlled by the individual such as the built environment and social structures of society. In particular, research from Barnes (2003) outlines the disabling facets of the social model including economical, environment, and cultural. These particular barriers are reflected by,

“inaccessible education, information and communication systems, working environments, inadequate disability benefits, discriminatory health and social support services, inaccessible transport, houses and public buildings and amenities, and the devaluing of disabled people through negative images in the media—films, television and newspapers (Barnes, 2003, p.9).

Experiences such as staring and under the breath comments can stop someone from using or enjoying a particular space, similar to the way in which stairs hinder individuals with potential mobility impairments from accessing such spaces. The social structures of society have facilitated an environment that treats individuals with impairments or those perceived as ‘not the norm’ different and with that can create a disabling environment.

The earliest definition of impairment, used until 1980, was based upon the medical model which was founded upon the classification of diseases (French, 1994). This early definition was used within professional and academic fields until the World Health Organization approved a more linear model where it was concluded that disease and impairment may cause further complex conditions (French, 1994). This new linear or causal model more comprehensively outlined impairment, disability, handicap, their relationship to the individual, as well as how each was fundamentally independent of one another but may co-exist in certain cases.

Even though the newly introduced linear model was accepted by the World Health Organization, this same model has been highly criticized by organizations directed by individuals with disabilities (French, 1994). Although there is evident consideration given to the social dimension of disability, the proposed model fails to address fundamental pressures throughout an individual’s life and may include education, home, and work environments (French, 1994). Through the continued misunderstanding of the meaning of ‘disability’ was the eventual development of a ‘social’ model. Best explained by Swain and Lawrence (1994) “A ‘social model’ of disability is advocated in which disability is defined in terms of and located within society rather than the individual”.

Even though the medical and social models have been utilized in different contexts and within different fields, it is imperative to understand the implications in using each model. A

fundamental point to consider, with regard to the medical model, is should any individual have a different set of rights as a result of what society has deemed ‘wrong’ with them?

“...even fully comprehensive and enforceable civil rights legislation will not, by itself, solve the problems of discrimination against disabled people. This is because, like racism, sexism, heterosexism and other forms of institutional prejudice, discrimination against disabled people is institutionalized in the very fabric of British society” (Barnes & Oliver, 1995, p.114).

Barnes and Oliver (1995) make particular reference to the United Kingdom but such an engrained discrimination has been observed elsewhere. Hardie et al. (1991) note that “for the first time, America is saying the biggest problem facing disabled people is not their own blindness, deafness, or other physical condition, but discrimination” (p.33). Until we recognize that the social environment can be just as disabling as the physical environment and more effectively address this facet, no amount of research will truly further the disability movement. Equality cannot exist in an environment that still makes decisions based upon the ‘average’; a development industry whose “conceptions of building users are either non-existent or revolve around an ‘identikit’ which reduces users to technical categories often bereft of human or social ascriptions” (Imrie & Hall, 2001, p.4). It remains imperative to consider the implications associated with those facets of one’s life outside their particular impairment and rooted within social structures of society and the utilization of the ‘average’ as the basis for designing the built environment.

2.4.2 Universal Design, Accessibility and Inclusive Design

Although terms such as ‘accessibility planning’ are often used interchangeably with ‘universal design’, there are fundamental differences between the two concepts. Moreover, disability literature utilizes the terms ‘barrier-free’ and/or ‘accessible’ when referring to the built environment but, similar to the above, there are different meanings to the terms. Defining each of

these concepts will highlight whether such was founded upon the medical or social models of disability and how this may influence the development of policies used within the planning process.

Foremost, universal design specifically refers to the “designing [of] all products, buildings and exterior spaces to be usable by all people to the greatest extent possible” (Hardie et al., 1991, p.2). This particular approach to design shows evidence of comprehensiveness and an adaptability of products and space. Universal design recognizes that the experience of an individual aided by a wheelchair, with respect to a product or facility, may differ significantly from an individual with a visual impairment and this difference must be understood at the outset of the development process (Hardie et al., 1991).

The primary reason for the introduction of universal design principles was that current building standards were outmoded and did not reflect the multifaceted needs of individuals, especially with regard to both the aging population and persons with disabilities (Nunn et al., 2009). Although this particular approach to equality in access has a seemingly more comprehensive approach, it is predominantly a technical fix and with such founded on the medical model of disability. This is particularly evident within the seven principles of universal design (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) which are most often referenced with regard to specific design elements within one’s home environment (Nunn et al., 2009). Features such as lowered countertops, lever door handles, and grab bars are just some of the products that reflect universal design and with such fails to address individuals’ social experiences outside the home environment.

Conversely, terms such as ‘barrier-free’ and ‘accessible’ do not reflect the same holistic approach as referenced by universal design. The simple removal of barriers or facilitation of accessible environments often only addresses the needs of particular impaired groups. Best described by Goldman (1983) in Hardie et al. (1991), “spatial relationships need to be experienced. Persons with disabilities must be able to enjoy the psychological aspects of a structure, not only the individual points or planes within it” (p.8). Spaces and/or places are more than the physical elements that collectively make up these environments. Rather, they are a series of often intangible social, cultural, and environmental experiences specific to the individual. There remains a ‘simplicity’ to the concepts of ‘barrier-free’ and ‘accessible’ in comparison to the previously delineated ‘universal design’ but, nonetheless, each of the respective concepts embody the assumptions associated with the medical model.

The literature does outline some of the debates regarding the implementation of barrier-free, accessible, and universal design features and includes (1) the client led development project, (2) a lack of understanding about design features and accessibility needs, and (3) the financial burden associated with this alternative approach (Imrie & Hall, 1999).

“Perceptions of increased costs, related to the loss of usable space/seating capacity for a minority group which do not pay a commercial rate for benefits provided’, influence client and/or developer behaviour” (Imrie & Hall, 1999, p.420).

A significant number of larger scale development projects are highly influenced by the desires of their respective clients/stakeholders and, as a result, the developer loses some degree of control to facilitate universal design features. Moreover, there is an evident lack of education, among both the developer and client, regarding the definition of disability and how this affects the designing of spaces as well as the financial costs (Imrie & Hall, 1999).

Although considerable debate has occurred with regard to the implementation of universal design features, it is the debate concerning financial costs that is a misconception (Hardie et al., 1991; Imrie, 2000; Imrie & Hall, 2000). Universal design features incorporated within initial plans will actually minimize future costs, as retrofitting environments is much more costly than including such features at the outset (Hardie et al., 1991; Tombesi, 2002). According to Nunn et al. (2009), universal design is associated with a 1% - 5% increase in project costs and is most often associated with the need for additional site grading to ensure that no steps are required for entrance. Addressing lot grading at the outset of a proposed development incorporates the financial commitment within initial budgeting. This may be offset within other project areas as well as eliminates the cost of retrofitting the site/building.

A final proposed approach is that of inclusive design which is arguably the most comprehensive. “Inclusive design is ‘dependent on property professionals’ sensitivity to the development contexts and knowledge of the building needs’ of different groups of users” (Tombesi, 2002, p.545). This quote outlines the primary objective of inclusive design and was put forth by Imrie and Hall’s (2001) book ‘Inclusive Design: Designing and Developing Accessible Environments’. Inclusive design is an approach proposed in response to architectural and design professionals’ simplification of disability to those with mobility impairments and wheelchair users, while maintaining an emphasis on the aesthetic and décor (Tombesi, 2002). Inclusive design addresses more than the physical environment but rather the experiences that individuals and/or groups would have as a result of the incorporation, or more accurately the lack of, inclusive features. These particular environmental or experiential barriers can be visual, psychological, spatial, acoustic and even tactile, but is often times attributed to the fact that environments are not self-explanatory (Tombesi, 2002).

For example, how often does one walk into an average mall or onto a university campus and know exactly where they want to go and how best to get there? For the average individual there are hard to find signs and semi-distinguishable paths to take, among other cues, but for an individual with a visual impairment, as a single example, the signs would be negligible and the path may change grade, material, or direction without warning. Experiences such as these are often unaddressed through traditional planning approaches, but are being brought to the forefront through inclusive design. Based on the characteristics outlined above, inclusive design can be thought of as an improvement upon previous approaches and is more reflective of the social model of disability.

However, like many approaches to disability and the environment, the primary objectives of the proposed models also represent the fundamental challenges to implementation. Social, attitudinal, cultural and physical barriers each play a significant role in the providing of equal access and it is the breaking of social perceptions, changing of attitudes, adapting of physical environments, strengthening of legislation, and the provision of fiscal incentives that together pose the challenge to implementation.

“Inclusive Design contests the financial underpinnings of user-unresponsive development in three ways: by using demographics to show the existence of a market for truly accessible environments; by suggesting (more than demonstrating) that the provision of such environments is not as prohibitively expensive as people generally believe (and can be facilitated); and by questioning the whole idea of costs and returns” (Tombesi, 2002, p.545).

The concept of inclusive design recognizes and responds to the issues stemming from previously proposed frameworks. Costs associated with inclusive design are not that much more demanding than traditional approaches and statistics show that there are a number of people who will benefit from the design provisions. “Design accessibility costs are marginal when considered in relation to other development factors such as location, land prices and interest

rates” (Tombesi, 2002, p.545). A more comprehensive, multidisciplinary approach is imperative to the implementation of inclusive design and illustrating the changes such a model can facilitate. More often than not, seeing is believing; the intangible aspects of social and cultural experiences are not clear expressions to the field of planning the true issues facing individuals with impairments.

2.4.3 Emancipatory Research: What is it?

A more recent theory regarding disability research and its influence upon disability policy is that of emancipatory research. The previously delineated literature illustrates how theories such as universal design, inclusive design, accessible and barrier-free exhibit a foundation based upon either that of a medical or social model. Although the medical model was critical in developing a number of theories concerning disability, it is the social model that continues to more comprehensively evolve. Emancipatory research identifies new dimensions to be explored when approaching disability research.

“The emancipatory paradigm, as the name implies, is about the facilitating of a politics of the possible by confronting social oppression at whatever level it occurs. Central to the project is a recognition of and confrontation with power, which structures the social relations of research production” (Oliver, 1992 as cited in Barton, 2005, p.319).

Although emancipatory was initially termed in the early 1990’s in the United Kingdom, with regard to disability research, it wasn’t until more recently that researchers really began to explore the concept. “In essence, emancipatory disability research is about the empowerment of disabled people through the transformation of the material and social relations of research production” (Barnes, 2003, p.6). The emancipatory research paradigm goes beyond a simple definition of disability and encourages the collective empowerment of individuals with disabilities through more comprehensive research with regard to political, environmental, social

and cultural structures. Adapting the role of the researcher to that of facilitator, in the effort to remove both physical and social barriers, remains fundamental to the emancipatory research approach (Barnes, 2003). The following chart delineates the key characteristics of emancipatory research.

Table 4.0 – Emancipatory Research Characteristics

EMANCIPATORY RESEARCH MODEL	
Problem of Accountability	Research switches from biology or impairment based to commitment. Researchers put their knowledge and skills at the full disposal of disabled individuals and their respective organizations. Accountability is reflected in commitment rather than career prospects or lucrative contracts.
Social Model of Disability	A once radical approach, the social model of disability provides the foundation for emancipatory research. Recognizes economic, environmental and cultural barriers to one’s full participation in society.
Choice of Methods	Rooted in qualitative research rather than quantitative in order to capture the complexity associated with impairment and disability. However, selected methods should be logical, rigorous and open to scrutiny but also address the goals of the sponsoring organizations and research participants.
Empowerment, Dissemination and Outcomes	The fundamental goal of emancipatory research is acquiring data to produce practical and tangible results for disabled persons. Considered an ongoing investigative project with information controlled by organization led by individuals with disabilities to stimulate further demand for change.

(Barnes, 2003)

It is evident from the chart above that there is a shift in control from the researcher to those directly impacted by the research being conducted. Emancipatory research attempts to facilitate an autonomy and authoritative position for those individuals and groups seeking positive change for such marginalized populations. Bennett (2002) outlines six defining principles from the research of Stone & Priestley (1996). These include:

- (1) Choosing an epistemology,
- (2) Determining the utilization of quantitative versus qualitative research methods,

- (3) Identify practical benefits that can come from conducting such research,
- (4) Reversing social relations of research production,
- (5) The surrendering of objectivity and committing oneself to the supporting organization, and
- (6) Ensuring definitions and principles coordinate between researcher and participant perspectives.

While there is an abundance of disability literature, as outlined above, it is important to illustrate how emancipatory research improves upon conventional approaches. Barton (2005) explores the particular issue of how research, in general and from various institutions, is heavily critiqued. Common critiques include the misuse of limited financial resources, over utilization of field/profession specific jargon, political biases evidenced within material, and the inapplicability to schools and classrooms with no consideration about the economic state of society (Barton, 2005).

The questionable usefulness of research, as outlined by Barton, is addressed via emancipatory research which encourages a fundamental shift in how research is perceived. More specifically, the purpose, process, and outcomes of research (Barton, 2005). Ensuring that information derived from the planning, implementation, and dissemination stages is appropriately communicated to disabled persons and the respective organizations, helps in addressing whether or not the purpose, process and outcomes of such research is enabling for those affected.

“What does most research in the field of disability look like? It looks a great deal like the research into measles. The goal is prevention. Cures are sought. However, disability is not a medical condition that needs to be eliminated from the population. It is a social status and the research agenda must take into account the political implications attached to that status. A new research framework seeks to prevent the conditions that make disability a liability in social and economic participation. It identifies ways to increase individual control over social well-being, rather than defining social well-being as the absence of disability” (Rioux & Bach, 1994 in Barton, 2005, p.320).

Historical research approaches, outlined within section 2.4.1 above and illustrated within the above quote, were rooted in medical conceptions. The emancipatory approach recognizes such deficiencies and proposes several characteristics that should be incorporated within future research. It is evident that an emancipatory approach is rooted in the social model and provides guidance for the treatment of individuals while conducting disability research. The principles proposed through this approach can be used to ensure that the political, environmental, social and cultural structures of the policy context have been appropriately considered within policy development and/or in conducting research.

2.5 The Theoretical Framework for this Research

The above literature has highlighted the theoretical underpinnings of both aging and disability research. However, in order to conduct this research it is imperative to outline the theoretical framework utilized in assessing for an age-friendly model within planning policy. While each of the previously delineated theories has influenced the understanding of the aging process and addressing the needs of individuals with disabilities, not all of these theories and associated objectives lend themselves to this particular research and associated methods. This research focuses upon an age-friendly model but further considers how addressing the needs of individuals with disabilities within planning policy actually provides a more comprehensive analysis of an age-friendly community.

The theoretical underpinnings of this thesis are a combination of a broadened model of aging in place, with consideration given to the objectives of the universal design paradigm. Aging in place is a very particular model of an aging supportive community but is founded upon ensuring individuals can remain within their community at all stages of life, maintain a familiarity with the physical environment and the social networks of one's life. Broadening aging

in place to age-friendly development provided the literature base to identify the facets desired/needed within an aging supportive environment. Moreover, this research further broadened the concept of age-friendly to encompass the objective of ‘designing for all’ through accessible environments. ‘Accessible’, for the purpose of this thesis, is to mean facilitating access and/or use with particular measures in addressing this ‘accessibility’ identified through the principles of universal design. Universal design is more reflective of what planning policy can mandate/facilitate within the built environment.

While emancipatory research and inclusive design have been identified as ‘optimal’ models for addressing the role one’s social environment plays within disability, these particular frameworks don’t reflect the review of planning and land use policies. ‘Planning’ for the purpose of this research and the analysis of an age-friendly model is to mean municipal policies enacted under the Planning Act of Ontario but removed from the actual process of reviewing, approving, and implementing a proposed development. Removing the ‘process’ of planning, and with that public participation, provides a means to understand how and/or whether the land use policies alone support an age-friendly model. An aging supportive community will not be seamlessly achieved if certain facets of an age-friendly model are incorporated on a development by development basis.

2.6 Policy Analysis: An Overview

Although there are a number of definitions for the term ‘policy analysis’, the basic assertion is that it is a decision-making tool utilizing the evaluation of new information against existing information; and decisions, not actions, are the unit of organization (Gill & Saunders, 1992a; Gill & Saunders, 1992b). The following two definitions provide an illustration of policy analysis and when and how it is typically used.

“The policy sciences and policy analysts try to describe such events in their reality and unreality; to provide suggestions and guidance for courses of action to persons in authority or with the power to change circumstances.” (Brewer & deLeon, 1983)

The second quote comes from a more recent source and is truly centered on the term ‘policy analysis’.

“Policy analysis is a process of multidisciplinary inquiry designed to create, critically assess, and communicate information that is useful in understanding and improving policy.” (Dunn, 2004)

It is evident from the above definitions, further to that noted by Gill and Saunders, the reference to decision-making processes as the assessment of information in order to provide the basis for decisions. Terms such as guidance, inquiry and assessment are indicative of what policy analysis entails and how analysis is imperative to both the development of and/or monitoring of policy.

2.6.1 How is Policy Analysis Done?

Undertaking a policy analysis can become very complex in that there are both social and political influences and/or effects (Bardach, 2000). Stakeholders may range from community members to professionals or from whole communities to greater society. What is more, there is no single process for policy analysis to adhere to. However, there are a number of frameworks and identified approaches to analysis within policy literature.

The first framework for policy analysis, provided in an almost step-by-step process, is the Eightfold Path from Bardach, (2000). This particular framework delineates eight key elements to policy analysis which include:

- (1) Define the problem
- (2) Assemble some evidence
- (3) Construct the alternatives
- (4) Select the Criteria
- (5) Project the outcomes

- (6) Confront the trade-offs
- (7) Decide
- (8) Tell your story

Bardach, (2000) states that, policy analysis is more of an art than it is a science and as such relies on both intuition and method. Therefore, the above ‘path’ or process for policy analysis may not include each step, necessarily fall in that order, or be undertaken only once. However, Bardach (2000) does note that problem identification is almost always the correct starting point, telling one’s story is normally a concluding point, and the development of alternatives and selection criteria is critical to the later stages of the process.

Slightly different from the ‘list’ provided by Bardach, Dunn (2004) delineates five methods to policy analysis and the five procedures respectively associated with each method. Dunn references policy analysis as “a series of *intellectual* activities embedded in a *social* process” (2004, p.43) and recognizes that analysis is contained within the cyclical process of policy-making and is, therefore, comprised of many feedback loops. The following chart outlines the method, procedure and what that entails with regard to policy analysis.

Table 5.0 – Methods for Policy Analysis

METHOD	PROCEDURE	DESCRIPTION
Description	Monitoring	Produces information about the observed outcomes of a given policy/policies
Prediction	Forecasting	Produces information regarding the expected outcome of a given policy/policies
Appraisal	Evaluation	Provides information about the value or worth of observed and expected outcomes in relation to the policy under consideration
Prescription	Recommendation	Produces information about a preferred policy/policies
Definition	Problem Structuring	Provides information about what problem to solve

(Dunn, 2004)

Although each of the outlined procedures is considered part of policy analysis, it is further evident that there is no definitive process to be followed. There are specific elements that repeat from Bardach’s framework (Problem definition, evaluation, recommendation/alternatives) but no holistic approach that can ultimately capture all fields in which policy analysis may be used. Moreover, Gill and Saunders (1992a) note that the policy analyst often works between defining the objective, establishing and ranking alternatives, predicting outcomes, and establishing criteria. These frameworks provide a basis for the researcher undertaking a policy analysis, however, each step used in one’s policy analysis should be reflective of the research context and explicitly noted within the methods of each study.

2.6.2 Evaluation/Analysis Criteria

Although there is no consensus on how exactly policy analysis should be undertaken, what is most consistent within the literature is the importance of evaluation criteria (Bardach, 2000; Brewer & deLeon, 1983; Dunn, 2004; Gill & Saunders, 1992; Nagel, 1990; Rycroft, 1978; Spicker, 2006). “Many different measures are required to assess system performance and to evaluate policy impacts” (Brewer & deLeon, 1983). In order to understand the complexity of policy development, implementation, and the eventual effects, policy makers and analysts must establish criteria as a form of clarification for such complexities.

Table 6.0 – Criteria for Policy Evaluation

RYCROFT (1978)	BREWER & dELEON (1983)	BARDACH (2000)	DUNN (2004)
Representativeness	Efficiency	Efficiency	Effectiveness
Efficiency	Equity	Equity/Equality	Efficiency
Equity	Adequacy	Freedom/Community	Adequacy
Effectiveness	Effectiveness	Legality	Equity
Responsiveness		Political Acceptability	Responsiveness
Responsibility		Robustness/Improvability	Appropriateness

Characteristics such as efficiency, effectiveness, and equity are most consistently noted within the literature. Rycroft (1978) referenced a historical reliance on the indicators of efficiency and effectiveness, stating that “this reflects a strong rationalist preference for standards of economy in government” (p.88). As a result, Rycroft only provided the definition of equity as he felt the understanding of efficiency and effectiveness was obvious due to the higher utilization. Although Rycroft claims there is less agreement regarding the definition of equity, as was the case in 1978, there is a common definition among the literature reviewed for this research. Equity refers to the fair distribution of goods or services among various groups (Brewer & deLeon, 1983; Dunn, 2004; Rycroft, 1978). Specifically, equity involves the measurement of “the percentage of a group needing service that actually receives it and the variance among groups in the quantity of services received” (Brewer & deLeon, 1983).

Effectiveness is the most defined criterion and can be simply expressed as determining whether or not a given outcome was desired. Dunn (2004) defines effectiveness as “whether a given alternative results in the achievement of a valued outcome (effect) of action, that is, an objective” (p.224) where Brewer & deLeon (1983) define it more precisely as a measure of an observed outcome versus that planned over a particular timeframe. There is considerably less explanation for effectiveness but the consensus between the two sources is fundamentally linked to determining whether what was desired was achieved.

With regard to efficiency, the principal meaning can be attributed to the maximizing of desired benefits while minimizing the ‘cost’ to attain such benefits. Brewer and deLeon (1983) simply refer to efficiency as inputs versus outputs, where Bardach (2000) provides significantly more detail stating that it is about “maximizing the aggregate of individuals’ welfare as *welfare* would be construed by the individuals” (p.20). Efficiency is about maximizing net benefits or

acquiring the most one can for what they are willing and/or able to put out. Finally, Dunn (2004) utilizes the measure of effectiveness as the basis for defining further criteria including efficiency, which is stated as the level of effort required to reach a desired effectiveness.

An additional criterion to be defined, for the purpose of providing an understanding of general policy analysis, is adequacy. Brewer and deLeon (1983) note that equity and adequacy do not address the same standards of policy implementation, as equity refers to the socially derived distribution of resources, where adequacy represents the pure availability of resources to meet established needs. The development of successful policies relies on ensuring that the fundamental objectives are linked to adequate resource availability (Brewer and deLeon, 1983). While there are a number of other criteria that may be used within policy analysis (responsiveness, responsibility, representativeness, validity, legality, political acceptability, feasibility), the previous outlined criteria of efficiency, effectiveness, adequacy, and equity illustrate the fundamental elements within policy analysis. Without an efficient, effective, adequate, and equitable policy foundation, there is no basis from which to judge the further criteria. Policies may reflect the political agenda of council and be feasible to implement, but if the same policy is inefficient, ineffective, inadequate, and inequitable, then there remains little point in carrying out such policy objectives.

2.7 Summary

The understanding of disability and the process of aging have undergone many changes over the last few decades. Addressing the needs of older persons has made significant advancements toward the goal of providing longer, independent lives rather than defaulting to nursing homes and long-term care facilities when living at home begins to pose challenges. Similarly, the concept of disability has evolved from a direct problem of the individual to the

inability of someone with an impairment to fully participate in community life as a result of social, cultural, and physical barriers. Research has illustrated the link between aging and disability and how as one ages the prevalence of impairment increases significantly.

This chapter and review has explored the concepts of aging and disability in order to determine how community planning can and should address these issues within future development efforts. The remainder of this thesis explores how the principles of an age-friendly model can be measured within planning policy. Utilizing a policy analysis approach, the above is applied to a particular case study in the City of Waterloo.

Chapter 3

Methodology

3.1 Introduction

In order to address the posed research question of (1) to what degree are current planning policies within the City of Waterloo reflective of an age-friendly approach to planning, this thesis research focuses on two primary objectives. The first objective is to review disability and aging research, predominantly independent of one another, and identify how each is reflected within planning policy. This review was accomplished within Chapter Two where the concepts of disability, in relation to accessibility, and aging were explored. The second objective is to define and explore the concept of ‘aging in place’ and more broadly age-friendly development, while determining whether or not the principles of such concepts are incorporated within current City of Waterloo planning policies. Although the initial part of objective two was incorporated in the literature review, the latter will be addressed, in part, within this section. In order to examine the principles of an age-friendly approach and their incorporation within planning policies, an assessment tool must be devised and is accomplished throughout Chapter Three. Chapters Four and Five will discuss the findings of the policy analysis and how an age-friendly model is and/or can be better reflected within planning policy.

3.2 Research Strategy

In order to answer the research question outlined above, a combination of quantitative and qualitative methodologies will be employed. Foremost, an in-depth literature review presents both aging and disability research as they relate to fields such as gerontology and planning. A comprehensive review of books, journal articles, and scientific studies delineates the breadth of research that has already been undertaken, while also highlighting the deficiencies or gaps within

such research. This, in particular, provided direction for this research to ensure that conclusions drawn advance the knowledge base for both the academic and professional fields.

After identifying the key findings within the literature, it was imperative to illustrate the particular demographics included within these studies and how that relates to the population for the City of Waterloo. Statistical data concerning age and disability can be drawn from the literature, but is more comprehensively presented through the utilization of data sources such as Statistics Canada. Quantifying the demographics for the City of Waterloo can provide insight into the issues that may arise, with regard to future community development and/or the needs of individuals today, while also ensuring that this thesis research has relevance within the selected case study.

Although quantifying current and expected demographics is essential to understanding the resident make-up of a community, the predominant component of this thesis research is a qualitative policy analysis. As was outlined within Chapter 2, there has been a fundamental shift in both aging and disability research to recognize the social dimensions of individual's lives and how that relates to disability and healthy aging. Since planning for communities/individuals is a process guided by policies, it is imperative to understand how these policies actually translate to on-the-ground development and whether or not these policies reflect the needs of marginalized groups such as the aging population and those with disabilities. For the purpose of this thesis research, the focus will be on the specific provisions of land use policies passed by the City of Waterloo, independent of the actual implementation process of a development application.

3.3 Case Study: Defined and Designed

According to Babbie & Benaquisto (2002), the case study approach to research is defined as “a focused, detailed investigation of a single instance of some social phenomenon like a town,

an industry, a community, an organization, or a person” (p.489). The design of case studies, according to Yin (2003), can vary depending on the type of case study but there are five critical components:

- (1) a study’s questions
- (2) its propositions, if any
- (3) its unit(s) of analysis
- (4) the logic linking the data to the propositions, and
- (5) the criteria for interpreting the findings.

It is imperative within any study to develop the fundamental research question(s) in order to determine the research approach. With regard to the propositions, this is defined by Yin (2003) as areas within the scope of the study that require specific attention. Where propositions have not been outlined, Yin notes that the purpose(s) of the study and the criteria for evaluation should be delineated instead. Finally, one must define the ‘case’ and then outline the appropriate criteria to be used in interpreting the findings of such case.

3.3.1 Strengths and Weaknesses

Although the definition of case study does vary across the literature, one can draw conclusions regarding the type of investigation that is facilitated through this approach. The most prominent strength of the case study approach is the in-depth information that is gained about the selected case (Gerring, 2004; Yin, 2003). The application of a case study approach is advantageous in the investigation of particular phenomenon. Essentially, the case study allows the researcher to explore the ‘how’ and ‘why’ of real-life social complexities and more holistically understand the phenomena and its meaningful characteristics (Yin, 2003). Gerring (2004) expresses this strength in terms of its exploratory, descriptive and in-depth nature.

However, like any research method, there are weaknesses or limitations to its application. Yin (2009) notes that common concerns of the case study method are whether it can provide a basis for generalization, a lack of rigor from unsystematic procedures as compared to other methods, as well as the lengthy time it can take one to do case study research. In order to address the subjectivity of the case study method, a test of validity can be used and is incorporated through the development of an analysis tool devised from a number of different sources, while also maintaining consistency with the research objectives. Section 3.7 – Research Design Quality further addresses the utilization of a case study method and how the strengths and weaknesses of such this approach have been addressed within this research.

3.3.2 Using a Case Study for this Research

In order to explore the utilization of an age-friendly model within planning policy, the case study represents the best approach. “A case study is the intensive study of a single case where the purpose of that study is – at least in part – to shed light on a larger class of cases (a population)” (Gerring, 2007, p.20). Disability, accessibility, aging, and age-friendly are just some of the catch-words that represent the real-life social complexities or phenomena of today. While there has been considerable research concerning the physical facets of the built environment that support/hinder older persons and individuals with disabilities, it is important to understand the policies that facilitate these supportive and/or hindering environments. Utilizing a single primary case provides a focused, in-depth look at the hierarchy of municipal planning policies and whether an age-friendly model is reflected within these policies.

3.4 Selected Case Study

According to Statistics Canada data for the City of Waterloo, there were 10,875 individuals or 11.2 % of the population over the age of 65 as of 2006 (Statistics Canada, 2009).

Furthermore, 3.3% and 40% illustrate the disability rates among children under the age of 12 as well as those 65 and older (Statistics Canada, 2003). Applying the 40% disability rate to the City of Waterloo there was an estimated 4,350 elderly individuals who experienced some form of activity limitation, although current numbers can be expected to be higher than that. With a difference of more than 36% in the disability rate from children to retired persons, elderly individuals experiencing some form of disability will unavoidably influence the future of the built form. Moreover, impairments developed throughout one's life become increasingly complex and will inevitably pose challenges planners are only beginning to understand and address. Therefore, it is the way in which we plan communities that must become more comprehensive in nature, reflecting the life cycle, in order to more effectively deal with the spectrum of disabling experiences associated with aging.

3.4.1 Case Study Selection Criteria

Yin (2003) notes that although the selection of suitable 'cases' may require the comparison of several available sites in order to determine the most viable option, there are times when "you have chosen to study a unique case whose identity has been known from the outset of your inquiry" (p.78). Moreover, Stake (1995) further states that the selection of a 'case' is significantly influenced by both time and access. This means that the timeframe for conducting fieldwork is limited and that selected cases should be "easy to get to and hospitable to our inquiry" (p.4). Access to the City of Waterloo and their respective policies is significantly aided by the University of Waterloo's location and has guided this research from the outset. Furthermore, the incorporation of interviews within the City of Ottawa, as a check to these research conclusions, allows one to measure the generalizability of this study and it is aided by access as a result of a recent relocation to the City.

Moreover, a study concerning Ottawa seniors noted that there were 100,875 seniors living in Ottawa, as of 2006, which represented 12.4% of the City's population (City of Ottawa, 2011a). While Waterloo and Ottawa are quite different in land area and total residents, with Ottawa having about 10 times the number of residents, they are dealing with similar percentages of senior residents and will inevitably face similar challenges in planning for such demographics. Waterloo currently has a senior population of 11.2% with Ottawa represented at 12.4%. Therefore, both the City of Waterloo and City of Ottawa represent appropriate 'case' selections in order to conduct this thesis research.

3.5 Data Sources and Collection

Sections 3.1 through 3.4 outlined the basic research strategy employed for this thesis. This section will more comprehensively outline the specific data sources used in addressing each of the research questions posed, how such data sources were incorporated within particular research methods, and the additional sources identified for the analysis of prescriptive policy for age-friendliness.

3.5.1 Age-Friendly Plans, Studies and Publications

Statistics Canada (2003) estimated that 40% of those 65 years of age or older experienced some form of impairment. Based on the 2006 data for Canada's population, individuals 65 and older made up 13% of the population or an estimated 4.3 million people, which translates to a population of elderly persons with disabilities (at the 40% rate) of approximately 1.72 million people (Statistics Canada, 2010). The nature of aging is evidently complex and in order to better understand the impacts associated with the built environment, an equally complex or diverse collection of literature has been gathered.

There is a variety of literature published on the topic of age-friendly communities and, within this research, span the spectrum of plans, presentations, reports, studies, evaluation guides, and surveys. More specifically, the publications reviewed geographically came from Canada, the United States, Australia, as well as the World Health Organization. The complexity of aging and disability necessitates such a variety of documents in order to ensure that a thorough review has been conducted and drawn conclusions are reflective of the subject matter. For this research, multiple sources on age-friendly communities were selected to more comprehensively identify the principles and criteria to be used in identifying the needs of older persons within their community. Appendix A details the 10 sources used in developing the initial Age-Friendly Waterloo Checklist, where Appendix C further delineates the literature used in developing the Evaluating for Age-Friendly within Prescriptive Policy tool.

3.5.2 Provincial and Municipal Plans, Studies and Documents

Guiding this research is the primary question of whether or not City of Waterloo planning policies are reflective of an age-friendly approach. Before analyzing any planning outcomes, it is imperative to understand the planning process and how particular policies relate to one another. According to the Ministry of Municipal Affairs and Housing (2010), planning in Ontario is foremost determined by the Planning Act which “sets out the ground rules for land use planning in Ontario and describes how land uses may be controlled, and who may control them”. Next down the hierarchy is the Provincial Policy Statement (PPS) and other provincial plans such as the Places to Grow or Greenbelt Acts (Municipal Affairs and Housing [MAH], 2010). Finally, planning policies are developed and implemented at the regional and municipal levels and include regional Official Plans, municipal Official Plans, Zoning By-laws, and the more detailed subdivision and sites plans (MAH, 2010). The hierarchy ensures that even site-specific

provisions at the local level remain consistent with the overarching goals of the province, which acts to guide growth over the long-term.

To facilitate the analysis of City of Waterloo planning policies, so as to determine the degree to which aging is or is not addressed, this research will utilize the City's draft Official Plan of 2010, the Official Plan of 1990, the two Zoning By-laws current to 2010, as well as the City's Urban Design Manual. The incorporation of the 1990 Official Plan represents the OP currently passed by council. Municipal Official Plans are imperative to this analysis as they represent "a municipality's primary strategic document for guiding land use and development", which further provides the basis for the development of more specific, detailed policies such as Zoning By-laws and urban design guidelines (City of Waterloo, 2011).

3.6 Policy Analysis

For this research, an age-friendly checklist was selected as the optimal assessment tool. The development of the Age-Friendly Waterloo Checklist (Appendix B) provided the means to detail and analyze for the specific principles of an age-friendly model, while doing such within the timeframe of conducting a Master's thesis. This research utilized previous studies and literature concerning age-friendly models to identify six particular dimensions (outlined within table 7.0) of an age-friendly model and the specific principles (delineated within Appendix A) reflective of these dimensions. While the literature concerning policy analysis outlined the most common criteria as efficient, effective, equity, and adequacy, the policy analysis of this research is tailored to the specific facets of an age-friendly model. While it is important to devise and implement policies that are efficient, equitable, and effective, these particular criteria do not address the specificity of the research question of how planning provisions support our aging

population. The policies selected are analyzed with respect to land use controls independent of the process of planning and/or policy development.

Similar methods have been used in the research of aging and the urban environment from Landorf et al. (2008), where three sustainability dimensions were drawn from previous research and further criteria were detailed as a way to measure sustainability. Moreover, many of the publications/studies reviewed were developed as guides for the establishing of age-friendly communities and included numerous lists outlining the specific age-friendly features desired within specific community spaces. The World Health Organization took this approach one step further when they conducted the WHO Age-Friendly Cities project, where consultations were conducted in 33 cities across 22 countries and the final product was a checklist to measure how individual cities are progressing (WHO, 2007a).

Policies to be utilized in the analysis include City of Waterloo zoning ordinances, Waterloo's Official Plan, and the City of Waterloo Urban Design Manual. Each of the aforementioned policies influences development which inevitably impacts both the elderly population and individuals with disabilities. The following table delineates and defines the six dimensions to be used in analyzing, predominantly, City of Waterloo Official Plan policies. Each of the subsequent definitions have been derived from the review of literature outlined within Appendix A (AARP, 2005a; AARP, 2005b; ALGA, 2006; Canadian Urban Institute, 2007; City of Brantford, 2008; Day, 2010; Menehan et al., 2009; Ryan, 2009; WHO, 2007b; Zacharias, 2009) dealing with the development of age-friendly communities.

Table 7.0 – Age-Friendly Dimensions

DIMENSION OF AGE-FRIENDLY	DEFINITION
Social / Recreation	The promotion of social interaction/involvement through places to rest (informal) and volunteering (formal), while also providing recreation and work opportunities that are accessible to those who wish to participate.
Housing	Addressed through the utilization of the planning and development process to ensure that a mix of housing types and tenures are affordable and accessible to those in need now, while also anticipating future need.
Transportation	Refers to the providing of alternative, accessible, and affordable forms of transit that allow individuals access to local community services as well as inter-county services and, where possible, enhancing the road environments to prolong driving opportunities for older individuals.
Walkability	Promoting the option of walking through appropriate distances between differing zones (commercial and residential), while placing an emphasis on elements such as places to rest, suitable sidewalk widths and curb cuts.
Health Services	Providing access to the necessary forms of health care (traditional local clinics, in-home and palliative care), while recognizing that factors such as litter and air pollution can be contributing factors to the deterioration of health.
Built Environment	The ‘built environment’ can not quite be defined but rather provides a broad range of facets that should be considered within the development of age-friendly communities. Specifically, the incorporation of appropriate signage to enhance navigation, while utilizing non-urbanized elements (such as vegetation) to promote healthy, age-friendly communities.

In order to determine the degree to which City of Waterloo planning policies address the needs of an aging population, the Age-Friendly Waterloo Checklist was derived from the above noted publications/studies and outlines detailed principles that have been incorporated or are desired within an age-friendly community. Each of the dimensions associated principles will be coded as explicit (E), implicit (I), or not evident (NE) in reviewing the City of Waterloo planning policies. For the purpose of this research implicit, explicit and not evident are to mean “issue

addressed without specific reference to older people, issue addressed with overt reference to older people and issue remains unaddressed”, respectively (Landorf et al., 2008). The identification of explicit principles will include a particular reference to the senior, elderly, or older population, where the implicit identification of the various principles involved a more subjective review. Implicit was coded where particular policy provisions reflected the intent of the principle. For example, some of the principles delineated within the Age-Friendly Waterloo Checklist used the terms clean, clear, healthy, or tenure, where the provisions of the City of Waterloo’s Official Plans utilized terms such as maintained, quality, or, with regard to tenure, rental and ownership. The definition of particular terms and the intent of the provision were thoroughly reviewed for principles coded implicit. Appendix B – Age-Friendly Waterloo Checklist is a copy of the checklist used in reviewing the City of Waterloo’s Official Plans and an initial review of the Urban Design Manual and Zoning By-laws.

3.6.1 Developing the Evaluation Guide for Prescriptive Policy

Building upon the initial research concerning age-friendly communities, in combination with literature specifically concerned with the development of age-friendly supportive Zoning By-laws and prescriptive policy, the Evaluating for Age-Friendly within Prescriptive Policy (Appendix D) tool was devised. After analyzing City of Waterloo policies through the Age-Friendly Waterloo Checklist, it was evident that the delineated principles were more reflective of the intent/structure of Official Plan policies and not as telling for Zoning By-law and urban design provisions. Social and recreational opportunities, varied housing forms, and safe/livable neighbourhoods were each principles used in assessing for an age-friendly community within planning policy. As a result, the dimensions of walkability, the built environment, universal design, and social networks were explored further in order to develop measures with which to

assess age-friendly communities within prescriptive policy. Appendix C – Dimensions of Age-Friendly Communities within Zoning and Design outlines the principles associated with these dimensions.

According to the literature concerning aging and prescriptive policy, with twelve distinct publications reviewed (Ball, 2004; Canada Mortgage and Housing Corporation [CMHC], 2008; City of Cambridge, 2010; Fix, 2010; Nelson, 2010; Pollak, 1994; Preiser, 2006; Rosenbloom, 2009; Rosenthal, 2009; Salhus, 2011; Scharlach, 2009; White, 2011), the biggest hindrance to achieving age-friendly development is the restrictive nature of such policies. The literature notes that the

“commitment to expanding single-purpose residential developments throughout suburban America brought us the modern zoning template” (Nelson, 2010, p.40)

and

“residential neighborhoods usually are completely isolated from commercial areas, in part the result of land-use policies and zoning regulations developed nearly 100 years ago to reduce the public health hazards associated with overcrowded and unsanitary urban living” (Scharlach, 2009, p.5).

Much of what defines zoning ordinances today were founded/developed in a very different time and, as a result, restrict optimal forms of development with regard to aging.

With respect to housing, Zoning By-laws are often written to prohibit certain types of dwelling units in a given zone and eliminates a number of aging supportive options (Rosenthal, 2009). Although there are a number of traditional dwelling types that may support older persons, the most often discussed alternative are garden suites (granny flats).

“Garden suites are defined in section 39.1 of the *Planning Act* as one-unit detached residential structures containing bathroom and kitchen facilities that are ancillary to existing residential structures and that are designed to be portable. Garden suites are also commonly known as granny flats. They provide an affordable housing option that supports changing demographics, allows for aging in place, and provides

opportunities for some of the most reasonably priced accommodation” (MAH, 2011).

In addition to the garden suite, municipalities can further address the needs of an aging population, with respect to housing, through provisions concerning secondary dwelling units and/or accessory apartments. Recognizing that there are particular models that fundamentally support older persons, the above dwelling types represent two criteria to be used in analyzing City of Waterloo Zoning By-laws.

In order to assess Zoning By-laws and the Urban Design Manual for provisions facilitating an age-friendly community, a number of other facets of the built environment were delineated. Foremost, the development of mixed use buildings that incorporate both residential and commercial uses can aid in older persons accessing services. With regard to social networks, provisions for recreational uses within parks and/or open spaces as well as prescribed amenity space for residential dwelling types were identified. Although the social environment is difficult to measure within planning policy, as such policies do not define the users of space but rather the space itself, the above provisions may act as facilitators of social interactions.

Finally, criteria relating to design were incorporated in order to further assess prescriptive planning policy. In particular, criteria relating to universal design, the concept of designing for use by all, were incorporated in recognition that aging and disability are linked. This also provided the means to answer the secondary question of this research of whether current age-friendly models incorporate provisions regarding accessibility. These criteria include grade level access for both residential and commercial land uses, the use of firm, non-slip material along pedestrian routes and the incorporation of unobstructed, directional signage. Moreover, both street lighting (relating to both pedestrian routes and public spaces) and places to rest along

pedestrian routes have been additionally outlined as criteria for age-friendly community development.

While a particular coding system was utilized for the analysis conducted through the Age-Friendly Waterloo Checklist, identifying each principle as explicit, implicit, or not evident, the Evaluating for Age-Friendly within Prescriptive Policy analysis tool was not devised with a specific coding system. As a result of the specificity of the criteria delineated within the prescriptive analysis tool, the respective criteria were not coded as explicit/implicit/not evident but rather individually reviewed for and analyzed within the Zoning By-laws and Urban Design Manual. The findings of the policy analysis are discussed for each and every criteria delineated within the prescriptive policy analysis tool. The presence and/or absence of each criterion is delineated and expanded upon within Chapter 4 below.

3.6.2 Interviews

Qualitative interviews can be the sole method of gathering data or used in conjunction with other research methods (Babbie & Benaquisto, 2002). Within this research, the use of interviews is for the purpose of ‘checking’ the conclusions drawn from the policy analysis to determine the representativeness of those conclusions. Although there are several types of interviews available for gathering information: qualitative interviewing, in-depth interviewing, survey interviewing or focus group interviewing (Gubrium & Holstein, 2001), the three primary approaches using open-ended question are outlined within table 8.0 below. The open-ended interview represented a way to check but facilitate further discussions regarding these research conclusions to capitalize on the interviewee’s intimate knowledge of their City’s policies.

Table 8.0 – Interviews Using Open-ended Questions

TYPE	ADVANTAGES	DISADVANTAGES
Informal Conversational Interview	“Unstructured interviewing” – “go with the flow”	Time consuming
	Maximum flexibility, Spontaneity, responsive to people and place	Susceptible to interviewer effects, leading questions, biases
	No predetermined set of questions	Difficult analysis
General Interview Guide	Lists the questions or issues to be explored – topics/subjects	
	Systematic and comprehensive	
	Time effective	
Standardized Open-ended Interview	Focused yet spontaneous	
	Requires carefully and fully wording each question before the interview	Cannot explore issues/topics not anticipated
	Standard questions can compensate for interviewer skill	Individual differences and circumstances cannot be queried
	Still open-ended	
	Easier analysis	

(Patton, 2002)

From the above chart, the Informal Conversation type of interview would require a significant time commitment and have a potentially difficult analysis due to the undetermined set of interview questions. Due to the timeframe for the completion of this research, the purpose of using interviews as a ‘check’, and the individuals to be interviewed, it is necessary to devise a number of questions prior to the date in order to ensure the utmost information is gathered. With that, the General Interview Guide has been identified as best for this research. This approach will ensure that the subject/issues to be discussed remain consistent among interviews conducted within Waterloo and Ottawa, while each interviewee has the opportunity to expand upon their responses to provide context and personal experience.

The interview process can be divided into 7 stages (Babbie & Benaquisto, 2002). These stages include:

- (1) Thematising – clarifying the purpose and concepts to be explored,
- (2) Designing – defining the process used to accomplish the purpose,
- (3) Interviewing – actual conduction,
- (4) Transcribing – creating a written documentation of the interviews,
- (5) Analyzing – determining the meaning of the gathered information as it relates to the purpose, (6) Verifying – ensuring materials are reliable and valid, and finally
- (6) Reporting – explaining to others what you have gathered from your study (Kvale, 1996 in Babbie & Benaquisto, 2002).

According to Patton (2002), types of interview questions can be categorized as experience and behaviour, opinion and values, feeling, knowledge, sensory, background/demographic, time frame, and sequencing. Foremost, the interview can be thought to have two distinct phases: an introduction or briefing and an end or follow up (Blaxter et al., 2006). The beginning of an interview may require briefing the interviewee in order to provide the necessary information regarding the interview subject or, in the case that such information was sent to the interviewee prior to the date, the interview will open with background/demographic questions. Patton (2002) states that background questions may relate to the indentifying characteristics of the person being interviewed such as age, education, or occupation. This provides a pleasant opening to the interview. Finally, there may be some form of follow up with the interviewee, which may be in the form of a transcript, but is often a letter of appreciation for their time and an executive summary of the study, where possible (Blaxter et al., 2006, University of Waterloo, 2009).

Questions to be used within the interview were derived from the conclusions delineated within Chapter Five and are detailed within Appendices F and G. Moreover, the interview guides were

pre-reviewed by an individual working in the field of planning to ensure clarity of the questions prior to conducting the actual interviews.

Individuals participating in the interview process of this research work within municipal planning departments and have some experience with various aspects of aging and/or disability. Municipal websites were utilized as a primary way of identifying individuals to be interviewed, including detailed sources such as planning reports and committee minutes. While this approach identified a number of potential interviewees, the employee directories for the Cities of Waterloo and Ottawa were further utilized to identify potential interviewees as well as ensure the initial individuals identified still worked with the municipalities. From the above, 10 individuals were sent requests for an interview, 6 responded to the request with questions regarding to topic or indicating interest in participating, and 2 interviews were conducted.

Each respondent's interview was recorded and transcribed, however, only anonymous quotations or references have been made throughout this thesis. Upon transcribing the interviews, summaries of each interview were devised and sent back to the respective interviewees as a means to confirm the information collected within the interview. The provided comments highlighted either their difference of opinion or confirmation of that particularly derived conclusion, while also outlining additional information on the 'topic' of each conclusion and how it may be more comprehensively addressed.

3.7 Research Design Quality

The purpose of addressing design quality is to ensure that logical methods have been employed and factors such as researcher bias have been accounted for. According to the U.S. General Accounting Office (1990, in Yin, 2003) and echoed by McCabe (2002), citing Lincoln & Guba (1989), the measures of design quality can be linked to the concepts of trustworthiness,

credibility, confirmability, and data dependability. In particular, McCabe (2002) references these concepts as the positivist approach to the tests of internal validity, external validity, reliability and objectivity. Yin (2003) notes that the measures of validity and reliability can be used as tests within any empirical social research and will, therefore, represent the ‘terms’ used throughout the remainder of this chapter.

Foremost, construct validity is “establishing correct operational measures for the concepts being studied” (Yin, 2003, p.34). Construct validity is about ensuring that what the researcher has set out to measure is actually what is being measured. Yin (2003) outlines specific tactics within the case study research that address construct validity and include the use of multiple sources of evidence. Within this study there are a number of dimensions linked to age-friendly communities. To ensure that each dimension accurately represents what it has been termed and used to measure, multiple sources from the breadth of aging literature were utilized. Finally, each of the principles within the Age-Friendly Waterloo Checklist was derived from the same extensive literature review to ensure each is based upon the needs/desires of older persons from their community.

Secondly, reliability refers to the quality of research design and is primarily concerned with the repeatability of measures. Yin (2003) defines reliability as “demonstrating that the operations of a study – such as the data collection procedures – can be repeated, with the same results” (p.34). This particular measure addresses researcher bias by essentially asking ‘if another researcher was to repeat this study would they conclude the same results?’ The use of a well documented literature review and step-by-step development of the Age-Friendly Waterloo Checklist and Evaluating for Age-Friendly within Prescriptive Policy tool would allow another researcher to follow the procedures for conducting this study. Moreover, as a way to address the

concern of another researcher coming to the same conclusions, terms used within the policy analysis (explicit, implicit, not evident, planning, and accessibility) have been clearly defined.

Finally, research design should deal with the issue of generalizability or, as noted by Yin (2003), the external validity. Trochim (2006) defines external validity as “generalizing from your study context to other people, places or times”. External validity or generalizability is not fully achievable within this particular study as the results from the case study of Waterloo cannot necessarily be generalized over other municipalities given varying populations, demographics, land areas, and, outside the Province of Ontario, different planning legislation. However, although Ottawa and Waterloo are quite different, the baby-boom generation is not a phenomena particular to Waterloo and the principles/criteria of the devised assessment tools do not reflect an age-friendly community specific to this City’s context. While the specific findings of this study may not be generalized to other cities, the age-friendly analysis tools may provide a means for other municipalities to reflect upon the provisions of their planning policies and whether these policies support an age-friendly model for community growth.

3.8 Summary

This chapter has detailed the methodological approach and assessment tools developed for undertaking this thesis research. Determining whether or not the principles of an age-friendly model are reflected within planning policy, requires an in-depth review of a single municipality’s planning policies. With that, the case study approach was explored and the selected case study identified. To support the analysis of City of Waterloo planning policies, interviews were conducted to check research conclusions, facilitate further discussion of these findings, and ensure a high quality research design. Interviews were conducted within both the City of Waterloo and in the City of Ottawa. Statistics concerning the demographics of both the City of

Waterloo and Ottawa illustrated that, although these municipalities are different in population size and land area, there are similar proportions of older persons and these cities may experience similar challenges in addressing an aging population. The final sections of this thesis will present the research findings from both the policy analysis and interviews, conclusions drawn, and recommendations based on these findings.

Chapter 4

Findings and Analysis

4.1 Introduction to Research Findings

The previous chapter outlined the methods utilized in addressing whether or not City of Waterloo policies reflect an age-friendly approach. This chapter will present the findings from the policy analysis based on the Age-Friendly Waterloo Checklist, Evaluating for Age-Friendly within Prescriptive Policy tool, as well as from research interviews. Each of the following sections will detail the fundamental objectives associated with the reviewed policy, while further explaining what ‘role’ the policy plays within the planning process. Findings from the review have been organized to reflect the hierarchy of planning policy.

4.2 Are Waterloo’s Planning Policies Age-Friendly

There are a number of policies associated with the planning process but the following chapter presents the findings from those policies specific to the municipal level and, in particular, the City of Waterloo. The later part of this chapter will address the secondary research question of whether current age-friendly models have incorporated provisions regarding accessibility.

4.2.1 Municipal Official Plans

Although Official Plans are not the uppermost policy within the field of planning, this is characterized by the Planning Act; they do provide guidance at both the regional and municipal levels. “The Official Plan is a statement of goals, objectives, and policies designed to direct the form, extent, nature and rate of growth and change within the municipality” (City of Waterloo, 2004, p.2). In view of the fact that “the plans and policies of the Province of Ontario and the Regional Municipality of Waterloo have been considered in preparing this Plan” (City of

Waterloo, 2004, p.2), the policy analysis focused on the plans prepared for and at the municipal level. Moreover, because the City of Waterloo is currently in the process of reviewing their Official Plan (OP), both the currently enacted plan of 1990 and the newly drafted plan of 2010 are included within this research.

Due to the long-range nature of OP's, the City of Waterloo's OP passed in 1990 sets out the intentions of the municipality up until 2011, it is imperative that such a plan anticipates issues that may arise within the 20 year time frame. A number of goals and objectives are outlined at the outset of the OP and can be thought of as fundamental benchmarks or targets which the remainder of the plan's policies should address. With the baby boom generation a very present and dominating demographic, it would be expected that municipalities, through Official Plan goals and objectives, would anticipate and attempt to plan for the needs of the significant number of individuals entering retirement age. The following chart delineates the findings from the initial policy analysis conducted with the Age-Friendly Waterloo Checklist.

Table 9.0 – City of Waterloo Planning Policy Review Findings

	OFFICIAL PLAN, 1990	DRAFT OFFICIAL PLAN, 2010	ZONING BY- LAW 1108	ZONING BY- LAW 1418	URBAN DESIGN MANUAL
Social / Recreation					
Volunteering/work programs	I	I	NE	NE	I
Outdoor recreation	I	I	I	I	I
Opportunities inclusive of older persons	I	I	NE	NE	NE
Optimal access through combined services	NE	I	NE	NE	NE
Housing					
Inclusive affordable housing	I	I	NE	NE	NE
Mix of housing types for current and future needs	I	I	NE	NE	NE
Various tenures	I	I	NE	NE	NE
Safe/healthy neighbourhoods	E	E	I	I	I
Programs available for home modifications	NE	I	NE	NE	NE
Health Services					
Clean streets	NE	I	NE	NE	NE
Preventative health care	E	E	NE	NE	NE
Complimentary services to aid in access	NE	NE	NE	NE	NE
Additional support services for seniors	NE	NE	NE	NE	NE
Transportation					
Improved traffic routes	NE	NE	NE	NE	NE
Affordable, cross city transportation	NE	I	NE	NE	NE
Transit to access services	E	E	NE	NE	NE
Alternative options	I	E	NE	NE	I
Prioritized options for seniors	NE	NE	NE	NE	NE

E = Issue addressed with overt (explicit) reference to older people
 I – Issue addressed without specific reference to older people
 NE – Issue remains unaddressed

	OFFICIAL PLAN, 1990	DRAFT OFFICIAL PLAN, 2010	ZONING BY- LAW 1108	ZONING BY- LAW 1418	URBAN DESIGN MANUAL,
Walkability					
Promote walkability through design	NE	I	NE	NE	I
Maintenance of streets and sidewalks in all weather conditions	NE	I	NE	NE	NE
Services within walking distance to bus routes	I	I	NE	NE	I
Residential areas promote walkability through lot sizes and housing	NE	I	NE	NE	NE
Pedestrian-friendly routes	I	I	NE	NE	I
Transit options are located within walking distances of one another	NE	I	NE	NE	NE
Built Environment					
Healthy, green environments through non-urbanized elements	I	I	NE	NE	I
Wayfinding system through signage	NE	I	I	I	I
Safe environments through design	I	I	NE	NE	I
Human scale development with factors such as wind and sun considered	I	I	NE	NE	I
Intergenerational contact through integrated services	NE	NE	NE	NE	NE
Centralized locations for necessary services	I	I	NE	NE	NE
Collaboration with older persons and organizations supporting seniors	NE	I	NE	NE	NE
Seniors included within planning process	I	I	NE	NE	NE
Planning policies local demographics and address future needs	I	I	NE	NE	NE

E = Issue addressed with overt (explicit) reference to older people

I – Issue addressed without specific reference to older people

NE – Issue remains unaddressed

It is evident from the findings presented within Table 9.0, from the Age-Friendly Waterloo Checklist, that there are a number of age-friendly principles addressed within the 1990 City of Waterloo OP. Within the OP policies there are three that ‘explicitly’ reference older persons. One such policy particularly addresses the construction of new residences (hospitals, nursing homes, various residential units, etc.), specifically those that may be occupied by senior citizens or other vulnerable groups, from being located within areas prone to flooding. Although flooding is a specific hazard/danger, the policy fundamentally recognizes that there are groups for whom factors such as flooding may impose greater risk. A second explicitly age-friendly policy within the OP references the development of residential areas for seniors that are located close to transit, while also ensuring that commercial, social, and health services are accessible. This addresses multiple principles and dimensions, including transportation, housing, and the built environment.

There are 15 principles that ‘implicitly’ address age-friendly communities. The most prominent dimensions addressed by the OP policies are those related to social/recreation, housing and the built environment. It is apparent from the review that social and recreational opportunities are actively promoted for Waterloo residents through planning policies regarding the provision of open space, parks, and various cultural experiences. “To provide and maintain adequate social, recreational, open space and cultural facilities and services” (City of Waterloo, 2004, p.16). This quoted objective translated to a number of policies related to the development of a cohesive, linear park system throughout the City. Moreover, the OP objectives addressed the development and maintenance of physical infrastructure as well as the importance of maintaining the pedestrian streetscape and aesthetic quality of residential, commercial and industrial areas within the City. These particular objectives translated to a number of provisions regarding traffic

calming measures, alternative transportation modes, and the cohesiveness of residential and commercial activity.

While the above review identified a number of age-friendly principles, it is imperative to understand the principles ‘not evident’ as these reflect the deficiencies to an age-friendly approach. Most notably, there are no policies within the plan that address programs in support of longer independence for older persons through alternative housing forms. It is clear within the literature that seniors want to live independently as long as possible. There are a number of references to the housing aspect of planning for growth, including “to extend the life of existing housing and other buildings” (City of Waterloo, 2004, p.82) as well as directives to Council with respect to maintaining an affordable housing stock. However, there are no further policies that address the adaptability of seniors’ homes and/or alternative options such as secondary dwelling units or garden suites. Without OP policies setting out the long-term goals for housing within the community, it is unlikely to have associated Zoning By-law provisions to implement such age-friendly supportive options. Furthermore, principles regarding the incorporation of physical features, such as places to rest and appropriate signage, were not evident within the OP policies. However, these particular findings facilitated the development of an additional analysis tool to more comprehensively assess for age-friendly principles within zoning and design.

As was noted earlier, the development, review, and implementation of Official Plans are long-range in nature. It is therefore expected that significant changes in a City’s goals and objectives may occur over the typical 20 year time span that OP’s are used to guide. This is the case with the newly drafted City of Waterloo OP. Review of the 1990 OP, which was the currently enacted OP for the City of Waterloo at the time of this research, showed that 18 of the 33 identified age-friendly principles were addressed (3 explicitly, 15 implicitly), where the

review of the 2010 draft OP resulted in 28 of the 33 principles addressed (4 explicitly, 24 implicitly). It is clear that the goals and objectives for Waterloo's future growth have indeed changed over the 20 year period. Specifically, policy 1.2.16.2 notes,

“where possible, housing geared to senior citizens should be located in close proximity to public transit, defined commercial space, parks and recreation facilities and have convenient access to community, social and health services. This Plan supports *developments* that allow seniors to age in place. This Plan also supports comprehensively planned seniors *developments* that provide varied housing forms to allow seniors to transition through each life stage” (City of Waterloo, 2010a, p.185).

The quoted policy explicitly promotes the particular concept of aging in place within the role of planning. While the above is similarly delineated within the 1990 OP, it reflects the City's renewed objectives based on the 20 year time lapse between the policies. There is a recognition that older individuals desire to age in place, which improves upon the previous OP where the principle of promoting longer independent living remained ‘not evident’.

What is more, the new draft OP incorporated an additional 11 age-friendly principles as compared to the previous plan. This review illustrated that only five principles were not evident, with two of those principles delineated within the Health Services dimension and included minimizing obstacles to health service via complimentary services as well as specific provisions regarding mental health and volunteering for older persons. It should be noted at this time that one policy in particular, the facilitation of seniors continuing to drive through educational programs and improved traffic routes, was one of the five principles unaddressed and was not ‘implicitly’ or ‘explicitly’ noted within any of the reviewed planning policies. Although educational programs extend beyond the scope of planning policy, there are references to traffic operations within the OP, however, not to the extent to address the above. Similarly, the utilization of prioritized mobility alternatives was not addressed within any of the reviewed

policies. Although there are age-friendly elements still missing from the new OP, it is a vast improvement from the former and is evidence that planning policy can fundamentally promote age-friendly communities.

With respect to development for life stages, the draft OP promotes the concept of complete communities as a basis for growth in Waterloo. Specifically, policy 8.5 states,

“Waterloo will be planned as a *complete community* that provides opportunities for people at all stages of life to live, work, shop, learn and play within close proximity. Planning for compact and mixed-use communities helps to reduce infrastructure and service duplication costs, preserves outlying rural lands, encourages social interaction and a greater sense of community, supports alternative transportation modes, and reduces travel needs and commuting times” (City of Waterloo, 2010a, p.11).

The concept of complete communities promotes a development form that encourages proximity to work, social, recreational, and commercial/retail activities and appears to parallel age-friendly development. Although there is no emphasis on the elderly population, if implemented, this concept could address the needs of such a demographic through a development model based primarily on proximity and access to services. What is more, the above does touch upon other facets of age-friendly development including alternative modes of travel and the utilization of mixed use developments.

Overall, the policies contained within the OP’s recognize an age-friendly approach to development and addresses a number of principles that are fundamental in achieving such. However, since the planning process is conducted through a set of policies, much of the actual implementation must be done through prescriptive policies including Zoning By-laws. The OP policies have laid some of the foundation for the City of Waterloo to utilize an age-friendly model, but further analysis of the City’s Zoning By-law and Urban Design Manual will provide a more comprehensive understanding of the City’s policies age-friendliness.

4.2.2 Prescriptive Policy: Zoning By-laws

In developing the tools for a policy analysis it is imperative to understand the structure/intent of the policies being analyzed. Specifically, both Zoning By-laws and urban design guidelines are prescriptive rather than broader, goal oriented policies. Although extensive literature was utilized in devising the Age-Friendly Waterloo Checklist, there were no specific measures for the age-friendly principles that facilitated the analysis of Zoning By-laws and/or design guidelines. As a result, literature concerning the analysis of prescriptive policy was further reviewed and used as a basis from which to devise the Evaluating for Age-Friendly within Prescriptive Policy tool. The following delineates the review findings for the City of Waterloo Zoning By-laws and Urban Design Manual with respect to the built environment, universal design, and social networks.

With regard to the built environment, the first two criteria identifying specific dwelling types supportive of older persons were almost entirely unaddressed within the Zoning By-laws. Garden suites and secondary dwelling units are particular approaches to providing seniors an alternative living situation to care facilities and reflect an age-friendly model. Garden suites, permitted as per Section 39.1 of the Planning Act, were completely unaddressed within the Zoning By-law. Secondary dwelling units (accessory apartments within the City of Waterloo), permitted as per Section 35.1 of the Planning Act, were only permitted within the 'FR' – Flexible Residential zone of by-law 1418 and only within detached garages. The following chart outlines the provisions of the Ontario Planning Act (1990) addressing secondary dwelling units and garden suites.

Table 10.0 – Planning Act Provisions regarding Alternative Dwelling Types

DWELLING TYPE	PLANNING ACT PROVISIONS
Secondary Dwelling Unit	<p>35.1 (1) The council of each local municipality shall ensure that the by-laws passed under section 34 give effect to the policies described in subsection 16 (3). 2011, c. 6, Sched. 2, s. 6</p> <p>16 (3) Without limiting what an official plan is required to or may contain under subsection (1) or (2), an official plan shall contain policies that authorize the use of a second residential unit by authorizing,</p> <ul style="list-style-type: none"> (a) the use of two residential units in a detached house, semi-detached house or rowhouse if no building or structure ancillary to the detached house, semi-detached house or rowhouse contains a residential unit; and (b) the use of a residential unit in a building or structure ancillary to a detached house, semi-detached house or rowhouse if the detached house, semi-detached house or rowhouse contains a single residential unit. 2011, c. 6, Sched. 2, s. 2.
Garden Suites	<p>39.1 (1) As a condition to passing a by-law authorizing the temporary use of a garden suite under subsection 39 (1), the council may require the owner of the suite or any other person to enter into an agreement with the municipality dealing with such matters related to the temporary use of the garden suite as the council considers necessary or advisable, including,</p> <ul style="list-style-type: none"> (a) the installation, maintenance and removal of the garden suite; (b) the period of occupancy of the garden suite by any of the persons named in the agreement; and (c) the monetary or other form of security that the council may require for actual or potential costs to the municipality related to the garden suite. 2002, c. 17, Sched. B, s. 12; 2009, c. 33, Sched. 21, s. 10 (7). <p>39.1(2) In this section, “garden suite” means a one-unit detached residential structure containing bathroom and kitchen facilities that is ancillary to an existing residential structure and that is designed to be portable. 2002, c. 17, Sched. B, s. 12.</p>

(Planning Act, 1990)

The single-family home will not meet the needs of older individuals in the later stages of their lives and, as a result, the secondary dwelling unit (accessory apartments) and garden suite

(granny flat) became recognized as alternative residential options. Each of the zones established within the City specifically delineate which dwelling types are permitted within that particular zone. Most zones permitted some form of residential use, with the exception of industrial and some commercial zones, and more often than not permitted a variety of dwelling types under the residential uses. With so many zones permitting a variety of residential dwelling types and only the ‘FR’ – Flexible Residential zone permitting accessory apartments/units, there is significant room for improvement in addressing the housing needs of an aging population across the City of Waterloo.

Building upon the need for aging supportive dwelling types is the provision of mixed use developments as a means to provide both residential and commercial uses in a single location. The initial review of Waterloo’s Official Plans implicitly addressed the centralizing of services, but determining how and/or whether this is facilitated within prescriptive, implementing policies was imperative. Access to day-to-day services is critical for older persons and the utilization of mixed use buildings can improve this access. The City of Waterloo (2010b) defines mixed use as “the presence of two or more different uses within the same complex or same building” and determining the dual presence of residential and commercial land uses within mixed use facilities provides a better measure of age-friendliness. Within Zoning By-law 1108, mixed use development is permitted within the C2 – Commercial Two and C6 – Commercial Six through the C8 – Commercial Eight zones. Zoning By-law 1418 permits residential/commercial mixed use development within the C2 – Commercial Two zone, MXR – Mixed Use Residential, and the MXC – Mixed Use Commercial zones. Although the residential dwelling types permitted are not specific to aging populations, the provision for mixed use within the by-laws does provide the

potential for residential/commercial complexes to be constructed and address proximity to services for older persons.

Although universal design and social networks are not as explicitly reflective of the physical environment, as regulated by the Zoning By-law, there are certain criteria addressed within the Zoning By-laws relating to these principles. In particular, the zoning details how much amenity space shall be provided for a given form of development. Noted within the Commercial One zone (section 9.3.5.1.2) is that

“each *Dwelling Unit* shall be provided with fifteen square metres (15 sq.m.) of amenity area. For the purposes of this section, amenity area shall mean areas used for recreational purposes and includes *Landscaped Open Space*, balconies, indoor recreational areas but does not include lobbies, washrooms, laundries, storage area (including garbage and bicycle), reception areas or roof-top decks.”

While the amount of amenity space per dwelling unit does vary throughout the by-law, it fundamentally recognizes the importance of spaces that may facilitate social interaction and ensures such is provided for all residents.

Furthermore, the Zoning By-laws detail the different recreational facilities permitted throughout the city (as per the various zones), which is the final criterion under the principles of social networks. In addition to recreational uses being permitted within the various G – Green zones, a variety of recreational spaces and/or facilities are also permitted within a number of residential, business, and institutional zones. Despite the fact that private recreational facilities are permitted within a number of commercial zones, this research focused on those spaces available to any individual of the public for a variety of formal and/or informal social interactions. While the development of an age-friendly city requires a number of physical and social elements, the Zoning By-laws provisions of the City of Waterloo address a number of those principles that fall within the scope of such a prescriptive policy.

4.2.3 Prescriptive Policy: Urban Design Guidelines

Policies such as Official Plans and Zoning By-laws have always been recognized as part of the planning process but, more recently, urban design has become considerably more significant within that process. In 2006 the Planning Act of Ontario was amended to adapt the scope of site plan control through policy 41. Essentially, the policy allows municipalities to comment on and require particular standards with respect to the design of proposed developments. This may include how the proposed building impacts/works with the surrounding environment and/or exterior design with respect to scale and appearance (Planning Act, 1990, s.41(2)). As a result, a number of municipalities have developed guides concerning urban design, with the City of Waterloo developing their own Urban Design Manual (UDM).

Utilizing the criteria delineated within the Evaluating for Age-Friendly within Prescriptive Policy tool (Appendix D) facilitated the analysis of the UDM. Similar to the initial review of the UDM through the Age-Friendly Waterloo Checklist, it was expected that certain criteria may not be addressed given the specificity of design standards. However, a significant number of the devised criteria were addressed within the UDM. The delineated criteria, used in analyzing the UDM, relate to particular facets of design that promote age-friendly community development rather than the overarching spaces and/or land uses.

With respect to outdoor amenities, the UDM explicitly notes the incorporation of street pedestrian-friendly lighting as well as adequate places to rest. In particular, street furniture is addressed as part of pedestrian-friendly design, amenity areas, transit-oriented design, and universal design, where lighting is addressed within safety, human scale, pedestrian-friendly design, amenity areas, and as a policy section on its own. Not only are each of the above criteria

incorporated within a number of different policy sections but further supports the more intangible facets of an age-friendly community such as a sense of safety.

What is more, although universal design and urban design do not necessarily equate to the same standards, the UDM has incorporated a specific section concerning barrier-free accessible design. While there was some reference within the Zoning By-laws to ‘grade’ access, it is the policies contained within the UDM that more comprehensively address this. Although the criteria within the Evaluating for Age-Friendly within Prescriptive Policy tool specifically noted residential and commercial land uses, recognizing that land uses are beyond the scope of design guidelines, there is an overall importance placed upon grade for public spaces and pedestrian routes. The UDM provides specifications for developers to consider when designing walkways, with general pedestrian routes having between a 2% - 6% grade change and barrier-free pathways from 1% - 4% (City of Waterloo, 2010d).

While design specifications for grade are an imperative element in age-friendly development, the provision of multiple grade requirements does not holistically achieve such. It is noted within the general design guidelines that pedestrian routes are to adhere to grade changes between 2% - 6%. However, within the barrier-free accessibility section of the UDM it is noted that barrier-free routes should maintain grade changes of only 1% - 4% and later noted a grade range of 1% - 3% for non-slip, hard surfaced routes. Not only do the requirements within the barrier-free design standards vary but, moreover, differ from those required for ‘general’ pedestrian pathways. While the City of Waterloo UDM addresses the issue of grade, there is no single, definitive range provided to ensure that pedestrian routes are accessible and/or barrier-free.

The final two criteria utilized, particularly in assessing universal design as part of age-friendly communities, concerns the incorporation of firm, non-slip surfaces as well as the design and use of directional, unobstructed signage. Similar to that of grade, the design requirements for firm, non-slip surfaces are detailed within the barrier-free guidelines of the UDM. Specifically, the policy requires that barrier-free routes are “level, non-slip, non-glare, textured, [and of a] hard surface having a slope between 1% and 3%” (City of Waterloo, 2010d, p.37 of section 5). With regard to signage, both the general guidelines and the additional barrier-free guidelines incorporate provisions. Although the incorporation of signage is imperative to wayfinding and extensively noted within the guidelines, the aspects specific to signage design address only colour contrasting. There are, however, some additional provisions regarding signage and include (1) integrating signage into building facades, (2) ensuring landscaping does not impede the readability of signs, (3) sight lines are maintained for readability, and (4) specific universal/accessible signs are provided to identify accessible spaces.

4.3 Interview Findings

Although conducting a policy analysis was fundamental to this thesis research, it was imperative to build upon these findings through interviews with professionals who work with these policies. The use of interviews was intended to review the conclusions drawn from the policy analysis to determine how representative such conclusions were for the City of Waterloo, while also illustrate whether or not other municipalities may be experiencing the same issues in addressing an aging population within the planning process. The interview guides, outlined within Appendices F and G, draw upon the findings delineated within the previous sections and were utilized as the basis for determining truly reflective results of how planning policy is/can address age-friendly community development.

4.3.1 ‘Age-Friendly’ and ‘Accessibility’

Before specifically addressing the policy analysis criteria and associated conclusions, it was imperative to get an understanding of how the respective planning departments defined/understood the concepts of ‘age-friendly’ and ‘accessibility’. Although extensive research has been undertaken with regard to the above concepts, understanding what each City perceived the concepts to mean had the potential to highlight why particular policies were put in place and/or why certain deficiencies were identified within the policy analysis.

Foremost, the City of Waterloo recognized the concepts of age-friendly and accessibility as hand-in-hand with one another, rather than separate approaches to planning for individuals. In particular, age-friendly does not bring to mind

“an age category as much as age-friendly [is] a broad term and, therefore, if you make something age-friendly it’s not actually only covering off traditional[ly] what most people think which is older people, but it’s also actually helping younger people and parents and things like that” (Interviewee 10, January 20, 2012).

The idea of creating age-friendly spaces is not about addressing simply the aging population. Rather, if you can address the needs of the life-cycle, with the elderly population representing a demographic more likely to be susceptible to hindrances within the built environment resultant from design, then you essentially create a trickle-down effect whereby you fully address the needs of any demographic. Particular experiences and/or challenges faced by older individuals and those measures taken to address these challenges, may be equally beneficial for a family with young kids or a child just learning to walk (Interviewee 10, January 20, 2012). This is the trickle-down effect.

Contrary to the above, much of the conversation regarding the concepts of ‘age-friendly’ and ‘accessibility’ within the City of Ottawa was addressed with respect to City facilities. The City of Ottawa is trying to ensure that new Plans of Subdivision and Community Design Plans

identify and address the need for City facilities geared to not only seniors but to a cross-section of the population (Interviewee 8, February 23, 2012). What is more, although both municipalities were familiar with the concepts of ‘age-friendly’ and ‘accessibility’ and how each can/may influence planning and development, there was significant reference to other departments perhaps better suited to speak to the topics. However, since this research was conducted from the specific perspective of planning and planning policy, the interview was best suited for individuals working within the field and is reflected within the latter interview questions. These questions focused primarily on the criteria concerning age-friendly and accessible aspects of planning.

4.3.2 Age-Friendly Housing: What are the Options?

Noted throughout the literature review and further utilized as criteria in assessing for age-friendly development, were the secondary dwelling unit and garden suite as alternative housing options for older persons. Clearly identified from the review of Waterloo planning policies was the very evident deficiency in Zoning By-law provisions regarding both these dwelling options. As a result, the interviews intended to bring to light any evidence, either statistical or anecdotal, of the benefit to having enacted or negated such policies.

Within the City of Waterloo, secondary dwelling units (accessory apartments) were identified as posing a particular challenge for Waterloo and, potentially, any other university town.

“On the surface an accessory apartment seems to make a lot of sense - you can have a house [with] an apartment in it [and] that apartment helps pay the persons mortgage who owns the house. [It] provides affordability to a thousand really good things. The problem though is that when you’ve actually got a university city the demand for student housing is so high it really does skew [the] market and the developers that provide housing for student accommodation really create and drive up lands prices and, therefore, rent prices and, therefore, the affordability factor goes right out the window” (Interviewee 10, January 20, 2012).

An accessory unit as a cost-effective living option, for both the tenant and land owner, was not perceived to hold true in a town heavily influenced by the student population. According to Interviewee 10, a student can outbid any family for the unit/rental, which in turn drives up prices. In addition to the challenge a large student population posed, with regard to secondary dwelling unit policies and achieving the objective of housing older family members or relatives, it was noted that this particular dwelling option was simply not desired by community members (Interviewee 10, January 20, 2012). While there are some accessory apartments that have been grandfathered from prior policies, there are no current policies within the City of Waterloo that permit this form on a city-wide scale.

As discussed previously, while Waterloo and Ottawa are quite different in sheer land area, there are significant similarities in proportion of older residents as well as both municipalities being home to multiple post-secondary institutions. One could anticipate the challenges associated with the student population would affect both communities in planning for the full spectrum of demographics. However, the City of Ottawa has taken a completely different approach to secondary dwelling units than Waterloo.

“We allow it in single-family homes, as required by the new legislation for single-family homes, in each half of a semi-detached so you can basically have four units in a semi-detached (two primary residences, two secondary dwelling units), another unit in a duplex to make it basically, and some people would say a triplex but it’s not really, we’re calling it a duplex plus a smaller/secondary suite, and now you can have it, with the legislation, in a row house unit as well” (Interviewee 8, February 23, 2012).

Regardless of the demographics at play and/or whether a significant number of residents desire this option, the City of Ottawa has incorporated second unit policies into their Zoning By-law. Specifically, section 133 of the City of Ottawa Zoning By-law 2008-250 states that:

- (2) A secondary dwelling unit is permitted in any detached, linked-detached, semi-detached or duplex dwelling, in any zone where that dwelling type is a listed permitted use provided: (By-law 2010-307)
 - (a) it does not change the streetscape character along the road on which it is located;
 - (b) it is not a stand-alone, principal unit capable of being severed;
 - (c) it must be located on the same lot as its principal dwelling unit; and
 - (d) it only exists along with, and must be contained within the same building as, its principal dwelling unit.
- (3) A secondary dwelling unit is not permitted on a lot that is legally non-complying with respect to lot width or lot area.
- (4) A maximum of one secondary dwelling unit is permitted per principal dwelling unit in the case of a detached, linked-detached and semi-detached dwelling, and a maximum of one secondary dwelling unit is permitted in the whole of a duplex dwelling.

Although there are additional provisions for a secondary dwelling unit, the above policy establishes this alternative form of housing as a permitted use within a number of residential dwelling types and in any zone where such dwelling type is a permitted use. As well, the provisions for secondary dwelling units prohibit this use on those lots already deficient in lot area for the principle residential use. The establishment of a secondary dwelling unit essentially results in increased activity, persons, and eventual demand on City services, and is not appropriate for already undersized residential lots.

What is more, the intent of zoning provisions is not to specifically denote the individual users of a space, but address optimal development based on the needs of the whole of a community. The secondary dwelling unit is of great benefit to the aging population, however more importantly, it is an appropriate way in which to increase residential densities and provide alternative living situations to anyone who desires such. Moreover, there are recent changes that

have been made to the Ontario Planning Act that will require municipalities to include second unit policies within their Zoning By-laws and include each of the aforementioned principle dwelling types (outlined within Table 10.0 above). Essentially, the City of Ottawa has provided the option for individual land owners to make small increases in density, while supporting age-friendly development through such, and will only have to amend their By-law in order to comply with new legislation. The City of Waterloo and any other municipalities without current policies regarding second units will have to draft entirely new provisions in order to meet current legislative directives.

Another option for alternative senior's housing is the garden suite or granny flat. This dwelling type was highlighted as equally supportive of an age-friendly model as was the secondary dwelling unit. While both of these dwelling types have the potential to provide alternative housing for older individuals, the garden suite provides a greater sense of independence as it is completely independent of the principle dwelling. From the interviews, it was noted that both the cities of Waterloo and Ottawa were selected as pilot project cities when the Province was first proposing legislation for garden suites (Interviewee 8, February 23, 2012; Interviewee 10, January 20, 2012).

The pilot project for the City of Waterloo had four test locations selected for garden suites. However, in the end it was seen as only quasi-successful. One of the primary issues with the Province's initial approach was that the garden suite necessitated a relationship between the homeowner and the individual residing within the garden suite, typically older parents living within the garden suite and their children residing in the principle dwelling. In the case of Waterloo, they found the above to be particularly difficult to address because other residents wanted to utilize the policies to essentially construct an additional rental unit, which ties again

into the challenges associated with a student population. However, this was not the intent of the Province's implementing of such policies.

“Its intent was to actually allow people to age in place with the social structure of their families nearby rather than being you know in another city or down the road” (Interviewee 10, January 20, 2012).

Moreover, there were physical challenges to situating a dwelling unit in one's rear yard.

Foremost, lot sizes within the City of Waterloo were not large enough to accommodate such a structure while maintaining amenity space. As well, the servicing of such units posed an additional challenge to the municipality.

“So the philosophy I think was good but the practicality of the number of people actually wanting to use it that way started to break down a bit” (Interviewee 10, January 20, 2012).

As a result of the pilot project, the City of Waterloo has not enacted policies concerning garden suites nor researched its potential any further.

Alternatively, Ottawa's policies/provisions regarding garden suites have been incorporated within their Zoning By-laws since the 1980's when the Province undertook the aforementioned pilot project. Similar to Waterloo there were a number of locations selected as case lots for garden suites. One was situated on a tight lot within the inner-city, one within a more suburban location, and two within the rural areas of Ottawa (Interviewee 8, February 23, 2012). Physical challenges were evident within the inner-urban area where lots are quite small. Current interest, illustrated by the applications received by the City, is most often associated with the rural area where lots are obviously much larger.

“Well, unfortunately for the garden suites people haven't been breaking down the door in terms of creating these. [However], I've not heard anything negative about it from any community/neighbourhood where they have been provided or at least where a household has decided to put in a garden suite” (Interviewee 8, February 23, 2012).

While there has not been as much promotion done for garden suites within the City of Ottawa, as was done for secondary dwelling units, the policies remain in place for those individuals who do desire to provide such a unit. Section 124 (2) of Zoning By-law 2008-250 states that:

- (2) Where a garden suite is permitted by the temporary zoning mentioned in subsection (1), the following provisions apply:
 - (a) only one garden suite is permitted per lot;
 - (b) the garden suite must be on the same lot as a principal residential use building;
 - (c) the principal residential use building must be either a detached dwelling, linked-detached dwelling or a semi-detached dwelling;
 - (d) the detached dwelling, linked-detached dwelling or semi-detached dwelling must be a permitted use in the zone;
 - (e) the garden suite must comply with the regulations set out in Table 124; and
 - (f) despite subsection (2)(e), these regulations may be varied on a site-specific basis through a temporary Zoning By-law.

Similar to Section 133 (2) for secondary dwelling units, the City of Ottawa Zoning By-law delineates provisions relative to a principle dwelling unit on an established lot, rather than for particular zones. This approach allows secondary dwelling units and garden suites to be established on lots where such a use would not impede on surrounding lands and provides an alternative option for older individuals or any other community resident.

In comparison to the City of Waterloo zoning provisions, the above provisions are more reflective of an age-friendly approach to development with respect to housing for seniors. As noted previously, it was the “commitment to expanding single-purpose residential developments throughout suburban America [that] brought us the modern zoning template” (Nelson, 2010,

p.40) and, recognizing the above, appears to underpin Waterloo's Zoning By-laws. Planning policies within the City of Waterloo, although reflective of an age-friendly approach, could better address the needs of older persons through the incorporation of provisions similar to that of Ottawa. While the collective criteria used in assessing Waterloo's Zoning By-laws illustrates that an age-friendly approach to development is evident, those criteria unaddressed particularly highlight the deficiencies and areas in which the policies could be improved to truly meet the needs of an aging population.

4.3.3 Is Mixed-Use a Facilitator of Age-Friendly Development?

Noted within the research concerning age-friendly development was the importance of seniors access to necessary services. An identified approach to addressing this was through mixed-use developments that incorporate both residential and commercial uses. This mix could essentially locate services as close as within one's own place of residence. In addition to the specific model of mixed-use development is the broader goal of proximity to services and whether and/or how the City of Waterloo is addressing this.

At the Official Plan level the City of Waterloo has identified, while subsequently implementing it through various zoning amendments, a 'Nodes and Corridor' model as a means to appropriately promote intensification.

"By using that model, it basically says these are the key areas where we're looking for intensification, mixed use, greater visible whole community pieces and when you look at the Official Plan mapping you see that it's actually fairly well dispersed across the community" (Interviewee 10, January 20, 2012).

In conjunction with the 'Nodes and Corridors' model the City further undertook a Height and Density Study, which attributed in part to the aforementioned zoning amendments necessary in implementing the policies, and through such introduced the concept of mixed-use buildings. The above quote really brings to the forefront how, although mixed-use is a particular development

model, there are a number of elements and broader goals that may facilitate mixed-use and in turn promote age-friendly options for development and growth.

Moreover, though the review of planning policies for Waterloo did not identify an explicit measure/distance to ensure that ‘proximity’ is achieved, nor was such brought to light through the interview process, it was noted that the ‘Nodes and Corridor’ model in essence addresses the issue of proximity (Interviewee 10, January 20, 2012). What is more, it was further pointed out that proximity for certain services, medical facilities and hospitals for example, will either be effectively achieved or completely off the mark. Given the nature of the above uses, such won’t be located in multiple areas across the City to ensure proximity but rather situated somewhere within the community with the intent of serving the entire community and not simply the adjacent neighbourhoods.

While Waterloo and Ottawa have differed in their approaches to secondary dwelling units and garden suites, it was evident through the interview stage of this research that mixed-use and proximity were similarly integrated into their respective planning policies. The only notable difference among their models is the explicit reference to a 600m radius utilized by the City of Ottawa as ‘in proximity’ to transit which delineated the areas to focus intensification (Interviewee 8, February 23, 2012). What is more, the same challenge to implementing mixed-use was noted by the planners. Mixed use is an unconventional model in that developers have historically constructed solely residential, industrial, or commercial facilities on single site. Getting developers to want to build this, while also recognizing the role the market plays, is difficult. So, while mixed-use and access to services were outlined within the research concerning age-friendly development, identifying such within planning policy can be difficult in that policies such as Official Plans are written from a broader, long-term perspective. Moreover,

taking policies that may address mixed-use and facilitating such development on the ground requires a number of stakeholders beyond municipal planning departments.

4.3.4 Is Planning Policy Truly Effective in Addressing an Aging Population?

The major focus of this thesis research was determining whether or not planning policy for the City of Waterloo was reflective of an age-friendly approach. Though the primary method in answering the above was via a policy analysis, the interview component provided the means to review and expand upon the analysis findings. While the review of Waterloo planning policies highlighted certain age-friendly supportive provisions, with alternative aging support policies identified within the City of Ottawa, what was consistent among the interview findings was the confidence in current policies. Moreover, there was a recognition that more can be done. Specifically, the following was discussed within the interview process with respect to the effectiveness of planning policy in addressing an aging population,

“...the good news is we’re finding that as a community we’re actually in pretty good shape. So that’s actually the good news, when you compare yourself off against the World Health Organization criteria, we have a lot of really good things. So that’s the really good news. Can we get better in certain areas? Can we improve certain areas? Yes we can and we’re trying to do that...” (Interviewee 10, January 20, 2012)

And

“...we have nothing that says it is mandatory or we will give you a bonus if it is for seniors. I wish, it would be nice, but no we don’t do that yet. We’ve laid the ground work from a policy standpoint but for implementation it’s up to the private sector” (Interviewee 8, February 23, 2012).

There is an obvious factor in what the market can bare, in terms of development, and what the private sector wants to propose and build. However, interviews with staff from both the City of Waterloo and Ottawa illustrated that the respective municipalities feel they have put forth the policies, within what is permitted by the Planning Act, to address the needs of an aging

population. What is more, there is an obvious recognition that time and changing demographics will bring new challenges but the policies in place today have provided the foundation from which to build upon.

4.4 Summary

The initial review of City of Waterloo planning policies has illustrated, foremost, that age-friendly development is easier identified within more goal oriented policies such as Official Plans and becomes less apparent as the policies specialize. Both the 1990 and 2010 OP's address 18 and 28, respectively, of the 33 delineated principles where the Zoning By-laws address six, collectively. However, the initial Age-Friendly Waterloo Checklist did not accurately measure age-friendly development within prescriptive policies. Recognizing such, further research was conducted and the Evaluating for Age-Friendly within Prescriptive Policy tool was devised and better reflected the scope of such policies. From these two analysis tools, in conjunction with research interviews, it is evident that aspects of an age-friendly community can and have been addressed within City of Waterloo planning policies. The respective policies from the City of Waterloo support certain land use approaches reflective of older persons desire to live independent longer. However, the incorporation of planning policies from another municipality, in this case the City of Ottawa, as well as the results from research interviews has highlighted where changes/improvements can be made within Waterloo planning policy in order to address an age-friendly approach. The final chapter will delineate more comprehensive conclusions drawn from the previous review/findings and answer the research questions posed at the outset of this thesis.

Chapter 5

Conclusions and Recommendations

5.1 Introduction

This final section delineates the conclusions concerning the degree to which an age-friendly approach to development is reflected within current planning policy within the City of Waterloo. Finally, recommendations are put forth regarding both addressing the needs of our inevitably aging population within planning as well as areas where additional research may provide further insight into the implementation of an age-friendly model.

5.2 Research Conclusions

While certain points of analysis have been outlined within the previous sections, the following sections delineate the overall conclusions of this research. Each of the following conclusions is based upon the results from the policy analysis and conducted interviews, which collectively address the initial research question of this thesis – to what degree are planning policies within the City of Waterloo reflective of an age-friendly approach to planning?

5.2.1 Current Planning Policy and an Age-Friendly Approach

Illustrated within the literature reviewed above is that age-friendly community development represents how older persons want to direct future community growth. Aging has drastically changed over the last few decades. Not only are individuals living longer but increasingly desire to live independently as long as possible, rather than retiring to a ‘home’ to live out the later stages of life. Age-friendly development addresses those desires while further promoting greater health into the later stages of life. An emphasis on maintaining social

connections, a familiarity with one's environment, and increasing quality of life with access to resources and services for day-to-day needs supports this greater health.

Through multiple methods and analysis tool, the hierarchy of planning policy within the City of Waterloo was analyzed. It was determined that an age-friendly approach is evidenced within each of the reviewed policies. The Age-Friendly Waterloo Checklist, in particular, was used to conclude that a significant number of characteristics fundamental to an age-friendly community are evident within Waterloo's Official Plan, which is the primary guiding or goal oriented planning policy at the municipal level. The initial principles pulled from the literature (Appendix B) were almost all implicitly addressed within the City's Official Plans, with the current draft of 2010 addressing a collective (implicit and explicit) 28 of the 33 principles. Although a number of the principles can be attributed to the benefit or desires of individuals other than seniors (the incorporation of parkland, alternative forms of transit, safe neighbourhoods, etc.), the fact remains that those principles pulled from the literature concerning age-friendly development are addressed within both City of Waterloo's OP's.

Although the Official Plan proved to recognize age-friendly development and addresses particular aspects of such an approach, the hierarchy of planning policies reflects the establishing of goals/objectives down to the implementation of such provisions in on the ground development. The initial Age-Friendly Waterloo Checklist was not particularly telling for prescriptive planning policy and, as a result, a second evaluation tool was devised (Appendix D). This second assessment tool utilized literature specific to zoning and design in order to analyze planning policy further. The Evaluating for Age-Friendly within Prescriptive Policy tool, based on the principles of the built environment, universal design, and social networks, was used in analyzing the Urban Design Manual (UDM) and Zoning By-laws No. 1108 and No. 1418. While

the overall findings illustrated that age-friendly development was addressed through the respective policies, determining to what degree specific zones and established standards supported age-friendly development required further analysis.

Foremost, the analysis of the UDM highlighted some discrepancies among the design standards concerning grade but the policy, in its entirety, addressed both physical and social facets of an age-friendly approach. A specific section relating to barrier-free design has been incorporated within the UDM and addresses the criteria relating to the principle of universal design and, with that, the needs of an aging population whom will experience various impairments within the later stages of their lives. Aspects of universal design and/or ‘accessibility’ included appropriate signage for wayfinding, the provision of accessible store fronts, and grade/grade access as well as firm, non-slip surfaces in order to provide barrier-free pathways. Although an age-friendly model does not address the spectrum of barriers faced by individuals with disabilities, attitudinal or communication for example, it does provide a tangible model to begin to address the needs of individuals with disabilities within planning policy and provided a more comprehensive review of those facets imperative to an aging supportive community.

However, what was more telling of an age-friendly approach within planning policy were the Zoning By-laws through delineated zones, standards, and prescribed uses. It was evident that the maintenance of social networks and the implementation of mixed use development were better addressed by the zoning provisions than those approaches to more appropriately housing seniors. Although there will be older persons who require and/or desire the retirement home living option, this particular form does not reflect an age-friendly model. The current Zoning By-laws have not addressed the needs of older persons, with respect to alternative dwelling types

including secondary dwelling units and garden suites, and as a result do not fully facilitate the implementation of an age-friendly approach to development. What is more, although the World Health Organization has established a checklist to measure the age-friendliness of a City, this too does not incorporate provision for secondary dwelling units and/or garden suites. Therefore, municipalities utilizing this particular assessment tool will inevitably negate the review of such alternative dwelling options in support of senior's longer independence. Overall, the criteria indicative of an age-friendly approach to development were addressed within the collective City of Waterloo planning policies. Although there are steps to be taken to ensure that policy in support of an age-friendly approach translates to on the ground development, the basis has been set.

5.3 Recommendations

This research explored to what degree planning policy within the City of Waterloo supported an age-friendly development model. Although there is extensive literature concerning age-friendly communities and how the principles of this approach translate to more tangible facets of society, within both the physical and social environments, there remains no single, definitive manual on how to implement this approach. However, results from analyzing planning policies within the City of Waterloo demonstrated that the principles of an age-friendly approach are evident throughout the policies and can begin to facilitate the implementation of this approach. The following recommendations build on the above conclusions and are intended to further illustrate how planning policy provides the foundation for an age-friendly community as well as propose additional measures that can be implemented to more comprehensively address the needs of an aging population.

5.3.1 Age-Friendly Official Plans and Prescriptive Policies

The entirety of this thesis research has explored the presence and/or absence of age-friendly principles/criteria within Waterloo's planning policy. However, this research has not necessarily addressed the broader changes that could be made within such policies to better support an age-friendly model. Foremost, Official Plans delineate municipalities overarching objectives for long-term growth, while further guiding the provisions to be outlined within more detailed policies such as Secondary Plans, Zoning By-laws, Community Design Plans, as well as Urban Design Guidelines. As noted throughout this research, the planning process is one hinged upon a hierarchy of policies. In order to truly address the implementation of aging supportive features there must be very explicit policies within the Official Plan. By identifying explicit objectives in support of an age-friendly approach, the municipality has set the foundation to ensure that implementing provisions are incorporated throughout the remainder of planning policies.

The most significant deficiencies within the respective planning policies are provisions regarding alternative housing forms. The heart of an age-friendly model is providing housing forms that address individual's needs at each of life's stages. By not addressing the fundamental home aspect of this particular model, the greater community facets will have minimal benefit to seniors desiring longer independence. Similar to the difference in zoning provisions for Waterloo and Ottawa, with respect to secondary dwelling units and garden suites, there are evident differences within the policies of their respective Official Plans. The City of Ottawa's Official Plan has outlined generally permitted uses in recognition that "certain land uses are considered to be characteristic and supportive of the daily life and functioning of the community" (City of Ottawa, 2011b). Two of those land uses are secondary dwelling units and garden suites and

provides the explicit foundation for the zoning provisions outlined within earlier sections of this research. Aging supportive Official Plans must delineate the specific objectives of an age-friendly model in order to guide the prescriptive provisions that can facilitate the implementation of such an approach.

Similar to an Official Plans reliance on Zoning By-laws to implement its policies, the Urban Design Guidelines utilized by a municipality cannot be implemented unless a proposed development requires a formal planning application (Plan of Subdivision, Site Plan Control, Zoning By-law and/or Official Plan amendment). Therefore, again, much of the implementation of an age-friendly model should be incorporated within Zoning By-law provisions. Alternative dwelling options are the most evident provisions that should be incorporated within Zoning By-laws. However, translating certain design guidelines into applicable zoning provisions can further facilitate an age-friendly approach and address such within development that is not subject to the above noted planning applications. Accessible parking, amenity spaces, and the maintenance of sight triangles as a measure of safety are particular aspects of development that can be translated into Zoning By-law provisions in support of an age-friendly model.

Moreover, by incorporating age-friendly principles within specific zoning provisions a municipality can more effectively implement such through the building permit process. While not all proposed development is subject to a planning application, the majority of proposed buildings and/or structures require approval from the respective municipalities Building Permit/Code Departments, where compliance with the Zoning By-law is reviewed prior to issuing a construction permit. The City of Ottawa has taken this approach and notes the following steps within the building permit review process.

- (1) **Zoning Plan Examination:** staff will check for compliance with the regulations and provisions of the Zoning By-Law such as proposed use, minimum setback requirements, lot coverage and building height, etc.
- (2) **Building Code Examination:** staff will review the proposed construction to ensure compliance with the Ontario Building Code, and applicable laws.
- (3) **Grading Approval:** staff from the Infrastructure Approvals Division will review the grading plan for compliance with city specifications (City of Ottawa, 2012).

In order for the City of Waterloo to better facilitate an age-friendly model within planning policy, provisions regarding secondary dwelling units and garden suites need to be incorporated within the newly drafted Official Plan in order to permit the incorporation of such provisions within the respective Zoning By-laws. Addressing as many facets of an age-friendly community as is permitted to be mandated by land use policies will provide the most seamless implementation within a community; removing the element of public participation that is only required by a formal planning application and does not accomplish a city-wide aging supportive built form but is rather specific to pocket areas and/or developments. Overall, Zoning By-laws are the primary tool with which to implement an age-friendly model in on-the-ground development, but have to be supported through the hierarchy of planning policy.

5.3.2 Inclusivity Through and Through

It has been shown that the prevalence of disability is significantly higher for seniors, as compared to other demographics, and therefore poses additional challenges faced throughout the aging process. The above research highlighted particular facets of accessibility/universal design within planning policy and within an age-friendly approach. In order to more comprehensively address both an age-friendly community and accessibility, the principle of inclusivity should underpin the objectives and standards of planning policy.

Inclusive Design is one concept that has been utilized as a way in which to address the needs of individuals with disabilities within both planning and design. What is particularly notable about this concept is that ‘inclusivity’ provides the foundation to address more than just impairment or disability, but promotes environments that are ultimately accessible and/or usable by all. By changing focus from addressing the elderly through an age-friendly model and individuals with disabilities through accessible design, to a planning process underpinned or founded upon inclusivity, can facilitate a more comprehensive and complete process. This is not to say that the principles of age-friendly development or accessibility are negated. Rather these provisions are integrated within planning policy to ensure that each is mutually and holistically addressed throughout each stage of the development process.

What is more, the integration of accessible standards or barrier-free design as an ‘after the fact’ doesn’t optimally address its own associated objectives. Evidenced within the City of Waterloo UDM were discrepancies in the design standards concerning grade. If inclusivity was utilized as the foundation for all planning policy and associated requirements, then issues such as grade would adhere to the strictest of standards to ensure that spaces are planned for access and use by all. Integrating the respective principles within planning policy, therefore adhered to throughout the entire planning process, can address the needs of both older persons and individuals with disabilities but, more importantly, the needs of everyone with no one demographic being of separate concern. There are the specific needs of older persons and individuals with disabilities, but if we ultimately plan for inclusivity from the very beginning, no one need will take precedence but will be addressed simultaneously and benefit greater society in the process.

Another means with which to facilitate a more holistic planning process that addresses the needs of an aging population is through an emancipatory approach to policy development. An emancipatory approach brings inclusivity to the next level by starting from the very beginning of the policies that determine our built form. The planning process includes opportunities for residents to comment on policy development but with regard to the aging population and individuals with disabilities, those who are not the 'average' resident, planning departments should seek greater expertise. Eliciting such expertise can help better facilitate planning provisions that actually address the needs of these groups and/or provide an appropriate base to permit adaptability within the future as needs and development practices change. Bringing in such expertise can also highlight particular needs and/or barriers that fall outside the scope of planning but impact resident's quality of life. One cannot assume the challenges that individuals may face and with that the optimal provisions to address such challenges. An inclusive and emancipatory approach can facilitate a more comprehensive planning and policy development process, ensuring planning provisions best address the needs of an aging population as well as individuals with disabilities.

5.3.3 Building upon Age-Friendly Community Development

While the aforementioned proposes an overall shift in approaching planning for people, there are a number of recommendations concerning age-friendly development and the implementation and/or integration of the concepts associated principles. The following list builds upon the above findings, outlining particular facets pertinent to addressing the needs of individuals with disabilities as well as the aging population, which may be explored through continued research. Moreover, additional recommendations have been offered and focus on changes that can be made within current planning policy to better facilitate an age-friendly

approach, without detracting from the concepts fundamental objectives or the utilization of inclusivity as fundamental to planning efforts.

- (1) Connect with community organizations and other City departments
- (2) Considering senior/student housing so as to further the implementation of an age-friendly model
- (3) Review zoning for evidence of the lifecycle and determine how current zoning designations across the city address age-friendly development
- (4) Conduct an audit of the built environment to determine the presence of age-friendly development features
- (5) Address the concept of walkability and how such may be translated into zoning standards to implement age-friendly development as well as accessibility

5.3.4 An Integrated Approach

Through conducting this thesis research it became apparent that actually measuring the presence of an age-friendly model within planning policy is quite difficult. The principles and objectives of the proposed model truly reflect how older persons desire to age, but a number of those same principles fall outside the scope of planning or cannot be associated with a definitive measure. Planning policy provides the backdrop to community growth and development but the planning profession cannot solely facilitate the changes needed to address age and disability. This was highlighted within the research interviews. Recognizing such, it is imperative that planning departments establish connections with other municipal departments responsible for meeting the social, cultural, and economic needs of residents but, moreover, integrate both government departments and local organizations throughout the entirety of the planning process. Alley articulates this best when discussing elder-friendly communities.

“Building elder-friendly communities requires a more integrated perspective that coordinates health, housing, and transportation services and bridges the gap between social services and the built environments. Creating policies that

encourage elder-friendly community planning and development requires a paradigm shift, integrating the aging network with the disability network, bringing planners and service providers together, and opening and sustaining dialogues between public agencies and private businesses” (Alley, 2007, p.10).

The above quote touches upon the recommendation of an integrated approach among government departments, but further highlights the importance of integrating public and private in order to achieve elder-friendly communities. There are a number of organizations and community groups dedicated to the issues of aging and disability that can provide a focused perspective on the respective issues. Eliciting the help of such organization in facilitating the necessary policy changes can ensure that the objectives of an age-friendly/elder-friendly approach and accessibility/inclusive design are addressed from the outset of the development process. Given that the planning process is time sensitive, it is recognized that each individual organization cannot be consulted in every development case. What is more, although there are current advisory groups utilized within the planning process, the recommendations provided from such organizations/boards are not required to be implemented, as advisory groups are not an approval authority within planning. This is delegated to municipal councils and/or department managers. Therefore, consultation within the policy development and/or amendment stages can better incorporate the principles of addressing aging and disability and, moreover, continue with a timely planning process

In addition to bringing the private and public realms together, through consultants, public meetings, and various advisory committees, it is imperative to promote coordination between the various departments within a municipal government. As noted above, the planning profession currently provides the means with which to implement many of the principles of an age-friendly approach. However, what is just as important, as the seemingly dominant physical environment, is determining how the social environment is addressed within the development process. Within

the City of Waterloo the departments of Development Services, Community, Culture, & Recreation Services, Human Resources (volunteering), and Public Works individually and collectively influence the physical and social environments that inevitably facilitate/hinder the quality of life for Waterloo residents, including the elderly population. Ensuring that the programs and facilities supported by other departments are not hindered by planning policies is imperative. However, what is more important is that where decisions within the development industry are expected to impact such programs, those departments are appropriately consulted. The implementation of ‘Minimum Distance Separations’, as an example, can impact a number of uses permitted within a given zone and in turn the level and/or success of social services operated by the City. Planning policy underpins more than just the planning process and this must be recognized when approaching other facets of community growth.

5.3.5 Alternative Housing Options

Outlined within the Zoning By-laws are a number of dwelling types permitted within the City of Waterloo, ranging from dwelling units to lodging houses and further to both nursing and group homes. Although garden suites and secondary dwelling units are not specifically addressed, which can be effectively integrated into planning policy as exhibited within the City of Ottawa, the above is evidence that a number of living situations are recognized and that a variety of accommodations are permitted. However, the secondary dwelling unit has the potential to address an alternative housing form that focuses upon both seniors and students. The City of Waterloo has a unique opportunity to facilitate intergenerational contact with a “vibrant student community that makes up 25 percent of its total population thanks to its three post-secondary institutions” (City of Waterloo, 2011b) but has not capitalized on thus far.

According to the research on age-friendly development and aging in place, as outlined within section 2.4 above, there are a number of hindrances that older persons encounter that ultimately supported this type of approach. Some of the challenges to seniors' independence and/or remaining within their own homes include financial, physical decline, and distance to family members or gaining assistance (Sabia, 2008). The implementation and/or utilization of a student/senior living arrangement can essentially address these challenges and further an overall age-friendly approach. Foremost, pairing senior homeowners with carefully selected university students can provide assistance with certain day-to-day tasks and further provide some additional income for older persons so as to alleviate some of the financial pressures of homeownership. Students will need somewhere to live upon leaving on-campus housing and a number of once single-family home neighbourhoods are being utilized to house those students. Providing senior/student accommodations at reasonable rates and in exchange for assisting the senior homeowner with yard work and such tasks, can address both student housing needs and older persons desire to live within their own home (independently) longer. This suggested approach utilizes the built environment to facilitate a social environment that promotes intergenerational socializing and longer, continued health for participating seniors.

5.3.6 Zoning and the Lifecycle

The analysis of Zoning By-laws in determining the degree to which an age-friendly approach and accessibility were addressed via planning was critical. Although one can identify principles of age-friendly development and accessibility within goal oriented policies, such as Official Plans, the implementation of particular standards remains hinged upon zoning. The analysis of the City of Waterloo's Zoning By-laws was limited in scope, as this particular policy was just one within the hierarchy used in assessing age-friendly development and accessibility.

While the analysis of the Zoning By-laws delineated a number of principles and/or criteria characteristic of the aforementioned concepts, it was further noted that additional research could be done with this particular policy.

The objective of Zoning By-laws is not the establishment of single, independent zones and prescribed standards, but rather the development of a comprehensive set of permitted land uses and associated standards that collectively facilitate optimal community growth. Ensuring that land uses do not impede upon adjacent properties is principal to the development and implementation of Zoning By-laws. Recognizing such, further research concerning how the currently established zones collectively address/reflect the lifecycle may facilitate a better understanding of an age-friendly approach within both policy and eventual on the ground development. Planning for all stages of life is difficult to comprehensively address within each and every zone, but determining how a group of adjacent zones together reflects that lifecycle may prove an optimal way to achieve an age-friendly community.

5.3.7 What's Already on the Ground?

While the above research utilized planning policy to determine the degree to which an age-friendly approach was addressed within the City of Waterloo, there are additional means to measure age-friendly development within a community. In particular, an audit of the built environment for age-friendly design could also determine whether the City of Waterloo is addressing the needs of older persons within development. Moreover, a number of additional criteria could be incorporated within such an audit to further determine whether accessibility has also been addressed within facets of the built environment. There is considerable research concerning the assessment of age-friendly development and accessibility within the built environment, including the *Livable Communities: An Evaluation Guide* from AARP, the Age-

Friendly Cities Checklist from the World Health Organization, and a number of design manuals pertinent to accessibility/universal/inclusive design. Utilizing past research and literature in order to develop an auditing tool for the built environment could further the understanding of age-friendly development and accessibility within communities.

5.3.8 Can Walkability be measured?

Through both a review of the literature and within the development of an analysis tool for prescriptive planning policy, the concept of walkability was consistently noted. Walkability is an alternative transportation option through appropriate distances to access services and/or other modes of transit, safe, clean and maintained pedestrian routes, and the incorporation of amenities such as places to rest. It was evident from the literature concerning walkability and age-friendly communities that the principles of one approach could address principles of the other. However, integrating the principles of walkability into both this research and greater planning policy had a particular challenge in what was the true measure of walkability?

The City of Waterloo has not placed a particular measure/distance for proximity, where the City of Ottawa has established a 600 meter distance as appropriate for being in proximity to transit. In addition to the above, past research has proposed that a quarter to half mile is an appropriate distance for accessing transit (research concerning walkability is predominantly associated with transit and level of service). However, it was also found that people will often walk further than the aforementioned distances because people relate walking to the time it takes rather than the actual distance travelled. Moreover, research concerning older persons and walkability highlighted that due to decreased mobility, seniors walk at a slower rate and are often unable to walk the above distances.

Concluded from the above is that there is no threshold distance currently determined for walkability given the differences in community layouts and demographics. However, the option of walking and having necessary day-to-day services within walking distance remains imperative to an age-friendly approach. Determining whether or not walkability can be measured quantitatively and how such can be utilized within planning may better facilitate the implementation of a successful age-friendly model.

5.4 Final Remarks

Planning for individuals with varying degrees of impairments has, over the past 40 years, challenged conventional approaches to community development. However, more recently there has been an emphasis on determining how the disabling nature of the built environment is impacting our inevitably aging population. As a result, this research explored whether an age-friendly model can be assessed for within planning policy and utilized the City of Waterloo as the case study municipality. While the collective criteria used in assessing Waterloo's Zoning By-laws illustrates that an age-friendly approach to development is evident, those criteria unaddressed particularly highlight the deficiencies and areas in which the policies could be improved to better meet the needs of an aging population.

Foremost, the implementation of an age-friendly model could better address the needs of older persons through the incorporation of provisions regarding alternative dwelling types, including secondary dwelling units and garden suites, as has been done within the City of Ottawa. Incorporating zoning provisions to permit secondary dwelling units and garden suites is of particular benefit to the aging population, but also facilitates an appropriate means with which to permit slight increases in density to benefit the whole community. Moreover, while the literature concerning age-friendly development highlighted particular principles in support of

addressing the needs of individuals with disabilities, the current model does not holistically address the needs of this demographic. Planning policy has a narrowed scope in that it cannot necessarily incorporate provisions to address the social, cultural, and attitudinal barriers within society.

However, implementing a model that focuses upon the needs of the tail end of the demographic spectrum, a population where health, transit, and other supportive services are fundamentally imperative to maintaining longer independence, may facilitate an approach to community growth that addresses the needs of the entire demographic spectrum both today and into the future. The planning profession alone cannot represent the entirety of change needed to address the issue of an aging population, but can facilitate a more coordinated process for future development – a process in which both social and physical environments are considered.

Appendix A

Defining the Dimensions of Age-Friendly Communities

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)
Social/Recreation	Similar to walkability as it is encouraged through places to rest, local businesses and pleasant surroundings	Day, 2010
	Recreation, volunteering, help with home maintenance, education opportunities, help with government services and computer technologies	Zacharias, 2009; World Health Organization [WHO], 2007b
	Facilitate social involvement through memberships, volunteering, solicit contribution from all ages in decision making	AARP, 2005a
	Parks and outdoor exercise opportunities, active recreation and leisure, senior centres, libraries, theatres, sports, museums	AARP, 2005b
	Cohesive parks system, accessible and affordable facilities, programs that support active living	Australian Local Government Association, 2006
	Integration with general services	Menehan et al., 2009
	Residents Maintain Connections with Friends and Neighbours	
	Civic, Cultural, Religious and Recreation Include Older Residents	
	Opportunities for Volunteer Work are Readily Available	
	Community Residents Trust and Help Each Other	
	Appropriate Work is Available for those who want it	
	Opportunities for Physical Activity are Available and Used	Ryan, 2009
Integrate health services, active recreation opportunities, retraining and skills transfer, arts and culture expression, learning opportunities for seniors		

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)
Housing	Explicit public spaces, affordable housing options throughout the lifecycle	Canadian Urban Institute, 2007
	Mix of land uses, housing tenure, anticipates intensification	
	Safe and affordable with options such as own, rent, subsidized and supportive	Zacharias, 2009; WHO, 2007b
	Design of home environments for all abilities, supply of diverse and affordable housing, community features that enhance safety and inclusion for all ages	AARP, 2005a
	Home modification and weathering, loans and reverse mortgages, tax relief, aging in place and universal design, visitability, housing types and affordability	AARP, 2005b
	Increase housing options, ensure infrastructure and service delivery, planning process	Australian Local Government Association, 2006
	Affordable and considerate of the life-cycle and maintaining independence	Ryan, 2009
	Individual appropriate, affordable, accessible, life-transitions	City of Brantford, 2008
	Affordable Housing is Available to Community Residents	Menehan et al., 2009
	Housing Accommodates Ability and Safety	

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)
Health Services	Litter and air pollution as harbourers of disease and problems with breathing or respiratory health, respectively	Day, 2010
	Flu shots, meals on wheels, telephone support and personal support volunteers	Zacharias, 2009; WHO, 2007b
	Proximity, access, continuing care, home care, clinics, assistance with mental health	AARP, 2005b
	Increase housing options, ensure infrastructure and service delivery, planning process	Australian Local Government Association, 2006
	Health promotion, primary care providers, special home supports, in-home care	City of Brantford, 2008
	Caregivers are Mobilized to Compliment the Formal Service System	
	Obstacles to Necessary Medical Care are Minimized	Menehan et al., 2009
	Palliative Care is Available and Advertised	
	Access to Preventative Health Services	

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)
Transportation	Transportation	City of Brantford, 2008
	Regular transit and reliable taxi services and able to get to out of town appointments	Zacharias, 2009; WHO, 2007b
	Facilitate driving for older individuals through education and improved travel route, alternative options including walkability, cycling and transit	AARP, 2005a
	Mobility options (fixed transit routes, dial-a-ride), continuing to drive	AARP, 2005b
	Alternative transit, support older drivers, enhance road environment	Australian Local Government Association, 2006
	Transportation is Affordable and Accessible	Menehan et al., 2009
	Prioritizing Alternatives for Mobility	Ryan, 2009
	Corridors along dense areas and anticipate density for future transit routes	Canadian Urban Institute, 2007
	Assists in alternative transit methods - personal and mass, accessibility	

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)
Walkability	Very complex - hindered by curb cuts, shop signs and large bins but was encouraged by places to rest and things like public toilets	Day, 2010
	Getting around easily and safely - includes consideration for winter conditions, benches, wider corridors, curb cuts and accessible stores	Zacharias, 2009; WHO, 2007b
	Lack of walkability during winter and computer skills lacking	
	Easy access to amenities, improved sidewalk quality, decrease road widths	Canadian Urban Institute, 2007
	Housing unit sizes, 'walkable' distances, well-sized sidewalks	
	Weather, disjointed routes, lack of maintenance, obstructions, safety, etc.	AARP, 2005b
	Improve and maintain footpath and road networks, visual appeal, safety concerns, safer street crossings	Australian Local Government Association, 2006
	Pedestrian friendly, inter-county transit	City of Brantford, 2008
	Alternative transit options, walkability, safe streets, combined services such as buses and taxis	Ryan, 2009

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)
Built Environment	Presence of vegetation and elements with non-urbanized views as well as water or architecture	Day, 2010
	Concentrate and build to human scale, consider sun and wind impacts	Canadian Urban Institute, 2007
	Easy to navigate areas for both visitors and residents	
	Appropriate signage and less visual clutter	
	Minimize hazards to residents - eyes on the street, bicycle lanes, traffic calming	
	Fear of crime, sense of community through design	AARP, 2005b
	Availability of groceries, mobility within stores, transit routes and store locales	
	Programs such as Good Neighbour, fraud prevention, elder abuse	City of Brantford, 2008
	Neighbourhood is Livable and Safe	Menehan et al., 2009
	Raise community awareness, support built environment initiatives, collaboration and information sharing	Australian Local Government Association, 2006
	Update planning and development processes, enhance design strategies	
	Integrated services such as seniors centres and daycare, adapting old facilities such as schools	Ryan, 2009
	Including seniors in community processes such as planning and development	
	Recognizing that today's seniors are not aging like their parents, better understanding demographics at the local level	
	Central location for mail, licenses, taxes, health services, and government services with transit and community gathering areas - avoid busy, confusing main streets	

Appendix B

Age-Friendly Waterloo Checklist

The following checklist is an age-friendly assessment tool derived from the review of 10 separate aging related publications and comes from regions such as Canada, the United States, and Australia with various organizations incorporated from within those regions as well as the World Health Organization. This checklist has been specifically designed to measure the level of age-friendly planning measures taken within the City of Waterloo exhibited within current planning policies. Finally, the checklist has been designed for individuals not necessarily familiar with 'on the ground' experiences, however, can be utilized within a participative forum in which older people may provide first-hand knowing of age-friendly planning and design.

Social / Recreation

- Opportunities for socializing and recreation are encouraged within policies and may include things such as volunteering, assistance programs, education and work opportunities and memberships to various clubs/organizations
 - Have outdoor recreational opportunities been provided such as local parks, an overall cohesive park system and access to affordable programs/centres?
 - Civic, cultural, religious and recreation is inclusive of older persons
 - Social and recreational opportunities have been incorporated with general services such as healthcare to provide optimal access and use
- Various housing tenures are available
 - Community features and design promote safe and healthy neighbourhoods and streets
 - Programs are available for assisting older persons in maintaining and appropriately modifying their home environments to promote longer independence

Health Services

- Clean streets and neighbourhoods are addressed so as to promote healthy environments
- Preventative health care services are available and accessible to older persons
- Obstacles to accessing health care services such as clinics, in-home care, and palliative care are recognized and minimized through complimentary services.
- Additional services such as mental health, telephone support, volunteers and meal programs are available and advertised for older persons

Housing

- Affordable housing options are promoted for all age groups and 'family' types
- There are a mix of land uses and housing options that anticipate community intensification needs

Transportation

- Facilitate older persons continuing to drive through educational programs and improved traffic routes
- Regular transit and reliable, affordable taxi services are available for both local and out of town appointments or trips
- Transit routes provide reliable and easy access to a variety of services including health care, banks, grocery stores, post offices and other necessary services
- A variety of affordable alternative mobility options are offered for older persons and may include walking, cycling or public transit
- Prioritized mobility alternatives are available for older persons

Walkability

- Places to rest, public washrooms, wide and clear corridors and accessible stores are prioritized and promote walkability
- Streets and sidewalks are to be cleared during all weather conditions and are to be done in a timely manner
- Services are located within walking distance from bus stops
- Residential neighbourhoods are a mix of housing types and lots sizes to promote walkability
- Footpaths and road networks are maintained and incorporate safety measures, especially at crosswalks, to encourage pedestrian friendly environments

- Combined services such as buses and taxis are available and accessible within walking distances of one another

Built Environment

- Non-urbanized elements are promoted within planning and design to promote healthy, green environments
- Appropriate signage, yet minimized visual clutter, is incorporated to assist both visitors and residents in navigating the city
- Promote safe environments through design elements such as 'eyes on the street' and traffic calming measures
- Neighbourhoods are livable and built to the human scale with impacts such as wind and sun considered within the design process
- Services such as seniors centres and daycares are integrated
- Central locations for services such as mail, licenses, taxes, groceries, health services, and government services are utilized and available within accessible distances of transit routes
- Information sharing and collaboration with older persons and organizations supporting older persons is promoted
- Older persons are included within the planning and development process
- Planning policies reflect demographics at the local level and reflect the different aging processes of older individuals today compared to the past and future

Appendix C

Dimensions of Age-Friendly Communities within Zoning and Design

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)
Built Environment	Provide higher densities through smaller lots and decreased setbacks	Fix, 2010
	Alternative housing types such as multi-family or secondary suites	
	Promote land use mix by planning for live, work, play neighbourhoods, mix housing and uses, address parking for commercial versus residential	
	Variety of housing types (single-family, row houses, granny flats, apts. above garages, shared housing, sublets)	Ball, 2004
	Inclusionary zoning – reserved stock that is affordable and participation in such a program may provide development benefits	
	Achieve mixed uses, densities, types, and costing neighbourhoods	CMHC, 2008
	Utilize smaller lots and remove ban on multi-unit residential	
	Diversify housing options by changing zoning to encourage ‘visitability’ (universal design), multi-occupancy, accessory apartments, and have community and business services co-locate in neighbourhoods	White, 2011
	Mix of housing types (accessory apartments, second units, non-transient lodging, multi-family, elderly housing, congregate housing)	City of Cambridge, 2010
	Allow shared housing, second units, accessory apartments	Pollak, 1994
	Increase housing affordability and diversify housing product (single-family, apartments, and assisted living, occupied by owners or renters)	Rosenthal, 2009
	More appropriate housing options in neighborhoods and commercial/residential infill	Rosenbloom, 2009
	Improved street lighting, additional signage, new lane-markings and sign systems responsive to diminishing eyesight and contrast sensitivity	

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)
Built Environment (continued)	Multi-generational and mixed-income housing options in all new developments	Nelson, 2010
	Allowing accessory dwelling units by right for homes exceeding a certain size, especially where public transit is accessible	
	Zoning language that encourages design elements that make multi-family and commercial properties accessible to all	Salhus, 2011
	Density bonuses or 'housing agreements'	
	Readable signage, appropriate lighting, and area-appropriate sidewalks and curbs	
	Range of affordable dwelling types	
Recreational spaces and places to rest		

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)
Social Networks	Intergenerational contact and exchange	Salhus, 2011
	Contribution within labour and volunteer areas	
	Physical spaces (indoor, outdoor, public, private) for interaction to take place	
	Community engagement in planning with awareness programs and neighbourhood level activities	CMHC, 2008
	Encourage senior's engagement in planning processes	
	Proportion of residents 65 years old or older who engage in social activities at least once a week and may include meeting with friends/neighbours, engaging in civic, religious, or cultural activities and volunteer or part-time work	
Proportion of residents 65 years old or older who are able to access a dedicated senior centre or other place of interest, such as a library or community centre		

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)	
Universal Design	Equitable use – the design is useful and marketable to any group of users	Salhus, 2011; North Carolina State University, 1997	
	Flexibility in use – the design accommodates a wide range of individual preferences and abilities		
	Simple and intuitive use – use of the design is easy to understand, regardless of the user’s experience, knowledge, language skills, or current concentration level		
	Perceptible information – the design communicates necessary information effectively regardless of ambient conditions or the user’s sensory abilities		
	Tolerance for error - the design minimizes hazards and the adverse consequences of accidental or unintended actions		
	Low physical effort - the design can be used efficiently and comfortably and with a minimum of fatigue		
	Size and space for approach and use - appropriate size and space is provided for approach and use regardless of user's body size, posture, or mobility		
	Accessibility standards in new construction (one level, double rails, retrofit supportive wall construction)		Ball, 2004
	Address transit (traffic calming through curb extensions and speed tables, better crosswalks, pedestrian oriented environments, support accessibility requirements)		City of Cambridge, 2010
	Horizontal pathway systems that separate travel paths and surfaces from vehicular traffic – equitable		
Mixed and complimentary uses – flexibility			
Accurate and intuitive guidance system for both pedestrians and drivers – simple and intuitive			
Degree of redundancy among the senses through visual, audible and tactile design approaches – perceptible information	Preiser, 2006		
Secure and safe environments for all to use – tolerance for error			
Design for minimum fatigue with minimal incline and appropriate surfacing – low physical effort			

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)
Walkability	Promote walkability (5 minute walking time for services from neighbourhoods or transit stop, wide sidewalks, bike lanes, traffic calming measures, on-street parking, and safer crossings)	Ball, 2004
	Promote walkability by ensuring sidewalks are in good repair, places to rest are available, services are within 500m of housing or transit, and sidewalks are cleared during winter	CMHC, 2008
	Utilize neighbourhood retail districts	
	Provide safer streets/sidewalks, better signage and lighting, active ground floors, well-defined entries, and screened parking	
	Promote open space design (public seating/places to rest, vegetation as shelter, variety of activities within designated parks)	City of Cambridge, 2010
	Clustered retail/services	
	Proximity to services, commerce, and public facilities is emphasized	
	Grid-based layouts provide shorter blocks, easier navigation, and redundant routings	
	Pedestrian connections (well-maintained sidewalks, narrow crossings, and hiking/biking trail systems)	
	Parks and public walkways are firm-surface and at grade, with no sharp elevation changes	Rosenthal, 2009
	Public commodes and benches are plentiful	
	Signs and equipment are easily identifiable and interpretable	
	Steps and staircases disappear, in favor of ramps and large elevators	
	Adopting traffic-calming devices such as narrowing streets, lowering speed limits, and using traffic circles to slow traffic	
	Improve access to public transit by creating accessible paths to accessible transit stops, following ADA standards	Rosenbloom, 2009
Raised pavement markings and median islands		
Improved pedestrian crossings through enhanced signals		

DIMENSION	PRINCIPLE DESCRIPTIONS	SOURCE(S)
<p>Walkability (continued)</p>	<p>Services within walking distance (medical, grocery, family/friends, transit, stores)</p> <p>Eliminate impediments to walking/access (sidewalk conditions, stairs, curbs, weather protection, places to rest, unsafe intersections)</p> <p>Improve neighbourhood facilities, sidewalks and intersections,, provide better lighting, more handrails, wider sidewalks and walkways</p>	<p>Fix, 2010</p>

Appendix D

Evaluating for Age-Friendly within Prescriptive Policy

The following evaluation guide is the final age-friendly assessment tool specifically designed to facilitate the measurement of an age-friendly approach to development within prescriptive planning policy such as Zoning By-laws and urban design guidelines. Through the review of aging and policy related publications, from various geographic regions and organizations, the following criteria were delineated for the dimensions of the built environment, universal design, and social networks as they relate to age-friendly communities. Although walkability was further explored as its own dimension, there are a number of characteristics that can be incorporated within the selected dimensions above. This evaluation guide further builds off of the initially devised checklist resultant from previous research and analysis concerning age-friendliness within broader, goal oriented planning policy.

Objective:

The objective of an age-friendly approach to development has been summarized in many different ways throughout the literature but is fundamentally hinged upon the recognition that older individuals desire to live independently longer and there are particular facets of the community that can better facilitate that and with such need to be better addressed.

Principles:

Although there are a number of principles that holistically address age-friendliness the principles of the built environment, universal design, and social networks represent those to be used in assessing City of Waterloo prescriptive planning policy. Each of the principles is outlined below.

Built Environment – Addresses facets of the physical environment including land use and design, as permitted within prescriptive planning policy, that facilitates an age-friendly development model

Universal Design – Recognizes that aging and disability are often experienced simultaneously and designing environments for use by everyone should be fundamental within the development process

Social Networks – Promotes the maintaining of personal relationships throughout all stages of life, especially among seniors, to provide the highest quality of life possible

Criteria:

The following criteria have been developed, from each of the aforementioned principles, as a result of age-friendly research with respect to prescriptive planning policy. The respective criteria will be used in determining whether or not the above principles of an age-friendly approach are adhered to within the selected policies.

Zoning By-laws

- (1) Garden suites (granny flats) are permitted within any zone where a residential use is permitted
- (2) Secondary dwelling units (accessory apartments) are permitted within any zone where a residential use is permitted
- (3) Residential and commercial uses may be located on the same lot where mixed use is prescribed
- (4) Amenity space is prescribed for all residential dwelling types
- (5) Parkland (open space, green space) permits recreational uses

Urban Design Manual

- (1) 'Grade' level access is prescribed for residential dwellings
- (2) 'Grade' level access is prescribed for commercial uses
- (3) Places to rest are prescribed for pedestrian routes
- (4) Street lighting is prescribed for pedestrian routes
- (5) Street lighting is prescribed for public spaces
- (6) Firm, non-slip surfaces are required for pedestrian routes
- (7) Directional signage is prescribed and shall not be obstructed

Appendix F

Interview Guide Waterloo

The following questions are intended to establish one's professional background as well as the general familiarity with the concepts of age-friendly development and/or accessibility, as they relate to planning policy.

1. Can you provide your current position/job title and what responsibilities that entails with respect to planning?

2. Are you familiar with the terms accessibility and/or age-friendly development as they relate to planning? In particular, can you define, in one sentence, what the terms 'accessibility' and 'age-friendly' mean with respect to planning within your City?

3. What Policy strategies is your City currently pursuing to address age-friendly planning and development? In particular, how is your City addressing the requirements/restrictions for the following:

- a. Secondary dwelling units (accessory apartments)?
- b. Garden suites (granny flats)?
- c. Commercial and residential mixed-use developments?
- d. Retirement Homes?

The following set of questions have been devised from my research findings to determine whether or not the conclusions accurately reflect current issues within planning with respect to age-friendly development and accessibility.

4. Through a review of both the 1990 and draft 2010 Official Plan it is evident that principles of age-friendly development have been incorporated. In particular, there is an importance placed on proximity to services for older persons and the development of complete communities. However, there was no evidence/reference to a particular measure that the City uses in order to determine optimal 'proximity' to such services. Has the City considered what 'proximity' means and has it been defined within any planning policy to date?

5. In addition to the above, the Official Plan references the utilization of varied housing forms as a means to allow seniors to transition through life's stages. Can you list the housing forms that the City has determined as supportive of seniors? Have these options proved effective in addressing the housing needs for seniors in this community?

6. According to the literature concerning age-friendly development, the secondary dwelling unit (accessory apartment) and garden suites (granny flats) are alternative housing options to the retirement home that specifically support the elderly. A review of the City's Zoning By-laws proved deficient in permitting such dwelling types, with accessory apartments only permitted within the FR – Flexible Residential Zone within by-law 1418 and garden suites never noted, do you agree or disagree with this conclusion?
a. How has or will the City address this deficiency?

7. Mixed-use development that integrates residential and commercial uses is one way in which to provide proximity to services and is permitted within a number of zones, according to a review of the Zoning By-laws. How and/or were the needs of an aging population considered in the development of such policies?
- a. Has the implementation of mixed-use development resulted in senior supportive options?

8. The Urban Design Manual (UDM) is another policy that may be used in facilitating age-friendly development. In particular, specifications for 'grade' and/or 'slope' are imperative to developing an age-friendly community with the instance of disability increasing with age. A review of the UDM found discrepancies within the barrier-free section which denote a range of 1%-4% and 1%-3% which both vary from the general provisions within the UDM for a grade of between 2%-6%. Can you explain the above ranges and how the City ensures consistency in design?
- a. Do you feel barrier-free design specifications should be used for all spaces/developments rather than just within particular projects and/or areas of the City?
 - b. What other policy instrument(s) address barrier-free open spaces?
 - c. Are these policies sufficient and effective in the design and implementation of barrier-free spaces?

The final question set concludes the interview by providing an opportunity for the interviewee to comment generally on planning policy and the planning process.

- 9. Do you feel planning policy is an effective means in which to achieve accessibility and/or age-friendly designs/standards in on the ground development?**
- a. Do you feel the implementation of accessible and/or age-friendly design within on the ground development still remains a product of the individual developer?**
 - b. Could the policies that address accessibility and/or age-friendly principles be amended to require more from developers?**

- 10. Do you feel the planning process facilitates communication with other City departments or community organizations when those bodies would be impacted by a proposed development?**

- 11. What policy gaps exist in addressing accessibility and/or age-friendly development and how might your City address such?**
- a. What are some methods that you think might facilitate or improve decisions about planning for accessibility and/or age-friendly development?**

Appendix G

Interview Guide Ottawa

The following questions are intended to establish one's professional background as well as the general familiarity with the concepts of age-friendly development and/or accessibility, as they relate to planning policy.

1. Can you provide your current position/job title and what responsibilities that entails with respect to planning?

2. Are you familiar with the terms accessibility and/or age-friendly development as they relate to planning? In particular, can you define, in one sentence, what the terms 'accessibility' and 'age-friendly' mean with respect to planning within your City?

3. What Policy strategies is your City currently pursuing to address age-friendly planning and development? In particular, how is your City addressing the requirements/restrictions for the following:

- a. Secondary dwelling units (accessory apartments)?
- b. Garden suites (granny flats)?
- c. Commercial and residential mixed-use developments?
- d. Retirement Homes?

The following set of questions have been devised from my research findings to determine whether or not the drawn conclusions accurately reflect current issues within planning with respect to age-friendly development and accessibility.

4. According to the literature concerning age-friendly development, the secondary dwelling unit (accessory apartment) and garden suites (granny flats) are alternative housing options to the retirement home that specifically support the elderly. Why did the City of Ottawa develop specific provisions for secondary dwelling units and garden suites into the Zoning By-law?

- a. How has the incorporation of secondary dwelling unit provisions benefitted Ottawa’s senior population
- b. Is there specific evidence of such benefit, either statistical or anecdotal, that you are aware of?
- c. How has the permitting of garden suites benefitted Ottawa’s senior population
- d. Is there particular evidence of such benefit, either statistical or anecdotal, that you are aware of?

[Empty response area]

5. Mixed-use development that integrates residential and commercial uses is one way in which to provide proximity to services. Does the City of Ottawa address mixed-use developments within planning policy?

- a. Do you feel the implementation of such developments could facilitate senior supportive options?

[Empty response area]

6. The Urban Design Manual (UDM) is another policy that may be used in facilitating age-friendly development. In particular, specifications for 'grade' and/or 'slope' are imperative to developing an age-friendly community with the instance of disability increasing with age. Do planning policies utilized within the City of Ottawa address 'grade'? In particular,
- a. What are the provisions for barrier-free routes and do these provisions differ from the designing of other pedestrian routes?
 - b. What other policy instrument(s) address barrier free open spaces?
 - c. Are these policies sufficient and effective in the design and implementation of barrier free spaces?

The final question set concludes the interview by providing an opportunity for the interviewee to comment generally on planning policy and the planning process.

7. Do you feel planning policy is an effective means in which to achieve accessibility and/or age-friendly designs/standards in on the ground development?

- c. Do you feel the implementation of accessible and/or age-friendly design within on the ground development still remains a product of the individual developer?**
- d. Could the policies that address accessibility and/or age-friendly principles be amended to require more from developers?**

8. Do you feel the planning process facilitates communication with other City departments or community organizations when those bodies would be impacted by a proposed development?

9. What policy gaps exist in addressing accessibility and/or age-friendly development and how might your City address such?

- a. What are some methods that you think might facilitate or improve decisions about planning for accessibility and/or age-friendly development?**

References

- Alley, D. (2007). Creating elder-friendly communities. *Journal of Gerontological Social Work*, 49(1), 1-18
- American Association of Retired Persons [AARP]. (2005a). *Beyond 50.05 – A report to the nation on livable communities: Creating environments for successful aging*. Retrieved from http://assets.aarp.org/rgcenter/il/beyond_50_communities.pdf
- AARP. (2005b). *Livable communities: An evaluation guide*. Retrieved from http://assets.aarp.org/rgcenter/il/d18311_communities.pdf
- Australian Local Government Association. (2006). *Age-friendly built environments: Opportunities for local government*. Retrieved from http://www.alga.asn.au/policy/healthAgeing/ageing/resources/publications/Agefriendly_built_environment_paper.pdf
- Babbie, E., & Benaquisto, L. (2002). *Fundamentals of social research*. Scarborough, Canada: Thomson Canada Limited.
- Ball, M.S. (2004). *Aging in place: A toolkit for local governments*. [PDF document]. Retrieved from http://www.atlantaregional.com/File%20Library/Aging/ag_aging_in_place_toolkit_2_23_04.pdf
- Bardach, E. (2000). *A practical guide for policy analysis*. New York, NY: Chatham House Publishers of Seven Bridges Press
- Barnes, C. (2002). Introduction: Disability, policy and politics. *Policy & Politics*, 30(3), 311-318
- Barnes, C. (2003). What a difference a decade makes: reflects on doing ‘emancipatory’ disability research. *Disability & Society*, 18(1), 3-17
- Barnes, C. & Oliver, M. (1995). Disability rights: Rhetoric and reality in the UK. *Disability & Society*, 10(1), 111-116
- Barton, L. (2005). Emancipatory research and disabled people: some observations and questions, *Educational Review*, 57(3), 317-327
- Behr, R. (2009). No title [Review of the book *Residential design for aging in place*]. *Journal of Architectural Engineering*, 15, 71
- Bennett, U. (2002). Disabled by design. *Disability & Society*, 17(7), 809-823
- Blaxter, L. et al. (2006). *How to research* (3rd edition). Retrieved from <http://books.google.ca/books>

- Brewer, G. & deLeon, P. (1983). *The foundations of policy analysis*
Homewood, Illinois: The Dorsey Press
- Canada Mortgage and Housing Corporation. (2008). *Community indicators for an aging populations*. [PDF document]. Retrieved from <http://www.cmhc-schl.gc.ca/odpub/pdf/66099.pdf>
- Canadian Urban Institute. (2007). *Bracing for the demographic tsunami: How will Canada's seniors fare in an aging society?* [PDF document]. Retrieved from <http://www.canurb.com/media/pdf/DemographicTsunamiJune07.pdf>
- City of Brantford. (2008). *A community for a lifetime: A master aging plan for Brantford and the County of Brant*. Retrieved from http://www.brantford.ca/Projects%20%20Initiatives%20%20Master%20Aging%20Plan/MasterAgingPlan_Booklet.pdf
- City of Cambridge. (2010). *Aging in the Cambridge community*. [PDF document]. Retrieved from http://www2.cambridgema.gov/cdd/cp/zng/aging/aging_report_incommunity.pdf
- City of Ottawa. (2011a). *A portrait of Ottawa older adults: Demographic and socio-economic characteristics*. [PDF document]. Retrieved from <http://www.ottawa.ca/calendar/ottawa/citycouncil/cpsc/2011/08-18/07%20-%20Document%203%20-%20Demographic%20and%20Socio-Economic%20Characteristics%20EN.pdf>
- City of Ottawa. (2011b). *Generally Permitted Uses*. Retrieved from http://www.ottawa.ca/city_hall/ottawa2020/official_plan/vol_1/03_design_land_use/index_en-01.html
- City of Ottawa. (2012). *Permit Review Process*. Retrieved from http://ottawa.ca/en/licence_permit/building_code/homeowner_guide/approval/
- City of Waterloo. (2004). *Official plan of the city of Waterloo*. [PDF document]. Retrieved from <http://www.waterloo.ca/desktopdefault.aspx?tabid=1685>
- City of Waterloo. (2010a). *City of Waterloo official plan*. [PDF document]. Retrieved from <http://www.waterloo.ca/desktopdefault.aspx?tabid=1685>
- City of Waterloo. (2010b). *City of Waterloo Zoning By-law no. 1108 as amended*. [PDF document]. Retrieved from <http://www.waterloo.ca/DesktopDefault.aspx?tabid=2385>
- City of Waterloo. (2010c). *City of Waterloo Zoning By-law no. 1418 as amended*. [PDF document]. Retrieved from <http://www.waterloo.ca/DesktopDefault.aspx?tabid=2385>
- City of Waterloo. (2010d). *City of Waterloo urban design manual*. [PDF document]. Retrieved from <http://www.waterloo.ca/DesktopDefault.aspx?tabid=2431>
- City of Waterloo. (2011). *Official plan review, Waterloo, ON*. Retrieved on January 15, 2011 from, <http://www.waterloo.ca/DesktopDefault.aspx?tabid=1457>

- Day, R. (2010). Environmental justice and older age: Consideration of a qualitative neighbourhood-based study, *Environment and Planning A*, 42, 2658-2673
- Dunn, W. (2004). *Public policy analysis: An introduction*
Upper Saddle River, New Jersey: Pearson Prentice Hall
- Fange, A & Ivanoff, S. D. (2008). The home is the hub of health in very old age: Findings from the ENABLE-AGE project. *Archives of Gerontology and Geriatrics*, 48, 340-345
- Fix, J. (2010). *Age-friendly zoning bylaw consultation results*. [PDF document]. Retrieved from <http://www.planningforpeople.ca/documents/PROGRESSREPORT-ConsultationResults.pdf>
- Franklin, N. & Tate, C. (2009). Lifestyle and successful aging: An overview. *American Journal of Lifestyle Medicine*, 3(1), 6-11
- French, S. (1994). *On equal terms: working with disabled people*.
Jordan Hill, Oxford: Butterworth-Heinemann Ltd.
- French, S. & Swain, J. (2004). Disability and communication: Listening is not enough. In Barrett, S., Komaromy, C., Robb, M. & Rogers, A. (Eds.), *Communication, relationships and care: A reader* (220-234). London: Routledge.
- Gardner, P. (2008). The public life of older people neighbourhoods and networks. (Unpublished doctoral dissertation). University of Toronto, Toronto, ON, Canada
- Gerring, J. (2004). What is a case study and what is it good for? *The American Political Science Review*, 98(2), 341-354
- Gerring, J. (2007). *Case study research: principles and practices*. Retrieved from <http://books.google.ca/books>
- Gill, J. & Saunders, L. (1992a). Conducting policy analysis in higher education. *New Directions for Institutional Research*, 76, 15-27
- Gill, J. & Saunders, L. (1992b). Toward a definition of policy analysis. *New Directions for Institutional Research*, 76, 5-13
- Gleeson, B. (2001). Disability and the open city. *Urban Studies*, 38, 251-265.
- Golant, S. & LaGreca, A. (1994). Housing quality of U.S. elderly households: Does aging in place matter? *The Gerontologist*, 34(6), 803-814
- Gubrium, J. & Holstein, J. (2001). *Handbook of interview research: Context and Method*. Retrieved from <http://books.google.ca/books>

- Hardie, G. et al. (1991). *Accessible environments: toward universal design*. North Carolina State University: The Centre for Universal Design.
- Imrie, R. (2000). Disabling environments and the geography of access policies and practices. *Disability & Society*, 15(1), 5-24.
- Imrie, R. & Hall, P. (1999). Architectural practices and disabling design in the built environment. *Environment and planning B: planning and design*, Volume 26, pages 409-425
- Imrie, R. & Hall, P. (2001). *Inclusive design: designing and developing accessible environments*. London, England: Spon Press
- Institute for Life Course and Aging. (2007). *Aging in place – Bridgepoint/LHIN literature review*. Retrieved on September 15, 2010, from http://www.aging.utoronto.ca/sites/aging.utoronto.ca/files/Bridgepoint_LHIN_FINAL.pdf
- Kumar, R. (2005). *Research methodology: A step-by-step guide for beginners*. (2nd ed.) Retrieved from <http://books.google.ca/books>
- Landorf, C. et al. (2008). The urban environment and sustainable ageing: critical issues and assessment indicators, *Local Environment*, 13(6), 497-514
- Lawrence Frank & Co, Inc. (2008). *The built environment and health: A review*. [PDF document]. Retrieved from http://www.calgary.ca/docgallery/BU/planning/pdf/municipal_development_plan/plan_it/research/health_and_wellness_reports.pdf
- Mahoney, A. (2003). No title [Review of the book *The paradox of aging in place in assisted living*]. *American Sociological Association*, 32(5), 565-566
- McCabe, M. (2002). Directors' perceptions of best practice in corporate governance in Australia. (Unpublished doctoral dissertation). Curtin University of Technology, Australia
- Minkler, M. & Fadem, P. (2002). "Successful aging": a disability perspective. *Journal of Disability Policy Studies*, 12(4), 229-235
- Menehan, K. et al. (2009). *Project identifies 33 indicators that a community is "elder-friendly"*. Retrieved from <http://www.rwjf.org/reports/grr/044682.htm>
- Municipal Affairs and Housing. (2010). *The Planning Act*. Retrieved on January 15, 2011, from <http://www.mah.gov.on.ca/Page1760.aspx>
- Nagel, S. (1990). Bridging theory and practice in policy/program evaluation. *Evaluation and Program Planning*, 13, 275-283
- Neal, A. (2007). Elder care: Aging in place. *Saturday Evening Post*, 279(4), 56-60

- Nelson, A. (2010). Catching the next wave: Older adults and the 'new urbanism'. *Generations*, 33(4), 37-42
- North Carolina State University. (1997). *The principles of Universal Design*. Retrieved on June 29, 2011, from http://www.ncsu.edu/www/ncsu/design/sod5/cud/about_ud/udprinciplestext.htm
- Nunn, T. et al. (2009). Consumer receptiveness to universal design features. *International Journal of Consumer Studies*, 33, 11-19
- Patton, M. (2002). *Qualitative research and evaluation methods* (3rd edition). Thousand Oaks, CA: Sage Publications
- Pollak, P. (1994). Rethinking zoning to accommodate the elderly in single family housing. *Journal of the American Planning Association*, 60(4), 521-531
- Preiser, W. (2006). *Integrating the seven principles of universal design into planning practice*. [PDF document]. Retrieved from http://societyforhumanecology.files.wordpress.com/2012/04/preiser_chapter_1.pdf
- Rosenbloom, S. (2009). Meeting transportation needs in an aging-friendly community. *Generations*, 33(2), 33-43
- Rosenthal, L. (2009). The role of local government: Land-use controls and aging-friendliness. *Generations*, 33(2), 18-25
- Rowe, J. W. & Kahn, R. L. (1987). Human aging: Usual and successful [Abstract]. *Science*, 237(4811), 143-149
- Ryan, L. (2009). *Planning for age-friendly communities: A call to action*. Retrieved from <http://www.ontarioplanners.on.ca/pdf/Call%20to%20Action%20Age-Friendly%20Communities%20June%2018,%202009.pdf>
- Rycroft, R. (1978). Selecting policy evaluation criteria: Toward a rediscovery of public administration. *The American Review of Public Administration*, 12(2), 87-98
- Sabia, J. (2008). There's no place like home: A hazard model analysis of aging in place among older homeowners in the PSID. *Research on Aging*, 30(1), 3-35
- Salhus, M. (2011). *Age-friendly living guidelines project*. [PDF document]. Retrieved from <https://lakecountry.civicweb.net/Documents/DocumentDisplay.aspx?Id=12979>
- Sanderson, M. (2007). An examination of accessibility planning for persons with disabilities in mid-size Canadian municipalities. (Unpublished master's dissertation). University of Waterloo, Waterloo, ON, Canada

- Schafer, R. (1999). *Determinants of the living arrangements of the elderly*. Retrieved from http://www.jchs.harvard.edu/publications/seniors/schafer_W99-6.pdf
- Scharlach, A. (2009). Creating aging-friendly communities. *Generations*, 33(2), 5-11
- Stake, R.E. (1995). *The art of case study research*. Retrieved from <http://books.google.ca/books>
- Statistics Canada. (2003). *A profile of disability in Canada, 2001*. Retrieved on June 12, 2008, from <http://www.statcan.ca/english/freepub/89-577-XIE/89-577-XIE2001001.pdf>
- Statistics Canada. (2009). *Community profiles – City of Waterloo*. Retrieved on September 7, 2009, from <http://www12.statcan.gc.ca/census-recensement/2006/dp-pd/prof/92591/details/page.cfm?Lang=E&Geo1=CSD&Code1=3530016&Geo2=PR&Code2=35&Data=Count&SearchText=waterloo&SearchType=Begins&SearchPR=35&B1=All&Custom=>
- Statistics Canada. (2010). *Seniors*. Retrieved on January 14, 2011, from http://www41.statcan.gc.ca/2009/70000/cybac70000_000-eng.htm
- Swain, J. & Lawrence, P. (2004). Learning about disability: Changing attitudes or challenging understanding? In French, S. (Eds.). *On equal terms: Working with disabled people* (87-102). Jordan Hill, Oxford: Butterworth-Heinemann Ltd.
- Tombesi, P. (2002). No title [Review of the book *Inclusive design: Designing and developing accessible environments*]. *Construction Management and Economics*, 20, 545-546
- Trochim, W. (2006). *Research methods knowledge base*. Retrieved from <http://www.socialresearchmethods.net/kb/index.php>
- University of Waterloo. (2009). *Online guide to completing the form 101*. Retrieved on January 17, 2011, from <http://iris.uwaterloo.ca/ethics/human/application/101guide.htm>
- White, V. (2011). *Strategies for aging in place*. [PDF document]. Retrieved from <http://www.nsarda.ca/images/populationforum/2011/DeptofSeniorsPresentation.pdf>
- Woodhams, C. & Danieli, A. (2000). Disability and diversity: a difference too far? *Personnel Review*, 29(3), 402-416
- World Health Organization [WHO]. (2007a). *Checklist of essential features of age-friendly cities*. Retrieved from http://www.who.int/ageing/publications/Age_friendly_cities_checklist.pdf
- WHO. (2007b). *Global age-friendly cities: A guide*. Retrieved from http://whqlibdoc.who.int/publications/2007/9789241547307_eng.pdf
- Yin, R.K. (2003). *Case study research: Design and methods* (3rd ed.) Thousand Oaks, California: Sage Publications Inc.

Yin, R.K. (2009). *Case study research: Design and methods* (4th ed.)
Thousand Oaks, California: Sage Publications Inc.

Zacharias, J. (2009). *An age-friendly plan for Revelstoke and area*. Retrieved from
[http://www.revelstokesocialdevelopment.org/assets/files/Age%20Friendly%20 Plan%20-%20Final.pdf](http://www.revelstokesocialdevelopment.org/assets/files/Age%20Friendly%20Plan%20-%20Final.pdf)