

**SENIORS ON THE MOVE:
INTEGRATING OUR ELDERLY INTO THE HEART OF COMMUNITY**

by

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ABSTRACT

This thesis addresses society's stance regarding the position our seniors hold within our Canadian communities. Given the predicted rise of the senior population, this thesis will focus on the province that will be hardest hit by this crisis: New Brunswick. As seniors progress in age, they move from the mainstream of our populace into secluded outpost communities based on scales of required levels of care. From retirement communities for the wealthy, to the status quo Longterm Care facility, I will show that these models reflect the common thread of removing our elderly from the social centers of our communities and condemning them to lives of isolation and feelings of uselessness.

For the town of St. Stephen, NB, this thesis proposes an urban strategy that improves age-friendly circulation, a town plaza framed by the proposed Multi-Generational Community Center, and Senior's Housing surrounded by community gardens.

This thesis aims to highlight the benefits that the aging demographic of our communities have for rejuvenating, promoting and securing positive community growth. Our elderly belong at the center of our society and they have an important role of sharing their vast array of skills and promoting unique local culture that is being far too quickly lost.

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CHAPTER 1: INTRODUCTION

Over the next 30 years, increasing senior populations will challenge Canadian communities to rethink urban environments to be more age-friendly and inclusive of this change in demography. Currently the design of Canadian small towns best serve the healthy and robust members of society leaving the senior population on the edges of communities in varying degrees of senior living residences and retirement communities. Canadian seniors are subjected to multiple moves, shrinking social involvement, and in many cases, their final days spent in institution-type facilities devoid of social life and dignity. From nursing homes to deluxe retirement communities for the wealthy, the elderly population is removed from society. This process is diminishing the culture in small towns and adding to cultural divides within communities. For those who are retired, and find themselves in a state of loss and dismissal from community, this thesis will suggest an architecture that promotes a sharing of knowledge and experience among generations by re-integrating and designing place for our seniors at the core of our communities.

As senior populations are on the rise, it is necessary to begin creating more socially inclusive and age-friendly environments for our seniors within our urban centers. Seclusion, isolation, and hopelessness have become synonymous terms for describing the later stages of aging in Canadian society and it is time for change.

Alongside the aging crisis, New Brunswick is experiencing a recurring dilemma of dying small towns. Economically depressed over many years, the province is seeking ways to re-stimulate the small local communities that make this province unique and culturally significant. This thesis presents the idea that these dying towns could be economically and culturally stimulated by becoming more age-friendly and supportive of senior populations.

Our seniors are valuable members of the community. Through local knowledge and skill, they are the keepers of local culture and craft. Canadian communities are missing a channel through which this knowledge is being passed. My argument calls into question the very structure of our communities, both physically and socially, by critiquing how we exclude our old in their final years. It is time to include and celebrate these valuable members of society and create age-supportive environments that promote much needed social exchanges among generations.

Focusing on an architecture that frames the central hub of downtown St. Stephen, N.B, this thesis proposes that a struggling small town can be revitalised by the elderly members of society. St. Stephen is a typical New Brunswick town that is experiencing losses of community members from lack of resources and jobs. Many younger members of the community are leaving in search of jobs in larger centers and this is hampering the economic viability of the town. The present day downtown core is a far cry from the bustling days of its past as an industry rich border town. Many of the downtown businesses have closed their doors and the mainstreet is beginning to look like a ghost town.

The parallel problems of senior exclusion, a bulging senior population, and a dying downtown core will be addressed together and re-imagined to present a more productive model that is reflective of inclusion and overall community revitalization by reshaping the urban core around the senior demographic. This thesis proposes a new place for seniors to call home at the heart of community and suggests that our elders be respected as cultural resources who need age-friendly and supportive community spaces so that they can continue to participate in mainstream society and inform local culture and craft. By designing safe, age-friendly circulation in the downtown, growing populations of seniors can move more freely and stimulate growth in the downtown business district.

The rationale of this thesis suggests the following four strategies to promote senior inclusion and community growth for St. Stephen:

1. Age Supportive Circulation: Softscaping and accessibility into the downtown core's redesign for safe, supportive and age-friendly circulation for the elderly.

2. A Place for Purpose: Identifying the literal and social core of the community as the new "Garcelon Civic Center" and designing a new center for seniors alongside it in the proposed Intergenerational Community Center. In this building, our retired members of society can find new purpose and involvement with the community by sharing their local knowledge and skill while promoting sociability among generations.

3. Addressing the demand for Senior Housing: Create a multi-stage Assitive Living facility as an offshoot of the new Community Center. This facility will be community focused by incorporating community flower and vegetable gardens throughout.

4. Adapting and upgrading the downtown core: accommodating for the demand of new businesses and services that are necessary to serve the influx of seniors into the town core.

Canadian communities need to adapt to become more aging-friendly and bolstering of aging-in-place. Senior populations are on the rise in this country, but the models of supporting this demographic are not. For the sake of human dignity, and cultural preservation, our societies must adapt to value our seniors and create inclusive, supportive environments that help seniors to partake and contribute in society until the end of their days. The focus and resolution of this thesis will be embodied in the *Multigenerational Community Center*. It is a building that celebrates the imparting of life experiences, local culture and local craft across generations. Its overarching intention is to bridge the generational divide by creating social platforms through which knowledge and experience are passed. At the foundation of this thesis, there is an underlying respect for our elders and a desire to improve quality of life in the remaining days of their lives.

Thesis Statement:

I propose that a dying small town in New Brunswick can be re-vitalised by designing place for our seniors at the heart of community. By creating an age-friendly downtown core, I propose our increasing numbers of seniors move inward to the center of community where they can more easily access valuable social services that are necessary for well-being during the later stages of life. This model promotes aging in place, exercise, and socializing our seniors within an everyday small town life. It proposes that our communities and our unique local cultures will become stronger through cross-generational social interactions with the ultimate goal of sharing local knowledge and craft among all community members.

Canada's Changing Age Demographic:

There is an alarming trend in the industrialized countries that significant proportions of the population is entering the “old-age” demographic. Currently, Canada's fastest growing age demographic are the seniors. In July 2015 the number of people aged 65 or older surpassed the number of children aged 15 or under (Figure 1). This statistic highlights the very current and real struggles Canada will experience in the future trying to support and adapt for an aging population.

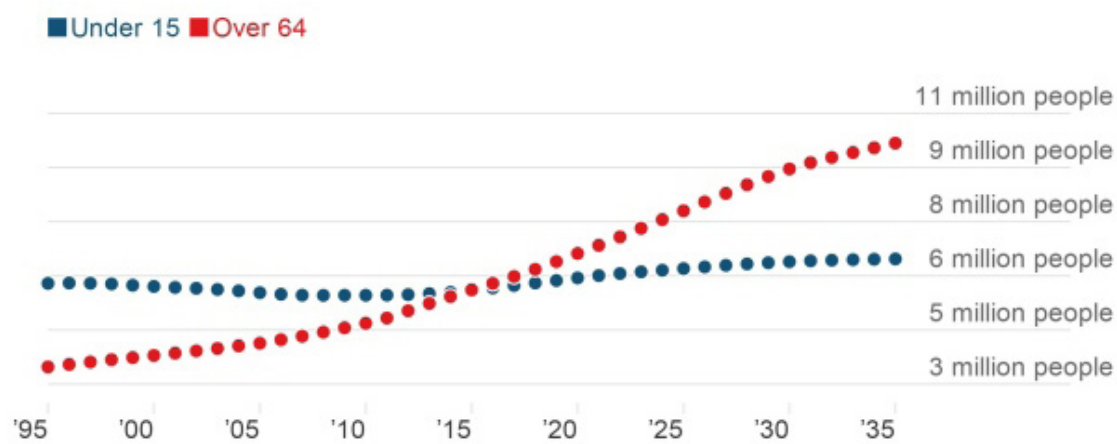


Figure 1. In this graph, 2015 marks the year whereby the total Canadian national population of seniors aged 64 and older surpasses the total national population of juveniles under the age of 15; data from Statistics Canada, June 2015

In the coming decades, the number of Canadian seniors will more than double, and will represent over 22 percent of the estimated total population.¹ By 2050 there will be a demand for 800 000 nursing care beds across the country.² These statistics are especially important for the province of New Brunswick, because among the other provinces, it is topping these trends with a senior population just over 18% of the provincial total.

Statistics are showing that as baby boomers (born between 1946-1965) now enter their senior years, profound and often controversial questions are being raised about whether

1. Statistics Canada, *Age Structure of the Canadian Population* [Ottawa] 2011, <http://www.statcan.gc.ca/pub/91-520-x/2010001/aftertoc-aprestdm1-eng.htm>
2. Canadian Medical Association, *A Policy Framework to Guide a National Seniors Strategy for Canada* [Ottawa] 2015, https://www.cma.ca/Assets/assets-library/document/en/about-us/gc2015/policy-framework-to-guide-seniors_en.pdf

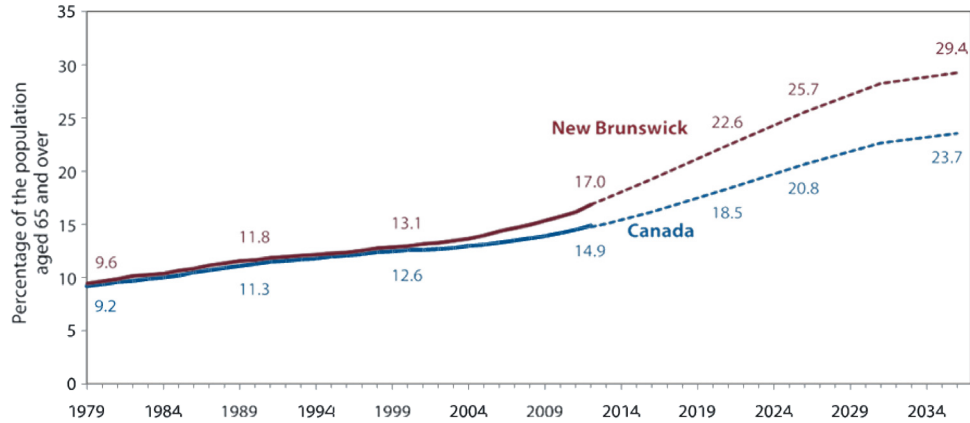


Figure 2. 1979 marks the year whereby New Brunswick's percentage of senior population surpasses the national average. By 2016 it will be greater than 19%; while the national average sits around 15.5%; data from Statistics Canada, National Census June 2011

Canada is ready for the possible consequences of a declining labour force, and the increasing costs on the health care system. According to Elaine Glalagher, Director of the University of Victoria's Center on Aging, physical changes to Canadian Communities will be needed to accommodate for the coming wave of seniors. She argues that this influx will not happen over night but slowly over the next 30 years and there is time to plan and adjust accordingly.³

New Brunswick has Canada's most aged population (Figure 3). Leading the other provinces with a staggering 19% of total residents over the age of 65. It is a small province composed of many small towns so it is the focus province for this thesis.

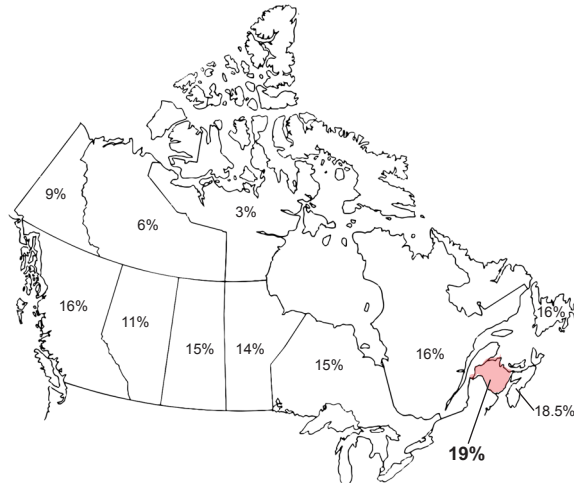


Figure 3. Provincial percentage of populaton over 65; data from Stats Canada 2015

3. Mark Kennedy, *Canada's Aging Boomers Place New Strain on Pension, Health Care: Census*. National Post, May 29, 2012, <http://news.nationalpost.com/news/canada/canadas-aging-boomers-are-placing-new-strain-on-business-government>

Although it may be viewed as a human success story and a true measure of medical triumphs, increased life expectancy is becoming a burden on populations whose birth rates remain unbalanced and inconsistent. This worldwide phenomenon of aging calls into question “the many challenges regarding aging and national development, issues concerning the sustainability of families and the ability of states and communities to provide for aging populations”.⁴ This topic is not only limited to the financial viability of our communities to support our elderly, but also the level of social inclusion we are providing their demographic

Policymakers increasingly recognize that policies on aging must address the entire society and people of all ages and that global aging needs to be integrated into the broader process of development.⁵

As our population begins to reflect a larger aged community, we as designers must respond to the social and physical needs of this demographic in our built environments.

Canada’s Dying Small Towns

Canada is still a relatively new country, and its cultural and urban landscapes are growing and shifting rapidly. Larry S. Bourne and David Ley suggest in *The Changing Social Geography of Canadian Cities*, that the small towns of Canada are typically derived either as central places which act as manufacturing, shipping or in transit locations toward larger more urban centers, or Resource-based communities serving both renewable and exhaustive type industries.⁶ In 2006, just under 20% of Canadians (6.0 million people) were living in rural areas, that is, in areas located outside urban centres with a population of at least 10,000. Rural Canadian towns are subject to constant population fluxuations which are a result of perpetually changing market factors encountered with the US and overseas markets. Recent studies suggest that over 70 per cent of Canadians have now chosen metropolitan centres as their home. This is a stark contrast to 45 per cent of the Canadian population living in these urban centres just 60 years earlier.⁷ Today, as a result,

4. Kevin Kinsella and David R. Phillips, *Global Aging: The Challenge of Success*, Population Bulletin Vol. 60, No. 1 (2005):12, <http://www.prb.org/pdf05/60.1globalaging.pdf>

5. Ibid., 15.

6. D.Ley and L.S. Bourne, *The Changing Social Geography of Canadian Cities* (Montréal, Quebec: McGill-Queen’s University Press, 1993), 249

7. Statistics Canada, *2006 Census: Portrait of the Canadian Population in 2006: Subprovincial Population Dynamics. Portrait of Small Towns, Rural Areas and the Territories* [Ottawa] 2006 97-550-XWE2006001, <http://www12.statcan.ca>

Canada's small towns are beginning to fade into the past taking with them much of our history, local culture and rural quality of life.

Of all the provinces of Canada, New Brunswick has been the hardest hit by these economic swings and it is experiencing very difficult challenges. There is currently a migration trend of people in the working age demographic to other more prosperous provinces in Canada, and that makes New Brunswick's communities the fastest shrinking. While Canada has grown by 1 million people in the last 3 years, New Brunswick has shrunk by 3,497 people. Recently, Patrick Charbonneau of Statistics Canada, suggested that "interprovincial migration is linked to economy and New Brunswick has produced no job growth in six years."⁸

Within five years, a provincial study predicts, the working-age population of New Brunswick will have declined by 30,000, even as 50,000 more people pass the age of 65. Again, this is largely due to the exodus of younger workers.⁹ These staggering numbers spell disaster for the already struggling small towns of New Brunswick and will further hamper the strength of the local economy. Looking into the future, why not pursue the opportunity to celebrate this growing population of seniors to help stimulate these struggling small towns. The senior population has much to offer society both culturally as well as fiscally. It's time to re-imagine our urban landscapes and transform them into aging-friendly landscapes that support aging in place and celebrate our seniors as active members of community rather than pushed out retirees. By embracing the bulging senior demographic, New Brunswick could be re-imagined as the province that promotes quality of life for the senior demographic and in turn could become economically stimulated by this growing and demanding population.

Cultural Treatment of Seniors:

Although aging in itself is a biological process whereby bodily functions begin to diminish as time goes on, youth and old-age are in fact socially constructed. There is no inherent cultural meaning to the biological process of aging. Rather, cultures imbue youth and age

8. Robert Jones, *New Brunswick is Fastest-Shrinking Province, Statistics Show*, CBC News Posted: Jun 26, 2015, <http://www.cbc.ca/news/canada/new-brunswick/new-brunswick-is-fastest-shrinking-province-statistics-show-1.3129339>

9. Ibid.

with meanings. Aging is perceived differently around the world. From one culture to the next, age represents differentiating roles and responsibilities in society. These varying roles demonstrate that age categories are actually a social construct, and that seniors have varying levels of abilities.¹⁰

In western society, the negative impacts of aging can mean a series of progressive losses which include; the loss of a professional career or work, a lack of purpose in society, a growing reduction of independence, death of friends and family, increasing living costs on a decreasing budget, and the risk of developing an illness leading to long-term disability, isolation and loneliness.

It is estimated that 5-10% of seniors living in the Canada will experience a depressive disorder that is serious enough to require treatment. For seniors who are living in elderly institutions, this rate drastically increases to 30-40%. Furthermore, this study suggest that Canada's elderly demographic is at a higher risk of suicide than that of the adolescent demographic.¹¹ Depression and suicide are becoming more and more prevalent in Canadian Senior populations.¹² It is suggested that mental health experts and psychological care are not reaching our senior populations, but perhaps something else is at play.

To examine this subject further, we must first consider what factors increase the risks of depression in the later years of life. Precursors to elderly depression include but are not limited to: Illness, prescription drugs, living with chronic pain, living alone without any necessary social support networks, deaths of loved ones, fear of death and an improper diet resulting in compounding health issues. Interestingly, many commonly prescribed medications are associated with depression and can cause depression symptoms to become worse such as; blood pressure medications, Beta-blockers, Steroids, digoxins and sedatives. Aside from the physical triggers of depression some doctors are beginning to suggest that the true cause for many incidences of depression are resulting from a

10. *The Social Construction of Aging*, Boundless Sociology, (2015), <http://www.boundless.com/sociology/textbooks/boundless-sociology-textbook/aging-18/a-global-perspective-on-aging-127/the-social-construction-of-aging-718-7746/>

11. Mood Disorders Society of Canada, *Depression in Elderly*, (2015)
<http://www.moorderscanada.ca>

12. Ibid.

neglectful society. In the article *Ageing-friendly communities and social inclusion in the United States of America*, Andrew E. Scharlach and Amada J. Lehning say that social inclusion is found in three forms of interaction: “Social integration, Social Support, and Access to Resources.”¹³ They argue that the future of elderly housing must be inclusive in our communities and promote shared responsibility among all. Currently, in Canadian culture, the transition from a working life to a retired-life marks the start of a decline and withdrawal from mainstream society. Once a working contribution to society has come to an end, our seniors are dismissed from their community positions and curbed to a retired status. With this transition, comes losses in sociability, a connectedness to community and social responsibilities. The Public Health Agency of Canada considers Mental health as:

the capacity of each of us to feel, think and act in ways that enhance our ability to enjoy life and deal with the challenges we face. It is a positive sense of emotional and spiritual well-being that respects the importance of culture, equity, social justice, interconnections and personal dignity.¹⁴

Far too often in western society family members seek out Longterm Care facilities for their elderly and then neglect their loved ones as their age and illness progressively increase. The elderly are locked away in socially devoid institutions to wallow in sickness, and loneliness.

Non-Western Cultures

However some cultures do value the elderly for their wisdom and experience and offer them a place of dignity and respect in their society. For instance, in many Asian societies the elderly are not only cared for but are included in facets of daily life. In the article: *The Social Construction of Aging*, Japan is presented as a model that has parents moving in with their children when they have reached a point in their life when they are no longer capable of caring for themselves. “Japanese cultural norms suggest that caring for one’s parents by putting them in an assisted living home is tantamount to neglect.”¹⁵ This cultural

13. Andrew E. Scharlach and Amada J. Lehning, *Ageing-Friendly Communities and Social Inclusion in the United States of America*, *Ageing and Society*, Vol. 33, Special Issue 01(Cambridge University Press, 2012), 113

14. The Public Health Agency of Canada, *Definition of Mental Health*, December 2015, <http://www.phac-aspc.gc.ca/>

15. *The Social Construction of Aging*, *Boundless Sociology*, (2015), <http://www.boundless.com/sociology/textbooks/boundless-sociology-textbook/aging-18/a-global-perspective-on-aging-127/the-social-construction-of-aging-718-7746/>

model promotes the idea of the circle of life and suggests an acceptance and devotion to being a part of the perpetual nature of a caring, family-oriented community.

Similarly, first nations societies of North America consider their elderly as great sources of wisdom and guidance. They had a strong oral tradition whereby, “historic importance was preserved by passing information from person to person, and generation to generation.”¹⁶ In this society, the elders are the keepers of these traditions and knowledge and are instrumental for preserving and safeguarding their respective cultures. There is a continuous and perpetual cycle of interaction between the elderly and the youth and is fundamental to the survival of their respective cultures. Elderly are prized and included in society until death.

Conversely, there have been ancient societies that have practiced ritualistic senicide because of the imposition posed by prolonged life and accompanying sickness and frailty. There are historical accounts of Inuit society practicing socially acceptable accounts of senicide. In the storm-laden Bering Strait between Siberia and Alaska, there is a northern culture named the Inupiat, who would ritualistically murder their elders. Elders who felt they had nothing more to contribute to society would explain their wishes to family members and then a debate would follow. If family members were incapable of changing their loved one’s mind, the killing went forth. It was usually the victim’s eldest son who would conduct the killing and was typically done by fatal stabbing, noose or in later years with a gun. One story, taken from the *Southwestern Journal of Anthropology* in 1955, recounts the nature of one such event when a 12 year old boy is responsible for carrying out the death of his father using a large hunting knife:

He indicated the vulnerable spot over his heart, where his son should stab him. The boy plunged the knife deep, but the stroke failed to take effect. The old father suggested with dignity and resignation, ‘Try it a little higher, my son.’ The second stab was effective.¹⁷

Early nomadic tribes made this decision because their society was faced with a very hard choice: should all suffer the burden of someone unable to provide or contribute to the greater good of community? For them it was a very real circumstance of life and

16. Canada’s First Peoples, November 2015, <http://www.firstpeoplesofcanada.com>

17. E.M. Weyer, *The Eskimos: Their environment and folkways* (Yale University Press, Archon Books, 1969), 138.

death. “We react with horror at these stories, but upon reflection, what else could they do, the people in these societies are faced with a cruel choice.”¹⁸ In the west, we are also confronted with the same decision of cruelty, but of a varying degree. The decision we make is one of division and exclusion and this position is strengthened in the built form of our communities by ushering this demographic into a place of retirement.

Classifying the Senior Demographic

Historically, in western society, the transition into the elderly demographic would come during retirement, at the age of 65. According to *The Fundamentals of Nursing Care*, we have four classifications of elderly:

1. Young-Old (65-75)
2. Middle-Old (75-85)
3. Old-Old (85-100)
4. Elite-Old (100+)

The *Young-Old* are typically just entering retirement. They are generally classified as starting to experience “more of the physiological changes that are brought on by the aging process”.¹⁹ They are experiencing a gradual decline in physical and mental health. The most common conditions seen in the Young-old demographic include: “elevations in blood pressure, higher cholesterol levels, and the onset of type 2 diabetes.”²⁰ Socially, the Young-Old demographic are capable of still working or volunteering in Society and living active participatory lifestyles.

The *Middle-Old* demographic represent individuals who have often retired from working and are beginning to experience the downfalls of getting older. It is in this demographic where the elderly begin “experiencing the losses of spouses, family members, and friends to natural death.”²¹ Typically this age group requires assistance with daily living activities

18. Judy Lin, *Honor or Abandon: Societies' Treatment of Elderly* *Intrigues Scholar*, UCLA Newsroom January 2010 <http://newsroom.ucla.edu/stories/jared-diamond-on-aging-150571>

19. M.Burton, *Fundamentals of Nursing Care: Concepts, Connections and Skills Second Edition* (Philadelphia: PA: F.A. Davis Company, 2015), 748.

20. *Ibid.*, 748

21. *Ibid.*, 749

and it is a time when family plays a crucial role in the quality of life of the individual who is growing old. Physical changes become noticeably more apparent and there is a reduction in physical activities that had once brought pleasure. It is important to note that “these individuals may be at a higher risk for the development of a psychosocial disorder because of the implications of physical and social changes that affect their lives at this time.”²²

The *Old-Old* demographic represent a stage of life characteristic of its title. Ill-health and reduced mobility often dictate the need for around the clock care. “In Western culture, many times younger family members are working as well as raising their own children, so it is more common for the Old-Old to live in long-term care or assisted living facility.”²³ It is in this stage that functional limitations are deciding factors of level of care required, but it is highly likely individuals in this demographic require some form of assistance with activities of daily living.

The *Elite-Old*, also called “centenarians”, are a growing demographic in Western society. Typically this age group are highly restricted in their daily activities and abilities. It is not a typical age benchmark reached by many, but is a “testimony to better medical management of chronic conditions and advances in medical care”.²⁴

Jared Diamond, a prominent author on the subject of aging, argues that *usefulness* has become synonymous with *value*. In western society, driven by consumption and capitalism, usefulness denotes one’s financial contribution to society. Diamond then contrasts the value of seniors have in more traditional societies:

Although Old people in traditional societies can no longer spear game or battle enemies, they can still gather food to care for children. They are also often expert at making tools, weapons, baskets and clothes. In many societies they serve as tribal elders in medicine, religion and politics.²⁵

In these traditional societies, Diamond explains that the roles that people assume shift based on the level of their physical and mental abilities. Traditional society accepted

22. Ibid.

23. Ibid.

24. Ibid.

25. Judy Lin, *Honor or Abandon: Societies’ Treatment of Elderly Intrigues Scholar*, UCLA Newsroom January 2010, <http://www.newsroom.ucla.edu/stories/jared-diamond-on-aging-150571>

the elderly as having diminished roles, but celebrated their wisdom and knowledge and through advisory roles rather than productive one as a means of continual contribution to community. We, in the west, are disconnected with the value of knowledge and expertise that our elders can share with us after a life of activity and experience in our communities. We need communities that are inclusive of seniors and our urban spaces should reflect the value and experience our seniors possess. We need public spaces for seniors to pass on their knowledge and experience to younger generations so that our unique Canadian cultures are maintained and can continue to grow and adapt in the modern context.

Healthy Aging

Aging is a natural part of life. We each age in our own unique way, and our surrounding physical environment has an impact this natural process. How we age has much to do with how we decide to live our lives. This *how* reflects the level of health that we embrace while living. Dr. John Rowe and Dr. Robert Kahn, two prominent authors on the subject of Gerontology and healthy aging, propose that there are four general components toward a healthy aging process:

1. Promoting health and preventing illness, disease and injury.
2. Optimizing mental and physical function
3. Managing chronic conditions
4. Engaging with life²⁶

This may seem common sense, but elegance lies in its simplicity. It addresses physical and mental health, embraces the adversities that arise in living as a senior in an aging body and maintains a strong focus on staying social while seeking fulfillment in everyday life. Rowe and Kahn maintain that it is also the responsibility of “families and communities to make healthy choices and develop healthy and supportive environments for our elderly”²⁷. This thesis adopts these values and suggests that community should be physically designed in a way to promote this ideology.

26. Province of British Columbia, British Columbia Ministry of Health, Rowe & Kahn, *Healthy Aging Through Healthy Living: Towards a Comprehensive Policy and Planning Framework for Seniors in B.C. (2005)*, 12-13.

27. *Ibid.*, 15

When considering aging and health it is difficult to classify based solely on age. Many seniors exist at varying levels of fitness both mentally and physically and the traditional method of age-health classification is now seen as outdated. In 2009 Gerontology professor, Ken Rockwood released a study done on seniors in hopes to better classify and understand varying degrees of health among the aging. His study went beyond the simple age classification method and proposed a scale based on levels of “frailty”. His resulting efforts have made positive strides forward in the field of Gerontology as well as a step forward in breaking down the stigmas attached with age and ability. Opposing the generic age classification method, Rockwood says: “frailty is a valid and clinically important construct this is recognizable by physicians. Clinical judgments about frailty can yield useful and predictive information”²⁸

Rockwood gathered his findings into an infographic (Figure 4) that has become the generally accepted clinical classification system of physical independence among seniors.

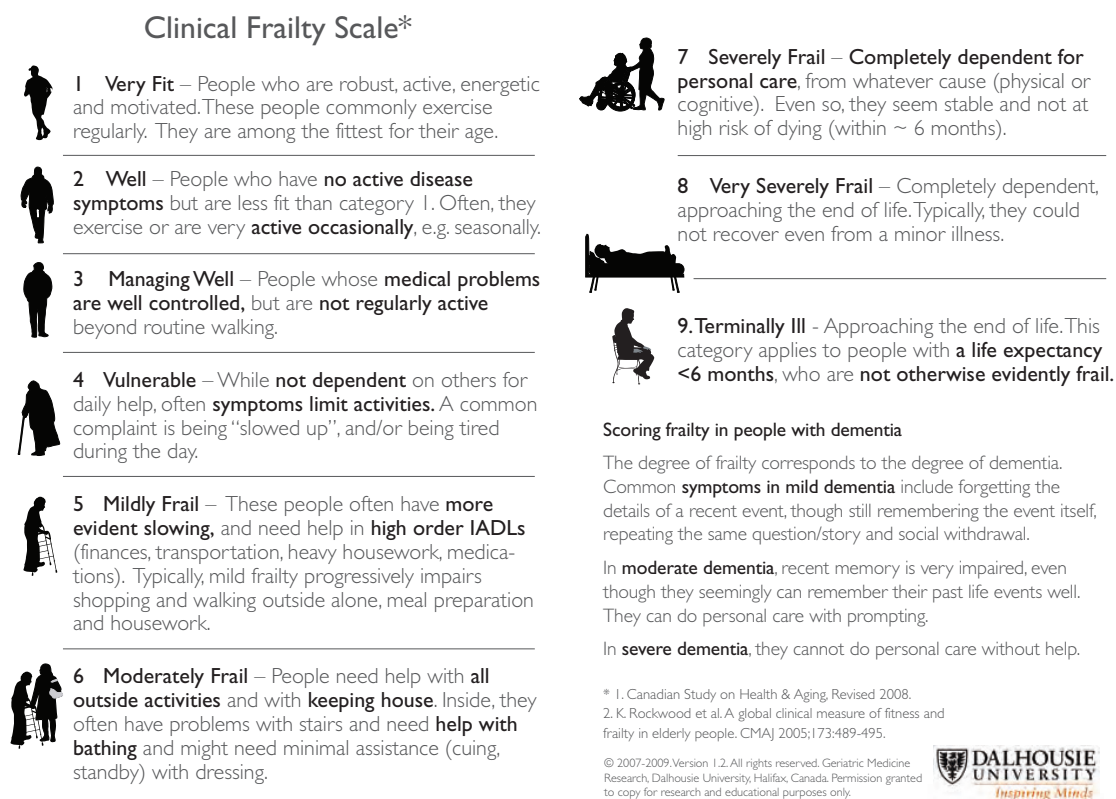


Figure 4. Clinical frailty scale infographic, K. Rockwood et al, A global clinical measure of fitness and frailty in elderly people; Geriatric Medicine Research, Dalhousie CMAJ 2005;173:489-495.

28. Ken Rockwood, *Clinical Frailty Scale*, Version 1.2. Geriatric Medicine Research, Dalhousie University, Halifax, Canada. 2007-2009 http://geriatricresearch.medicine.dal.ca/clinical_frailty_scale.htm

Rockwood established a measure of fitness among aging people at a time when people are generally living longer with greater abilities at older ages, and therefore suggests that we can no longer rely solely on age as a measure of ability. This study breaks down the notion of age grouping and presents a measure of physical and mental ability case by case. This classification system promotes the idea that certain age related health characteristics aren't synonymous and that health is not solely determined by years, but is representative of physical and mental well being. In this study, it is apparent that physical ability is representative of a measure of frailty and both can be a determinant of one's daily physical regimes.

In the findings of a study conducted by Marisa Wan, MD, and Roger Y. Wong, MD, in 2014, from the Department of Medicine at the University of British Columbia, exercise is highlighted as a critical component of maintaining health. This study is not suggesting that our seniors need to be training for marathons, but they should be maintaining good cardiovascular exercise to stimulate blood flow, oxygenate the blood and promote flexibility. They argue that: "exercise improves cardiovascular physiology and health, prevents falls, and has been associated with improved cognitive function."²⁹

Wan and Wong are suggesting that the element of prevention that comes from regular exercise is critical to maintain muscle cognition and stability, both key for countering imbalance. The best way to prevent a fall is by maintaining steady muscle control and stamina. For the elderly who are limited in their physical capabilities, promoting activity will help counter the negative impacts that aging has on the body. Guided by these studies, this thesis proposes an urban environment that promotes accessibility throughout town whereby seniors are encouraged to walk as a means to promote physical well-being. Walking is considered low impact but important for maintaining physical fitness in the later stages of life, and for those struggling with mobility, this thesis explores how urban environments can promote technologies that are assistive to our seniors as their physical condition is further diminished with age.

Apart from maintaining proper and consistent exercise, the other critical component of healthy aging is maintaining a social connectivity to place and community and this has

29. Marisa Wan and Roger Y. Wong, "Benefits of Exercise in the Elderly," CGS JOURNAL OF CME Vol. 4, Issue 1, (2014): 7.

direct implications on urban design for seniors. Social health is a key proponent to aging naturally and without it leads to mental collapse ending in feelings of isolation, loneliness and depression. The World Health Organization (W.H.O) states:

Health and well-being are determined not only by our genes and personal characteristics but also by the physical and social environments in which we live our lives. Key environments include home, social relationships, neighbourhoods and communities. Environments play an important role in determining our physical and mental capacity across a person's life course and into older age and also how well we adjust to loss of function and other forms of adversity that we may experience at different stages of life, and in particular in later years. While, both older people and the environments in which they live are diverse, dynamic and changing. In interaction with each other they hold incredible potential for enabling or constraining Healthy Aging.³⁰

The W.H.O suggests that social health and environment should be grouped together. Environment is indicative of place and it is in this realm where Architecture can play a supportive role in the physical and social health of the senior population. Besides the notion of creating more physically accessible environments for our seniors, we as designers must be thinking about creating more socially-accessible environments as well. It has been clearly documented that the necessities of healthy aging are a balance between physical and mental health. Like all groups in society the elderly share the same basic human requirements but maybe more so in the social realm as their physical well being begins to deteriorate and mobility becomes a restraint to accessing socially stimulating environments. It is at this stage that community and community environments should respond to the frail by being socially and physically accessible. It is in this area that this thesis aims to address and where urban design and architecture can play a positive role in creating healthy inclusive environments that promote sociability and physical well-being for our senior populations.

Senior Facilities: A Brief History

The history of senior facilities have deep roots in social welfare. Early examples of Religion-based almshouses(figures 8,9) in Europe through to the poor houses of North America, social senior housing has adapted as a social institution through time. Almshouses have a deep history dating back to monastic times. They have gone by many names including: Bedehouse, Hospital, Maison Dieu, and Almshouse, but all share the same principle

30. World Health Organization, Age Friendly Environments, (November, 2015), <http://www.who.int/ageing/age-friendly-environments/en/>

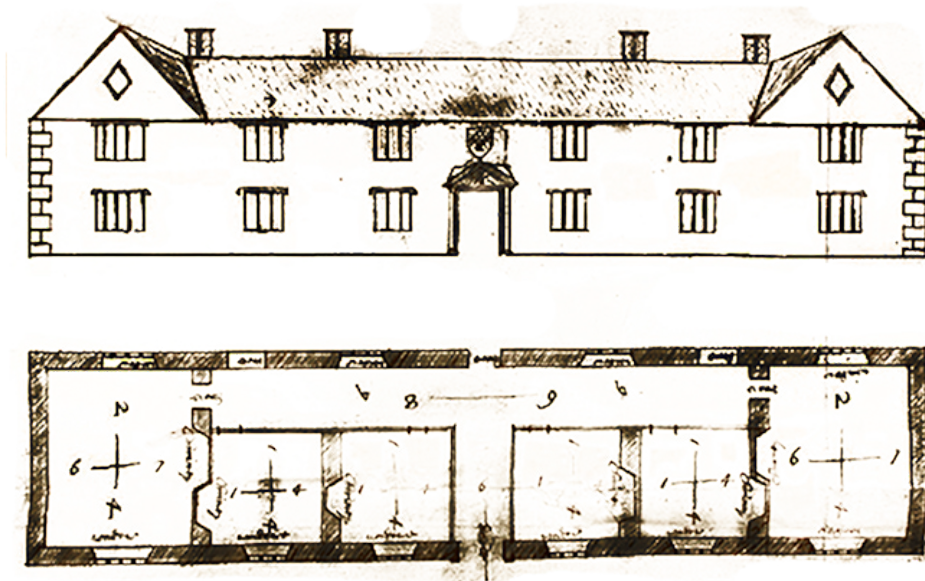


Figure 5. Sketch Plan and Elevation, Bishop Cosins Almshouse, Architect: John Lagstafe, 1666; The National Almshouse Association, December 28, 2015, <http://www.almshouses.org/>



Figure 6. Bishop Cosins Almshouse, Architect: John Lagstafe, 1666; The National Almshouse Association, December 28, 2015, <http://www.almshouses.org/>

intention: provide accommodation for the weak, destitute, elderly and ill of health. The first account of this type of building dates back to the 10th century and was founded by King Athelstan in York. By the late 1500's over 800 of these building types were in existence, but following the dissolution of the monasteries, few remained. These buildings were religion based charities who mandated that all residents pay penance for their sins in exchange for

residence³¹. As church states turned to political states, these facilities adapted to become societal charities that continued to respond to the weak, elderly and sick. As North America was founded, it adopted a similar method of caring for those who were incapable of caring for themselves: the Poorhouse. For over three hundred years before the adoption of the social security act of 1935, aid was given to the weak, elderly and poor in forms of charity or sponsorship through the wealthy. *Poorhouses* began to appear in American societies as a social response to those deemed unable to support themselves for reasons of health, age or impairment. These simple structures existed as modified residential or sometimes farm dwellings that had been converted into rooms for the poor. So poor and destitute were these facilities that they struck fear into the general population of America and soon these institutions became symbols of misfortune, ill-health and the lowest wrung of American society. A ballad written by Will Carleton (1845-1912) captures perfectly the sentiment of these facilities as being places of destitution and hopelessness that struck fear across the general population of America:

Over the hill to the poor-house
Will Carleton(1845-1912)

OVER the hill to the poor-house I 'm trudgin' my weary way
I, a woman of seventy, and only a trifle gray
I, who am smart an' chipper, for all the years I 've told,

As many another woman that 's only half as old.
Over the hill to the poor-house—I can't quite make it clear!
Over the hill to the poor-house—it seems so horrid queer!
Many a step I 've taken a-toilin' to and fro,
But this is a sort of journey I never thought to go.
What is the use of heapin' on me a pauper's shame?
Am I lazy or crazy? am I blind or lame?
True, I am not so supple, nor yet so awful stout;
But charity ain't no favor, if one can live without.

I am willin' and anxious an' ready any day
To work for a decent livin', an' pay my honest way;
For I can earn my victuals, an' more too, I 'll be bound,
If anybody only is willin' to have me round.

Once I was young an' han'some—I was, upon my soul—
Once my cheeks was roses, my eyes as black as coal;
And I can't remember, in them days, of hearin' people say,
For any kind of a reason, that I was in their way.

31. The National Almshouse Association, History and Gallery, December, 2015, <http://www.almshouses.org/>

'T ain't no use of boastin', or talkin' over free,
 But many a house an' home was open then to me;
 Many a han'some offer I had from likely men,
 And nobody ever hinted that I was a burden then.

And when to John I was married, sure he was good and smart,
 But he and all the neighbors would own I done my part;
 For life was all before me, an' I was young an' strong,
 And I worked the best that I could in tryin' to get along.
 And so we worked together: and life was hard, but gay,
 With now and then a baby for to cheer us on our way;
 Till we had half a dozen, an' all growed clean an' neat,
 An' went to school like others, an' had enough to eat.

So we worked for the child'rn, and raised 'em every one;
 Worked for 'em summer and winter, just as we ought to 've done;
 Only perhaps we humored 'em, which some good folks condemn,
 But every couple's child'rn 's heap the best to them.

Strange how much we think of our blessed little ones!
 I 'd have died for my daughters, I 'd have died for my sons;
 And God he made that rule of love; but when we 're old and gray,
 I 've noticed it sometimes somehow fails to work the other way.
 Strange, another thing: when our boys an' girls was grown,
 And when, exceptin' Charley, they 'd left us there alone;
 When John he nearer an' nearer come, an' dearer seemed to be,
 The Lord of Hosts he come one day an' took him away from me.

Still I was bound to struggle, an' never to cringe or fall
 Still I worked for Charley, for Charley was now my all;
 And Charley was pretty good to me, with scarce a word or frown,
 Till at last he went a-courtin', and brought a wife from town.

She was somewhat dressy, an' hadn't a pleasant smile
 She was quite conceity, and carried a heap o' style;
 But if I ever tried to be friends, I did with her, I know;
 But she was hard and proud, an'
 I couldn't make it go.

She had an edication, an' that was good for her;
 But when she twitted me on mine, 't was carryin' things too fur;
 An' I told her once, 'fore company (an' it almost made her sick),
 That I never swallowed a grammar, or 'et a 'rithmetic.

So 't was only a few days before the thing was done
 They was a family of themselves, and I another one;
 And a very little cottage one family will do,
 But I never have seen a house that was big enough for two.

An' I could never speak to suit her, never could please her eye,
 An' it made me independent, an' then I didn't try;
 But I was terribly staggered, an' felt it like a blow,
 When Charley turned ag'in me, an' told me I could go.

I went to live with Susan, but Susan's house was small,
 And she was always a-hintin' how snug it was for us all;
 And what with her husband's sisters, and what with child'rn three,
 'T was easy to discover that there wasn't room for me.

An' then I went to Thomas, the oldest son I 've got,
 For Thomas's buildings 'd cover the half of an acre lot;
 But all the child'rn was on me—I couldn't stand their sauce
 And Thomas said I needn't think I was comin' there to boss.

An' then I wrote to Rebecca, my girl who lives out West,
 And to Isaac, not far from her—some twenty miles at best;
 And one of 'em said 't was too warm there for any one so old,
 And t' other had an opinion the climate was too cold.

So they have shirked and slighted me, an' shifted me about
 So they have well-nigh soured me, an' wore my old heart out;
 But still I 've borne up pretty well, an' wasn't much put down,
 Till Charley went to the poor-master, an' put me on the town.

Over the hill to the poor-house—my child'rn dear, good by!
 Many a night I 've watched you when only God was nigh;
 And God 'll judge between us; but I will al'ays pray

That you shall never suffer the half I do to-day.³²



Figure 7. Poor House Residents, Wykes County USA, Circa 1935, Photographer Unknown, Courtesy of <http://www.thethinkingblue.com>

32. Will Carleton, Over the hill to the poor-house (1845-1912)

Senior Living Models

Life expectancy has risen to new heights. At one end of the spectrum, these added years are considered as a positive result of a healthy society and on the other, an economic drain on the rest of the population. Statistically speaking, we are living and working longer, but when our working lives come to an end, we are faced with the reality that we are no longer participating in a very social and mentally stimulating stage of life.

Depending on finances, typically it is a time in life of downsizing and preparing for any unforeseen and unwanted hardships during the approaching elderly years. Canadian seniors are presented with different models of senior housing as they progress in age. The lucky few remain in their homes until death, but most go through a series of moves late in life in an attempt to better accommodate the hardships associated with growing old. Canada has four principle models of Elderly Care housing available; *Independent living, Assisted living, Memory Care Facilities, and Longterm Care facilities.*

Independent living for elderly Canadians has two principles models in use today:

1. Living Independantly in their own home with no need of support.
2. Living in a community of elderly or retired individuals with no need of support.

This is typically referred to as *independant retirement living* and is for healthy, active seniors who aren't in need of help with life's regular daily activities (personal care, eating, and maintaining a healthy living environment). This type of living ranges from one's personal family home, age-restricted apartment complexes (Figure 8), or luxury condominiums that cater to the wealthier in society. Often in these communities there are private enterprises that offer optional services such as: housekeeping and housing maintenance, meal-care plans and laundry services. In this model, Seniors can experience a range of sociability and typically are still very active members of community. Most healthcare specialists agree that keeping seniors in their own environment as long as they can and as independant as possible is best. This approach begins to breakdown when seniors are living alone and have a limited social support network.



Figure 8. Parklands seniors living complex, Clayton Park, Halifax, Nova Scotia; Images by Shannex Corporation, <http://www.shannex.com>

Typically the next stage of elderly living will involve assistive care. Assisted living takes form in 3 different models in Canada:

1. Family Support
2. In Home Care
3. Support Living in Retirement homes / Senior Lodges

Assisted living is a form of supportive housing and care for seniors who require some assistance with daily life. Typically it is for seniors who don't quite require professional nursing care that is provided at long-term care facilities. This form of care is an excellent service to the community that allows the elderly to continue to celebrate their independence while being cared for and monitored for any signs of further progression toward added care services. Assisted living communities and complexes have many model types but typically they take the form of apartment buildings or multi-residence complexes. Residents will live privately or collectively based on preference or income and will generally share meals together in a group atmosphere prepared by a meal-service.

Assisted Living Services include but are not limited to:

- Visiting/Staff Care Professionals

- Nurturing Care: washing, getting dressed, nails and hair,
- Mobility
- Eating
- Housekeeping
- Prescription/ medication care
- General Health and Wellness counselling
- Exercise and fitness regimes
- transportation services

Assisted living facilities are a wonderful option if it can be afforded. Typically costs will range from \$1,500.00-5000.00/ month depending on level of care that is available to the residents.



Figure 9. Lonicera Hall Assisted Living Facility. St. Stephen, NB, 2015; photograph from Lonicera Hall



Figure 10. Lonicera Hall communal dining room, 2016; photograph by Lonicera Hall



Figure 11. Lonicera Hall private room, 2016; photograph by Lonicera Hall

Memory Care facilities typically refer to Alzheimer or Dementia Care Facilities. This subset of elderly housing is a specialized care facility that caters solely to individuals suffering from memory loss. Typically these facilities are in secure areas of buildings or secure buildings as a whole that are dedicated to the health and primarily the safety of the resident. Wandering is a common symptom of memory loss residents and becoming lost is a reality of unsecured buildings. Typically, these facilities exist as apartment-style buildings composed of private and semi-private rooms. Residents are encouraged to participate in socially stimulating activities by trained memory care specialists. Memory care residents are typically unable to cook, but, depending on their level of memory loss or disfunction can perform daily tasks. Often the resident only requires memory cues or instruction for caring for oneself. Dementia and Alzheimer's Care facilities operate on a 24 hour basis and have additionally trained staff to manage the care level required for this illness. Cost is a major factor in these facilities and will run anywhere between \$3,000-\$7,000.00/month. These costs can be crippling for people paying for extended periods of time as it is a disease that can last a very long time with continuous degrading effects. As the sickness progresses so do the costs because the level of care will reflect the level of need. This is a horrible and harsh reality for many Canadians and it is a horrible, demeaning way to leave this world.

The final and most undesirable model of elderly housing are *Longterm Care* facilities or more commonly known as: the nursing home. It is never the desire of anyone to lose their complete independence and end up in a longterm care facility, but for many it becomes a horrible reality. In these facilities we see a range of sicknesses and handicaps that render individuals unable to make choices or care for themselves. Typically services include but are not limited to; medical care, private and semi-private rooms, daily meals, Laundry services and housekeeping, daily activities, exercise regimes, around the clock staffing, medication management, and hospice care. They are typically institution-type buildings removed from all sense of family and community support and are located on the fringes of our societies. They are inhumane, devoid of design, and crude in their existence. As inspiration and drive for this thesis, I studied one of these facilities in St. Stephen, N.B, and it opened my eyes to some very harsh realities about western society and how we treat our elderly in the final stages of life. Like the Almshouses and Poorhouses of the past, these institutional relics stand as testament to a society that devalues senior life.

Common Nursing Home Critique: Lincourt Manor Nursing Home

This is not a critique on the hard working and soul inspiring nurses who have had to endure in this work environment when the very walls of this facility contradict some of the benchmark ethics of the code by which they stand for.

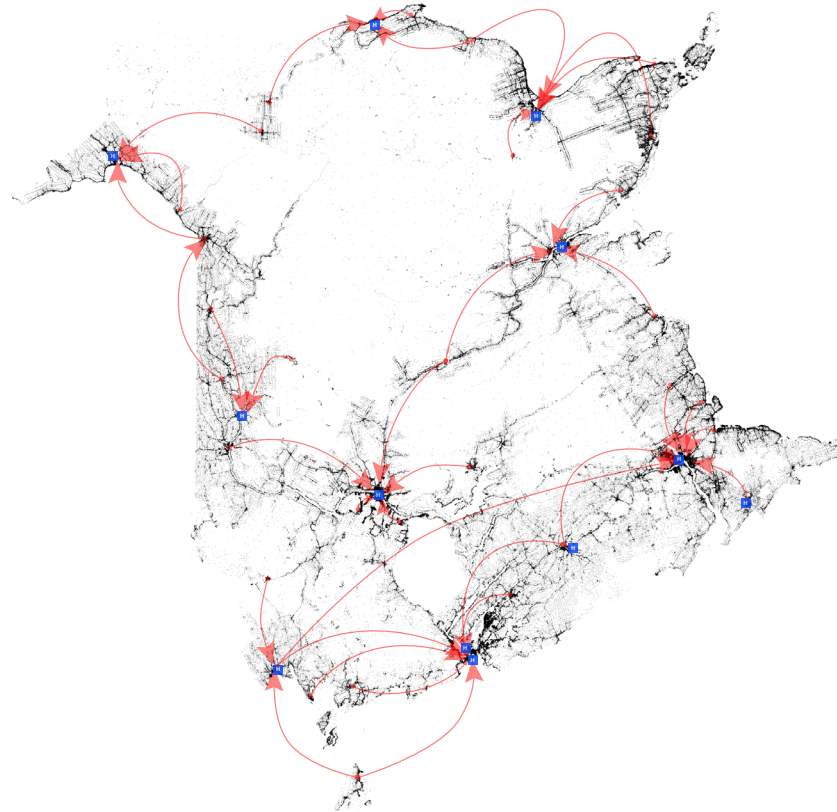


Figure 12. New Brunswick Seniors being displaced from their communities into regional Longterm care facilities.

In New Brunswick seniors in need of longterm care are being displaced from their home communities into regional longterm care facilities (Figure 12). Typically, these institutions are built on unwanted land, isolating both staff and residents alike from the community. The building design reflects charity-driven contributions and extreme budgetary-based levels of care.

The concept of having a 60-bed nursing home in St. Stephen originated at a meeting of representatives of the Charlotte County Hospital Board and local service clubs in 1976. Their concept was simple and adoptive of an industry standard. The result was a facility with 3 wings of institutional care rooms arranged in the form of a cross (Figure 13-15).



Figure 13. Lincourt Manor Nursing home, St. Stephen NB, entrance to nursing home. ADI Architecture circa 1980.



Figure 14. Lincourt Manor Nursing home bedroom

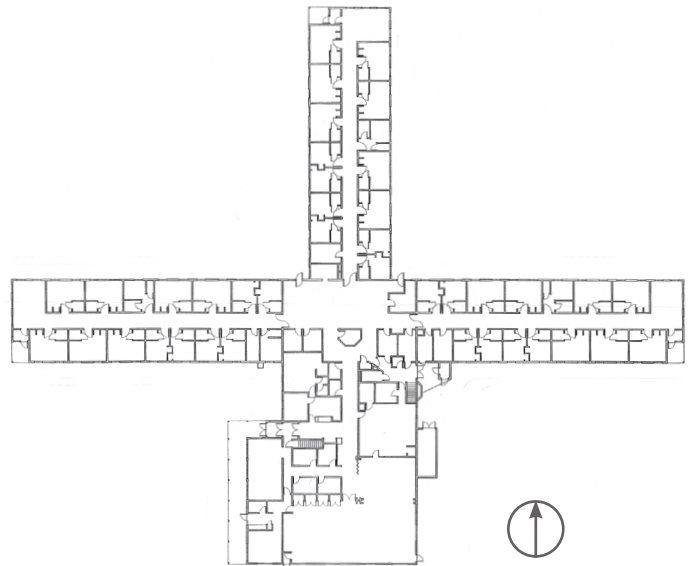


Figure 15. ADI Architecture Lincourt Manor Nursing home bottom floor plan, 1980

Lincourt Manor was built on the fringe of the community. Adjacent to the local hospital and neighbouring a multi-unit senior's residence (Figure 16), It sits today as a testament to a flaw in urban planning. Completely removed from social support, seniors die alone in an institution devoid of light and humanity.

In this setting, our seniors are neglected as human beings, and their lives prolonged in misery. This institution, posing as a residence for care, devalues its inhabitants by neglecting any levels of privacy. At the heart of this institution is its functional ability of keeping people alive and safe, but there is a complete disregard for life itself. People are put here to die a long, slow and painful death complete with the decay of the mind, the withering of a soul and the eventual collapse of their body's will to live. Testament to the level of design that was employed when creating this facility is evident in the fenestration

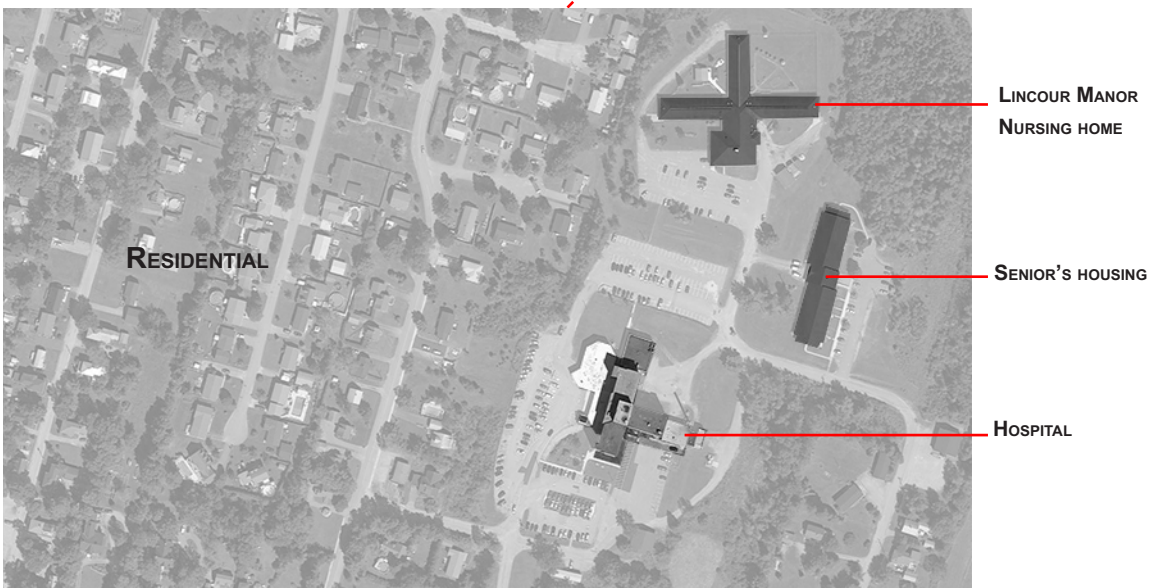


Figure 16. Lincourt Manor Nursing home, St. Stephen NB. These images depict the institutional zone in which the Longterm care facility is operating. On the edge of community removed from all social opportunities; images from Google Earth

scheme of the bedrooms (Figure 17). I am sure that code was met, but the height of these windows are too low for residents to see out of from the seated or bedded position. When designing a facility of this nature, shouldn't it be paramount for an architect to understand that most of these individuals require to be seated or in bed most of the time or perhaps they considered the radiator as having a certain architectural presence that should be admired. This facility locks in the residents, presumably keeping them safe from the dangers of a small Canadian town. There is very little natural light and all of the corridors



Figure 17. Lincourt Manor Nursing home, St. Stephen NB. This image shows that window heights were too high for residents to view out of from the seated position

are dead-end streets. For exercise, the residents move up and down the corridors along the handrails (Figure 18). It was painful to witness and I felt ashamed to be there as a spectator. The building being physically isolated from town made the residents completely disconnected from the community of St. Stephen. Some residents sought quiet corners of



Figure 18. Lincourt Manor Nursing home, St. Stephen NB. This images shows the corridors as having deadends and devoid of natural light

the facility to peer into the outside world, only to discover a large empty parking lot as their reminder that there is a world beyond the walls of the institution.(figure 19)

Isolation

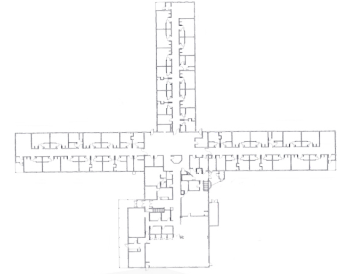


Figure 19. Lincourt Manor Nursing home, St. Stephen NB. This image shows a resident enjoying the view of a parking lot; photograph by author, plan from ADI Architects

Due to the bulging senior demographic, the status quo of Longterm Care facilities is a necessary evil in todays society. Ageing statistics are forecasting record numbers of seniors in the future, and these loathsome facilities will increasingly be in demand. The model reflects a prison society rather than a care facility. This becomes clear as residents of these facilities sit and wait by the entrance of the facility (Figure 20). This is a sad



Figure 20. Nursing home residents lounging at the entrance of the facility compared to animal in a zoo looking out from behind the bars; source unknown

indication that these human beings are yearning for what is beyond the doors of the institution. It is critical reminder that human beings are social by nature and our community style dwellings must reflect this fact. Fortunately, there is still time to adapt this model and begin to consider new, socially uplifting facility models that promote caring and community in their design. No matter what stage of the aging process our seniors require regular interaction with community and places to connect with their natural environment.

A Building Typology Rooted in Power and Control

In the late 18th century, J.Bentham created the ultimate institution of power and control: the Panopticon(Figures 21-22). The intention of this facility was to create a continual and centralized surveillance of inmates who are perpetually aware of being watched. Constant visibility replaces force and physical punishment as a tool or method to control the inmate population. It was seen as more economical and reduced the need for physical contact among inmates and supervisors.This prison exemplified the notion of totalitarian power and control by state, but also set the stage for an emergent architectural typology: the institution. Inherent in many institutional designs is this deeply rooted structure of control. Medical institutions, prisons, banks, schools, nursing homes and many other socially directed buildings, are a reflection of society's values, morals, and ethics. As stated earlier, Longterm care facilities have adapted over time, but one thing has remained consistent in all variations of the model: its institutional setting. Michel Foucault argues that institutions are manifestations of power and control:

Traditionally, power was what was seen, what was shown, and what was manifested. Disciplinary power, on the other hand, is exercised through its invisibility; at the same time it imposes on those whom it subjects a principle of compulsory visibility. In discipline, it is the subjects who have to be seen. Their visibility assures the hold of the power that is exercised over them. It is this fact of being constantly seen, of being able always to be seen, that maintains the disciplined individual in his subjection. And the examination is the technique by which power, instead of emitting the signs of its potency, instead of imposing its mark on its subjects, holds them in a mechanism of objectification. In this space of domination, disciplinary power manifests its potency, essentially by arranging objects. The examination is, as it were, the ceremony of this objectification.³³

Although Foucault critiques the carceral institution, his thoughts apply to many types of institutions as places of control through the gaze. Nursing homes are environments of order and control and at the forefront of their existence is a notion of safety and security

33. M. Foucault, *Discipline and Punish: The Birth of the Prison*(London: Penguin Books Ltd, 1975),104

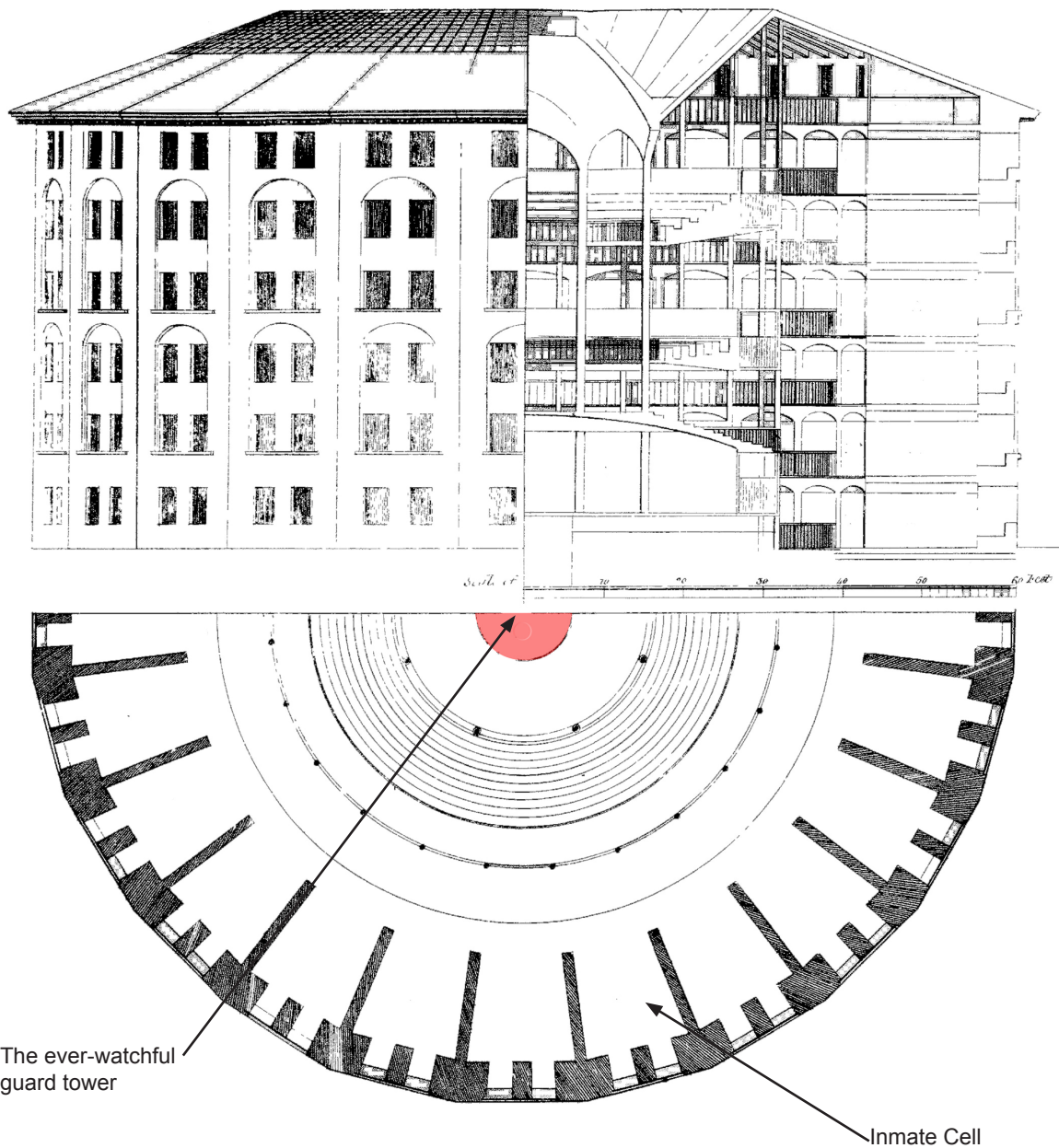


Figure 21. The Panopticon Penitentiary. Combined Plan, Elevation and Section, original drawing by Willey Reveley, 1791; image altered with addition of color and text by author.

for its inhabitants. The weak, the elderly, and the sick of our society end up in these invidious institutions because it is there that they can be observed and managed in a safe environment. Residents typically never choose to end up in these facilities, but are put there because they have become a danger to themselves. An Inhabitant's well-being is more the responsibility of the nurses and staff than of their own accord and it is in this responsibility that we find the root of the control built into these spaces. In this transition from

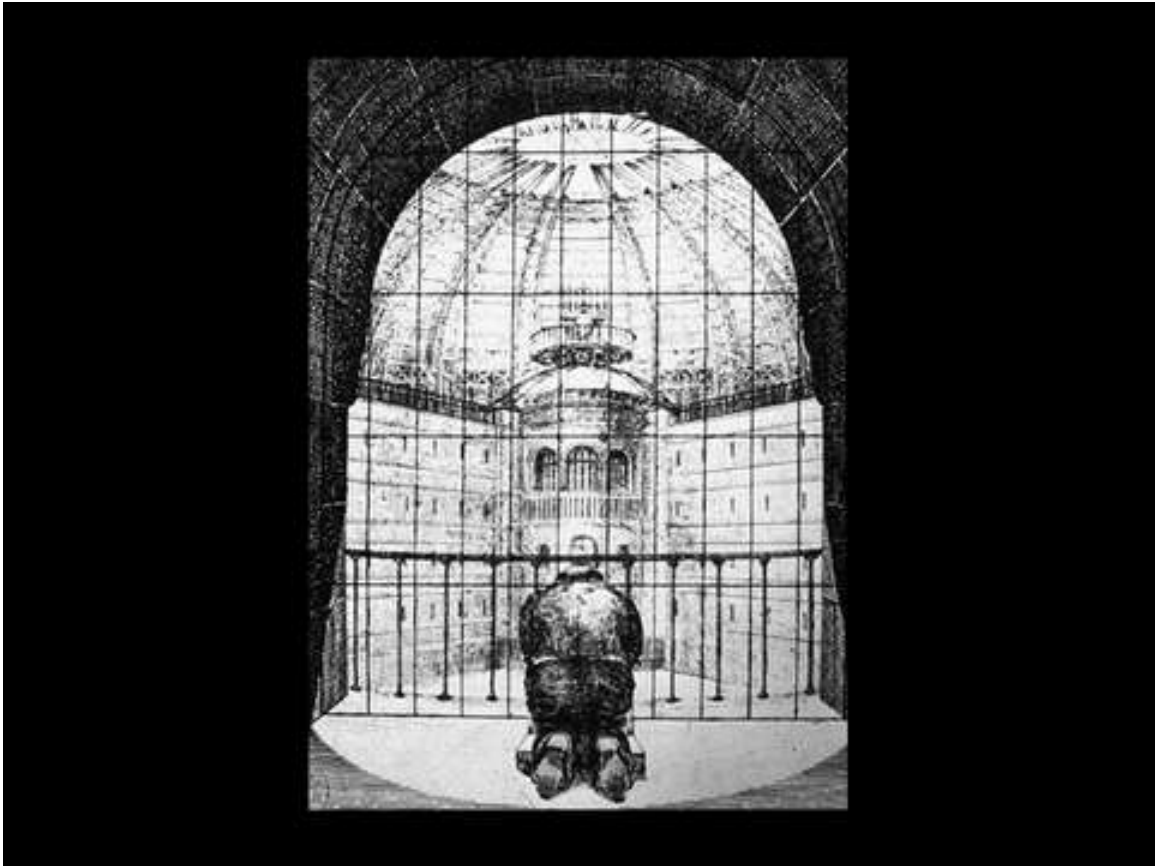


Figure 22. The Panopticon Penitentiary cell. Harou Romain, Project for a Prison, 1840

self-dependence to institutional dependence there is an inherent transition of power from self to state. In the case of nursing homes, this transition of power relates directly to one's personal well-being and health. It becomes the responsibility of the medical professionals (nurses and doctors) to assume primary care of the residents. It is in this moment that the medical professionals are given full control for the health and wellness of each resident. The danger in this transition of power is the term coined "Medical Gaze" by Foucault in his writing about the history of the medical profession in *The Birth Of The Clinic*. "Medical Gaze" refers to the medical separation of the patient's body from the patient's person. Human beings are more than just a biological vessel that supports human life. Human beings have emotions, experience pain beyond the physical, and need more than just biological sustenance. Foucault argues that hospitals became places of a growing body of knowledge³⁴ rather than places of healing and care.

34. M.Foucault, *The Birth of the Clinic : An Archaeology of Medical Perception* (London: Tavistock, 1973), 68-69.

Like prisons, longterm care facilities will employ disciplinary measures to maintain power and control. Residents are subjected to the constant terror of pharmaceuticals and the calming effects enforced by these chemicals. In place of a guard tower, these facilities are governed by the pharmacy desk (Figure 19). In these facilities, our seniors are treated like prisoners, yet their only crime is that they have grown old. These facilities are a reflection of a society that has lost touch with humanity. We need to begin treating our old and sick as human beings in need of help and support so that they may again experience the feeling of living a meaningful and fulfilling life.

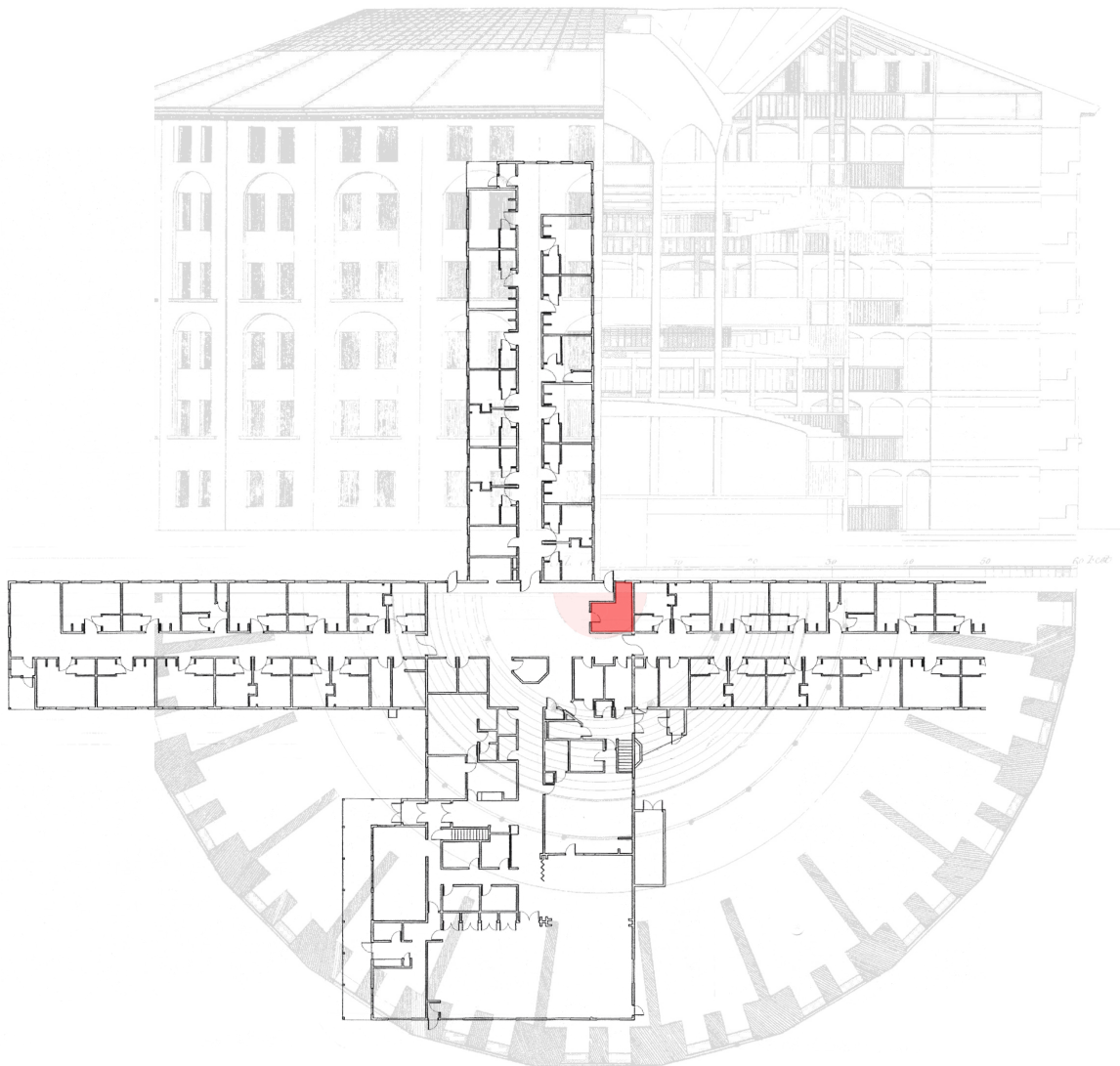


Figure 23. Lincourt Manor Nursing home, St. Stephen NB. Bottom Floor Plan. ADI Architecture. circa 1980, Comparing the pharmaceutical station of the Nursing home to the guard observation tower of the Panopticon as the control measures of these institutions.

Seniors on the Fringe of Society

After identifying Lincourt Manor, as a facility located on the outer edge of community, I wanted to see if other communities of New Brunswick treated their seniors with the same kind of exclusion strategy. As it turned out, many small towns within the Province share the same ideal with regard for senior housing (Figure 24).

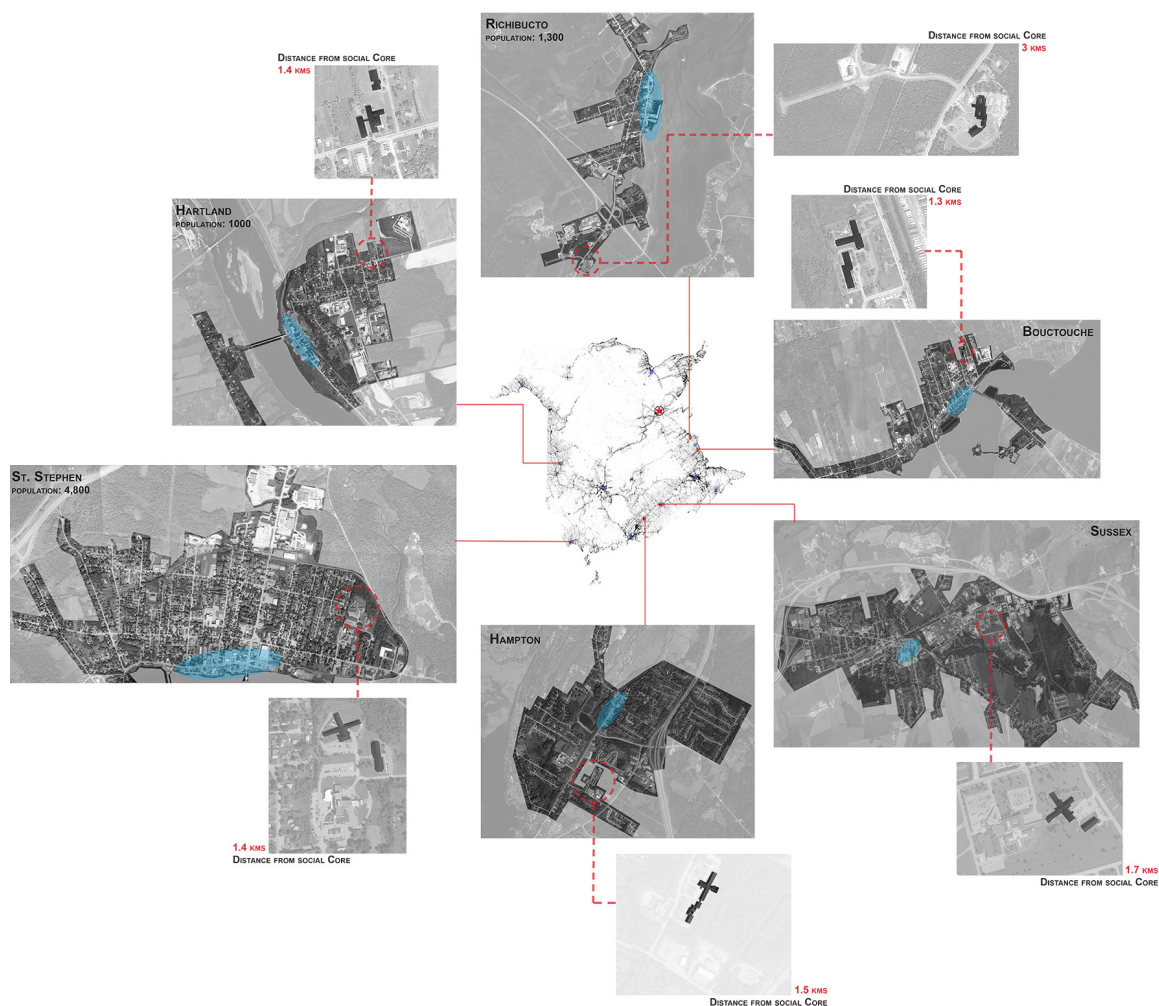


Figure 24. Senior communities in the towns of New Brunswick that are located on the edges of community; original images by Google Earth

The facilities ranged from community living to longterm care, and all were positioned in cheap undesirable land completely removed from the central core of the community. One such example, in Miramichi city, sited its longterm care facility between the local cemetery and a residential zone on the outskirts of the central community core (Figure 25). Seniors



Figure 25. Miramichi, NB. Demonstrating how Seniors' facilities are mal-positioned in our community environments 2015; original images by Google Earth

of our communities need to be involved with society. As their population is increasing, this demographic needs to be integrated into community so that they can access valuable social services and community events. As seniors become more and more frail they should be more easily included in various social events. By positioning our elders at the heart of community, we break down the notion that our elders should retire from society and we open-up a world of opportunity for cross-generational sociability. This will help communities strengthen their neighbourhoods, build local traditions and culture, and give seniors a continual purpose in society. Seniors have valuable roles to play as tutors, mentors, and invaluable sources of local knowledge. By knowing and understanding our past, we are better prepared in the future.

Seniors Within an Automobile Culture

At the age of 16, many young adults learn to drive and join our vast network of roads that are spread out across the country. From large cities to small towns (Figure 26-27) our communities are made up of automobile routes that have shaped our society into grid-like patterns. Canadian cities are vastly spread out over great distances and we have become

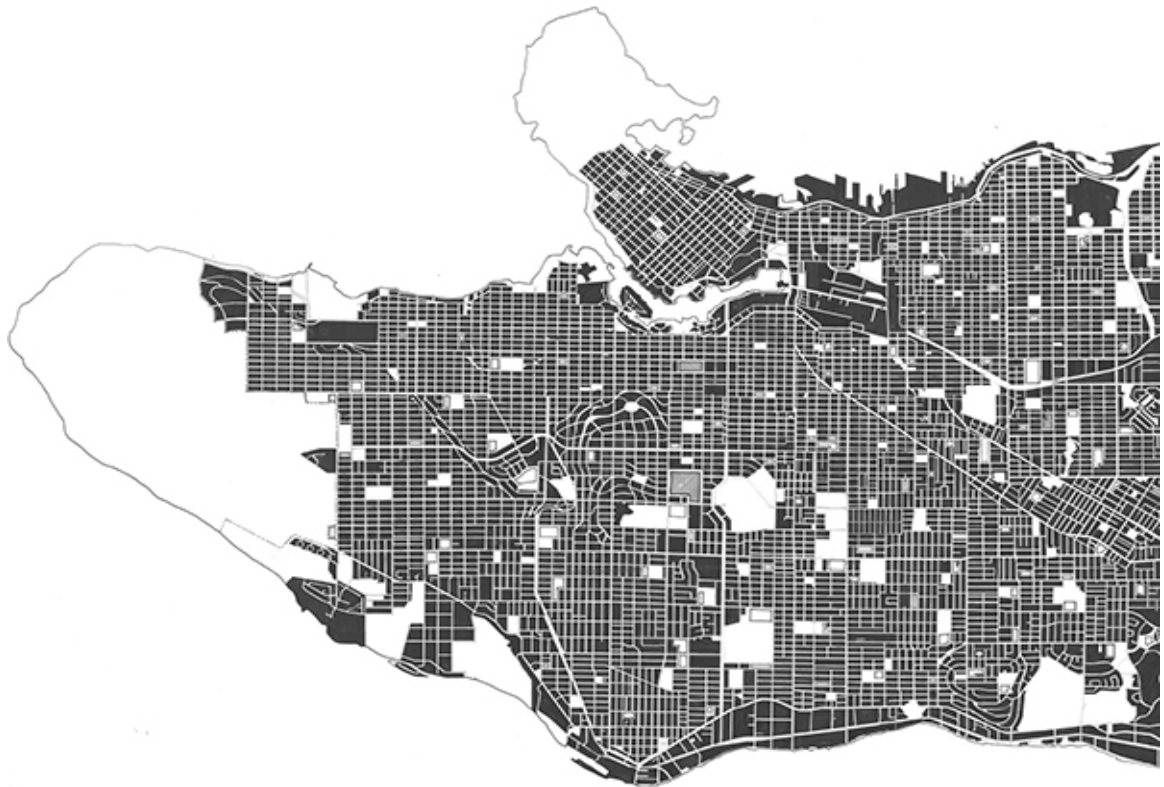


Figure 26. Block structure of Vancouver, Canada defined by automobile routes, 2016; map provided by City of Vancouver



Figure 27. Block structure of St. Stephen, NB. Town structure defined by Automobile Routes

dependant on the automobile for daily activities. From grocery shopping to hospital visits, Canadians rely on vehicles to get around (Figure 28). The vehicle is ingrained in our society as a source of freedom and independence.

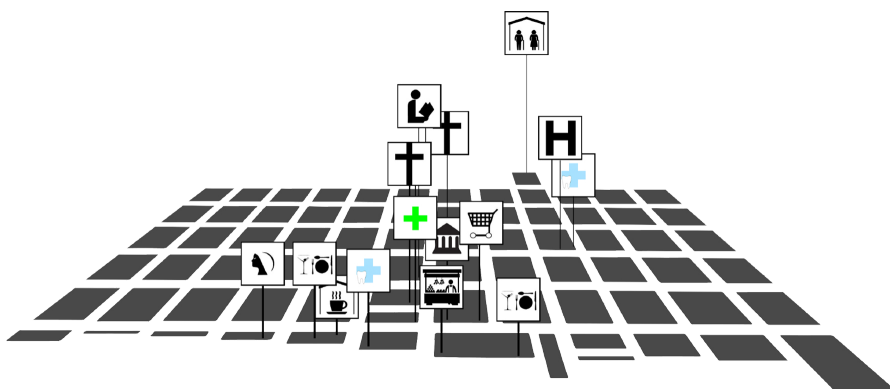


Figure 28. Block structure of St. Andrews, NB, 2016, town services spread-out over town making the community reliant on the automobile

As we age, there will come a time when it is no longer legally possible to drive an automobile. After a life of car-reliance, losing the privilege to drive is immensely restrictive. Three quarters of Canadians aged 65 or older have a driver's license. 73% of these seniors use their car regularly for social activities. Furthermore; seniors are more likely to live outside urban areas. Of these, a large number reportedly do not use public transit because of a lack of services in their area.³⁵

Supporting the fact that the automobile will not be the focus of urban design policy of small town communities in the future, it is necessary to imagine a society where walking

35. Statistics Canada, *2011 Census: Profile of Seniors' Transportation Habits* [Ottawa] 2011 11-008-X No. 93v 2012001,. <http://www.statcan.gc.ca>

circulation becomes the dominant means of getting around. These pedestrian routes must be designed to support our aging society and promote walkability and exercise among all generations. We need to move beyond our concrete narrow walkways and imagine softer circulation routes that can prevent broken bones and support ambulatory means of circulating. Our seniors need to live stimulated lives surrounded by the community that they helped build. We must imagine an environment that adapts and promotes our seniors mobility even into the later stages of life. From simple handrails to motorized carts, keeping our seniors mobile and involved in the life of the town is paramount to their quality of life.

Hazardous Streetscapes for Seniors

Currently, our towns and cities are designed for efficiency and speed geared toward economic prosperity rather than for meaningful, culture-building social exchanges among generations. The downtown cores are concrete and pavement, and for many months of the year subject to ice and snow. These hard, and at times frozen environments can be terrifying and deterring places for our aging. Falls are the leading cause of injury-related hospitalizations among Canadian seniors, and between 20%-30% of seniors fall every year. Furthermore, falls account for more than half of all injuries among the elderly and as the elderly population is on the rise, so to are the falls. Over 20% of deaths among the elderly can be related to injury traced back to a fall.³⁶

One third of community-dwelling Canadian seniors experience one fall each year and half of those will fall more than once. The likelihood of dying from a fall-related injury increases with age, and 20% of deaths related to injury can be traced back to a fall. Falls account for 34% of all injury-related hospital admissions and 85% of seniors' injury-related hospitalizations; making this the leading cause of injury-related admissions for seniors. Forty percent of seniors' falls result in hip fractures and half of those who break their hips will never fully recover. One in five older adults will die within 12 months of suffering a hip fracture.³⁷

36. Public Health Agency of Canada, *Seniors' Falls in Canada: Second Report* (Ottawa), 2014, <http://www.phac-aspc.gc.ca>

37. Ibid.



Figure 29. Frost Heave and Cracking sidewalk surfaces in St. Andrews, NB alongside image of winter storm in Halifax, NS. Hazardous Circulation routes for seniors; photographs by author

Apart from personal suffering, loss of independence and lower quality of life, the financial costs of seniors' injuries to the health care system are staggering. Approximately \$2 billion annually is spent on direct health care costs relating back to falls. Seniors' falls are also responsible for 40% of admissions to nursing homes. Seniors who fall may limit their activities for fear of falling again. Yet by limiting activities, they are likely to lose strength and flexibility and increase their risk of falling again. Maintaining physical activity is essential if you wish to prevent falls and injury. These statistics and significant future increases to our elderly population are evidence that our community environment should be adapted to reflect the needs of this growing demographic.

This thesis suggests adapting the urban environment so that it becomes more aging-friendly and accessible to the senior demographic. The downtown urban environment of many small Canadian towns are riddled with obstacles that hinder our seniors from circulating freely. Most of our principle walking routes are concrete surfaces that are prone to frost heave and cracking due to the continuous freeze-thaw cycles of the region (Figure 29). These uneven, heaved surfaces are leading causes of seniors falling in Canada (Figure 30). Falls are the leading cause of injury among seniors in Canada³⁸ and potentially the greatest threat to seniors enjoying healthy golden years (Figure 31). To prevent these falls in the future we must be proactive about modifying our urban environments so that they become more age-friendly. A proactive stance will save lives in the future. In addition to addressing our circulation surfaces, our urban environments are lacking in

38. Ibid.



Figure 30. Frost Heave and Cracking sidewalk surfaces, St. Stephen NB, Causing an elderly man to fall into the street

SENIORS' FALLS IN CANADA

FALLS are the **LEADING CAUSE OF INJURY** among older Canadians:
20-30% of seniors experience **1+** falls each year.

FALLS CAUSE:

85% of seniors' injury-related hospitalizations

95% of all hip fractures

\$2 Billion a year in direct healthcare costs

over 1/3 of seniors are admitted to **LONG-TERM CARE** following hospitalization for a fall



The average Canadian senior stays in hospital **10 DAYS longer** for falls than for any other cause



Falls **can result** in chronic pain, reduced mobility, loss of independence and even death



50% of all falls causing hospitalization **HAPPEN AT HOME**

↑ INJURIES due to falls rose **43% between 2003 and 2008**

↑ DEATHS due to falls rose **65% between 2003 and 2008**

The **good news is** that **falls are preventable** and action can be taken by all.

READ THE FULL REPORT FOR MORE AT:

www.publichealth.gc.ca/seniors

basic handrails. As we age, stability is lessened and we become dependant on walking aids (Figure 32). Since we have established that exercise promotes stability, we need to create urban environments that are supportive of this preventative measure and provide our seniors with adequate physical support so that they can circulate and socialize more freely with age. In 2015 the federal government of Canada established in their *Seniors' Fall in Canada: Second Report* that:

as our population ages, focused efforts on fall prevention will be required to maintain and improve the quality of life and well-being of seniors and to ensure that they continue to contribute and participate in society.³⁹

With growing numbers of seniors, the time is now to adapt our urban centers with soft surfaces, anti-ice measures, handrails and support spaces that promote sociability and senior well-being.

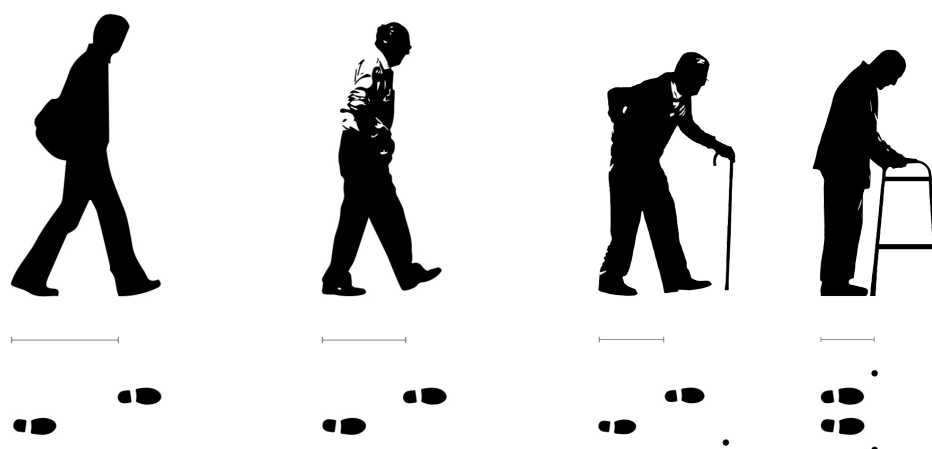


Figure 32. Our changing strides as we grow older

39. Public Health Agency of Canada, *Seniors' Falls in Canada: Second Report* (Ottawa), 2014. <http://www.phac-aspc.gc.ca>

CHAPTER 2: DESIGN

This thesis suggests that society itself needs to adapt its ideology of how seniors are treated and valued within community. The architectural resolution of this thesis will be embodied in the Multi-Generational Community Center. It is a community building that responds to the need for cross-generational interactions among community members. The principal idea for the building is to create an environment that promotes sharing and learning of cultural traditions. The building will be a place for seniors to share their lifetime of knowledge and skill.

To achieve the goals of promoting quality of life for seniors and revitalizing an economically struggling town in New Brunswick, I am proposing a phased method to guide the design:

Phase 1: Age Supportive Circulation

Phase 2: Designing a *Place for Purpose: The Multi-generational Community Center*

Phase 3: Addressing the Demand for Senior Housing

Phase 4: Adapting and Upgrading of the Downtown Core

The logic of this approach is such that time plays an important role for society to adapt and respond to the shift of having seniors back in the mainstream of society and the phases have been structured to reflect that safe circulation is preeminent to the others. Phase 1 and 2 will be the most resolved; whereas, phases 3 and 4 are simply outlined.

Establishing the Best Site

While visiting St. Stephen, New Brunswick during my study of the *Lincourt Manor Nursing Home*, I discovered that the town was economically struggling as well. A town of 4,800 inhabitants, it is a small border town in Charlotte County at the southern end of the province (Figure 33). It is located along the banks of the St. Croix river which acts as the official boundary between the United States and Canada. St. Stephen officially incorporated in 1871. With the addition of railroads, the town's manufacturing sector grew and became quite prosperous; first with raw lumber and ship-building to follow. The town expanded



Figure 33. St. Stephen, NB, 2016, dark line representing the new highway bypassing the town

to include factories producing many goods, namely; soap, shoes, baskets, axes, cigars, textiles, carriages, and chocolate. A great fire in 1877 caused the complete destruction of 13 commercial wharves and eighty commercial buildings in the downtown district, and nearly destroyed the community.

Notably, St. Stephen is home to the Ganong Chocolate factory (Figure 34), which is still the oldest candy company in Canada. The town also has a rich history in the textile industry showcasing a mill which opened its doors in 1882. It generated its own hydro-electric



Figure 34. Ganong Chocolates original factory and storefront, 2015

power from the St. Croix River and at the time, and was the second largest textile mill in Canada employing as many as 1200 local residents.

St. Stephen is a bordertown, across from Calais in Maine. The communities have a successful relationship based on trade which continues to this day and each of the towns have always prospered from travellers passing through on their way across the border. Currently, the town's major employers are Ganong's Chocolates, The Flakeboard Mill, various governmental organizations, and an array of local small businesses. In January, 2010 the completion of the third border bridge connecting New Brunswick and Maine,

bypassed St. Stephen(Figure 33) and cut-off much of the transient business the two towns once relied on. This re-routing has led to economically challenging times and has forced many young workers to leave the town in search of more prosperous communities elsewhere and in turn, many local businesses have closed their doors leaving many vacant commercial buildings (Figure 35) within the town core.



Figure 35. Vacant downtown business due to economic downturn

As confirmed in the Lincourt Manor Nursing home Critique, St. Stephen is a typical small town in New Brunswick that isolates (Figure 36) its senior population on the fringe of community.

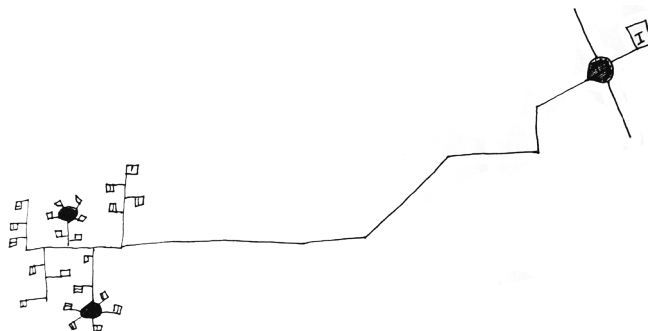


Figure 36. Sketch of isolated nursing home in St. Stephen NB, made during nursing home study

It is a great example of a town reliant on the automobile because social services are spread out within the grid of the urban plan (Figure 37) while the downtown core (Figure 37-Blue highlight) is struggling to survive. Lastly, St. Stephen has typical sidewalks made of concrete, complete with frost heaves (Figure 38), irregular surfaces, and devoid of hand

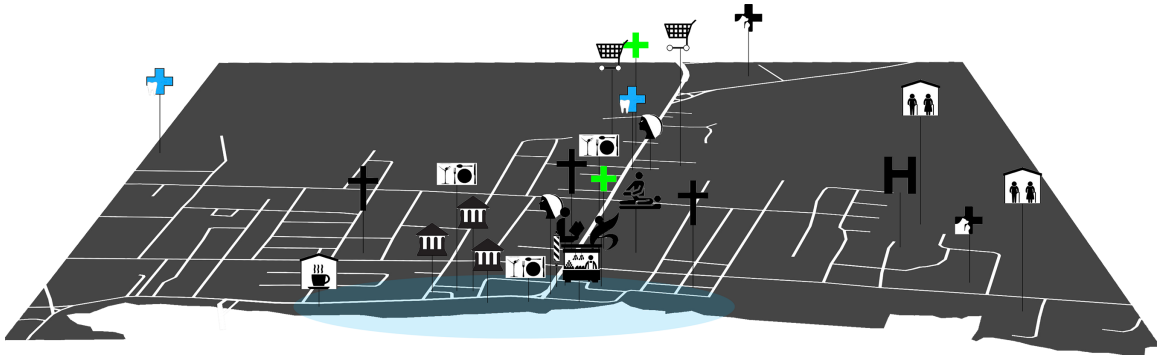


Figure 37. Block structure of St. Stephen, NB indicating town services spread-out over town making the community reliant on the automobile



Figure 38. Frost Heave and Cracking sidewalk surfaces. St. Stephen NB. Hazardous Circulation routes for our seniors



Figure 39. River foot-path with irregular walking surface, 2015; downtown St. Stephen along the St. Croix River



Figure 40. Uneven pavement surfaces and lack of supporting handrails for senior population; downtown St. Stephen NB, along the St. Croix River

rails throughout town and its surrounding footpaths (Figure 39-40). All of these factors make St. Stephen the idyllic town to test the theory of this thesis.

I propose that St. Stephen, New Brunswick can be re-vitalised by designing place for our seniors at the heart of community. By creating an age-friendly downtown, seniors can move inward to the center of community where they will more easily access valuable social services that have filled the vacant buildings of the downtown core. This model promotes aging in place, exercise, and socializing our seniors within an everyday small town life. It proposes that the community and unique local culture of St. Stephen will become stronger by creating an environment whereby knowledge from the old to the young may be shared and celebrated.

Establishing the Social Center of Town

The downtown core of St. Stephen is beautifully situated on the north side of the St. Croix river and has always been the most socially active place in town (Figure 41). Parallel to the river runs Miltown Blvd which turns sharply to the north and becomes King Street. It is



Figure 41. Downtown St. Stephen; Miltown Blvd and King Street, blue area highlighting most socially diverse region of town

on these two streets where, historically, all of the local businesses once operated. At the junction of Miltown Blvd and King St is the site of the old train station, and the public wharf. Both are symbolic to the town as social centers of arrival, departure and gathering (Figure 42). The train lines have been removed leaving behind the historic train station, but the public wharf is still active and considered the central landmark and hub of St. Stephen's downtown.



Figure 42. Identifying the social hub of St. Stephen; The public wharf(1). The most popular pizza restaurant (2) in town sits at the entrance of the wharf. Opposite the restaurant is a community green(3) that hosts the weekend farmer's market. The public library(4) sits opposite the Tourist information building(5) which is an historic train station. Recently, the town built the Garcelon Civic Center(6) which is a modern hockey arena, swimming pool, exercise hub, and conference facility. Up the street there is the local pub (7), The King Street Takeout(8), and a Billiards hall(9)



Figure 43. St. Stephen public wharf at low tide, a physical and cultural center point in town



Figure 44. King Street Takeout; a locals hotspot during the summer months

Integral to determining the most viable site for this thesis in St. Stephen was the new *Garcelon Civic Center*. This building marks a significant town investment in sport, recreation

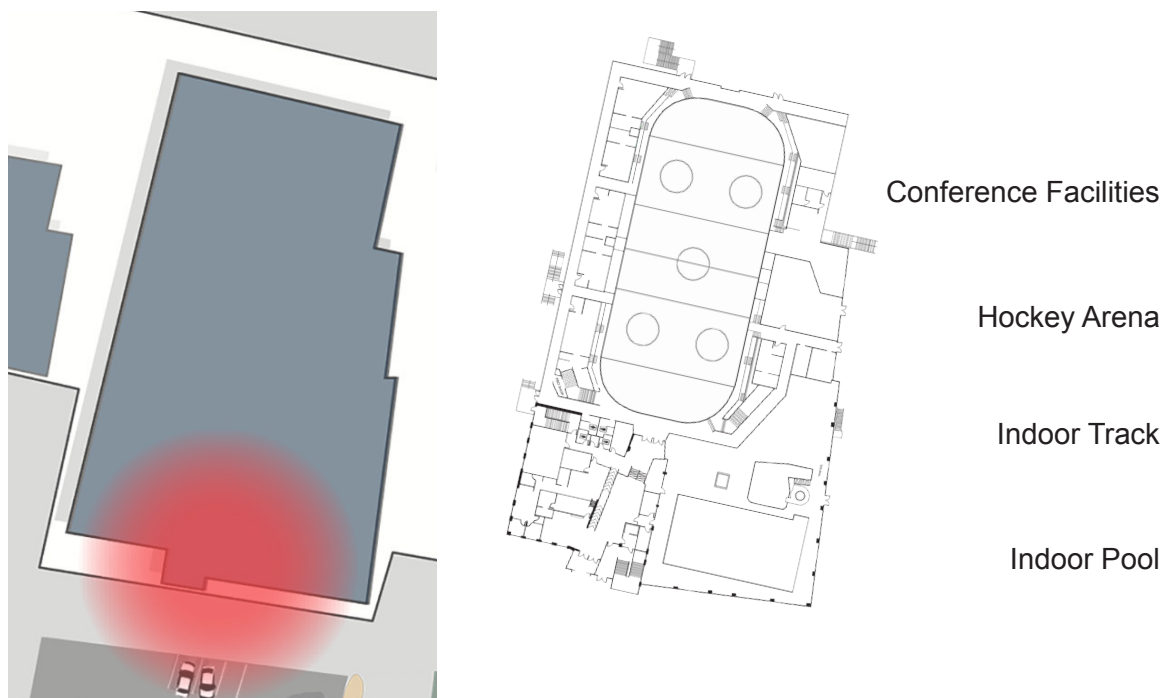


Figure 45. Garcelon Civic Center; a significant town investment in sport and recreation, opened 2014

and entertainment and was opened in 2014 at a town investment of 20 million dollars. When the Civic center was designed, a large parking lot (Figure 46) was included in the front of the building to accommodate users. I think this was a missed opportunity to celebrate this space as a town plaza for community gathering and celebration. This space will mark the new town plaza (Figure 47) at the center of town and become a pedestrian friendly



Figure 46. Garcelon Civic Center parking in front of building



Figure 47. New Town Plaza in place of parking

zone. This new town center will become the site of this thesis intervention and the first large urban move to becoming more age-friendly and inclusive of the senior population.

Master Plan

I am proposing that a parking lot and vacant piece of land on the south east part of town along the waterfront (Figure 48) be transformed into a place that supports a new



Figure 48. Downtown St. Stephen site model 1:1000; proposed thesis site in red dashed line

town plaza, a multi-generational community center, community gardens and a series of senior living facilities (Figure 49). The overall scheme of the senior living site will support gardening as the principle activity to be shared among all community members. A rubber walkway will be central in the site and continue through to the new town plaza. The public gardens will separate the MGCC and the new senior's residences. The rubber walkway will run past the public library and historic train station with the intent of continuing downtown.

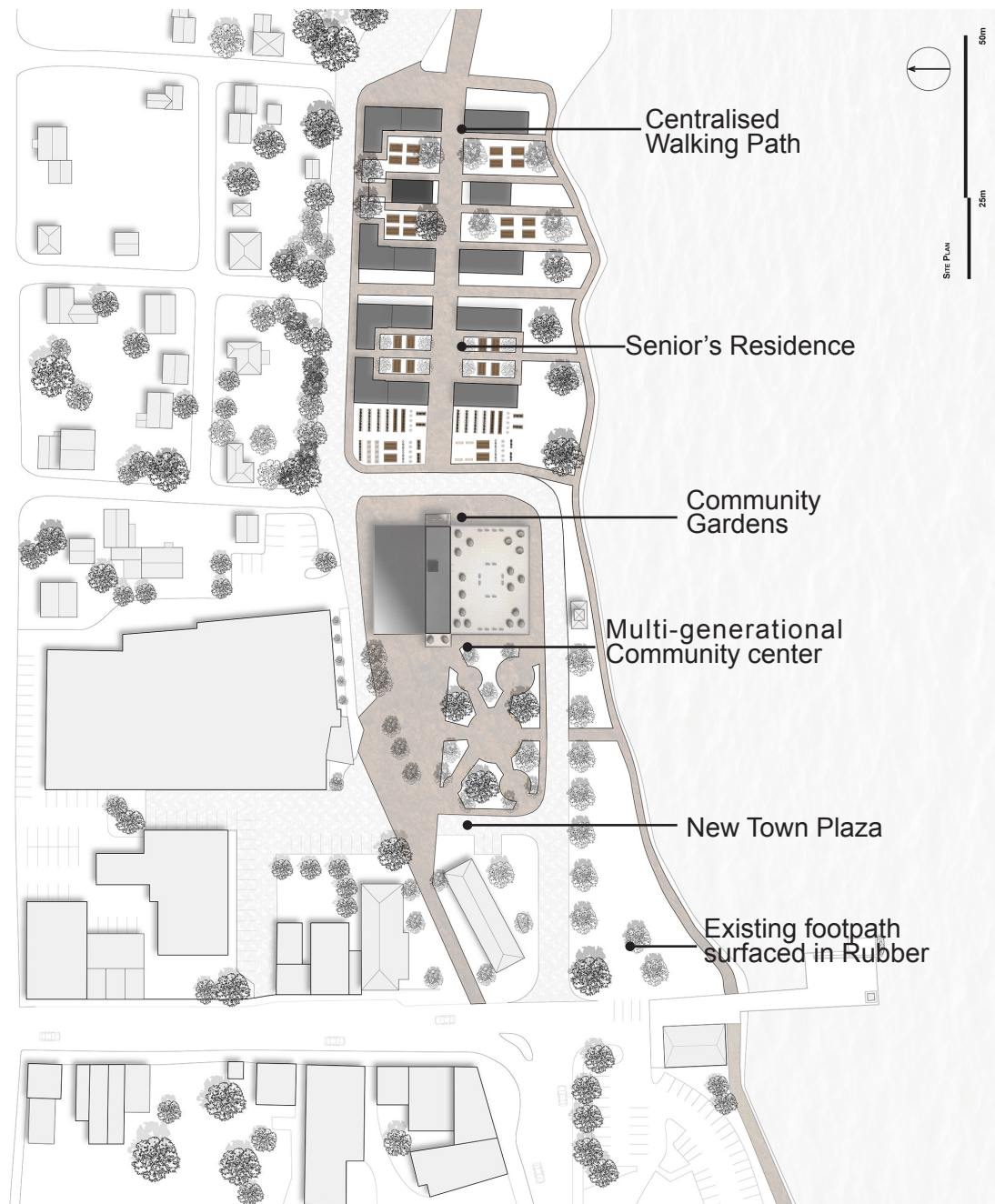


Figure 49. Masterplan for thesis proposal, St. Stephen NB

Phase 1: Age-Supportive Circulation

As a substitute sidewalk material for concrete, I am proposing that we use rubber from recycled tires found in landfills. Currently, there is an abundance of automobile tires taking up significant space in landfill environments. These tires can be processed into granules of rubber suitable for recycling as a robust and dynamic base material. Rubber is not only elastic, but is also waterproof and is a good electrical insulator. Natural rubber is resilient and is resistant to tearing. Some types of rubber are resistant to oils, solvents, and other chemicals. In a raw state, natural and synthetic rubber become sticky when hot and brittle when cold. The vulcanization process modifies rubber so that these changes will not occur. In the vulcanization process, sulfur and certain other substances are added to raw rubber and the mixture is then heated. The process tends to increase rubber's elasticity and its resistance to heat, cold, abrasion, and oxidation. It also makes rubber relatively airtight and resistant to deterioration by sunlight. The molecules that make up rubber are long, coiled, and twisted. They are elongated by a stretching force and tend to resume their original shape when the force is removed, giving rubber the property of elasticity. Vulcanization sets up chemical linkages between the molecules, improving rubber's ability to return to its original shape after it is stretched.⁴⁰

One very practical and successful use of this product has been its transformation into exterior surfaces that benefit from its elasticity, abrasion resistance and weather resistance properties. These mats (Figure 50) have shown up in playgrounds and running tracks



Figure 50. Example of rubber mat used as an exterior surface, 2015; from Qingdao CSP Industry And Trade Co. Ltd

40. Qureshi University, Properties Of Rubber, 2015, <http://www.qureshiuniversity.com>

proving to be a good precautionary surface that mitigates stress and impact injuries. These mats could be a useful surface in our urban environments. Given that falls are the principle cause for hospitalization of the elderly population, this is a positive alternative to bone breaking cement surface. I am proposing that the sidewalks and the riverwalk of

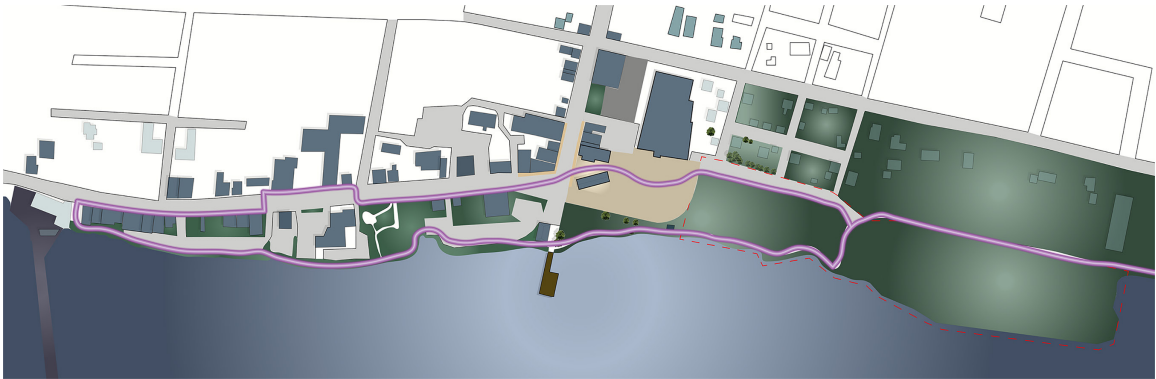


Figure 51. Proposed rubberized walking path in St. Stephen

St. Stephen New Brunswick be resurfaced with these rubber surfaces. In Figure 51, the proposed route builds on the existing “rails to trails” footpath that enters town from the east. It is a route that passes through the new proposed plaza, between the historic train station and public library and continues into the down town district before it loops back along the river’s edge. This new path will have handrails that accomodate children learning to walk, seniors needing support and those bound to wheel chairs (Figure 52). It is a path

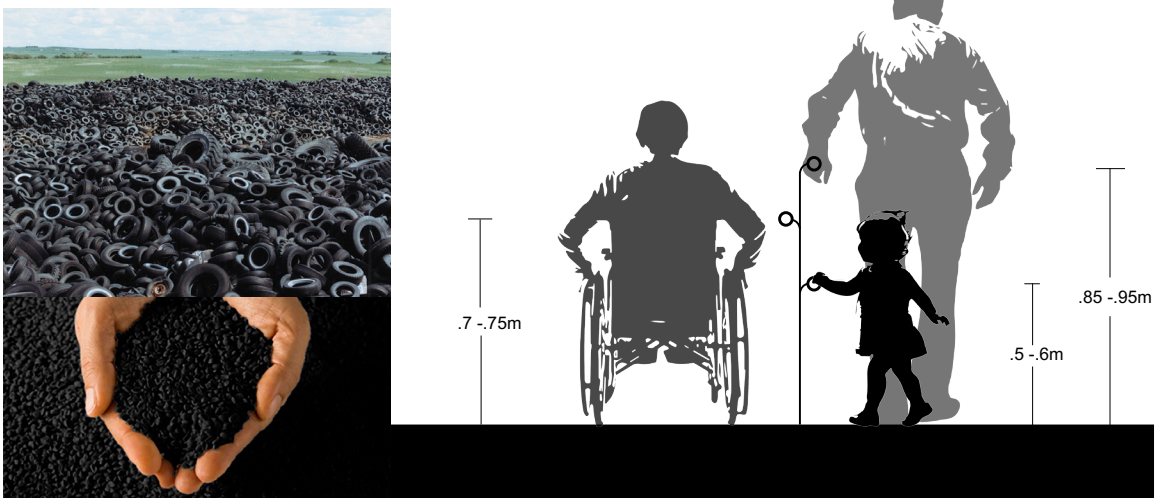


Figure 52. Recycled tires to walkways and handrails that support all members of society



Figure 53. Rubberized walkway passing between historic train station(left) and public library(right)

that not only supports safe walking, but also helps create those special moments when a grandmother can experience and share in a child's first steps through town (Figure 53).

Phase 2: Designing a Place for Purpose

Now that the new social center has been established and a safe walking route has been established through town, the next phase is to frame the town plaza with a building that celebrates the value seniors have for still contributing to community. It is far too often we hear our seniors say "I feel like I don't have a purpose anymore." The proposed *multi-generational community center* is a facility designed to celebrate our seniors local wisdom and skill with the ultimate goal of creating valuable social interactions bridging the generational divide within society.

Establishing a Local Program

The *multi-generational community center* (MGCC) is the result of identifying specific programmatic spaces that best represent the local culture and craft of St. Stephen. This region has a rich maritime history in woodworking, music, cuisine, the visual arts and textiles (Figure 54).



Figure 54. Developing a local Program; identifying skills known by local seniors that are representative of local culture

The forests of southern New Brunswick are a mix of hard and softwood species of trees. Local woodworking craft is visible through chainsaw folk art, canoe building, hardwood bowl turning and countless other crafts. Every summer, St. Stephen hosts lumber jack competitions for regional and national foresters to compete in. It is a town with a culture that values wood craft but is lacking a communal woodshop so that this culture and knowledge may be passed.

Like many small towns in the Canadian maritime provinces, St. Stephen has its own local flavor of music. This area hosts a unique population of ex-American citizens who brought with them a very interesting and unique musical heritage from the New England states and beyond. It is technically classified as “Old-time music” and it is a type of North American folk music. It is typically played on acoustic instruments, usually showcasing a Fiddle, Banjo, or acoustic guitar as the dominant instrument. Unique to this area there are still musicians who play such instruments as the “Washtub Bass” (Figure 55) and the “washboard” (Figure 56) which are unique to this style of music.



Figure 55. Home-made Washtub standup bass instrument; from Google.



Figure 56. Home-made Washboard percussion instrument; from Google.

Textile crafts have been a major trade and past time in this region for a very long time. During the textile mill boom, there was an abundance of scrap fabric in the area. From these scraps, the maritime quilt was born (Figure 57). These ornate bed covers are pieces



Figure 57. Maritime quilters showing their newest creation; image from google

of local folk art. Historically, they were created by women of a community one quilt at a time working as a group in a quilting bee (Figure 58). Beyond the final product of a colorful



Figure 58. Quilting Bee circa 1910; image from google

bed spread, it was a very social activity this is a part of our local culture that is struggling to survive today. Quilting is just one such textile activity that our seniors are skilled in. They are also skilled in sewing, crocheting, knitting and rug-hooking. These activities carry many local traditions and methods that need to be shared with the younger generations before they are lost.

Given that St. Stephen has a short growing season and a long winter, this community has a rich history in canning and preserves. The region hosts one of the warmer summer climates of the province therefore the wild berry season, namely; blueberries, strawberries, blackberries and currants are prized by residents and visitors alike. Jams, jellies and preserves were once an essential part of a winter diet but in modern day, this skill is not being passed to the younger generations. This region of the province also has an amazing selection of local seafood including; Lobster, Mussels, Scallops, various Seaweeds, and sea mollusks. These foods were once staples of the region, and many delicious recipes are held by the elders in community and are not being shared.

Building Design: Multigenerational Community Center

Composed of spaces that will promote cross-generational interactions, the *Multigenerational community center(MGCC)* is a building that rejects the current way in which we devalue the senior members of society by pushing them to the fringes of community. It is a learning environment at the center of community that enables our elders to share their knowledge and experience with younger members of community. It will act as a bridge between the downtown district and the proposed senior's living area of the master plan. Positioning the building at the social core of town, the MGCC is surrounded by community and promotes visibility to the contributions seniors can make in preserving local culture. The materiality of the building is to be as transparent as possible so that their contribution is visible to those walking by. The overarching goal of this building is to change society's perception about getting old and how valuable seniors are for maintaining healthy communities who understand their culture and roots.

The building is sited (Figure 59) perpendicular to the Garcelon Civic Center, opposite the public library and the old train station. By siting the building in this context, it frames a new

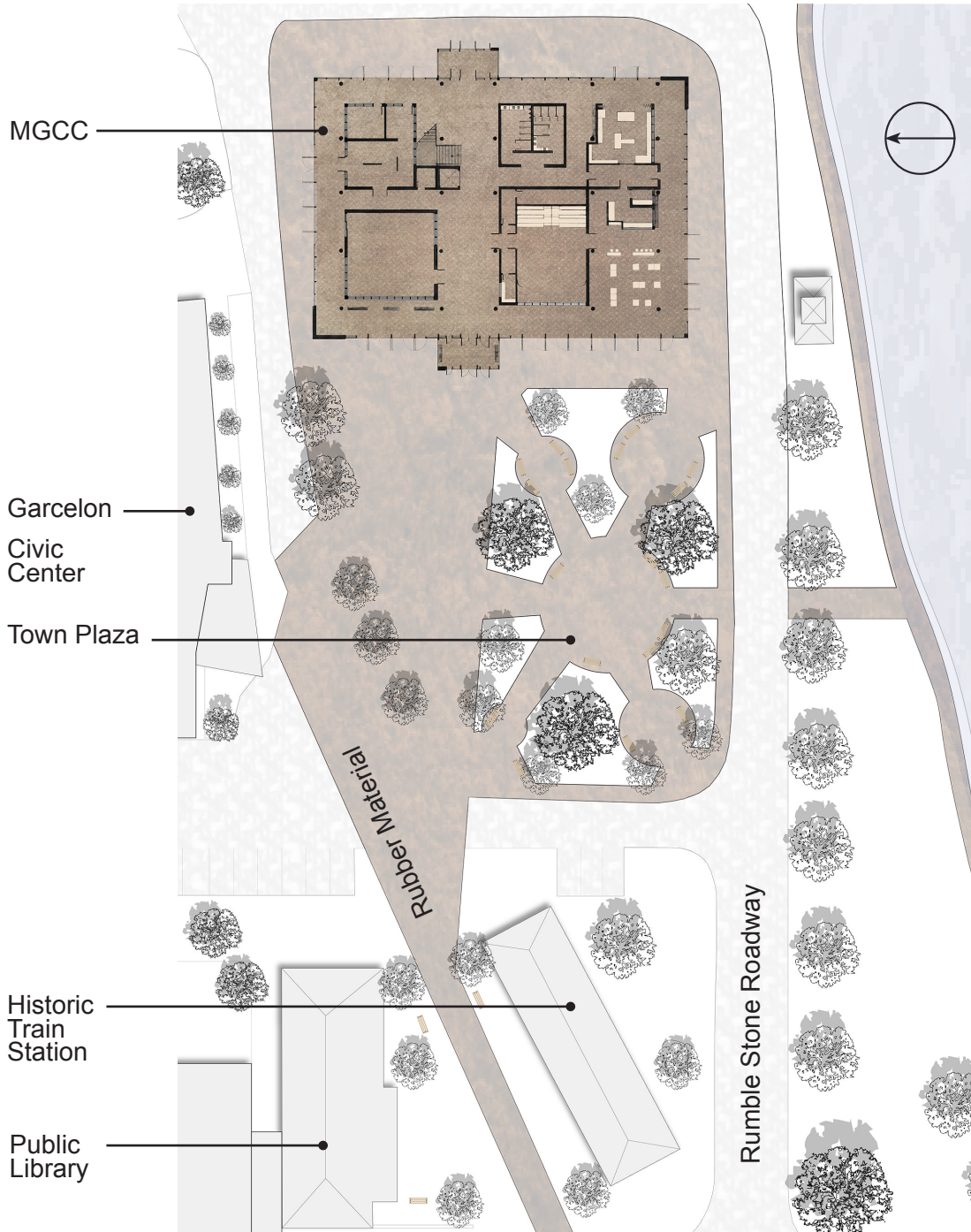


Figure 59. Multi-generational Community Center Site Plan

plaza for public gathering (Figure 59). The plaza is envisioned as a series of rooms among trees. It is a space that is meant to be both playful and reflective. Benches for sitting and observing are throughout and three dominant trees compose the inner circle of the plaza. These trees represent the three generations of society growing together in unison. The Roadway that surrounds the site will be composed of rumble stone which will calm traffic and suggest pedestrian priority over vehicle traffic (Figure 60). The MGCC has three floors supported by steel frame construction. Glass framed by local brick define the exterior facade of the building promoting transparency to within (Figure 61). Some areas of the glass facade are operable (Figure 62), opening the building to the surrounding

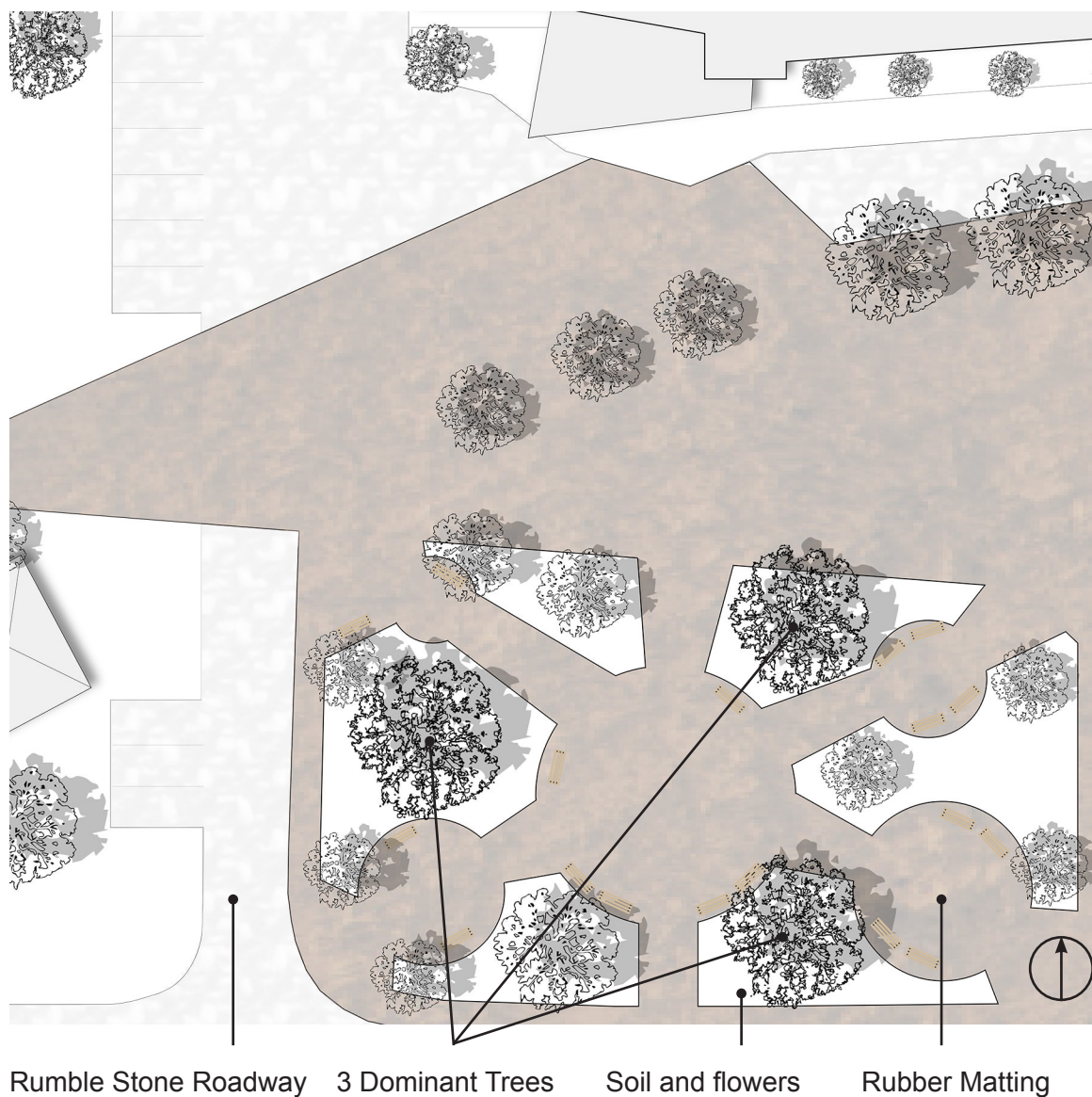


Figure 60. Town Plaza; composition and materiality



Figure 61. MGCC West Elevation, brick bands framing glass, design goal was to promote transparency into building spaces so community can see seniors interacting and sharing with community



Figure 62. MGCC West Elevation, operable bottom floor facade engaging with the plaza

environment. Glass and Brick are used again for the interior walls supporting this same idea within the building. The bottom floor plan (Figure 63) has; a woodshop, arts gallery, artists' studio, theatre/activity room, a coffee shop, bathrooms and a community kitchen.

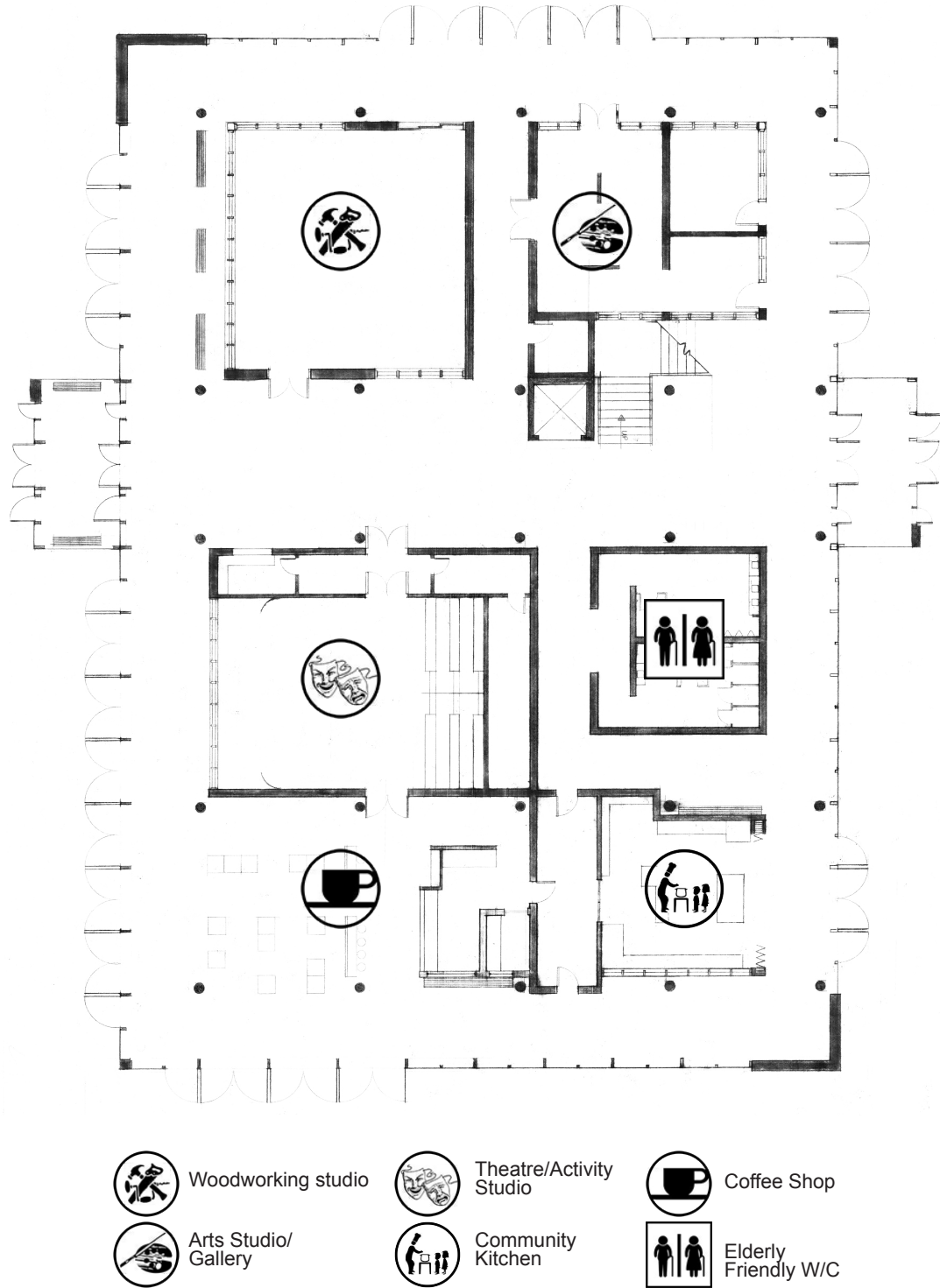


Figure 63. Street level building plan, MGCC, symbols representing different program

The second floor has a textiles studio, a children's activity room, and tutoring spaces. The third floor accesses the roof-top patio. The building has one central atrium (Figures 64-65)



Figure 64. Section cut through atrium of MGCC and plaza; drawing showing movement through the atrium into the plaza

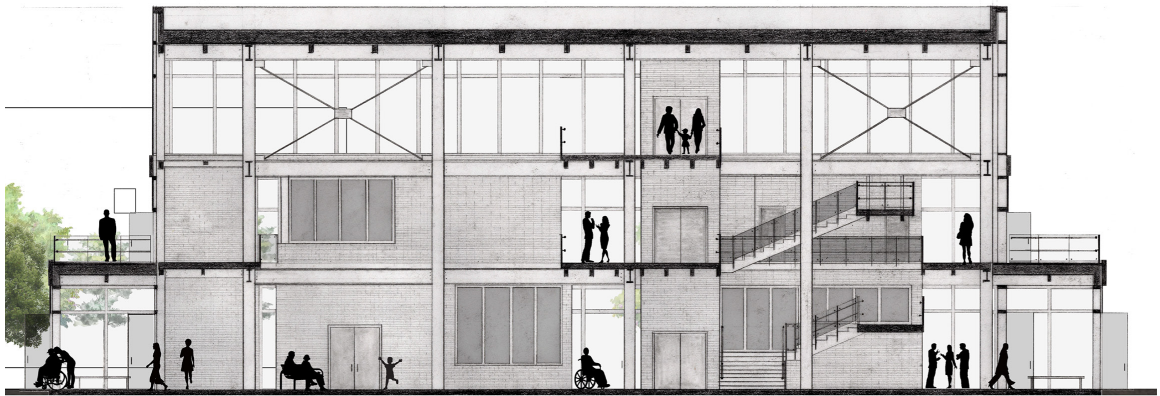


Figure 65. Short section of MGCC, Section cut through atrium of MGCC

that is intended to connect the new plaza with the senior living residences and community gardens opposite the eastern facade of the building.

The community kitchen (Figure 66) embodies all of the ideas of the MGCC. This drawing depicts a canning scene whereby seniors of the community are teaching children how to make preserves for the approaching winter months. The operable eastern facade opens to the community garden allowing residents direct access to the kitchen from the garden. The counter heights are appropriate for children and those bound to wheelchairs. The kitchen has operable double hung windows on the south wall giving it the appeal of a country kitchen.

The building's large atrium is intended to represent a beacon in the town and a symbol of change for the community. The brick used in the facade and the inner walls are tribute to a local material that has heritage value among the residents of St. Stephen. The MGCC is a



Figure 66. Section Perspective of Community Kitchen of the MGCC; scene depicting children learning to harvest from the community garden and canning the produce for the approaching winter months

building that ultimately represents; teaching to younger generations (Figure 67), promoting community (Figure 68), learning skills and crafts that are representative of local culture (Figure 69), learning new skills later in life (Figure 70), and connecting the young with the old (Figure 71).



Figure 67. An older member of community teaching to the younger generation about woodworking



Figure 68. Promoting community by bringing generations together with projects



Figure 69. Learning skills and crafts that are representative of local culture; this young girl is working in the textile studio learning how to prepare patches for the quilt



Figure 70. Learning new skills later in life; this elderly woman is learning to cut wood on the bandsaw in the wood-working studio.



Figure 71. Connecting the young with the old; this elderly woman is helping a little girl read in the childrens activity room.



Figure 72. Long section of MGCC; this section shows cross-generational interactions within the building

Phase 3: Addressing the Demand for Senior Housing

Once the MGCC has been established, the next phase of the thesis is to incorporate senior housing. This phase is in response to the projected rise in the senior population of St. Stephen. Although it was never the intent to resolve this part of the project, the idea is to site the living facilities opposite the residential district to the south (Figure 73). The age-friendly rubber path bisects the site in half with residences on both sides in the form of a “U”. Given that this is going to be a gardening community, arranging the buildings in this scheme will block harmful and harsh north winds which are detrimental to the plants and create warm micro-climates suitable for creating more stable temperatures in a cold climate. Age-friendly rubberized footpaths extend south through the site and connect to the river-edge foot path.

The natural environment has been proven to have a positive impact on not only the healing environment, but also to be a crucial element in creating healthy environments for residents of long term care. The living, green environment will be a positive influence in the lives of those living and working in this facility. Rich, stimulating green spaces can promote social interaction, community involvement and an understanding and connection to the natural rhythms and life cycles around us. Gardening is an activity that requires careful planning, community, coordination, physical work, and nurturing care.

Using gardens will bring opportunities for horticultural therapy, exercise, socializing, and community involvement with the facility. Gardens will become the symbol for this small community and it will bestow a revived sense of self-worth, contribution and respect into the lives of the residents. The Gardens will reach into the surrounding community in an attempt to draw all walks of life to plant and nurture the gardens alongside the elderly, and share in its creation. Lastly, the gardens will offer the residents an opportunity to feel like they are still contributing to something beautiful and meaningful near the end of life.



Figure 73. Phase 3; senior housing on eastern end of the site, incorporating community gardens into the scheme

Phase 4: Adapting and Upgrading of the Downtown Core

The final phase of this thesis is somewhat speculative of what could happen to some of the downtown buildings that have been left vacant due to the economic downturn in the economy. Having an influx of seniors in the downtown district and a circulation route that supports safe walking could mean many social services could move back into this district and give the local economy a boost. Having increasing numbers of seniors coming to St. Stephen because it now supports seniors in community will mean there will be a demand for businesses that cater to the elderly (Figure 74-75).



Figure 74. Reimagining old buildings being transformed into new businesses catering to the elderly



Figure 75. Breathing new life into vacant downtown buildings

Models

Rubberized walkways with handrails



Figure 76. Rubber walkway with Copper handrail.



Figure 77. Rubber walkway with Copper handrail; exploring different texture for the handrail



Figure 78. Rubber walkway with Copper handrail; exploring different form handrail

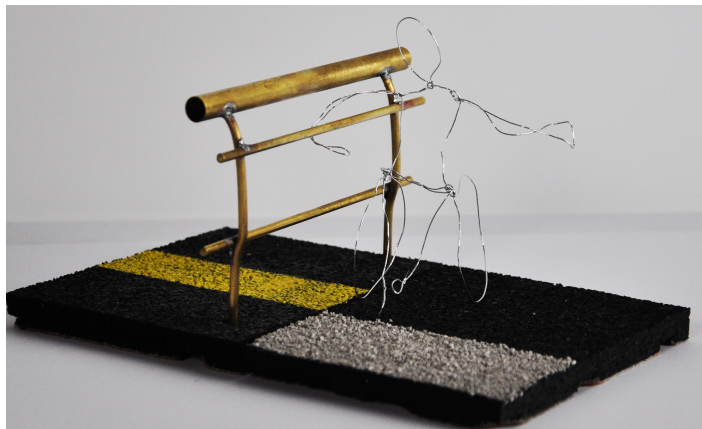


Figure 79. Rubber walkway with Copper handrail; exploring different form handrail

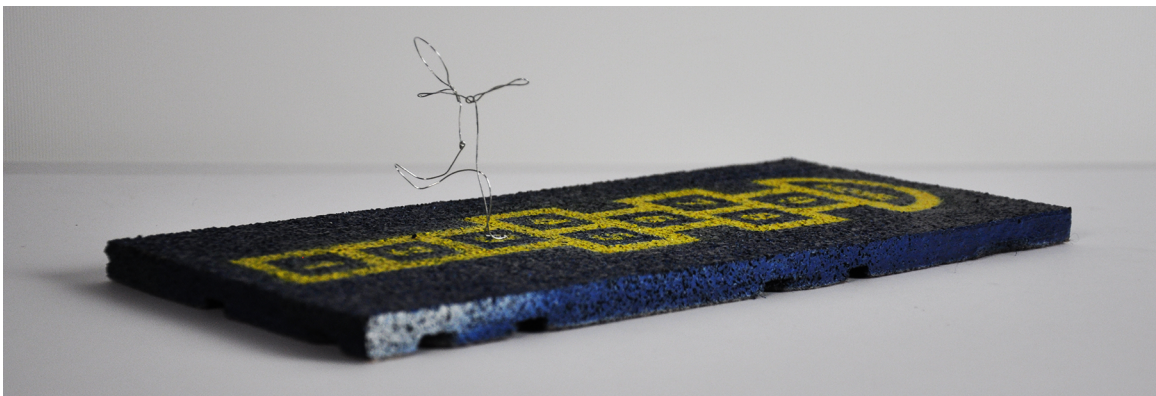


Figure 80. Rubber walkway: exploring breakout play spaces

Existing Urban Conditions Model 1:1000



Figure 81. Existing urban conditions model



Figure 82. The downtown



Figure 83. Wharf with Civic Center and suggested site for new town plaza

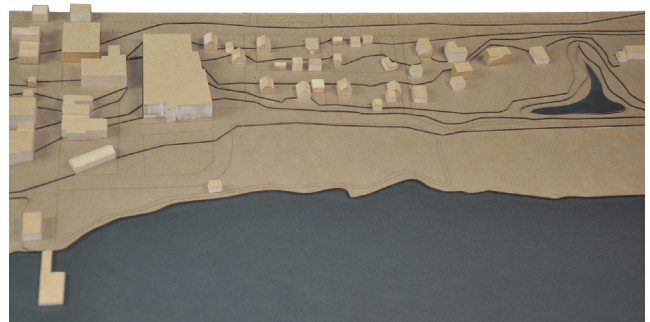


Figure 84. Suggested site for thesis at south east end of town

Nolli site model: White pine landscape, black card, Walnut buildings, 1:500



Figure 85. Nolli Model of proposed site

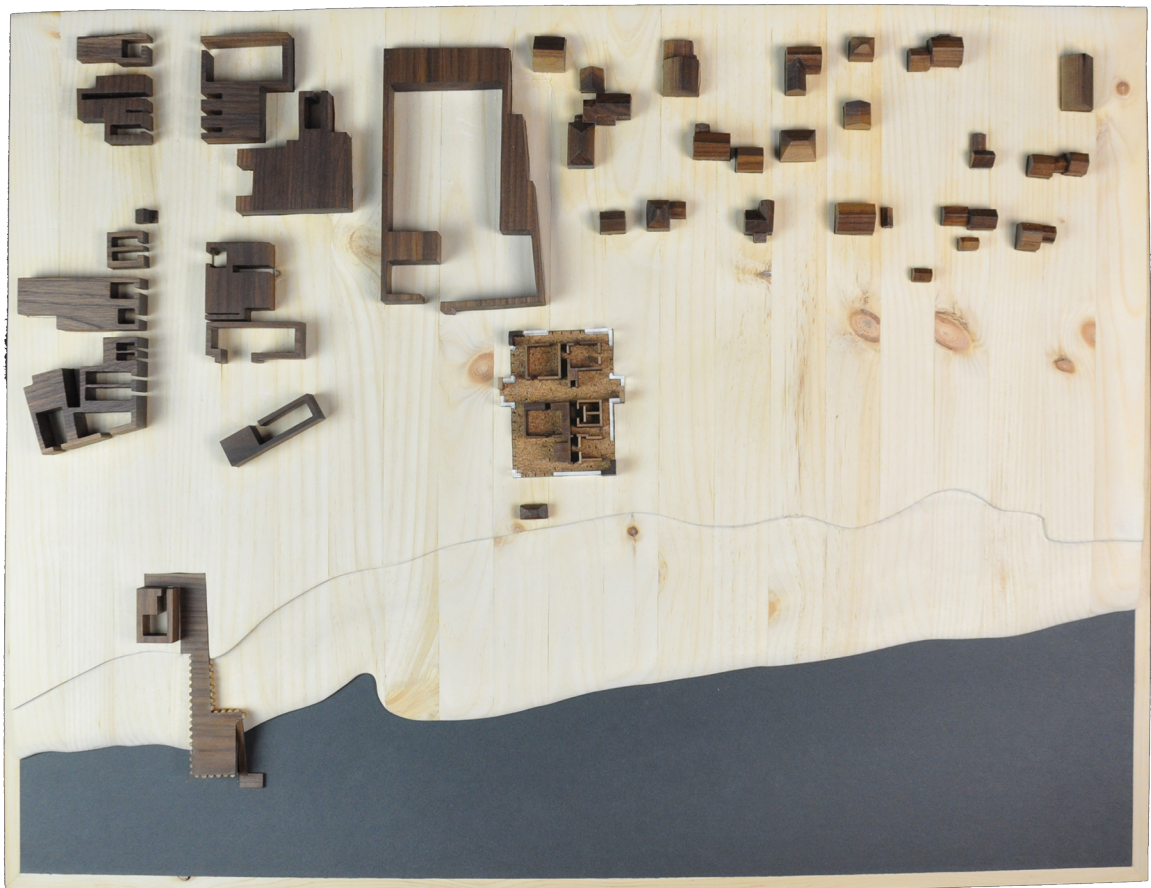


Figure 86. Nolli Model of proposed site with MGCC at center

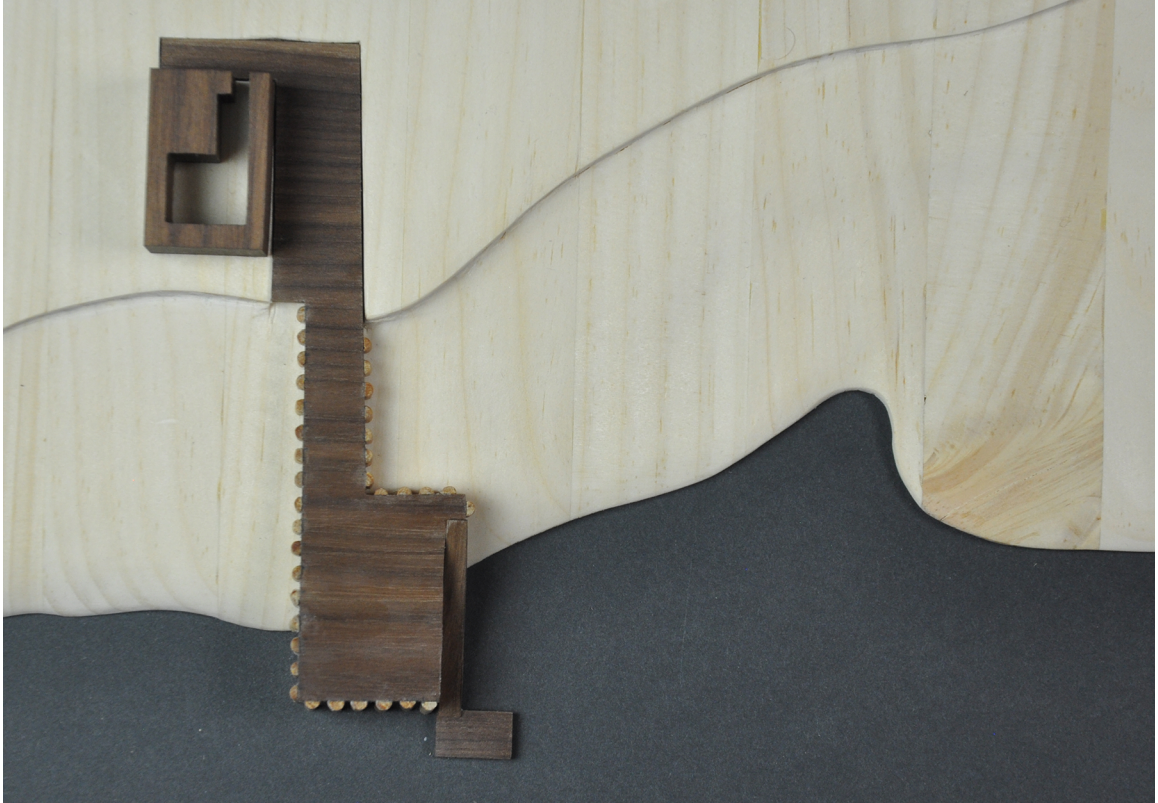


Figure 87. Nolli Model: public wharf and pizza restaurant

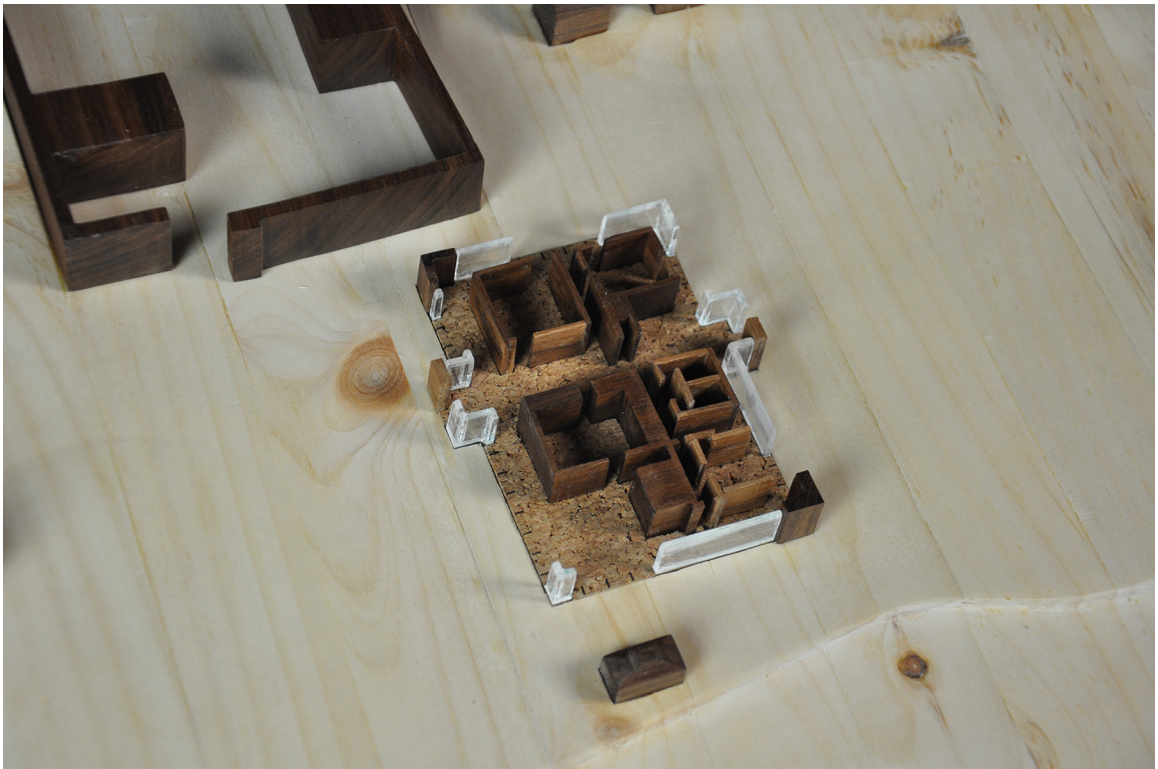


Figure 88. Nolli Model: MGCC adjacent to the Garcelon Civic Center

CHAPTER 3: CONCLUSION

We can no longer accept the standards of a society that devalues the life of seniors by rejecting them when they seemingly have become a financial burden on family and community. Human beings are not commodities in the consumerist world, we are sentient beings that need love and support until they leave this world. It is time to embrace a model that is conducive to healthy aging (Figure 89), inclusive to our senior populations (Figure 90), and supportive of our most frail (Figure 91). Design is a vehicle for change, and through better community design for our elderly, we can begin to change from a society that devalues our elders to one that celebrates the past through honouring those still living (Figure 92).



Figure 89. Seniors out for a stroll, getting some exercise, and being social



Figure 90. Seniors in an inclusive community; this senior is enjoying a hula-hoop session with some kids



Figure 91. Surrounding our most frail with community



Figure 92. Building better lives through better design

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