

Exploring Holistic Urban Sustainability from a Transformative Learning Perspective:
The Southwood Precinct Project

by

Chia hao Hu

A Thesis submitted to the Faculty of Graduate Studies of
The University of Manitoba
in partial fulfilment of the requirements of the degree of

MASTER OF ENVIRONMENT

Department of Environment and Geography
University of Manitoba
Winnipeg

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Abstract

Despite the increasing number of recommendations for urban sustainability, there remains a need for greater understanding of how communities become more sustainable given the predominant existing preference for sprawl and resistance towards urban alternatives. Focusing on the proposed development initiative for the Southwood Precinct in Winnipeg Manitoba, this research examined the reasons for opposition to, or concern with, existing recommendations for EcoCities, Healthy Cities, and Age-Friendly Cities. The study was conducted by interviewing local residents and stakeholders, using an image-based info-sheet as a communications tool to increase openness to alternative (more sustainable) urban development approaches. The study revealed that opposition and concern can stem from values that are more complex than mere preference for sprawl or resistance to change. Overall, participant reflections showed that the image-based info-sheet along with discussion (through semi-structured interviews) was conducive to expanding positive perceptions of sustainable development in local neighbourhoods.

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Chapter 1: Introduction

1.1 Research Context

For over two decades, sustainability of the built environment has been a global policy issue. A joint initiative between the United Nations-HABITAT and United Nations Environment Programme named the Sustainable Cities Programme was established in the early 1990s “to build capacity in urban environmental planning and management” (UNEP 2005). With mounting research on the environmental impacts of physical urban form, as well as an increasingly holistic definition of sustainability, the number of urban sustainability initiatives has proliferated and include various movements such as EcoCities; Smart Growth; New Urbanism; Compact Cities; and Complete Neighbourhoods among many others. As well, there have been notable integrated urban sustainability frameworks (Roseland 2009, Breheny 1992, Wheeler 2004).

For the purposes of this project, the concept of “urban sustainability” draws from three global policy movements: the Sustainable Cities/EcoCities movement (UNEP 2005), the Healthy Cities movement (WHO 2012) and the Age-Friendly Cities movement (WHO 2007) in order to integrate aspects of human-wellbeing and equity into an environmental focus. While other prominent grassroots movements exist, these three have been selected to underscore the pre-existing commitment to sustainable urban development in the policy arena, as well as to highlight the multi-disciplinary nature of urban sustainability. In particular, there are notable synergies between recommendations from the EcoCities/Healthy Cities/Age-Friendly Cities

movements (hereon noted as EHAFCS) for achieving more sustainable urban form. The term “urban form” will be used throughout this document to describe the physical aspects – including physical design and infrastructure of a city (as opposed to elements which may relate more strongly to the social domain). As well, “urban form” will describe not only physical form at the *building* level, but also the *neighbourhood* level which involves road networks, commercial services, parks, and other elements which compose of a community. As an example of a sustainable *neighbourhood* plan, the Dockside Green development in Vancouver, British Columbia (Dockside Green, 2013) is a 15-acre neighbourhood designed with 1.3 million square feet of residential, office, retail, and commercial space, providing residents convenient access to amenities, entertainment, and services through a LEED-Platinum certified design. Conversely, the Woodward Building (Henriquez Partner Architects, 2011) is an example of a sustainable *building* plan which more or less offers an integrated neighbourhood environment, with 536 housing units and an additional 200 non-market housing units, a grocery store, a bank, day care, public atrium and basketball court, rooftop garden, office space for the National Film Board of Canada and the Government of Canada, as well as a new campus for Simon Fraser University. Overall, these two examples illustrate existing efforts in moving towards sustainable urban form, as well as the potential for intensified infrastructure developments – such as a single building like the Woodward Building – to serve residents on a neighbourhood scale.

1.2 “Sustainability” and “Sprawl”

For the purposes of this project, two definitions of sustainability are outlined below to capture the meaning of sustainability in relation to the urban development context:

"Sustainability may be described as our responsibility to proceed in a way that will sustain life that will allow our children, grandchildren and great-grandchildren to live comfortably in a friendly, clean, and healthy world. That people: i. Take responsibility for life in all its forms as well as respect human work and aspirations; ii. Respect individual rights and community responsibilities; iii. Recognize social, environmental, economic, and political systems to be inter-dependent; iv. Weigh costs and benefits of decisions fully, including long-term costs and benefits to future generations; v. Acknowledge that resources are finite and that there are limits to growth; vi. Assume control of their destinies; vii. Recognize that our ability to see the needs of the future is limited, and any attempt to define sustainability should remain as open and flexible as possible."

-Thomas Jefferson Sustainability Council (1988)

"Sustainable Development is positive change which does not undermine the environmental or social systems on which we depend. It requires a coordinated approach to planning and policy making that involves public participation. Its success depends on widespread understanding of the critical relationship between people and their environment and the will to make necessary changes."

- Hamilton Wentworth Regional Council (1989)

Specifically, these two definitions highlight the principle of intergenerational wellbeing (for children and seniors), the goal of providing a living environment that is “friendly, clean, and healthy”, as well as an emphasis on public participation in the planning and policy-making

processes. Together, the two definitions help to guide this project in emphasizing elements that are critical to the accomplishment of urban sustainability.

In this regard, urban sprawl has been used to denote a change in trend of land usage focused on the decentralization of human occupancy, resulting in “communities...requiring more land and space to supply the same given population with homes, workplaces, shopping locations and recreation spaces.” (CARDI 2010). The increased usage of land results in unsustainable reliance on fossil fuels through automobile dependency. While there are different ways to measure urban density (Density Atlas 2011) with a non-binary gradient between sprawling and dense urban environments, the term sprawl is used in this thesis to denote what may be summarized as single-use, detached single home neighbourhoods in direct contrast to multi-unit, mixed-use buildings (see Figure 1). However, it is important to note that there are defining sprawl is a complex task, and that densification does not always result in sustainable outcomes (Hall, 2001).

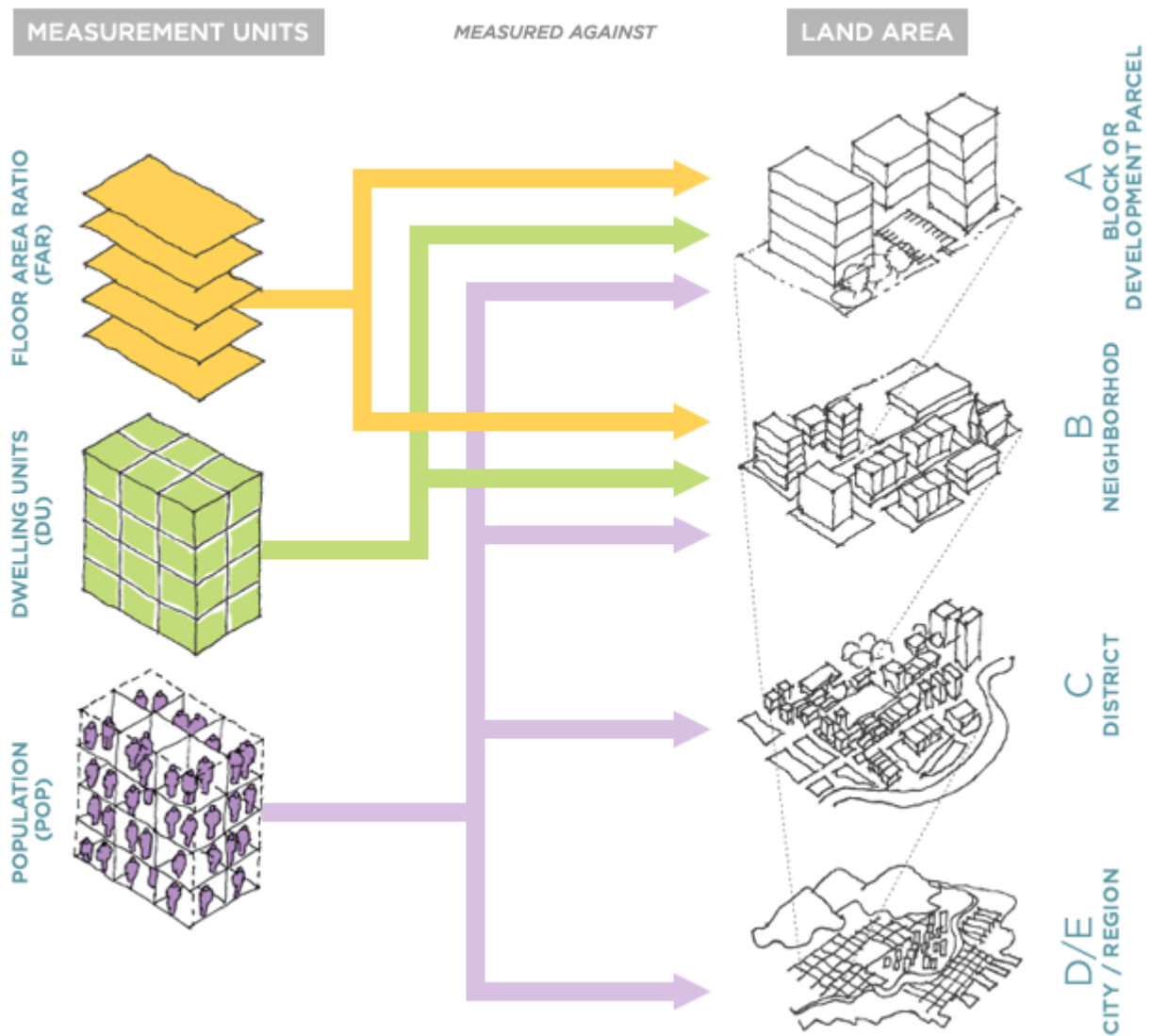


Figure 1. Density Measures, Density Atlas 2011

In line with EHAFC research, there is growing recognition that many of the characteristics of urban sprawl and suburban neighbourhoods are not sustainable (Talen 2011). Compared to vertically-dense urban developments, suburban neighbourhoods depend upon significantly more land, road infrastructure, and higher levels of service delivery, all of which

have been documented by research initiatives such as the Transit Cooperative Research Program as being counter to sustainability goals (2000).

Due to the extension of distances through sprawl, a suburban neighbourhood tends to rely on higher municipal spending in water pipelines, electric gridlines, fire and policing services, garbage collection services, road maintenance, educational services, and public transit (TCRP 2000). Aside from greater consumption of financial resources, residents of suburban neighbourhoods also rely on greater vehicle miles travelled (VMT's) for daily living (Newman and Kenworthy 1998). As a result, the overall car dependency of suburban neighbourhoods contributes to higher levels of greenhouse gas emissions, which magnifies the environmental risks associated with climate change (NRTEE 2011) as well as greater global energy insecurity in terms of oil (Hicks and Nelder, 2006).

Regardless of existing threats related to sprawl, this type of development has not ceased; neither can all attempts of urban intensification or densification expect to be warmly received as interventions for resiliency. In the context of Winnipeg, there is a growing movement towards urban interventions along the lines of existing EHAFC research (City of Winnipeg 2011). However, these initiatives have been the subject of much public debate, which highlights the challenge of consensus-building in densification and revitalization efforts.

1.3 Sustainable Development in Southwood Precinct, Winnipeg

The City of Winnipeg has witnessed what may be described as a doughnut-shaped development (Atributos Urbanos 2013) within its geographic setting, with recent urban activity being concentrated on the suburban periphery while the central interior has experienced

gradual decline. It is important to note that the development of the periphery at lower densities can in some areas become complete communities in the future through continued urban development in the form of planned intensification. On the other hand, the current condition of the downtown core likely contributes to existing community-perceptions of single-family suburbs being the only form of urban development that can reduce the risks associated with crime and urban decay. This may encourage the transformation pathway of lower-density development to become complete communities in the future. Or, in fact, this may discourage all forms of dense, complete community developments in fear of replicating the urban issues associated with the existing downtown core.

The sprawl occurring in Winnipeg, however, is not without its detractors. City politicians have been pushed to apply EHAFC concepts in both the downtown area and existing urban neighbourhoods outside of downtown. Regardless of these efforts, preference for continued development on the fringe remains dominant as is evident by the continued development in the south end of the city in the Waverley West area.

A current initiative for urban sustainability is taking place at the University of Manitoba in Winnipeg through the development of the Southwood Precinct (See Figure 1). The Southwood Precinct is a recently purchased, 120-acre former golf-course parcel adjacent to the northern boundary of the University of Manitoba Fort Garry Campus, a location where a large percentage of the university's students and employees travel to and from daily (see Figure 2). The area is viewed by university officials as a "rare opportunity to do something unique and transformative; to be aggressively sustainable in our thinking...[and] to allow for the future

needs of the university while developing a vibrant interface with the community, in the form of a new, sustainable, multi-use neighbourhood" (University of Manitoba, 2012).



Figure 2. Southwood Precinct, Winnipeg (Competition Brief, University of Manitoba)

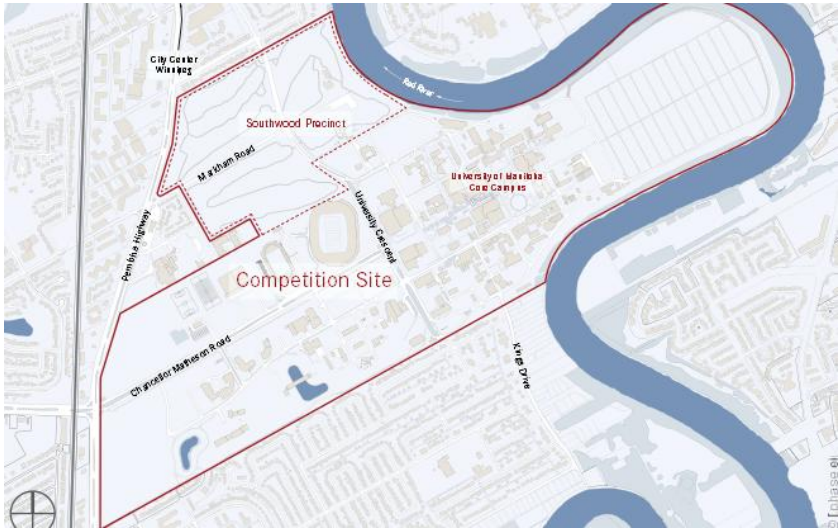


Figure 3. Southwood Precinct in relation to the University of Manitoba, Fort Garry Campus (Competition Brief, University of Manitoba)

With the undertaking of this initiative, the University of Manitoba began a public consultations process in late September of 2011. The University Campus Planning Office indicates that the list of organizations they have contacted includes local residents, students, environmental associations, neighbourhood networks, associations of architects and planners, Board of Governors of the University of Manitoba, indigenous community groups, the municipal government, retirees and ageing-related networks, city councillors, the Provincial government (Ministry of Housing and Community development, and Deputy Ministers), economic development groups, utilities (Manitoba Hydro), local business park tenant's association, accessibility services, biking and active transportation groups, as well as external experts (International Living Future Institute).

The following principles were laid out for the Southwood project, after a Kick Off Workshop involving direct consultation with the community member as well as review from the neighbourhood networks: (1) Connected: Network the Campus, Connect the City; (2) Destination: Reasons to Come and Reasons to Stay; (3) Transformative: Research and Learning to Garner Acclaim; (4) Campus as a Living Lab; and (5) Community: Build for Density, Design for People. In connection to these five main principles, a number of key considerations have been identified to guide the development process (Campus Planning Office 2012).

(1) Connected

Linkages within the campus and also to the rest of the city are being proposed. More specifically, a pedestrian scale transportation environment with rapid transit and active transportation infrastructure is being recommended. Directly connected to this is the treatment of green space and the boundaries of the Southwood Precinct, one of which faces a river.

(2) Destination

The Southwood Precinct is being proposed as a “model urban development”, which involves creating a sense of place, a unique identity, as well as new places to live, work, learn and play.

(3) Transformative

This principle is based on efforts to re-create Southwood as a destination to visit and to stay, along with a commitment to using the development as an opportunity for research, learning, and innovation. Overall, the objective is to achieve “acclaim and identity”, and positively impact how the public views the university, as well as how Winnipeg is viewed as a city as a whole.

(4) Sustainability

The Southwood Precinct is also proposed as a model and showcase of best practices in sustainability, serving as a “living lab” to explore innovative technologies. Directly related to the overall sustainability of the area is the choice in urban form and landscaping, which will also be considered under a broader objective of creating a “sustainable campus”.

(5) Community

Overall, the Southwood Precinct is being envisioned as a vibrant, diverse, and complete community with mixed-income housing, mixed amenities, multicultural focus, and design across the lifespan – with specific emphasis on age friendly design (Campus Planning Office 2012).

The five principles have served as the organizing themes of discussions conducted in the form of open houses as well as ongoing meetings with local neighbourhood networks.

Throughout the process, a significant level of iterative communications was achieved. As well,

open-ended response was encouraged from participants at the Open Houses, for which participants were given the opportunity to comment on any issue beyond the determined themes, and comment anonymously through writing as opposed to public discussion.

Furthermore, a consultation process was also initiated in preparation for an international design competition. In this regard, within university administration, the Faculty of Agriculture and Food Sciences, Architecture, Engineering, Kinesiology and Recreation Management, Physical plant, and the Sustainability Committee were engaged in reviewing a draft of the competition brief. In addition, local residents, a retirees association, and a number of municipal government employees were engaged to represent viewpoints from urban planning, transportation (including active transportation), service planning, engineering, environmental and forestry sciences, water and waste, and long range planning.

Though it began as a project to redevelop an adjacent golf course as new University property, the Southwood project has helped initiated planning of a Campus Master Plan for the University of Manitoba. The Visionary (re)Generation Open International Design Competition is now underway to select a winning design team to further develop a Campus Master Plan through continuous stakeholder engagement (Campus Planning Office 2012).

1.3 Sustainable Development in the Context of Transformative Learning

In seeking to understand the process for achieving greater sustainability in urban form, a transformative learning framework is applied in this project. Transformative learning focuses on changing worldviews hindered by cultural standards and personal beliefs into those that can lead to informed action (Mezirow 2000). Through participatory engagement, informal learning

can be fostered, allowing individuals to critically reflect on their personal presuppositions (Mezirow 1991). In changing the worldview or frame of reference of individuals, this type of engagement and learning can generate behaviours better promoting sustainability, which are in themselves sustainable (Kerton and Sinclair 2010). As Sinclair, Diduck and Fitzpatrick (2007) have concluded, the learning implications of participatory management can generate “the social mobilization necessary to achieve sustainability trajectories” as learning creates a sense of agency, greater autonomy, and also a meaningful process of becoming more socially-responsible decision makers (Mezirow 1991, 2000).

The implementation of EHAFC-types of development requires learning and changes in thinking about urban form, making the undertaking of EHAFC development a useful platform for considering transformative learning. This is particularly true of the Southwood Precinct project, as opposition and concern against similar developments have been observed in the city. In applying a transformative learning lens to the study of EHAFCs development proposals and community members presenting concerns about them, it may be possible to reveal new knowledge to inform the current EHAFC movement and encourage consensus building for the Southwood project

1.5 Research Objectives

The purpose of this research is to investigate, using a learning lens, the discrepancy between community conceptions and the benefits of EHAFCs as they relate to sustainability.

In the context of the Southwood Project, the objectives of this project are:

1. To understand the reasons for opposition to proposals made for sustainable

neighbourhood development (i.e., EcoCity, Healthy City, Age-Friendly Cities agenda; mixed-use transit-oriented developments).

2. To examine how people have informed their positions about neighbourhood EHAFC/transit-oriented types of development, which may include learning sources such as newspapers, community involvement, formal education

3. To consider involvement techniques for engaging locally affected people opposed to proposed developments

4. To facilitate informed debate about alternative development approaches

5. To assess whether any learning outcomes can result from the chosen engagement process for the community.

1.6 Research Strategy

The stated research objectives were approached using a qualitative method, within a case study research strategy, to attain understanding of the processes and complexities of participatory planning as well as transformative learning. A literature review was first conducted on EHAFCs to identify the synergies between the three initiatives; this in turn was made available to the research participants in a concise and straightforward info-sheet document. Prior to the dissemination of this info-sheet, a draft was presented to stakeholders working in the EHAFC area to validate, critique, and refine the document.

Through two rounds of resident interviews, the same cohort of participants consisting of individuals concerned about the Southwood Project were engaged in discussion about the developments. The first resident interview was conducted to address objectives 1 and 2, with

questions focusing on reasons for concern and opposition, as well as past learning and sources of information that has informed the concerns of the residents.

Following the first round of interviews, a set of stakeholder interviews was carried out with stakeholders working in the field of EHAFCs. The stakeholders were invited to respond to resident's reasons for concern and opposition as collected from the previous interview with residents, share their perspectives on engagement techniques (objective 3), and also provide feedback on the summary info-sheet on EHAFCs to be presented to the residents interviewees.

Following the discussion with stakeholders working in EHAFC fields, the second follow-up round of interviews with the same cohort of resident was conducted. The participants were presented with the summary info-sheet on EHAFCs, as well as the responses of EHAFC stakeholders to their previous concerns. The interview questions in this second round of follow-up interview focused on eliciting resident perspectives on alternative development approaches (objective 4) and assessing any potential learning outcomes (objective 5). The methods are described in detail in Chapter 3.

1.7 Thesis Organization

The thesis is organized into six chapters. Following the first introductory chapter, Chapter 2 provides a review of the related literature on EHAFCs. In Chapter 3, the research methods are discussed, and Chapter 4 summarizes the findings from the first round of interviews with the residents, focusing on results in support of objectives 1 and 2. Chapter 5 presents results from the stakeholder interviews as well as the follow-up resident interviews that were conducted to meet the rest of the objectives. Finally, in Chapter 6, conclusions are

drawn from the data and recommendations for future sustainable urban development in a suburban context are made.

Chapter 2: EHAFCs and Learning

The following sections outline the environmental, health, and equity impacts of physical urban form, particularly in relation to vertical density, mixed-use development, and transit-oriented development. It is important to note that health, equity, and the environment are impacted by a wide variety of factors beyond urban form. The social, cultural, and economic context of individual cities play important roles in determining optimal urban form for sustainability. The evidence below is discussed as general guidelines to illustrate the multifaceted impacts of urban form, as well as the strong synergies that exist between EHAFC guidelines.

2.1 EcoCities, Healthy Cities, and Age-Friendly Cities Synergies

The primary concerns of the three movements are each distinct in their individual focus. At the same time, there exists significant overlap between recommendations towards more environmentally sustainable, healthy, and age-friendly urban forms.

2.1.1 EcoCities

For the EcoCities movement, key issues surround land conservation (TCRP 2006), reduction of energy use (Hirsch 2005), reduction of climate change emissions (Rudolf 2004), and also the implementation of sustainable building technologies (Yeang 1999).

With regards to the first issue of land conservation, considerations include the size of the building footprint (i.e., lot size) in addition to the road networks required to connect and

support the community. As such, mid- to high-rise buildings with mixed-use features are preferred, as in combination, vertical, mixed-use developments can reduce land usage per residential unit and reduce the road coverage required to facilitate transportation between points of travel (TCRP 2006). The positive sustainability outcomes of minimizing the urban footprint are numerous. Firstly, constraining the size of growing urban areas helps to reduce risk of damaging natural ecosystems and destroying the biodiversity of surrounding regions (Nechyba and Randall 2002). Limiting the geographic area of human activity, even if it is merely traffic, can help promote long-term wellbeing of the natural environment and support conservation of natural ecosystems. Secondly, reducing the urban footprint ultimately helps to reduce the risk of invasion of development into potential arable land, or freshwater resources (Tweeten 1998). As the changing climate is also affecting patterns of soil fertility and water availability (NRTEE 2011), the conservation of all existing natural areas should be viewed as a preventative measure in recognition of the precautionary principle. The protection of arable land near urban areas is especially important in light of rising food prices for two reasons. Firstly, the current global system of food production relies on climate stability in certain key regions of food production. Secondly, this system also relies on an abundance of cheap and readily available oil for the global transportation and manufacture of food. As a result, both climate change and rising oil prices can continue to drive up the cost of food to impact food security, which is a particular concern for low income families. With mounting evidence for climate change and global oil insecurity, the promotion of local agricultural activity, such as the 100 mile diet, can help protect food security in midst of global environmental changes.

Food security aside, water security is an equally important concern. Specific to water security, concrete coverage (roads, buildings, sidewalks etc.) reduces rates of groundwater recharge when compared to natural areas with foliage. Minimizing concrete coverage to maintain existing green space can help protect groundwater sources for future use (Stephenson 1994).

In general, the goals of reducing energy use (oil consumption) and greenhouse gas emission are strongly tied to urban form. These goals relate to larger sustainable challenges of oil insecurity and climate change, and are parallel in the sense that existing reliance on fossil fuels is one of the key contributing factors for both of these challenges (Hirsch 2005). In response, the overall goal of the EcoCity is to reduce vehicle miles travelled as a function of oil use and vehicular greenhouse gas emissions (Hickman and Banister 2007). This evidence has traditionally resulted in efforts and advocacy to increase urban density and compactness, both of which have attracted certain criticism from communities and academics alike. Therefore, new approaches attempt to enhance *densification* by intentionally increasing *connectivity* through planning practices such as mixed-use and transit-oriented development. In combination, reduction of travel distance and increased connectivity between points of travel can help improve the feasibility and convenience of walking, cycling, and public transit as daily modes of transport. This in turn can gradually reduce car dependency at a population level, as well as its associated oil use and emissions (Schwartz 2009).

In addition to oil, the heating of buildings is another major form of energy use directly associated with urban form (Yeang 1999). As a general guideline to reducing energy consumption related to the heating of buildings, Yeang (1999) shows that multi-unit residence

buildings (i.e., mid to high rise buildings) use less heat per unit for interior heating due to the sharing of walls and physical space, while also providing the benefit of increasing population density in a smaller land area to conserve land. Similarly, multi-unit residence buildings can help to reduce the per-unit consumption of construction resources required, since a high rise building with 100 residential units tends to use less construction material than a neighbourhood of 100 single family homes. This reduction of construction material is, in turn, linked to the reduction of construction waste as another sustainability concern (Yeang 1999).

Lastly, multi-unit residence buildings can help facilitate large-scale implementation of sustainable building technologies (Yeang 1999). For example, the inclusion of solar panels in the initial plan for a multi-unit building can result in large-scale implementation across tens or hundreds of residential units. On the contrary, the installation of solar panels in an existing suburban neighbourhood can become a drawn out process hinging upon a change in mindset and sufficient financial resources of numerous individual homeowners. The increased population density as a result of multi-unit residential buildings is another advantage in promoting sustainability technologies, because high population densities can help reach critical mass in establishing economic feasibility of large-scale sustainability technologies (such as geothermal heating, and district energy systems). Such large-scale implementations of technology may not only be limited to technologies for sustainability, but may also include simple interventions which help promote a holistic definition of “sustainability”. As an example, installing wider doorways and ramps in a multi-unit, mixed-use building can help improve the mobility individuals living with disabilities in accessing various amenities available in the building.

Overall, physical urban form can impact consumption of land, conservation of natural areas, protection of potential arable land, protection of potential freshwater resources, reduction of greenhouse gas emissions, reduction of consumption and dependence on oil, reduction of energy consumption related to heating, reduction of resource consumption in terms of construction material and construction waste, and also facilitate the large-scale intervention of existing sustainability technologies.

2.1.2 Healthy Cities

The Healthy Cities movement (WHO 2012) has been largely focused on active transportation, or, walking and cycling to improve physical activity (Frank et al. 2007). Through years of low-density urban development, travel via personal automobiles has become a necessity in many North American cities, to a point where expansive highways, strip malls, and daily car commutes have become standard. Over time, the compounded impacts of increasingly sedentary lifestyles can pose a significant threat to public health. Together with poor dietary habits, this lack of physical activity can contribute to widespread obesity at the population level and exacerbate numerous health concerns. Overall, in increasing physical activity at a population level through active transportation, it is possible to influence rates of heart diseases, diabetes, obesity, and also certain forms of cancer (Katzmarzyk and Janssen 2004).

In addition to active transportation, Healthy Cities consider a broad spectrum of health impacts from urban physical form, often taking a specific focus on equity. For example, many of the active transportation recommendations, such as installation of walking and cycling paths in a city, tend to be exclusive of those who are physically unable to walk or cycle long distances.

Therefore, a sole focus on active transportation (without consideration of reducing travel distances or increasing connectivity) can contribute to continued isolation of the elderly and individuals living with disabilities, creating a healthy city only for those who already possess an above average health status. In addition to investigations relating to active transportation and physical activity, air quality (in relation to lung and heart diseases) is also a significant health issue that is strongly linked to vehicle miles travelled and emissions. The current design guideline to improve air quality supports aforementioned reduction of fossil fuel reliance (CMA 2008), illustrating synergies between Healthy City and EcoCity goals. In short, improving the feasibility of walking, cycling, and public transportation as everyday transportation modes can reduce vehicle miles travelled and improve air quality (CMA 2008).

In addition to air pollution, another significant health issue related to car dependence is motor vehicle accidents, which lead to significant deaths, injuries, and lifelong disabilities at the population level (WHO 2004). While often overlooked as a public health issue, motor vehicle accidents and other unintentional injuries constitute the leading cause of death for Canadians aged 1 to 34 (StatCan 2009). In other words, active transportation works best with reduction of vehicle miles travelled; without interventions to actively reduce reliance and usage of automobiles, a city might pose negative health risks to cyclists and pedestrians in terms of increased exposure to air pollution and risk of motor vehicle accidents.

Lastly, urban form can also impact health care delivery costs. There is evidence that increasing population density through compact urban form may contribute to the reduction of health system organization and delivery costs, as rising oil prices are exacerbating the long-standing challenge of rural health care delivery into suburban areas. Most importantly,

increased oil prices increase transportation costs in the health care system, which relies on a significant amount of movement in terms of equipment, goods, and personnel. In essence, the challenges of transportation in the health care system do not fall into a binary of “rural” versus “non-rural” systems, but is largely influenced by population size and density as determined in part by the built environment.

Further linkages between urban form and health care costs include the effects of *economies of scale*, as replacing scattered, smaller clinics and laboratories with a single, integrated hospital through population densification helps reduce building costs, administrative costs, and repeated registrations, laboratory tests, and other forms of health information wastage. Additionally, increasing connectivity can remove travel cost, time, and risk as barriers in seeking timely care, which in turn reduces unnecessary complications and additional costs associated with delayed diagnoses and treatments. Moreover, by increasing population density and reducing travel distances, the mobility of homecare workers may be enhanced to support cost reductions in the health care system, as homecare in Canada can be cheaper than hospital care by 80% (HCC 2010; Roberts et al. 1999; Pink 1994; AMA 2008; JPPC 1997; NBHSA 2008).

It is worth noting that many EcoCity concerns are also public health concerns. These include water and food security in relation to urban land conversion (Tweeten 1998; Stephenson 1994), heat-related health risks and extreme weather events in relation to climate change (WHO 2011), and increased cost of oil as a financial barrier to both health care delivery and the ability for individuals to access health care in a timely fashion (Hirsch 2005). As a result, the achievement of aforementioned EcoCities goals: reducing land use, mitigating climate change, and reducing oil dependence can also be seen as “Healthy City” interventions in their

own right.

2.1.3 Age-Friendly Cities

The Age-Friendly Cities movement focuses on health and wellbeing of seniors (WHO 2007). Within the WHO's research themes which relate directly to urban form, a great majority of the recommendations complement those of the EcoCity and Healthy City. In general, these recommendations include improving the feasibility and convenience of public transit, reducing threats from traffic and automobiles, encouraging clustering of services close to home, and mass implementing interventions which help to improve the mobility of seniors and persons living with disabilities (i.e., wide doorways, non-slip flooring, etc.). While the list shows alignment with aforementioned EcoCity and Healthy City recommendations, it also provides added value in elucidating the true impact of EcoCity and Healthy City issues on disadvantaged or vulnerable populations. For example, while busy traffic may be perceived as a minor inconvenience for the general population, an entire section out of the Age-friendly Cities guidelines of the WHO (2007) speak to the demobilizing anxiety and fear which senior pedestrians can experience from busy traffic.

From the perspective of seniors and other individuals living with disabilities, there is significant rationale to consider minimization of travel barriers through urban planning. Urban form dictates travel distance, which in turn plays a role in determining travel time, cost, and risk. While travel time, cost, and risk may be viewed as only matters of convenience for the general population, this perspective operates on the assumption that persons living with disabilities and other disadvantaged populations experience a similar level of logistical barriers, and that they

possess “average” or “normal” capabilities to overcome such barriers. To gauge the full range of potential impacts of travel time, cost, and opportunity cost at a population level, a systematic review was conducted focusing on outcomes of inequitable access to resources, services, and life opportunities as a result of extended travel distance, cost, and time (Hu 2011). The social outcomes of increased travel time and cost were numerous in the existing literature, including increased rates of unemployment at the population level, greater income inequalities, inequitable access to early childhood care and education, exacerbation of social isolation, lower rates of participation in education opportunities, and inequitable distribution of benefits from publicly funded social services. In addition, increased travel distance, time, and cost to health care can result in delayed diagnosis of serious illness such as cancer, increased rates of post-mortem diagnosis of cancer, increased risk of hospitalization for “avoidable issues” (2011), increased risk of dying at hospital, incomplete treatment for serious illness, increased risk of death from cancer, and reduced patient satisfaction with health care (2011).

Despite the existing evidence linking travel distance, time, and cost to a number of population level and individual level challenges, travel distance, time, and cost are rarely considered as determinants of health and social wellbeing. In other words, while density and compact urban form have long been issues of debate, there is little recognition of the severity of the impact of accumulated travel time, cost, and risk in the everyday lives of disadvantaged populations. To address equity as a pillar of sustainability, the project will draw from the Age-Friendly Cities movement to support informed debate on a holistic view of the potential social and individual benefits from EHAFC developments.

In addition to providing an enhanced perspective on equity, the Age-Friendly Cities

movement also identifies potential negative impacts of EcoCities and Healthy Cities on seniors. Firstly, noise and odour pollution associated with large crowds are barriers for seniors to live in densely populated urban environments. The literature notes that specific care should thus be taken with regards to ventilation and acoustics when designing multi-unit and mixed-use developments (WHO 2007). As well, the existing research shows that there is value in retaining some of the current single homes, as seniors should be respected and supported in their choice to age in place in an environment that suits their lifelong preferences (Tinker 1999).

In summary, the Age-Friendly Cities movement mostly complements the EcoCities and Healthy Cities through illustrating true impacts of mobility barriers in the built environment for vulnerable or disadvantaged populations, and also providing a look into potential trade-offs and areas of caution with densification, mixed-use and transit-oriented development.

2.2 Learning for Sustainability

To provide a framework around sustainability and community engagement in moving towards EHAFCs, transformative learning was applied for the design of this project. Transformative learning involves learning “how to negotiate and act upon our own purposes, values, feeling, and meaning rather than those we have uncritically assimilated from others” (Mezirow 2000). From the perspective of transformative learning, life experiences form the basis for personal reflection and the construction of meaning (Tennant 1991). The reassessment of meaning through progressive learning experiences can assist adults in becoming more autonomous learners as well as more socially responsible individuals (Mezirow 1995). Through constructing more dependable interpretations of life, engaging in critical

reflection, exploring new ways to relate to others, and taking action upon on new insight (Mezirow 1994, 2000), change can happen at the individual and social levels to foster sustainability thinking and action (Sinclair, Collins, and Spaling 2011).

Learning in this sense is not necessarily associated with an academic institution, but also with informal learning opportunities from the experiences of everyday life, particularly through reflection and dialogue of these experiences (Foley 1999). Within challenging contexts in which people struggle to make sense of what is happening to them, and developing ways to take action for change, informal learning can be fostered. The associated transformations in perspectives that may occur from these critical events can result in both social action and change (Taylor 2000). In other words, transformation co-emerges in both the learning and also the setting that has fostered the learning (Scott 2003).

Marschke and Sinclair (2009) summarize three constructs of learning outcomes in a participatory management project. Drawing from the writings of Mezirow, they describe the three categories of learning outcomes as follows. The first of the three, *instrumental learning*, relates to “controlling or manipulating the environment or other people as in task-oriented problem solving to improve performance” (2009). The second, termed *communicative learning*, involves understanding, awareness, and appreciation of values, ideas, feelings, as well as abstract concepts such as freedom, justice, and responsibility. The last of the three, *transformative learning*, relate to gaining of new perspectives, which can lead to changes in actions that result in sustainability. These three learning constructs can guide the assessment of learning outcomes through an individual’s participation in research projects, ultimately to help determine whether true transformative learning has occurred.

Najjar, Spaling, and Sinclair (2012) further demonstrate how the three constructs of learning outcomes affect people through a farmer field school project in Kenya. The first construct of instrumental learning relates to newly gained skills, information, and understanding of cause-effect relationships (Mezirow 2000). These result in farmers taking specific action around concrete, tangible issues such as soil fertility, pest management, and enterprise diversification. The second construct of learning outcomes, communicative learning, relates to learning about beliefs and values, as well as the questioning of such in relation to the beliefs of oneself. For example, the participating farmers show that they are reflecting upon not only their surroundings but also greater societal and political realms, which includes reflecting upon their own roles in solving the problem of hunger in their community. In particular, women reported changes in their perceptions of the role of women as farmers, developing the belief that greater self-sufficiency and reduced dependence on their husbands are attainable goals through taking up new roles as farmers. Thirdly, participants reported transformative learning outcomes in terms of changes in meaning schemes (i.e., views about farming) and meaning perspectives (i.e., their worldview and view about life in general). These include a heightened sense of social responsibility, resulting in different lifestyles and practices among participants of the field school. For certain men, the transformative learning outcomes included giving up their stereotypic male role of idleness and alcohol consumption, as well as changing their traditional practice of passing land only to sons. Overall, these outcomes show a change in worldviews, based on newly introduced ideas surrounding gender equality and rights. These three learning constructs, when taken as a whole, illustrate that learning not only improves knowledge, but also leads to sustainability-inducing behaviours, which can be sustained in society.

2.3 Summary

When seen as a whole, the EcoCities, Healthy Cities, and Age-Friendly Cities movements speak to the various impacts of urban physical form. As well, they highlight that vertical, mixed-use, and transit-oriented development can be integrated to address numerous issues simultaneously. It is, however, important to note here that mixed-use and high-density do not necessarily generate the desired benefits of EHAFCs; rather, the research only supports that EHAFCs are more effectively implemented through a mixed-use, high-density model.

Of particular interest to this project is the potential to redesign the built environment for the synergistic promotion of environmental sustainability, population health, and the wellbeing of seniors and persons living with disabilities. In addition to environmental and health goals, mixed-use high-density developments can be utilized to promote equitable access to health care, resources, services, and life opportunities through reducing the cost, time, and opportunity costs of every day trips. When viewed in a holistic conceptualization of sustainability, equitable access to health care, employment, education, food, and social services are important to both public health (which may be summarized as the “social determinants of health”) and general community wellbeing. While developing mixed-use, high-density neighbourhoods does not automatically generate these desired benefits, existing EHAFC design principles can help facilitate planning towards greater sustainability when compared to a development-model focused on urban sprawl.

In cases where development of mixed-use and high-density neighbourhoods towards EHAFCs generate community concern of opposition due to inherent contradictory perspectives, an opportunity arises for informal learning based upon open dialogue and informed debate.

Capitalizing on this informal learning process to encourage critical reflection of the meaning of this experience can create an opportunity leading to learning outcomes. As a result of this process, individuals may be further empowered to make changes towards sustainability.

Chapter 3. Research Strategy

This chapter will outline the research approach and method of inquiry. As well, the procedures of recruitment, literature review, and info-sheet development will be discussed as preparatory work for the data collection stages

3.1 Qualitative Approach

A qualitative approach was taken to uncover the personal experiences, knowledge, and attitudes of individuals on the issue of sustainable urbanization and development of the Southwood Precinct. Using a case study approach on the Southwood Precinct development project facilitates inquiry that “investigates a contemporary phenomenon situated directly within its real life context” (Yin 1984). In choosing to focus on a single, bound case (Creswell 2007) of the Southwood Precinct development project, there is an opportunity to build specifically upon the agenda of the university for sustainable development on the site, as well as enhance further understanding of existing concerns directly within the surrounding community. The research project was guided by the following key assumptions of the case study approach (Creswell 2009). First, the project is concerned with the details of the process as opposed to simply products or outcomes, and second, the project is concerned with meaning, and how people construct meaning from their experiences.

3.2 Method of Inquiry

As the primary method of inquiry within a case study approach, interviews were conducted to engage both residents and EHAFC stakeholders. As a qualitative method, interviews are capable of producing “thick, rich data” which can be further enhanced by selecting appropriate candidates (Creswell 2007). Interviews were conducted directly with residents who are concerned about, or opposed to the current direction of the Southwood Project. Furthermore, interviews were conducted with stakeholders who work in the field of EHAFC research or policy. Interviews with the residents were conducted with the goal of producing an understanding of the reasons for concern or opposition, past learning which informs these reasons, as well as perspectives on alternative development pathways that are acceptable to the community. Interviews with the latter group, the EHAFC stakeholders, were conducted with the goal of assessing any leading-edge engagement techniques with individuals who are in opposition to EHAFC-type proposals. As well, the EHAFC stakeholders were asked to respond to the reasons local participants have given for concern and opposition regarding the Southwood Project, and also share their own perspectives on EHAFCs as stakeholders actively working in the area. Due to the fact that the EHAFC stakeholders would not be fully aware of the details of the Southwood Project, stakeholders were asked to provide general comments on EHAFCs and community engagements, as opposed to comments specific for the site.

Residents were first interviewed; their concerns were then shared with the stakeholders in preparation for the stakeholder interview. After the stakeholder interview, stakeholder responses to resident concerns with summarized for the follow-up resident interviews. This element of information exchange between the two parties seeks to incorporate a dimension of

dialogue into the research process. The resulting method of inquiry helps to consider “transformative learning” from two perspectives: the learning which informed resident opposition towards EHAFC-influenced development proposals such as the Southwood Project, and also what individuals might possibly learn through being engaged in the research process itself.

3.3 Outline of Process

To meet the five objectives of this research, two rounds of interviews were conducted with the same cohort of residents who were concerned with or opposed to the Southwood Project. Moreover, a round of interviews were conducted with stakeholders (including researchers, policy-makers, and community organizations) working in the broader EHAFC area.

The process followed included the following steps:

1. Residents concerned with, or opposed to the Southwood Project were recruited after being informed of study objectives, procedures, and ethics (target cohort-size: 15-20)
2. Interviews (40minutes-1 hour) were conducted with a cohort of 17 residents. Interview questions focused on objectives 1 and 2: understanding reasons for concern and opposition, and past learning that have informed this position. Follow-up interviews were mentioned and also scheduled after the end of first interview when possible.
3. Following this first round of interviews, the reason and causes for resident concern and opposition were summarized to be presented to EHAFC stakeholders

4. From the literature review, a summary info-sheet on EHAFCs was prepared as a draft to be critiqued, validated, and refined by EHAFC stakeholders
5. Stakeholders working towards EHAFCs in the policy, research, or non-profit sectors were recruited after informing individuals of study objectives, procedures, and ethics (target cohort size = 5 to 10)
6. The summary info-sheet was submitted to the resulting cohort of 6 EHAFC stakeholders for review, along with a summary of reasons for concern and opposition collected through the resident interviews regarding the Southwood Project
7. Interviews that were 35-50 minutes in duration were conducted with 6 key informants (with at least one stakeholder in each of the EcoCity/Healthy City/and Age-Friendly City fields). Questions focused on objectives 3 and 4: considering engagement techniques, and providing feedback on summary of reasons for opposition as expressed by residents, as well as the summary info-sheet on EHAFCs.
8. Upon the completion of the EHAFC stakeholder interviews, feedback from the EHAFC stakeholders was synthesized to update the summary info-sheet on EHAFCs as well as provide stakeholder responses to resident concern and opposition. Both the info-sheet and the stakeholder responses were then distributed to the residents in preparation for a second interview
9. Follow-up was conducted with the same cohort of residents. A newly revised version of the summary info-sheet on EHAFCs, including a summary of EHAFC stakeholder responses to resident concerns were presented to all 17

residents as an electronic document. (Target attrition: >50%, i.e. 8-17 follow-up interviews)

10. Forty-five minute interviews were conducted with all participants who were available for a second interview (n=9) to meet objectives 4 and 5: elicit community responses on alternative development approaches for the Southwood Precinct, and assess potential learning outcomes.

3.4 Procedures

3.4.1 Preparation Stage: Recruitment and Literature Review

In collaboration with the Campus Planning Office of the University of Manitoba as the leader of the Southwood Precinct project, individuals and organizations which have expressed concern or opposition regarding the existing planning direction for the project were contacted. Snowball sampling was utilized in order to further identify and engage residents who express concern with the proposed Southwood Project. The primary method of invitation was through email and a formal invitation (ethics) letter, which introduced the objectives, procedures, and ethics considerations of the project.

Residents were invited to participate in two interviews and review a summary info-sheet on EHAFC research. As well, residents were notified that an element of dialogue (information exchange) was to be facilitated through the interviews, as EHAFC stakeholders would be asked to respond to their concerns and reasons for opposition towards the existing direction of the Southwood plans. This process resulted in interviews with 17 residents.

At the same time, recruitment of stakeholders who work in policy, research, or non-profit settings in relation to EcoCities, Healthy Cities, or Age-Friendly Cities was performed. Snowball sampling was conducted, beginning with previous contacts in the EHAFC fields. As with the residents, email and a formal invitation (ethics) letter were the primary forms of communication used for recruitment. Prospective EHAFC stakeholder participants were notified that the research involves participating in a one-on-one interview over phone, Skype, or teleconferencing at their convenience, as well as providing feedback on a summary info-sheet on EHAFC research. Interviews with EHAFC stakeholders were conducted in between the two rounds of interviews with residents with 6 EHFAC stakeholders (1 Age-Friendly City stakeholder, 2 EcoCity stakeholders, 2 Healthy City Stakeholders, and 1 stakeholder who work in both Age-Friendly City initiatives and EcoCity initiatives).

During this initial preparation stage of the research process, the compilation of EHAFC research in a succinct summary info-sheet to be refined by EHAFC stakeholders, and ultimately presented to the residents, was completed. The info-sheet draws heavily from existing literature to focus on the multiple impacts of an integrated EHAFC approach, as well as the synergies between existing designs guidelines.

3.4.2 Info-Sheet Development

The info-sheet was intended as a communications tool to quickly encapsulate existing EHAFC research for the residents. The goal is to assess whether the EHAFC-related information was new to the residents, and also to elicit resident perspectives on appropriate development

approaches for the Southwood Precinct, based upon what they perceive to be applicable from EHAFCs to the area.

The first approach attempted was to introduce the rationale for EHAFCs through highlighting the existing challenges of urban areas characterized by sprawl and car dependency. The goal was to provide context and create a sense of urgency with regards to the need for EHAFCs (Appendix 6). However, this initial version had several flaws. Firstly, even without mentioning potential solutions to address sprawl and car dependency, the length of the info-sheet was prohibitive of information exchange. Secondly, the information provided would need to be accompanied by a significant reference list, which would further add to the length of the final info-sheet. Thirdly, the scope of the evidence (many at the policy and population levels) may be easily perceived as irrelevant for community members.

Based on these factors, a decision was made by the researcher to not merely reduce the amount of information, but consider an entirely different communications approach that would communicate EHAFC concepts with low text density. The first option considered was to link together the issues, benefits, and potential solutions together on the same page through a logic model. Yet due to the amount of information that is already present in the category of “issues” alone, this option was ruled out and replaced with graphic depiction of a potential EHAFC.

A follow-up version of the info-sheet was developed with the image of a vertical, mixed-use, and transit-oriented development (Appendix 7).

This resulting draft of the info-sheet was finalized with the addition of even more images conveying EHAFC concepts on the back page to reduce the text density. The final product composes of two pages: the first consisting of a full-page image and key proposed

benefits of EHAFCs, which leads to a second page which discusses relevant facts and evidence in greater detail.

This first draft (Appendix 7) was then sent to EHAFC stakeholders for their review in PowerPoint format (as opposed to a finalized PDF) so proposed corrections and changes could be made directly to the electronic files. After the interview process, only minor changes were made to the info-sheet given the positive response from the EHAFC stakeholders, which is to be expanded upon in Chapter 5.

3.4.3 Fieldwork Stage

After the recruitment of participants and preparation of the info-sheet, interviews were conducted with 17 residents over the period of February 5th, 2013 to March 7th, 2013. This first interview composed of questions to assess (a) basic and relevant personal information to provide a context in interpreting participant responses, (b) existing involvement with the Southwood development process, (c) personal concerns about the development of the residents, (d) resident perspectives of theoretical EHAFC concepts, and also (e) learning related information from participants.

Following the completion of the first round of resident interviews, 6 EHAFC stakeholders were interviewed between March 6th, 2013 and March 13th, 2013.

The interviews were carried out with questions in three key areas. The first area, *involvement techniques*, was designed to consider effective engagement techniques which may apply to future engagement processes for the Southwood Proposal, as well as other future EHAFC-aligned projects overall. The second area, *responses to resident concerns*, was aimed to

generate an element of dialogue and information exchange in order to meet the pre-determined objective of supporting informed debate. This objective was further supported by questions in a third area, *feedback to summary info-sheet*, which helps critique, refine, and validate the draft EHAFC summary info-sheet to be presented to residents.

After the coding of the responses from EHAFC stakeholders that addressed resident concerns, it was decided that these responses would be presented in the same PDF file as the summary info-sheet to simplify the information that was to be presented to residents. After the completion of all interviews with EHAFC stakeholders, an updated version of the EHAFC summary info-sheet was created. The updated version of the info-sheet, which included stakeholder responses to resident concerns, was delivered electronically to all of the 17 residents.

Due to attrition, 9 follow-up interviews were successfully completed during March 15th – March 27th. Unexpectedly, a total of 3 residents moved out of, or were in the process of moving when contacted for follow-up. 2 cited workload increase as a reason to decline participation. There were 2 residents who were lost in communication. 1 declined, citing the reason that they felt that they did not know enough to participate. Although the resident was reassured that the interview process only sought to gain insight into perspectives as opposed to test knowledge, the invitation was nonetheless declined. The 9 interviews conducted were approximately 45 minutes in length, with an initial, verbal summary of the EHAFC info-sheet as well as EHAFC stakeholder responses to the previous concerns of the cohort.

The follow-up interview with residents elicited the thoughts of the residents on how EHAFC guidelines do or do not apply to the local context of the Southwood Proposal, as well as

their perspectives on appropriate, alternative development approaches for the Southwood Precinct. The interview questions were designed specifically to meet objective 4, which aimed to foster informed debate on alternative development approaches.

Following the first half of the interview, the second half of the interview focused on meeting objective 5: assessing learning outcomes, which was done through inviting the participants to reflect upon their experience in participating in the project. Moreover, participants were invited to describe any changes in perspective under the transformative learning framework.

3.5 Data verification and analysis

Due to the three-stage nature of the project, consisting of an initial round of resident interviews, a round of stakeholder interviews, and a round of follow-up resident interviews, coding of the data was completed in multiple phases. Immediate coding of data was conducted after the completion of the first two rounds of interviews in order to prepare data that was necessary for conducting the second and third rounds of interviews. For the initial resident interviews, coding was immediately completed to analyze data surrounding resident concerns with the Southwood project. The resident feedback was then summarized to be presented to EHAFC stakeholders.

For the EHAFC stakeholder interviews, coding was immediately completed to analyze responses to resident concerns and feedback on EHAFC summary info-sheet. This was completed in order to present EHAFC stakeholder responses to resident concerns in the third

round of interviews (follow-up interviews with the residents) and provide a revised and validated EHAFC summary info-sheet to all 17 residents.

A second, iterative phase of coding was conducted after the completion of all 17 resident interviews, 6 EHAFC stakeholder interviews, and 9 follow-up resident interviews, totalling 31 interviews. Coding was completed with an attempt to achieve “accurate description and subjective, yet disciplinary interpretation” (Denzin 2005). The analysis was conducted with the assistance of NVivo software, which is known for facilitating the classification, sorting, and arrangement of information.

Prior to the publication of the thesis results, summaries will be provided electronically to all residents and stakeholders, with an opportunity for them to provide feedback and correction as a method of member checking. This validation process is an important element to ensure the rigour of this qualitative study, and to enhancing the applicability of results for future dissemination.

Chapter 4. Residents speak out

The first round of interviews with residents concerned with the Southwood Project was conducted over a period of seven weeks, with the following key objectives:

1. Understanding reasons for opposition to proposals for sustainable neighbourhood development
2. Examining how people have informed their positions about neighbourhood EHAFC/transit-oriented development (TOD) types of development

The following sections are organized as follows. Firstly, a section will briefly outline the *Resident Profile*. This is followed by a major discussion on the *Concerns with Southwood Proposals* of residents, organized into six major themes.

Following the concerns, resident *Perceptions on EHAFC Design Principles*, which include vertical development, mixed-use development, and transit-oriented development, are presented. The comparison of resident perspective on EHAFC principles proposed for the Southwood Precinct versus resident perspectives on their existing understanding of the Southwood proposals aims to gain greater understanding on what residents are ready to accept for the development of the area. Lastly, in seeking to explore *The Learning Dimension of community engagement*, a section presenting learning-related data will conclude this chapter.

4.1 Resident Profile

For the purposes of establishing a baseline of the resident's attachment and familiarity with the city, the duration of which the participants had lived in the Southwood area were identified. In cases where residents responded as concerned stakeholders who do not reside in

the Southwood area, the durations of which the residents have resided in Winnipeg were identified.

In total, 12 out of 17 residents identified themselves as currently living in either the University of Manitoba or the Southwood Precinct area. Out of these residents, the average length of residency was 10.7 years. For the 5 residents who resided in other parts of Winnipeg, the average length of residency in Winnipeg was 29.4 years.

Though residents were self-identified as “concerned” with the development, attempts were made to sufficient context to interpret resident concerns through understanding how familiar the residents were with the Southwood development proposals. With regards to how and what the residents have heard about the Southwood development plans, recurring keywords include “new housing”, “rapid transit”, as well as “developing”, “purchasing”, and “getting rid of” the golf course.

Four residents responded that they have learned about the development through participating in a university-led meeting in relation to the Southwood development. The majority of the residents who did not participate in the community consultation processes received news about the Southwood Project through word of mouth in the community. Two residents reported that they have also read about the project through local newspapers. One resident reported learning about the Southwood project through Twitter, while another reported doing further Internet research on the Southwood Project in preparation for the interview.

Residents were also asked about their level of engagement in Southwood and other city planning activities. As a group, the residents were not significantly engaged in the Southwood

consultation processes, demonstrating that the group is representative of residents who are newly engaged for the Southwood Project. From their responses, there was no indication that these residents refused to become engaged in the Southwood consultation process; instead, they were unaware of these opportunities. Among the 4 residents who have expressed that they have been in consultation with the Campus Planning Office, one reported a fairly active role in the consultations process.

In relation to past involvement in other city planning and urban design issues beyond the Southwood consultations, three residents reported past activities and engagement in city planning. All three residents focused on promoting environmental sustainability in relation to urban planning, and reported particular interest in the preservation of natural habitat and green space. In describing their roles, they noted that they have participated in meetings, public consultations, and were engaged in community-level advocacy. Furthermore, one other resident stated that they were actively involved with regards to community development, representing and advocating as part of a neighbourhood organization, and collaboration with the city on land use issues.

In general, the rest of the residents have not been actively involved in city-planning processes in the past. As such, the cohort of residents appears to be representative of the average city resident that is neither active in city planning nor completely unaware of city planning issues.

4.2 Concerns with Southwood Proposals

The following sections will outline the resident concerns with the Southwood proposals organized into main themes. As well, a separate section will discuss the topic of relocation to assess whether community concern was tied to the chosen location rather than to the content of the proposal.

4.2.1 Thematic Analysis

With regards to understanding the reasons why the resident cohort was concerned with the proposed Southwood Project, attempts were made to understand resident perspectives on 1) positive aspects of the existing community that they believe the development will undermine and also 2) negatives about the proposed design. Inadvertently through the interview process, residents expressed a third category of concerns: the *negative aspects of the existing community* that they perceive will not be adequately addressed by the proposed development. These concerns are in relation to the six main themes identified through the data analysis: population growth, transportation, business versus residential development, business impacts on culture and heritage, green and public space, and governance and funding concerns.

Population Growth

Residents identified a potential increase in population density in the neighbourhood as a concern. Specifically, noise pollution from new residential units, new businesses, increased traffic flow and from construction itself were recurring concerns, which residents tied to the concept of bringing in new development and new homes:

“As a University area it’s quiet and serene, it serves that educational function of the city. I think we all want to keep it that way, quiet and clean” (resident #3)

Aside from noise pollution in the general neighbourhood, one resident commented on the need to create walls with appropriate acoustic design to prevent noise pollution between neighbours in proposed multi-unit buildings. In addition to noise pollution, a few residents noted the risk of more garbage or general pollution of the area, with comparisons being made between the current area, perceived mostly as a clean community with a small population, and the downtown area, which is described with adjectives such as crowded and filthy. Concerns were voiced regarding how the new, downtown-like development could potentially push the community down that path of transformation and produce negative outcomes:

“It’s going to bring more people to that part of the city [the Southwood Precinct], you’re going to get more people using that area more as the downtown is used...you’ll get a lot more people going there – not for university purposes”

(resident #7)

As well, residents noted that bringing in new populations, including those drawn by potential new business development through mixed-use planning, could adversely impact existing green space, which is described as being conducive to a “peaceful” lifestyle and recreational activities. There was a perceived need to not only keep the area quiet, but also to keep the area safe from crime as a “university area”. Increasing population density was perceived as posing a risk of “overdevelopment” resulting in the formation of “slum-like” neighbourhoods, which suggests a perceived duality between a suburban neighbourhood versus a deteriorating Downtown core:

“It’s in the higher quality or higher standard of living part of the city. You don’t want to over-develop this area and turn it into a slum” (resident #4)

“People don’t have to worry at night in that area, you want to keep it safe and peaceful, because it’s not just a residential area, it’s a university area” (resident #1)

Overall, resident responses reflected views of a deteriorating downtown core as impetus for lower density expansions on the fringes around the city (Atributos Urbanos 2013). This was further strengthened by the fact that the neighbourhood is seen as primarily an educational area with the University as a major institution in the area.

Transportation

Directly connected to the issue of population growth is transportation. Nearly one-third of residents expressed that development will drive more traffic to the area. Residents also noted that the area in general is already becoming increasingly congested, and that there is a clear need for better transportation planning of the southern part of the city. As well, lack of additional parking space, particularly in light of the new stadium, was raised as a concern. In general, even before the proposed development, residents expressed that there is already a perceivable increase in traffic congestion.

Other residents described the area as a “suburb”, or as “suburban”. It was noted that the area is far out from the rest of the city in terms of location and transportation-connectivity. Though some others emphasized the vicinity of the area to key locations such as the university, Victoria hospital, and the Pembina business strips, others residents described the area as suburban, disconnected, and even “deserted”. Most residents also agreed that the roads within

the community are often “deep” and “winding”, preventing convenient access to bus stations and also posing navigational challenges for driving visitors.

With regards to public transportation, a mixture of positive and negative messages was present among the responses. Some noted that proposed public transit development for the Southwood Precinct would be a welcome addition, and an effective solution to addressing the increase in traffic flow. Furthermore, it was noted that the new Southwood Project would be an opportunity to initiate better transportation planning and transit development in the southern part of the city.

“...What little transit system we have here needs a complete upheaval. The condition that it’s in is really low-class, and people just don’t want to be around it. Yet we keep on spreading out and sprawling...it [the area] doesn’t need a hub, it needs an overhaul” (resident #4)

“Increasing walkability and transport is a definite first step before surging more population into it” (resident #3)

Conversely, residents spoke out on how the proposed new rapid transit infrastructure will likely be ineffective for the relatively affluent local neighbourhood due to existing car dependency:

“...In these more affluent communities, people aren’t as given to take the bus - so they would really expect to have rooms for their cars instead of the bus”
(participant #12)

A strong class bias between residents of Winnipeg was mentioned as a perceived barrier that prevented the affluent neighbourhood from embracing and turning to public transit for

their own transportation needs. Overall, the resident perceptions of public transit in the area were characterized by long bus rides, unreliability of service (i.e., waiting for lengthy periods of time in winter weather was mentioned by three participants), and minimal service with only a small number of bus routes.

In terms of increasing transportation convenience, residents suggested a number of interventions. Firstly, it was mentioned that an underground transit system would be preferred:

“Our transit system, they should’ve done it years ago, they should’ve looked at an underground system. It’s too late now and it’s a lot of money for the small population, there’s not enough people. How do you look at fixing something like that now, I don’t know” (resident #17)

Secondly, a free shuttle similar to the “Downtown Spirit” was proposed as a solution to increase connectedness of the area. Thirdly, with regards to walkability, residents noted that sheltered walkways can help improve walkability given the existing pockets of “desolate” land and the poor winter weather. Tunnels connecting to the university were also identified as a solution that is much needed for the winter weathers in Winnipeg.

It is worthwhile to note that when transportation is mentioned, residents spoke negatively of sprawl and increased distance. This suggests that focusing on existing transportation issues may help elicit discussions which increase community receptivity (van Vliet, 2000) to densification, whereas densification would be opposed when focusing exclusively on “new development” (which is tied to population increase). As noted in the literature, it is insufficient to increase density without increasing connectivity (Newman and Kenworthy 1998). Despite the fact that residents pointed out problems with both the road

networks and the public transit system, most of the recommendations related to improvements to the public transit system (and walkability). This suggests that the current Southwood Proposal is a step in the right direction with regards to creating a new transit hub at the south end of the city.

Business versus Residential Development

In line with resident concerns with population growth, most residents believed that more business development is needed for the neighbourhood, as opposed to more residential development:

“I don’t have anything for it or against it really, I don’t think we have a really big population to warrant lots of housing or apartments. There’s a need for rentals, but I’m not sure how much they need. I think it’s a 3% vacancy rate - but we’re only 700,000” (resident #14)

Compared to increasing the number of residential units, residents were strongly supportive of business development. Two participants commented positively on the potential to establish a new grocery store. One participant noted that as the largest city in Manitoba, Winnipeg should strive towards continued economic development. This echoes other resident comments regarding the need to create more jobs (even if it is only through the construction phase of the development) as well as the need to develop businesses in existing areas without further expanding the city boundary (alluding to the difficult-to-reach business strips in the outskirts of the city).

New business development was also seen as a method to draw more people into the neighbourhood to justify the development of new residential units. This supports the

comments of other residents on how struggling small businesses that currently exist in the neighbourhood may be supported by the “new crowd”. The finding suggests that there is a perceived catalyst effect in which new businesses can support new residential development and increased value of existing businesses:

“It would be good if they could find a way to build more jobs than more houses...You need to drum up more business, that’s how cities get running, and for cities to get running you need people, and if you want people you need businesses and jobs for them” (resident #16)

When residents commented on residential development, they also indicated that residential development would not fit the needs of the existing community, suggesting that there is currently a lack of consideration for the housing needs of potential newcomers into the area. In responses that did consider housing of newcomers, residents commented on the prospect of bringing in affordable student housing as a promising feature of the Southwood proposals. The benefits of creating affordable student housing in the area was seen as strategic due to the area being directly adjacent to the university campus. On the contrary, some residents also voiced their opinions on how they would not necessarily choose to live in that area due to poor connection to the rest of the city. As noted by one resident:

“Students might not want to live there because it’s far away from everything else and only close to the university. For those who might move to the new Southwood developments, they might be going for the fact that it is a low-density, suburban neighbourhood. So I am not sure how the market will respond to developing density in that area” (resident #11)

This challenging scenario was noted and presented to the EHAFC stakeholders for their opinions, and is discussed in the next chapter along with stakeholder responses to this concern.

Overall, when housing development was considered independently, residents held negative perspectives; however, when considering housing development in conjunction with business development, resident comments were more supportive. This may indicate that the residents are more receptive to mixed-use rather than single-use development for the Southwood Precinct, which reinforces the literature supporting development of services close to home in a “complete neighbourhood” (WHO 2007). Thus, rather than focusing on new housing development as the main goal of the Southwood project with business development as a secondary component, it may be more effective to reverse the order and focus on business developments (or rather, “service-developments”) that could bring positive impacts to existing residents, whether in terms of new employment opportunities or increased convenience in access to services – as a prerequisite to introducing new housing for students and university employees.

Business Impacts on Culture and Heritage

Directly related to business development is the impact such development may exercise on culture and heritage of the local area. In one instance, a resident was opposed to business development in consideration to the cultural atmosphere:

“Businesses locate where there’s an advantage, and they might go to a residential area where there is more profit...by virtue of proximity it makes people spend their time where they are more likely to spend their money, and

then the businesses end up drawing their attention to spending as opposed to building community, taking walks, and socializing” (resident #10)

Residents implied that business developments they would like to see are small, service-oriented businesses that are “not too commercial”, as opposed to major franchises like “Starbucks” or office space for large multinationals, with the SmartPark being mentioned explicitly in a negative light:

“With SmartParks you’ve seen major corps come in to work on campus land. And some of them are very questionable multinationals...who now will have enduring long lasting presence in the area” (resident #15)

Residents spoke positively of the existing heritage building as well as the general atmosphere of the area. Words used to describe the general atmosphere of the area included “calm”, “quiet”, “peaceful”, adjectives which may indicate both the current perceptions of the community as well as the qualities participants would like to see in the new development proposal.

Green and Public Space

Nearly half of all residents commented on the green and public space as positive aspects to keep in the general area, including mentions of parks, outdoor basketball courts, trees, a green belt, connection to the river, and connection paths to other local parks. Residents again emphasized that while the land currently exists as a green space in the form of a golf course, it is green space that was not public. As a result, some were inclined to simply change the area into public green space:

“Honestly if you just opened it up as a park and turned the golf course into hiking trails, I’d be perfectly happy” (resident #6)

The concepts of green space and public space overlap significantly in the resident responses. While few prefer that the green space be protected to a point of becoming a “nature conservatory”, a greater number of residents commented on opening up the golf course for public leisure. With regards to how the green space should be designed for the future, it was noted that the type of green space or public space that is needed in this area should not be a tourist attraction.

When discussing development in light of the existing green space, residents linked the new project to these potential impacts: loss of natural habitat, removal of trees and existing shrubs, disruption of wildlife corridors, and breaking apart of the connectedness to other green space in the area, such as King’s Park:

“I believe there is an overall flaw...with high intensity of residence levels in formerly a green space, there is no significant appreciation of the green space, no potential to naturalize, no attention to the river corridor, and no transportation pathway for wildlife. We should have intensification of development along Pembina highway, and have more park land where students could reflect on great thoughts” (resident #9)

More specifically, the riverbank and the areas overall connection to the river were noted as elements that required special attention in the planning process. Existing design submissions with a strong emphasis on the riverbank, however, were noted in the responses of the residents, but discredited as attempts to over-modify a natural feature of the area. Instead of

further planning or artificial enhancement of the natural areas, residents commented on the development of the Southwood Precinct as an opportunity to naturalize or re-green from its current state as a former golf course.

Overall, particular resistance towards development for the Southwood Precinct can be observed due to two contextual factors. The first is that the area is generally perceived as a “university area”, and the second is that the area is currently green space. As noted in the literature, it is possible through vertical development to create more housing and services without sacrificing green space and consuming significant land (Yeang 1999). Yet at the same time, vertical development currently appears to be perceived by the residents as a “Downtown-like” development tied to urban decay (Atributos Urbanos 2013). The resident perception of vertical density as an EHAFC principle to be applied for the Southwood Project will be further discussed in the next chapter, which summarizes the resident follow-up interviews.

Governance and Funding Concerns

Independent of the specific Southwood area and the specific proposals, a few concerns were expressed in relation to the general governance of the project as well as previous city planning projects. Potential vested interest from city officials was mentioned, with questions asked regarding the specific funding mechanism of the project and the power relationships that are at play in the development process:

“The last thing is funding and where it’s coming from. It should be a city-wide effort to get more housing, but people will not be pleased with adding more taxes for something that is going exclusively to the south end of the city”

(resident #6)

The development of the Forks was mentioned as an example to express that residents and the general public can never be sure that we have full access to information on a major city development like the Southwood Project. Similarly, concerns were voiced regarding whether funding should be allocated towards other projects which could better address the needs of the city, such as affordable housing for currently homeless individuals or for temporary shelters.

“I think the major issue is just taking money away from the rest of the city. For example, I think they should put more money into low income housing for homeless people, and women’s shelters especially.... they need to do these types of things in special needs areas to help people who can benefit from housing and new development, you know, like the ones who actually have no housing right now” (resident #8)

Other comments related to trust and governance involved the “sustainability” and “affordability” of housing that is being proposed. Residents note that it is often too easy to label projects as sustainable, and questioned whether the resulting development from the planning process would actually achieve positive sustainability outcomes. Similarly, residents posed questions regarding whether or not the resulting housing units would actually be affordable:

“...It makes sense to have affordable housing for students in the area – but I have to say, landlords take advantage of a lot of people in this city, so I am not sure if this will end up as some project to take advantage of students some more through collecting rent.” (resident #13)

“Why are we just focusing on this one area? We should expand this beyond the Southwood area. Every community could use more affordable housing, so why are they not focused on investing in the west end and the north end and Transcona and Regent? There’s a lot of resentment because everything is now south end, south end, south end” (resident #6)

Overall, concerns regarding funding and governance focused on three themes: equitable distribution of funding across the city, equitable distribution of funding for urban issues in terms of need and priority; and the “labelling” of sustainability and affordability.

4.2.2 Relocation

Whether opposition and concern stemmed not from the proposed development itself, but rather from the proposed *location* of the new development was assessed as a possibility. Overall, participants suggested that new development should happen elsewhere in the city as a priority over the development of the Southwood golf course. The responses are presented as follows.

University-Pembina Connection

Among the responses in favour of the proposed developments of the university to be considered elsewhere in the city, the most frequently cited area for development is near the University campus in the grayfield sites – which the University owns in connection with Pembina Highway. Most residents emphasize high accessibility as the primary rationale for relocating near Pembina, noting that a proposed development close to the university and Pembina junction would allow easy access to services, businesses, and of course, the campus,

which helps to create a suitable living environment for students, university employees, as well as employees of the businesses along Pembina. Furthermore, easy access to busses going downtown was cited as another reason why developing in this area would create a more desirable place to live in than the Southwood Precinct. Summerland (77 University Crescent, MB R3T 3N8) was mentioned by a small number of participants as an example of a building which facilitates student living due to its location in the University-Pembina junction.

The North End

The North End was the second most frequently cited area for the proposed development to be relocated to. As expected, these responses do not mention student housing as part of the developments, but rather tend to speak to the overall “equity” in city development. Reasons cited for the development of the North End include the need to replace the empty, run-down “boxes” owned by absent landlords, the need to connect the neighbourhood with the rest of the city; and also the need to improve public perception of the area as a safe neighbourhood. Resident comments noted that the poor reputation of the neighbourhood is the result of “unfair” labelling, especially when most of the money for development is going to wealthy areas. These comments allude to the resident perspective that the higher socioeconomic status of the Southwood community may be a driving factor behind the decision to develop the Southwood Precinct as opposed to other areas of the city, which reinforces questions regarding potential vested interest from politicians.

Rapid Transit Routes

Non-specified areas around the existing rapid transit lines were supported by three residents for development. Residents spoke to the fact that developing along transit routes

would take advantage of the existing bus services to facilitate student transportation. Moreover, it was noted that similar developments already exist in major transportation nodes such as the Osborne neighbourhood. Aside from comments on further developing transit nodes, it was noted that the current rapid transit routes run through a lot of vacant, “deserted” land which could be developed and better utilized.

Inner City and Warehouse Regions

The Inner City area and warehouse regions, with the Route 90 coverage area being cited as an example, were also mentioned as ideal areas to consider for the kind of development being proposed for Southwood. The key rationale for development in these regions is similar to what is being cited to support development near the Pembina junction: residents expressed that creating mixed-use, multi-unit complexes could be a way to provide housing for employees in these areas which already have a high workplace density. It was further mentioned that the new residents could form a strong client base that could potentially increase overall client flow and business activity in the warehouse regions. Additionally, the warehouse regions were noted as developments that currently “waste” a lot of land, especially with the “significant amount of parking attached”, which could be better utilized through redevelopment.

Perimeter

Among the responses, one resident expressed support for further expansion of the city due to the fact that the city is surrounded by vacant and “unused” land.

Support for Development at the Southwood Precinct.

Three residents expressed support for development in the Southwood Precinct according to the University’s current plans. One resident noted that there is no need for

student housing in other areas of the city, suggesting that the development would be strategic on Southwood if it were to be a student housing project. Another resident emphasized that the space is readily available, which presents a rare opportunity to develop in a neighbourhood that is already developed. One resident further noted that while developing too far away from the city centre is a poor choice, the Southwood project still has merit because the university is a more “trustworthy” developer in comparison to private companies.

4.3 Perceptions of EHAFC Design Principles

In trying to further understand what types of developments the residents are ready to accept, participants were asked to comment on three EHAFC principles derived from the literature review: vertical development, mixed-use development, and transit-oriented development. Residents were asked to comment on these forms of urban development separately, and were encouraged to provide their general thoughts on each both in relation to, and independent of the Southwood Precinct project.

Perspective on Vertical Development (Densification)

Resident perspectives on vertical development were mixed, with a small number of them noting that vertical development can be useful to consider in city planning. The benefits described by the residents primarily relate to consuming less land, such as the ability to provide more housing, reduce commuting, and leave a smaller footprint. It was further noted that taller buildings could be more effective when compared to building a large number of smaller buildings in reducing impact on natural areas. A small number of residents suggested that vertical development could be considered along major transportation corridors, with Pembina

highway being cited as an example, as well as in neighbourhoods that would benefit from urban infill.

On the other hand, the majority of residents did not view vertical development as a positive strategy for future development. Residents made reference to the fact that Winnipeg is a city with a lot of land and a small population, while describing vertical development as a “last resort” which other cities have considered only after reaching a certain level of population size. Potential increase in levels of congestion and noise pollution were also reiterated as reasons to reject vertical development in not only the Southwood Precinct but also the rest of Winnipeg.

Furthermore, vertical development was perceived to lead to greater environmental pollution, which stands in contrast to other resident-perspectives on how vertical development can reduce environmental impact. Residents also expressed that it may adversely impact the aesthetics of the city, which, in the context of Winnipeg, was described by one participant as a “rustic type of beauty”. Specific adjectives the residents used to describe the appearance of tall buildings were: “daunting”, “imposing”, “unwelcoming” and “ugly”. Aesthetics aside, residents highlighted the need to address structural risks, and mentioned “erosion”, “earthquakes”, “flooding”, “global warming and climate change” as uncertainties influencing the safety of vertical development. Another area generating concerns regarding vertical development is transportation, with residents noting the increased need for parking and a transit hub when population density is increased. Lastly, lack of affordability and the feasibility of pet ownership in the building were posed as individual concerns by participants.

A number of suggestions on how to approach vertical development were made by residents in their responses. These suggestions include prioritizing ecological considerations

over cost-cutting as a reason to develop vertically, creating common space between vertical buildings, and leaving sufficient space between vertical buildings and the rest of community. The last point was viewed as one of significance for two reasons: firstly, to reduce the impact of the level of natural light received by the smaller buildings nearby, and secondly, to provide green space that is both accessible to the vertical building as well as the surrounding community. A comment was further made about the ideal height of developing up to four-stories high, which was suggested in reference to the “tree line”.

Overall, resident comments were in-line with the literature on vertical development: given past failures of compact cities, vertical development is usually tied to perceptions of environmental deterioration. As well, for residents who have not previously lived in a higher density environment, there was general distrust of safety issues related to height.

On Mixed-Use Development

A small number of residents were concerned that similar developments already exist in the Downtown Core of Winnipeg, citing this as a reason why mixed-use development should not be considered for other neighbourhoods of the city. Residents described potential negative impacts such as noise pollution, traffic congestion, and potential crime, which mostly echoed the resident concerns for densification. For a small number of residents, mixed-use development was also conceptually linked to increased criminal activity and lack of social cohesion. One resident specifically described certain types of businesses that can introduce prostitution and drug dealing to a community; these were described as things that “do not belong” in a residential area.

On the other hand, a number of residents commented that crime might be more closely related to poverty, which is a significant social issue in the city. This suggests that some residents see crime as a larger social issue, which cannot be tied to any particular form of urban development. A small number of residents made positive comments on mixed-use development, using terms such as “clear advantages” and “absolute must” in their discussions. Overall, mixed-use development was seen as convenient, conducive to saving money on gas, and also supportive of increased walkability.

Residents further suggested that mixed-use development be encouraged in vacant or inactive commercial areas such as the Exchange District and Downtown St. Boniface. Overall, residents were highly supportive of putting in new residential development amidst existing commercial areas like the Pembina strip, as opposed to the reverse process of bringing in businesses to residential areas, which is perceived as the case for the Southwood Precinct project.

While there is continued resident support for complete communities (WHO 2007), this section also revealed unanticipated comments in terms of the “order” in which mixed-use development is accomplished: facilitating business development in existing residential areas, or, facilitating residential development in established business districts.

On Transit-oriented Development

Compared to responses on vertical development and mixed-use development, the overall perception on transit-oriented development was positive. Residents described transit-oriented development as “essential” for “every” newly developed neighbourhood, “smart”, “laudable”, and “forward thinking”. TOD was seen as a strategy for improving connectedness of

new neighbourhoods to the rest of the city, driving more customers to struggling businesses, and providing residents a “fair chance” to ride public transit. Furthermore, TOD was seen as an indicator of a good transit system, which in turn was linked to “a good economy”. In relation to the economic benefits of TOD, comments were made about potential time savings through TOD, which was described as capable of adding up to make a significant difference in economic productivity. Travel experience in other cities appears to have played a strong role in the formation of such perceptions of the residents, as a small number of them made reference to transit systems from other cities including Paris, Portland, and Vancouver.

In addition to experience travelling to different cities, the current state of the Winnipeg transit system also appears to have played a role in reinforcing positive resident perspectives on TOD. A considerable number of residents commented negatively on the current system. One resident suggested that any new transit development should consider cleanliness and safety of the system, particularly for seniors and women travelling alone.

The recent rapid transit project generated negative feedback which residents linked to their concerns for TOD. Firstly, it was mentioned that the overall commute length was actually increased for certain communities by the new rapid transit project. Secondly, the aggressive attitude of the city in making decisions on the rapid transit project was brought up as an issue, which could possibly repeat itself in the Southwood Project. Specifically, it was noted that this mode of governance might lead to sidelining of community concerns, such as concerns of wishing to keep a quiet distance away from a major transit hub.

4.4 The Learning dimension

The learning dimension was explored in terms of gauging whether there were benefits that this research project could bring to the residents. In order for the exploration to take place, sources that contribute to the formation of existing resident concerns need to be identified. The following presents results on informing sources of the residents' concerns with the Southwood proposal.

The interpretation of this set of questions is primarily concerned with establishing a baseline to assess learning outcomes after the follow-up interview. As such, a completed discussion on transformative learning is presented in the final section of the results for the follow-up resident interviews.

Sources Informing Concerns and Opposition

The most frequently cited information source attributed to informing the concerns of the residents is personal experience from living in the city, which includes reports of living in different areas of the city for a comparative perspective. Residents have described this type of informal learning as instinctive knowledge, and as a way to reach one's own conclusions in direct contrast to following existing opinions. Exploring, driving, and walking around the city were ways through which the residents learned from the city itself and the urban form that Winnipeg presents.

“Personal experience I think, that’s what I draw from the most. I know these things just off the top of my head, you can say it’s just an opinion or an instinct”

(resident #8)

“Experience does factor into it, because you live in the city and after living here long enough, you realize certain things don’t quite work...” (resident #6)

The second most significant source of learning reported by the residents is discussion with other members of their community. Residents described the benefit of discussion as being able to focus on specific issues and specific impacts, referring to the theoretical nature of certain formal information sources. In particular, community gatherings and young people were mentioned by residents as sources of information that expands breadth of information and encouraged learning. Connected to learning through discussions was volunteering in charities and in community groups, which served as the third most significant source.

The Internet was cited fourth as a major source of information. When asked if there were any specific websites they could recall, residents were not able to provide specifics. A number of residents cited that the search engine is most often used for their browsing and research needs. In addition to general search engines, the blogging community, social media, and the Winnipeg Transit website were also mentioned as sources of learning from the Internet.

In addition to the previously mentioned sources, others such as documentaries were cited by two residents. In relation to documentaries, television channels (specifically, the Discovery Channel) were noted as information sources which residents described as not necessarily educational, but supportive of generating new thoughts and forming of new perspectives on the built environment and on social issues. Newspapers were also cited by two residents, and were tied to the theme of “discourse”, suggesting that newspapers can serve as a medium for city-wide discussion. Residents reported no specific papers; however, “small”,

“local”, and “community” newspapers were mentioned as sources of information that impacted resident perspectives.

Other sources of information cited by individual residents include: university courses, radio shows (specifically, CBC), seeking advice from universities and academics, notices of change being posted in the community, travelling, official plans from other cities, and experience working in the public service.

Residents listed the Winnipeg Transit website as an informing source. As well, a number of participants converged on the topic of “general” media, such as television programs that are not necessarily related to city planning, visual art, and graphic novels as informing sources. As one resident put it:

“...In their depiction of space, there’s a lot to learn that’s very visual and non-didactic. It’s like being in a different part of the world, and getting that feeling of different environments which are created for you” (resident #11)

In summary, resident responses on informing sources were not entirely specific to their concerns on the Southwood Project, but more so to the general issues, beliefs, and principles which influenced their concerns with the Southwood Project (i.e., such as “sustainability”, “equity”, “accountability and transparency”). As well, there was a theme of interdisciplinarity throughout the resident responses. The above information sources may not be directly related to the subject of city planning, but were nonetheless reported as important informing sources on city planning and the Southwood proposal.

4.5 Discussion

The following discussion will be divided into three sections: Resident Concerns on Southwood, EHAFC Principles, and Learning Dimensions.

4.5.1 Resident Concerns on Southwood

Overall, the question on relocation revealed an unanticipated outcome: residents did not perceive the proposed development of Southwood to be entirely undesirable, but actually desirable to a point where equitable distribution of similar developments in less developed areas of the city would be considered. In other words, the reasons for opposition or resistance are much more complicated than the perceived problem of transforming a suburban green space into a downtown core of decay. These are further discussed in the three sections below.

Concerns from Shared Value in EHAFCs

In terms of the concerns arising from shared value in EHAFCs, it is important to note that a small number of residents already appear to hold existing values that align with EHAFCs. Through their responses, it can be observed that environmental sustainability, walkability, access to public transit, and equity are examples of concepts that informed their concerns with the Southwood project. However, in some cases, it is precisely these values that caused residents to be opposed to or concerned with the Southwood Project and general EHAFC development principles. As an example, the value of environmental sustainability led residents to focus on preservation of green space, which is a significant EHAFC theme (UNEP 2005). This, in turn, generates concerns with using the Southwood golf course as a potential pilot for an EHAFC development.

The fact that opposition or resistance towards EHAFCs can not only stem from community members with a strong preference for suburban sprawl, but also from community members with existing values aligning with EHAFC principles, was not anticipated prior to the study. This challenges assumptions that community member with existing values resembling those of EHAFC (i.e., aligning with existing EcoCity, Healthy City, Age-Friendly City research) would naturally be open to EHAFC-oriented plans, and that active engagement only needs to be targeted towards those who are opposed to EHAFC principles. As EHAFCs relate to an increasingly interdisciplinary and broad field of knowledge, there may be more undiscovered, internal inconsistencies leading to such internal opposition. Gaining an understanding of these potential conflicts internal to an EHAFC framework may be worthwhile in supporting consensus building for future EHAFC projects.

As well, this situation may also indicate that communities who appear opposed or resistant to new EHAFC-oriented plans may actually share common values with those responsible for the plans. In other words, there is a perhaps an opportunity in future community engagement to assess existing EHAFC values which are shared to further create a sense of collaborative dialogue.

Within the responses, it was also noted that the residents expressed scepticism towards the project as being truly sustainable, or whether sustainability is simply being “thrown around as a label”. This scepticism inevitably creates a divide in the perspective between those who are responsible for an EHAFC project versus community members expressing opposition or concern. On one hand, it is possible for the community members to be seen as “opposed to EHAFCs” or “lacking understanding of EHAFCs”. On the other, it is possible for the community to see the

project as “not truly an EHAFC”, hence generating their concern. The possibility of these contradicting perspectives existing simultaneously in public discourse is worth noting in future EHAFC-type projects, as the lack of recognition of this scenario inevitably leads to miscommunication. Furthermore, the potential scepticism and resulting negativity resulting from well-intentioned keywords (i.e., “sustainability”, “affordability”) should be given consideration in future EHAFC projects.

Concerns from Dissatisfaction with Existing Situation

Aside from concerns that stem from values grounded in existing EHAFC principles, some of the residents presented concerns stemming from their dissatisfaction of the current area, even when residents were only asked to comment on perceived negative aspects of the proposal. For example, residents were concerned with the lack of adequate public transit in the area and lack of access to services, which in turn led them to consider how the new development will impact the situation. These generated concerns with the new developments, perhaps not in terms of whether or not the new developments should happen in their community, but rather how the new development can adequately address existing community needs or instead exacerbate them.

While these types of concerns may still be prohibitive of the development of new EHAFC-like projects, they present an opportunity to collaborate with the community to address known issues with the existing built environment *through* new development. Although the proposed new development may indeed bring both positive and negative impacts to the perceived problem in question (i.e., new transit-oriented development can improve access to transit, while increasing population size at the same time to increase traffic congestion),

focusing the discussion on how the new development can serve as a *solution to existing problems* may be helpful in building community engagement for EHAFCs.

Weakly Connected Concerns

Among the reasons why the residents were opposed to or concerned with the Southwood development projects, some of these concerns were only very weakly tied to the Southwood project. Resident comments on funding the North End or funding temporary shelters instead are examples of concerns that cannot be directly addressed by making alterations to the Southwood proposal. Though it was perhaps possible to remove such concerns as outliers, including them in the coding and analysis phase proved to be of value.

Firstly, regardless of whether or not the weakly connected concerns can inform the project in question, it was noted that these were *nonetheless tied directly to the resident's negative view of the proposed project*. In other words, ruling out these weakly tied concerns in the public discourse without acknowledging their existence will most likely maintain the existing negative views of proposals. Secondly, analysis of these weakly connected concerns showed that participants did actually see positive aspects of the proposals. For example, some residents perceived the proposal to be positive enough to be concerned for other neighbourhoods like the North End. This illustrates potential opportunities to increase community openness by further understanding what the perceived positives are regarding the Southwood proposals (which will be discussed in the next section, which outlines resident responses to EHAFC proposals).

As a result, after the coding phase, a decision was made by the researcher to actively consider these weakly connected concerns and present them to the EHAFC stakeholders for

further comments. This topic will be expanded upon in the next chapter, which will summarize the stakeholder responses to these weakly connected concerns

4.5.2 On EHAFC Principles

Of the three EHAFC principles, this resident cohort most positively received TOD. In general, when comparing resident perspectives on the Southwood proposals versus EHAFC principles, there is a visible increase in openness with the strong, positive language used to describe mixed-use and transit-oriented development from some of the residents. This may reflect one of two things: the first being that the Southwood proposal is actually desirable as an EHAFC-oriented development, but simply not perceived as appropriate for the Southwood area, and the second being that focusing the discussion on the design principles themselves can help achieve a common vision. Further observations from these resident responses are discussed below.

Weakly Connected Concerns

Poor community engagement for the recent rapid transit expansion generated concern with regards to transit-oriented development. As previously discussed, this is a concern that is relevant to the context, and external to the topic of transit-oriented development. Overall, participants expressed relevant questions relating to the direction of new projects that could ultimately be considered for the purposes of improving community engagement.

Firstly, how will the new project learn from failures in relation to these past issues? Will the new project follow in their footsteps and generate the same negative impacts? Secondly, how will the project strive to be different from past, failed projects? What kind of commitment can the community expect from the project team to act differently? Thirdly, what is the project-

team's position on these past projects? Does the project team hold a perspective that is in line with the community, and in line with the needs of the community? Communicating on these issues might not generate new information to guide the development of an EHAFC plan, but may possibly facilitate the engagement process to gain trust and build meaningful partnerships with the community.

4.5.3 Learning Dimension

Overall, the residents did not provide significant data on specific formal learning sources, but rather tended to converge on personal and life experience as a source of learning. As well, it was noted in the resident responses that general media, including graphic novels, art, and television shows could in fact influence perceptions of different developments through their depiction of space. Whether these forms of media can be utilized effectively to promote openness to EHAFCs is a relevant question that stems from the resident responses.

4.6 Summary

The first interview revealed community concerns with regards to population growth, transportation (congestion), business versus residential development, impacts on culture and heritage, loss of green and public space, and scepticism with regards to governance and funding. With regards to three EHAFC principles, this cohort of residents was strongly supportive of transit-oriented development, as well as mixed-use development given the condition that the business development would support the service needs of the community. In this first round of interviews, the majority of residents held mixed opinions on vertical development.

There was support for the relocation of the Southwood proposals, which were not necessarily tied to what may be described as the “Not-in-my-backyard” syndrome, but rather equity of distribution of development funding across the city. Given these comments and participant reports of current deficiencies of the existing Southwood neighbourhood, there appears to be a certain level of perceived merit of the Southwood Proposals.

With regards to informing sources of the resident opinions on the Southwood Proposals, the participants reported a wide variety of diverse, interdisciplinary sources, which converge upon personal experience of living in the city, as well as holding discussions with members of the community.

Chapter 5. Stakeholder Interviews and Resident Follow-ups

5.1 Introduction

Initially, a total of three primary concerns were to be selected for presentation to the EHAFC stakeholders to elicit stakeholder responses to resident concerns. In attempting to summarize the resident concerns with the Southwood proposal, the following themes were selected after the coding process: *population growth, transportation, housing demand and pricing, business development, loss of green space, governance and trust, and preference for the status quo*. The following criteria were then applied to determine a top three list:

1. The responses in the category would be overwhelmingly negative as opposed to mixed, or even slanting towards responses supporting changes to the status quo through new development
2. The responses in the category would be consistent amongst a relatively large percentage of the residents (i.e., concerns reported by very small numbers of participants did not take precedence over those reported by a larger number of participants)
3. The responses would be confirmed and repeated in the follow-up question asking residents to identify a top-3 list of concerns or reinforced in responses to other questions throughout the resident-interview.

Given these criteria, *population growth, transportation, loss of green space, governance and trust* were selected as the main categories of concern. In addition, it was noted that a very large percentage of the participants recommended that the development be considered for other areas of the city.

Given the fact that these selected concerns, though not completely mutually exclusive, were difficult to collate into three concerns, a decision was made by the researcher to extend the list to be presented to EHAFC stakeholders. As well, they were reworded to reflect not just the themes, but pinpoint the perceived negative impacts to facilitate EHAFC stakeholder response. The resulting interview question was drafted for the EHAFC stakeholders after coding and analyzing the resident responses:

“What would you say to a community that has these specific concerns regarding EHAFC, or EHAFC-like developments?”

1. “It can lead to crowdedness and noise pollution”
2. “It can lead to congestion and other transportation problems”
3. “It can lead to loss of green space”
4. “It should not happen when we have other issues to fix up in the city”
5. “It should be considered for another area or another part of the city”

Specifically, a decision was made by the researcher to modify the *governance and trust* theme. The primary concerns within *governance and trust* revolved mostly around a lack of trust towards existing city governance processes specific to Winnipeg, which was deemed to be out of context for EHAFC stakeholders to respond to as some of the participant responses in this area even spoke of a specific politician. The second most common concern within the

governance and trust category: that regarding how “It should not happen when we have other issues to fix up in the city” was presented instead for EHAFC stakeholder feedback.

Due to the diverse nature of the work of the stakeholders, as well as a smaller sample size, (6 EHAFC stakeholders versus 17 residents), perspectives and responses from this second interview were widely varying. “Theoretical saturation” of stakeholder responses was not the objective, though wherever common themes were identified whenever possible.

Stakeholders were invited to comment and provide thoughts on three key items:

1. *Involvement techniques* for engaging locally affected people opposed to newly proposed developments
2. *Summary info-sheet* containing information on EHAFCs drawn from the literature review
3. *Resident concerns*, in a list of 5 potential negative implications of EHAFCs identified through resident interviews

Results from the stakeholder interviews are presented as follows. Firstly, stakeholder suggestions on community involvement techniques in advocating for EHAFCs are presented. Secondly, the stakeholder critique of the info-sheet itself, which includes a graphical depiction of an EHAFC model, is reviewed in order to assess and validate whether the literature review was a sufficient effort in compiling factual EHAFC research. Lastly, stakeholder responses towards the 5 community concerns listed above are presented in the third section.

5.1 Community Involvement Techniques

Stakeholder responses regarding involvement techniques generated a list of principles and recommendations for community engagement. In no particular order, these principles are described as below.

Allow the Community to Speak

Not merely stated in terms of engaging the community in discussion, but rather allowing the freedom for community members to say whatever they wish to say without fixed parameters. Instead of asking for responses to specific questions or even specific issues, giving the community a chance to provide general comments can help the community feel that they are truly engaged, versus being questioned for a pre-determined purpose.

Engage Government

Though the question specifically asked for involvement techniques for community members, the government was mentioned in stakeholder responses as a target for engagement to achieve broader community engagement. Having “representatives”, “champions”, and “cheerleaders” were mentioned as engagement techniques to influence the government as an institution that more or less represents the people, and, is composed of people.

Provide Tools that the Community Would Find Useful

As an example of successfully engaging the community for an Age-Friendly Cities initiative, a list of “Age-friendly” businesses were identified and made available to the seniors in a community. Although it may be difficult to provide tools that are specifically relevant to new EHAFC developments, the potential for an organization to gain credibility in the community

through providing tools, such as a guide for finding new places, restaurants, recreational spaces in the city, can be explored for community engagement.

Less Focus on Persuasion

Stakeholders pointed out the importance of not being overly focused on barriers, negative feedback, or a subset of the population that needs to be persuaded. It was noted that change in itself often generates negative feelings, and that there might always be a subset of the population that will never fully identify with proposed changes. However, it was suggested that these groups be continually engaged throughout the process through: effectively communicating the vision, demonstrating a willingness to work to improve that vision, and also showing commitment to be transparent and share all information with these individuals. These steps were described as ways to engage a population group which otherwise could otherwise be completely against EHAFC proposals.

Aim for Visibility Through Constant and Iterative Communications

Stakeholders pointed out communications need to be constant for the purpose of *updating* the community, which is beyond sending out updates with expectations that the community would read them. With regards to community-based work, it was suggested that a variety of venues be explored for communications. Tactics mentioned include physically entering coffee shops, youth centres, and also shopping malls to communicate in person with the community. In other words, though the community at large may not express interest in receiving periodic updates or even being involved in discussion, actively pursuing formal and informal communications opportunities can help raise the visibility and increase understanding of the project in a community.

Consider Social Media

Beyond using it as a tool for the sole purpose of having a social media campaign, stakeholders pointed out targeting the usage of specific features such as instant engagement opportunities to vote, comment, and provide moderator responses to the community. Though social media is often seen as a useful tool to engage a specific (i.e., younger) population, stakeholders pointed out the need to consider how noticeable a community project is on social media, especially when close friends, favourite bands, and other items of interest are also on social media competing for attention.

Be Aware of Infringement on Profit

It was noted that Sustainable Cities, Healthy Cities, and Age-Friendly Cities could be a solution to a wide range of problems, as demonstrated by the literature review and the summary info-sheet. As a result, there is potential for a proposed EHAFC development to infringe upon a number of profit and business opportunities, with the automobile industry as an example. The impacts of real and perceived infringements on profit should be recognized to guide community engagement.

Learn Community Characteristics

Stakeholders mentioned the importance of learning community characteristics, beyond age, occupation, and socioeconomic status, to consider the impacts of less clearly defined characteristics such as political belief, community readiness (for EHAFCs), or even community self-perception. Though these characteristics are not often easy to pinpoint for a single community, comparison between communities can often generate new perspectives on how to differentiate engagement approaches.

Sell Lifestyle, Not Plans

In reference to the marketing strategy common in the fashion industry, and more recently the real estate industry, discussions around preferred lifestyles and new lifestyle changes (as opposed to the actual projects or products) were mentioned as tools to make community engagement more engaging. In other words, though research, evidence, and facts are important to an informed debate, these elements should not be the introductory piece of a community engagement process. A focus on lifestyle and liveability can generate greater community engagement and buy-in on what otherwise may be perceived as a technical, irrelevant subject.

5.2 Stakeholder Feedback on Info-Sheet

Due to the fact that the three principles of vertical, mixed-use, and transit-oriented development were translated into an image, the resulting info-sheet presents a very specific form of an urban built-environment. Though the literature review shows significant support for the three design principles, it was uncertain to the researcher whether the three principles combined together in a visual format (as opposed to theoretical, text format) would resonate with the stakeholders. This was especially a concern given existing debate around densification and vertical development in the literature. Despite this, the feedback from the stakeholders regarding the image was positive, interlaced with specific feedback on the potential negative elements of the depicted EHAFC model. The responses are divided into a section on Negative Feedback, and a following section on Positive Feedback as follows.

5.2.1 Negative Feedback to EHAFC design on Info-sheet

External Landscaping

The first area of negative feedback surrounds lack of appropriate design of the exterior environment. Although “a lively street scene” was noted as a positive element of the EHAFC model, stakeholders felt that there was a need to further portray landscaping of public space such as plazas, community gardens, and street markets. The real-world example of “gated” tower complexes, devoid of life on the street level, was mentioned as a rampant model of urban development that currently threatens community openness to EHAFC concepts similar to the one portrayed in the info-sheet. Stakeholders agreed that outdoor spaces should be “varied”, “interesting”, “safe”, “with food growing capacity” and “landscaped” to encourage full community participation in outdoor recreation activities.

Physical Activity

Also noted was how essential amenities were to be provided within the same tower complex might reduce “instrumental physical activity”, or, walking for active transportation. Instrumental physical activity was identified as an important factor, which is as important as recreational physical activity, in influencing the health of seniors.

Despite this, comments were also made regarding the need and necessity for indoor placement of amenities for vulnerable populations who are physically unable to travel long distance by walking or cycling. Stakeholders further noted that internal placement of services and amenities can be important for regions where weather can pose a strong barrier to outdoor transportation. Due to the fact that the interviews were conducted on a one-on-one basis, it was not possible to further resolve these conflicting perspectives.

Tower Clusters

Another major area of concern was how the tower is presented as a stand-alone building on the info-sheet. Stakeholders agreed that towers should instead be designed as complementary structures in small clusters. Furthermore, the connection by rapid transit between towers was implied as being insufficient, and that connections, both underground and possible even above ground in the form of sky bridges, were recommended for the EHAFC model on the info-sheet.

Tower clusters, as opposed to individual towers, were noted as a form of EHAFC development that could expand the range of daily activity through short, manageable walking and cycling distances. In other words, placing towers within walking distance to one another in small, human-scale clusters could further enhance the liveability of the EHAFC model presented. Despite these suggestions, however, stakeholders noted that the concepts might be too progressive at the moment, with the sky bridges being a particularly challenging example.

Although the recommendation for tower clusters is supported by research evidence, a decision was made by the researcher to omit the concept from this specific info-sheet in light of the context of interpretation. Due to the fact that the info-sheet may be conceptually linked to the Southwood proposals for the residents, the connotation of erecting “multiple towers” in the golf course was avoided by all means. As a result, a decision was made by the researcher that the revised info-sheet would retain its single building complex format, though the evidence as well as stakeholder feedback on system-clusters are well-noted.

Food

In relation to external landscaping, another major area of concern in the stakeholder responses was the missed opportunity to grow food in urban built environments, which may or may not be directly linked to the landscaping of surrounding green space. Rooftop gardens and private balconies were mentioned as ways for an EHAFC to promote food security, improve access to healthy food, and capitalize on existing potential of local productivity without further impacting the surrounding natural environment. Local food production was not only seen as a strategy to reduce impact on surrounding farmland, but also provide a "harmonious" form of activity which links human beings to the natural environment around them. In other words, although some forms of local food production, such as ground level community gardens, may contradict objectives of complete preservation of the surrounding green space, growing food can also provide a natural platform for human beings to meaningfully interact with the green space made available through the land savings of EHAFCs.

Mixed-use composition

The composition of the mixed-use towers in itself was discussed by stakeholders, with expressions of support for reducing the usage of underground space as mall space and instead, focusing on elevated terrace space. The design of elevated terrace space was also noted as a mechanism to support the concept of a rooftop garden at approximately three to four-stories high. With regards to redesigning the underground component of the model depicted on the info-sheet, the real life example of servicing underground space with sizable skylights was suggested to increase the feeling of an open plaza.

Vertical-Development Considerations

Though vertical development received support from all stakeholders, comments were made regarding the risk of “over emphasizing” verticality. From a design perspective, it was noted that human beings are drawn to *three-dimensional* lattice works of “light, air, towers, slabs, bridges, open spaces, terraces, and exterior glass elevators”. This three-dimensional design was compared to *one-dimensional* urban development of lengthy strip malls, as well as *two-dimensional* development of suburban sprawl. With regards to vertical development, it was noted that there is a need to reduce the risk of replicating one-dimensional development (horizontal, lengthy strip malls) in a vertical fashion – which speaks to the ineffective, mono-functional office towers that have dominated the undesirable perception of the term “skyscraper”.

Directly in relation to vertical development, it was noted that there are indeed sustainability benefits but also risks. Firstly, although tall buildings can reduce construction material per unit (due to a general minimum of three shared walls plus one shared floor or ceiling), achieving structural stability can be a material-intensive effort. In other words, sustainability of tall buildings must be considered not only in terms of density but also in terms of the construction process.

The second sustainability risk is the glass curtain wall design of many tall buildings. It was mentioned that this type of building envelope can and have completely counteracted energy savings expected of multi-unit complexes. Although it was noted that the negative impacts of glass curtain walls could be reduced by using appropriate, triple pane glass, the

current building code was recognized as a barrier which supports the pervasive use of double-pane glass as a standard for maximization of profit.

In relation to profit, balconies were mentioned as natural shades from the sun, particularly for Southern exposures, that are often traded for more interior unit space in the design of towers. Overall, the concept of the “green skyscraper”, often being perceived as simply having greenery on a tower to make the appearance literally green, is supported by these comments, as stakeholder comments note that balconies with greenery can provide moderate energy and heat exchange to improve the environmental sustainability of taller buildings.

Importance of Interior and Passive Design

Although it was understood that the info-sheet is largely an urban design communications tool more so than being an architecture communications tool, stakeholder responses pointed out certain elements in the design of buildings (versus design of cities) which can be further improved for the info-sheet. Firstly, it was noted that multi-unit and mixed-use buildings could be a platform for continuous energy waste due to constant lighting of lobbies, hallways, stairwells, and elevators. Readily-available solutions were mentioned for these issues (i.e. Smart energy-systems and sensory technologies). As well, it also noted that this might be too much detail to add to the existing info-sheet.

Secondly, it was noted that although placing services and amenities in the interior space available in a mixed-use can indeed protect against weather related mobility barriers, poor design of interior spaces can still pose barriers limiting the mobility of seniors and persons living with disabilities. Stakeholders cited the example of poorly lit interior space, which can reduce

perceived safety and in turn, discourage independent travelling of both vulnerable populations and other community members.

5.2.2 Positive Feedback to EHAFC design on Info-sheet

Existing Examples in Relation to Feasibility

In line with the info-sheet comments on feasibility, a number of stakeholders pointed out that there already are successful examples of developments similar to the one presented in the info-sheet. Mention of such developments in South America, North America (Canada), and Asia supports that the model is suitable for adaptation to varying geographic contexts. In essence, stakeholders were highly supportive of the notion that EHAFCs are neither too progressive nor unfeasible, as similar models have already been developed in the past in a number of cities.

Stakeholders also commented on how some of the EHAFC concepts, which are perceived as idealistic in North America, are already being constructed in other cities around the world. As an example of a progressive concept that is being transformed into on the ground projects, the development of EHAFC by the public sector in Europe was discussed. Although housing development is largely a private sector activity in North America, it was noted that involvement of the public sector in EHAFC development is not only financially feasible, but also profitable for local governments to a point that a city can be composed of more than 50% public housing. In line with the info-sheet that depicts a mixed-use tower with public amenities (such as libraries, day cares, and clinics), it was mentioned that public housing plans in Europe are now sometimes considered in conjunction with municipal plans for public health and social

service facilities. Overall, increasing mixed-use (with both private services and public amenities) and public sector involvement in EHAFC-development were viewed as useful strategies.

As well, statistics on walking as a dominant mode of transportation were cited as an indicator of success of existing EHAFC models. With figures as high as 85% of trips being completed by walking in EHAFC-like communities, stakeholder comments suggest that some of the theoretical benefits of EHAFC models can be, and have already been realized by existing models.

Transportation Advantages

In relation to walking, stakeholders commented positively on the transportation related advantages as represented in the info-sheet. Firstly, infrastructure cost for sprawl was noted as something which communities “simply cannot continue afford”. Stakeholders agreed that there exists a serious need to address emissions as a significant threat both in terms of greenhouse gas emissions and air pollution, making reference to existing research that support the need to completely curb vehicular greenhouse gas emissions in order to prevent serious climate risks in the future. On a similar note, the fact that the info-sheet completely excludes parking in the depicted model was lauded as one of the most important features of EHAFCs. Stakeholder comments in this area alluded to failures of previous car-oriented tower cities that eventually evolved into congested, concrete jungles, which in turn contributed to community preference for sprawl as a perceived solution.

Though the term “car free” was never mentioned in the info-sheet, it was noted that the imagery on the info-sheet could bring new meaning and perception of what it means to be a car-free city without sacrificing function and convenience, which makes it a useful tool for

communicating with a car-oriented community. Stakeholders were unanimous in their perception of cars as the greatest risk that could offset all of the benefits of an EHAF model. In other words, vertical, mixed-use, and transit-oriented development are guidelines that can only work effectively when dedicated space and resources for personal automobiles are minimized.

Age and Disability-Friendliness

Stakeholders commented positively on the info-sheet in relation to changing population characteristics, particularly in terms of population ageing. It was mentioned that rural communities currently suffer from “huge infrastructure costs”, which in turn further strain municipal finances to provide appropriate community services for changing demographics. An ageing population and also an increasing disability rate, both of which naturally accompany the biological ageing process, were discussed as major issues that would justify the model depicted on the info-sheet. The existing built environment was described as failing to “adapt” to changing community characteristics, a statement which shifts the focus of EHAFs from being “progressive” to being “cognizant” of the emerging social issues.

Stakeholder comments in the area of age-friendly design were not only related to access and mobility, but overall health concerns including air pollution, access to healthy food, and opportunities for physical activity. In relation to the fact that the model can be justified by an ageing population, it was noted that the integration of EcoCities, Healthy Cities with Age-Friendly Cities is a process which could contribute to the “normalization” or integration of senior issues in general city politics. In other words, it was suggested that the field of city planning could be among the first to spearhead a more holistic lens on seniors wellbeing, which can be applied to all other fields of municipal governance.

Synergy of Advantages

Stakeholders expressed that the synergies of advantages were significant amongst existing urban planning initiatives related to sustainability, health, and age-friendliness. Specifically, positive comments were expressed regarding the integration of age-friendly and disability-friendly principles, as the current discourse around sustainable cities largely focuses on the integration of sustainability and community health and wellbeing as a whole, without a focus on the health of a growing, but often marginalized senior population. Stakeholders noted that the built environment affects seniors in two ways: both through directly impacting the mobility of seniors, as well as the mobility of potential visitors (i.e. friends and family). In other words, when the mobility of the general population is improved, and when seniors live in housing that is accessible (to other friends and family, who may or may not live with a disability), social isolation of seniors can be reduced.

In relation to both mixed-use design and the wellbeing of seniors, it was noted that there do exist urban plans that integrate senior community centres, residence homes, and day centres with daycares for children. Stakeholders reported preliminary results, suggesting that the intermingling of seniors with children in the community can help to improve overall social cohesion and social capital.

Affordability

It was mentioned that although tower complexes can oftentimes be perceived as luxury apartments and have no connections to affordable housing, affordability is largely the result of supply and demand and not necessarily the physical form of housing. In other words, stakeholders noted that the development of a building complex similar to the EHAFC model on

the info-sheet may indeed create unaffordable housing. The high unit prices (possibly as a result of price increases over time) can be interpreted in two ways: on one hand, it may be seen as a negative impact that warns against the development of similar EHAFC models. On the other hand, the increased prices can be viewed as an indicator of a high demand of EHAFC-models, which can only be met by construction of more similar developments.

Additionally, the potential of the EHAFC model itself to promote affordable housing was also considered by stakeholders. The mixed-use feature was seen as a strategic principle that has already been utilized in existing affordable housing developments: rental income from businesses and office space has been used successfully to subsidize rent for affordable units in various affordable housing projects.

Finally, housing affordability was noted as being tied to affordability of transportation. This was highly supportive of the literature review results, suggesting that housing price (and affordability) is largely determined by location, which in turn determines both the convenience and cost of transportation relative to household income. These perspectives were noted as missing elements in the current debate on affordable housing, as it does not include recognition of transportation cost as a significant household cost which is directly connected to the location of housing. It was noted that the average annual cost of owning, maintaining, and running a vehicle was approximately \$7,000 a year; the monthly equivalent, \$583, can be a significant figure when compared to the numbers being used as guidelines for rental subsidies and affordable rent values. In other words, even though EHAFC-models may negatively impact affordability of housing, the TOD and mixed-use component can reduce monthly transportation costs to improve overall affordability and liveability.

5.3 Stakeholder Responses to Resident Concerns

The final section of questions asked stakeholders to comment on and respond to the concerns collected from the resident interviews. Upon the completion of the six interviews, these were coded immediately for presentation to residents during the follow-up resident interviews. Overall, the stakeholders acknowledged that many of the resident concerns can be serious problems of EHAFCs, and proceeded to offer balancing perspectives or potential solutions.

On Crowdedness and Noise Pollution

Stakeholders agreed that crowdedness and noise pollution were issues that need specific attention with regards to design for acoustics and privacy. Echoing the responses from the residents, both noise from the exterior environment and the interior environment (i.e., noise pollution between units in a multi-unit complex) were mentioned as potential negative impacts of EHAFCs. Design of noise buffers for both indoor and outdoor environment was mentioned as investments that were necessary to improve liveability of EHAFCs.

Additionally, quiet open space in outdoor environments was mentioned as an alternative intervention. Quiet open space was seen as a way to not necessarily *solve* the issue of noise pollution, but provide a place of retreat to reduce the impact of noise on residents. To further enhance the feeling of privacy, it was also recommended that larger, green balconies be considered to make up for the loss of the private “backyard” associated with suburban living. This suggestion ties in with comments in a previous section regarding the need to promote green balconies for the purposes of reducing heat loss and excessive solar gain during summer

months, suggesting that further synergies can be explored between increasing privacy and improving overall environmental sustainability of the building.

As a potential concern, a stakeholder noted that crime could be another barrier for people to live in close proximity with one another. Crime was described as an inevitable outcome of growing wealth disparity, and is an issue that is not directly determined by whether or not people lived at higher population densities. Furthermore, it was noted that higher population densities may actually help bring more eyes and more ears on public areas to possibly discourage crime and reduce overall risk of being criminalized.

Similar comments were made regarding density and crowdedness. Among the stakeholder responses, it was noted that learning to live together is a beneficial, and perhaps even necessary process that needs to happen regardless of whether or not EHAFCs are promoted. In other words, crowdedness and noise are viewed as not only relevant to the design of the built environment, but also to the social fabric. As such, stakeholders noted that it is a natural part of “civilization” for communities to learn how to cope with one another and overcome these issues together as a community, rather than counting on the design of a particular type of urban built environment to solve these problems.

Stakeholders also commented on the potential for EHAFCs to actually reduce noise pollution, particularly from traffic. In general, the design of EHAFCs was seen as a strategy to cut vehicular traffic, support walking of short distances, and reduce the need for excessive travelling, due to the fact that a portion of daily needs can be met through visiting an amenity stationed within the same building.

On Congestion and Traffic

Stakeholder responses in this category focused largely on the potential of EHAFCs to reduce congestion and traffic as opposed to increase congestion. While it was noted that it is possible for cities to intentionally choose to develop EHAFCs while still promoting infrastructure for personal automobiles, stakeholders agreed that one of the primary goals of EHAFCs is indeed to reduce overall car dependency

On the other hand, stakeholders also accepted that it was possible for an EHAFC to present higher levels of congestion and traffic than suburban counterparts, simply due to the fact that the issue is spread across a larger land mass in the latter. However, this was mentioned as a possibility and not a certainty, as EHAFC designs could be designed in such a way that walking, cycling, public transit – or a combination of the above – could become more convenient and faster transportation options when compared to driving.

One of the stakeholder comments discussed *prioritization* of infrastructure investments, describing that within an EHAFC-influenced design of the built environment, there is always a possibility for decision makers to continue to use tax dollars in supporting personal automobiles as the dominant mode of travel. Meanwhile, the same amount of money could be invested into providing significant TOD and EHAFC-like developments to achieve the same standard of transportation convenience. In other words, congestion and traffic issues can be viewed as the products of the decision of the city on how it spends development funding, and not necessarily the urban form of built environment. Stakeholder comments further pointed out the need for these public decisions to be made after taking into account the costs of air pollution, emissions,

noise, vehicular accidents and a range of other environmental and health issues associated with personal automobiles.

On Potential Loss of Green Space

Unanimously, the stakeholder responses in this area supported the fact that the key characteristics of the goals of EHAFCs is to increase green space, the visibility of green space, as well as access to green space. The comments supported the resident concerns that using less land as part of an EcoCity guidelines may not necessarily result in the creation of more green space accessible to the public, and that there needs to be an intentional decision to put in more visible greenery around new developments with the space savings. This decision was described as “imperative” to all new EHAFC developments by one stakeholder.

Although potential intrusion into green space by an EHAFC development is a possibility (as in the case of the Southwood Precinct project), stakeholder comments emphasized the potential of EHAFCs, particularly through vertical development, to reduce land consumption and produce tangible saving in green space (as well as in agricultural land). Overall, in comparison to the previous concerns, stakeholders did not see loss of green space as a serious issue of concern in EHAFC development.

On “It should be considered for another area of the city”

Stakeholder responses in this area suggested that they encountered similar concerns in their past experience. Compared to the relatively uniform responses for previous categories of resident concerns, the stakeholder responses in this section were highly varied and largely influenced by the types of positions that the stakeholders held. A portion of stakeholders commented that this concern is indicative of “community readiness”, and in certain

circumstances it would indeed be advantageous or even necessary to consider moving the project to another community.

Others saw it as a standard concern which will be present no matter which community is engaged, and also recommended that instead of seeing this as a significant barrier, it may be necessary to proceed while fully taking into consideration the community's reasons to present these statements.

Among the responses, it was noted that the suggestion for relocation of EHAFCS can often come from a suburban neighbourhood which is seeking to push the development to an existing downtown like area. In these cases, a few arguments were presented to support the development of EHAFCS in suburban communities. Firstly, it was noted that EHAFCS-like developments in suburban areas are capable of providing residence units with high levels of accessibility and convenience. As a result, the potential condo booms which an EHAFCS development could bring to a suburban community, and the subsequent increase in profit can be communicated to the community or developer in question.

Secondly, it was noted that EHAFCS-like developments have been applied in suburban areas, successfully increasing access to services and social opportunities through acting as a "town centre". Therefore, the stakeholder comment noted an opportunity to emphasize and communicate the convenience that a town centre (as opposed to simply "*a new mixed-use housing development*") could bring to the community to overcome community resistance. Furthermore, it was noted that this type of development in a suburban area possesses specific advantages over similar developments in the downtown core, as a EHAFCS-like town centre in the suburbs can cater to young students professionals who seek the accessibility and

convenience of downtown-living but cannot afford buying or renting downtown, as well as for seniors who feel increasingly stranded in their current suburban communities, yet prefer not to relocate outside their existing suburban neighbourhood.

Overall, the stakeholder responses converged on the benefit of investigating the potential of developing EHAFCs in other areas as recommended by the community in order to establish a broader perspective. This was seen not only as a way to show commitment to address community concerns, but also as an educational opportunity for individuals associated with the project to learn from different communities through engagement. In other words, taking the chance to consider the development in other areas, regardless of the practicality of such considerations, can generate new knowledge and partnerships for a holistic community plan.

On “It should not happen when we have other issues to fix up in the city”

Stakeholder responses in this area were divided into two main groups. The first group of responses saw this concern as an extension, or a spinoff, of the previous concern requesting for the consideration of EHAFCs in another neighbourhoods. The stakeholder responses in this category largely referred to the same response that the stakeholder had given for the previous concern. Overall, the responses were geared towards addressing community concerns by assessing whether other projects were indeed of greater priority, and, if not, consider proceeding while keeping a long-range plan in mind.

The second major type of stakeholder responses focused on the need to explain the importance of EHAFCs to the community. Stakeholders described that EHAFCs were worthy investments in the sense that they are capable of producing long-term fiscal savings,

particularly in terms of health care costs, which are ever increasing and also attracting greater public attention. Other comments pointed out that an EHAFC is very much an interdisciplinary initiative and as such, it is capable of addressing multiple issues, some of which may actually overlap with the priorities of the community. In these circumstances, explaining the potential of EHAFCs to address the priorities of the community and following through with specific interventions to address those priorities as part of the EHAFC design can help overcome community resistance of this nature.

5.5 Summary Process for the Stakeholder Responses

The coding of stakeholder responses in this section was conducted immediately after the completion of the stakeholder interviews in preparation to present data to the residents for the follow-up resident interviews. Similar to the previous process of integrating resident concerns to be presented to the stakeholders, the process of summarizing the various stakeholder responses was conducted with a set of guidelines. The following guidelines were applied in determining the specific stakeholder feedback to be presented to the residents. Firstly, the feedback would be corroborated with feedback from other stakeholders (i.e., feedback which contradicted those from other stakeholders did not take precedence over those which did not). Secondly, the feedback would focus on active strategies and interventions that could be considered in addressing participant concerns, which is important in demonstrating a willingness and commitment to take action based upon community concerns. Overall, the stakeholder responses were summarized as follows:

1. Regarding *Crowdedness and Noise Pollution*:

“Design noise buffers, as well as sizable, private balconies and private green space.”

2. Regarding *Congestion and Traffic*:

“Support and promote easy access to public transit. Design surrounding space to reduce car-flow and car-related noise.”

(Note: promoting walking and cycling was intentionally omitted from the stakeholder feedback in order to reduce risks of residents perceiving the feedback as a request for them to simply walk and cycle more for their own transportation in an EHAFC development. Rather, the stakeholder feedback presented focused on supporting more public transit infrastructure).

3. Regarding *Loss of Green Space*:

“Design well landscaped green space as public space, and conserve natural green space by using less land through vertical development”

4. and 5. Regarding *relocation of project to another area and the funding of other priority issues*:

“Consider these developments within context of citywide long range planning, to ensure equitable development and equitable distribution of public funding.”

(Note: stakeholder feedback for presentation to the residents was similar for both concerns number 4 and 5 in the sense that they both focused on committing to assessing the EHAFC project through a broader perspective. A decision was made by the researcher to combine these into a single item of stakeholder -

response to reduce repetition and clutter in the material presented to the residents).

Following the summary of stakeholder feedback on resident concerns, a decision was made by the researcher to integrate this summary into the EHAFC info-sheet to streamline the reading experience for residents. It is important to note that the summary was not created to replace the full breadth of EHAFC stakeholder responses to community concerns, but rather to serve as a quick overview introducing the residents to EHAFC stakeholder perspectives as a way to lead into further verbal discussion.

5.6 Follow-Up Resident Interviews

Follow-up resident interviews were conducted after electronically providing all 17 residents with the revised EHAFC info-sheet for their review, including a summary of the stakeholder responses in the same electronic document. The objective of the follow-up interview was to:

4. To facilitate informed debate about alternative development approaches
5. To assess whether any learning outcomes can result from the chosen engagement process for the community

As a general observation, resident responses regarding their perspectives on alternative development approaches for the Southwood Project drew heavily from their perspectives on the provided EHAFC info-sheet. It was originally anticipated that the residents, who have expressed concerns regarding the Southwood plans, would already have certain personal preferences and conceptions for specific alternative development approaches in the

Southwood Precinct. However, the residents did not report pre-set notions in their responses, or perhaps integrated these with their feedback on the EHAFC info-sheet.

Considering that the info-sheet may be right in front of the residents when the interviews were being conducted over the phone, it is likely that it played a significant role in influencing resident responses regarding alternative development approaches. With regards to objective 4: considering alternative development approaches for the Southwood Precinct project from a community perspective, the residents provided a number of ideas which drew from both their positive and negative reactions towards the info-sheet and EHAFC stakeholder responses.

5.6.1 Positive Resident Responses to EHAFCs

Age and Disability Friendly Design

Overall, a significant majority of the residents commented positively on age friendly and disability friendly design elements. This was consistent across all age groups of the residents. Residents alluded to the importance of reducing travel barriers, cost, and time in everyday trips, and these potential benefits were also described by resident responses as being conducive to student lifestyles. Age and disability friendly design was most consistently perceived as an advantage of the EHAFC model among the resident responses. These positions are in line with the existing Southwood Project principle of connectedness, which supports a focus on strategies to minimize mobility barriers for all age groups in terms of accessing work, school, services, and public amenities.

Density and Connectedness

In comparison to the initial resident responses in the first round of interviews, there is increased openness to densification of the built environment in the resident responses for the follow-up interview. Despite the fact that density still is linked to a number of resident concerns that remain outstanding (to be discussed in the following section: Negative Responses), residents noted in their responses that densification is an appropriate solution in certain scenarios. Firstly, density is seen as supportive of increasing natural opportunities for social interaction. Residents supported the example of a community centre as presented on the info-sheet, mentioning that when these public spaces are available “on the way home”, they would be much more likely to stop by and interact with other members of community.

Secondly, the vertical, mixed-use model on the info-sheet was seen as an environment that could lead to the gradual removal and breakdown of social stigmas. Thirdly, for the first time in the resident responses, density was reported as supportive of improving personal safety. It was noted in one resident response that providing student housing in a dense, mixed-use model near the campus would reduce the burden of students having to seek housing in “sketchy” neighbourhoods which were previously unknown to them, and that the overall outcome of facilitating groups of students living together is increased personal safety:

“I think the model is also safer, because currently students have to seek affordable housing in somewhat sketchy neighbourhoods. To have more students living together would help. Plus it facilitates student socialization”

(resident #15)

In comparing these perspectives to previous discussions relating density to increased crime and decreased personal safety, comments favouring density became more pronounced after introducing residents to the EHAFC info-sheet.

Mixed-Use Design

Overall, resident comments regarding the mixed-use design of the model on the info-sheet was positive, and suggested that it would bring about welcome changes in lifestyles. Underground shopping, a library, and a street-shop walking environment were specifically noted as positive features. Such comments included describing mixed-use design as “more practical”, “making life convenient”, and even “having everything I need close by.”

“I think the underground shopping model is the best feature also, having a grocery store. Those ideas are new to me and I think it could really improve overall convenience. And it really works for our weather. If I didn’t have to go out and bare the cold I wouldn’t.” (resident #13)

Overall, in line with previous resident support for mixed-use development, particularly development of businesses that provided direct service to the community, the follow-up responses show continued community interest and openness to mixed-use development in the Southwood Precinct.

Green Space

Follow-up responses still indicated a very strong resident interest in green space. Aside from one resident who considers the Southwood development project to be primarily a student housing project and reported that students do not need green space, all other residents who commented on green space continued to express a preference for expanding green space.

Resident responses in this follow-up interview indicated a change in mindset from embracing only mid-level density to higher levels of density in order to achieve green space conservation goals, though a small number of residents still expressed concerns with vertical development (to be discussed in the next section).

In essence, although residents hold mixed perspectives of vertical development as a general development principle, the resident cohort sees the application of vertical development in the context of maximizing available green space as an appropriate trade off.

Transportation Benefits

Resident responses on the transportation planning of the EHAFC model were positive, with only a small number of outstanding concerns. Overall, residents continued to be highly receptive to transit-oriented development and supportive of the integration of the transit hub directly within the same building. The support for a transit hub integrated into the lower levels of a mixed-use tower was seen as an advantage to improving feasibility of public transit in winter weather. In relation to winter weather, facilitating the maintenance of roadways was seen as a significant advantage that the depicted model on the info-sheet had to offer when compared to the rest of the city:

“It mentioned the roads, and that in a higher density city the need for roads can be streamlined so you can maintain the roads better, and everybody knows we have terrible roads. Having more transit and having a focus on the roads, that really stuck out for me” (resident #7)

Transit-oriented development was described as the “most interesting” feature of the model, with resident responses suggesting that the depicted EHAFC model could possibly be

applied all along the existing rapid transit corridor. One resident described TOD as a way to prioritize public funding of “public transportation” versus driving, which was described as “private transportation”.

The fact that transit-oriented development was described as a solution to potentially reduce the number of cars on the road (to alleviate congestion and contribute to an improved driving environment) may be part of the reason why there was relatively strong community openness to TOD across age groups from the resident responses.

Economic Savings

Perceived economic benefits of the EHAFC model were viewed as an advantage that made the model appropriate for consideration for the Southwood Project. Residents expressed that the info-sheet challenged their previous perspectives of the pricing of multi-unit buildings, and expressed support for directing the savings of building a single multi-unit building versus an entire single-home neighbourhood towards providing more affordable housing, low-income housing, and student housing.

“I guess I never really thought about the cost, I always thought it (referring to high-density EHAFC development) would always be more expensive. And now that I think about the cost of the land and the water pipelines and all the money that it balances it makes sense” (resident #7)

5.6.2 Negative Resident Responses to EHAFCs

Despite the aforementioned positive comments, a number of resident comments expressed disagreement, uncertainty, and outstanding concerns with regards to the EHAFC model.

Overall Perception

The EHAFC model as depicted on the info-sheet was described as “obviously pro-densification” and “more suitable for the downtown” by small number of participants as their opening statement. Overall, the resident responses seemed to indicate a binary view of city planning which divides the city into “downtown” versus “the rest of the city”. These conceptions contributed to a general, negative response to applying EHAFC principles in an area like the Southwood Precinct:

“Well the design of the building is interesting but it’s more geared towards what might be described as a downtown-intense development concept as opposed to what I might look for in Southwood” (resident #14)

Vertical Development

Compared to the rest of the elements on the info-sheet, vertical development generated the most significant amount of concern, with one resident even suggesting that the new Southwood development should not hesitate to use more land to provide more housing and reduce verticality. Specifically, residents were concerned that increased height would allow tower residents to look into the backyards of single houses in the area. One resident also indicated personal preference to not live in a vertical building due to fear of heights and children playing on balconies, though the resident also mentioned that living on the lower

levels of the tower could be a solution. Lastly, it was noted that time spent waiting for the elevator might become a problem with vertical development.

Biking, walking, and driving

Residents were unanimously sceptical of cycling outdoors for transportation, citing winter weather as a significant barrier. It was also noted that the low levels of cycling in a dense environment like the existing downtown core was evidence that cycling would not be feasible for transportation, even with appropriate design of the built environment.

“In winter time especially it’s impossible to bike downtown, and even in the spring and summer and fall there’s limited biking anyways” (resident #13)

It was also reported that resident of Winnipeg had an affinity to indoor areas, and that if the Southwood proposal tried to encourage walking and cycling over driving, “people would just call a cab”. In relation to driving and the location of the development, residents supported that the new development be positioned close to a major roadway. As well, there was concern regarding whether parking would be necessary for the visiting shoppers to the businesses and services provided in the new development.

Green Space

Although the EHAFC model was noted as an appropriate example to conserve green space with vertical densification, there was also scepticism regarding whether or not vertical development could actually provide a long-term solution. Resident described that serious efforts beyond the City Council would be necessary to protect potential land savings as a result of choosing vertical development in Southwood from any future urban development in the neighbourhood. In other words, although vertical development is viewed as a positive feature

for preserving green space, residents emphasized that the fate of green space rests upon appropriate governance, and not merely vertical development of the built environment in Southwood.

Walking Range and Tower Complexes

In relation to transportation and accessibility, residents made comments to support tower complexes as opposed to stand-alone towers, which echo stakeholder concerns. This is a surprising finding, considering the fact that an intentional decision has been made to avoid allusions to having multiple towers being erected in the Southwood Precinct.

Residents commented that it would be beneficial to have more towers linked together with sheltered walking corridors, as opposed to merely relying on public transit to connect between points of travel. Residents also suggested an extension of the innovative use of underground space of the depicted model, which reserved underground space for shops, services, and walkways to link buildings together as opposed to parking. Overall, the perceived difference between tower complexes and stand-alone towers was so strong that one participant expressed that they would not support an EHAFC model if it only consisted of stand-alone mixed-use towers.

Miscellaneous: General Disagreement and Uncertainties with the Model

Overall, residents expressed that they were uncertain as to how the market would respond to an EHAFC model for the Southwood Project, particularly in light of community preference for private backyards. Other comments of scepticism and uncertainty were made in relation to the potential advantages of the model. One resident suggested that an EHAFC model is not necessary for the Southwood Precinct, as there is insufficient environmental pollution to

be concerned with sustainable design. Another resident commented that transportation does not pose a significant cost to the area to warrant a connected design of the built environment. Lastly, one resident raised a question on whether or not seniors would be “allowed” to leave the building if the building had all the essential private services and public amenities integrated within its different floors. The fact that stakeholder responses also included concerns regarding interior placement of basic services and amenities suggests that a “complete community” designed from a disability perspective can generate a certain level of hesitance.

5.7 The Learning Dimension, Revisited

In this final section, the assessment will cover whether participating in the research project was beneficial to the residents in terms of increased confidence in communicating their ideas, or greater interest in playing a more active role in city planning issues for their communities. The following will describe the instrumental and communicative learning outcomes.

Overall, residents commented positively with regards to instrumental learning, especially regarding the EHAFC info-sheet. While reflection on the interview process was expected, the many comments received regarding the EHAFC info-sheet is an unanticipated outcome. Residents described that the information on the EHAFC info-sheet was “brand new”, “had never occurred to [them] in the past”, and that “a large amount of information” on the EHAFC info-sheet was of interest to them for further learning. Mostly, these residents specified the age friendly and disability friendly design as a new concept. Moreover, the potential to use underground space to increase convenience and protect mobility against weather barriers, as

well as the idea of transit-oriented development were two concepts that residents described as new ideas worth looking into. One resident described that they had previously perceived the task of providing housing as fairly straightforward, and that the info-sheet was helpful in bringing in new ideas about its complexity:

“Previously I didn’t think much about how to better house people around the city, I thought it was a straightforward task with one way to do it. The info-sheet shows that this is a complex issue, and we can be strategic about it” (resident #15)

When asked specifically to comment on whether any of the EHAFC concepts piqued their interest for further learning, the majority of residents responded positively with specific examples. Residents were interested in learning details related to the EHAFC model, such as the specific design of street scenes, the potential for vertical development to be integrated with “living plants” and greenery, and also the potential of an EHAFC model to be applied to provide affordable housing. Residents also expressed interest in learning about general concepts, such as “environmental sustainability”, as well as other “urban alternatives that may be out there”. Lastly, one resident responded with an interest in learning about how more people in the community can be exposed to the EHAFC model, commenting on how it is easy to have assumptions with regards to similar developments to what being proposed for the Southwood project:

“We are in what used to be a rural area and it’s a hard switch to make. But I really think this need to be given thought rather than assume it’s for the worst”
(resident # 11)

With regards to communicative learning, residents mentioned that the EHAFC info-sheet was a resource in organizing their thoughts as well as providing a sense of indicators of good city planning, and that they would refer back to the info-sheet for ideas when engaging in future discussions.

Among the resident responses which spoke specifically to the impact of the interviews as opposed to the info-sheet, comments were also relatively positive. One resident reported that the interviews showed that they had answers within their minds that they did not know about, and that the experience helped them to realize how much they knew. Another resident reported that they had a lot of previous knowledge which they thought were unrelated to city planning, and that the process helped them to realize the links between this body of pre-existing knowledge and city planning.

“I think communicating will be easier because the questions, a lot of them I have not thought about before although I have answers to them... if the opportunity comes again I will be able understand different perspectives and angles when I respond” (resident #9)

Similarly, a resident responded that the experience helped to connect Winnipeg in their minds to EHAFCs, which they previously viewed as theoretical concepts that they did not think could apply to the city:

“I know or I’ve heard about the EcoCity and healthy city things but I never thought about those things in relation to Winnipeg, and it seems to me now there’s a chance of applying those things here in a city I know so well” (resident #8)

Overall, residents responded positively. One resident responded that they are looking forward to “the next interview”, and another responded similarly expressing that they have already begun discussion with friends and family right after the initial interview. One resident reported that they will continue dialogue with their peers and continue gathering opinions based upon the new information they have learned through participating in the project:

“The whole aspect of having one of these in Winnipeg, it’s great and it’s needed. I’d love for more people to learn more about this. I’ll keep talking about it with peers and gathering their opinions on it” (resident #9)

One resident reported that they might use the new information in their writing, and that overall the experience makes them feel more comfortable with attending future events related to city planning or with volunteering for similar activities. Finally, one resident expressed that they are “more motivated than ever” to participate in the Southwood consultations process after the experience – and also extended a personal invitation to the research team to meet casually over coffee.

5.8 Summary and Discussion

The following three sections will present discussions surrounding Stakeholder Responses, Follow-up Resident Responses, and the Learning Dimensions.

5.8.1 On Stakeholder Responses

How Much Involvement is Sufficient Involvement?

Stakeholder responses to resident concerns, particularly number 4: “it should be considered for another area” and 5 “it should not be funded when there are more important

issues to address” have created a mix of messages. Stakeholder responses suggest that these messages of concern or opposition may be inevitable given any situation, and that there are three approaches to these concerns: to continue advocacy and community engagement; to proceed with the project despite these concerns while continuing advocacy and community engagement; or to consider moving to the next community.

Though it can be safe to draw the conclusion that sustaining community engagement is a good principle to apply in EHAFC developments, and arguably for other projects which impact public interest (Co-intelligence 2008), it could be beneficial to consider at what point in the community engagement process should the project proceed, or, move on to the next community. As noted by the stakeholders, there is often insufficient time to act given the nature of sustainability challenges facing urban areas (NRTEE 2011), such as climate change, rising infrastructure costs, population growth and population ageing. While the existence of these challenges may justify the carrying out of solutions with or without full consent from the community, it may be worthwhile to consider whether there could be indicators of when it is appropriate to move a solution, or a pilot-test forward.

Solutions as Self-Contradicting Barriers

Directly connected to this discussion is the potential for EHAFC solutions in themselves to become barriers towards EHAFC if implemented prematurely, or, without a systematic approach. A specific example noted in the stakeholder responses is cars running on alternative energy and solar panel installations on roofs of single homes. These have been noted as sustainability solutions that have actually boosted urban sprawl, lending a false perception that sprawl can actually be sustainable. While the positive sustainability impacts from these

solutions are indeed beneficial, these solutions do not help to address issues of land consumption, invasion into natural habitats or arable land, and lack of support for walking and cycling as main modes of transportation (Karlenzig 2010). Overall, these “solutions” can be so successful that they were noted as a major barrier to EHAFCs from the stakeholder responses.

In reference to a previously mentioned example, a very strong focus on active transportation has taken hold of the healthy cities movement (Frank et al. 2007), which is beneficial while at the same time lacking inclusivity to persons who are physical unable to walk or cycle. On one hand, it is difficult to argue against the benefits of walking and providing cycling paths; on the other, whether resources dedicated to walking and cycling paths can be pooled to providing a more systematic, equitable approach towards Healthy Cities remains in question.

Not only does stakeholder response on this issue urge society to reconsider existing successes in EHAFCs, they raise a warning sign with regards to compromising EHAFC principles, perhaps in an attempt to better meet the needs of community. Many questions could be asked in relation to this notion, such as whether or not lowering the verticality of a development worth the increased consumption of land, whether it is possible that transit-oriented development be adequately replaced by designing for vehicular traffic and creating parking space, and whether or not there is a mixed-use component worth removing if the community is opposed to any non-residential development happening in their communities, even if it contributes to a complete community.

Granted, there is a need to consider small steps towards success, the “low-hanging fruit” in the words of Robert (2000), as well as an incremental pathway to EHAFC development. It is

nonetheless important to consider which of these small steps are essentially irreversible, may hinder efforts in other areas of EHAFC development, or are taking up resources that could be better pooled towards a large-scale solution otherwise deemed unfeasible.

Tower Complexes

This cohort of stakeholders interviewed expressed strong support for vertical development, with only mild words of caution regarding too much “emphasis” on vertical development. Vertical development was noted as necessary for the land savings it produces while providing sufficient housing in midst of population growth (Yeang 1999), as well as the possibility to provide a large number of residential units and service opportunities nearby existing transit nodes, which in turn determines equity and affordability issues (Glaeser and Gyourko 2002) with regards to who has access to, and who has the right to these convenient locations.

Furthermore, stakeholder responses suggested that the towers should be clustered, not to a point of congestion, but evenly spaced with public space and green space in between. Being able to walk or perhaps cycle to a nearby mixed-use tower is seen as a beneficial design feature, not only in terms of increasing the range of services which can be accessed, but also in providing an aesthetically pleasing and living walking and cycling environment (Newman and Kenworthy 1998). With regards to a potential upgrade to the info-sheet with information based separately from the context of the Southwood Precinct project, it would be beneficial to consider what types of tower arrangements and street grids are appropriate for the integration of mixed-use towers.

Population Growth and the Issues of Crime, Noise, and Traffic Congestion

Stakeholder responses towards these concerns aligned with resident responses in the sense that both parties agreed that they are inevitable consequences from population growth and not necessarily related to changes to the built environment. Stakeholder responses further emphasized that dilution of these issues is not a solution to these issues, and that a suburban neighbourhood is not an appropriate response to addressing these concerns. Rather, a number of other forms of interventions were presented by stakeholders. These range from the building scale to the community scale, from better acoustic materials for walls to private balconies replacing the function of suburban backyards (Yeang 1999). Overall, the consideration of such interventions were not part of the info-sheet, yet appears to be an important missing link that could further align resident perspectives with stakeholder perspectives.

Existing Examples and Gentrification

As noted, the increased housing prices in EHAFC-like developments (vertical, mixed-use, transit-oriented developments) can be seen as an argument against future EHAFCs from the perspective of affordability or equity, or, can be seen as a demand issue which can only be addressed through the provision of more EHAFC-like developments. Given the fact that similar buildings already exist, perhaps as well known examples of gentrification such as the Woodward's Building of Vancouver (Longhurst 2012), it is perhaps useful to develop an inventory of vertical, mixed-use, transit-oriented development around the globe to assess any accumulated sustainability, health, or social (age and disability friendly) impacts over the years. This effort may help to further assess whether these types of models as presented in the info-sheet can be effective in realizing EHAFC development objectives, and also generate additional

evidence that can move the discourse beyond affordability and gentrification to assess a multitude of potential benefits to society.

Additionally, through the development of such a database it may also be possible to understand how these projects were brought to fruition, whether through public-private partnerships in relation to public facilities construction or affordable housing banks, values capture (Transport Canada 2009), or other innovative methods that could inform the development of future EHAFCs.

Density and Human Agency

Among the resident responses, although there was general support for more affordable student housing in the area, a resident commented that they would not like to live in new developments as the general area is low-density. At the same time, it was noted that prospective members of the Southwood community may be choosing to relocate there with the goal of living in a lower-density neighbourhood, thus rendering the new EHAFC-type development undesirable to this population as well. This potentially creates a challenging scenario in which the new EHAFC development may be perceived as undesirable due to the simple fact that it is a high-density development in a low-density neighbourhood.

In other words, the difference between an EHAFC development and the existing neighbourhood may work against the EHAFC project when human agency is taken into consideration. Though it may be tempting to reduce the difference by compromising on EHAFC principles (i.e., applying mid-level densification in the form of condos and townhouses as opposed to high rises, which will result in the consumption of more land to provide an equal number of same-size residential units), stakeholder comments suggest that it is perhaps

beneficial to consider the marketing surrounding new EHAFC developments in currently low-density neighbourhoods.

As noted in the stakeholder responses, an EHAFC-type development in a suburban area could also be highly desirable to both the existing local residents as well as prospective residents. Using an example of an age friendly marketing focus, the new EHAFC development may be seen by local seniors as a new home where they can improve mobility and daily convenience without having to relocate to an entirely different neighbourhood to support ageing in place (Tinker 1999). At the same time, the development may attract students and young professionals seeking homes in convenient, downtown areas who ultimately cannot afford to live downtown.

Most certainly, price point, types of accessible amenities, and local population demographics will all play a role in determining whether an EHAFC in the suburb will be successful and well received. Regardless, the appropriate marketing of EHAFCs, either as a “deviation” from the new community, or perhaps as a “new town centre” for a suburban community, appears to be able to strongly influence how existing and prospective residents receive an EHAFC.

5.8.2 On Follow-Up Resident Responses

Overall, resident comments on the topic of alternative development approaches showed that there was increased openness to an EHAFC model after viewing an EHAFC info-sheet. When comparing their responses in the second round of interviews to their previous responses towards the three development principles (vertical densification, mixed-use

development, and transit-oriented development), the image-based communications appeared to be conducive to facilitating more engaged and positive discussion of EHAFCs.

Primary remaining concerns which were not expressed in the initial interview include a preference for linkages in the form of sheltered walkways or underground walkways to other points of travel, including preference for tower complex development as opposed to stand-alone towers, a general negativity towards active transportation in the open environment such as designing cycling paths, and also the need for a governance strategy to seriously protect the remaining green space of the Southwood Precinct after development.

Still, it is important to keep in mind that the residents did not express a change in mindset with regards to potentially moving the proposed development to another neighbourhood aside from the Southwood Precinct. In the specific case of developing on the Southwood Precinct, the residents continued to hold views which supported increasing mixed-use as a strategy to improve access to services for the local community, conserving and protecting green space open to the public while providing affordable housing through considering vertical development, as well as upgrading public transportation infrastructure in the area to increase convenience and connectivity. These views which held consistent from the initial interview to second round should be considered strongly indicative of community preference in terms of proposals for Southwood.

5.8.3 On the Learning Dimensions

In assessing the learning dimensions, the resident cohort showed continued openness to consider EHAFC concepts. With the assistance of an image-based info-sheet, overall

openness to EHAFC design principles was increased. Resident comments were accompanied with expressions of interest in further exploring EHAFC ideas, as well as continued interest in being engaged in further discussion.

A number of residents noted that they were more comfortable with and ready to engage in discussion on EHAFCs. In one case, the resident had already begun the discussion after the initial interview. Despite the fact that the resident cohort had remaining concerns about EHAFCs, their expressions of continued interest suggests that involvement in the project was helpful in terms of improving perceptions of EHAFCs, not necessarily as a perfect solution for the Southwood Precinct, but as an issue which residents feel comfortable engaging in open dialogue about.

Chapter 6. Conclusions and Recommendations

6.1 Introduction

This study sought to gain understanding of community concerns with EcoCity, Healthy City, and Age-Friendly City developments, particularly in the context of the Southwood proposals in Winnipeg, Manitoba. As part of the research process, participant engagement and participant learning were also assessed. The following objectives were used to guide the research process:

1. To understand reasons for opposition to proposals for sustainable neighbourhood development (i.e., EcoCity, Healthy City, Age-Friendly Cities agenda; mixed-use TOD developments)
2. To examine how people have informed their positions about neighbourhood EHAFC/TOD types of development, which may include learning sources such as newspapers, community involvement, formal education system.
3. To consider involvement techniques for engaging locally affected people opposed to proposed developments.
4. To facilitate informed debate about alternative development approaches.
5. To assess whether any learning outcomes can result from the chosen engagement process for the community.

To achieve these objectives, two rounds of interviews plus one round of follow-up interview with the residents were conducted. Firstly, resident self-identified as “concerned”

with the Southwood Proposals were interviewed to understand their specific concerns with the Southwood Proposals, as well as potential concerns with EHAFC principles. Furthermore, informing-sources of these concerns were explored.

An info-sheet summarizing EHAFC research was then developed to facilitate debate about alternative development approaches with the community.

A second round of interviews was conducted with EHAFC stakeholders working actively in the EcoCities, Healthy Cities, or Age-Friendly Cities fields in order to compile community involvement techniques, critique and refine the EHAFC info-sheet, and also respond to the summarized resident concerns from the first round of resident interviews.

The EHAFC info-sheet was updated with stakeholder feedback, and presented to the resident cohort in preparation for a follow-up resident interview.

The third round of interviews was conducted as a follow-up with the resident cohort to gather their opinions on alternative development approaches. As well, the learning dimension was further explored to gauge whether participation in the research process generated learning outcomes for the participants.

The following section describes conclusions that can be reached from this research, and also recommendations that can be made based on the findings.

6.2 Conclusions

The following sections will review the findings and draw conclusions for the five objectives.

6.2.1 Possible reasons why concern or opposition manifested

Overall, the direct concerns with the development of the Southwood lands include loss of green space, impact on the heritage look and feel of the existing neighbourhood, increased levels of noise, crowdedness, as well as traffic congestion. In addition, the data revealed mixed messages from participants with regards to business development, with the majority of residents supporting community and service oriented businesses as opposed to office space. Though it is noted that businesses will also play a role in increasing noise, crowdedness, and traffic congestion, perhaps even more so than residential development, overall residents felt that increasing service density is more valuable than increasing density of residence units for the area.

Resident also noted some positive aspects of the Southwood proposals. As outlined above, residents expressed concern with some of the deterioration of the existing area, which suggests that there a certain level of readiness for change in the community. Main concerns with the existing neighbourhood included the need to upgrade transportation and public transit infrastructure and the need to increase service-density, which is linked to being conducive of student lifestyles if the development were to be at least in part a student housing project.

These sentiments echo themes of connected, complete neighbourhoods.

Active transportation (Frank et al 2007) should be seriously considered for the transportation planning of the area, given existing preference for automobile travel and also the impact of weather of travelling in the exterior environment (WHO 2007). Residents expressed concern about meeting local transportation needs through developing a new transit

node in midst of current community preference for driving, particularly given the winter conditions of Winnipeg.

When asked if the proposed development would be more appropriate for other areas of the city, residents responded positively and suggested specific areas where the proposal should be located. With regards to relocation, the University-Pembina junction area was mentioned as the primary candidate for the project to relocate, whereas the North End was also mentioned as a neighbourhood in need of more residential and business development in the city.

Finally, some of the concerns were not directly tied to the proposals, but rather with the context of proposed development. Residents expressed uncertainties with regards to funding, involvement of personal interests of city officials, and the goals of “sustainability” and providing “affordable” housing, viewing these terms as convenient labels. This last point may be directly related to the rise of the “greenwashing” phenomenon (Athanasίου 2009), which has been analyzed as both a political movement and a marketing tool. False labelling of sustainability has also been described as an intentional, anti-environmental tactic to advance unsustainable practices under the name of sustainability, which often leads to future public distrust or even opposition against sustainability efforts (Naish 2008). Further communication on the sustainable development aspects of the proposals, as well as funding and governance, would appear to be beneficial.

Based on the findings of this research, it can be concluded that resident comments provide a number of suggestions that are directly relevant and applicable to the Southwood proposals, and that the existing Southwood proposal has perceived merit from the engaged community members. This is particularly true given multiple resident expressions of perceived

negative aspects of the existing area; as such, the proposed developments may be an opportunity to meet community needs through further development. Still, it is important to note that residents suggested that other areas be considered for the proposed developments, particularly with regards to the University-Pembina Junction.

6.2.2 Informing Views

The sources that informed resident concerns or opposition to the Southwood Proposals were primarily self-identified as being related to personal life experience gained through living in the city. Following personal experience, discussions with other city residents and being involved in community groups were the next most-often cited source of information that residents reported. These were supplemented by other, non-specific sources such as the Internet (search engines), newspapers, as well as courses, radio shows, advice from universities and academics, notices of change being posted in the community, travelling, official plans from other cities, and experience working in the public service. Specifically, resident responses related to the impact of general media ranging from visual art and graphic novels to the Winnipeg Transit website on their views were unanticipated results.

This data appears to indicate that perceptions on city planning and the built environment can arise from diverse, interdisciplinary sources, with some only weakly linked to city planning. For example, the graphic novel is one such source described in the resident responses: opinions about the built environment emerged through the depiction of space through drawings and storytelling. As such, it is difficult to pinpoint key informing sources that led some participants to resist EHAFC developments. However, this also presents an opportunity, as it may be worthwhile to further consider how a diverse range of general media

(i.e., visual art, graphic novels) could be utilized to disseminate messaging about EHAFCs, either to improve community openness or to prepare the public for future discourse.

6.2.3 Engagement Techniques

One-on-one interviews with EHAFC stakeholders were used as a tool to compile community engagement techniques in relation to EHAFC development. Stakeholders spoke from their previous experience in working in EHAFCs to provide the following suggestions:

- *Allow the community to speak*
- *Engage government*
- *Provide tools which the community would find useful*
- *Avoid focusing too much on persuasion*
- *Aim for visibility through constant, iterative communications*
- *Consider social media appropriately*
- *Be aware of infringement on profit*
- *Learn community characteristics*
- *Sell lifestyles, not plans*

From the discussion, it can be concluded that engagement techniques for locally affected people opposed to EHAFCs are not necessarily unique to application towards improving openness towards EHAFCs, but rather can be generalized as principles for meaningful public participation. For example, stakeholder comments reflect existing guidelines such as “empowering the people’s engagement”, “establishing ongoing participatory processes”, and “helping people feel fully heard” (Co-intelligence 2008). At the same time, stakeholder comments point out caveats for exploration within existing frameworks. For example, with

regards to the existing engagement principle of “including all relevant perspectives” (Co-intelligence 2008), stakeholder comments suggest that including only the “relevant” perspectives may work against the principle of helping the community feel that they are being fully heard, and that what initially appears to be “irrelevant” perspectives may end up providing significant values towards the future.

The stakeholder comments did not suggest or support any specific method of engagement. The existing literature already documents numerous methods such as focus groups (Pratt 1999; Stewart 1996; Hampton 1999), public hearings (Beierle 1999; Hampton 1999), open houses (Stewart 1995, Berkich 1998), citizen advisory committees (Rowe and Frewer 2000), and visioning (Fishkin 1995, Pratchet 1999). Yet even recently, community engagement processes have still been described as “limited in form and substance”, with the purpose of removing opposition rather than ensuring democratic right of communities to influence decision-making (Wright 2012). This perhaps suggests that rather than the specific methodology, the intent of public engagement is the key issue, which would reflect the lack of mention of methodology in the discussion of stakeholders. With regards to the intent or purpose of public engagement, the stakeholders comments alluded to both the goal of overcoming resistance to EHAFs, as well as *being engaging* as a first step to what has been described as “building trust and credibility between citizens and decision-makers” (Abelson, Forest, Casebeer and Mackean 2004). The stance of the stakeholders on public engagement focuses on the importance of relationship building without concealing the fact that there is a thematic objective of increasing openness towards EHAFs. This suggests that an openness or

transparency about the agenda is not only compatible with, but also supportive of pursuing meaningful public participation.

6.2.4 Alternative Development Approaches

With the info-sheet as a common starting point, both EHAFC stakeholders and residents commented on EHAFC design. Overall, there was a visible increase in openness to EHAFC design principles from the residents once they had viewed the info-sheet, suggesting that graphic representation of EHAFCs was possibly effective in facilitating positive discussion on alternative development approaches.

Through identifying where the stakeholders and residents converged, it was possible to draw the following findings for future developments. Firstly, results supported design of walkable tower complexes that are generously spaced in between. As opposed to crowding towers together to further conserve land, there was strong support to rely only on vertical development for land use reduction instead of horizontal crowding. Placing and connecting mixed-use, transit-oriented towers within walking distance, or cycling distance, with special attention paid to the population of seniors and persons with disabilities who will not be able to cycle between buildings, helps not only to expand the range of services available (WHO 2007) but also increase points of interest in daily commutes to support a livelier street scene. These ideas are supported by what has previously been described as “street ballet” (Jacobs 1961) or “cities in balance with nature” (Register 2006). In line with this fact, there is also support to prioritize “Car-free” design (Newman and Kenworthy 1999) as an absolute necessity within EHAFCs, especially given the fact that the introduction of cars, roads, and parking can easily offset all EHAFC advantages, contributing to the common perception of EHAFC-like

developments as congested, concrete jungles (i.e., downtown core). Specifically, increasing sheltered walking and cycling pathways (Pucher and Dijkstra 2003) and designing transit hubs which are directly integrated into the building or building-complex (Dittmar and Oland 2003) are examples of strategies to be considered to maximize the cost, time, convenience, and safety advantages of walking, cycling, and transit over driving.

As well, the stakeholders converged in their ideas on designing attractive public spaces and green spaces with the land saved, with specific mention of the incorporating food crops into landscaping (Rosalind 1982). Food growing was described as a way to promote environmental sustainability, protect food security through access to local food, and also provide a meaningful way for the community to collaborate with one another and interact with the natural environment. The role of community gardens have been documented in the literature as conducive to creating healthy communities (Harris 2009), and has further been described as a process of “tending food citizenship” (Baker 2004).

There is strong support for *protected* green space (Curran 2001) to be a major component and emphasis in all EHAFCs developments. Given the fact the vertical development and transit-oriented development can significantly reduce the amount of land used for roads, parking, and buildings, any remaining space should be considered for public green space, even if re-greening is the only way to achieve this goal. Residents felt strongly that without protected green space between walkable tower clusters, it is possible that the land in between would be further developed – resulting in crowding of buildings.

Stakeholders further commented on the need to design EHAFCs with a city wide and long range planning lens to acknowledge that neighbourhoods other than the proposed site in

question may actually be more suitable for development of EHAFCs, and also that there potentially exists other community needs which should be prioritized before the funding of an EHAFC project. If anything, these preparatory planning efforts can generate useful information for the EHAFC project team to more effectively engage with communities in opposition.

Lastly, stakeholders were supportive of identifying clear strategies for providing affordable housing and avoid “gentrification” (Smith 2002) – despite the fact that increase in rent and housing prices in EHAFC type development can happen over time simply due to increased demand for mixed-use, transit-oriented developments. This should be considered to keep housing affordable in an EHAFC development while recognizing that future development of EHAFCs may decrease demand and therefore also decrease value of existing EHAFCs.

6.2.5 Learning Outcomes

Most residents responded positively to new information provided on EHAFCs, particularly from the info-sheet. These include new perspectives on age and disability friendly design, the cost and environmental sustainability of multi-unit construction, as well as self-reported benefits in terms of: understanding alternative city planning concepts, recognizing linkages between pre-existing knowledge and city planning ideas, and also gaining self confidence in engaging in future city planning related activities. Overall, residents responded positively when asked if the experience helped them to both better communicate their ideas and understand ideas of others when engaging in discussions related to city planning, which suggests that participating in the process was supportive of communicative learning (Marschke and Sinclair 2009). For example, one resident noted that they have already begun initiating communications with their peers and family members on EHAFC related issues. Despite the fact

that the engagement process was relatively short with two interviews not exceeding 1.5 hours each, residents responded positively and modified some of their previous negative views about EHAFs. Notably, as a very low-cost and basic tool compared to other sophisticated visualization tools on sustainable urban planning, residents reported that the info sheet was helpful in supporting their learning outcomes.

However, it is important to note that the project did not achieve individual transformative outcomes for participants, which highlights the fact that transformative learning often requires a greater length of time both in terms of engagement and in participants' critical self-reflection. Given that the residents were asked questions on alternative development approaches and learning outcomes in the same follow-up interview, the limited time given for critical self-reflection may have undermined the reporting process of learning outcomes. Dividing the follow-up resident interview into two follow-up interviews: one on alternative development approaches, and a final one specifically on learning outcomes may help to address this issue. However, the feasibility of the same cohort of participants committing to three sets of interviews was a barrier for this engagement approach. As a specific limitation of the study, the limited length of the study proved to be restrictive on transformative learning outcomes, though it did result in a certain level of instrumental and communicative learning outcomes.

Directly related to transformative learning and the timeframe of engagement is the theme of *trust*. Trust has been echoed from the first set of resident interviews. Lack of trust in both the relevant stakeholders and in the engagement process itself is a barrier to engagement, which in turn results in lack of willingness to communicate, unresolved concerns, and limited change in mindset as well as limited learning outcomes under the transformative learning

framework. As a direct example of lack of trust resulting in concerns with proposed EHAFC-development, residents reported that questions surrounding source of funding, the proposed sustainability, and the proposed affordability of the Southwood project prevented them from being fully receptive of the project. As well, residents questioned whether or not the planning has already been done behind closed doors, so that their involvement in all engagement processes would thus be futile.

The importance of building trust has also been reflected by stakeholder comments on engagement. Suggestions such as providing tools which the community would find useful (i.e., local community guides), and building relationships through building visibility of the project team in everyday locations highlight the importance of trust and relationship-building with the community as a pre-cursor to increasing community openness to EHAFCs. Both of these suggestions are also tied to increasing the length of time of direct or indirect engagement with the community, which underscores the positive impact extended engagement may have on community receptivity. Overall, the importance of trust in community engagement may have implications on transformative learning as well, as a change in personal worldviews and frames-of-reference can be better facilitated through a trusting relationship between participants and the informing sources.

6.3 Recommendations for the Southwood Proposal (from residents)

The following recommendations are the result of the data collected from resident responses specific to the Southwood project. Since certain resident recommendations have already been explored for the Southwood project (as evident in the project documentation

provided by the Campus Planning Office), the recommendations below represent those that could still be given further consideration. It should be noted that the stakeholder recommendations noted in the thesis were made more generally on EHAFC development itself as opposed to Southwood. Overall, the resident recommendations are as follows:

- Consider relocation of new infrastructure to the University-Pembina junction, or to other existing areas such as existing rapid transit nodes
- Establish protection of the area as a natural conservatory for the half of the golf course beside the river corridor, as well as minimizing the loss of green space and maximizing the integration of existing trees and shrubs into the new green space plan
- Design a convenient, accessible transit hub to meet the transportation needs of the existing population as well as the proposed population increase, paying specific attention to safety and protection from weather for passengers
- Minimize noise and visual impacts of the transit hub on the existing community
- Consider the implementation of a system similar to the Downtown Spirit to link all the major points of travel in the area
- Increase pedestrian connectivity to the university through infrastructure such as sheltered walking paths
- Consider requirements for building façade design that blends in with the existing heritage look and feel of the area and the existing natural assets

- Identify and implement specific strategies to ensure that affordable housing will be made available and kept affordable to meet housing needs of students and lower income families
- Initiate collaboration between the community and other stakeholders to support local, service oriented businesses as part of the mixed-use design

6.4 Recommendations for Future Research

Firstly, as a recommendation from reflecting on the transformative learning framework, further research through a more extensive engagement process over a longer period of time to uncover transformative learning outcomes would be valuable. As opposed to simply extending the number of interviews to achieve extended engagement, different engagement approaches – such as focus groups and design charettes – can also be experimented with to potentially increase community interest. Using a variety of engagement approaches may also result in comparative data to assess the pros and cons of teach approach to inform future projects.

Secondly, further iterative development of the info-sheet may be a useful activity in relation to increasing the utility of a low-cost, simple tool for engagement towards EHAFCs. The info-sheet was revised once in this project through input from stakeholders working in the EHAFC fields. Though the revised product was presented to the residents, resident feedback was not used to further refine the info-sheet as a communications tool which may potentially support learning outcomes.

Thirdly, this project was limited in the sense that while the residents were all opposed to or concerned with the Southwood proposals, their initial opinion did not hinder them from being approached by the project team – nor did it prevent them from agreeing to participate in this project. In other words, the cohort of participants may not be representative of residents who are strongly against developments along the lines of existing EHAFC-recommendations. Future research involving outreach and engagement of the hard-to-reach population would be useful in illuminating the challenges of increasing community openness to EHAFC-proposals across different community members.

6.5 Final Thoughts

With regards to future EHAFC developments, the Southwood case study expanded my appreciation for the opposition against EHAFCs. The issue is more complex than a dualism between EHAFCs versus suburbs, as opposition and concerns against EHAFCs also emerged from shared EHAFC values amongst the community in opposition. In other words, it is possible to have a community espousing support of EHAFC principles to actually oppose proposed EHAFC developments.

Another type of internal conflict was also noted regarding the stakeholder responses on perceived EHAFC solutions which ultimately works against overall development of EHAFCs, such as solar panels installed on suburban homes leading to further urban sprawl. These scenarios could further reinforce mistrust of the community in terms of well-intentioned objectives, which in turn can reinforce the fact that concern with EHAFCs can arise from those who actually hold EHAFC-values.

Another contradiction is EHAFCs versus gentrification. An EHAFC could successfully enhance liveability even if only in terms of transportation convenience (Rudolf 2004) that the market responds with high demand – ultimately leading to high prices of the residential units of the EHAFC development. As a result, the development can gradually become restrictive for populations with high needs such as seniors who often possess lower socioeconomic status (WHO 2007), and thus come to contradict the values of an Age-Friendly city. While it is possible to reduce prices simply by encouraging more EHAFC development to respond to market demand, others label EHAFC-like developments as examples of gentrification to oppose the development of EHAFCs. These contradictory and conflicting views, although all well-intentioned, appear to be a common finding which inevitably undermines the development of EHAFCs.

Each EHAFC project also influences the future path of EHAFC development through being analyzed and interpreted as examples by the community to influence public perception and discourse on EHAFCs. With regards to the community engaged for the Southwood case study, the residents showed increased support for EHAFCs when the discussion became focused on the existing negatives of their community. Resident concerns regarding transit-oriented development were overwhelmingly positive, making statements that were strongly in line with existing research on “equity” of transportation (Bannister and Hickman 2006) as well as the need to overcome car dependency (Newman and Kenworthy 1998). With regards to the future of the Southwood Precinct, the currently inefficient transportation situation appears to serve as a catalyst for increased community openness towards EHAFCs. With continued community consultation, the Southwood proposal has the potential to simultaneously address

existing transit needs and prepare for future challenges, such as rising municipal service and transportation costs of low-density neighborhoods (Karlzig 2010), population ageing (WHO 2007), and rising oil prices (Schwartz 2009). As well, it presents an opportunity to positively influence the public discourse in facilitating EHAFC-developments in other Winnipeg neighbourhoods for an equitable, sustainable urban environment.

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APPROVAL CERTIFICATE

January 29, 2013

TO: John Hu (Advisor J. Sinclair)
Principal Investigator

FROM: Susan Frohlick, Acting Chair
Joint-Faculty Research Ethics Board (JFREB)

Re: Protocol #J2013:006
**“Exploring Holistic Urban Sustainability from a Transformative Learning
Perspective: The Southwood Precinct Project”**

Please be advised that your above-referenced protocol has received human ethics approval by the **Joint-Faculty Research Ethics Board**, which is organized and operates according to the Tri-Council Policy Statement (2). **This approval is valid for one year only.**

Any significant changes of the protocol and/or informed consent form should be reported to the Human Ethics Secretariat in advance of implementation of such changes.

Please note:

- **If you have funds pending human ethics approval, the auditor requires that you submit a copy of this Approval Certificate to the Office of Research Services, fax 261-0325 - please include the name of the funding agency and your UM Project number. This must be faxed before your account can be accessed.**
- **if you have received multi-year funding for this research, responsibility lies with you to apply for and obtain Renewal Approval at the expiry of the initial one-year approval; otherwise the account will be locked.**

The Research Quality Management Office may request to review research documentation from this project to demonstrate compliance with this approved protocol and the University of Manitoba *Ethics of Research Involving Humans*.

The Research Ethics Board requests a final report for your study (available at: http://umanitoba.ca/research/orec/ethics/human_ethics_REB_forms_guidelines.html) in order to be in compliance with Tri-Council Guidelines.

Appendix 2. Invitation and ethics letter, to residents



UNIVERSITY
OF MANITOBA

Natural Resources Institute
Clayton H. Riddell Faculty of
Environment, Earth, and Resources

Research Project: Exploring Holistic Urban Sustainability from a Transformative Learning Perspective:
The Southwood Precinct Project

Dear Sir/Madam,

You are invited to participate in a research study on urban sustainability of the Southwood Precinct and its current development proposals. We are hoping to seek your perspectives and advice on city planning and sustainability. The purpose of this study is to understand urban sustainability and how it applies in the context of the Southwood Precinct.

Specifically, you will be invited to participate in a series of two (2) interviews that should take no more than 1 hour in length each. As well, you will be asked to provide your opinion on a short summary-sheet of existing evidence on EcoCities, Healthy Cities, and Age-Friendly Cities.

Your responses will be shared with researchers, policy makers, and community members working in the EcoCity, Healthy City, and Age-Friendly City fields; likewise, their responses will be shared with you – to create a sense of dialogue. Any information you wish NOT to share with other individuals will be noted, and kept off record.

The research presents minimal risk to you as a participant. You will not be identifiable by name through any of the research products (papers, reports, conference presentations). You will not be asked to share any of your personal information (ie. gender, age, level of education). All of your responses will be stored in a password-protected computer, and will be destroyed after two years from the date of the first interview.

We wish to prepare hand-written notes and audio recordings of the interviews to facilitate analysis of the data collected. You have the right to ask that the recorder be turned off at any time. However, if you choose to participate without being recorded, that option is available as well. The choice remains yours.

You have the right to discontinue participation at any time by calling the researcher at 204.990.1977. You have the right to refuse to answer any number of questions during the interview. You have the right to validate results of the study. You will be emailed draft products a week prior to any plans for dissemination. During this period of a week's time, we will do our best to address your concerns and suggestions.

We will like to follow-up with a phone call in the upcoming week. As well, if you would like to see the interview questions, we would be happy to email you a copy.

If you are willing to help us by becoming a participant, please choose one of the following:

1. Provide your signature at the bottom of the letter (choosing one of the two options: with or without audio recording), and send or email a copy of the letter to us

2. During our follow-up phone call to you, provide us with verbal consent to participate in this study

The University of Manitoba Research Ethics Board(s) and a representative(s) of the University of Manitoba Research Quality Management / Assurance office may require access to your research records – only for safety and quality assurance purposes.

This research may benefit participants through encouraging engagement in planning processes in their local neighbourhoods. The research will be used for a master's thesis, reports, presentations, and journal articles. You may obtain a summary of the results through contacting John Hu by the phone number provided below.

This research has been approved by the Joint-Faculty Research Ethics Board. If you have any concerns or complaints about this project you may contact Maggie Bowman, the Human Ethics Coordinator (HEC) at +1-204-474-7122. A copy of this consent form has been given to you to keep for your records and reference.

_____ I agree to participate. I understand that the interview be recorded and that researchers may quote from my written or oral comments, but that my name will not be associated with any of my remarks.

OR

_____ I agree to participate. I understand that the hand-written notes will be taken from the interview, but I will not be recorded.

_____ Signature _____ Date

_____ Name (printed)

If you have any further questions about this study you may call John Hu, the principle investigator. If you have concerns about the study, you may call Dr. Sinclair, the research supervisor at 204.474.8374.

Appendix 3. Invitation and ethics letter, to stakeholders

Introductory Letter/Consent Form – Eco/Healthy/Age-Friendly City Professionals



UNIVERSITY
OF MANITOBA

Natural Resources Institute
Clayton H. Riddell Faculty of
Environment, Earth, and Resources

303 Sinnott Building
70 Dysart Road
Winnipeg, Manitoba

Research Project: Exploring Holistic Urban Sustainability from a Transformative Learning Perspective: The Southwood Precinct Project

Dear Sir/Madam,

You are invited to participate in a research study on urban sustainability (specifically of the Southwood Precinct and its current development proposals). Your work in the field of EcoCities, Healthy Cities, and Age-Friendly Cities is important to us. We would like to seek your perspectives and advice on urban issues and community engagement.

Specifically, you will be invited to participate in one (1) interview that should take no more than 1 hour in length. As well, you will be asked to provide your opinion on a short summary-sheet of existing research on EcoCities, Healthy Cities, and Age-Friendly Cities.

Your responses will be shared with residents who have voiced concerns about EcoCities, Healthy Cities, and Age-Friendly Cities; likewise, their responses will be shared with you – to create a sense of dialogue. Any information you wish NOT to share with other individuals will be noted, and kept off record.

The research presents minimal risk to you as a participant. You will not be identifiable by name through any of the research products (papers, reports, conference presentations). You will not be asked to share any of your personal information (ie. gender, age, level of education). All of your responses will be stored in a password-protected computer, and will be destroyed after two years from the date of the first interview.

You have the right to discontinue participation at any time by calling the researcher at 204.990.1977. You have the right to refuse to answer any number of questions during the interview. You have the right to validate results of the study. You will be emailed draft products a week prior to any plans for dissemination. During this period of a week's time, we will do our best to address your concerns and suggestions.

We wish to prepare hand-written notes and audio recordings of the interviews to facilitate analysis of the data collected. You have the right to ask that the recorder be turned off at any time. However, if you choose to participate without being recorded, that option is available as well. The choice remains yours.

We will like to follow-up with a phone call in the upcoming week. As well, if you would like to see the interview questions, we would be happy to email you a copy.

If you are willing to help us by becoming a participant, please choose one of the following:

1. Provide your signature at the bottom of the letter (choosing one of the two options: with or without audio recording), and send or email a copy of the letter to us
2. During our follow-up phone call to you, provide us with verbal consent to participate in this study

The University of Manitoba Research Ethics Board(s) and a representative(s) of the University of Manitoba Research Quality Management / Assurance office may require access to your research records – only for safety and quality assurance purposes.

This research may benefit participants through encouraging engagement in planning processes in their local neighbourhoods. The research will be used for a master’s thesis, reports, presentations, and journal articles. You may obtain a summary of the results through contacting John Hu by the phone number provided below.

This research has been approved by the Joint-Faculty Research Ethics Board. If you have any concerns or complaints about this project you may contact Maggie Bowman, the Human Ethics Coordinator (HEC) at +1-204-474-7122. A copy of this consent form has been given to you to keep for your records and reference.

_____ I agree to participate. I understand that the interview will be recorded and that researchers may quote from my written or oral comments, but that my name will not be associated with any of my remarks.

OR

_____ I agree to participate. I understand that the hand-written notes will be taken from the interview, but I will not be recorded.

_____ Signature _____ Date

_____ Name (printed)

If you have any further questions about this study you may call John Hu, the principle investigator. If you have concerns about the study, you may call Dr. Sinclair, the research supervisor at 204.474.8374.

Appendix 4. Interview guide, residents (initial)

Intro: Review study objectives and procedures as per ethics requirements

Background

1. How long have you been a resident of Southwood?
2. Can you describe for me the key attributes of the Southwood community/community you live in?
3. Can you tell what you have heard about the University of Manitoba's (the University) plans for Southwood golf course/precinct?
4. I understand that you have voiced concerns about some aspects of the plans the University has – can you explain your concerns to me? What do you think the plans will do to the area?
5. Have you been working on these issues alone or with other people or groups in your community?

Informing concerns

6. You have raised a number of important issues. Can you tell me how you informed yourself/learned about these issues – where did you get background information and ideas? (Prompt re both formal and informal sources of learning/information if these are not forthcoming, e.g., Are there specific newspapers, courses, lectures, websites, or radio shows which have informed the participant's position?)
7. Have you been involved in city planning or urban design issues in the past? If so, can you describe these experiences?
8. Generally where have you, over the years, turned to for information on, or to learn about, city planning or urban design?

Planning/design issues

9. What do you think must be preserved, or remain unchanged, for the broader Southwood community to thrive?
10. Can you tell me your thoughts on densification of development – e.g., having multi-unit building complexes and taller buildings in the community?
11. Can you tell me your feelings about mixed-use development – having commercial space, office space, amenities and services together mixed with residential areas?
12. Have you come across the term transit-oriented development? If so, can you tell me what you think about development of this sort and the requirements that might go along with it? (If they do not understand the term brief intro e.g., integrating residential areas with major transit-nodes/transit-stops)

Conclusion

13. Would you rather have the university's proposed development happen elsewhere in the City of Winnipeg, or, not at all?
14. (For participants who have listed more than three reasons): You have indicated a number of reasons for your opposition to the University's Southwood precinct plans – can you please identify for me your top three.

15. Do you have any other comments about the University Southwood precinct plans or the questions asked in this interview?
16. May I contact you again for a follow-up interview?

Appendix 5. Interview guide, stakeholders

Intro: Ethics requirements and confirm receipt of 1) EHAFC summary info-sheet and 2) compiled concerns from Southwood community. Briefly, verbally review both items (approximately 5 minutes total)

Questions:

1. How might I improve the summary-info sheet for distribution to community members?
2. What are your thoughts on the synergy between EHAFC movements and how to advance these synergies in real-life projects?
3. What specific corrections or amendments could be made to the summary info-sheet?
4. Regarding the data I have collected from members of the Southwood community that oppose the University of Manitoba's Southwood precinct plans, do any of the concerns raised by the community participants surprise or stick out for you?
5. What would you say to a community member in response to these specific concerns?
6. In the past, what barriers and challenges, other than those we have discussed, that you or your organization have faced in advancing EHAFC projects?
7. Can you give me specific examples of how you have tried to overcome these?
8. Are there specific techniques or strategies that you have found effective for engaging people or groups in opposition to new planning proposals?

9. Do you have any other general comments on moving towards EcoCities, Healthy Cities, and Age-Friendly Cities or community engagement which might aid me in my work – or any comments on this interview?

Appendix 6. Interview guide, residents (follow-up)

Intro: Ethics requirements and confirm receipt of summary-info sheet with EHAFC stakeholder responses to previously raised issues/concerns. Briefly, verbally review both items (approximately 5 minutes total).

Response to Stakeholder-response and info-sheet

1. Please share with me your thoughts on the responses from the EHAFC practitioners in relation to the concerns/issues people have raised about the University of Manitoba Southwood precinct plans?
2. Has this information helped in any way to reduce the concerns you have expressed before? If so, how so? What might be done to reduce your concerns further?
3. Are there things that they have raised that you feel resonate well in relation to the Southwood community and the Southwood precinct plans?

Perspectives on Alternative Development

4. Is there anything from EcoCity, Healthy City and Age-Friendly City evidence that you think could be applied/tried as part of the University Southwood precinct plans?
5. What kind of alterations would you like to see to the University's plans – or, what kind of alternative developments and designs would in your mind be acceptable for

Transformative-Learning

6. Have your thoughts about the University's Southwood precinct plans changed at all?
7. Was there anything in the document that I provided that was new to you, i.e, were there things that you learned?
8. Where there any statements perspectives, or ideas in the documentation that you would like to learn more about? If so, how so?
9. What are your thoughts on EcoCities, or environmentally-friend urban design?
 - a. What are your thoughts on Healthy Cities, or urban spaces that promote health?
 - b. What are your thoughts on Age-Friendly Cities, or urban spaces designed for seniors and persons living with disabilities?
10. Might you now find it easier to talk about or communicate your views on urban planning/design issues?
11. After this experience, is there any action you would like to try to take? How might you use this information?

12. Do you have any other comments about the University Southwood precinct plans or the questions asked in this interview?

Appendix 7. Info-sheet literature

Our current built environment is characterized by sprawl: low-density, single-houses consuming significant land areas – and depending heavily on cars and expansive road networks for transport.

Sprawl is linked to an extensive, intricate web of issues; which of these concerns you, your family, or your organization?

Jobs, Economy, Poverty

Climate Change: emissions from car-dependency exacerbates climate-change, a cause of economic loss in terms of 1) damage of public infrastructure through increased flooding and extreme weather events; 2) disruption of resource-based economies like forestry; and 3) exacerbation of air pollution and associated health costs. Losses in Canada have been estimated at millions, even billions per year for each item above

Oil insecurity: car-dependency contributes to rising oil prices, which strongly impacts trade, transport, and cost of all non-local, physical goods. Ripple effects throughout the economy will include inflation, unemployment, and business losses estimated in the trillions for North America in the years to come

Taxation and Municipal Finances: low-density designs extend travel distances and increase land-use, lead to higher municipal-service and infrastructure costs in relation to: electric gridline, water pipeline, garbage collection service, road construction, road maintenance, police service, fire service, and school board service costs

Health: evidence links sprawl to a wide variety of health problems, including motor-vehicle accidents, obesity, heart disease, stroke, lung disease, and certain forms of cancer. These incidents contribute to loss of labour force at the population level and sick leaves at the individual level – two important factors contributing to reduced productivity and economic losses

Access: sprawl extends travel distance, time, and cost to work and education (training), limiting positions and opportunities available. Seniors, individuals living with disabilities, and those already in poverty are most significantly impacted compared to those with existing financial stability, leading to a downward spiral of population-level poverty. Increased travel distance, time, and cost to work has been linked to higher population-level unemployment and income inequality

Health and Health Care Costs (including Food and Water Security)

Car-dependency: evidence links sprawl to the following (and associated illnesses): air pollution (heart diseases, stroke, lung cancer, lung diseases, all-cause mortality); physical

inactivity (obesity, diabetes, heart diseases, stroke, certain forms of cancer); and motor-vehicle accidents (a leading cause of death and disability in younger age groups)

Concrete coverage: sprawl relies on expansive road networks, resulting in conversion of significant green space to concrete. This can impact both food security (loss of farmland) and water security (as concrete coverage leads to water run-off and reduces groundwater recharge rates)

Climate change: car-dependency contributes to GHG emissions, which in turn impacts health through: increased urban heat-strokes; weather-related disasters as large-scale causes of physical injury, mental trauma and stress; infectious disease resurgence in North America (including previously-eradicated tropical diseases); water contamination (through increased algae blooms); food insecurity (changing arable land patterns, including desertification of currently most-productive regions); and increased population-level UV light exposure (cause of skin-cancer, cataracts, and low-immune function)

Oil insecurity: rising oil prices contribute to higher health care costs through: increasing transport costs of all equipment, goods, and personnel in the health care system, and shortages of petroleum-based medical goods (a wide range of medical plastic devices, as well as some pharmaceutical products such as aspirin). Furthermore, rising oil prices can lead to food shortages and rising food prices – as the current food production system is heavily-dependent on cheap-oil (used in fertilizer, pesticides, machinery, and transport)

Health care costs: low-density cities are less resilient against rising oil prices, as they may: rely on a greater number of smaller facilities to serve a same-size population (increasing land, building, and operation costs); experience lower, and more varied occupancy rates (increasing administrative and direct operation costs); are more prone to health information wastage (repeated medical histories, lab tests, and registrations) due to greater need for geographically-decentralized service delivery; and suffer from higher ambulatory and transportation costs – including those of homecare workers, who can produce cost savings of up to 80% when compared to hospital care

Access to health care: low-density built environments, along with rising oil prices increase travel distance, cost, and time experienced by individuals and families in seeking care; increased travel distance, cost and time are linked to a variety of health inequities, including: late diagnosis; diagnosis after death; incomplete treatment; higher risk of hospitalization for avoidable issue; higher risk of dying at hospital; incomplete treatment; lower satisfaction with care; poor prognosis/lower survival rates

Overall, the combined health impacts of these constitute a systematic assault on population health through the social determinants of health

Price of Gas and Transit (Equitable access to Education, Services, and Civic-Participation)

Economies of scale: Low-density, car-dependent urban environments exacerbate daily transportation costs. For transit systems, a heterogeneous, sprawling built environment increases costs in service-delivery, resulting in areas without transit service, or with infrequent and unreliable transit service. Evidence links increased travel distance, travel cost, and travel time to: lost income (in terms of opportunity cost of travel in work hours); social isolation; reduced access to community services and support; limited or no participation in: education, decision-making processes/civic engagement, participatory and qualitative research processes.

Disability, Seniors Issues, and Poverty Reduction

Travel risks: a car-dependent urban form can pose barriers for those who are “car-poor”, or, physically unable to operate a vehicle. Specifically, seniors and persons living with disability can experience limited mobility in midst of weather-related risks, traffic, and crime. Low-density, vast urban landscapes can also create challenges in way-finding, which can pose significant risk to seniors living with dementia, or individuals living with a cognitive disability.

Poverty: a minimum of 36.7% of all poverty in Canada is in a household with a disability. A sprawling built environment does not readily support disability-related poverty reduction, as high-levels of travel cost, risk, distance, and time impact access to services, training, volunteering, community involvement, and employment. Furthermore, comprehensive installation of universal design features can be financially and logistically challenging in sprawling suburban communities with low population-densities (when compared to a city-centre).

Housing Prices, Affordability, and “Suburban Slums”

Increasing transportation costs can slowly drive suburban residents to relocate in accessible, convenient, city-centre areas. This will 1) increase demand for housing, and cost of housing in desirable city-centre locations; 2) encourage businesses to co-migrate to these areas with their market; and 3) reduce population-density of suburban communities, potentially leading to reduced tax-base for essential municipal services. In short, rising oil prices may expand migration issues associated with declining rural areas to include suburban areas – creating sparsely-populated communities with inadequate services. While housing prices will fall in these neighbourhoods, transportation costs may deem these areas financially-unsustainable and inhabitable. In extreme cases, entire suburban developments have been abandoned – leading to vacant buildings salvaged for usable parts. Conversely, in existing accessible city-centre areas, transportation prices will be kept affordable – while housing prices can sky rocket in midst of population growth.