

Prospective home owners' attitudes to housing

by

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Dedication

To

My brother, Mohammed Albakry,

With love and respect.

Acknowledgment

This study would not have been possible without the support of many people. Many thanks to my advisor, Dr. Ian Skelton, who read my numerous drafts and broadened my horizon with his insightful comments. Also, thanks to my committee members, Linda Ring and Dr. Richard Milgrom.

Abstract

A better understanding of people's attitudes to housing is fundamental to attracting new residents and retaining those who already live in or close to the central city. As such, this study operating in a Canadian context adopts Hägerstrand's model for the process of innovation diffusion. The study draws on the findings of an online survey and interviews with city planners in both Edmonton and Winnipeg to explore the demand and supply dimensions of city-center living and attitudes towards different types of housing and neighbourhood design.

The study shows that the central area in Winnipeg and Edmonton are at different stages regarding housing. Prospective home owners who are interested in housing in the central area share a number of environmental attitudes. These attitudes were related to the care for recycling, the importance for eating organic food, the use of public transportation, volunteering in non-profit organization to help the community and the interest in attending cultural activities. Based on the results of the study, it can be expected that housing types such as apartments, townhouses and even loft housing can be more common in the future and especially in Winnipeg since apartments and townhouses are already common in Edmonton.

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Prospective home owners' attitudes to housing

General overview

1.1 Introduction

Many studies analyzing urban development in North America during the second half of the 20th century documented the tendency towards single-family residential development in the suburbs (Ahluwalia, 1999; Squires, 2002, p. 6). Other studies such as Downs (1999) expected this form of urban development to continue through the 21st century.

Demographic and population changes were regarded by Green (1999) as the main reason behind the prevalence of suburban development in North America. Furthermore, Duany et al. (2000) attributes the attractiveness of suburban development to the widespread use of cars and the concentration of amusement centres and malls far from the city centres.

The spread of the suburbs during the second half of the 21st century led to the concentration of population in these areas and the decline of the central areas (Squires, 2002, p. 12). For example, residents of the suburbs accounted for one third of the population of the United States during the 1960s. By 1990, residents of the suburbs made up half the population of the United States (Schneider, 1992, p.33). The changes that take place as a result of this type of urban development are of spatial and social nature (Pitzl, 2004). According to Rusk (1999, p.68), the rate of land consumption in the United States is fifty percent greater than that of population growth. Rusk (1999) attributed this imbalance to the expansion of suburban development on the fringe of cities and towns.

The suburban development led to spatial as well as social changes. The spatial changes are reflected in the decline of the central areas. Consequently, the central areas became shopping areas that were no longer attractive housing destinations. The deterioration of the central areas in turn had social implication as most residents fled to the suburbs. Hammet (1983, p. 146) asserted that the central area residents were “gradually squeezed out or forcibly displaced by the process of central area commercial development.”

There have been many studies on the effects of urban sprawl during the 1960s (Neutz, 1968; Owens, 1973; Higbee, 1967). By the 1990s, some scholars studying different countries of the world acknowledged that suburban development became the norm (Garreau, 1991). Furthermore, there were several studies about the characteristics and traits of the people who live in the suburbs such as those conducted by Gans (1967, 1982), Ford (1999) and Pile et al. (1999).

Before the 1990s, housing opportunities in the central areas of the cities were neglected as a result of the concentration of residents in the suburbs (Varady, 1990). By the 1990s, there has been research that concentrated on the demographic changes and the housing preferences of different groups. Some of these studies indicated that the central areas of the cities are attractive housing options for many groups especially single young professionals, young married couples without children, older seniors and gay couples (Moss, 1997; Oakes & McKee, 1997). Other more recent studies indicated that there is an increase in the demand for housing located with the central areas (Rusk, 2000; Webster, 2001; Couch et al., 2005).

To conclude, increasing the number of residents in the central areas is one of the main goals of sustainable development which promotes intensification (Heath, 2001).

1.2 Methodology and research questions

This study explores peoples' attitudes towards and the level of demand for city-centre housing in Winnipeg and Edmonton. The study focuses on two Canadian cities: Edmonton and Winnipeg, which are among the ten biggest in Canada. Still, they show different market dynamics and growth rates. For example, the housing market indicators released by Canada Mortgage and Housing Corporation (CMHC 2008, 2009) show that the total of all housing starts in Edmonton was 14,970 in 2006. 9,062 of these housing start ups or more than 60% were single family housing units while the remaining 5,908 units or 39% were multiple family units.

On the other hand, there was a total of only 2,777 new housing starts in Winnipeg during the same year. 1,885 of these housing units or more than 67% were single family units and 892 or 32% were multiple family housing units. Additionally, there were 14,888 housing starts in Edmonton in 2007. 7,682 or 51% of which were single family units and the remaining 7,206 or 49% were multiple family units. In 2007, there were 3,000 start ups in Winnipeg. 1,900 or 63% of the units were single family units and 1,100 or 37% were multiple family units.

Furthermore, housing starts in Edmonton were down to 6, 615 units during 2008 with only 2,606 or 39% single family units and 4,009 or 61% for multiple family units. During

2008, there were 3,150 housing start ups in Winnipeg. 1,995 or 63% of these housing starts were single family units and 1,155 or 37% were multiple family units. This quick overview of the housing start ups and types in both cities shows that the total of housing start ups was higher in Edmonton compared to Winnipeg. Also, the previous overview shows that the percentage of multiple family start ups in 2006, 2007 and 2008 was much higher in Edmonton compared to Winnipeg.

Both cities have been experiencing population growth for a long period but they exhibit different rates. For example, the population growth in Edmonton was 1.17% in 2009, 1.20% in 2008, 1.19% in 2007 and 1.23% 2006 (City of Edmonton Population Forecast). In Winnipeg, the population growth was 1.38% in 2009, 1.6% in 2008, 0.74% in 2007 and 0.40% in 2006 (Population of Winnipeg). This means that the population growth rates were higher in Edmonton than in Winnipeg in 2006 and 2007. This changed in 2008 and 2009 as the population growth rates in Winnipeg were higher than those in Edmonton. According to latest population estimate of the City of Winnipeg, the city had 675,100 residents in 2009 (Population of Winnipeg). During the same time, the City of Edmonton had 774,230 residents (City of Edmonton Population Forecast).

This study adopts Hägerstrand's model for the process of innovation diffusion. Innovation diffusion is commonly used to describe the process by which individuals and firms in a society adopt a new technology or idea or replace an older technology or idea with newer ones (Davies, 1979, p. 15). Although the model dates back to the 1960s, it was used as a theoretical framework for studies investigating the process of innovation diffusion (Strang & Tuma, 1993). Also, other studies used the model as a starting point to describe

of the process of innovation diffusion (Strang & Tuma, 1993). In a study by Anis-ur-Rahmaan et al. (1990) the model was used to explore the nature and salient aspects of innovation diffusion in housing in the context of Saudi Arabian climatic and cultural conditions.

According to this model, innovation is diffused among a population in three stages: (1) a primary stage, during which “adoption centers” are established; (2) a diffusion stage, during which adoption increases rapidly in the adoption centers and spreads outward to surrounding areas; and (3) a condensing stage, during which diffusion slows and eventually ceases following saturation (Hägerstrand, 1963, 1967). The threshold event, therefore, is the formation of adoption centers by the early adopters. One part of the present study will be determining the stage of inner-city housing as an option in both Winnipeg and Edmonton and the characteristics of those interested in such an option. For the purpose of this study, the existence of housing hubs within the central area of the city will be considered as an indication of being at the diffusion stage of the model. The city that lacks such housing hubs within the central area will be considered to be at the primary stage of the model at the time of conducting this study. Also, demand for housing in the central area below 50% would be considered as indicative of the condensing stage of the model because the acceptance of the idea starts to cease during this stage.

The study, relying on analyzing data collected from a survey and 4 interviews, sets out to explore prospective home owners’ housing preferences in the two cities. The research concentrates on the following questions:

1. What is the stage of housing in the central areas of Edmonton and Winnipeg according to Hägerstrand's model?
2. What are the characteristics of those who seek housing in or already live in the central areas of Edmonton and Winnipeg?
3. What are the current preferences related to the location of housing, housing size, and housing types in Edmonton and Winnipeg?
4. How are these preferences related to the design of neighbourhoods?

A better understanding of people's attitudes to housing is fundamental to attracting new residents and retaining those who already live in or close to the central city. As such, this study operating in a Canadian context will draw on the findings of an online survey and interviews with residents and city planners in both Edmonton and Winnipeg to explore the demand and supply dimensions of city-center living and the attitude towards different types of housing.

The attitudes of study participants to city-center living and their preferences are analyzed through research carried in both cities. In order to enhance confidence in the ensuing findings, the study applies two such methods; namely, surveying and interviewing. According to Webb et al. (1966, p.3), "once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced. The most persuasive evidence comes through a triangulation of measurement processes." There is a chance that the two sets of findings may be inconsistent, but as Webb et al. observed, such an occurrence underlines the problem of relying on just one measure or method. At the same time, the failure for two sets of results to converge may

prompt new lines of inquiry relating to either the methods concerned or the substantive area involved. The data from both the survey and the interviews reflect how the researcher understands what the participants communicate. This means that the observations do not necessarily reflect the nature of the world as others may see it.

The study uses a sample of prospective home owners as part of its data gathering. This is achieved by asking each respondent about his/her plans regarding home ownership within the next five years. Sampling targets graduate students and employees from some departments at the University of Alberta, Edmonton and the University of Manitoba, Winnipeg. The target departments were: Modern Language and Cultural Studies, Psychology, City Planning, and Engineering to include wide variety of disciplines. Potential participants were contacted through grad students' e-mail lists and the e-mail lists of departments.

To determine whether the potential participant is a prospective home owner, the survey included a question about plans regarding home ownership within the next five years. The second part of the study consisted of interviews with 4 participants: two from Winnipeg and two from Edmonton. The interviews were conducted following the survey to help interpret the results. The interviewees consisted of two planners from the City of Winnipeg and two from the City of Edmonton.

They planners were recruited through e-mails. The two interviews in Winnipeg were conducted in person, and those in Edmonton were conducted using internet based

communication technology, i.e. skype.

The study commenced by launching the survey online and sending e-mails to e-mail lists both at the Universities of Alberta and Manitoba. This step took place during February and March 2010. The survey was analyzed during March and April. Interviews were conducted in April and the transcripts of the interviews were done in April.

1. 3 Significance of the study

This study is important because it will shed light on possible new preferences among prospective home owners. The results of the study will give developers as well as planners insights into the preferences of prospective home owners in two cities. Additionally, if the study reveals that prospective home owners prefer smaller housing types in more walker friendly neighbourhoods, these results might be used as a tool to promote the building of denser neighbourhoods or the revitalization of neighbourhoods closer to the inner-city. Such a trend can be a step in the direction of promoting sustainability. According to Porter (2008), sustainability concerns tend to arise from the undesirable effects of rapid growth in the metropolitan areas. In these urban regions, development is intensifying pressures on vulnerable resources of land, water, air, wildlife, energy, and other components of the physical environment. At the same time, rapid expansion and sprawl of the cities contributes to escalating social and economic inequalities between developed and newly developing areas. Proponents of sustainable practices advocate more sustainable

development that increases opportunities for access to jobs, affordable housing, and non-auto travel.

It has been argued that there is no consensus regarding the future trend in housing/lot preferences (Audirac, 1999; Kunstler, 1996). For this reason, this study will fill a gap in the existing knowledge by exploring prospective home owners' housing preferences in specific Canadian cities. In so doing, the study will serve as a tool to help planners understand future trends in two major Canadian cities: Edmonton and Winnipeg.

Literature review

2.1 Literature review

Sprawl has long characterized urban growth in North America and thus garnered scholarly attention (Squires, 2002, p.1). Altshuler and Gomez-Ibanez (1993) offers one of the clearest definitions of urban sprawl by focusing on the development patterns associated with it. Sprawl, according to Altshuler and Gomez-Ibanez (1993, p.67) is: "... [the] continuous low density residential development on the metropolitan fringe, ribbon low density development along major suburban highways, and developments that leapfrog past undeveloped land to leave a patchwork of developed and undeveloped tracts."

Suburban development is not a phenomenon restricted only to North America (Kemp, 2001). Many British cities, for example, have met the same fate and suffered from the effects of urban sprawl and its associated deterioration of the central areas during the 20th century (Bertenshaw, 1991; Couch et al., 2005). Researchers in European countries other than Britain "speculate about whether the expansion of large cities is taking place at all, and if so, whether it is going to reach such a scale as in the US and Great Britain" (Kotus, 2006, p. 365). However, at least, in southern European cities, Munoz (2003; cited in Kotus 2006, p. 365) observed the similarity of the spatial structure of their suburban development to the Northern American and British patterns. One major difference was the higher use of transport system in south European cities, as opposed to motorways and orbital ring roads in North American and British cities. Another difference of the urban change in southern

Europe is that it is not necessarily “accompanied by abandonment of the compact city” (Dura-Gumiera, 2003; cited in Kotus 2006, p. 365).

More recently, it began to be realized that the process of urban sprawl has certain disadvantages and negative aspects including: urban decay that can cause many parts of a former functioning city to fall into disrepair. The depopulation of the central areas because of the preference of the prosperous residents to flee to the suburbs can, in turn, lead to a concentration of lower income residents in the inner city. Other negative aspects include the increasing traffic congestion that can cause delays and hence economic losses (Putnam, 2000, pp.142-143); and the loss of substantial tax money when millions of dollars of tax money are spent on new roads, new water and sewer lines, new schools and increased police and fire protection (Brueckner & Kim, 2003). These expenses come usually at the cost of the facilities in the core communities and thus contribute to the decay of the inner-city and its environment (Fullilove et al., 1999, p. 840). All these negative effects have caused many Anglo-American scholars to call for revitalizing and beautifying the central areas to increase their potential attractiveness for residents.

It is noteworthy that the size of dwellings in Canada tended to increase as the household decreased in size (Sewell, 1994, p.1). For example, the average number of rooms per dwelling increased from 5.4 to 5.7 from 1971 to 1981 (Sewell, 1994, p.2). During the same time period, the average household size decreased from 3.6 to 3.3 persons (Statistic Canada, 2007). This movement towards bigger houses is regarded by proponents of the free market approach as a result of consumer demand for low-density single family housing on large lots (Audirac, Shermeyen, & Smith, 1990). According to this view, demand is driven

by individual preferences.

The attractiveness of communities with traditional designs was the subject of many studies. In a study conducted by Handy (2008), a sample from 2003 and 2005 American housing preference surveys was used. The surveys asked respondents about their support for the development of traditional neighbourhood after explain what is meant by such neighbourhood. 44% of respondents expressed their preference for traditional community design in 2003, and preference increased significantly to 59% in 2005. The only group that did not prefer traditional neighbourhoods was comprised of rural residents. Also, the study showed that there was a positive relation between participants' expectations that such communities would be child-friendly and pedestrian-friendly and their desirability. Respondents perceived such communities as likely to allow older people to live independently and rated this characteristic as highly important.

Similarly, in a more recent study conducted by Handy and Ewing (2007) participants were given a choice between communities labeled **A** and **B**. Community **A** was described as having single-family houses on large lots, no sidewalks, shopping and schools located a few miles away, work commutes of 45 minutes or more, and no public transportation. In contrast, community **B** was characterized as having a mix of single-family and other housing, sidewalks, shopping and schools within walking distance, commutes of less than 45 minutes, and nearby public transportation.

Overall, 55 percent of participants indicated a preference for community **B**. Of those who said they were thinking of buying a house within the next three years, community **B**

appealed to 61 percent. It appears the factor of commuting time had a significant influence. About a third of the respondents said they would choose community **B** design if commutes were comparable, while another quarter preferred such a design if it also meant being closer to work.

Along the same line, the acceptability of a variety of housing options was the research question of the Housing Alternatives Acceptability Study conducted by Stillich and Agrawal (2008). In this study, 8,000 Toronto area households were surveyed. The main findings are listed below:

- About half of the respondents considered a townhouse as an acceptable housing option. Having a large backyard increased the desirability of townhouses.
- Slightly more than half of respondents would accept or may accept living in a semidetached home.
- Only 32% of respondents considered owning a single-or semi-detached home essential.
- 51.6% of respondents would accept or could accept living in a large condominium apartment.
- Low-rise apartment living was preferred to high-rise living by a wide margin.

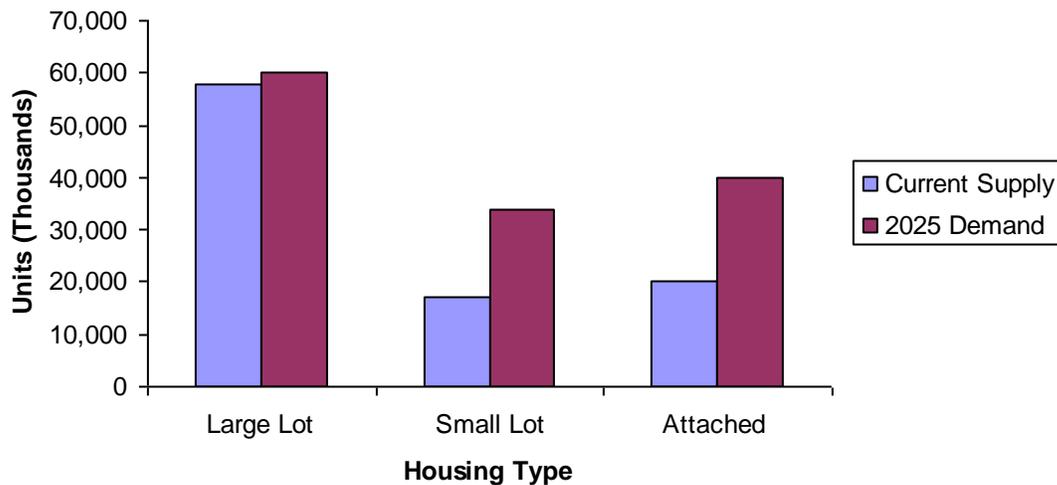
In short, the main findings of the study indicate a relatively high level of acceptance of compact housing forms such as townhouses and condominiums.

Some studies predicted that there will be a shortage in small-lot and attached housing supply. For example, Figure (1) below summarizes the results of a study by Nelson (2006).

The results of this study show that during the next 15 years the existing large-lot housing supply will meet anticipated demand. Unlike the supply of large-lot housing, the small-lot and attached housing supply will need to nearly double to meet the projected demand.

Figure 1. Demand for housing by type

Source: Drawn from data provided by Nelson (2006)



In the first decade of the 21 century, sprawl is still an issue of interest. The debate around sprawl concentrates on the structure of suburbs and the processes that facilitate suburban development. Commentators point to key problems associated with suburban development such as concentration of poverty in the central area, destruction and regeneration of open spaces, loss of farmland, destruction of community, and crime (Lopez & Hynes, 2003). As a result, there have been attempts to study sprawl, the conditions that caused it, its detrimental impact on health, and the needed actions to fight it. Other studies took a different approach by exploring the benefits of more compact patterns of development on economic growth and the environment.

The following section sheds light on some of these studies beginning with the political and social nature of the market process. Then, the study looks at the negative impact of sprawl on both health and social capital. Finally, the study investigates culture as a magnet for inner-city living. The market processes discussion outlines a different understanding of hegemonic processes, the negative impacts show the need for change, and the culture material opens new perspectives on dynamics that could guide growth.

2.1.1 The political and social nature of the market process

Economic theory has provided the bedrock for analyzing the expansion of cities and the location of new subdivisions (Charney, 2007, p.179). Along the same line, Guy and Harris (1997) argue that orthodox economic ideas have dominated the research on property development and especially residential development. According to Guy and Harris (1997, p. 130), orthodox economic approaches provide "... a mechanistic and deterministic interpretation of the world."

Most economic theories assume that the market is the main authority - if not the only one – for regulating supply and demand and the behaviours of decentralized agents such as developers and buyers (Boyer, 2008, p. 359). For Bourdieu, the interaction between different actors including the state creates the market. The emergence of the market for single family houses in France was analyzed by Bourdieu as an example of how the interaction between different actors creates the market. Accordingly, demand for single family houses was created by public subsidies and access to credit. On the other hand, the

process of developing new single family houses (supply) was accelerated by new regulations favourable to that type of development (Bourdieu, 2000). As shown in the cases of both supply and demand for single family housing, the state was instrumental in creating two components of the market.

The exclusion of the social, cultural and institutional perspectives in orthodox economic approaches led to a great amount of studies focusing on including these elements and their local responses in understanding the housing and real estate markets (Beauregard, 2005; Fainstein, 2001; Guy & Henneberry, 2000; Guy, Henneberry & Rowley, 2002; Wood, 2004).

The hypothesis that demand dictates supply in residential development provided the justification for urban sprawl. D’Arcy and Keogh (1997) challenged this hypothesis. According to them, attributing the suburban development to the market mechanism of supply and demand does not provide a logical explanation since the development process is quite lengthy. Furthermore, there is a time lag between the indication of specific demand and actual delivery to the market.

In a similar vein, Healey (1992) shed light on the complexity surrounding development and the lengthy time required to create new property. Accordingly, property development is a complex activity embracing, amongst other things, site acquisition, securing planning consent, arrangements for short- and long-run finance, construction and marketing. As a result, “there is frequently a mismatch between the economic conditions

which prompt new development and the conditions prevailing when the resulting new subdivisions come into the market for the first time” (D’Arcy & Keogh, 1999, p. 918). Consequently, cycles of oversupply and undersupply are two of the main characteristics of the property market (Barras, 1994; Grenadier, 1995).

In another study conducted in New York to study the property market, Beauregard (2005) found that developers tend to work in certain neighbourhoods, which allows them to build a network of connections either with local institutions, politicians or planners. The familiarity with the market and the place-specific knowledge help reduce uncertainty. This situation is termed “local embeddedness” by Charney (2007, p. 118). In the same vein, Cox and Mair (1988, 1989) made the case that developers must possess deep understanding of the local environment. Thus, they argue that development has a local dependence, which Cox and Mair describe as “a relation to locality that results from the relative spatial immobility of some social relations, perhaps related to fixed investment in the built environment or to the particularization of social relations” (1989, p. 142). Other studies point out that development is dependent on local conditions that are to a great extent the creature of the municipal government (Haila, 1991; Logan & Molotch, 1987). These studies highlight the central role the local environment and regulations such as zoning play in the process of development. Municipal zoning regulations regulate the location and the type of future development.

In their study of property market and urban competitiveness, D’Arcy and Keogh (1999) make the case that a considerable part of development is speculative. This

speculation is usually based on the local knowledge of the market and the familiarity with the local politics and regulations. Hence, it can be surmised that relations between developers and the local politicians are important in the decision to choose one neighbourhood over the other when it comes to development (Fainstein, 2001). Often local governments can stimulate and facilitate residential development within a particular neighbourhood. The other side of the coin holds true as well since local governments can limit and obstruct development, whether wittingly or unwittingly, by their policies and regulations (Ford, 1994; Scott, 1996).

The assumptions of orthodox economic theory have been criticised by some economists, but Bourdieu argues that we must go further (2005, p. 89). Accordingly, the value of house is the product of symbolic constructions. According to Bourdieu, “what the buyer buys is not just a house, but a house accompanied by the discourse surrounding it” (2005, p. 169). Supply, demand, the market and even the buyer and seller are products of a process of social construction, and the economic processes can be adequately described only by calling on social methods. Easthope (2004) argues that it is time to recognize that sociology and economics are complementary fields. This interdisciplinary approach aims at including social factors in the analysis of the market.

Unlike the traditional neighborhood model, which was consistent with prevailing ideas about needs, suburban sprawl is an idealized, artificial, and unsustainable system that promotes the sheer size of the house (Duany, Plater-Zyberk & Speck, 2000). As the ring of suburbia grows around most North American cities, it continues to encroach on the

countryside and the void in the center continues to grow. This leads to the decline of the central area which consists mainly of traditional neighborhoods. Thus, it can be inferred that there is an inverse relationship between housing in the central area and sprawl. Therefore, strengthening the central area might be a way of taming urban sprawl.

2.1.2 Effect on health

Studies show that sprawl led to increased use of the private automobile as the primary mode of transportation. A study conducted by Frumkin et al. (2004) concluded that low density levels and single purpose land use patterns are associated with more vehicle miles traveled (VMT), increased vehicle hours of travel (VHT) and fewer transit and walking trips. Analyzing U.S. census data between 1960 and 2000, Pucher and Dijkstra (2003) showed that the percentage of all work trips made by walking fell from 10.3% to only 2.9% during this time period. They attributed this significant decrease to the spreading out of cities. Thus, it can be argued that living in sprawling suburbs encourages driving and discourages walking and bicycling.

Other studies showed that people who live in low-density suburban areas are more likely to use their cars and less likely to walk or use their bicycles. This in turn increases the chances of being overweight and hence can cause higher rates of obesity-related illnesses (Cervero & Duncan, 2003; Ewing et al., 2003; Sturm & Cohen, 2004). Along the same line, some studies argued that sprawl is a major contributing factor in the high level of obesity in North America because of the decrease in physical activity that pervades in such areas. For example, Lopez (2004) demonstrated that obesity was highest

in cities that had the highest levels of sprawl. Therefore, he concluded, there is a positive association between urban sprawl and obesity.

Some studies focus in particular on the negative impact of urban sprawl on adolescents' mobility and hence their overall weight. For example, building on the relationship between the built environment and body mass index (BMI), Ewing et al. (2006) suggest that the suburban form of housing resulting from urban sprawl plays a significant factor in the widespread obesity among U.S. youth. Still on the same note, a study conducted by Sloane (2006) sheds light on the relationship between urban sprawl and obesity as well as adolescents' suicide and puts it into historical perspective. Furthermore, using obesity data from different American states from the 1990s, Vandegrift and Yoked (2003) argue that states that increased the amount of sprawl showed larger increases in obesity.

The negative effect of sprawl is not limited to adolescents but extends to all ages. One age group in particular; namely the elderly, has been the subject of studies exploring the impact of sprawl (Frumkin, 2001; Takano et al., 2002; Savich, 2003). The studies have concluded that sprawl has a detrimental impact on the two major issues that are most relevant to the health of the elderly: mobility and community. A study by Takano et al. (2002) showed that living in walkable neighbourhoods positively influenced the longevity of urban senior citizens independent of their age, sex, marital status and socioeconomic status.

Due to sprawl, basic shopping, social and recreational needs are not within walking distance. Additionally, public transit is usually limited in such neighbourhoods. Therefore,

seniors who can no longer drive safely must rely on others for transportation. This results in more isolation (Frumkin et al., 2004). Similarly, new trends such as New Urbanism adopt the assumption that suburbs foster social isolation as a result of car dependence (Langdon, 1994, p.15).

2.1.3 Social Capital

Generally speaking social capital is the connections among individuals. Putman (2000) identifies the social capital as the political and economic networks and interactions that inspire trust and cooperation among citizens. Others such as Newton (1997) have emphasized the importance of mutual obligation and trust that should exist among those in similar social situations. Hence, the erosion of social capital reduces trust and exchange among citizens. In other words, less civic engagement leads to the loss of a sense of community. Studies have documented the effect of social interaction on health. One of these studies was conducted by Frank and Jackson (2003), who identified a positive association between the quality and quantity of relationships and health.

People who live in the suburbs typically spend more time commuting compared to those who live in the inner city. As a result, long commutes erode the social capital because residents of the suburbs do not have the time for civic engagement. Some studies have indicated such type of life may negatively affect the physical as well as the mental health of individuals (Kawachi & Kennedy, 1999; Hawe & Shiell, 2000). The same two studies suggested that commutes done by walking, bicycling, using transit, or carpooling may improve mental health and counteract the negative effects of using motor vehicles.

Along the same line, Leyden (2003) argues that walkable and mixed-use neighbourhoods help build social capital because they increase community and social engagement.

2.1.4 Culture as a magnet for inner-city living

The cultural values of the emerging middle class during the 1990s were emphasized by Ley (1994, 1996). Accordingly, this new middle class values the historic preservation of the central areas of the city. Similarly, Hamnett (1994) highlighted the significance of post-industrial service jobs located in the central city as a strong magnet for residential development in the central area. The growth of this type of employment in businesses requiring accessibility to the central city can have an effect on the social composition in the central areas of the city. Furthermore, there are studies that argue that the rise of both single and dual high income households and the increasing participation of females in the all job sectors will increase demand for housing that is located in or close to the central area (Bondi, 1999; Lyons, 1996). Additionally, Rose (1984) argued that the increase of female-headed lone-parent households will increase the demand for centrally located housing because centrally located housing allows the lone-parent to manage the range of responsibilities that are hard to meet in the suburbs.

A study conducted by Nuissel et al. (2007) investigated city centre development in terms of supply and demand. Studying Liverpool in England which had little tradition of city centre living, the study found that developers had begun to invest in inner-city housing in the last few years. It traced this new movement to changes on the demand and supply

sides. On the demand side, there was a change in the structure of households and an increase in the number of small childless adult households. These households seek out housing that is close to workplaces and amenities that are in the inner-city. Hence, there is an increasing demand for accommodation that does not meet the criteria of big family houses. On the supply side, the mass departure of retail, industrial and office spaces offered a large amount of vacant floor space available for an alternative use. Residential development provided a new opportunity for reusing such space.

One form of central area housing, namely loft living, has been the subject of many studies (Zukin, 1978, 1982; Podmore, 1998; Wolfe, 1999; Hartman & Carnochan, 2002). These studies showed that loft living which started as an ultra-modern lifestyle for artists generated a new architectural style. There was a rising demand for this converted industrial housing lifestyle, partly due to popular media (Wolfe, 1999). Studying the loft market in Montreal, Podmore (1998) shows that loft living provides an alternative to other forms of inner-city housing. Similarly, Wolfe (1999) argues that loft living is a new paradigm that emerged for the reuse of old space left abandoned as a result of the mass flight of manufacturing from the city to the suburbs. Based on the study of San Francisco, Wolfe (1999) concluded that loft living helped revitalize a significant area of the inner-city.

The concentration of more housing in the inner-city, though common in the past, lost currency with the ever expanding suburbs. Changing this tide will need a change of culture. This change is usually initiated by individuals who can challenge the range of accepted behaviour. According to Wagner (1996), those individuals possess *Geltung*. By this term,

Wagner (1996) refers to the certain individuals who possess the ability to be urban “innovators.” This means that some individuals adopt and spread new ideas or innovations before others. As part of this study, the characteristics that differentiate those interested in living in the core area from the general population will be explored. The new knowledge on these characteristics can be beneficial to planners as they try to attract more residents to the central area. This can be achieved by reflecting these characteristics in the design of the central area to set it apart from other areas.

Survey

3.1 Survey

A standardized questionnaire (see Appendix 1) in the form of an online survey has been chosen as the method of conducting the first part of this study because, as according to Zeisel, it allows the discovery of regularities among groups of people by comparing answers to the same set of questions (2006, p. 257). Asking questions in questionnaires is suitable for a topic related to attitudes (2006, p. 258) which is the topic of this study.

The survey questions can be divided into 7 different categories (see the appendix1). The first 9 questions along with questions 46-52 are related to the demographic and the environmental attitudes of the participants. Statements 10-12 help determine the stage of housing in the central areas of Edmonton and Winnipeg according to Hägerstrand's model. Statements 13-32 explore preferences related to the design as well as the social structure of the neighbourhood. Statements 33-42 investigate the preferences for housing tenure, housing sizes, features and types. Statements 43-44 explore the views regarding the housing market. Statement 53 explores whether there is a positive relationship between living in central areas and social interaction. Statement 54 investigates the environmental benefits of encouraging residential development in central areas.

True to the premises of the quantitative approach which holds that the researcher should remain distant and independent of what is being researched, the researcher should attempt as much as possible to reduce bias (Creswell, 1994, p. 6). This applies mainly to a

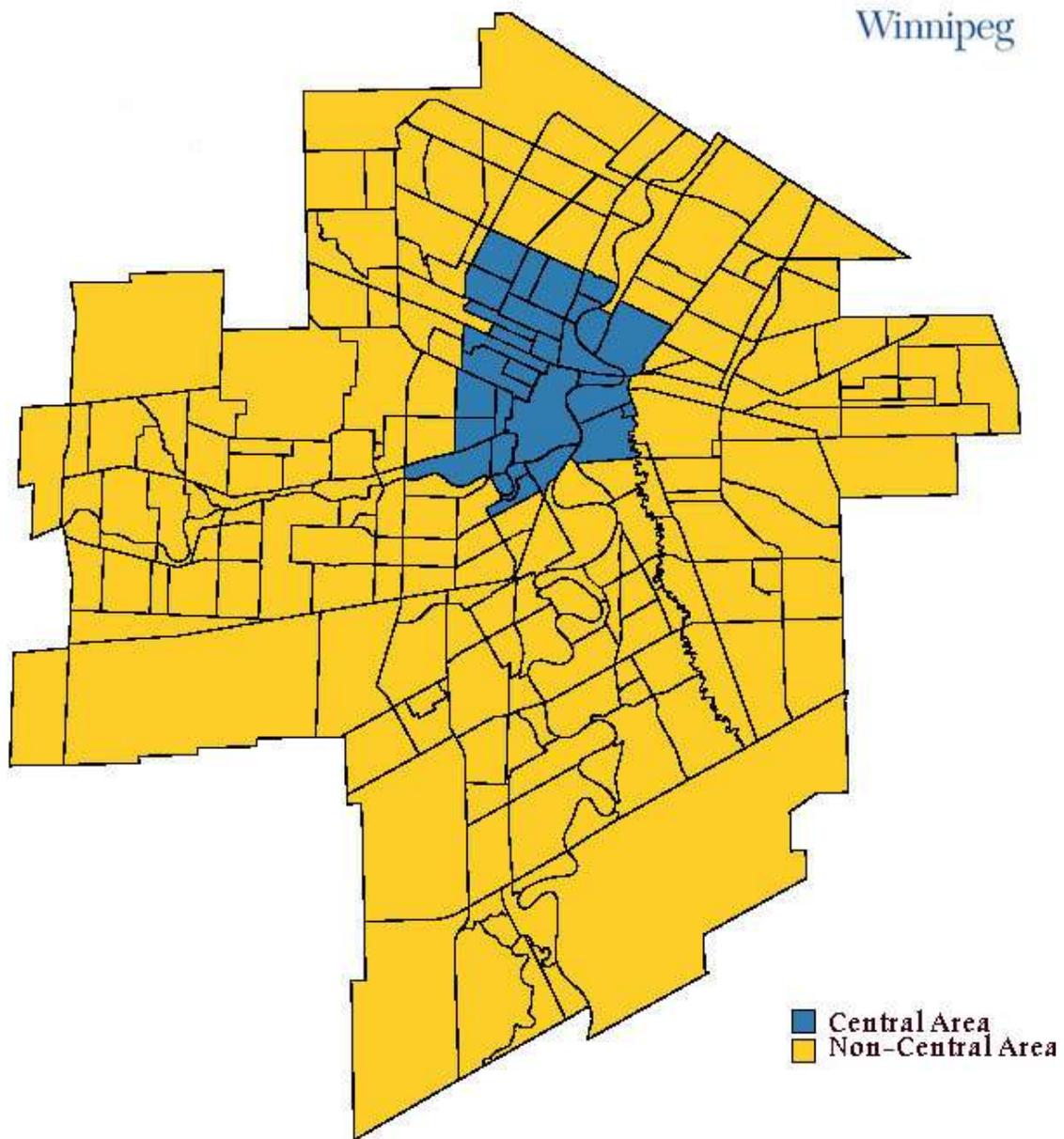
statistically designed sample which can reduce sampling bias. However, an online survey sample is not systematic and has no known characteristics. The survey was hosted online by FreeOnlineSurveys at (<http://freeonlinesurveys.com>). Electronic surveys are becoming increasingly common and research comparing electronic vs. postal surveys confirmed that electronic survey results were not different from postal survey content results (Lazar & Preece, 1999). The survey asked demographic questions related to age and level of education to describe the sample and for purposes of analysis.

3.2 Survey analysis

Before delving into the analysis of the survey data, it is important to shed light on the time frame of the survey. The survey was posted online on March 16th 2010 till April 18th. This means that the survey was posted for 34 days. The main goal of the analysis of the survey results is to help explore the future housing trends. Therefore, the question related to housing purchase in the next five years (number 2) could be thought of as a screening question since it eliminates people who are not planning to buy a house in the next five years. Hence, the following description and analysis of the survey depend on the responses to question two.

The survey sent to participants in Winnipeg contained an introduction that explained the survey and its purpose along with map (1) below which shows Winnipeg's central area.

Map 1. Winnipeg's central area map



Similarly, the survey sent to participants in Edmonton contained an introduction that explained the survey and its purpose along with map (2) below which shows Edmonton's central area.

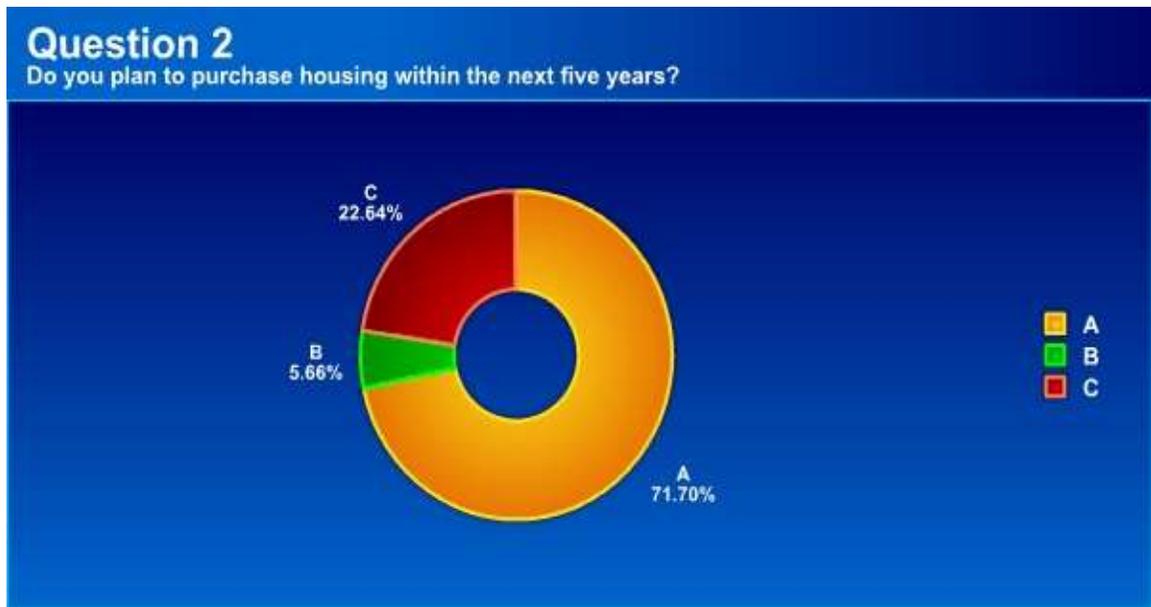
Map 2. Edmonton's central area



Overall, 53 people responded to the survey and 38 of them were planning to buy a house in the next five years. 12 participants were not sure about their plans in the next five

years. The remaining 3 participants were not planning to buy a house in the next five years. This means that more than 71% of participants were planning to purchase a house in the next five years. The percentage of participants planning to buy a house within the next five years together with the percentage of participants who were not sure of their housing plans comprise more than 94% of all participants. Consistent with the aim of this study, all the responses in the following analysis will be filtered against the responses of those who were planning to buy housing in the next five years or those who were not sure. This means that the three people who were not planning to buy a house were excluded from the analysis. The three responses to the housing question are shown below in Figure (2).

Figure 2. Intention to buy housing

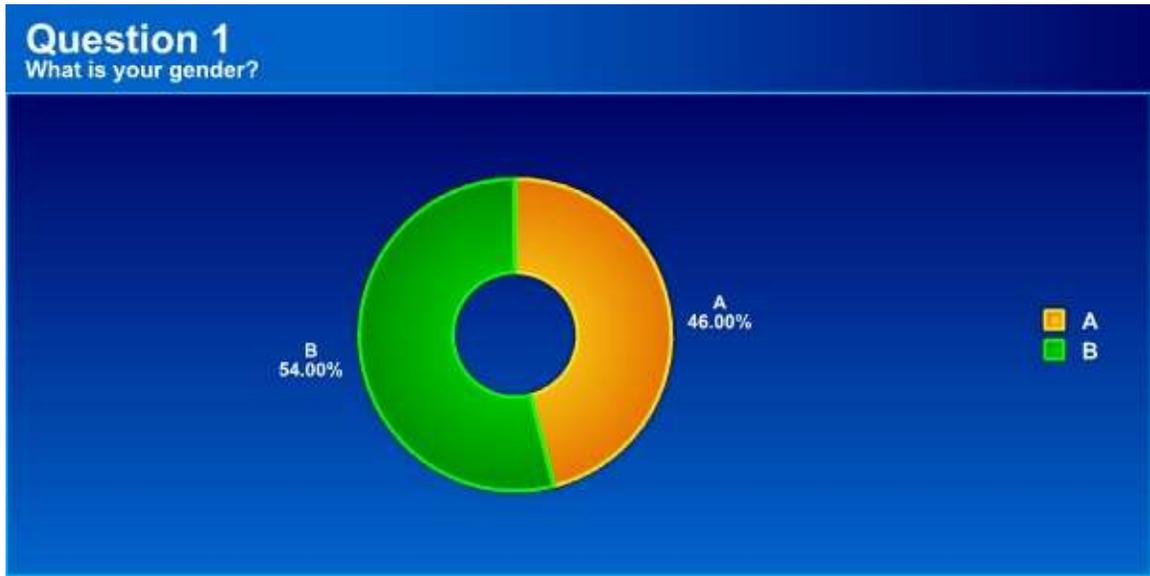


- A) Yes
- B) No
- C) Not Sure

By the time of analyzing the survey questionnaires there were 50 participants: 23 males and 27 females. This means that female and male participants were represented almost equally in the sample. Therefore, the results will be representative of the attitudes of

both genders towards the questionnaire. Figure (3) below shows the percentages of male and female participants.

Figure 3. Gender



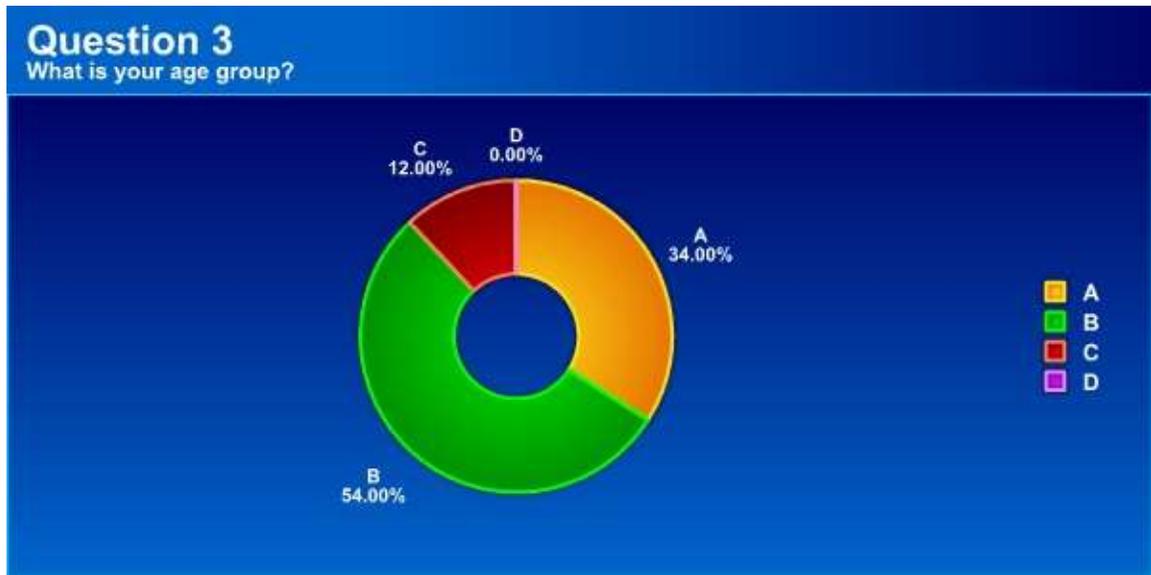
- A) Male
- B) Female

The 50 people who responded to the survey were distributed equally between Winnipeg and Edmonton with 25 from each city. Consequently, the comparison between the two cities is based on equal number of participants from each city. Having the same number of participants in each city can give a more accurate representation of the differences and the similarities.

As for the age bracket of the participants, 17 (34%) out of the 50 participants were under the age of 25. Participation was highest among the age bracket between 25 and 35 with 27 (54%) participants. The high number of participants aged between 25 and 35 is not a surprise since the survey was sent to grad students' e-mail lists. Also, people in this age

group are likely to consider buying a house for the first time. Only 6 participants or 12% were between 36 and 65. The percentages of each age group are shown below in Figure (4).

Figure 4. Age

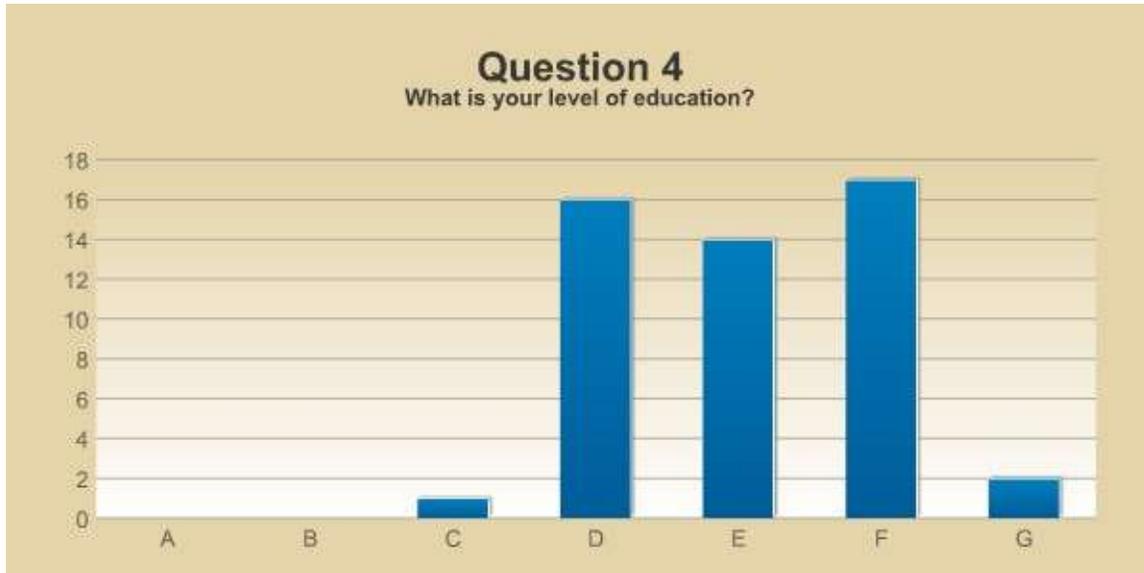


- A) Under the age of 25
- B) Between 25-35
- C) Between 36-65
- D) Over 65

In terms of the education level, it must be noted that all of the 50 participants had at least a community college degree or some university education without a degree with 1 (2%) and 17 (32%) participants respectively. 14 participants (28%) had a bachelor's degree whereas 17 participants (34%) had a graduate degree. Only 2 participants (4%) had a PhD degree. The majority of participants had either a bachelor's degree or a graduate degree. This means that the sample is not representative of people who attained lower levels of education. As a result, other studies that include other levels of education must be conducted before reaching any generalizations regarding the future trend in housing. However, this study can give an indication of the prospective home owners who obtained

or at least are in the process of obtaining a college degree. The summary of the education level is represented in Figure (5) below.

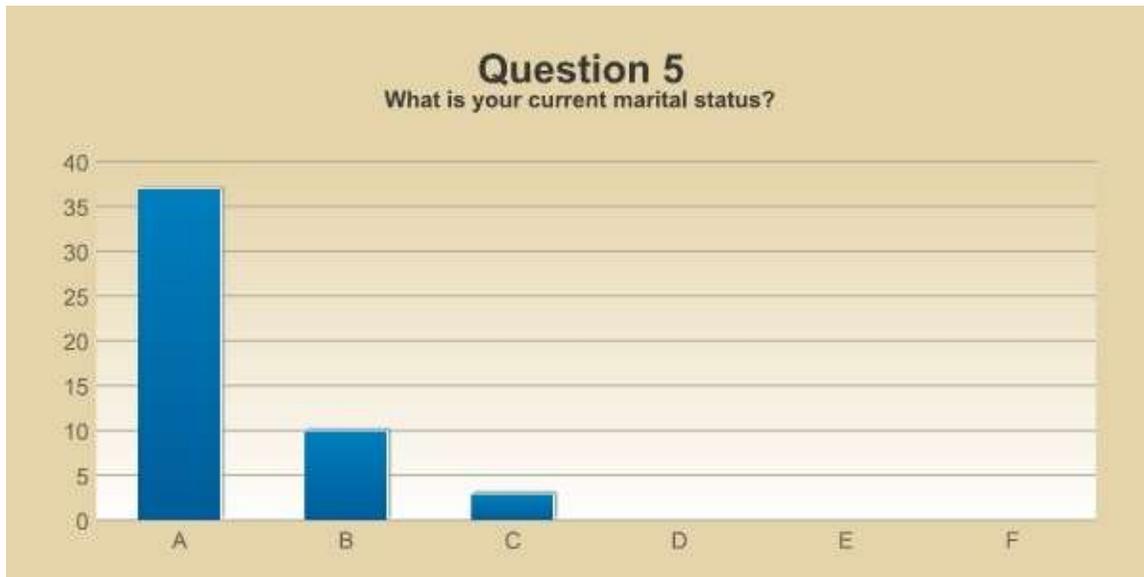
Figure 5. Education



- A) Some high school – did not graduate
- B) High school
- C) Community college
- D) Some University – no degree
- E) Bachelors degree
- F) Graduate degree
- G) PhD degree

Regarding the marital status of the participants, the majority of participants, namely, 37 participants (74%) were single and never married. Therefore, the results of the survey might be more representative of single people aged between 25 and 35 in both cities. As for the married ones, they were 10 participants which make up to 20% of the participants. 3 participants or 6% were in common law. The results are shown in Figure (6) below.

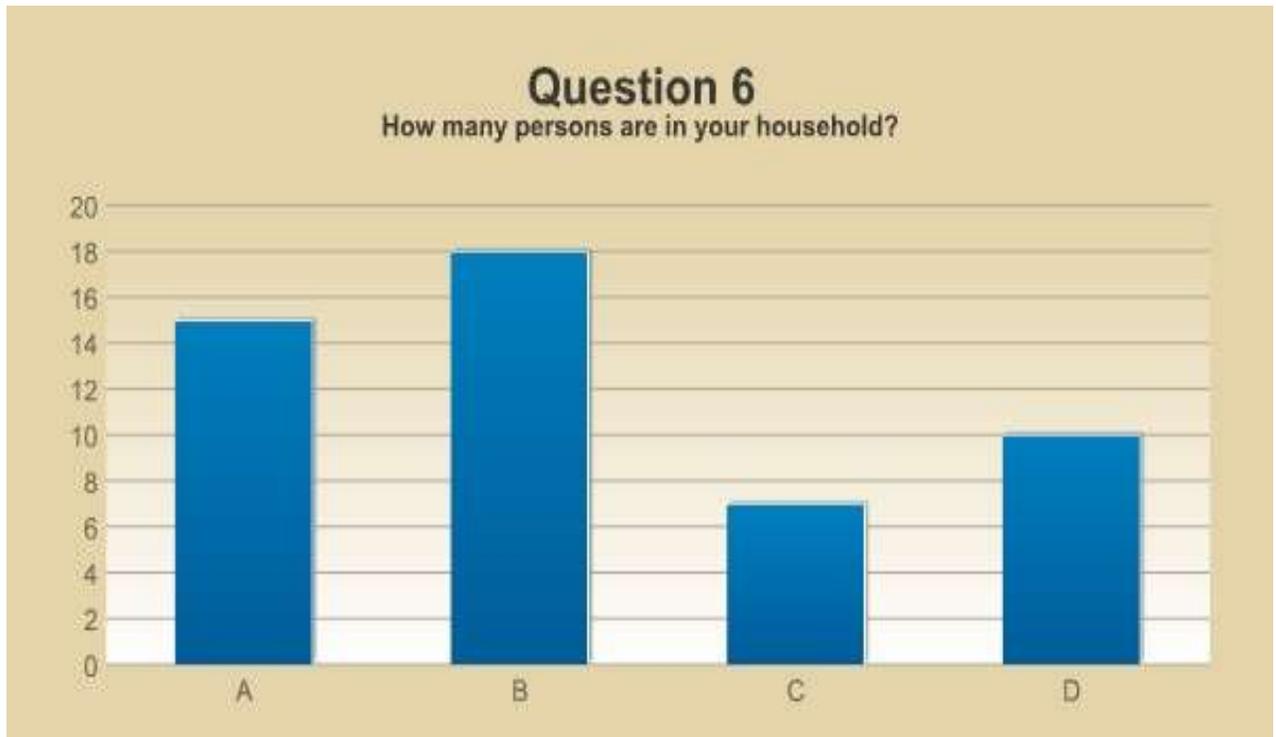
Figure 6. Marital status



- A) Single
- B) Married
- C) Common law
- D) Separated
- E) Divorced
- F) Widowed

With respect to the household size, 15 (30%) households consisted of only 1 person. 18 (36%) households consisted of 2 persons. Only 7 households or 14% consisted of 3 persons. Finally, 10 households consisted of 4 or more people. This means the responses came from people who live in households with varied size. Therefore, the results of the survey are representative of the attitudes of individuals coming from households consisting of one, two, three or 4 people. The responses to the household question are shown in Figure (7) below.

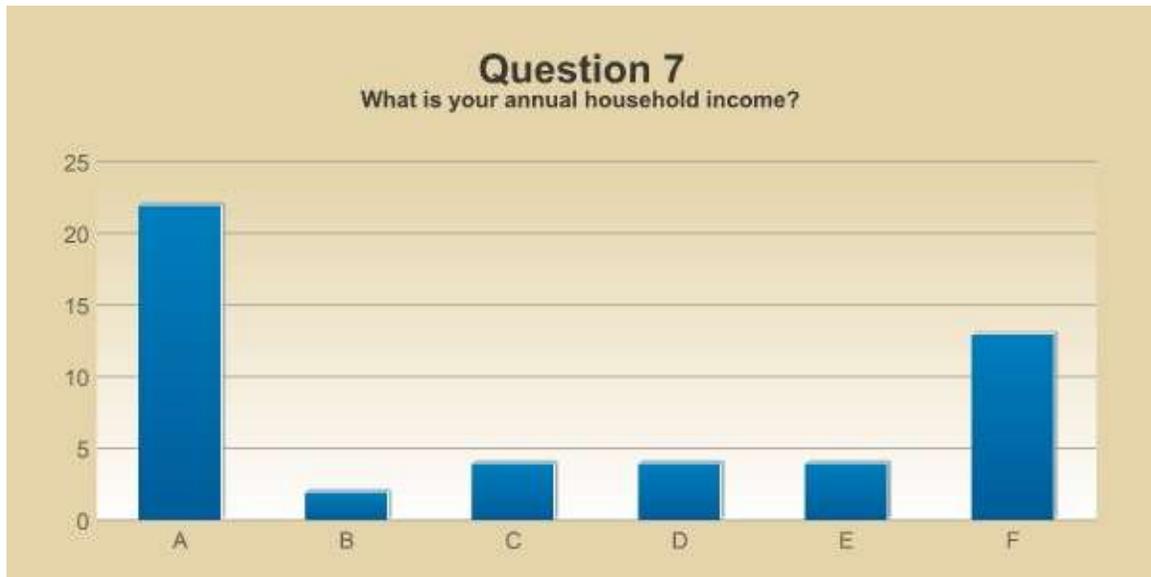
Figure 7. Household



- A) 1
- B) 2
- C) 3
- D) 4 or more

In terms of the annual household income, 22 participants which is equal to 44% made less than \$25,000 a year and 2 participants (4.1 %) were in the category of \$25,000 to less than \$35,000 a year. 4 participants (8.2%) were in each of the following categories: \$35,000 to less than \$45,000, 45,000 to less than \$55,000, \$55,000 to less than \$65,000. The second biggest category in terms of responses was that of people who made more than \$65,000 a year with 13 participants (26.5%). Therefore, the sample might be skewed towards people with lower income or higher income since the majority of participants made either below \$25000 or above \$65,000. The responses to the annual household income question are shown in Figure (8) below.

Figure 8. Income



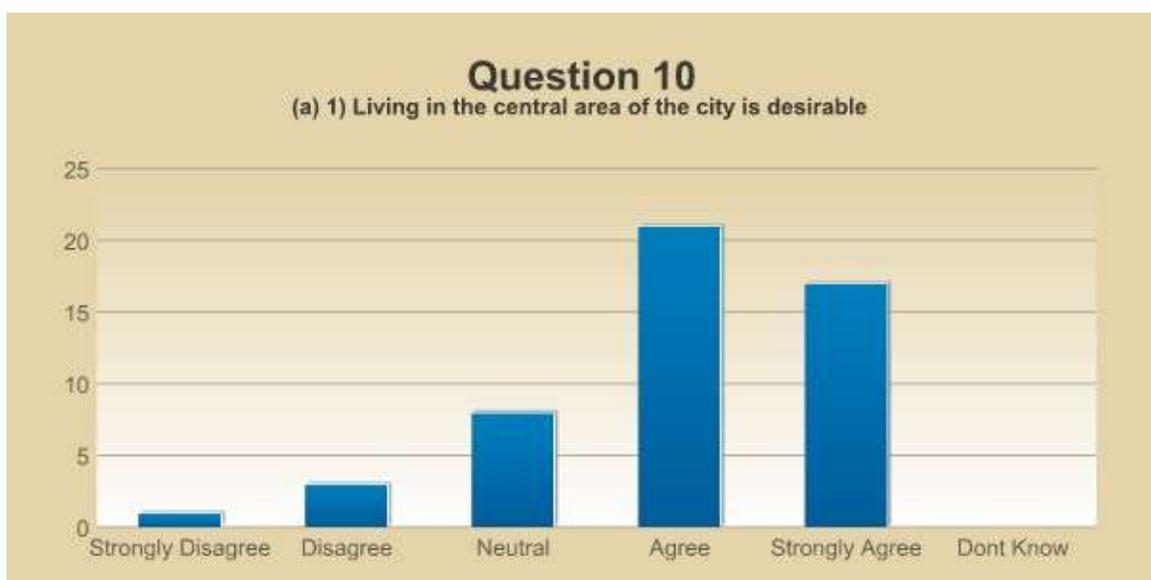
- A) Less than 25,000
- B) 25,000 to less than 35,000
- C) 35,000 to less than 45,000
- D) 45,000 to less than 55,000
- E) 55,000 to less than 65,000
- F) More than 65,000

The analysis of the demographic data shows that the number of male and female participants was quite similar. The majority of participants were either under 25 or between 25 and 35. The majority of the sample attained at least some university degree. Additionally, most participants were single living in a one or two persons' household with annual income either under \$ 25,000 or above \$ 65,000. These results are expected since the survey targeted graduate students' mail lists. It is possible that participants who had an income of more that \$65,000 were professors or faculty staff on the mail lists.

The question about what participants value most about the location where they want to live required a qualitative answer. The answers for that question can be summarized in 7 different categories. These categories are: central location and closeness to amenities and

transportation, the community and safety , distinctive character, quality of the neighbourhood schools, upkeep of the neighbourhood, the sidewalks and hence the walkability, and affordability. It is noteworthy here to mention that there were only two exceptions for the aforementioned categories. One participant from Winnipeg and another from Edmonton considered the size of the house and yard the most important aspect about where they live. Looking at the 7 categories that were identified in the answers, it becomes clear that these characteristics are most available in traditional neighbourhoods located within or near the center of the city. Accordingly, the results suggest the desirability of living in the central area. This assumption is confirmed by the results of the statement pertinent to the desirability of living in the central area (10-1). According to which, 38 participants (76%) either agreed or strongly agreed with the desirability of the central city living. Figure (9) below shows the percentages of the answers to the desirability of living in the central city.

Figure 9. Desirability of central area



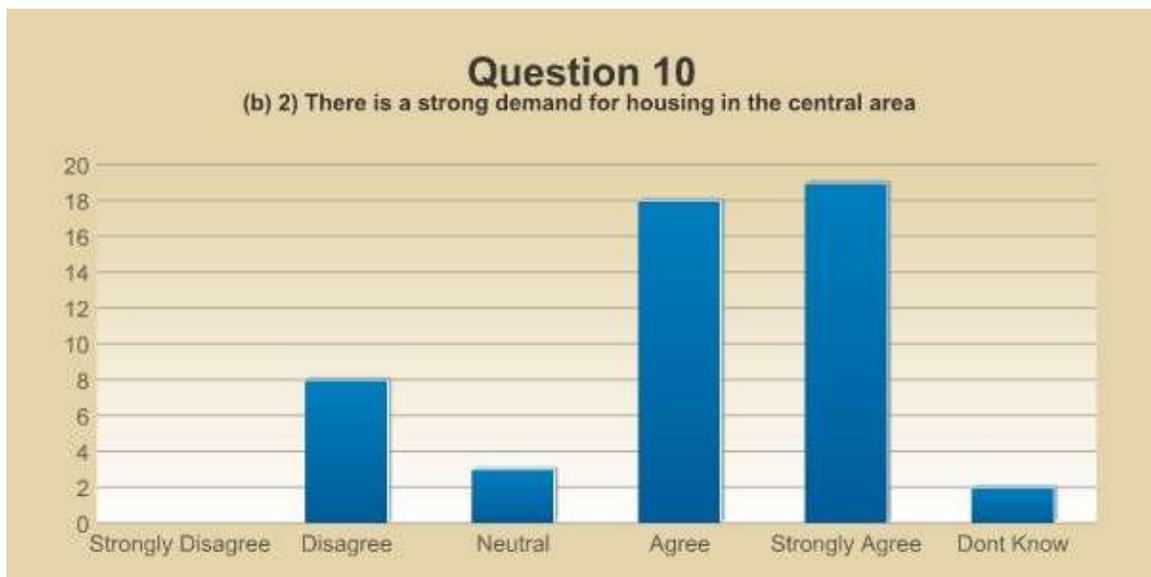
It is important here to note that the desirability of living in the central area was higher among participants in Edmonton with 23 or 92% of the participants either agreeing or strongly agreeing with the desirability of the central city living. On the other hand, 15 or 60% of the participants in Winnipeg either agreed or strongly agreed to the desirability of the central city living.

When needed, the variation between the responses in Winnipeg and Edmonton were tested for significance. The test used is the chi-square (χ^2) test, which gives the level of probability of the deviation observed in the data being due to chance alone. The χ^2 values in the results are considered for significance at 0.05 level, which means that if the differences were due to chance, then the observed figures would only be expected to occur in 5% of the possible cases. Applying the χ^2 test for the responses to the desirability of living in the central area between Edmonton and Winnipeg shows that the difference is significant since the value of the chi-square (7.018) is greater than 5.00 which is the value required for the sample at a significance level of .05. This means that the desirability of living in the central area was significantly higher among participants from Edmonton compared to participants from Winnipeg. This significant difference might be due to the lack of upkeep of the neighbourhoods located in the central area in Winnipeg or the perceived safety issues. The upkeep of the neighbourhood and safety were two of the seven categories that participants value most about the location where they want to live. Therefore, it might be expected that providing more care and improving the perception of safety can help increase the desirability of housing located in the central area of Winnipeg among

prospective home owners that share the same characteristics with the majority of the sample of this study.

Still on the same note, 37 participants (74%) either agreed or strongly agreed with the statement that there is a strong demand for housing in the central area as demonstrated in Figure (10) below. The high percentage of agreement regarding the strong demand for housing in the central area may be indicative of the desirability of living in the central among the majority of participants.

Figure 10. Strong demand



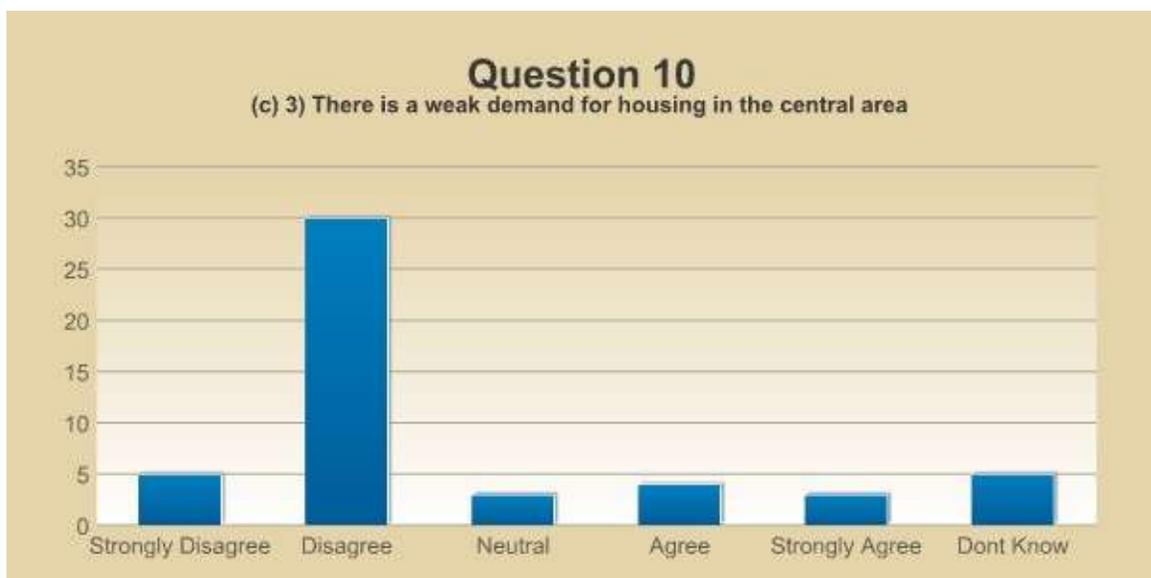
It is important to note that there was not a big difference between responses from Edmonton and Winnipeg regarding the demand for housing in the central area with 19 from Edmonton and 17 from Winnipeg either agreeing or strongly agreeing that there is a strong demand for housing in the central area.

This finding combined with the result of statement (10-3) with which 19 participants from Edmonton and 16 from Winnipeg or a total of 35 (70%) disagreed or strongly disagreed (i.e. that there is a weak demand for housing in the central area) as shown in

Figure (11) below, may be indicative of the stage of housing in the central areas of Edmonton and Winnipeg according to Hägerstrand’s model. It would be expected that during the condensing stage of the model the demand for housing in the central area would fall below 50 percent because the acceptance of the idea ceases. Therefore, In view of the results of the two statements about housing in the central area, it can be deduced that demand for housing in the central area in both cities (74%) according to the responses of the prospective owners is nowhere near the saturation or condensing stage of Hägerstrand’s model where the idea approaches its maximum dispersal and its rate of acceptance declines or stops altogether. As a result, housing in the central area in both cities can either be at the primary stage or the diffusion stage.

The level of values look a lot different from what would be expected under current urban development patterns. On the contrary, the results of the previous three statements may hint at the need for having more housing in the central area in both cities to meet the desirability of living in the central area among the majority of participants in both cities.

Figure 11. Weak demand



We move now to the part of the survey that aims at exploring preferences related to the design as well as the social structure of the neighbourhood. This part starts with statement (10-4) and ends with statement (10-22). This part of the survey will be analyzed as a group since all of its statements serve the same purpose.

As shown in Figure (12) below, 45 participants (more than 90%) either agreed or strongly agreed with the statement that an activity-friendly neighbourhood, one where people can walk to different amenities, is an attractive option. The acceptance of the statement was not much different between Edmonton with 24 participants (96%) agreeing or strongly agreeing and Winnipeg with 21 (84%) either agreeing or strongly agreeing.

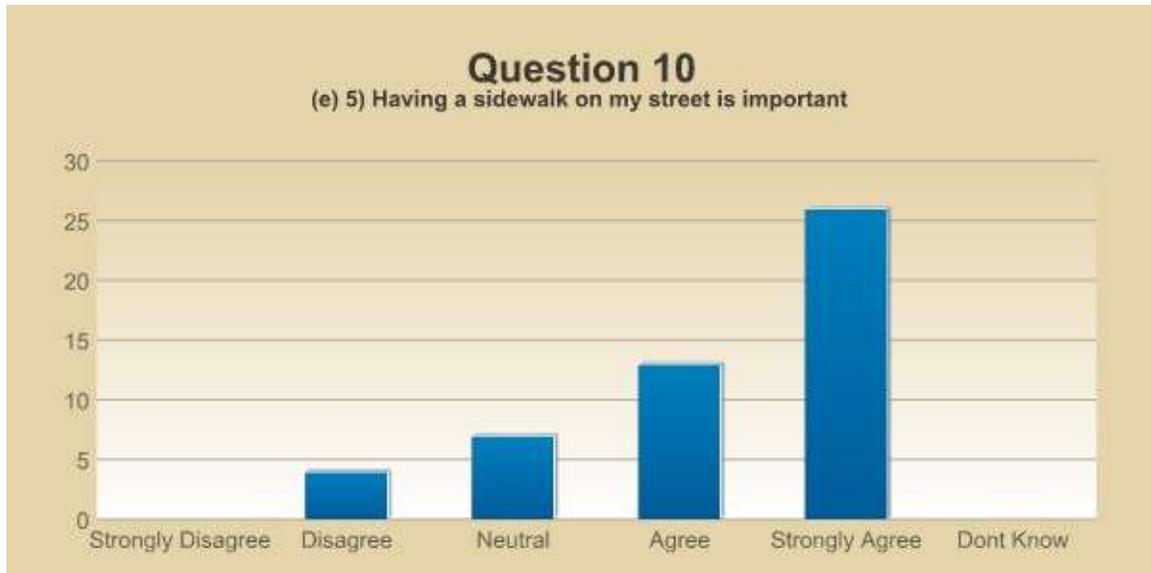
Figure 12. Activity-friendly neighbourhood



This finding about the previous statement combined with the result of statement (10-5) as shown in Figure (13) below with which 39 participants (more than 78%) agreed or strongly agreed that having a sidewalk in the neighbourhood is important, gives a strong

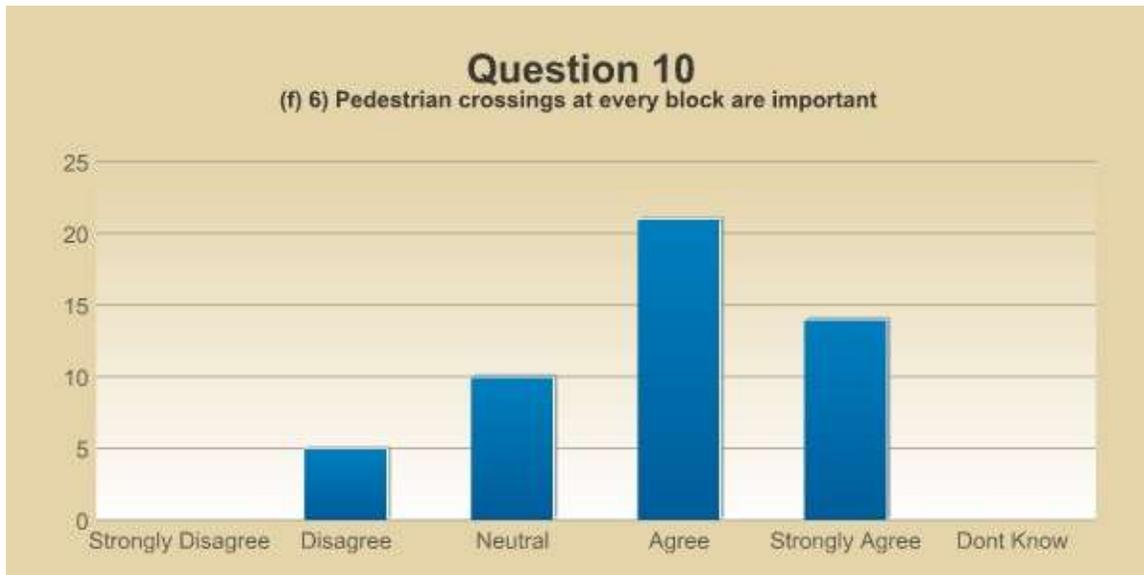
indication that participants prefer neighbourhoods that are designed to enable walking and active life. Neighbourhoods with traditional design enjoy a pedestrian friendly atmosphere and other characteristics that are favoured by the majority of participants. Most of these neighbourhoods are located within the central area.

Figure 13. Sidewalk



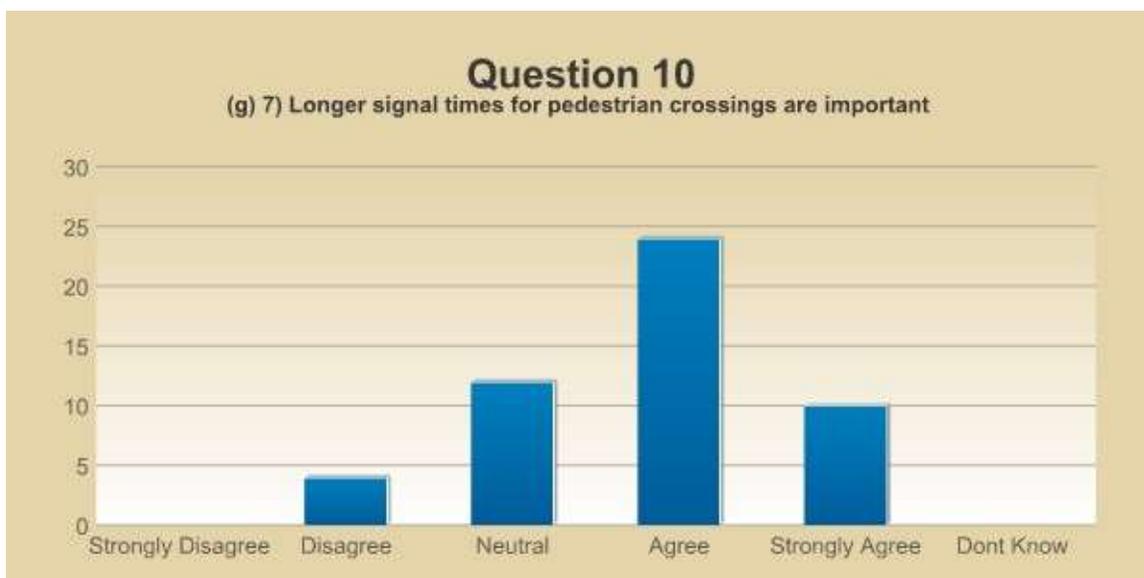
Still on the same note, Statements (10-6), (10-7) and (10-8) aimed at further exploring the preferred design of the neighbourhoods among participants. As for statement (10-6), it concentrated on the importance of pedestrian crossings at every block. As shown below in Figure (14), the majority of participants or 37 (74%) either agreed or strongly agreed that pedestrian crossings at every block are important. This high level of approval can be attributed to the need to have more crossings that enable people to walk or run without being afraid of mingling with vehicles. Pedestrian crossings are most common in traditionally designed neighbourhoods. In suburbs, safe crossing points are located very far from each other.

Figure 14. Pedestrian crossings



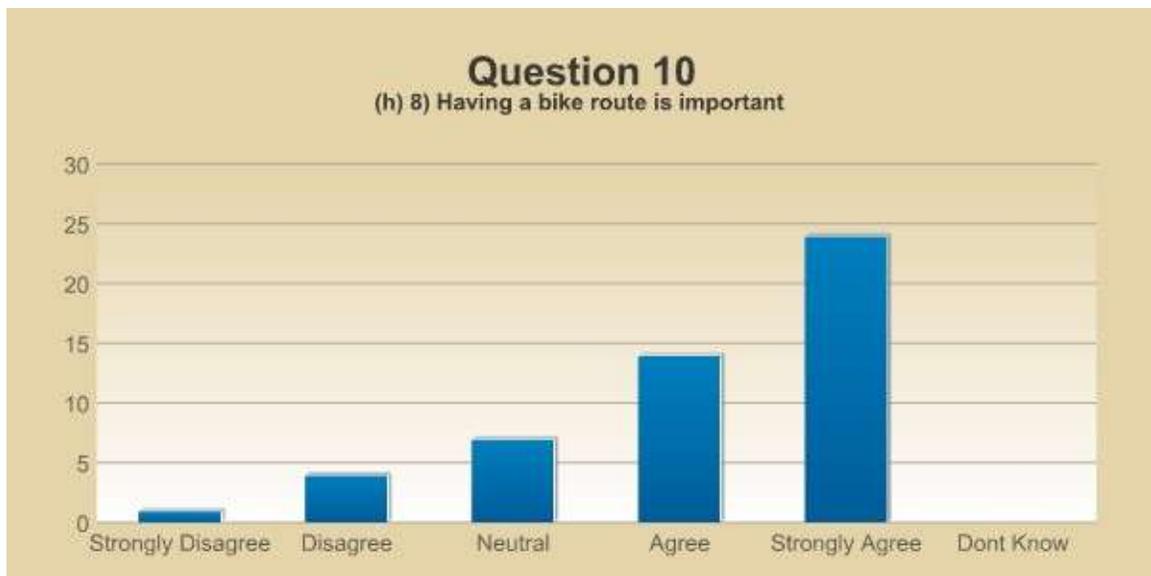
Statement (10-7) was pertinent to the importance of the longer signal times for pedestrian crossings. The responses to this statement as shown in Figure (15) below illustrated that the majority of the participants 34 (68%) equally divided between Edmonton and Winnipeg either agreed or strongly agreed to the statement. This indicates that the importance of pedestrian safety for the participants.

Figure 15. Signal times



As for statement (10-8), it concentrated on the importance of having a bike route. As shown below in Figure (16), the majority of participants 38 (76%) either agreed or strongly agreed that having a bike route is important. Suburbs are usually designed for vehicular traffic and in most cases lack sidewalks and bike routes. Unlike suburbs, traditional neighbourhoods located close to or within the central area provide bike routes and sidewalks that enable residents to enjoy a more active life.

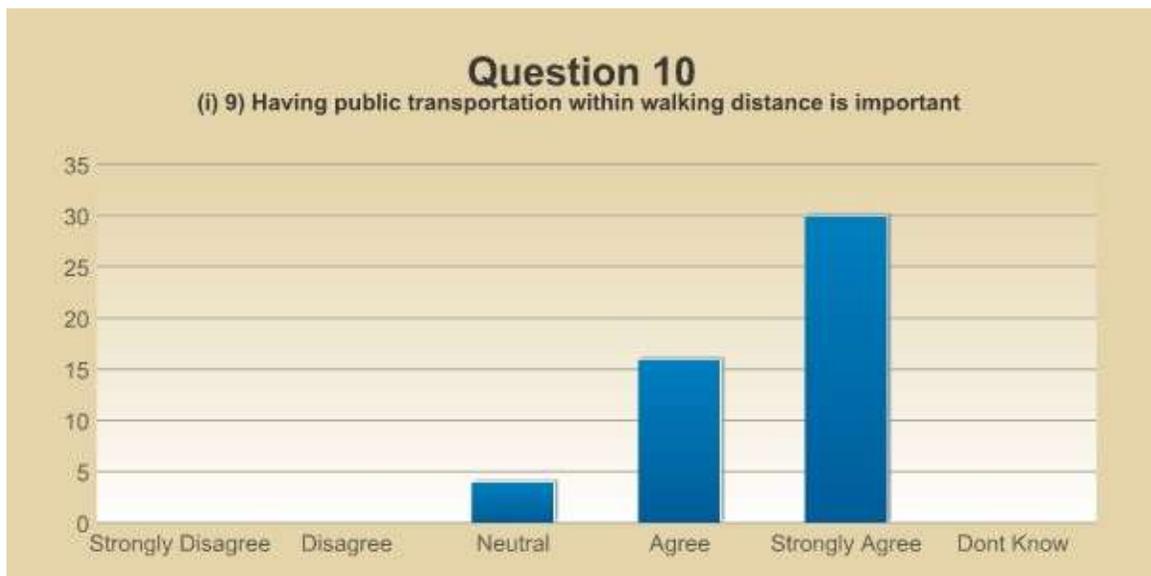
Figure 16. Bike route



Based on the responses to the three statements pertinent to pedestrian crossings, signal times and bike routes, it could be inferred that there was a strong preference of the neighbourhood design that allows people to lead an active life. This preference cannot be generalized to include all sectors of the society but at least it can apply to other people who share the same characteristics with the majority of the participants in this study. Along the same line, the responses to statement (10-9) which are illustrated in Figure (17) below reveal that the overwhelming majority of participants 46 (92%) expressed the

importance of having public transportation within walking distance. Only four participants were neutral and the remaining 46 participants either agreed or strongly agreed with the importance of having public transportation within walking distance. The result shows the big role public transportation could play in attracting prospective home owners. The environmental benefits of public transportation were the subject of many studies. According to these studies, choosing public transit over automobiles reduces the pollution and thus helps protect the environment (Newman & Kenworthy, 1999). The importance of public transportation shown by the majority of participants can either be attributed to the increased awareness regarding the environmental benefits of public transportation or the fluctuating gas prices.

Figure 17. Public transportation



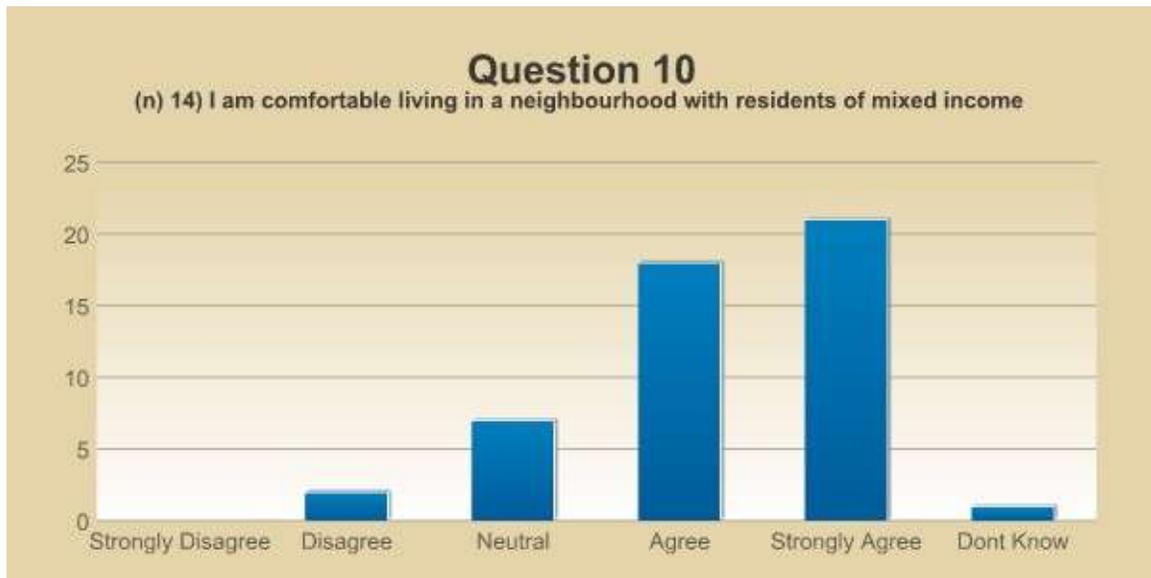
Statements (10-10), (10-11), (10-12) and (10-13) aimed at exploring participants' opinions regarding the importance of being able to walk to the grocery store, a park, a pub and a coffee shop. Responses for the four previous statements received almost equal numbers of approval with 39 participants (78%) either agreeing or strongly agreeing with

the importance of having a grocery store and a coffee shop within a walking distance. As for the importance of having a pub and a park within a walking distance, each of them received a high number of approval with 38 participants (76%) either agreeing or strongly agreeing. The high percentage gives a clear indication that having a park within a walking distance is viewed by the majority as an important component of their housing needs. This high level of approval sheds light on the importance of such amenities in the neighbourhood and the need to design neighbourhood that offer residents the opportunity of having amenities and a park within a walking distance. As mentioned before, the suburbs are usually designed for vehicular traffic. For this reason, people have to drive in order to reach amenities such as parks, grocery stores and coffee shops. Unlike suburbs, neighbourhoods in the central areas provide a lot of amenities that are located within a walking distance.

The four previous statements concentrated on the physical design and layout of the neighbourhood. As for statement (10-14), it concentrates on the economic structure of the neighbourhood. As shown in Figure (18) below, the majority of participants 39 (78%) either agreed or strongly agreed with the statement that they are comfortable living in a neighbourhood with residents of mixed income. Wilson (1987) argued that the spatial concentration of low-income households can compound the disadvantage of poor families in predominantly poor areas in what he called the “neighbourhood effects” (p. 30). The result of the previous statement (10-14) presents an indication for the acceptance of development with more mixed income. This finding along with studies from the US suggesting that private property values are not affected by mixed-income housing (Freeman,

2004) can be used by Canadian planners and city officials to try to promote the inclusion of affordable housing on new development sites in order to reduce problematic concentration of households with low incomes in specific areas.

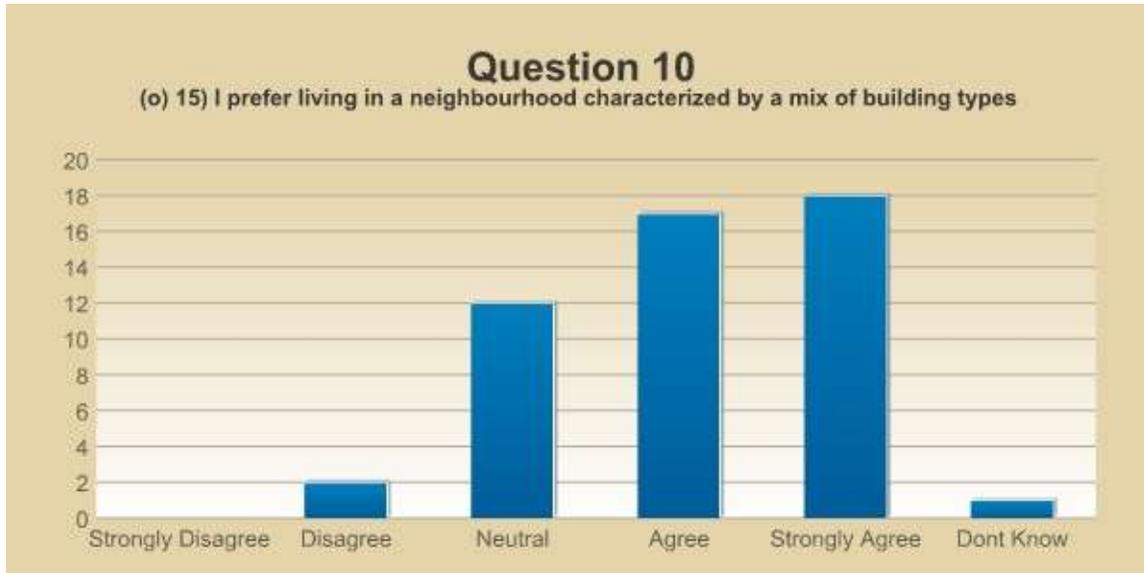
Figure 18. Mixed income



Statement (10-15) was related to the preference of living in a neighbourhood characterized by a mix of building types. As demonstrated in Figure (19) below, the majority of participants 35 (70%) either agreed or strongly agreed with this statement. It is important to note that 12 participants (24%) were neutral. Previous studies indicated that neighbourhoods with mix of building types may be more able to meet the changing needs and aspirations of those who live in it through changing life stages, household shapes and sizes or changes in income (Detr, 2000). Suburbs are characterised by only one type of housing; namely, single family. Thus, suburbs do not give prospective residents alternative to choose from. Unlike suburbs, neighbourhoods located in the central area can meet the changing needs of prospective residents because they have different housing types. The

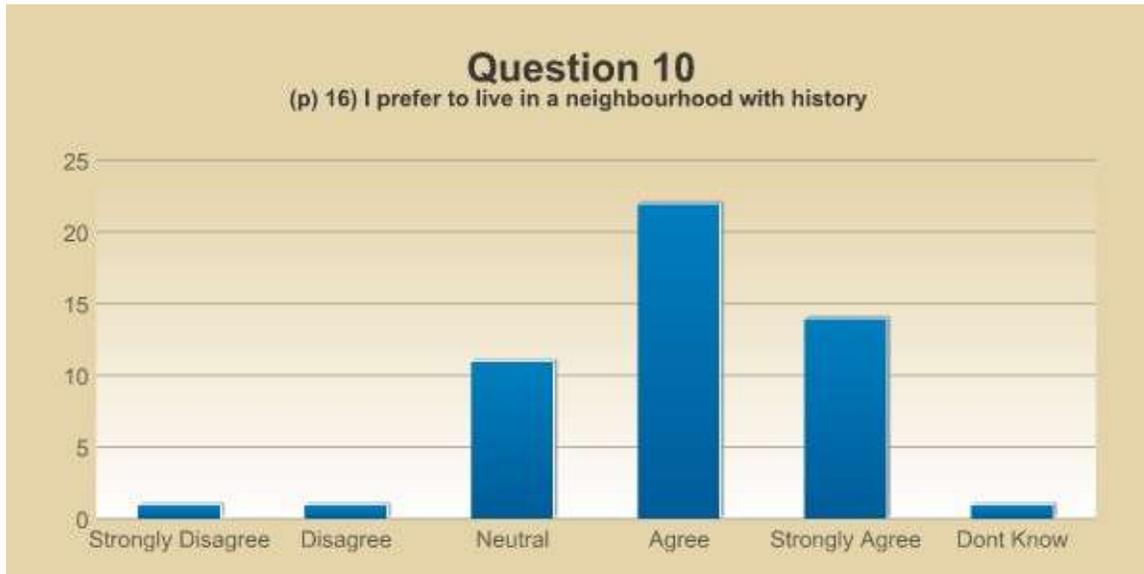
availability of different housing types might draw prospective home owners towards the central areas.

Figure 19. Mix of building types



Statement (10-16)) was pertinent to the preference for living in a neighbourhood with history. As shown in Figure (20) below, the responses to this statement showed that the majority of the participants 36 (72%) either agreed or strongly agreed with the statement. Unlike other cities, many neighbourhoods in Winnipeg still keep their historic character because most of the older buildings are still intact. Based on the result of the previous statement, it can be expected that such neighbourhoods might be able to attract prospective home owners who share the same preference for living in neighbourhoods with history. The neighbourhoods located in the central area of Winnipeg, for example, possess history and character but they require investments to promote these advantages. For this reason, studies that point to the importance of history for prospective home owners might convince developers to invest in these neighbourhoods.

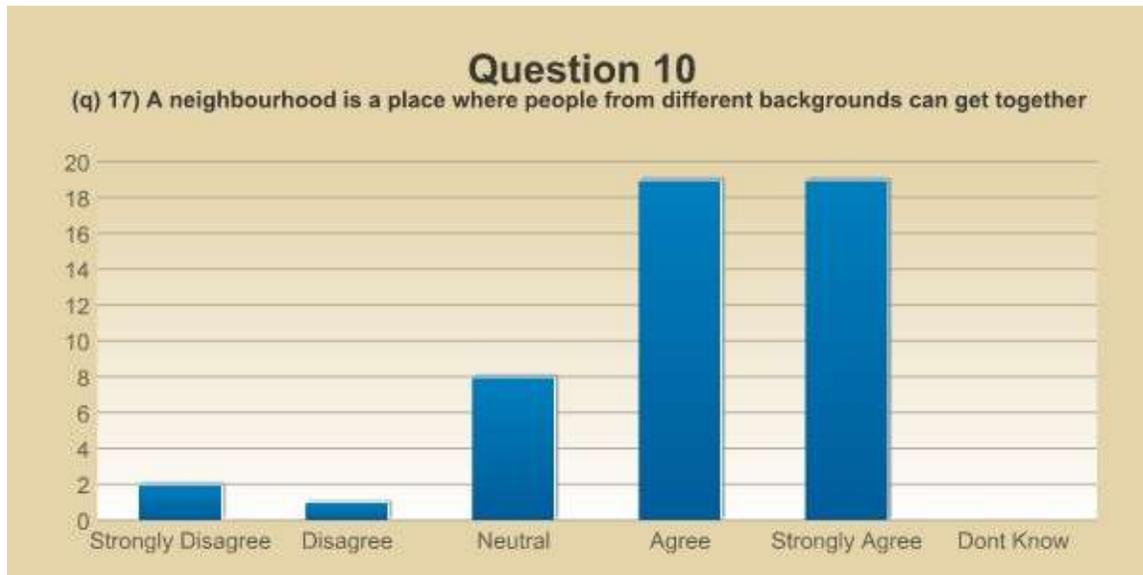
Figure 20. History



Statement (10-17) is related to the social structure of the neighbourhood; namely, people of diverse background who can get together. The responses to this statement which are illustrated in Figure (21) below reveal that the majority 38 participants (78%) either agreed or strongly agreed that a neighbourhood is a place where people from different backgrounds can get together. This might imply that the social mix which is common in the neighbourhoods located in the central areas will not dissuade prospective home owners from considering these neighbourhoods. It should be noted that this finding cannot be generalized to all sectors of the society since the study sample enjoys a high level of education and other personal characteristics. However, the result of this statement is in congruence with academic research that has shown that social mix in neighbourhoods is commonly a matter of little concern to most residents (Jupp, 1999). There is even some evidence that a minority – but only a small one – of people with choice in the housing

market, middle-class owner-occupiers, values social mix and actively seeks it (Butler & Robson, 2003).

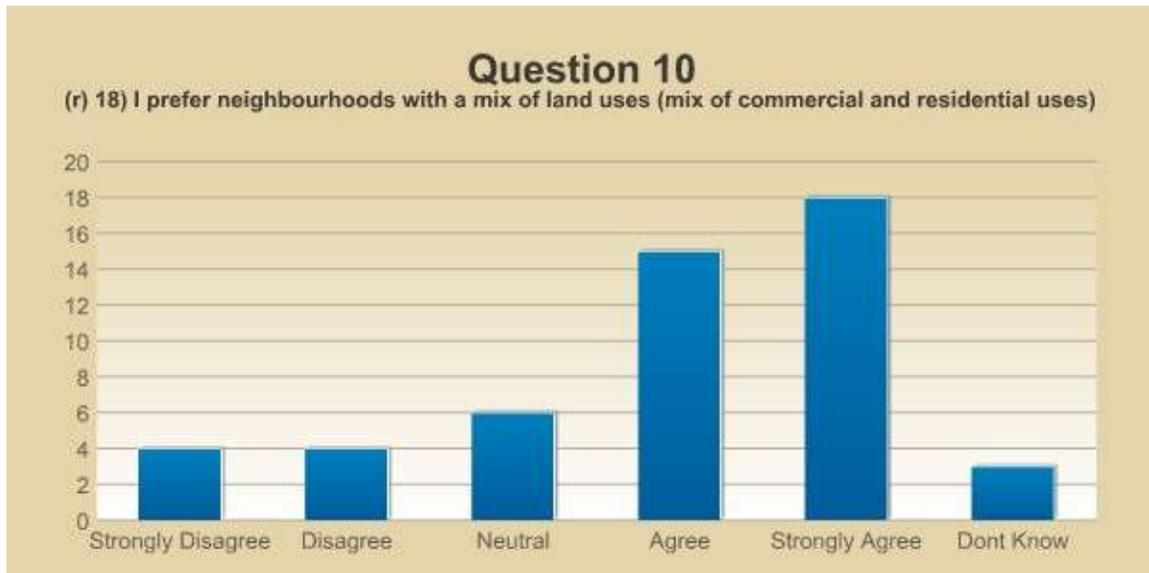
Figure 21. Different backgrounds



A neighbourhood may be mixed in terms of the designated uses of its buildings. Central areas, for example, may contain a variety of building types and residential and commercial uses. On the contrary, residential areas in many subdivisions may be made up almost exclusively of one built form and use. Statement (10-18) concentrated on exploring participants' attitudes towards neighbourhoods with a mix of land uses (mix of commercial and residential uses). The majority of participants 33 (66%) as illustrated in Figure (22) below either agreed or strongly agreed with the statement. The difference between Edmonton and Winnipeg in this regard was negligible: 17 and 16 participants either agreeing or strongly agreeing in Edmonton and Winnipeg respectively. The result of the previous statement indicates that prospective home owners prefer neighbourhoods with a mix of residential and commercial uses to neighbourhoods that are exclusively residential.

It might be the case that neighbourhoods with mixed use provide more walkable environments where residents can walk to grocery stores, schools and other amenities.

Figure 22. Mix of land uses



Based on the responses to the five statements pertinent to the mixed income, mix of building types, history, people of different backgrounds and mix of land uses, it could be inferred that there is a strong preference for neighbourhoods that possess these characteristics. In order to test whether there is a correlation among the responses to the previous five statements, a Pearson test is used. A Pearson test is the most common measure of correlation between quantitative variables (Field, 2000, p. 59). The Correlation coefficient is a number between -1.00 and +1.00. A value of -1.00 indicates a perfect negative correlation. A value of +1.00 represents a perfect positive correlation. The closer the correlation coefficient is to +1 or -1, the more closely the two variables are related. A value of 0.00 represents a lack of correlation (Dowdy & Wearden, 1983, p. 230). The values of the correlation coefficients are considered for significance at 0.05 level, which

means that if the differences were due to chance, then the observed figures would only be expected to occur in 5% of the possible cases.

To be able to look for associations in the five variables mentioned above, the responses were first translated into numerical values using SPSS. Following that, the correlation test was applied on the three variables. To apply the statistical tests on the responses of the statement, the “don’t know” responses were declared as missing. The results of the correlation test are shown in correlations Table (1) below.

Correlations table 1. Mixed income, buildings, history, backgrounds and land uses

Statements	S(10-14)	S(10-15)	S(10-16)	S(10-17)	S(10-18)
S(10-14)	1	.959(*)	.898(*)	.986(*)	.973(*)
S(10-15)	.959(*)	1	.941(*)	.965(*)	.912(*)
S(10-16)	.898(*)	.941(*)	1	.942(*)	.851(*)
S(10-17)	.986(*)	.965(*)	.942(*)	1	.972(*)
S(10-18)	.973(*)	.912(*)	.851(*)	.972(*)	1

* means correlation is significant at the 0.05 level

S(10-14) I am comfortable living in a neighbourhood with residents of mixed income

S(10-15) I prefer living in a neighbourhood characterized by a mix of building types

S(10-16) I prefer to live in a neighbourhood with history

S(10-17) A neighbourhood is a place where people from different backgrounds can get together

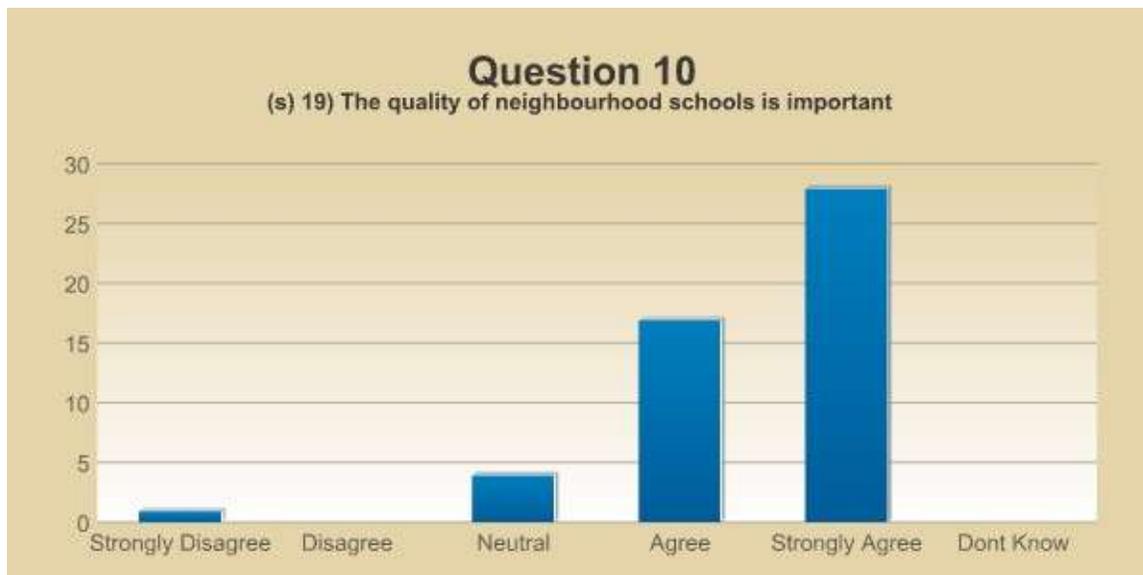
S(10-18) I prefer neighbourhoods with a mix of land uses (mix of commercial and residential uses)

The results of the Pearson correlation show that there is a strong positive association among all the 5 statements. This means that there is a strong relation among the preference for living in a neighbourhood with mixed income, mix of building types, history, people of different backgrounds and mix of land uses. The previous five traits are characteristic of the neighbourhoods located within the central area. This shows that the central area enjoys a lot of the characteristics that are desired by the majority of prospective home owners in this study.

As for statement (10-19), it was related to the importance of neighbourhood schools.

Several studies note that local schools in established neighbourhoods are rarely engaged in redevelopment processes although this may be changing (Crowther et al., 2004). This might discourage families from living in these areas because as demonstrated in Figure (23) below, the overwhelming majority of participants 45 (90%) either agreed or strongly agreed that the quality of neighbourhood schools is important. The strong association between the quality of public schools in a neighbourhood and the demand for housing was documented in a study by Goodman and Thibodeau (1998). Therefore, improving the quality of the schools located within the central area should be one of the main components of any strategy aiming at attracting more prospective home owners.

Figure 23. Schools



Some studies suggested that there is a relation between increased income mix and educational attainment in areas (Beekman et al., 2001). In order to test the previous relation, a Pearson test is applied. The results of the test as shown in correlations Table (2) below confirm the strong association between the importance of neighbourhood schools

and the mix of income according to the view of prospective home owners.

Correlations table 2. Mixed income and schools

Statements	S(10-14)	S(10-19)
S(10-14)	1	.967(*)
S(10-19)	.967(*)	1

* means correlation is significant at the 0.05 level

S(10-14) I am comfortable living in a neighbourhood with residents of mixed income

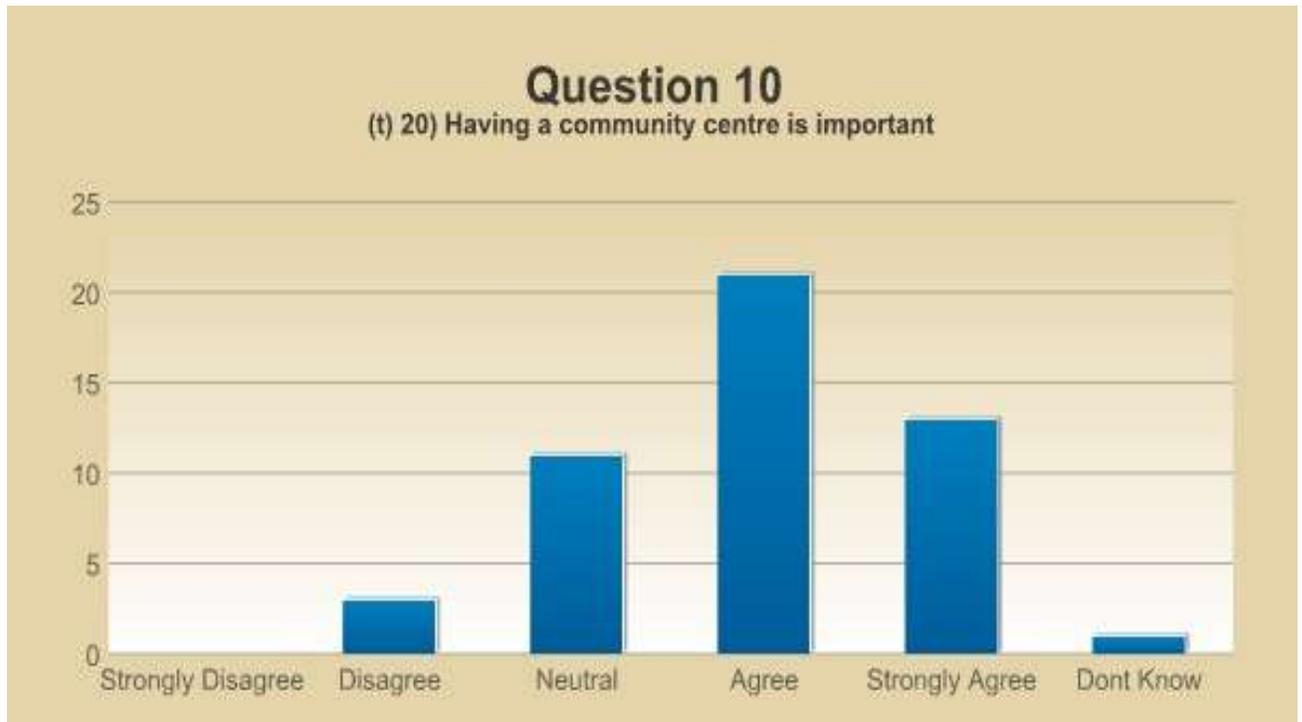
S(10-19) The quality of neighbourhood schools is important

Statement (10-20) was pertinent to the importance of having a community centre.

Community centres are host to a wide variety of activities catering to all sections of the community from the very young to the very old. Often they are the only community facility available for public use in a neighbourhood. Thus, they are considered as potential sites for positive interaction among residents which can contribute to strengthening local communities and lead to community cohesion (Amin, 2002).

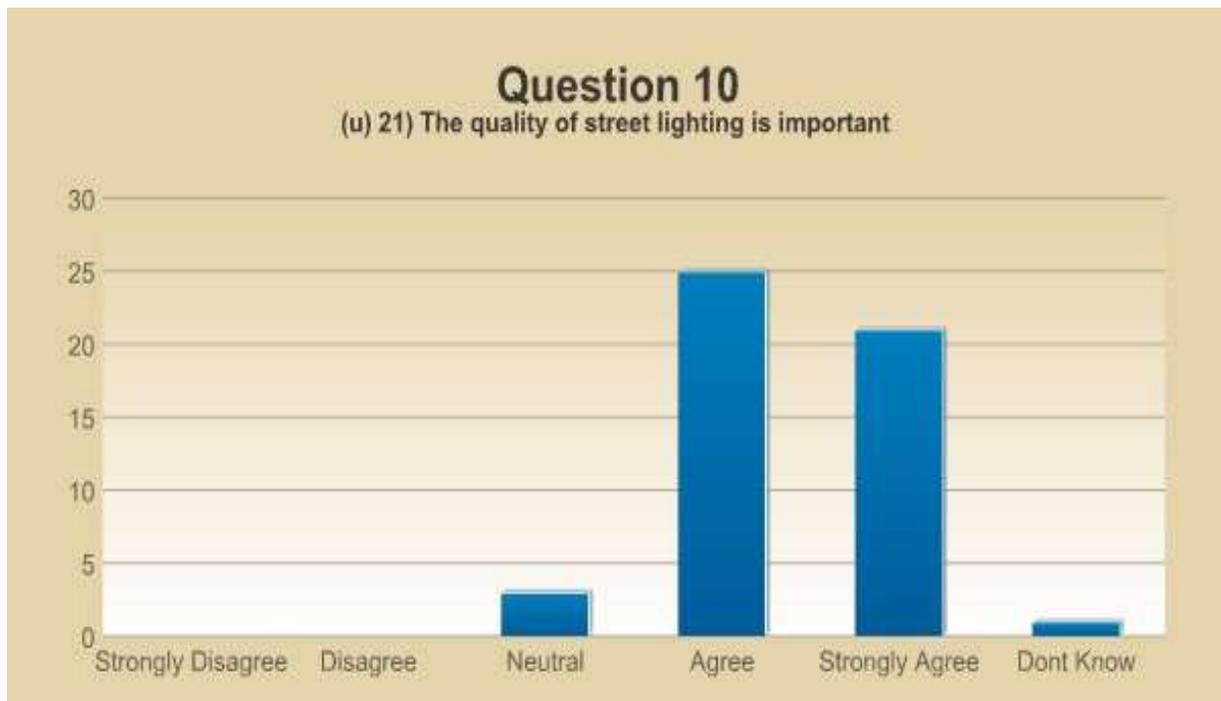
The results of the statement shown in Figure (24) below allude to the importance of the community centre. 17 participants from Edmonton and 16 from Winnipeg (66%) either agreed or strongly agreed that having a community centre is important. Similar to public schools, upgrading and maintaining community centres located within the central area should be one of the main components of any strategy aiming at attracting more prospective home owners. The importance placed on community centres might be indicative of the importance of socializing for the majority of participants in this survey. The importance of community centres may not be shared by all sectors of the society.

Figure 24. Community centre



Statement (10-21) was pertinent to the quality of street lighting. The quality of street lighting not only helps prevent crime, but also may serve to increase pedestrian safety and traffic safety (Farrington & Welsh, 2007). As shown in Figure (25) below, the overwhelming majority of participants 46 (92%) equally divided between Edmonton and Winnipeg either agreed or strongly agreed that the quality of street lighting is important. It is noteworthy that none of the participants disagreed or strongly disagreed. Similar to public schools and community centres, street lighting in neighbourhoods located within the central area should be one of the components of any strategy aiming at attracting more prospective home owners. Thus, it can be inferred that improving street lighting, school quality and the community centres can have a positive effect on the desirability of housing that is located in the central among the majority of participants in this study.

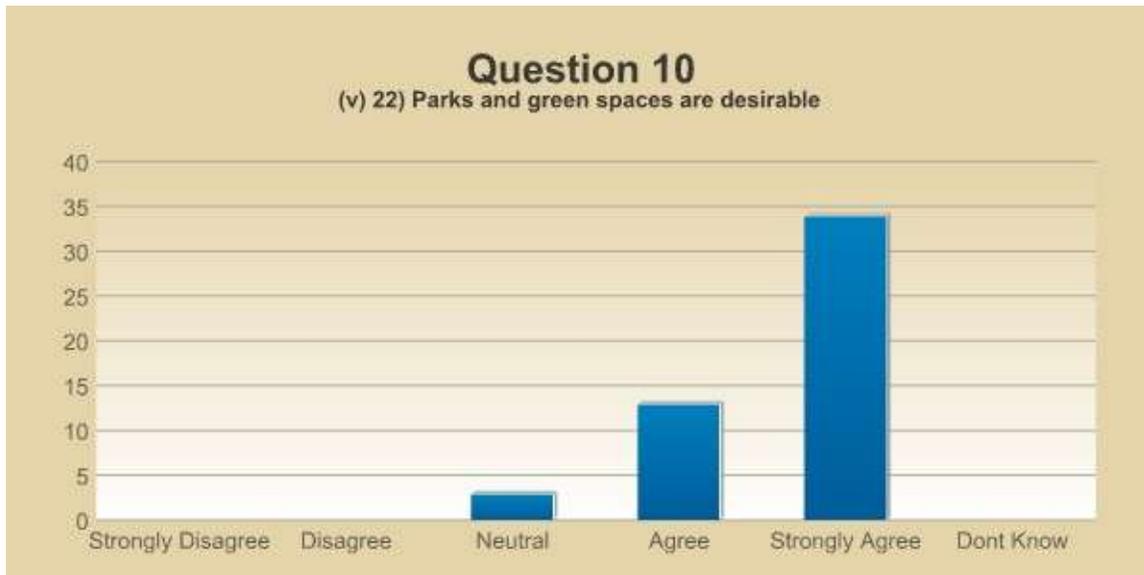
Figure 25. Street lighting



Just as was the case regarding the quality of street lighting, none of the participants responding to statement (10-22) relating to the desirability of parks and green spaces disagreed or strongly disagreed. The responses to this statement which are illustrated in Figure (26) below reveal that the overwhelming majority 47 (94%) either agreed or strongly agreed.

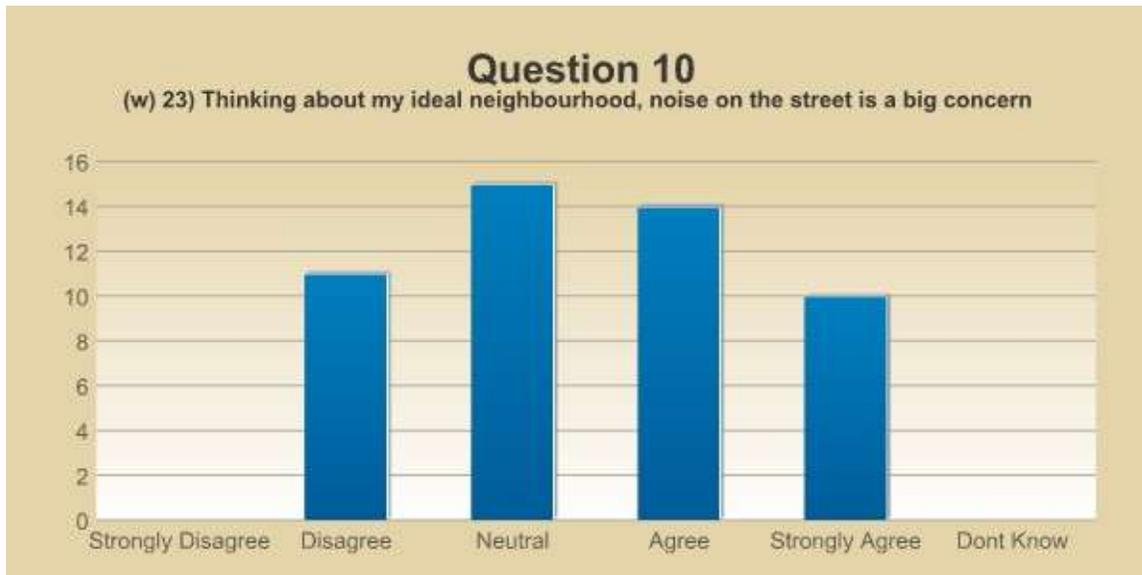
The results indicate that participants recognize the importance of parks and green spaces. Parks and green spaces provide meeting places which can lead to social interaction (Maloutas & Pantelidou, 2004). Based on the results of the previous statement, it can be expected that taking care of the existing parks and green spaces and expanding them can have a positive effect on the desirability of housing within the central area.

Figure 26. Parks and green spaces



Statement (20-23) aimed at revealing the participants' attitude towards noise on the street. The responses to this statement which are illustrated in Figure (27) below reveal that there is no majority concerning any of the responses. 15 participants (30%) were neutral whereas 15 (30%) disagreed or strongly disagreed with the statement. On the other hand, 20 participants (40%) agreed or strongly agreed. It is important to note that all the 8 participants aged between 36-65 either agreed or strongly agreed. Whereas the responses of the other two age categories ranged between being neutral, agreeing or strongly agreeing. This might suggest that noise on the street might be more of a concern for people as they get older. However, the results of this statement can at least indicate that noise on the street is not as big of a concern as some studies have indicated (Greenberg & Schneider, 1996; Nelson, 1982) especially for people younger than 36 years old. The result of this statement implies that the perceived noise in the central areas might not represent a big concern for prospective home owners.

Figure 27. Noise on the street

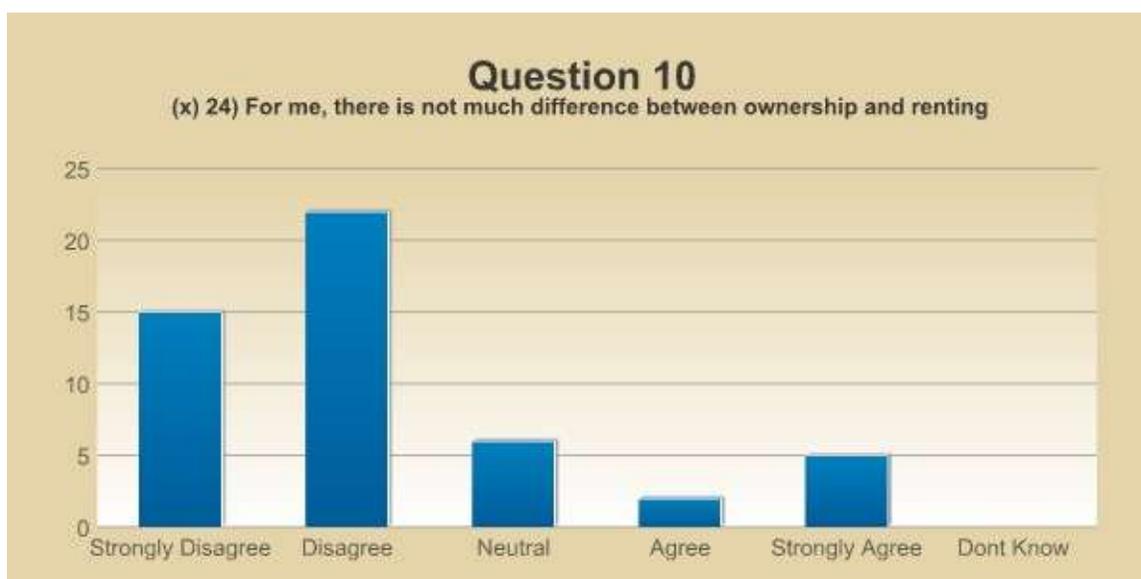


Statements (10-24) to (10-33) investigate the preferences for housing tenure, housing sizes, features and types. As for statement (10-24), it gauges participants' perception of ownership and renting. There is a perception that home ownership is associated with community stability. On the other hand, the rental sector is associated with easy access and high turnover, and while it provides choice and can house a diverse range of residents, many residents perceive it as negatively impacting their neighbourhood because it might "bring people that have little care about the neighbourhood" (Lee & Murie, 2005, p.50).

The responses to the statement demonstrated in Figure (28) below confirmed the perceived distinction between ownership and rental. The majority of participants 37 (74%) either disagreed or strongly disagreed that there is not much difference between renting and ownership. There was no significant difference between the responses in Edmonton and Winnipeg with 20 either disagreeing or strongly disagreeing in Winnipeg and 17 either

disagreeing or strongly disagreeing in Edmonton. The results of this statement reveal that there is a big distinction in participants' mind regarding rental and ownership. Some studies attributed this to the perception that rental housing can bring the prices of the neighbourhood down and brings the decline of the neighbourhoods (Ellen, 2000). The perceived distinction between ownership and rental might affect future housing in the central areas if there is a concentration of rental. Combining privately owned housing with affordable housing might be one way of solving the problem of ownership versus renting.

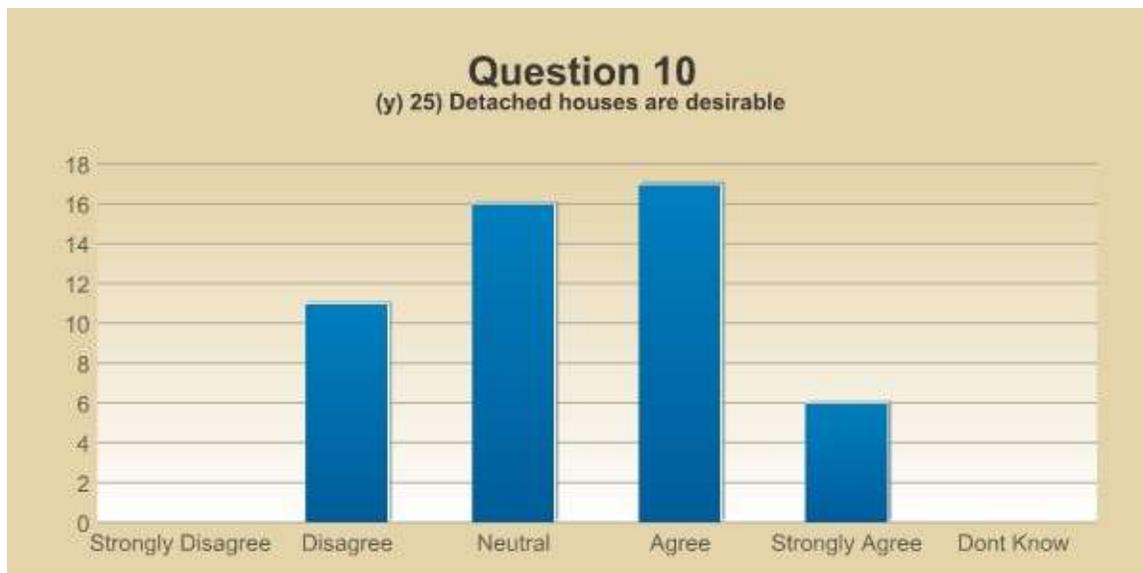
Figure 28. Ownership and renting



Statement (10-25) investigates the preference for one of the housing types; namely, detached houses. The responses which are shown in Figure (29) below demonstrate that there was no majority regarding the desirability of detached houses with 23 participants (46%) either agreeing or strongly agreeing with the desirability of detached houses. It is noteworthy that 16 participants (32%) were neutral. This means that detached houses are still desirable by a big percentage of participants. That applies both to Edmonton and

Winnipeg almost equally as there were 12 and 11 participants respectively agreeing with the statement. However, the percentage of participants agreeing or strongly agreeing with the desirability of detached houses (less than 50%) might imply that there is not a very strong preference for single family detached housing among this sample of prospective home owners. Suburbs are dominated by single family detached houses because of the availability of cheap land. This means that any drop in demand for detached houses might provide an opportunity for investing in medium and higher density housing types that are more available in the central area. The following statements aim at exploring the desirability of townhouses, triplexes, apartments and loft housing among this sample of prospective home owners. Compared to detached housing, the previous four housing types are more suitable in the central area.

Figure 29. Detached housing

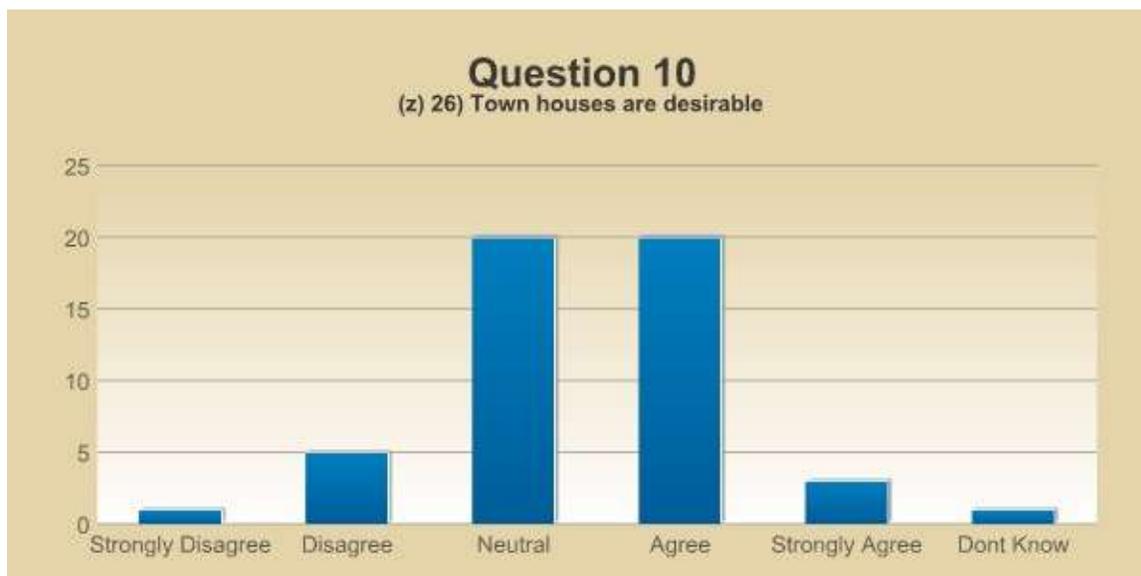


Statement (10-26) concentrates on the desirability of another type of housing; namely, townhouses. As shown below in Figure (30), 23 participants (43%) either agreed or

strongly agreed that townhouses are desirable, still not much can be drawn out of the result of this statement since 21 participants (42%) either were neutral or did not know. However, the results of this statement can at least indicate that townhouses are not unacceptable by participants as only six participants (12%) either disagreed or strongly disagreed. The difference between Edmonton and Winnipeg regarding the desirability of townhouses is of significance. In Edmonton, 15 participants (60%) either agreed or strongly agreed whereas there were only 8 (32%) in Winnipeg.

Applying the chi-square (χ^2) test for the responses to the desirability of townhouses between Edmonton and Winnipeg shows that the difference is significant since the value of the chi-square (15.018) is greater than (5.00) at a confidence level of 95%. Consequently, it can be concluded that townhouses are considerable as a desirable housing option for prospective home owners in Edmonton and less so in Winnipeg.

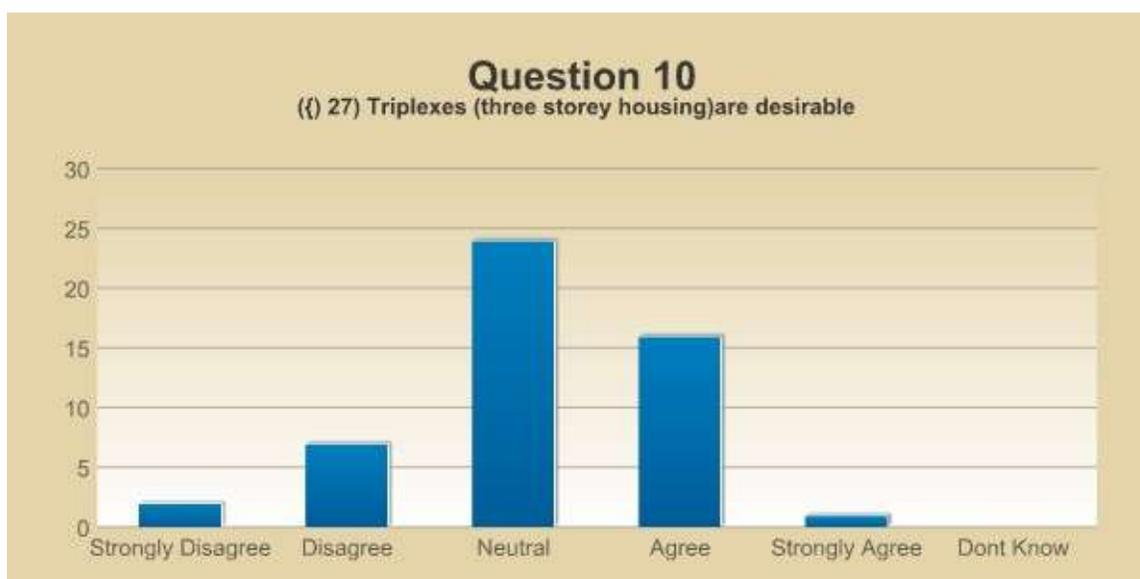
Figure 30. Town houses



As for statement (10-27), it concentrated on gauging the desirability of triplexes. Not unlike the results of the previous statement about townhouses, there was no clear majority

regarding the desirability of triplexes. As shown below in Figure (31), 24 participants (48%) were neutral. 17 participants (34%) either agreed or strongly agreed whereas 9 participants (18%) either disagreed or strongly disagreed. Still not much can be drawn out of the result of this statement since 48% were neutral. However, the results of this statement can at least indicate that triplexes as a housing option are not unacceptable by participants especially in Edmonton where 12 out of 25 (48%) either agreed or strongly agreed with the desirability of triplexes.

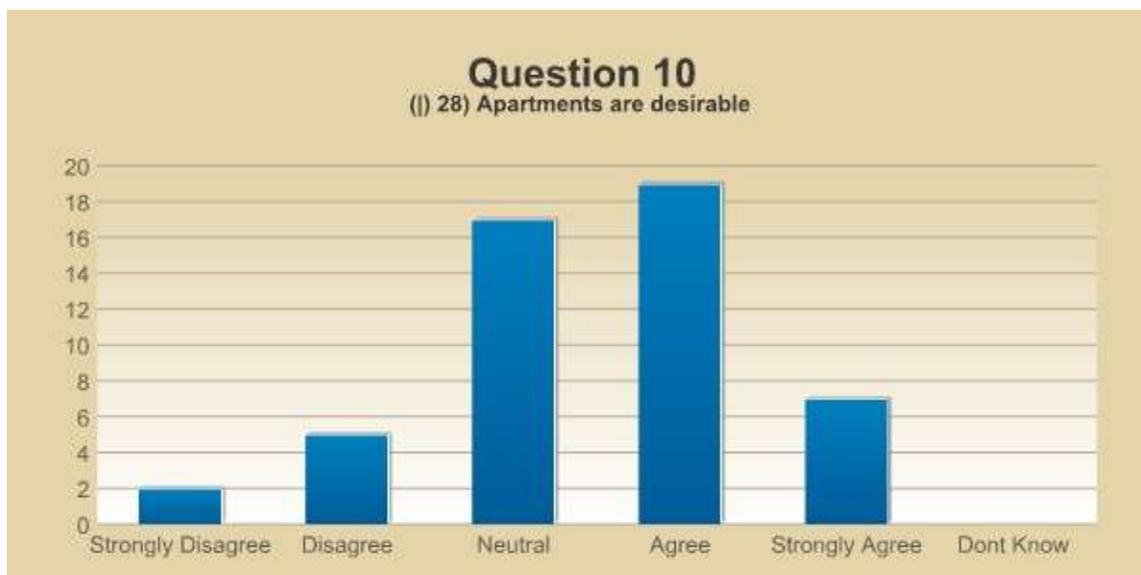
Figure 31. Triplexes



As for statement (10-28), it focused on gauging the desirability of apartments. Unlike the results of the previous statement about townhouses and triplexes, there was a slight majority regarding the desirability of apartments. As shown below in Figure (32), 17 participants (34%) were neutral. 26 participants (52%) either agreed or strongly agreed whereas 7 participants (14%) either disagreed or strongly disagreed. This means that more than 50% of the participants perceived apartments as a desirable housing option. The

difference between the desirability of apartments between Edmonton and Winnipeg is not significant: 15 agreed or strongly agreed in Edmonton and 11 in Winnipeg. As a result, it can be concluded that although the desirability of triplexes was significantly higher in Edmonton than in Winnipeg, the desirability of apartments in Edmonton and Winnipeg is not very different and it is generally higher than that of triplexes. Comparing the result of the previous statement with that of statement (10-25), shows that apartments are slightly more desirable than detached housing among the majority of participants in this study. This means that there can be a market for apartments that are located or can be located in the central area among this sample of prospective home owners.

Figure 32. Apartments



The attractiveness of loft housing as a housing option was the subject of statement (10-29). As shown below in Figure (33), the majority of the participants 35 (70%) either agreed or strongly agreed that loft housing is attractive. Only 5 participants (10%) either disagreed or strongly disagreed. Attractiveness of loft housing was slightly higher among participants

from Winnipeg with 19 either agreeing or strongly agreeing compared to 16 in Edmonton. The results of this statement indicate that the loft housing is viewed by the majority of participants as an attractive housing option. This would support the notion that loft housing can witness a surge in the coming years if there is a movement to promote it and make investment in this sector easier. The desirability of loft housing among the majority of participants in Winnipeg might represent an opportunity for converting many of the old buildings into loft housing. Therefore, the desirability of loft housing can help revitalize parts of the central area in Winnipeg.

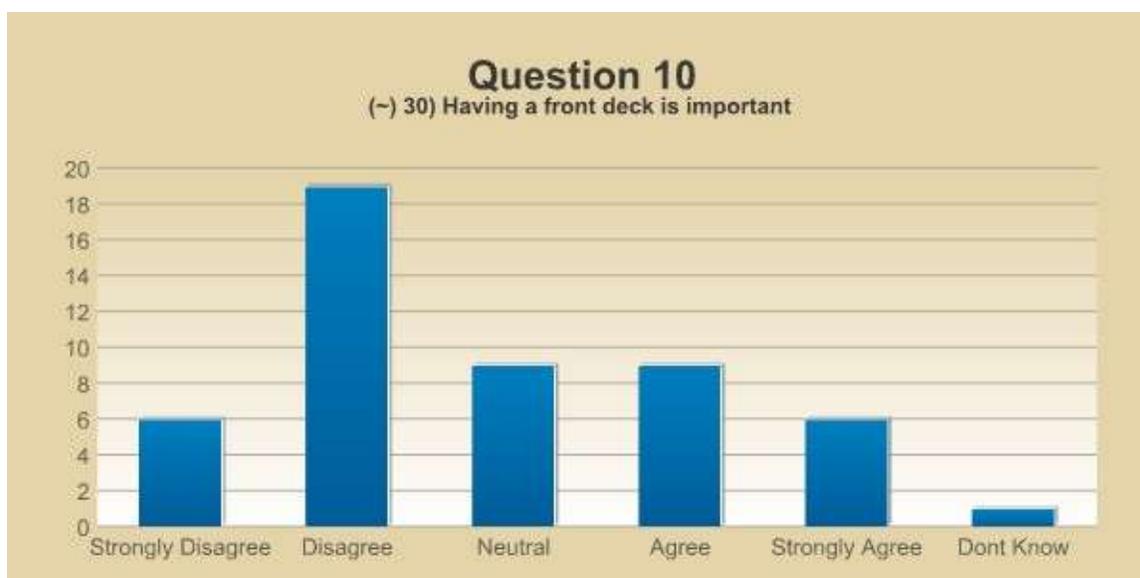
Figure 33. Loft housing



Statements (10-30) and (10-31) aimed at revealing participants' attitude towards the importance of front decks and front porches. As shown below in Figure (34), 25 participants (50%) either disagreed or strongly disagreed that having a front deck is important. 15 participants (30%) either agreed or disagreed and 9 participants (18%) were neutral. The results of this statement can at least indicate that front decks are not viewed as

important by 68% of participants. The difference between Edmonton and Winnipeg was not significant as 14 in Edmonton viewed front decks as unimportant compared to 11 in Winnipeg. Based on the result of statement (10-30), it can be inferred that having a front deck will not increase the desirability of housing among the majority of participants in this house. This result shows that adding front decks to housing built in the central area will not increase the desirability of such housing among this sample of prospective home owners.

Figure 34. Front deck



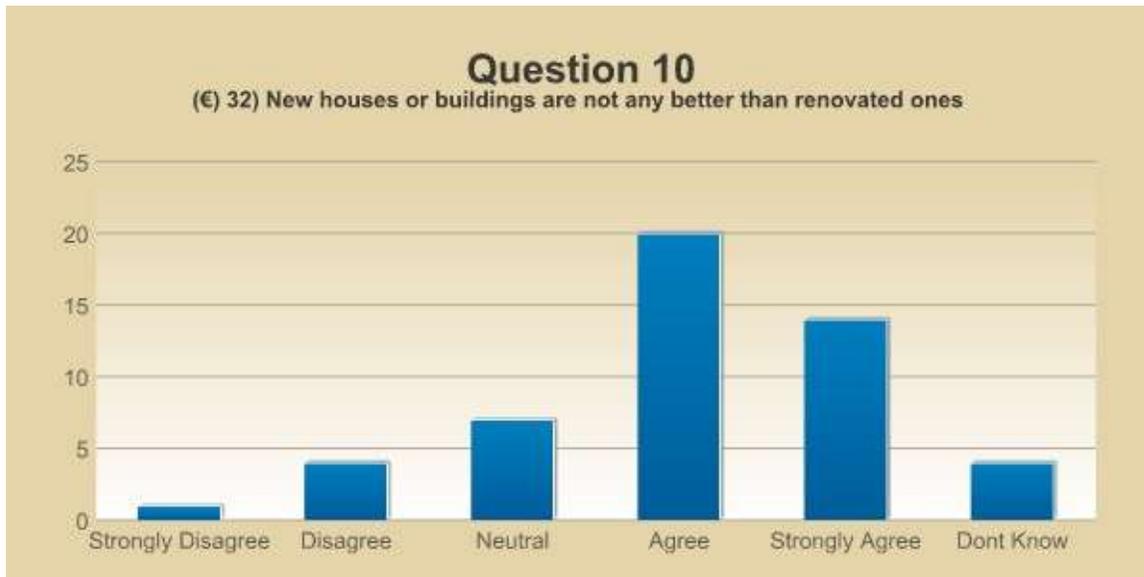
Unlike the front deck, having a front porch was viewed by the majority of participants as important. 32 participants (64%) either agreed or strongly agreed whereas only 4 (8%) disagreed and none strongly disagreed. The result points to the importance of the front porch for prospective home owners especially in Winnipeg where 20 participants viewed front porches as important compared to 12 in Edmonton. Applying the chi-square (χ^2) test for the responses to the importance of front porches between Edmonton and Winnipeg shows that the difference is significant since the value of the chi-square (7.76) is greater

than (5.00) at a confidence level of 95%. This means that a higher percentage of prospective home owners in Winnipeg consider having a front porch as important compared to prospective home owners in Edmonton. The result of the previous statement indicates that front porches are a desired feature for prospective home owners in this study. Proponents of New Urbanism consider front porches as one of the features that can create a small town feeling in the neighbourhood because they create opportunities for social interaction (Brown, Burton & Sweaney, 1998, p.198). Therefore, it might be the case that including front porches may increase the desirability of housing located in the central area.

Statement (10-32) focused on gauging participants' attitude towards their perceived differences, if any, between new houses or buildings and renovated ones. As shown in Figure (35) below, the majority of participants 34 (68%) either agreed or strongly agreed that new houses or buildings are not any better than renovated ones. This result is in agreement with the result for statement (10-29) regarding loft housing where 70% of the participants perceived loft housing as an attractive housing option.

The result of this statement might represent an opportunity for investing in the older housing stock in the central area. Renovating some of the residential housing stock in the central area might help attract prospective home owners to consider living in the central area.

Figure 35. New and renovated housing



In order to test the previous relation, a Pearson test is used. The results of the test as shown in correlations Table (3) below confirm the strong association between the attractiveness of loft housing and the view of renovated housing not as being inferior to new ones. Such a result is an indication for the acceptance of renovated housing among prospective home owners. The result of the previous statement shows that attracting this sample of prospective home owners to the central area does not have to depend only on constructing new housing. Renovating the existing housing stock and converting some of the old buildings into loft housing can attract this sample of prospective home owners.

Correlations table 3. Loft housing, renovated and new ones

Statements	S(10-29)	S(10-32)
S(10-29)	1	.915(*)
S(10-32)	.915(*)	1

* means correlation is significant at the 0.05 level

S(10-29) Loft housing is an attractive housing option

S(10-32) New houses or buildings are not any better than renovated ones

Statement (10-33) aimed at exploring participants' view of off-street parking. As demonstrated in Figure (36) below, there is no clear majority of any of the responses. 15

participates (30%) were neutral. 22 participants (42%) either agreed or strongly agreed that off-street parking is essential and 13 participants (26%) either disagreed or strongly disagreed. There was no difference between Edmonton and Winnipeg as there were 11 participants from each either agreeing or strongly agreeing with the importance of off-street parking. There were differences among the responses based gender. The majority of female participants 76% either agreed or strongly agreed that off-street parking is essential. The results of this statement can at least indicate that off-street parking is not considered as essential as one might think. Therefore, it can be inferred that housing located within the central area providing the minimum number of off-street parking spaces can still be attractive for this sample of prospective home owners. On-street parking can provide an alternative to off-street parking. Also, the central area has a wide range of transportation options. Therefore, most of the residents of the central area might not need to have more than one car.

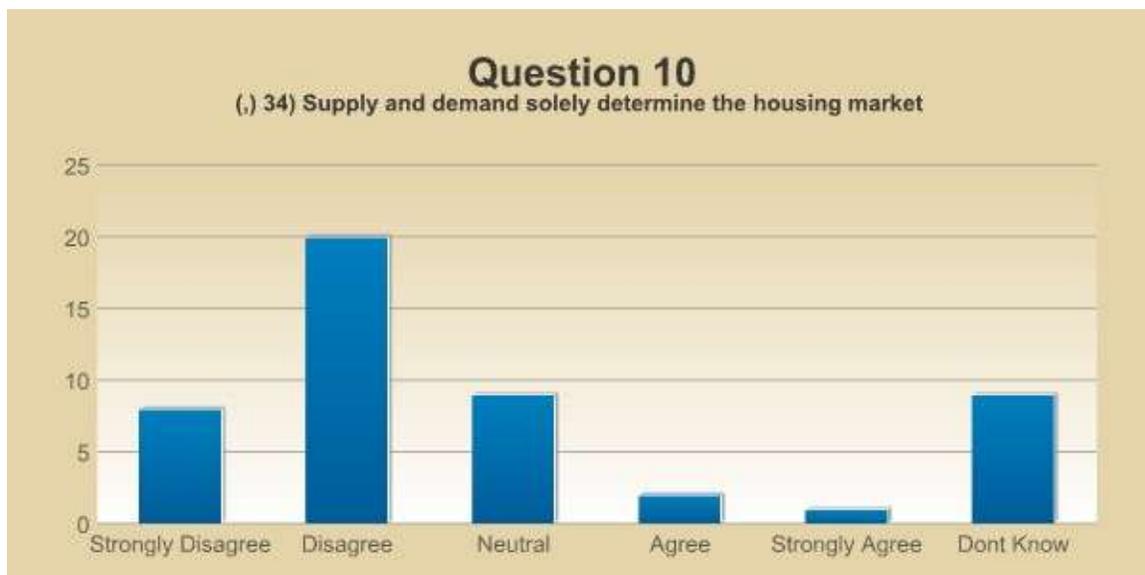
Figure 36. Off-street parking



Statements (10-34) and (10-35) aimed at exploring participants' opinions regarding the housing market. Responses for statement (10-34) regarding whether supply and demand solely determine the housing market illustrated in Figure (37) below showed that 28(56%) participants either disagreed or strongly disagreed with this statement. On the other hand, 18 participants (more than 37%) either were neutral or did not know.

This percentage gives a clear indication that prospective home owners do not regard supply and demand as the only determining factor of the housing market. The responses to statement (10-34) are consistent with the results of other studies (Bourdieu, 2000; D'Arcy and Keogh, 1997). According to these studies, other factors such as government intervention as well as social and emotional factors influence the housing market. The following two statements will explore the attitudes of prospective home owners towards the role of government intervention as well as social and emotional factors in the housing market.

Figure 37. Supply and demand



Statement (10-35) focused on government’s ability to create the conditions for increasing residential development in the central area. As demonstrated in Figure (38) below, the majority of participants 34 (68%) either agreed or strongly agreed that the government can create the conditions for increasing residential development in the central area. Only 3 (6.12%) of participants disagreed. 12 (24%) were either neutral or did not know. This high level of approval can be attributed to a high level of awareness of the role that the government can play in helping shape or direct the housing market by initiating housing projects and policies. Based on the responses to the two statements pertinent to supply and demand and government’s role in shaping the housing market, it could be inferred that that there is an inverse relationship, in terms of confidence, between the state and markets. The previous inference is confirmed by the negative result of the correlation test (-.845) shown in Table (4) below. This means that participants’ awareness of the role that the government can play in shaping the housing market translates in rejecting supply and demand as the sole regulator of the housing market.

Figure 38. The government’s role



Correlations table 4. Inverse relation between the state and markets

Statements	S(10-34)	S(10-35)
S(10-34)	1	-.845(*)
S(10-35)	-.845(*)	1

* means correlation is significant at the 0.05 level

S(10-34)Supply and demand solely determine the housing market

S(10-35)The government can create the conditions for increasing residential development in the central area

Statement (10-36) expands on the previous two statements by investigating whether other considerations such as social and emotional factors play a role in the choice of housing. As illustrated in Figure (39) below, the overwhelming majority 38 (76%) either agreed or strongly agreed that social and emotional factors play a role in the choice of housing. Only 3 participants (6%) either disagreed or strongly disagreed whereas 9 participants (18%) were neutral. The result of this statement is consistent with the results of the two previous statement regarding supply and demand and the role of the government. As a result, it can be concluded that majority of participants perceived supply and demand as a factor among others in the housing market. Other factors included the role of the government, social and emotional factors.

Figure 39. Social and emotional factors



In order to test the conclusion reached at in the previous paragraph, a Pearson test is used. The results of the correlation test are shown in correlations Table (5) below.

Correlations table 5. Housing market, emotional and social factors

Statements	S(10-34)	S(10-35)	S(10-36)
S(10-34)	1	-.860(*)	-.840(*)
S(10-35)	-.860(*)	1	.856(*)
S(10-36)	-.840(*)	.856(*)	1

* means correlation is significant at the 0.05 level

S(10-34) Supply and demand solely determine the housing market

S(10-35) The government can create the conditions for increasing residential development in the central area

S(10-36) Considerations such as social and emotional factors play a role in my choice of housing

The results of the Pearson correlation show that there is a negative association (-.860) between participants' awareness of the role of the government and their view that supply and demand is the sole determining factor of the housing market. Additionally, there is a negative association (-.840) between participants' view of social and emotional factors as playing a role in housing choice and their perception of supply and demand as the sole determinant of housing market. On the other hand, there was a positive correlation (.856) between the role of the government in the housing market and social and emotional considerations. The correlations suggest an awareness of the role of the government and of other considerations such as social and emotional factors in shaping the housing market. This leads, in turn to the understanding among participants that the supply and demand dualism is not the only building block of the housing market.

Statements (10-37) - (10-43) aimed at revealing some of the environmental attitudes of the participants. As for statement (10-37), it aimed at exploring attitudes toward the importance of recycling. As shown below in Figure (40), 41 participants (88%) either agreed or strongly agreed that recycling is necessary. The result of this statement shows the importance of recycling to the majority of participants. The importance of recycling

expressed by the majority of participants in this study might be due to the awareness of the environmental benefits associated with recycling.

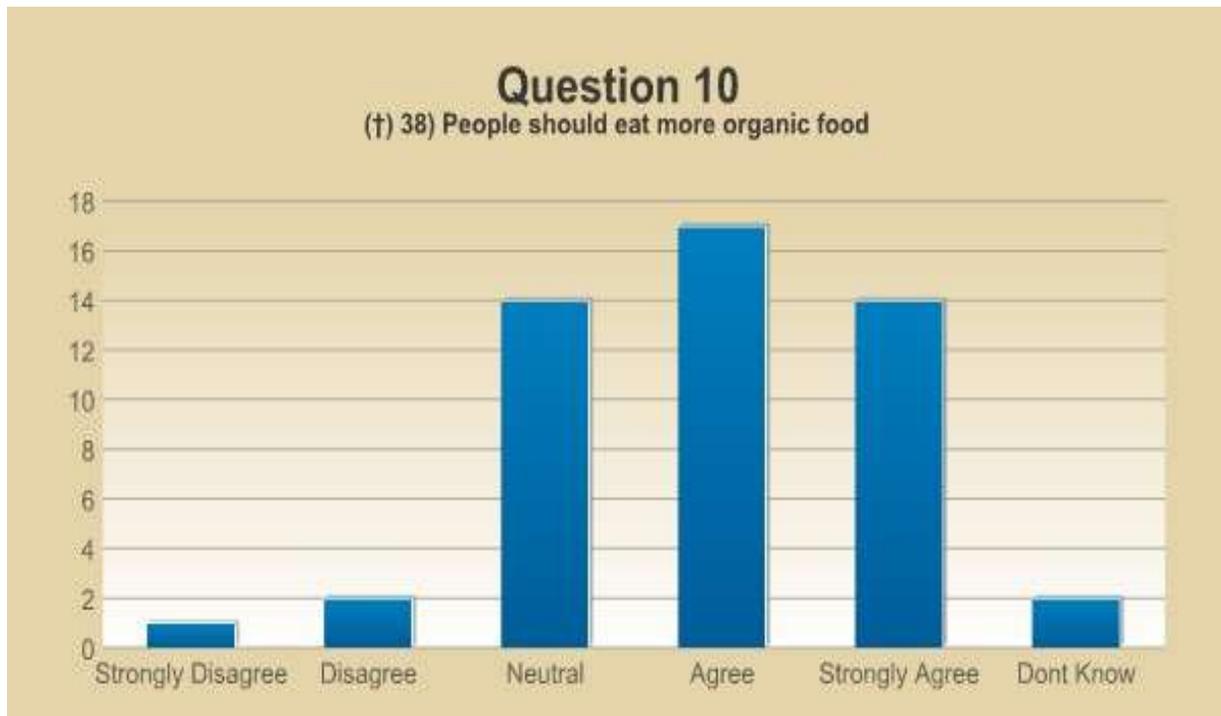
Figure 40. Recycling



Statement (10-38) is related to eating more organic food. The responses to this statement which are illustrated in Figure (41) below reveal that 31 participants (62%) either agreed or strongly agreed that people should eat more organic food whereas 14 participants (28%) were neutral. Thus, it can be surmised that the majority of participants were in favour of eating more organic food although this majority was less than that in case of recycling. Organic food is produced using ecologically friendly methods instead of synthetic pesticides and fertilizers (Makatouni, 2002, p. 345). Therefore, eating organic food is not only better for the health of individuals, but it is also better for the environment. The importance placed on recycling and eating organic might be indicative of the care for environment and health among the majority of participants in this study. It should be noted

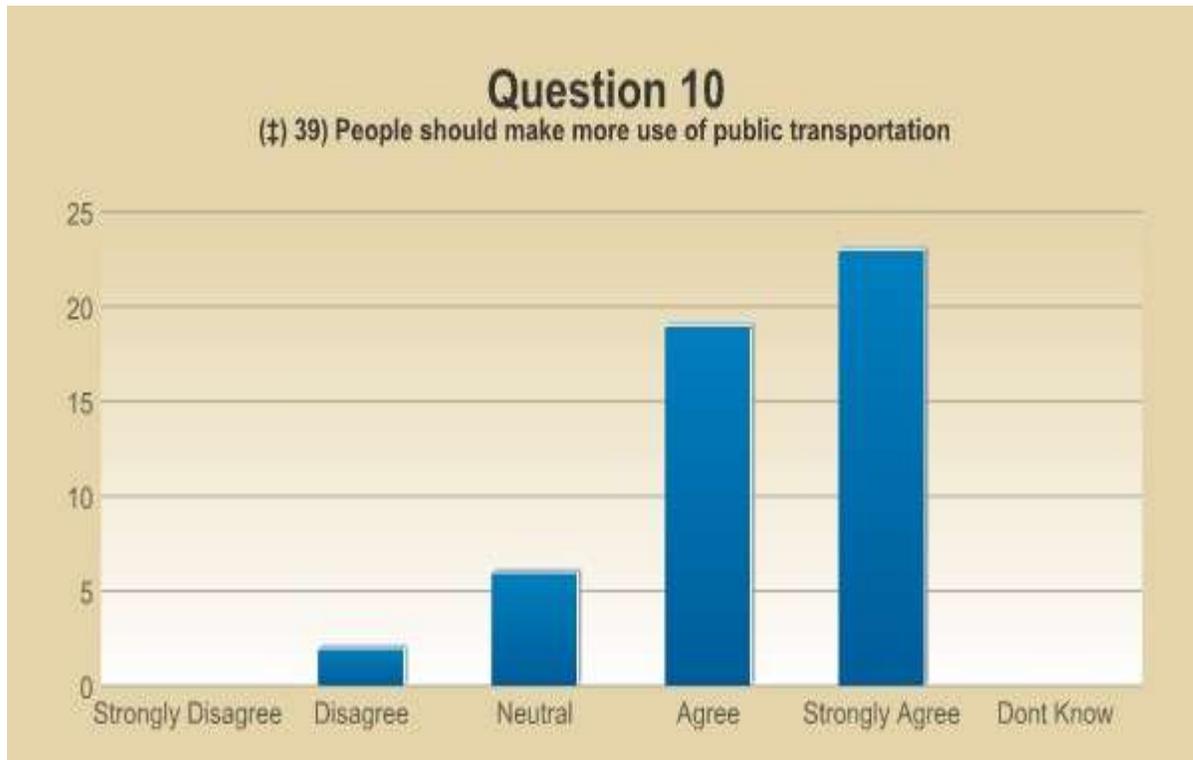
that the majority of participants had a high level of education. Therefore, the results of the previous two statements might differ in other samples.

Figure 41. Organic food



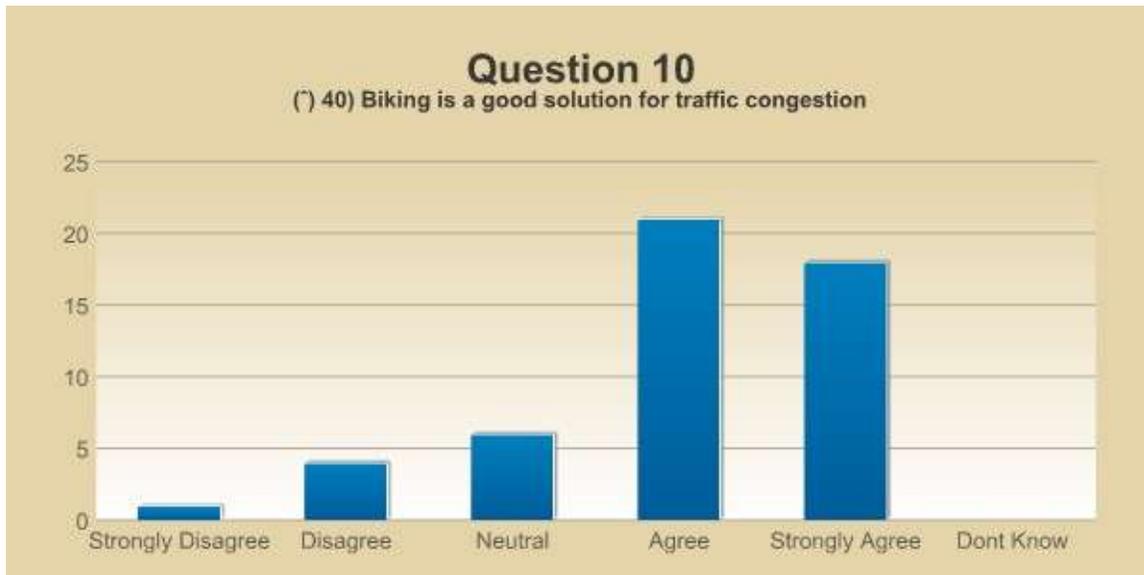
Statement (10-39) gauges participants' attitude of the use of public transportation. As demonstrated in Figure (42) below, the overwhelming majority of participants 42 (84%) either agreed or strongly agreed that people should make more use of public transportation. This means that the majority of participants were aware of the importance of making more use of public transportation. Compared to private vehicles, public transportation produces significantly less greenhouse gas emissions that pollute the environment (Newman & Kenworthy, 1999). The importance of public transportation shown by the majority of participants might be the result of the increased awareness regarding the environmental benefits of public transportation.

Figure 42. Public transportation



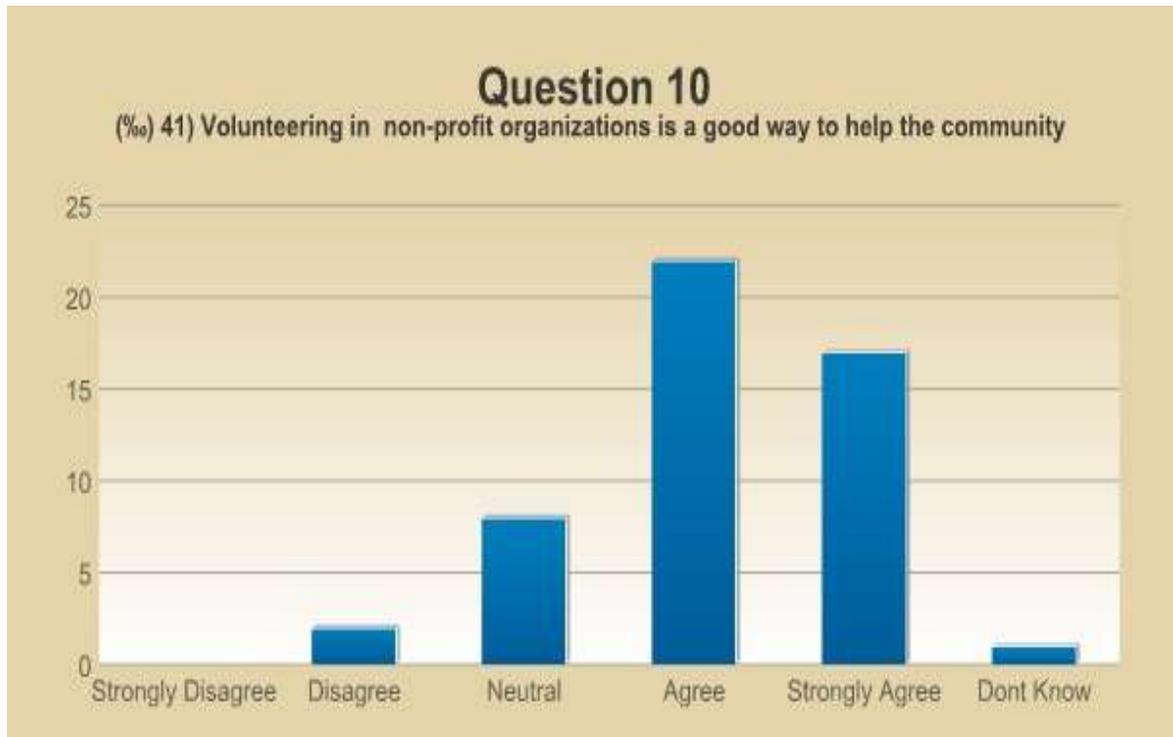
Along the same line, another means of transportation was discussed in statement (10-40); namely, bikes. As shown in Figure (43) below, the majority of participants 39 (78%) either agreed or strongly agreed that biking is a good solution for traffic congestion. As a result, it can be deduced that the majority of participants were in favour of using biking as an active means of transportation. The result of this statement is consistent with results of the previous three statements regarding recycling, organic food and public transportation. Biking is not only a healthy means of transportation, but it also helps protect the environment by reducing the emission of greenhouse gases. The importance placed on biking as a solution for traffic congestion might be attributed to the high level of education of this sample. Therefore, the results of this study cannot be generalized because the sample is not representative of all sectors of the population.

Figure 43. Biking



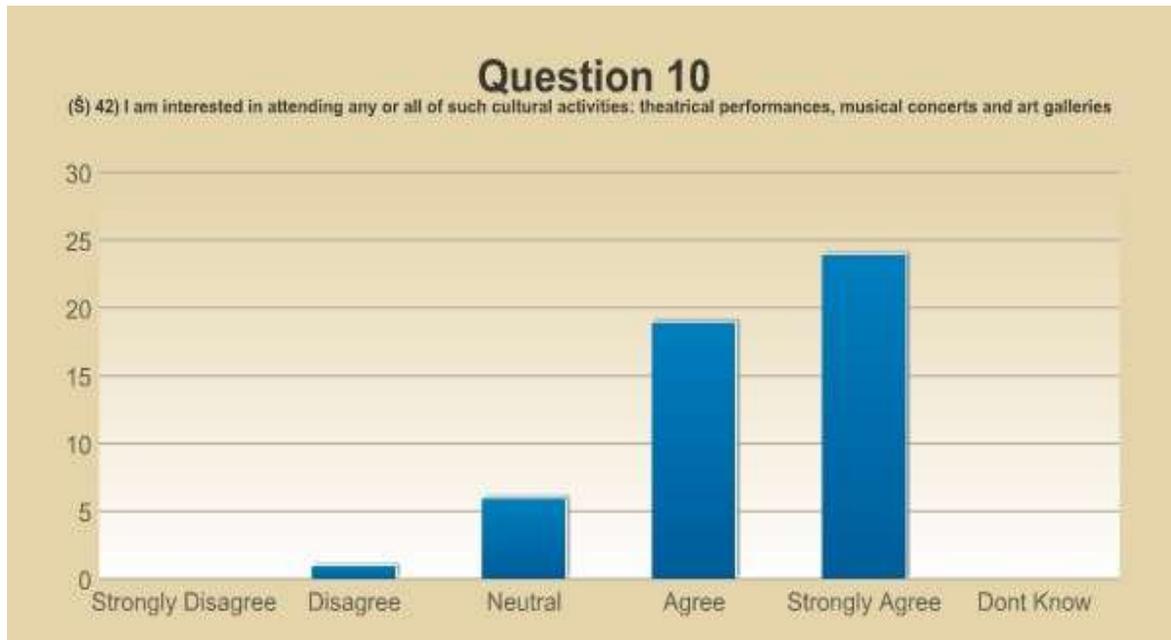
Statement (10-41) focused on evaluating participants' attitude towards volunteering in non-profit organizations. The results of the statement which are illustrated in Figure (44) below show that the majority of participants 39 (78%) either agreed or strongly agreed that volunteering in non-profit organizations is a good way to help the community. Thus, it can be said that the majority of participants were in favour of volunteering in non-profit organizations. Volunteering in non-profit organizations encourages trust and interaction among individuals and thus helps strength civil society in local areas (O'Connell, 1999). For this reason, volunteering in non-profit organizations helps build connections and trust among individuals. Some studies refer to building networks that inspire trust and cooperation among citizens as social capital (Putman, 2000). Hence, volunteering in non-profit organizations is considered as a "potential source of social capital generation" (Maloney et al, 2001, p.213). The result of this statement implies that the majority of participants might be interested in social interaction with others in their local community.

Figure 44. Volunteering



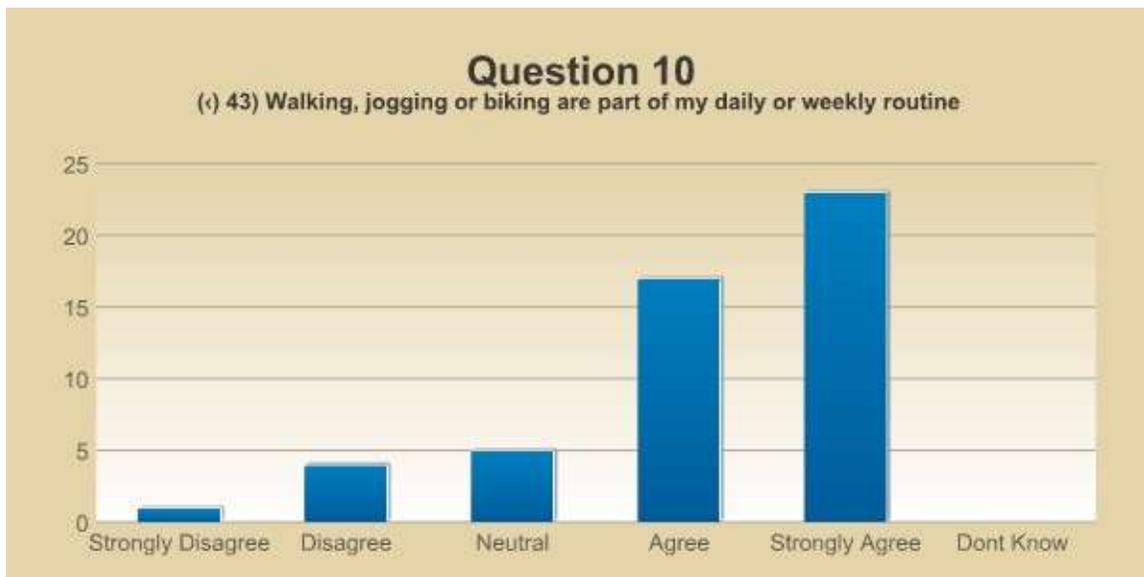
Statement (10-42) aimed at exploring participants' interest in attending cultural activities such as: theatrical performances, musical concerts and art galleries. The responses to this statement which are illustrated in Figure (45) below reveal that the majority of participants 43 (86%) either agreed or strongly agreed that they are interested in attending cultural activities. The overwhelming majority concerning the interest in attending cultural activities shows the importance of cultural activities to the majority of the participants in this survey. Attending cultural activities represents an opportunity for socializing and getting to know new people. Therefore, attending cultural activities is considered a form of cultural participation that might have a positive effect on social capital (Jeannotte, 2003). Furthermore, some studies revealed an association between attending cultural activities and health (Katz-Gerro, 1999).

Figure 45. Cultural activities



Statement (10-43) aimed at surveying the daily or weekly routine of the participants in terms of physical activity such as walking, jogging or biking. As demonstrated in Figure (46) below, the majority of participants 40 (80%) either agreed or strongly agreed that walking, jogging or biking are part of their daily or weekly routing. As a result, it can be assumed that the majority of participants are, in one way or another, physically active. Unlike suburbs, centrally located neighbourhoods have sidewalks, ample pedestrian crossings, and cycling routes. As shown earlier in statements (10-6), (10-7) and (10-8), these physical features were favoured by the majority of participants in this study. In general, neighbourhoods located in the central area are more conducive to physical activity compared to the suburbs. Therefore, it can be inferred that the majority of participants in this study might be attracted to the neighbourhoods located in the central area because these neighbourhoods provide ample opportunities for physical activity.

Figure 46. Daily or weekly routing



There were 7 different statements related to the environmental attitudes of the participants. The attitudes were related to the view of recycling, organic food, public transportation, biking, volunteering in non-profit organization, social activities, and physical activity. In order to test whether there is a correlation among the responses of the previous 7 statements pertinent to environmental attitudes on the one hand and the desirability of living in the central area on the other hand, a Pearson test is used.

Firstly, the Pearson correlation is applied on the responses of the statements related to the 7 environmental attitudes. The results of the correlations are shown below in Table (6). The correlations show that there is a strong association among all the environmental attitudes of the participants. The positive association between volunteering in non-profit organizations and attending cultural events confirms the finding of another study conducted by Jeannotte (2003).

Correlations table 6. Correlation among environmental attitudes

Statements	S(10-37)	S(10-38)	S(10-39)	S(10-40)	S(10-41)	S(10-42)	S(10-43)
S(10-37)	1	.874(*)	.933(*)	.823(*)	.878(*)	.942(*)	.955(*)
S(10-38)	.874(*)	1	.844(*)	.861(*)	.919(*)	.841(*)	.885(*)
S(10-39)	.933(*)	.844(*)	1	.970(*)	.951(*)	.999(*)	.992(*)
S(10-40)	.823(*)	.861(*)	.970(*)	1	.986(*)	.961(*)	.951(*)
S(10-41)	.878(*)	.919(*)	.951(*)	.986(*)	1	.943(*)	.913(*)
S(10-42)	.942(*)	.841(*)	.999(*)	.961(*)	.943(*)	1	.990(*)
S(10-43)	.955(*)	.885(*)	.992(*)	.951(*)	.913(*)	.990(*)	1

* means correlation is significant at the 0.05 level

S(10-37) Recycling is necessary

S(10-38) People should eat more organic food

S(10-39) People should make more use of public transportation

S(10-40) Biking is a good solution for traffic congestion

S(10-41) Volunteering in non-profit organizations is a good way to help the community

S(10-42) I am interested in attending any or all of such cultural activities: theatrical performances, musical concerts and art galleries

S(10-43) Walking, jogging or biking are part of my daily or weekly routine

Secondly, to measure the reliability and the internal consistency of the responses to the 7 statements regarding environmental attitudes, a Cronbach's alpha test is used. Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group (Miller & Neil, 2003). A high value of alpha is often used as evidence that the items measure an underlying construct. The widely-accepted social science cut-off is that alpha should be 0.70 or higher for a set of items to be considered a scale (Nunnally, 1978, p.25). The reliability procedure in SPSS is used to measure the reliability of the responses to the statements related to the environmental attitudes of prospective home owners.

The results of the reliability test regarding the environmental attitudes of prospective home owners show the reliability of individual items in the scale and that each individual item correlates with the sum of the remaining items with alpha value measuring 0.975. As illustrated in Table (7) below, the alpha coefficient for the 7 statements (10-37)-(10-43) 0.975 suggests that the responses to the statements have a high internal consistency.

Furthermore, the result of Cronbach’s alpha test indicates that there is an underlying construct among the environmental attitudes of this sample of prospective home owners. It should be noted that the environmental attitudes investigated in this survey were related to the view of recycling, organic food, public transportation, biking, volunteering in non-profit organization, social activities, and physical activity.,

It could be inferred that the previous seven statements would most likely elicit the same responses even if the same statements are paraphrased and re-administered to the same group of prospective home owners (Hatcher, 1994). This group of statements will be called the environmental attitudes group from now on. The environmental attitudes scale is highly associated with participants who are in favour of recycling, organic food, public transportation, biking, volunteering in non-profit organization, social activities, and physical activity.

Reliability Statistics Table 7. Environmental attitudes

Cronbach's Alpha	N of Items
.975	7

Thirdly, a Pearson correlation is applied on the mean for the scale of the environmental attitudes group (.42) on the one hand and the responses related to desirability of living in the central city on the other hand. The results of the Pearson test confirm the strong relation between the environmental attitudes and the desirability of living in the central area as shown in Table (8) below. Therefore, it can be inferred that the environmental attitudes shared by the majority of participants in this study play a role in their preference for housing located in the central area.

Correlations table 8. Environmental attitudes and the desirability of the central area

Groups	Environmental attitudes	Statement (10-1)
Environmental attitudes	1	.878(*)
Statement (10-1)	.878(*)	1

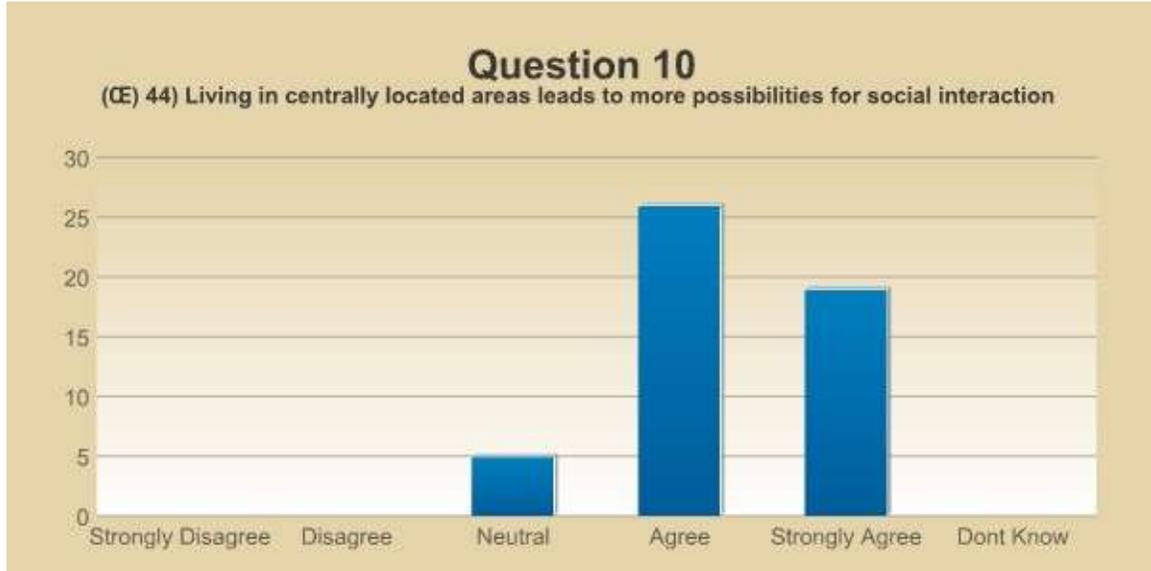
* means correlation is significant at the 0.05 level

S(10-1) Living in the central area of the city is desirable

It should be noted that the environmental attitudes may not be shared by all sectors of the society. All of the 50 participants had at least a community college degree or some university education without a degree. As of 2007, 50% of people had lower education levels than a community college degree or some university education (Statistics Canada, 2007). This means that the sample is not representative of all sectors of the society.

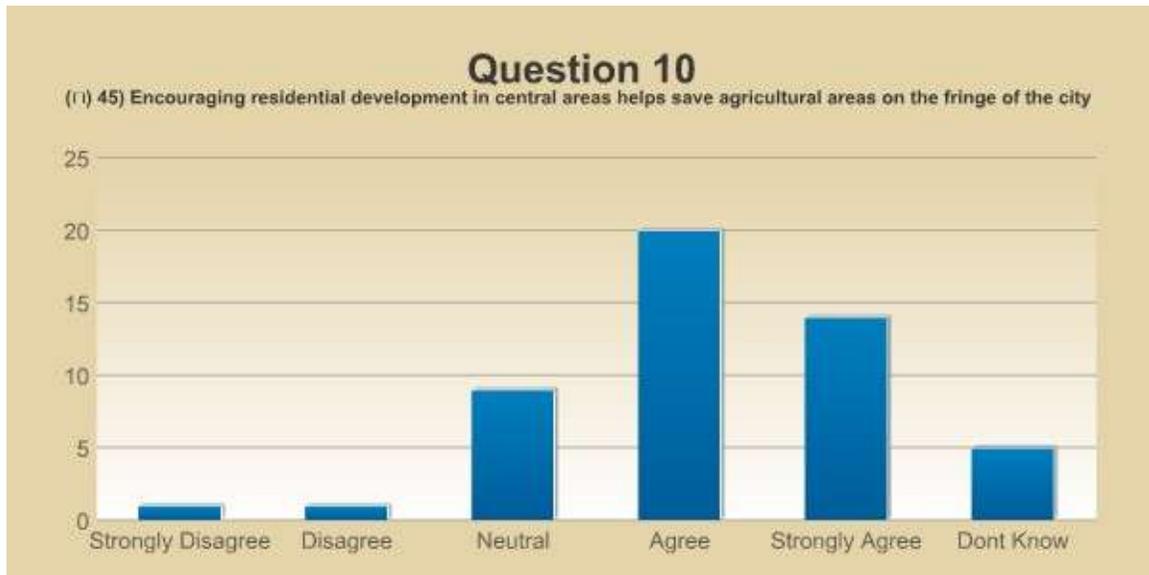
Statement (10-44) sought to explore whether there is a positive relationship between living in central areas and social interaction. The responses to this statement which are illustrated in Figure (47) below reveal that the overwhelming majority of participants 45 (90%) either agreed or strongly agreed that living in centrally located areas leads to more possibilities for social interaction. Only 5 participants (10%) were neutral. The high percentage gives a clear indication that the majority of participants believe that social interaction is affected by the neighbourhood in which they live and that living in a centrally located area is leads to more social interaction. As mentioned before, it might be the case that volunteering in non-profit organizations and attending cultural activities increase the opportunities for social interaction and hence have a positive impact on social capital. Therefore, it might be inferred that the preferences shown by the majority of participants regarding living in centrally located areas, volunteering in non-profit organizations, and attending cultural activities might be due to the increased opportunities of social interaction.

Figure 47. Social interaction



Statement (10-45) investigates the environmental benefits of encouraging residential development in central areas by helping save agricultural areas on the fringe of the city. As demonstrated in Figure (48) below, the majority of participants 34 (68%) either agreed or strongly disagreed that encouraging residential development in central areas helps save agricultural areas. 14 participants (28%) were either neutral or did not know. As a result, it can be concluded that there was awareness among the majority regarding the role that encouraging residential development in central areas helps save agricultural areas. The awareness regarding the environmental benefits of increasing housing in the central area might be attributed to the high level of education of this sample.

Figure 48. Agricultural area



As has been discussed earlier, the results of the survey demonstrated the strong connection among all the responses related to the environmental attitudes. In other words, the care for recycling, organic food, use of public transportation and physical and social activities were all related to each other positively. To explore whether these attitudes translated into more acceptance of different types of housing, a Pearson test was applied to the mean for the scale of the environmental attitudes group on the one hand and the responses related to housing types on the other hand. As shown in Table (9) below, there is a strong association between the environmental attitudes on the one hand and the desirability of townhouses, apartments and loft housing on the other hand. The results of the Pearson test show no association between the desirability of detached houses and triplexes on the one hand and environmental attitudes on the other hand as the correlations were (.725) and (.618) respectively. It should be noted that the critical value at .05 is (.754). Thus, it can be concluded that the environmental attitudes translated into acceptance of

three different types of housing; namely, townhouses, apartments and loft housing. It might be the case that participants were not familiar with triplexes although it is not very different from town houses.

Correlation table 9. Environmental attitudes and housing types

Statements	Characteristics	S(10-25)	S(10-26)	S(10-27)	S(10-28)	S(10-29)
Environmental attitudes	1	.725	.863(*)	.618	.872(*)	.849(*)
S(10-25)	.725	1	.915(*)	.881(*)	.924(*)	.784
S(10-26)	.863(*)	.915(*)	1	.954(*)	.972(*)	.802(*)
S(10-27)	.618	.881(*)	.954(*)	1	.893(*)	.601
S(10-28)	.872(*)	.924(*)	.972(*)	.893(*)	1	.881(*)
S(10-29)	.849(*)	.784	.802(*)	.601	.881(*)	1

* means correlation is significant at the 0.05 level

- S(10-25) Detached houses are desirable
- S(10-26) Town houses are desirable
- S(10-27) Triplexes (three storey housing) are desirable
- S(10-28) Apartments are desirable
- S(10-29) Loft housing is an attractive housing option

Along the same line, in order to determine whether there is association between participants' preference to live in the central area and the design of the neighbourhood, Pearson correlation is applied to the responses to statements (10-1) and statements (10-4)-(10-13). As shown in Table (10), there is a strong association between the desirability of living in the central areas on the hand and statements related to the design of the neighbourhood except for the importance of having pubs within a walking distance.

As a result, it can be deduced that the desirability of living in the central areas is related to the attractiveness of active-friendly neighbourhoods with sidewalks, sufficient pedestrian crossings, longer signal times, bike routes, public transportation grocery stores within a walking distance and being able to walk to the coffee shop.

Correlation table 10. Central area and neighbourhood design

Statement	S(10-1)	S(10-4)	S(10-5)	S(10-6)	S(10-7)	S(10-8)	S(10-9)	S(10-10)	S(10-11)	S(10-12)	S(10-13)
S(10-1)	1	.854(*)	.838(*)	.977(*)	.906(*)	.877(*)	.853(*)	.801(*)	.993(*)	.642	.882(*)

* means correlation is significant at the 0.05 level

S(10-1) Living in the central area of the city is desirable

S(10-4) An activity-friendly neighbourhood, one where people can walk to different amenities, is an attractive option

S(10-5) Having a sidewalk on my street is important

S(10-6) Pedestrian crossings at every block are important

S(10-7) Longer signal times for pedestrian crossings are important

S(10-8) Having a bike route is important

S(10-9) Having public transportation within walking distance is important

S(10-10) Being able to walk to the grocery store is important

S(10-11) Being able to walk to a park is important

S(10-12) Being able to walk to the pub is important

S(10-13) Being able to walk to the coffee shop is important

Furthermore, the analysis showed that there is a strong relation among the preference for living in a neighbourhood with mixed income, mix of building types, history, people of different backgrounds and mix of land uses. The only exception was the distinction they had regarding housing tenure. Consequently, it can be deduced that houses located in the central area show many of the characteristics that are valued by the participants such as: distinctive character, the walkability and the proximity to the amenities. This means that new and renovated housing located within the central areas may witness a surge in demand especially if care is given to improving schools and lighting within neighbourhoods since participants regarded the quality of neighbourhood schools and lighting as very important.

The clear distinction between ownership and rental opens the door for looking at other tenure systems to mitigate this distinction. For example, combining privately owned housing with affordable housing might be one way of solving the problem of ownership versus renting. Affordable housing brings diverse populations and a wide range of incomes within small areas (Wilcox, 2005, p. 22). The diverse populations and the wide range of incomes would not negatively impact prospective home owners as the majority of

participants were open to living in neighbourhood that had a mix of income and people from different background.

As shown in Table (11) below, there is a strong correlation between the responses to statements (10-1), (10-35) and (10-44). This means that participants who believe that living in centrally located areas leads to more possibilities for social interaction are more likely to conceive living in the central area as desirable. The same group is also more likely to agree that the government can help create conditions for increasing residential development in the central areas. As a result, it can be assumed that the awareness of the increased opportunities for social interaction can lead to more desirability of living in the central area and that is associated with the awareness of the role that can be played by the government in creating the conditions for increasing residential development.

Correlation table 11. Central area, government’s role and social interaction

Statements	S(10-1)	S(10-35)	S(10-44)
S(10-1)	1	.985(*)	.910(*)
S(10-35)	.910(*)	.945(*)	1
S(10-44)	.985(*)	1	.945(*)

* means correlation is significant at the 0.05 level

S(10-1) Living in the central area of the city is desirable

S(10-35) The government can create the conditions for increasing residential development in the central area

S(10-44) Living in centrally located areas leads to more possibilities for social interaction

The results regarding housing demand and desirability in both Edmonton and Winnipeg are different from what would be expected under current urban development patterns. The attitudes towards living in the central area might have changed. According to the model, this means that there might be an opportunity for a rapid dispersal of the idea of living in the central area in the next few years. The results of the survey show there might be a need

for having more housing in the central area in both cities to meet the desirability of living there among the majority of participants in both cities. The results of the survey showed that prospective home owners were receptive to different housing types albeit with varying degrees between Edmonton and Winnipeg.

The reliability of the responses to the statements related to types of housing as well as the design and the social structure of the neighbourhood is measured using the reliability procedure in SPSS. This group that includes statements (10-4)-(10-23) will be called neighbourhood characteristics group henceforth. As shown in Table (12) below, the alpha coefficient (0.988) for the 20 statements is indicative of the reliability of individual items in the scale and that each individual item correlates with the sum of the remaining items. The result of Cronbach's alpha test indicates that there is an underlying construct among the statements related to the types of housing as well as the design and the social structure of the neighbourhood desired by this sample of prospective home owners. The high value of Cronbach's alpha implies that the previous twenty statements would most likely elicit the same responses even if the same statements are recast and re-administered to the same group of prospective home owners (Hatcher, 1994).

Also, the result of the Cronbach's alpha shows that the neighbourhood characteristics scale is highly associated with participants who are in favour of neighbourhoods with a mix of income, a mix of land uses, and building types. The same neighbourhoods offer residents the opportunity of having amenities, public transportation, and parks within a walking distance. Furthermore, the same neighbourhoods allow people to lead an active life.

Reliability Statistics Table 12. Neighbourhood characteristics

Cronbach's Alpha	N of Items
.988	20

Similarly, the result of reliability test concerning the preferences for housing tenure, housing sizes, features and types (10-24)-(10-33) among prospective home owners shows the reliability of individual items in the scale and that each individual item correlates with the sum of the remaining items with alpha coefficient measuring (0.919). As shown in Table (13) below, the high value of alpha coefficient for the 10 statements denotes that the items have internal consistency. Hereafter, this group will be called the housing preferences group.

The result of Cronbach's alpha test is indicative of the underlying construct among the statements regarding housing tenure, housing sizes, features and types.

The high value of Cronbach's alpha implies that the previous ten statements would most likely elicit the same responses even if the same statements are recast and re-administered to the same group of prospective home owners (Hatcher, 1994).

Also, the result of the Cronbach's alpha shows that the housing preferences scale is highly associated with participants who do not see much difference between old houses and renovated ones. Also, the scale is highly associated with participants who are in favour of living in apartments, townhouses, or lofts.

Reliability Statistics Table 13. Housing preferences

Cronbach's Alpha	N of Items
.919	10

Along the same line, the results of the reliability test concerning the preferences and the demand for housing in the central city as well as the conditions that can influence such housing (10-1), (10-2), (10-35) and (10-36) among prospective home owners show the reliability of individual items in the scale. As demonstrated in Table (14) below, the value of alpha coefficient is high (0.981) which is an indication that the 4 statements assess reliably the demand for housing in the central city as well as the conditions that can influence such housing. In the following analysis this group will be called the market attitudes group.

The result of Cronbach's alpha test is indicative of the underlying construct among the statements regarding the preferences and the demand for housing in the central area of the city. Therefore, it can be deduced that the previous four statements would most likely elicit the same responses even if the same statements are recast and re-administered to the same group of prospective home owners (Hatcher, 1994).

Also, the result of the Cronbach's alpha shows that the market attitudes scale is highly associated with participants who desire living in the central areas and believe that there is a strong demand for housing in those areas. Also, the same group of participants believe that the housing market is shaped by supply and demand as well as other factors such as the

government's intervention.

Reliability Statistics Table 14. Market attitudes

Cronbach's Alpha	N of Items
.981	4

To analyze the statistical relationships among the different groups of statements, the means for the scales of the 3 previous groups as well as the mean for the environmental attitudes group are extracted. The means of the four previous groups are listed in Table (15) below.

Means Table 15. Means of the four groups of statements

Neighbourhood characteristics	Environmental attitudes	Housing preferences	Market attitudes
.95	0.42	1.48	0.25

In order to test the relation among the four groups a Pearson test is applied. The results of the test as shown in correlations Table (16) below imply a strong association between the responses to the four groups of statements according to the view of prospective home owners. It should be noted that the very high alpha values of the 4 scales regarding neighbourhood characteristics, environmental attitudes, housing preferences, and market attitudes might suggest that the 4 scales represent the same underlying trait or similar traits.

Moreover, it might be the case that the underlying construct among the statements under each of the four scales is the same or very similar. Therefore, it might be inferred that among the majority of prospective home owners in this survey the change in the responses

for one group of the statements is concomitant with the change for the other groups. Furthermore, the very high alpha values of the 4 scales might indicate that neighbourhood characteristics, environmental attitudes, housing preferences, and market attitudes are viewed by the majority of prospective home owners in this survey as denoting either similar traits or the same trait.

Correlations table 16. Four groups of statements

Groups	Neighbourhood characteristics	Environmental attitudes	Housing preferences	Market attitudes
Neighbourhood characteristics	1	.996(*)	.980(*)	.941(*)
Environmental attitudes	.996(*)	1	.989(*)	.967(*)
Housing preferences	.980(*)	.989(*)	1	.965(*)
Market attitudes	.941(*)	.967(*)	.965(*)	1

* means correlation is significant at the 0.05 level

To explore whether there is a relation between gender and the response to the 4 groups of statements, Independent t-test is applied to the responses of the male and female participants to the mean scale values of the four groups. As shown in Table (17) below, the significance (p value) of the *t* test at a confidence level of (0.95) between the mean number of the responses of female and male participants is .04 which is less than the α level for this test (0.05). The result of the *t* test reveals a statistically reliable difference between the responses of female and male participants to the four groups of statements.

T-test table 17. Male and female responses

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Mean scale values	Equal variances assumed	1.048	.306	2.116	670	.040(*)	.117040	.0553	.0084	.2258
	Equal variances not assumed			2.123	666.2	.034	.117040	.0551	.0087	.2253

* the mean difference is significant at the 0.05 level

Additionally, there is a perfect correlation among responses of female participants to the four groups as illustrated in Table (18) below. In contrast to the strong correlation among responses of female participants to the four groups, among male participants there was only a strong association between the responses to the neighbourhood group and the characteristics group with the correlation coefficient measuring (0.874). Additionally, there was only one strong association between the female and the male responses regarding the housing group with a correlation value measuring (0.980). The results indicate that there is a stronger correlation among the female responses to the four groups. Also, the results show that there is sufficient evidence to conclude that there are significant differences between the responses of female participants to the four groups on the one hand and the responses of male participants on the other hand.

Correlation table 18. Female responses

Groups	Neighbourhood characteristics	Environmental attitudes	Housing preferences	Market attitudes
Neighbourhood characteristics	1	1.000(*)	1.000(*)	1.000(*)
Environmental attitudes	1.000(*)	1	1.000(*)	1.000(*)
Housing preferences	1.000(*)	1.000(*)	1	1.000(*)
Market attitudes	1.000(*)	1.000(*)	1.000(*)	1

* means correlation is significant at the 0.05 level

To explore whether there is a relation between age brackets and the responses to the 4 groups of statements, an analysis of variance test (ANOVA) is applied to the responses of the 4 age brackets and the four categories. As shown in ANOVA Table (19) below, the mean difference (5.682) is significant in the case of participants aged 25-35. Also, the significance (p value) of the ANOVA test at a confidence level of (0.95) in the case of participants aged 25-35 is .012 which is less than the α level for this test (0.05). Thus, it can be concluded that the responses of the participants aged 25-35 to the four groups are different from the responses of the other three age groups. Therefore, it can be concluded that environmental attitudes are more likely to play an important role in the housing choices of participants aged 25-35 compared to the other age groups. Moreover, participants aged 25-35 are more likely to be attracted to the characteristics that are more common in the neighbourhoods located in the central area compared to participants in the other age brackets.

ANOVA table 19. Age brackets

Age brackets	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
				Lower Bound	Upper Bound
Under the age of 25	2.876	1.904	.095	1.577	7.032
Between 25-35	5.682(*)	1.904	.012(*)	10.364	.995
Between 36-65	1.890	1.904	.285	.7910	1.455
Over 65	3.227	1.904	.06	2.228	7.137

* the mean difference is significant at the 0.05 level

Along the same line, an analysis of variance test (ANOVA) is applied on the means of the three marital status groups that had responses. As shown in Table (20) below, the significance (p value) of the ANOVA test at a confidence level of (0.95) in the case of

single participants is 0.042 which is less than the α level for this test (0.05). Thus, it can be concluded that the responses of single participants to the four groups of statements differ from the responses of the married and common law groups. Hence, it can be inferred that single participants may be more attracted to the features and characteristics of the central area compared to the other two groups

ANOVA table 20. Marital status

Marital status	Mean	Std. Error	Sig.	95% Confidence Interval	
	Difference			Lower Bound	Upper Bound
Single	6.200(*)	1.904	0.042(*)	.0590	11.810
Married	1.682	1.904	.0540	0.988	.7502
Common law	1.890	1.904	0.688	0.277	3.561

* the mean difference is significant at the 0.05 level

Similarly, an analysis of variance test (ANOVA) is applied on the means of the four categories under the household question. As demonstrated in Table (21) below, the significance (p value) of the ANOVA test at a confidence level of (0.95) is significant in the case of one person household and 2 persons household with a value of (0.009) and (0.006) respectively. Thus, it can be said that the responses of one person and two persons households to the four groups of statements are different from the response of the other two groups. Therefore, it can be concluded that participants living in one person household and 2 persons household might be more attracted to the features that are common in the central area compared to the other two household groups. Furthermore, it can be inferred that environmental attitudes are more likely to play an important role in the housing choices of participants living in one person household and 2 persons household compared to the other

two household groups.

ANOVA table 21. Household

Household	Mean	Std. Error	Sig.	95% Confidence Interval	
	Difference			Lower Bound	Upper Bound
1	6.568(*)	1.019	0.009(*)	.838	5.162
2	6.672(*)	1.019	0.006(*)	1.238	.5561
3	2.245	1.019	0.700	.0679	3.067
4 or more	2.584	1.019	0.846	.4215	4.543

* the mean difference is significant at the 0.05 level

The survey showed that detached houses were not perceived as the most desirable housing type among participants as there was more agreement among participants regarding the desirability of apartments and townhouses on the one hand compared to the desirability of detached houses on the other hand especially in Edmonton. Detached houses were only viewed more favourably than triplexes. Although front porches were viewed as an important component of housing, front decks were viewed as unnecessary component of the housing needs of participants.

The survey revealed that the majority of participants did not see much difference between new and renovated housing. Along the same line, loft housing was viewed favourably by the majority of participants. Furthermore, the majority of participants were open to living in neighbourhood that had a mix of income and people from different backgrounds. Additionally, the results of the survey show that majority of participants perceived supply and demand as a factor among others in the housing market. Other aspects included the role of the government, social and emotional factors.

Moreover, the results of the survey also indicated that the majority of participants might be attracted to the neighbourhoods located in the central area because these neighbourhoods provide ample opportunities for physical activity. Additionally, off-street parking was not considered as essential as one might think. Therefore, it can be inferred that different types of housing located within the central area providing the minimum number of off-street parking spaces can still be attractive for the majority of this sample of prospective home owners.

Additionally, the importance of public transportation, recycling, and eating organic food shown by the majority of participants might be the result of their interest in protecting the environment. It should be noted that the environmental attitudes may not be shared by all sectors of the society. All of the 50 participants had at least a community college degree or some university education without a degree.

Furthermore, the survey showed the responses to the four groups among single female participants aged 25-35 and living in a household consisting of one or two persons are more likely to be strongly correlated and different from the responses of other groups. Moreover, the analysis of the survey responses revealed that housing in the central area in both Edmonton and Winnipeg shows many of the characteristics that are valued by the participants such as: distinctive character, walkability, and proximity to amenities.

The result of the survey suggest that the preferences shown by the majority of participants regarding living in centrally located areas, volunteering in non-profit

organizations, and attending cultural activities might be due to the increased opportunities of social interaction. In short, the analysis showed that there might be a relationship between the awareness of the increased opportunities for social interaction and the desirability of living in the central area.

Also, the results indicate that participants recognize the importance of parks and green spaces. According to other studies (Maloutas & Pantelidou, 2004), parks and green spaces provide places for kids to play and for parents to relax or socialize. Based on the results of the previous statement, it can be expected that taking care of the existing parks and green spaces and expanding them can have a positive effect on the desirability of housing within the central area.

Interviews

4. 1 Interviews

Taking into account the significance of augmenting quantitative questionnaire data by qualitative data (Campbell, 1975), the second part of the study is comprised of 4 interviews with participants in Edmonton and Winnipeg. The purpose of the interviews is to help interpret the results of the survey. For this reason, the interviews are framed in accordance with the results of the survey. Combining interviews with the survey expands the scope or breadth of research to offset the weaknesses of either approach alone (Caracelli & Graham, 1989).

The process of analyzing data from interviews can be summarized in the following quote by Jorgensen, “the researcher sorts and sifts them (data), searching for types, classes, sequences, processes, patterns or wholes. The aim of this process is to assemble or reconstruct the data in a meaningful or comprehensible fashion” (1989, p. 107). Along the same line, Miles, Huberman and Patton (1990) provide detailed steps for the analysis of qualitative data. Outlined below is the method designed for analyzing the data generated from the interviews. It is a modified version of the ones proposed by the previous scholars.

Step 1: Knowing the data

Good analysis depends on understanding the data. For interviews, this means reading and rereading the transcripts; reading data first literally and then interpretively.

Step 2: Focusing the analysis by questions

The analysis will look at how individuals respond to each question or topic of discussion. Organizing data by questions allows the researcher to identify consistencies and differences.

Step 3: Categorizing data

This stage involves organizing interview data thematically (Mason, 2000). This approach allows categories to emerge from the data. Categories or themes are defined after as a result of working with the data. At this stage, other themes that serve as subcategories might be identified.

Step 4: Identifying patterns and connections within and between categories

Organizing the data into themes will allow the researcher to see patterns and connections within and between categories. Assessing the relative importance of different themes or highlighting subtle variations will be important to the analysis.

Step 5: Interpretation- bringing it all together

Attaching meaning and significance to the analysis.

Furthermore, Mason (2000, p. 149) differentiates between three types of reading qualitative data: literal, interpretive and reflexive reading. In the first type, the researcher is interested in the literal form or content of the data. In the other types, the researcher constructs or documents a version of what he/she thinks the data means or represents. This study applies literal reading to the interview transcripts. The following three chapters will cover the analysis of the survey, the analysis of the interview and the conclusion.

4.2 Interviews analysis

The study consisted of 4 interviews with 4 planners: two working for the City of Winnipeg and two working for the City of Edmonton. Before conducting the interviews, planners were sent information regarding the study and the main findings of the survey. Furthermore, the first five minutes of the interview were used as an introduction to the study during which the main findings of the survey were introduced and the three stages of Hägerstrand's model were explained. 16 questions (see appendix 2) were used to guide the interviews but they were not followed in order. The interview data were organized thematically in six categories to make it easier to analyze. These categories are: current preferences related to the location of housing, housing types and sizes, government's role, neighbourhood design, housing tenure and off-street parking. As mentioned before, literal reading is applied in this study.

4.2 Current preferences related to the location of housing

Both Winnipeg planners agreed that the existing housing preferences vary based on the demographics, the economic position, the family size and cultural background. The housing market in Winnipeg has traditionally been dominated by single family homes in the suburbs. Although the central area in Winnipeg is quite big and can accommodate different types of housing, little has been done to invest in this area. According to both planners, the perception of the central area in Winnipeg as sort of low income is one of the main reasons behind the lack of investment. Accordingly, there has been a widespread perception that lower income families will tend to congregate in the central area as it is typically the less

expensive option.

One of the two planners in Winnipeg mentioned that for many years new immigrant families had no choice but to settle in the central area because of financial reasons although available housing options in the central area cannot accommodate the housing needs of big families, which is the case for many of the new immigrant families. Additionally, there are people who can only afford to live in some parts of the central area. As a result, the central area in Winnipeg has been associated with run down housing stock and low income housing.

However, the last five years have witnessed a steady albeit slow change in people's perception of living in the central area of Winnipeg. This change was mainly due to the increasing environmental awareness regarding the benefits of more compact forms of development. In the words of one of the planners, "there are people that have a stronger attitude about using carbon footprint and want to live in more of a mixed use environment where they can walk to services, restaurants and even walk to work. The central area is the number one destination for those people."

According to the two planners, the education and awareness over the negative aspects of single family detached houses in the suburbs are reflected in discussions in public hearings. Unlike in the past, people now object to certain subdivisions that are considered on the fringes of the city. According to of the planners, the importance of residential development in the central area was reflected in "Our Winnipeg Initiative through public

open houses and electronic feedback.” Both planners emphasized the dramatic change in how people feel about housing location, affordability and all sorts of sustainability aspects.

One of the planners even mentioned that the increased awareness of the long run cost of new subdivisions was reflected in new plans such as the one for Waverley West located in south west of the city. The plans included cost pro formas for the infrastructure and the maintenance over time. It showed that it is much more expensive to keep building in the suburbs. According to the planner, “in terms of sustainability, it just makes sense that you would concentrate development or parts of the development in areas where there is infrastructure that you are maintaining anyway.”

The two planners from Winnipeg agreed that the central area of Winnipeg is quite big and that it can accommodate different types of housing. They also agreed that that there was little effort to invest in housing in the central area. The planners did not elaborate on the initiatives that aim at revitalizing downtown such as the Downtown Winnipeg Business Improvement Zone (BIZ), Downtown Renewal of the Winnipeg Partnership Agreement and the CentrePlan for downtown. The perception of the Winnipeg planners contrasts with the existence of these initiatives. It might be the case the two planners did not mention these initiatives because these initiatives were not specifically geared towards housing and did not have major tangible results yet. Or it might be the case that the two planners were not involved in initiatives concerning the downtown area.

In contrast to the condition of the central area of Winnipeg, both planners I interviewed in Edmonton viewed housing in the central area in favourably. Both planners considered that single family homes in the suburbs used to be the most sought after housing option. This has changed a little bit during the recent boom. As a result, the central area absorbed a lot of condominiums, especially townhouses. Still, as one of the planners stated, “single-family homes are still more popular than other types of housing but they do not have to be in the suburbs.”

The same planner noted that there are a lot of single family houses within the central area but they are smaller than the ones in the suburbs and ranging between 1500 and 2000 square feet. One of the planners mentioned that he observed that a lot of these small homes in the central area have mostly been renovated by “individual home owners and not by private developers.” This might indicate that the renovation process does not have to be dependent only on big projects.

Furthermore, both planners from Edmonton stated that housing preferences are linked to the stage of a consumer’s life as well as his/her characteristics. For example, students, single-parents, separated/divorced people, small families and seniors prefer housing located in proximity to day to day services and transit. Major bus and LRT (Light Rail Transit) routes attract this group as well as a group of people who care about the negative environmental impact associated with the suburbs. Also, bike lanes are widespread in the central area and are always busy even in winter.

One of the of two planners mentioned that, “although the demand for single family residential homes with 3+ bedrooms, 2 bathrooms and 2 car garage might not be as high as it used to be, it will most probably be the favourite choice among big families.”

Both planners shared the view that investment in the central area of Edmonton over the last 15 years helped create the vibrant housing nodes. This investment on part of the City has created, as one of the planners put it,” a better overall neighbourhood environment with amenities, services, and street furniture.” These improvements increased walkability and hence safety. As a result, housing picked up rapidly in the central area and even reached “surrounding areas such as the western edge of downtown with the establishment of housing for Robbins Health Learning Centre at Grant MacEwan University in 2007.” Therefore, it can be deduced that the central area in Edmonton is at a diffusion stage, during which adoption of housing in the central area increases rapidly in the adoption centers and spreads outward to surrounding areas.

The two planners from Winnipeg emphasized the importance of history and character as a magnet for a sector of the prospective home owners which confirms the results of the survey. According to one of the planners, “Unlike other cities where most of the older and historic buildings are already torn down, history is an attractive component in a city like Winnipeg.”

Winnipeg’s central area is big as it almost three square kilometres and the amount of housing that already exists is no where close to its capacity. There is a lot of room for investment in the central area either through the development of the empty lots or through

the renovation of the existing buildings. There can be a market of such housing because peoples' attitude towards the central area is changing. Still, the central area lacks a cohesive strategy for housing regarding where to direct the investment in order to create "housing centres or pockets that are vital for attracting people." Although, there are a few housing pockets in the central area, still they are not enough to transform the central area into a housing destination for prospective home owners.

Still on the same note, the two planners from Winnipeg pointed out that a lot of older people would like to go back to the central area if opportunities were available. As one planner put it, "in Winnipeg, the population is also ageing. You got lot of people who are getting older. A lot of people are also becoming empty nesters and seniors. When they look into housing, they have a more potential connection to the central area."

In addition, younger couples and even small families are considering the central area. As a result, it can be deduced that the planners' views are consistent regarding the central city of Winnipeg lacking the housing centres or "hubs" as one planner has put it. This situation corresponds to the primary stage of the model.

The two planners from Edmonton considered that living in the central area leads to social interaction. As one of the planners put it, "I would say that more urban areas, especially central areas are inherently more complex along with the issues affecting them. Coupled with a higher population, when something goes wrong or becomes a community issue, more people are affected. Because of this concentration of people by virtue of sheer

numbers and issues, I think people who live in a central area are more prone to social interaction opportunities and engagement. ”

Along the same line, the other planner from Edmonton argued that living in central areas exposes people to more types of people and life situations compared to suburbia which invites more isolation.

4.3 Housing types and sizes

Both planners from Winnipeg believed that there will always be a market for single family residential homes but not in the same way as in the past. As a result, the number of single home starts is decreasing and the number of multiple home starts is increasing.

According to a recent CMHC analysis (CMHC, 2010), pointed to by one of the planners, single home starts and multiple home starts will be the same by 2018 in Winnipeg.

According to the same analysis, single family starts will continue to drop after 2018 and the multi family sector will continue to increase.

One of the two planners noted that in new subdivisions such as Waverley West located southwest of the city some lots are smaller than the ones that are in comparatively older subdivisions. Still, the built area is not smaller because the basements have a separate entrance from outside the home (walk out basements). In such cases, the area of the basement is added to the size of house when it is advertised.

Both planners agreed that multiple-family residential development is slowly gaining ground in Winnipeg. Unlike multiple family development, mixed use development is not

taking place in Winnipeg. Both planners mentioned that one of the goals of Our Winnipeg direction paper (Our Winnipeg, 2010) is to encourage multiple family and mixed use development.

The two planners from Edmonton pointed out that there were a lot of renovations for old houses in the central area especially by individual investors and not by companies. They thought that the allure of the central area was the main reason behind these choices. As for the suburbs, both planners agreed that age of the house plays a significant role in the final decision. In the words of one of the planners, “a house built today is constructed to the latest building code which continues to improve public safety and incorporate more sustainable practices.”

Loft housing and historic buildings were not an issue in Edmonton. Both planners regretted the demolition of most of the historic building during the first boom in the seventieth of the last century. Only a few building survived on Jasper Avenue and Whyte Avenue as the city back then did not have heritage preservation regulation. It should be noted that Jasper Avenue is one of the main avenues in Edmonton and it runs though downtown. As for Whyte Avenue, it is located in the south central part of Edmonton and it is home to a lot of shops and restaurants. So, for both planners, loft housing was not an issue they ever encountered because of the lack of historic buildings.

4.4 Government's role

Both planners from Winnipeg acknowledged that reasons for the lack of investment in the central area are debatable. Some attribute this lack of investment to lack of will among developers while others blame the government. As for developers, one of the two planners mentioned that he has encountered some investors who wanted to turn some of the existing buildings in Old Market Square into housing. Old Market Square is located in the middle of downtown Winnipeg. Those investors were discouraged by the stringent procedures. The strict and outdated procedures concerning investing in old building combined with the expensive land in the central area compared with cheap land on the fringes turns investors away from the central area.

Moreover, one of the planners pointed out that he even noticed some multi-family development in places that are not amenable to such development such as Scurfield Boulevard located in the south western part of the city. There are no amenities around this multi family development. Worse still, there are no pedestrian walkways or bus stops around this development although it is meant as seniors' housing.

The same planner commented that it would have been more plausible to have a development such as the one mentioned in the previous paragraph in the central area. The central area has amenities, pedestrian walkways and bus services. On a yearly basis there are not that many multiple family housing start ups in Winnipeg compared to other cities. As a result, they are not felt because they are scattered in city. The only location where the effect of such multiple-family development can be felt is the central area. Encouraging

housing in the central area can help reach what one of the planners called “the critical mass.” Reaching this critical mass will transform the central area into a hub for housing and insure that there will be people on the street.

Both planners from Winnipeg laid emphasis on the role that the government can play in residential development in terms of policy. As one planner put it, “we get a lot of applications for multiple family housing that can go one way in one area and be denied in another area.” According to one of the planners, “this means that there is much room for political manoeuvring in terms of which projects get approved and which ones do not.” A lot of time these projects are opened up for public hearings with various outcomes. In short, the city policy can be more clear and permissive in where some types of development can occur.

One of the issues with heritage buildings and other vacant buildings in Winnipeg is that they were not built to today’s code. One of the planners expressed the need to establish a code equivalency whereby developers do not have to bring these buildings to today’s code to use them for housing. Such an equivalency which exists in other cities can spur investment in the old buildings in Winnipeg because it would be very expensive to bring them up to today’s code. One of the planners summed up the whole situation of investing in older buildings in Winnipeg in the following sentence, “there are these sorts of inherent connotation and frustrations when it comes to these older buildings.”

Another problem with older buildings in Winnipeg is that they are privately owned so the city can not give these properties away. There is a perception in Winnipeg, according to one of the planners, that development is always developer driven. That is why it would be difficult for the city to buy some of these buildings or go in to a partnership with one of the investors.

As a possible solution, one of the two planners suggested that “the government needs to step in a little bit and provide some of the incentives for development in the central area.” The same planner acknowledged that “some consultants might argue that we need just to give development in the central area time to pick up and that it is not justifiable for example to give subsidy for something that is going to pick up eventually.” However, the same planner expressed his rejection of the previous argument because of the large number of vacant buildings and empty lots in the central area in Winnipeg. Both planners thought tax incentives and property taxes breaks can encourage both developers and prospective home owners to invest in the central area because the tax breaks can be passed on to the end users.

Moreover, partnerships with the three levels of government on the one hand and communities as well as large corporations on the other hand were thought of as vital for the success of Winnipeg’s central area as a housing hub. For example, the provincial government intervened through provincial grants and provincial programs to support the improvement of Old Market Square as a historic area.

Additionally, Red River College and University of Winnipeg student housing were considered role models to follow. Both projects attract a lot of people and especially students to the central area. A spin-off of such development is an increasing number of people on the street. This would, as noted by one of the planners, “generate business and activities because there would be more people.” As a result, businesses would stay open later which would create “a vibrant neighbourhood which is also a safe neighbourhood like Montreal for instance.”

Also, both planners put a lot of emphasis on the need for opening a channel between the City of Winnipeg and developers who are interested in investing in some of these heritage buildings that are empty. Only through such dialogue can the City fully understand the challenges faced by developers.

As for Edmonton, both planners shared the same opinion regarding the existing of housing centres in the central area and especially the area between North Saskatchewan River to the south and Jasper Avenue to the north and the area around Kitchener Park located two blocks north of Jasper Avenue. For this reason, the provincial government has a minor effect on increasing residential development through funding massive infrastructure projects such as new LRT (Light Rail Transit) stations. Further more, the provincial government can amend the Municipal Government Act because it does not explicitly authorize municipalities to impose a condition on subdivision or development approval that requires the applicant to pay a levy or require dedication of land or units to meet affordable housing objectives. This can allow the City to include people from different levels of

income in the central area. As for now, according to one of the planners, most residents in new developments in the central area are middle class.

As for the City in Edmonton, both planners thought that it can play a bigger role through land use plans, tax incentives, partnerships and collaboration. Furthermore, both planners shared the same view that the City of Edmonton is at a stage where it is not obliged to give incentive for potential investors and the best way is to build partnership for specific sites such as the case in Grant MacEwan new campus on the western edge of the central area.

4.5 Neighbourhood design

Both planners from Winnipeg viewed safety as a concern for prospective home owners when it comes to considering the central area. According to the two planners, increasing street lighting can help change this perception. Additionally, taking care of open spaces combined with quality schools in the central area would make it very appealing for prospective home owners. To increase the appeal for the central area, open spaces must be accessible because as one of the planners pointed out, “you don’t want open spaces to be on the other side of a six lane highway or street and have to lead your children to the park.”

Furthermore, the two planners from Winnipeg shared the same opinion that many neighbourhoods in the central area show a lot of the qualities that are favoured by more than one group of prospective home owners. One of these groups is senior citizens.

Another group is young professionals and small families. For this reason, according to one of the planners, the City is looking at a Secondary Plan for Old Market Square located in the middle of downtown to guide future development. The Market Square Secondary Plan will identify areas within Old Market Square that would be suitable for different housing types to increase the vibrancy of the area and encourage investment.

One of the two planners from Edmonton argued that home owners will “put first weighting on the actual form of housing as it is their personal investment and secondary, the public realm.” However, the other planner believed that the importance of the neighbourhood design is related to the choice of the neighbourhood and that people who live in the central area put more emphasis on the public realm compared to people who live in the suburbs. Accordingly, people who live in the central area “put a lot of emphasis on the quality of green spaces and street lighting.”

According to the two planners from Edmonton, there has been no established mature neighbourhood planning program for 12-15 years. As a result, there has not been a cohesive planning strategy for the city as a whole. “New neighbourhoods are required to meet 65/35 low to medium density housing target.” These new neighbourhoods are sometimes denser than older mature neighbourhoods outside the central area. Recently, a lot of developers try to distinguish their development from others by emphasizing “location, green space, amenities, access to quality schools and community services.”

Both planners from Edmonton shared the same opinion that there has been more awareness regarding the importance of neighbourhood design in the last years. In Edmonton, citizens, administration, development and construction industry are more aware of the importance of design in general. This awareness led to the construction of sidewalks even in newer subdivisions.

4.6 Housing tenure

Both planners from Winnipeg shared the same opinion regarding the perceived divide between rental and ownership. According to one of the planners, “societal issues are manifested in this sort of tenure divide.” Both planners noted that part of the perception of the central area as low income can be attributed to the imbalance between rental and ownership. One of the planners noted that this imbalance can change in the near future with the new development on Waterfront drive located just north of the Forks on the eastern edge of downtown and other projects that are being studied as a result of the Our Winnipeg Initiative.

Based on their experience, both planners from Winnipeg have encountered many situations where owners expressed concerns about renters. Owners feel that renters don’t feel the same connection to the neighbourhood and “may be you don’t have the same care and have the same pride.”

According to both planners from Edmonton, Alberta’s economy has attracted many new residents to Edmonton and as a whole, raised the overall gross number and representation of all ethnic groups. During that time, “a lot of workers came from other

provinces on a temporary basis and were renting in the central area so there was a balance between rental and ownership.” After the latest economic slowdown, as noted by one of the two planners, “the percentage of renters has decreased and returned to their home provinces leaving higher ownership levels as many of the previous rental units were sold.” One of the two planners attributed the increased percentage of ownership in the central area to low interest rates as there are no restrictions on housing investment in the central area.

4.7 Off-street parking

Both planners from Winnipeg shared the same view regarding off-street parking. They agreed that it would not represent a hindrance for housing in the central area because developers can provide a fewer numbers of parking lots. Based on observation in other cities, one of the planners noted that is more often than not that families who live in the central area have only one car and sometime none because they live within a walking distance of most of their daily needs. 0.75 parking spot per unit in the central area was considered reasonable by both planners.

The two planners from Edmonton viewed off-street parking and especially gravel parking lots negatively. In the words of one of the two planners, “off street parking lots kill street life - especially gravel parking lots after hours within business / office areas. Where they serve only one user group (e.g. office workers, Monday-Friday) they effectively sterilize the land during all other times of day.”

As for off-street parking inside housing, both planners from Edmonton did not see any negative impact of such type of parking. They both shared the same opinion regarding the need to provide 1 parking spot for housing in the central area although some of the residents do not own a vehicle because of the accessibility to LRT (Light Rail Transit) and bus stops. Still, they emphasized that from a marketing perspective, providing parking is necessary to a degree. One of the planners noted that the transit oriented development adopted around the LRT (Light Rail Transit) stations” stresses shared parking among different users throughout the day and week. In so doing it frees up land for other uses that might serve higher best use for a particular community or region.”

Overall, it can be concluded that there is a segment of the market in Winnipeg that is likely to consider a mix of housing type and central area housing as an option. The level of acceptance corresponds to the level of education and awareness regarding sustainability. Still, the housing in the central area is still at a primary stage and its success will depend on the new policies and strategies adopted by the three level of the government. The most important aspect is that more people in Winnipeg area are starting to realize that housing in the central area can be an option.

According to the two planners in Winnipeg, the central area lacks housing hubs that can attract prospective home owners. For this reason, the City of Winnipeg should introduce tax incentives and property tax breaks. Also, the two planners from Winnipeg put a lot of emphasis on the need for opening a channel between the City of Winnipeg and developers who are interested in investing in some of these heritage buildings that are

empty. Unlike Winnipeg, the central area in Edmonton has established housing centres. Therefore, the two planners from Edmonton shared the same view that the City of Edmonton is at a stage where it is not obliged to give incentive for potential investors and the best way is to build partnership for specific sites.

Conclusion

5.1 Conclusion and Final Remarks

The analysis of the survey conducted in both Winnipeg and Edmonton along with the results of the interviews show that the central area in Winnipeg and Edmonton are at different stages regarding housing. As for the central area in Winnipeg, there are not clear housing centres that can attract the critical mass of residents. It is noteworthy that the survey demonstrated that this situation can change as there is a sector of the market that views living in the central area as desirable. The analysis of the survey in this respect shows that the central areas of the cities are attractive housing options for some groups. This confirms the results of other studies mentioned in the introduction (Moss, 1997; Oakes & McKee, 1997) regarding the attractiveness of city centre.

Unlike the central area in Winnipeg, the central area in Edmonton has many housing projects including different housing types. Furthermore, residential development started to spread to the areas adjacent to the central area. Therefore, it can be inferred that housing in the central area in Edmonton is at a diffusion stage, during which adoption increases rapidly in the adoption centers and spreads outward to surrounding areas.

It should be noted that although different types of housing such as small detached homes, townhouse and condominiums are common in the central area in Edmonton, it is still mostly a middle class area lacking opportunities for income mix. This aspect was most obvious in the interviews. So it might be the case that the City of Edmonton and the provincial government in Alberta need to work together to amend the Municipal

Government Act. This amendment will allow the City of Edmonton to require developers to dedicate a specific percentage for affordable housing. Such an inclusion of different levels of income would be acceptable by the majority of the survey participants.

This expansion of the suburbs and is regarded by the advocates of the free market as a result of consumer demand for low-density single family housing on large lots (Audirac, Shermeyen, & Smith, 1990). According to this view, demand is driven by individual preferences. The results of this study contradict the assumption of economic theory and free market that postulate that supply and demand solely determine the behaviours of decentralized agents such as developers and buyers (Boyer, 2008, p. 359). The results of this study showed that the development on the city fringes can be the result of the local conditions such as the city policy and regulations. In this regard, this study confirms the results of other studies that challenged the hypothesis of supply and demand as the sole factor behind the suburban development (D'Arcy & Keogh, 1997). Accordingly, attributing the suburban development to the market mechanism of supply and demand does not provide a logical explanation since the development process is quite lengthy.

Along the same line, this study showed that municipal policies and regulations in both Winnipeg and Edmonton can lead to the increase of certain types of development. This is similar to Bourdieu's (2000) assertion that the process of developing new single family houses in France was accelerated by new regulations favourable to that type of development. The interviews shed light on the important role that the municipal governments and the local environment can play in shaping the housing market and

promoting different types of development. Thus, it can be deduced that the results of the interviews confirm the dependence of development on local conditions that are to a great extent the creature of the municipal government (Haila, 1991; Logan & Molotch, 1987).

Along the same line, the majority of participants in both Winnipeg and Edmonton who were in favour of living in neighbourhoods with mixed income were also attracted to activity-friendly neighbourhoods in the central area. In addition to being activity-friendly, these neighbourhoods also had near-by amenities, stores and public transportation. These characteristics and features are most common in neighbourhoods with traditional designs such as the neighbourhoods in the central areas. In this respect, the results of this study support the results of Handy's (2008) study regarding the attractiveness of neighbourhoods with traditional designs.

The same group of participants/prospective home owners mentioned in the previous paragraph shared a number of environmental attitudes. These attitudes were related to the care for recycling, the importance for eating organic food, the use of public transportation, volunteering in non-profit organization to help the community and the interest in attending cultural activities. Moreover, the same group of participants was physically active favouring walking, jogging or biking. It is important to note that the same group of prospective home owners showed considerations for social interaction and activities. This was reflected in the importance given to community centres and the preference for neighbourhood with residents from different backgrounds. The previous environmental attitudes may not be shared by all sectors of the society. It must be noted that all of the 50

participants had at least a community college degree or some university education without a degree.

Still on the same note, prospective home owners who are interested in housing in the central area enjoy a high level of education and awareness regarding the environmental impact of suburban development. Therefore, it can be inferred that different housing types in the central area, or already established neighbourhoods especially in Winnipeg, might be desirable for prospective home owners who enjoy a high level of education and share the same environmental attitudes with the majority of participants in this study.

On another note, the analysis has revealed that the majority of prospective home owners are not limited only to one type of housing when considering their future housing preferences. This means that although there will always be a market for single family residential homes, other types of housing are also gaining currency among prospective home owners (Wolf, 1999). In that regard, the results of this study are similar to the results of the study conducted in Toronto by Stillich and Agrawal (2008). Similar to the results of this study, a relatively high level of acceptance of compact housing forms such as townhouses and condominiums was the main finding of the study conducted in Toronto (Stillich & Agrawal, 2008).

Along the same line, Nelson (2006) predicted that there will be a shortage in small-lot and attached housing supply in the next 15 years. Unlike the small-lot and attached housing supply, the supply of large-lot housing will meet the projected demand. Based on

the results of the study, it can be expected that housing types such as apartments, townhouses and even loft housing can be more common in the future and especially in Winnipeg since apartments and townhouses are already common in Edmonton. As mentioned in the interviews with the planners in Edmonton, Edmonton did not have a preservation policy during the first oil boom in the 1970s. During that time the city lost most of its historic buildings. Today, there are only a view scattered buildings left. Unlike Edmonton, Winnipeg still enjoys a lot of historic buildings. For this reason, loft housing represents an opportunity for Winnipeg not only to preserve but also to revitalize parts of the central area just as it was the case in San Francisco.

The study indicated that the loft housing is viewed by the majority of participants as an attractive housing option. The attractiveness of loft housing as indicated by the results of this study confirms Wolf's assertion (1999) that there is a rising demand for loft housing. Therefore, loft housing can witness a surge in the coming years if there is a movement to promote it and make investment in this sector easier. This will require the municipal government to set an equivalency code for the reuse of older and historic buildings. Also, tax incentives, property taxes breaks can encourage both developers and prospective home owners to invest in the central area in general because the tax breaks can be passed on to the end users.

The analysis also shows that the majority of prospective home owners prefer land use mix as indicated by the preference for nearby amenities, services and shops. Furthermore, the majority of prospective home owners desire diverse transportation options indicated by

favouring closeness to public transportation, the importance given to bike routes and pedestrian sidewalks and crossings. Also, the study shows the importance of street lighting and how it relates to safety. Furthermore, the analysis showed that there is a strong relation among the preferences for living in a neighbourhood with mixed income, mix of building types, history, people of different backgrounds and mix of land uses. Therefore, it can be inferred that housing located in the central area can witness a surge in demand especially if care is given to improving schools, street lighting and increasing green spaces.

On another note, the perceived distinction between ownership and renting was clear throughout the study, which opens the door for looking at combining privately owned housing with affordable rental housing. Affordable housing brings diverse populations and a wide range of incomes within small areas (Wilcox, 2005, p. 22). The diverse populations and the wide range of incomes would not negatively impact prospective home owners as the majority of participants were open to living in neighbourhood that had a mix of income and people from different backgrounds.

Combining privately owned housing with affordable housing has yet to be achieved in both Winnipeg and Edmonton. The policies of both cities do not require developers to assign a specific percentage of the units to affordable housing. Also, the municipal government especially in Winnipeg needs to give incentives and even tax breaks to developers in order to encourage housing development in the central area.

In conclusion, the housing market is subject not only to supply and demand but to other factors such as local policies and attitudes and current preferences. Often local governments can stimulate and facilitate residential development within a particular neighbourhood. The other side of the coin holds true as well since local governments can limit and obstruct development, whether wittingly or unwittingly, by their policies and regulations (Ford, 1994; Scott, 1996). Emotional and social factors can play a factor in the choice of housing especially among younger people who lead a more active lifestyle and are more environmentally conscious. Therefore, it can be assumed that the central area especially in Winnipeg can witness more housing if the city policy is more permissive of different types of development and if there are more incentives for investing in the central area.

Appendix 1

Survey

Please check the category that fits you.

1. What is your gender?

- M
- F

2. Do you plan to purchase housing within the next five years?

- Yes
- No
- Not sure

3. What is your age group?

- Under the age of 25
- Between 25-35
- Between 36-65
- Over 65

4. What is your level of education?

- Some high school – did not graduate
- High school
- Community college
- Some University – no degree
- Bachelor's degree
- Graduate degree
- PhD degree

5. What is your current marital status?

- Single, Never Married
- Married
- Common law
- Separated
- Divorced
- Widowed

6. How many persons are in your household?

- 1
- 2
- 3
- 4 or more

7. What is your annual household income?

- Less than 25000
- 25000 to less than 35000
- 35000 to less than 45000
- 45000 to less than 55000
- 55000 to less than 65000
- More than 65000

8. What do you value most about where you live now? (only one element)

9. Where do you live? (postal code is enough)

When thinking about your next house purchase, please rate each statement on the scale shown to indicate your level of agreement.

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know
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(10)1. Living in the central area is desirable	<input type="radio"/>					
(10)2. There is a strong demand for housing in the central area	<input type="radio"/>					
(10)3. There is a weak demand for housing in the central area	<input type="radio"/>					
(10)4. An activity-friendly neighbourhood, one where people can walk to different amenities, is an attractive option	<input type="radio"/>					
(10)5. Having a sidewalk on my street is important	<input type="radio"/>					
(10)6. Pedestrian crossings at every block are important	<input type="radio"/>					
(10)7. Longer signal times for pedestrian crossings are important	<input type="radio"/>					
(10)8. Having a cycling route is important	<input type="radio"/>					
(10)9. Having public transportation within walking distance is important	<input type="radio"/>					
(10)10. Being able to walk to the grocery store is important	<input type="radio"/>					
(10)11. Being able to walk to a park is important	<input type="radio"/>					
(10)12. Being able to walk to the pub is important	<input type="radio"/>					
(10)13. Being able to walk to the coffee shop is important	<input type="radio"/>					
(10)14. I am comfortable living in a neighbourhood with residents of mixed income	<input type="radio"/>					
(10)15. I prefer living in a neighbourhood characterized by a mix of building types	<input type="radio"/>					
(10)16. I prefer to live in a neighbourhood with history	<input type="radio"/>					
(10)17. A neighbourhood is a place where people from different backgrounds can get together	<input type="radio"/>					
(10)18. I prefer neighbourhoods with a mix of land uses	<input type="radio"/>					
(10)19. The quality of neighbourhood schools is important	<input type="radio"/>					

(10)20. Having a community centre is important	<input type="radio"/>					
(10)21. The quality of street lighting is important	<input type="radio"/>					
(10)22. Parks and green spaces are desirable	<input type="radio"/>					
(10)23. Thinking about my ideal neighbourhood, noise on the street is a big concern	<input type="radio"/>					
(10)24. For me, there is not much difference between ownership and renting	<input type="radio"/>					
(10)25. Detached houses are desirable	<input type="radio"/>					
(10)26. Town houses are desirable	<input type="radio"/>					
(10)27. Triplexes are desirable	<input type="radio"/>					
(10)28. Apartments are desirable	<input type="radio"/>					
(10)29. Loft housing is an attractive housing option	<input type="radio"/>					
(10)30. Having a front deck is important	<input type="radio"/>					
(10)31. Having a front porch is important	<input type="radio"/>					
(10)32. New houses or buildings are not any better than renovated ones	<input type="radio"/>					
(10)33. Off-street parking is essential	<input type="radio"/>					
(10)34. Supply and demand solely determine the housing market	<input type="radio"/>					
(10)35. The government can create the conditions for increasing residential development in the central area	<input type="radio"/>					
(10)36. Considerations such as social and emotional factors play a role in my choice of housing	<input type="radio"/>					
(10)37. Recycling is necessary	<input type="radio"/>					
(10)38. People should eat more organic food	<input type="radio"/>					
(10)39. People should make more use of public transportation	<input type="radio"/>					
(10)40. Biking is a good solution for traffic congestion	<input type="radio"/>					
(10)41. Volunteering in non-profit organizations is a good way to help the community	<input type="radio"/>					
(10)42. I am interested in attending any or all of these cultural activities: theatrical performances, musical concerts and art galleries	<input type="radio"/>					
(10)43. Walking, jogging or biking are part of my daily or weekly routine	<input type="radio"/>					

(10)44. Living in centrally located leads to more possibilities for social interaction	<input type="radio"/>					
(10)45. Encouraging residential development in central areas helps save agricultural areas on the fringe of the city	<input type="radio"/>					

Appendix 2

Interview questions

1. Based on your experience, can you comment on the current preferences related to the location of housing?
2. Based on your experience, can you comment on the stage of housing in the central areas?
3. Based on your experience, can you comment on the current preferences related to housing size?
4. Based on your experience, can you comment on the current preferences related to housing types? E.g. detached houses, town houses, triplexes (three storey housing), apartments
5. In your capacity as a planner, did you observe any change during the last few years related to the design of neighbourhoods? E.g. mix of commercial and residential uses, sidewalks, pedestrian crossings, bike routes, walking distance to amenities, a mix of land uses (mix of commercial and residential uses), a mix of building types
6. In your capacity as a planner, did you observe any change during the last few years related to the socio-economic makeup of neighbourhoods? E.g. residents with mixed income, mix of ethnic backgrounds and culture, more mix of ownership and renting.
7. The survey revealed that more than 65% of the participants do not see new housing as being any better than renovated ones. Does your experience confirm this finding?

8. The survey revealed that more than 62% of the participants see loft housing as an attractive housing option. Does your experience confirm this finding? And do you think based on your experience that there is or there will be a market for this type of housing?
9. The survey revealed that almost 70% of the participants think that the government can create the conditions for increasing residential development in the central area because the housing market does not depend solely on supply and demand. Does your experience confirm this finding?
10. A lot of participants mentioned that they prefer housing that is located in close proximity to the central area and the amenities. Does the new housing trend confirm this preference?
11. In your capacity as a planner, did you observe any move towards investing in housing in neighbourhoods with history?
12. Have the City conducted any studies on the people who buy housing in the central area? What were the main characteristics of those buyers if there were such studies?
13. Has the City initiated any projects to increase number of parks and open spaces in the central area as a means of making it more attractive for housing?
14. In your capacity as a planner, what do think of the effect the improvement in neighbourhood schools, street lighting, community centre might have on housing in the central area, if any?
15. In your capacity as a planner, do you think there is a positive relationship between living in central areas and social interaction? E.g. more volunteering in non-profit organizations.

16. In your capacity as a planner, how important is off-street parking to attract people to live in the central area?

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