

Key stakeholder perspectives on the development of walkable neighbourhoods

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Abstract

Evidence supports the link between the built environment and physical activity. This study investigated factors that influence the decisions made by key stakeholders as they relate to neighbourhood development. Seventeen stakeholders including public health and municipal employees ($n = 9$), city councillors ($n = 3$), and the private sector (e.g., land developers, food retailers) ($n = 5$), participated in interviews. Private sector participants considered healthy lifestyle choices (e.g., PA) to be related more to individual choice than did other groups. All groups agreed that consumer behaviour is essential to invoking change but did not agree on who is responsible for invoking change. Common barriers included financial costs, car dependency, and social norms. Facilitators included growing awareness of health and environmental issues and increasing buy-in from governing bodies for innovative neighbourhood development. More work is needed that acknowledges the differences between while integrating the diverse perspectives of those responsible for the planning of neighbourhoods that are conducive for physical activity.

Keywords

Neighbourhoods; Built environment; Physical activity; Smart Growth; Stakeholders; Interviews

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1. Background

Growing evidence supports the link between the built environment, food security, and obesogenic-related factors such as physical inactivity (Ewing et al., 2003; Martin and Ferris, 2007; Saelens et al., 2003; van der Horst et al., 2006). For instance, people living in neighbourhoods with high population or housing density, street connectivity, and walking infrastructure engage in walking and cycling activities more (Saelens et al., 2003) and have lower rates of obesity than do people who live in lower density, residential-only neighbourhoods (e.g., Brownson et al., 2005; Frank et al., 2006; Spence et al., 2008). Due to such evidence, city planning and public health officials are paying increased attention to environmental determinants of healthy behaviours such as walking. Focus is also shifting towards food security, which is defined by the United States Department of Agriculture (2007) as “access by all people at all times to enough food for an active, healthy life”. Although food security is related to individual and household income, environmental determinants can support and facilitate access to affordable and healthy food.

Efforts to create ‘walkable’ neighbourhoods are often propelled by the ‘Smart Growth’ movement. This movement started as a reaction to the undesirable features of urban sprawl and advocates for limiting outward urban expansion and increasing density, allowing for more mixed land uses and walkability, putting the cost on the consumer, emphasizing public transit, and the revitalization of older neighbourhoods (Downs, 2005). However, Downs points out that Smart Growth means different things to different people. For example, he contends that developers tend to play down the limitations of outward growth whereas some urban planners and environmentalists accept Smart Growth principles *prima facie*. Further, the Smart Growth movement can be considered through the lens of ‘automobility,’ which brings together ideas of the car as: a manufactured item, the major item of individual consumption and subsequent resource use, a complex notion interlacing industry, land-use, and globalization, the predominant form of mobility which subordinates other forms (e.g., walking) and the dominant symbol of the ‘good life’ (Urry, 2004). Thus, “automobility necessarily divides workplaces from the home producing lengthy commutes; it splits home and shopping and destroys local retailing outlets” (Urry, 2000, p. 59)—trends that Smart Growth proponents aim to counter.

One of the less universally embraced Smart Growth principles is the idea of creating more affordable housing (Downs, 2005). Linking housing to walkability principles is necessary as it has been shown that living in economically disadvantaged neighbourhoods is associated with less overall physical activity (Janssen et al., 2006; Kavanagh et al., 2005) and greater risk for being overweight or obese (Drewnowski et al., 2007; Janssen et al., 2006; Wang et al., 2007). Similarly, residents of lower socioeconomic status (SES) neighbourhoods have greater access to fast foods and lower access to grocery stores (Hemphill et al., 2008; Smoyer-Tomic et al., 2008). This may be due to the disappearance of small, full-range grocery stores from town centres and consumers’ increased willingness to travel greater distances to grocery stores with a wider range of goods at lower cost (White, 2007). Lopez and Hynes (2006) have referred to low rates of physical activity and high rates of obesity in low-income urban areas despite mixed-use environments with high street connectivity as the inner-city paradox. They argue that this conflicting relationship is likely due to a mix of

land-use, social, and infrastructure issues. For example poverty (social), abandoned buildings (land-use), and lack of adequate street lighting (infrastructure) combine to make walking a challenge for residents. Indeed, this argument is supported by the findings of other researchers who showed that although low- and high-SES economic neighbourhoods provided equal access to sidewalks and recreational facilities, low-SES residents were less frequently active and reported their neighbourhoods were less pleasant, had greater numbers of unattended dogs, higher crime rates, and less trustworthy neighbours than did individuals in high SES neighbourhoods (Wilson et al., 2004).

Planning policies and practices such as infrastructure investment and zoning can have an effect on urban form features such as density and land use mix (Frumkin et al., 2004). Raine et al. (2008) highlighted that the relationship between healthy weights and urban environments is very complex and that there is a need for coordination of independent policy responses across a range of sectors. However, as pointed out by Yancey et al. (2007), influencing legislation as a means of changing environments to positively impact physical activity has yet to become a part of health policy in any meaningful way. Edwards and Tsouros (2006) suggest strategies to overcome this gap, which include ensuring that planning, transport, and economic development agencies work together when designing new areas or working on infill in already established urban areas. Such approaches should include reorienting community design to favour walking and cycling over cars and to locate services so that they are easily accessible by walking or cycling. However, public health advocates need to approach both the private sector and governments prepared with answers to questions such as who is going to pay for changes (Ashe et al., 2007).

Historically, Canadian legislators did not believe that government should have a major role in encouraging people to be physically active or to maintain a healthy diet (Ashley et al., 2001). These beliefs may be changing as reflected by recent government initiatives to promote physical activity through the provision of tax credits for children's involvement in organized physical activity (Government of Canada, 2007). Hollander et al. (2008) reported that in the United States, planners and city and county elected and appointed officials considered physical activity to be important in their work. Participants (who were members of professional organizations) cited inadequate funding, lack of knowledge, too few staff resources, and lack of political support as major barriers to their work. Participants also expressed an interest in more cross-discipline communication and dialogue. Research is needed that reflects the knowledge, voices, and perspectives of the diverse public and private stakeholders responsible for the development and planning of neighbourhoods, particularly in other political contexts than the United States. Therefore, the purpose of this study was to determine the factors that influence the professional decisions made by key stakeholders involved in the planning and development of neighbourhoods in one Canadian city and to gain insight into their perceptions about what factors might facilitate and inhibit physical activity and food security.

This research was guided by the Ecological Model of Physical Activity (EMPA; Spence and Lee, 2003), which examines the interplay between biological (e.g., current level of fitness), psychological (e.g., efficacy) and extra-individual factors (e.g., the built environment) and their influence on behaviour. The model identifies macrosystem (e.g., societal values),

exosystem (e.g., workplace support), mesosystem (e.g., parental support for children's physical activity), and microsystem (e.g., verbal encouragement) dimensions that can influence physical activity. Of particular relevance to this research, the EMPA posits that there is a reciprocal relationship between physical ecology (e.g., climate) and pressures from urbanization and macrosystem factors such as societal values and safe neighbourhoods. These can directly influence physical activity behaviour or can exert influence when mediated through individual attitudes. The interaction between urbanization, societal values, and the construction of our cities resonates with automobility and Smart Growth. As such, the EMPA can provide a useful framework for exploring the relationship between the built environment and physical activity. While the EMPA does not address food security, the ecological systems theory (Bronfenbrenner, 1977) that inform it can. Further, the food security aspect of this study was exploratory as food security in relation to the built environment has received much less research attention to date and while related to Smart Growth principles, is not a central component of Smart Growth.

2. Methods

2.1. Setting

The city of Edmonton is the capital of the Western Canadian province of Alberta. It covers an area of 684km² and has a population of 752,412 (City of Edmonton, 2008), making it one of the lowest population densities for a large major city in North America. Half of all homes are single-detached houses (City of Edmonton, 2008). Edmonton experiences a northern continental climate with extreme seasonal temperatures and average daily temperatures ranging from -11.7 °C (10.9 °F) in January to 17.5 °C (63.5 °F) in July (Environment Canada, 2004). The city is a government centre and boasts one of Canada's largest research-intensive universities. It is also the centre for the oil and gas industry and economic development for northern and central Alberta. Despite the apparent focus on oil and gas, Edmonton's economy is now the second-most diverse in Canada (Edmonton Economic Development Corporation, 2007). The city enjoyed an economic 'boom' in the late 1990s and early 2000s sparked by a recovery in oil prices, however, along with the rest of the world, and reflecting the change in oil prices, the economy is now declining. About 55.4% of adults are sufficiently active to achieve health benefits (Loitz et al., 2009). In relation to car use, 77% of Edmontonians make all their trips by car; in high-density neighbourhoods only 58% did, compared to 80% in the lowest density neighbourhoods (Turcotte, 2008).

2.2. Participants

Potential participants were purposefully sampled according to the following criteria: the person was employed within the public or private sector, or they were elected government officials, and his/her professional role contributed in some way to neighbourhood design, planning, and development. Potential participants were identified in two ways. First, the research team (comprised of university researchers, members from Public Health, Alberta Health Services, Edmonton area (AHS), and the Manager of Edmonton Smart Choice's program) collaborated to identify key public health, municipal and private sector stakeholder groups. In order to gain a broad spectrum of knowledge and insight, two to three employees who were thought to have the best working knowledge of their organization's priorities and

initiatives were invited to be interviewed. Second, using a snowball sampling technique (Patton, 2002), participants were asked to recommend other suitable individuals who may not have been initially identified by the research team. Of the 17 participants interviewed, 9 were employees of the municipal and provincial governments, 3 were city councillors, and 5 were from the private sector. Participants were asked to provide responses that reflected the values and philosophy of their organization, not their personal opinions.

2.3. Data collection

Semi-structured interviews were identified as the most appropriate method for this study as these interviews are ideal for collecting rich, in-depth information (Patton, 2002; Smith, 2003). The interviews sought to gather stakeholders' thoughts about ways in which the built environment might influence obesogenic behaviours at a neighbourhood level and what these participants consider their organization's role to be in the creation of food secure and walkable neighbourhoods. The definition of neighbourhood was not given to the participants and it is worth noting that none of them asked for a definition. Thus, the representations of 'neighbourhoods' in the quotes do not reflect any particular geographical boundary but represent participant's own definition of a neighbourhood. The interviews were the first step in a larger study using mixed methods research that will include a longitudinal survey, a cross-sectional survey, and focus groups to determine how the built environment might influence obesity, as mediated by physical activity and food security.

All interviews were conducted by one researcher trained in qualitative data collection. Interviews took place in the interviewee's office or boardroom, lasted between 60 and 90 min and were audio recorded. Ethics approval was obtained by the institutional Research Ethics Board and informed consent provided by each participant. Interviews ceased when data saturation was obtained (Patton, 2002). Data saturation was identified by the interviewing researcher when repetitive themes started to emerge consistently in all groups. The lead and co-investigators verified this conclusion.

2.4. Data analysis

Interview data were transcribed verbatim to ensure that contextualized meaning was preserved (Patton, 2002). Data were content analyzed according to Maykut and Morehouse (1994) and Tesch (1990). Therefore, all transcripts were read over once initially in order to provide a general idea of the tone and scope of the information. Given the distinct interests and perspectives of participants, three groups were created: municipal and public sector representatives, private sector representatives, and city councillors. Transcripts were analyzed by group.

One transcript was purposefully selected for richness and detail by the researcher who conducted the interviews and read again carefully for meaning units. A meaning unit is a sentence or paragraph that contains and reflects distinct information. Once all meaning units were identified, similar meaning units were then grouped together as themes. An inductive approach was initially employed in order to allow themes to emerge without being subject to preconceived categories (Patton, 2002). Remaining transcripts were then read and analyzed for themes identified in the early transcripts, as well as new themes.

3. Results

Initial analysis resulted in 24 identified meaning units in the private sector group; 32 in the public/municipal group and; 19 for the city councillors. From these, three common overarching themes emerged: barriers and facilitators to the development of food secure and physical activity-friendly neighbourhoods, and possible solutions. Within each participant group, two to three different sub themes appeared and will be discussed.

3.1. Municipal and public health sector employees

This group consisted of public health officials and employees, professionals working within the City's transportation and planning departments, those heading municipal cycling and walking initiatives, and other municipal government employees. The main role of participants in this group was to inform decision-making processes related to land-use and transportation and to provide people living in Edmonton with healthy, feasible lifestyle choices. All participants supported, and were advocates of, efforts to develop neighbourhoods with higher density, greater connectivity, and increased access to healthy and affordable food. Overall, discussion focused more on factors related to the built environment and physical activity than to food security, although food security was acknowledged in relation to the economic feasibility of smaller, neighbourhood grocery stores and automobility. Participants conveyed a general sense of optimism, vitality, and belief in the potential for positive change. Yet participants also described the importance of balancing the vision for an efficient, sustainable, attractive city with the demands of the general public and the financial realities of the marketplace. As municipal official P3 said, "*We continue to envision or dream about a type of city and neighbourhood that seems to be very much at odds with the marketplace and the aspirations of homebuyers...our visions of walkable sustainable neighbourhoods just don't cut the bottom line.*" Further, it was also commented that "*It's kind of interesting to live through [the boom economy], it's not really as great as you think because the cost has skyrocketed for everything and you know, we were looking for a lot of our projects where sometimes, you know, 50–100% over what they were the year before...and a lot of things had to be put off because we just can't do it. ... You almost want to take all the money from the boom, put it outside for years when you don't have much going on*" (P9).

Salient barriers to the development of neighbourhoods that facilitate physical activity and food security included lack of financial resources, lack of public and stakeholder awareness, and existing social norms. Participants consistently cited lack of financial backing as a barrier to their own organization's efforts and greater overall efforts to promote healthier neighbourhood designs. P4 expressed, "*...sometimes the plan is approved at the table, but when it comes time to put the money forward...it just isn't there.*" These data suggest that the link between health and the built environment is becoming more widely accepted among decision makers, yet there is still hesitance to fund such initiatives. Economic realities were also closely tied to food security. Participants described a trend within Edmonton that saw small, neighbourhood grocery stores vacate as large big-box style grocery stores servicing four or more neighbourhoods move in. "*To break up commercial opportunities... so that they can be spread out in a neighbourhood and allow people to walk may create a situation where*

there are no interested tenants in buying those pieces of commercial property—the trend now is for franchise or national chains to sink their money into the magnet [big box] centres, big commercial stores on four corners that service major roads... so people coming home before they go into their neighbourhood... can stop off, pick up their bottle of wine, their fresh fruit, their groceries all in one box store...” (P10). Similarly, P3 commented *“in the boom, there’s a time cost. Like it takes time to come up with a new neighbourhood design that everybody can agree upon...And in boom time is of the essence.”*

In addition to economic factors, participants identified lack of awareness on the part of developers and policy makers as an important barrier to the creation of healthier neighbourhoods. One public health official lamented, *“...there’s a whole professional tier of designers and architects and planners and developers and so forth that... are not as aware as they could be of the public health impacts of different choices.”* (P1). Other participants identified the ongoing ‘silo’ approach to planning and decision making as a significant barrier. P2 explains the challenges of trying to create more collaboration among relevant parties with disparate goals *“...city departments...as a trend, tend to work in their little silos, there is not as much across department collaboration or cross sector collaboration...but the scope of walkability is broad, and you need a coordinated approach cause our budgets all live in our silos, right? So for us to do collaborative things, it means convincing different departments—who are dealing with a wide range of priorities to shift those priorities...which may or may not occur.”*(P2)

Another important barrier identified by this group was existing social norms, attitudes and behaviours pertaining to planning principles (e.g., density) and lifestyle choices. Density is one of the features of ‘walkable’ neighbourhoods but data from this study reveal a perceived public opposition to increasing density. One participant put it this way, *“Not everyone is in support of density, immediately people think of slums and run down buildings...”* (P1). In addition, lifestyle choices pertaining to active transport and car use were identified as barriers to promoting physical activity within neighbourhoods.

Despite the complex barriers identified, municipal stakeholders remained optimistic about the increased private and public attention being paid to the built environment and its role in well-being. *“There are cases, even in Edmonton where some new neighbourhoods have been designed with those kinds of [walkable] features in them. But it’s not the rule yet. It’s the exception”* (P8). Participants described a sense of growing synergy among stakeholders, and a small, but promising shift in public priorities. Facilitators, which were defined as factors that make the participants’ jobs easier, include increasing public interest in the environment and health and increasing collaboration with other municipal, academic and community groups. Changing demographics were also considered a factor that might work to bring neighbourhood design issues to the forefront. One public health official explained *“as you have aging baby boomers, some of them were the first generation to really buy in the suburbs and now as they’re looking at aging in place and as they’re getting frailer, or as they’re developing chronic disabilities and are unable to drive, that becomes a looming issue...”* (P1). These data point out that as demographics shift, so too do the needs of cities and neighbourhoods. This group demonstrated a belief that eventually these needs must be responded to, conveying an optimism that neighbourhood design issues will slowly become

more of a priority for the public and private sectors alike. As P3 said, *“There is a growing public awareness of the need for—to change the way we build our cities and our houses and design our neighbourhoods. And that is, that public awareness is starting to translate into a public demand...”*

This group also identified potential solutions and positive future directions that might add to the momentum. These included increased effort to raise awareness on the part of leaders and politicians, increased education, encouraging employers to provide end-of-destination facilities for active commuters, and more collaboration between municipal and private stakeholders.

3.2. City councillors

City councillors provide guidance to private and public sectors around the planning and growth of the city of Edmonton. They also answer and respond to the needs of the general population and the private business sector while considering the economic sustainability of the city. Three councillors were interviewed, one with 20 years of experience, one just beginning his career, and another with an intermediate amount of experience. The three councillors represented diverse socio-economic areas of Edmonton.

Perceived barriers to the development of walkable neighbourhoods included lack of awareness of the relevant issues, economics, and automobile reliance. Participants spoke directly to the challenges associated with meeting the needs of populations from diverse socioeconomic backgrounds and in accommodating the range of understanding, interest in, and support of, issues related to the built environment and health. As one councillor said, *“...there’s still a lot of old school thinking out there around how communities are formed, how cities are built”* (P15). Not surprisingly, costs associated with designing and implementing healthier neighbourhoods were also a significant barrier and councillors raised the important question of who is it that pays, or should pay, and for what? *“Generally speaking... everything has a cost so capital costs are barriers. Who’s going to pay them, is it going to be general tax dollars, is it going to be private, is it going to be users?”* One city councillor described how costs escalate, *“...since the ‘60s in Edmonton, developers have been asked to finance more and more... the city [used] to build the curbs and gutters etc., and then all of a sudden it became the responsibility by policy of the developer. That cost then gets passed on to the land costs so that the house builder...buys a more expensive lot. Then he builds a house and he sells it to the citizen who now pays more for the house...”*

Car culture also emerged in this category as being a salient barrier to bringing about change. City councillors underlined how socially acceptable car culture is in Alberta and acknowledged its implications, including a social willingness to purchase housing that necessitates driving to and from work, school, shopping, and leisure activities and reluctance to make lifestyle choices such as active commuting or taking public transportation. P12 explained, *“People are generally car dependent, so [suburban] neighbourhoods are going to continue to be built...because there’re no employment centres nearby, everyone drives. So if people are mobile for work, they’re increasingly mobile to take their kids to school and to soccer practice far, far away...because none of those things are in neighbourhoods.”* Car reliance was also linked to people’s tendency to shop at large grocery stores even if they are

far away from their own neighbourhood. P12 stated “...*everyone drives... we can put in all the pocket grocery stores we want in those neighbourhoods, but it doesn't mean they will be used.*”

This participant group spoke more explicitly than others of the economic diversity in Edmonton and the barriers that people living in socioeconomically depressed areas face. As one city councillor put it, “*At the end of the day, you have people who don't know how they're going to make it through next month, so why would they care about getting exercise or eating right, they have more immediate needs*”(P15). This councillor further suggested that not everyone can afford to choose what neighbourhood they live in, and that ‘healthy’ or ‘desirable’ neighbourhoods are out of reach for many segments of the population. While existing social patterns (i.e., car culture) and lack of awareness were also cited as barriers, there were positive trends acknowledged by the councillors. Facilitators for the creation of walkable neighbourhoods included shifting consumer demands and increased transit use. P13 reported, “*Our ridership last year was the highest it's ever been... I just saw in the report this morning that there was a significant increase in our public transit ridership.*”

Potential solutions put forward by this group included increased education for children and youth about these issues in order to shape future generations, greater utilization of local agriculture (e.g., more public farmer's markets), and more collaboration and discussion between the public and private sectors.

3.3. Private sector

Participants in the private sector consisted of land developers, engineering consultants, and food retail representatives. This group was driven largely by financial incentives and sought to increase the sales of its services and products by responding to market demands as well as market realities. As one representative put it, they are charged with “meeting the public appetite”. Stakeholders from private enterprise were particularly important to talk to as they were identified by the other stakeholder groups as a source of salient barriers to the development of walkable and food secure neighbourhoods. While data reveal general support for the principles behind creating healthier neighbourhoods, the private sector participants provided a pragmatic perspective on the roles the consumer, decision maker, and commercial developer play as well as the financial realities.

To provide context, participants described the increased demand for affordable housing and services in Edmonton as a result of the recently ended economic boom. Participants also noted that increased media buzz around health and environmental issues have introduced terms such as ‘walkability’, ‘connectivity’, and ‘sustainability’, into the vernacular of the general public, making them important considerations in consumer decision making, and thus, in their own work.

There was much discussion of barriers within this group which included, cost, social norms and consumer behaviour, and climate. Land developers are required to juggle the demands of the consumer, the specifications laid out by municipality, and their own bottom line. Most participants agreed that these interests are often competing, not complementary, and very expensive. Furthermore, many developers did not believe that creating walkable

environments would result in more people walking and placed the responsibility to be active largely upon the individual. Put plainly by one developer, “*If you’re not a person that inclined to walking, a sidewalk’s not gonna make you walk...*” (P17). This sentiment was echoed by P14 who said, “*...the walkable communities often attract the people that want to walk...rather than making the perfect walkable community, we should try to avoid making the unwalkable community.*” Therefore, many developers were not convinced that the benefits of investing more money into creating these neighbourhoods would necessarily translate into the desired or expected health outcomes. While the private sector accepted that they do indeed play a role in the development of walkable neighbourhoods, our data suggest that they do not see it as their responsibility to develop these neighbourhoods unless necessitated by legislation or as a niche project. Additionally, private sector participants underlined the importance of affordability in consumer decisions and suggested that walkable neighbourhoods appeal more to the discretionary buyer. This point is illustrated by private developer P17,

I think if our industry...and the city does their part to create as many of these [walkable neighbourhood characteristics]...I think that’s the best we can hope for in the short-term, so that people are buying into communities that have a certain amount of walkability...naturally within them. But I think the buying public... they’re still focused on affordability and...dealing with a shelter requirement more so than anything. I think the people who start focusing a lot on those sorts of things is a much more discretionary buyer.

The increased costs associated with food secure neighbourhoods were an immediate, tangible barrier. P14 aptly described, “*It costs to bring the full range of foods that we enjoy in Edmonton, as far north as we are twelve months of a year. So would it be nice if [grocery store retailers] would build...more [stores] closer to all the residents? Absolutely. But then their efficiency and ability to bring in that full range of foods throughout the entire year may not work. And that drives cost up and we know people don’t want to pay*”. Intangible factors such as social norms were also discussed. Car culture and car reliance was identified repeatedly by all participants as a social barrier to change. “*We have such a love affair with cars in this province, in this country...*” (P17) said one developer. Yet there was a shared belief that, “*...the public has a responsibility to manage their expectations*” (P17) when it comes to their demand for bigger roads and lower housing costs. Social attitudes about housing and consumer decisions were also cited as a barrier to developing and marketing walkable neighbourhoods. Participants explained that the public continues to desire the single family home, yet the only way these homes become affordable is if they are built farther outside of the city. Therefore, more people drive farther to work and to school and neighbourhoods are built without adequate transportation or amenities. Related to this idea, participants identified social attitudes to the use of public transportation as another barrier to the development and demand for dense, connected neighbourhoods. Interestingly, participants made no mention of how trends towards increased development outside of the city may contribute to or shape consumer demand, instead they viewed this phenomenon as simply a response to consumer demand.

With regard to environmental features that contribute to food security, private sector representatives generally agreed that small neighbourhood grocery stores sound good in theory, but do not translate well into practice for two primary reasons: (a) The current situation in Edmonton does not provide the density needed for small grocery stores to succeed; and, (b) It is not feasible for people to utilize the neighbourhood grocery store by walking to it. As one participant put it, “...*everything that we’re about is larger purchases...our fridges are larger, our kitchens are larger...we’re not set up to adopt the ‘walk home from work and...pick up [dinner] way of life...*” (P14). Related to this, participants also commented on the role that Edmonton’s northern geographic location and cold climate plays in physical activity: “...*you cannot do as many outdoor things as you could if you were in a milder climate. There is a reality to outdoor activity in Edmonton...*” (P14).

Facilitators mentioned included the natural resources of Edmonton and increasing public awareness. “*There’s a lot of niche, urbanist communities springing up, more urban settings that attract a certain type of buyer, and that buyer lifestyle’s is more apt to be active*” (P17). Additionally, like other participants, private sector representatives identified increasing public awareness of and interest in community design and well-being as being an important facilitator that would make their work easier. The Smart Growth principle of retrofitting neighbourhoods was also mentioned by one participant: “*We’re seeing a lot more interest and activity in the older areas of the city, which are well past their best buy date, they’re really rundown...but... I sense more an urban living coming in... There’s a rejuvenation particularly of the older neighbourhoods*” (P12).

In summary, all groups cited economic constraints (both lack of economic resources available for the development of walkable neighbourhoods as well as the economic realities and pressures that drive consumer decision-making) and identified existing social norms, attitudes, and behaviours that act as barriers to the development and embracement of healthier built environments. However, all groups identified current or potential facilitators and retained a note of optimism. Furthermore, consistent with other research findings and recommendations, there emerged a general consensus that decision-makers, stakeholders, and the public need to engage with each other at various stages of decision-making processes in order to facilitate change and to promote health behaviours at the neighbourhood level.

4. Discussion

Overall, our data suggest that key stakeholders involved in the planning and development of neighbourhoods in one Canadian city are making the link between the built environment and public health and have observed an increase in public awareness of, and interest in, these topics. City councillors and municipal employees appear to assume leadership roles in the design and development of ‘healthier’ neighbourhoods (i.e., those that facilitate walkability) while private land developers perceive their role as one that abides by planning legislation and simply responds to market demand, not necessarily shapes it.

Our findings revealed salient factors that influence the work and decisions made by key stakeholders as they relate to the design and development of neighbourhoods. Despite being

as equally represented in the interview guide as physical activity, food security questions generated far fewer responses thus the majority of the discussion focuses on walkability. The relative lack of discussion of food security may be evidence there is little change in the historical perspective that healthy diet is up to the individual and not related to place of residence (Ashley et al., 2001). Further, the participants who did discuss food security gave evidence that the trend is still toward large 'one stop shopping' stores rather than smaller grocery stores within neighbourhoods that reflect the notion of automobility (Urry, 2004). Further research is needed to examine this issue. Given that residents of lower SES neighbourhoods have less access to full-range grocery stores than higher SES areas (Smoyer-Tomic et al., 2008) and face greater risk for being overweight or obese (Drewnowski et al., 2007; Janssen et al., 2006), food security should be more of a focus and concern for stakeholders influencing neighbourhood design.

The thoughts expressed by our participants resonated strongly with the EMPA (Spence and Lee, 2003), particularly at the macrosystem level, and further coincided with the ideas of Downs (2005) whose writings on Smart Growth highlight how modernization has led to sprawling communities and the difficulties faced in trying to counter the forces of societal values. Our findings also reflect the thoughts of Urry (2005), who argues that the car embodies coerciveness; that is, the car provides freedom to travel but the flexibility provided by the car results in patterns of behaviour that are only possible through driving. These are important issues to address because people who live in more walkable neighbourhoods not only drove less but did more physical activity for transportation reasons and had lower BMIs than participants in less walkable neighbourhoods (Frank et al., 2006). These authors therefore give evidence that development patterns were connected with risk factors for chronic disease.

Consistent with the EMPA, weather and urbanization were identified as pressures on societal values and consumer behaviour patterns which were repeatedly identified as practical barriers to the development of walkable neighbourhoods and engagement in physical activity. In particular, the private sector participants, while acknowledging their own role in neighbourhood development, emphasized the role of the consumer and placed substantial responsibility on the individual regarding choices around physical activity, car reliance, and food and housing purchasing behaviour. It was considered that walkable neighbourhoods attract walkers rather than the other way round. Climate and geographic characteristics were also identified as important, echoing the finding that weather can influence physical activity independent of other factors such as individual beliefs and motivations (Heath et al., 2006). Although most participants expressed some degree of support for and belief in the value of creating walkable, food secure neighbourhoods, the private sector argued strongly that while these neighbourhoods may appear sound in theory, they do not necessarily lead to the desired results in practice (i.e., more walking), and that healthy behaviours such as physical activity are ultimately the responsibility of the individual. These findings confirm speculation by Downs (2005) that it is unlikely limiting outward expansion will occur in North American cities because of opposition from real estate developers. However, the private sector perspective is in contrast to that of the municipal and public employee group which made little mention of the role of the individual and shared a strong belief that the creation of food secure, walkable neighbourhoods would indeed lead to change. This tension

merits attention, particularly as key stakeholder groups become increasingly engaged in collaborative efforts related to community design and planning.

What was missing in the data was a general acknowledgement of the difficulties lower income neighbourhood residents might face, particularly in relation to food security. Although some discussion occurred on the costs to developers or governments associated with changing the built environment, only the city councillors identified that physical activity and food security might be more difficult for residents of lower socio-economic status neighbourhoods. Further, there are substantial barriers in place to increase housing density—e.g., one participant stated people do not want high-density housing as they are thought of as ‘slums.’ Downs (2005) thought it very unlikely that raising densities in existing neighbourhoods would occur because of the ‘Not in My Backyard’ phenomenon. Thus, although systematic reviews (e.g., Raine et al., 2008) have found differences in neighbourhoods with varying socio-economic status in terms of obesity, and the identification of ‘food deserts’ in urban areas (White, 2007) there was little recognition of this issue among the municipal or private sector participants. The lack of awareness of the importance of SES on health-related factors was reflected in the discussion of ‘buy in’ and individual choices around food consumption and physical activity among our participants. Additionally, participants in both the private sector and city councilor groups suggested that ‘walkable’ neighbourhoods are becoming more attractive to discerning buyers, that is, those that can afford it. This is important to note as the ideal, ‘healthy’ neighbourhood may become accessible to only some populations.

Heath et al. (2006) identified five barriers to the implementation of urban design policies and practices that can facilitate physical activity. These include the slow change in how cities are built, zoning regulations that preclude mixed-used neighbourhoods, the costs of changing the built environment, the lack of effective communication between professional groups including urban planners, public health professionals and architects, and the difficulties in changing behavioural norms related to lifestyles and physical activity. Participants in our study mentioned all of these barriers. For example, despite the ‘boom economy’ that existed when we were collecting data, participants identified this as a barrier rather than an opportunity because changes in neighbourhood design and development and in zoning regulations take time and money; both of which are in short supply in such an economic environment. Thus, although there is more money in a boom economy, this was not perceived as an advantage for Smart Growth initiatives. Further, although strong urban containment policies are associated with both leisure time physical activity and active transportation (Aytur et al., 2008), and are one of the common features of Smart Growth (Downs, 2005), Edmonton has no urban containment policies in place as reflected in the ‘Smart Choices’ brochure put out by the City of Edmonton: “*Unlike the smart growth programs of some other cities, Edmonton’s ‘Smart Choices Program’ does not involve growth restriction boundaries (e.g. Portland, Oregon). Most importantly, the ‘Smart Choices Program’ is not a ‘carte-blanche’ sanction to increase density everywhere in Edmonton*” (City of Edmonton). Both these considerations (i.e., growth restriction and increased density) are considered by Downs (2005) to be very unlikely to be implemented. One of the land developers commented that Edmonton has a lot of land; couple this sentiment with the lack of urban containment policies and the absence of geographical barriers such as

mountains or water and it is clear that Edmonton faces few barriers to increased growth. However, at least one participant discussed the retrofitting of older neighbourhoods which Downs considered somewhat likely to be implemented. The barriers to the implementation of Smart Growth policies and attempts to overcome these barriers, were cited and can serve as a case study for others when considering the influence of various stakeholders.

This study is not without limitations. First, the data generated through the interviews are relevant primarily to the context of a specific city and therefore care should be taken with generalizability. Although we sampled a diverse group of participants and attempted to achieve data saturation, it is possible that some perspectives were not heard. In particular, greater representation from the private sector would have further enriched our findings. An additional limitation is that it is possible participants gave answers, which reflected their own personal opinions and beliefs, not those of the organization they represented. Although it was stressed to participants that they were to represent their professional organization during the interview, this request may have been difficult to adhere to. Additionally, although we guaranteed anonymity, it is also possible that participants, as representatives of their organizations and constituents, did not give completely transparent opinions. However, the interviews were purposefully framed to reflect the fact that we were trying to gain a broad range of perspectives on the issues and participant responses appeared earnest. Another limitation is the lack of a concise definition of neighbourhood; it was left up to participants to define neighbourhood for themselves and none asked for clarification. We did strive to gather information relevant to the diverse neighbourhoods in Edmonton, thus the city councillors interviewed represented a central, slightly more affluent ward and wards that encompass more industrial, suburban areas.

An important strength of this study was its ability to capture the insights of private sector representatives who strongly agreed that 'healthy' built environments do not translate easily into application, and, that the development of such neighbourhoods do not necessarily lead to behaviour change. Furthermore, this group maintained that these types of neighbourhoods are not yet greatly coveted by the general public, thus there is little incentive to develop them. Therefore, a tension exists around who is responsible for change as well as whether the public indeed wants change and to what end. In addition, increased synergy among key stakeholder and decision-maker groups within the public and private spheres is necessary to garner support for policies and initiatives aimed at creating healthier communities and to bridge the gap between planning and development processes and public health principles. Indeed, Bassett and Glandon (2008) point to multi-disciplinary collaboration as being essential to their success in increasing awareness of the link between land use and health at a local level. Consistent with the EMPA, the context in which the individual lives needs to be considered and the bidirectional relationship between each level of influence cannot be overlooked. Therefore, collaborative efforts to influence policy are needed, as are efforts to rally grassroots organizations and community groups.

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