



## HEALTH EQUITY

## AND COMMUNITY DESIGN:

### What is the Canadian evidence saying?

### Healthy Community Design: the big picture

Numerous studies from Canada and around the world demonstrate a relationship between the physical design and layout of cities and towns – also known as “the built environment” – and the physical and emotional health of people living in them. Additional research is focusing on how an individual’s socio-economic status may interact with community form to further influence a range of health and health-related outcomes such as levels of physical activity, diet, safety, injury rates, and, increasingly, emotional well being. According to a 2009 report from the Canadian Senate, some 50% of population health outcomes are attributable to social and economic determinants, with an additional 10% related to our physical or built environment.<sup>1</sup>



#### Our Built Environment

The built environment refers to the human-made surroundings that provide the setting for all human activity, including those places where people live, work, learn, rest and play. These spaces range from rural streets to bustling downtowns and all the places in between.

## **Planning Healthy Communities: How can this fact sheet be useful to me?**

Canadian research on the associations between health and built environment is expanding and becoming more sophisticated. While much work remains to unravel the complex relationships between health outcomes and the built environment, particularly in the area of health equity, the research is at a point where the planning implications are clear – healthy community design matters.

The purpose of this fact sheet is to provide Canadian planning practitioners and community stakeholders with a summary of the most current “made in Canada” research on health and community design with a focus on health equity, which is a concept that may not be as well known amongst Canadian planners. It highlights leading edge Canadian research carried out between 2007 and 2011 and is meant to better equip planning practitioners, local government officials and community leaders to work more closely with researchers and public health officials in charting next steps in research and evidence-informed policy-making.

### **Health Equity: Issue Overview**

Health equity concerns those differences in health outcomes that can be associated with unequal economic and social conditions. From a healthy community design perspective, these unequal conditions can include such things as access to places to recreate, learn, work, shop and buy healthier food, and unequal access to transit or active transportation networks.

Until recently, health inequities were typically considered the responsibility of public health professionals or, in larger centres, social planning departments. As the evidence of associations between health equity and the built environment has grown, a broader range of planners are becoming increasingly involved in the discussion. This is critical, as the built environment conditions associated with some health inequities are often the consequences of public policies (plans, strategies, etc.) that planners can influence and change.

According to recent Canadian and international research and study, inequities in socio-economic status have an influence on our health such that health worsens with declining social position.<sup>2</sup> However, health inequities research also considers other vulnerable groups, in particular youth, the elderly, and people with disabilities. While socio-economic status can vary considerably amongst these groups, they are bound together by a unique set of accessibility limitations that, like health inequities, are avoidable.

But not all limitations are the result of socio-economics alone. Much is yet to be learned about the cultural determinants of health equity in Canadian society. By considering other vulnerable groups such as First Nations, Métis, and recent immigrants, it becomes clear that health equity likely has cultural, historical, and linguistic aspects. As these groups are disproportionately represented in the urban poor, understanding how cultural obstacles are intermingled with economic status is key to achieving greater health equity.

## Key Research and Findings

This section provides some general background facts on social determinants of health and health equity research, followed by more specific research around community design and health equity. The highlighted findings come from a review of 97 peer-reviewed journal articles and 16 reports from respected Canadian agencies published between 2007 and 2011.

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### Socio-economic status has been associated with poorer health outcomes.

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- Two studies from Edmonton suggest people living in low socio-economic status neighbourhoods are likely to weigh more and gain more weight over time than individuals living in higher socio-economic status neighbourhoods.<sup>3 4</sup>
- In Toronto, women in the highest income areas are expected to live two years longer than women in the lowest income areas, while men are expected to live 4.5 years longer in the highest income areas.<sup>5</sup>
- The incidence of low birth-weight (under 2.5 kg) increases as income decreases for people living in Toronto.<sup>6</sup>
- Canada-wide research found that hospitalization rates for mental illness, injuries, and ambulatory care sensitive conditions (e.g., asthma, diabetes, chronic obstructive pulmonary disease) were all higher for people living in lower socio-economic status neighbourhoods.<sup>7</sup>
- A cross-Canada study demonstrated that when compared to lower socio-economic status groups, people living in higher socio-economic status neighbourhoods were more likely to report higher self-rated health and immunization rates, and less likely to report smoking and alcohol use, physical inactivity and other self-reported health measures.<sup>8</sup>
- A study of eight, middle-income suburban neighbourhoods in Vancouver found that neighbourhood satisfaction was a stronger predictor of health than neighbourhood safety. Most notably, though the study excluded the highest and lowest income neighbourhoods, it still discerned a social gradient in which people from lower income areas rated their health as poor and their neighbourhood as poor quality more often than people from higher income areas.<sup>9</sup>

**Infrastructure investment and street design have a significant impact on the ability of economically or physically disadvantaged groups to safely and comfortably move about their neighbourhoods.**

- The findings of a cross-Canada study suggest that investment in active transportation infrastructure (e.g., sidewalks, bicycle amenities, transit shelters, etc.) is more important for the mobility of lower-income populations due to their increased reliance on walking, cycling and transit for personal transportation. <sup>10</sup>
- A multi-year study of children from kindergarten to grade two in urban areas across Québec found that active forms of transportation are more likely to be used by children of low socio-economic status and that children of low socio-economic status who used active transportation did so in less than ideal environments with poor infrastructure and public safety concerns. <sup>11 12</sup>
- Findings from Ottawa and across the province of Québec demonstrated that when considering urban and suburban neighbourhoods separately, lower socio-economic status neighbourhoods had higher pedestrian-vehicle collisions rates than higher socio-economic status neighbourhoods. <sup>13 14</sup>
- A comparative study of two lower income and two higher income neighbourhoods in Ottawa found fewer pedestrian amenities (sidewalks, parks, pathways, etc.) in the two lower socio-economic status neighbourhoods, and that those amenities that did exist were of poorer quality. <sup>15</sup>
- Studies in Montréal found that few neighbourhoods had streetscape adaptations and resources for people with disabilities. In those neighbourhoods that did, people with disabilities were more likely to engage in leisure time physical activity. <sup>16 17</sup>

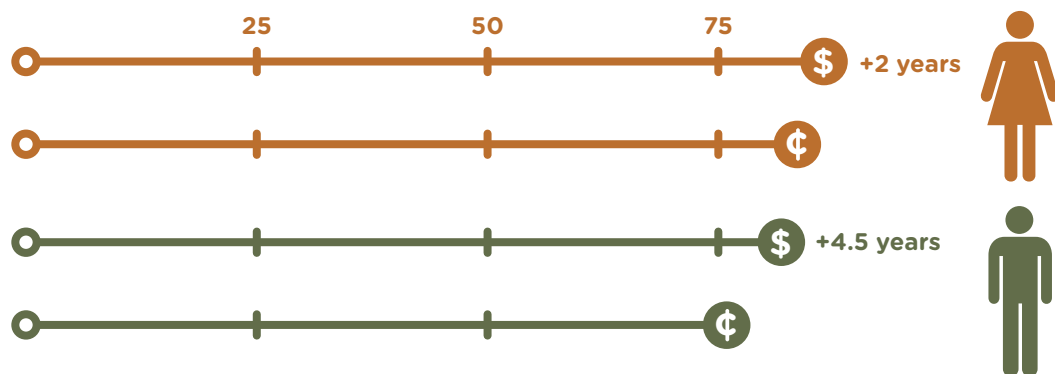


FIGURE: Life expectancy of men and women living in Toronto's highest and lowest income areas.

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**Lower income neighbourhoods may be disproportionately exposed to higher levels of air pollution and higher air temperatures, which can lead to adverse health impacts.**

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- Neighbourhoods with less tree canopy cover and green space can generate a stronger “urban heat island” effect, which has been associated with increased mortality rates during heat wave events.<sup>18</sup>
- Research in Montreal and Toronto found that neighbourhoods with the lowest socio-economic status are more likely to reach higher temperatures and less likely to have open green space than higher socio-economic status neighbourhoods.<sup>19</sup>
- Canada-wide research found that individuals and families living in low socio-economic status neighborhoods are more likely to live close to a highway, a major arterial or industrial area that exposes them to higher levels of outdoor air-pollution.<sup>20</sup>
- A study of Metro Vancouver neighbourhoods demonstrated that the areas with the lowest levels of air pollution (measures of nitrous-oxide and ozone combined) are located near the regional centre, and characterized by high street connectivity, mixed land uses, absence of large parking lots near retail areas, and are almost exclusively higher income. These “sweet spot” locations are rare. Much more common is the tendency of lower-income areas to have higher concentrations of nitrous oxide.<sup>21</sup>

#### ***Health Inequities: What are they?***

*Health inequities are differences in health outcomes that are avoidable. They are shaped by a multitude of personal, social, cultural, and economic factors, including, but not limited to income distribution, access to education, housing, early childhood development, language proficiency, social connections, and environmental factors.*



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**Access to nutritious food is considered a key component of health inequity in urban environments.**

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- Research has demonstrated an association between “food deserts” – areas with limited access to fresh groceries – and low socio-economic status neighbourhoods. Though access to supermarkets was also found to be low for high socio-economic areas, the equity concern suggested by previous studies is that lower-income people do not have the same level of car-ownership as their higher-income counterparts, and so are more impacted by the presence of “food deserts”.<sup>22</sup>
- A study of central Montréal neighbourhoods demonstrated that 40% of all people, regardless of socio-economic status, have poor access to fresh fruit and vegetables within walking distance of their homes<sup>23</sup>, a fact that underscores the inequity felt by those without access to personal automobiles.
- The odds of being obese are significantly lower for people living in an area with a lower ratio of fast food restaurants and convenience stores to grocery and produce stores near their homes.<sup>24</sup>
- Research in London, Ontario indicates that inequality of access to supermarkets has increased overtime: in 1961, more than 75% of London’s inner-city population lived within 1km of a supermarket; by 2005, that number was less than 20%.<sup>25</sup>



FIGURE: In 2005 less than 20% of London, Ontario’s inner-city population lived within 1 km of a supermarket, down from 75% in 1961.

## Conclusions

This fact sheet presents research highlights from a wide body of work. This section summarizes key “take home” points that emerged as common, overarching themes from the review.

- ★ **Low socio-economic groups, often with already compromised health, live in lesser quality built environments with more limited mobility options and have less access to shops, health and social services, school, employment, retailers of fresh groceries and healthy food, etc. These factors, in turn, have been demonstrated to exacerbate health problems and increase gaps in health between groups in Canadian society.**
- ★ **People with a lower socio-economic status are more likely to use more active forms of transportation, however they are also more exposed to higher outdoor pollution levels and pedestrian-vehicle injury risks, and more likely to live further from daily destinations such as work, school, or healthy food retailers when compared to higher socio-economic status groups.**
- ★ **The particular mobility needs of more vulnerable groups such as youth, the elderly, and people with disabilities require careful consideration and could be better addressed.**



## What can planners do?

Whatever the context – from smaller towns to major urban centres – evidence points to several options for planners to be involved in encouraging and supporting more equitable and inclusive community design. Some actions planners might consider are briefly outlined below. Most of them are aligned with work planners may already be pursuing through their environmental and social planning. See the next section for links to helpful resources and more information.



**Reviewing current and long-range planning:** There are many opportunities for planners to get involved in raising the profile of health equity at the planning table.

- 1. Look for opportunities** to include health equity and accessibility concerns of vulnerable groups (children and youth, seniors, lower income populations, people with disabilities, etc.) in your community's transportation and land use plans.
- 2. Be aware** of proximity to heavy traffic, pollution sources, and open space when determining the location of uses associated with more vulnerable populations, such as schools, daycare facilities, or assisted living homes. If possible, develop air-quality monitoring programs near heavy arterials to help quantify health risks and track changes over time.
- 3. Encourage** medical and social service facilities, and grocery stores and other healthy food providers to locate and/or remain within neighbourhoods where vulnerable populations live. Where possible, integrate these uses into the surrounding neighbourhood with pleasant, multi-modal connections, and a high-quality public realm.
- 4. Survey and assess** different neighbourhoods in your community to determine their level of amenity service (parks, community services, etc.), active transportation infrastructure and networks, and food security (i.e., access to healthy food) where practical and feasible.
- 5. Support** the tracking of gaps in health equity and socio-economic status over time, and assist public health practitioners in planning for unintended consequences associated with changes to the built environment.





**Connecting with community:** Including health equity considerations in community planning and design requires a good understanding of the specific needs of vulnerable groups (e.g., children and youth, seniors, lower income groups, new Canadians).

1. **Build on** existing partnerships your department might have with community groups working with vulnerable populations, including community associations, seniors' groups, youth service providers, etc., to integrate these groups in your healthy community planning efforts.
2. **Engage and involve** vulnerable groups in community planning, particularly those groups that might lack either the resources to participate (e.g., poor language skills, more limited transportation options) or be less aware of regular opportunities to provide input in your planning work. These groups include children and youth, lower income populations, and new Canadians.



**Staying informed and exploring new opportunities:** Healthy community design is a rapidly growing field with new research and evidence emerging frequently, particularly in the relatively underdeveloped area of health equity.

1. **Network** with other municipalities, provincial planning agencies, and health authorities who have undertaken equity-focused community plans, projects and policies and who could support your work.
2. **Establish** a healthy communities “knowledge broker” in your planning department capable of working with and liaising between the multiple public and private sector players involved in health equity and healthy community design (public health officers, social planners, social service agencies, developers, etc.).
3. **Support** equity-focused healthy built environment research that occurs in your community. From research design to analysis and interpretation of findings, planners can support researchers and use resulting data to support evidence-based, healthy community design policy-making.
4. **Explore Health Impact Assessments:** Used increasingly in the US and other jurisdictions, health impact assessments (HIAs) are employed with larger development proposals to determine their potential health impacts, including health equity considerations, and how to mitigate them. HIAs also have potential for application during the community planning process, where they could be used to better understand the health implications of land use and transportation choices. Quebec and Ontario are actively exploring their use, and new Canadian research on HIAs is emerging.

## More Information and Resources

There is a wealth of information and resources available to planners interested in learning more about healthy community design and planning. For more information, or to access additional Planning Healthy Communities Fact Sheets, please visit:

- **Canadian Institute of Health Information:** A wide variety of resources and research studies on population health and environmental factors, including health equity.  
[www.cihi.ca](http://www.cihi.ca)
- **Public Health Agency of Canada:** Implements policies and programs that enhance the public health outcomes, equity and conditions.  
[www.phac-aspc.gc.ca](http://www.phac-aspc.gc.ca)
- **Urban Public Health Network - Healthy Canada by Design:** A clearinghouse of healthy community design resources and links. [www.uphn.ca/CLASP](http://www.uphn.ca/CLASP)
- **National Collaborating Centre for Environmental Health - Healthy Built Environment Inventory:** A searchable catalogue of healthy communities case studies, guidelines, tools and key scientific papers.  
[http://ncceh.ca/en/major\\_projects/built\\_environment](http://ncceh.ca/en/major_projects/built_environment)
- **Heart and Stroke Foundation:** A resource site with links to research, healthy physical activity guidelines and healthy community design information.  
[www.heartandstroke.ca/healthycommunities](http://www.heartandstroke.ca/healthycommunities)
- **Canadian Institute of Planners:** Information and links to a variety of healthy community planning resources, including a new Healthy Communities Practice Guide.  
[www.cip-icu.ca](http://www.cip-icu.ca)



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