

# Position Statement

## THE BUILT ENVIRONMENT, PHYSICAL ACTIVITY, HEART DISEASE AND STROKE

### FACTS

- The built environment is defined as the arrangement of activities or land uses within community settings, and the nature of the physical connections between the places where we live, work and play. <1> The built environment can impact the risks for heart disease and stroke and affects how we travel, how physically active we are, levels of air pollution and rates of overweight and obesity among Canadians.
- Overweight and obesity are serious health problems in Canada. Rates of overweight and obesity have been climbing steadily for the past 30 years. These rising rates are directly linked to a lack of physical activity amongst Canadians.<12>
- Physical inactivity is widespread in Canada. Over half of the population 12 years of age and over is not physically active, <26>, and the majority of Canadian children don't get the levels of physical activity needed for healthy growth and development. <25>
- Across Canada, only about 12% of trips to the grocery store, work, the library or school are made on foot or by bicycle. While this is higher than the 7% rate in the United States, it is much lower than in the Netherlands (46%) and Denmark (41%).<7>
- Research indicates that the risk of obesity can decline by 4.8% for each additional kilometre walked per day and can increase by 6% for each hour spent in a car per day. <9> In Canada, 34% of residents of major urban centres report walking, biking, or taking public transit to get to work, compared 18% of residents in smaller Canadian communities. <8>
- In urban areas, neighbourhoods that have good street lighting, availability of continuous sidewalks, a variety of shops, services, parks, schools and workplaces within walking distance of homes are often called "walkable" neighbourhoods.
- A number of studies in the United States and Canada have shown that people who live in moderate to high density areas and in more walkable neighbourhoods make more trips on foot or by bicycle, spend less time driving, are more likely to meet recommended levels of physical activity. People living in more walkable neighbourhoods are less likely to be overweight or obese than those living in rural areas or low density areas with a lack of shops, services and other amenities close by.<2, 3,4,5>
- Safety concerns keep 1 in 5 Canadians from walking or bicycling.<6> Community planning that encourages walking and biking is likely to improve perceived neighbourhood safety, particularly among women, parents of younger children and the elderly <3-5> and may increase rates of physical activity amongst Canadians.
- Research shows that air pollution can increase the risk for heart disease and stroke. Data indicate that hospital admissions for heart disease and stroke increase when there are higher levels of pollution in the air.<13-19> Community planning that encourages walking, biking and public transit use will help lower pollution levels, increase physical activity levels and decrease the risks for heart disease and stroke. Careful planning is also required to reduce pedestrian exposure to air pollution along suburban streets and in central and often more walkable parts of cities, where cars and people are concentrated.



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### RECOMMENDATIONS

The Heart and Stroke Foundation of Canada recommends that:

#### Canadians

Take a look at their neighbourhood and talk to each other about the ways in which their neighbourhood encourages walking and other forms of physical activity. Features worth noting include the presence of nearby shops and services, continuous sidewalks, safe street crossings, good lighting, well maintained parks and street patterns that allow residents to walk in a fairly direct path to schools, workplaces and shops and services and accessibility to frequent public transit service.

Become more involved with neighbourhood/community association and encourage municipal planners and the private sector to:

- retrofit existing communities that are not very walkable and
- develop new communities that are very walkable and that have parks, shops, services and other amenities within walking distance, and that are easy to walk to, and that promote increased physical activity.

#### Municipal Governments, Community Planners and Developers

Work together to improve the built environment in Canada by making zoning regulations and development decisions that:

- retrofit and rezone existing communities to include sidewalks, parks and pedestrian connections to nearby schools, workplaces, shops and services.
- create more new walkable communities that include mixed land use and density, a range of housing options and affordability and good links to frequent public transit.

#### Provincial Governments

Develop and implement sustainable regional and metropolitan development plans, increase funding for municipal infrastructure and public transportation.

#### Federal Government

Allocate at least 7%<sup>†</sup> of transportation-related infrastructure funds towards the development of community infrastructure that promotes the use of active modes of transportation such as sidewalks, walking paths, bike paths, bike lanes etc. In addition, allocate a specific percentage of funding from existing infrastructure programs to social infrastructure that facilitates physical activity, such as parks, swimming pools, community recreation centres, hockey rinks, tennis courts, etc.

#### Researchers

Conduct research that improves our understanding of:

- the relationship between community design, mixed land use, density and walkability, and overweight and obesity in the Canadian context;
- the relative impact of the built environment on physical activity levels compared to things like personal preferences and household income; and
- promising policy options that apply to different kinds of Canadian communities (urban, suburban, small town and rural).

<sup>†</sup> The organization *Go for Green* recommends that at least 7% of transportation-related infrastructure funding be allocated to active transportation infrastructure, such as bike trails/paths, walking trails/paths and sidewalks. This figure is believed to be a reasonable interim target nationally, given that in most major cities at least 7% of commuters use active transportation. In the US, 10% of federal transportation infrastructure spending is allocated to facilitate walking and cycling.



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### BACKGROUND INFORMATION

#### The Built Environment

The built environment influences levels of physical activity, pollution, injuries, overweight and obesity and the risks for heart disease and stroke. According to Health Canada:

*The built environment includes our homes, schools, workplaces, parks/recreation areas, business areas and roads. It extends overhead in the form of electric transmission lines, underground in the form of waste disposal sites and subway trains, and across the country in the form of highways. The built environment encompasses all buildings, spaces and products that are created or modified by people.*<sup><20></sup>

The built environment encompasses the following:

- **Community Design:** the design of communities and their physical elements (such as streets, parks, or sidewalks), including both their arrangement and appearance.
- **Land use:** the distribution of activities across space, including the location and density of housing, workplaces, schools, green space, commercial and industrial uses.
- **Transportation System:** the physical infrastructure for roads, bridges, sidewalks, bike paths, railroad tracks and public transportation (buses, subways, light rail).
- **Human Activity patterns:** physical activity like walking or biking within the physical environment or use of cars, trucks and public transportation.

#### The Links between the Built Environment, Physical Activity, Heart Disease and Stroke

The benefits of regular physical activity are well known and include, among other things, better overall physical and mental health, improved fitness, and weight control. There are a number of risks of being physically inactive which include heart disease, stroke, high blood pressure, type 2 diabetes and overweight and obesity. The ways in which the built environment is planned affects levels of physical activity by encouraging or discouraging walking, biking, playing in parks, driving cars, taking public transit.

Community planning and development creates the built environment in which we live, work, learn and play. Design and development that separates housing from shops, services, schools and workplaces and/or makes it difficult to walk easily to these amenities promotes the use of automobiles and discourages physical activity such as biking or walking to a given destination. Placing shops and services, parks and schools and workplaces within walking distance of housing, building sidewalks,

pathways, and inter-connected street grid patterns and allowing for longer, pedestrian activated crossing lights are some key strategies to make communities more walkable.

The built environment can encourage active transportation like walking, biking or taking public transit or it can encourage the use of automobiles to get around. Many suburban developments created in Canada in the 1940s and 1950s increased reliance on the automobile. This has continued over the past 60 years and has fuelled urban sprawl. Urban sprawl uses large quantities of land, tends to separate housing from stores, schools and workplaces, and encourages dependency on automobiles. Key features of urban sprawl include communities that have new housing developments at the edges of, or well outside of, established community areas; have housing that is relatively isolated from shops, services, workplaces and schools and that have lower numbers of residents per square kilometre ("low density"); encourage dependency on automobiles to get around and to travel between housing, shops, services, schools and workplaces; have longer commuting times for residents from their homes to school and/or work; have curved, unconnected residential street patterns and wide, busy commercial streets that may pose a safety risk to pedestrians and cyclists; and are not particularly pedestrian friendly due to a lack of sidewalks and/or narrow sidewalks that are located close to busy streets with lots of automobiles nearby.

Urban sprawl and development that encourages automobile use contributes to higher levels of air pollution. Air pollution includes particulate matter (from industrial and motor vehicle emissions), carbon monoxide (from motor vehicle exhaust) and ground level ozone (from burning fossil fuels for transportation). Air pollution discourages physical activity, is a significant risk factor for heart disease and stroke and can worsen existing heart and lung problems. <sup><28><13-19></sup>

An emerging body of evidence suggests there is a relationship between the built environment, physical activity, rising rates of overweight and obesity and heart disease and stroke. To improve the heart health of Canadians and reduce the risks of heart disease and stroke, future Canadian community planning and development should consider the extent to which a community has mixed land use, a variety of housing options and affordability, encourages walking, biking and other forms of active transportation and has sufficient density to provide frequent public transit service to residents.



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The Heart and Stroke Foundation of Canada recognizes that the life-long heart health of Canadians is affected by both individual and social factors. Individual factors include genetic make-up, personal health choices and actions, and social support. Social factors include the social, economic and environmental conditions in which Canadians live, work, learn and play. The Foundation encourages Canadians to make heart-healthy choices and encourages governments and the private sector to develop policies and programs that support healthy communities and reduce inequalities that negatively affect health and well-being.

The evidence in this statement is current as of October 2007.

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