Influencing Travel Behaviour in a Winter City

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Abstract

Like many urban Canadians, Winnipeg residents view winter as a time to settle indoors and quickly scuttle from house to car to workplace or store. Children are prohibited by school division policy from playing outside during recess when the temperatures dip below -25 C. In Winnipeg winters, outdoor activity becomes seen by many as something to avoid. How does this make sense given Canada's northern climate? Why would we choose to deny, resist and fight against a season that contributes to our character and landscape, and as Canadians, gives us so much to talk about? This presentation and corresponding paper looks at seasonal variations in physical activity and active commuting levels, physical and attitudinal barriers to using active modes of transport in winter, and expanding the modes of active winter commuting to include ice skating and cross country skiing, along with the winter approach to urban planning and building design outlined by Dr. Norman Pressman. Finally, consideration is given to the Community-Based Travel Marketing project underway in Winnipeg and the opportunity it presents to assess the role of individualized marketing in supporting households that have self-identified an interest in changing their travel behaviour, including active commuting in winter.

Beth McKechnie works with the non-profit organization Resource Conservation Manitoba delivering a pilot project that offers individualized supports and resources to self-identified households interested in switching from driving to sustainable forms of transportation, as one of the City of Winnipeg's WinSmart initiatives, funded by Transport Canada and the Province of Manitoba.

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In making this presentation and the corresponding paper, I must start by admitting up front my bias – I am an unabashed fan of winter. I love the crispness, the twinkling sparkle of sun on snow, the freshness of the air, and the way the snow dresses up a city and hides its flaws. And the most beautiful of all – hoarfrost, when ice crystals coat the trees, turning them into snowflake sculptures.

As a resident of a medium-sized city located in the southern geographic centre of Canada and nicknamed “Winterpeg”, I believe the term to be positively appropriate rather than a pejorative. However, as someone who promotes and supports active transportation in Winnipeg, I frequently encounter the half-hearted response of “why bother”, since it’s really only possible for a few months out of the year due to winter. To some people, being outdoors in winter is considered toxic and to be avoided at all costs, running from the house to the car and the parkade to the office.

But how does this make sense in a northern climate? Why would we choose to deny, resist and fight against a season that contributes to our character and landscape, and as Canadians, gives us so much to talk about? We often display a perverse sense of pride in our weather extremes, boasting our hardiness, while at the same time doing our best to avoid the cold.

There is no denying the periods of harshness that winter can bring. The average temperature in Winnipeg is –18 C in January, a month that also lays claim to an average 26 days when the wind chill registers below –20 C. Snow typically starts to fall in November and stays around from December until late March or sometimes even early April.

In a review of studies on the factors contributing to the choice to walk or bike in the United States (Thunderhead Alliance 2007), the reviewers determined that weather is not a major factor influencing cycling levels. This conclusion was based on a review of average summer and winter temperatures. Canada is provided as an example with higher rates of cycling and lower year-round temperatures than the U.S.

However, this review does not take into account the seasonal variations for cycling levels. A 2004 telephone survey on active transportation in Winnipeg reported that 5% of respondents cycle to work as their main mode of transportation in the non-winter months (The City of Winnipeg Active Transportation Study 2005). Looking specifically at the winter months, but including all destinations (work, school, shopping) and also outdoor recreation, cycling levels fell to 2%.

This corresponds with recent research looking at the seasonal variations in physical activity levels overall. An evidence review of core public health functions prepared for the B.C. Ministry of Health, Population Health and Wellness (2006) identified a number of studies documenting higher levels of physical activity in summer than in winter. In addition, the review noted a 4-year Dutch study which found that both BMI and waist

circumference were lower in summer than in the previous winter (Visscher and Seidell 2004).

Barriers and Opportunities for Active Transportation in Winter

So what keeps people from being more active in winter and choosing active modes of transport? Barriers specific to winter can be loosely broken down into two categories: attitudinal and physical. The belief that a cold climate is bad and warm is good seems to be a common belief among adults – the winter season is to be endured and escape sought in a warm vacation destination. Those who revel in the snow and cold are in the minority, except, of course, for children who have not yet lost the ability to enjoy winter.

Examples of physical barriers specific to winter include narrowed curb lanes for cyclists due to snow build-up, and for pedestrians, slippery, lumpy or uncleared sidewalks and pathways. A stiff wind that drills through the best of winter wear can make the difference between a pleasant walk to work and a physical endurance test. Short days mean most active commuters are cycling or walking to and from work in darkness, creating an additional need for adequate lighting.

These physical barriers pose a particular challenge for those with physical mobility issues. For someone in a wheelchair, it might result in the risky decision to ride on the road. For an elderly person or someone requiring a walker, uncleared or slippery sidewalks can result in isolation due to being stuck at home.

Some cities attempt to circumvent winter by sending their residents underground or through skywalks connecting buildings in the downtown area. For example, the “Plus 15” walkway system in Calgary, Alberta, consists of 57 enclosed pedestrian bridges about 15 feet above street level for a total of 16 kilometres, connecting the majority of key downtown buildings. Other Canadian examples include Toronto and Montreal, and to a lesser extent, Winnipeg and Ottawa.

However, there are also methods to support and encourage active transportation outdoors in winter, particularly for those already inclined to use such modes. Dr. Norman Pressman, first president of the Winter Cities Association of North America and Professor Emeritus (urban design) at the University of Waterloo, outlines a number of bioclimatic design principles in his book *Shaping Cities for Winter* (2004). Winter approaches to building design and urban planning that benefit active commuters in particular include wind protection, shelter, lighting and “sun pockets” among others. Policies and procedures such as prioritizing the snow clearing of sidewalks, pathways and bike lanes, providing heated bus shelters, and ensuring proper lighting on sidewalks and pathways are also important.

Cyclists can make their own adaptations with studded tires and special clothing, while walkers can buy anti-slip devices for their winter boots. But why do North Americans limit themselves to walking and cycling in winter? What about embracing winter-friendly modes of active transport such as cross country skiing or ice skating?

These modes of transport are seasonally appropriate to a northern climate, are fun activities, and complement walking to reach a destination. Pathway networks intended for cycling and walking can be tracked for cross country skiing in the winter, and frozen rivers and canals offer excellent opportunities for ice skating. Particularly successful examples of these approaches can be found in Norway and The Netherlands, among

others. Even here in Canada, on the Rideau Canal in Ottawa, people can be seen skating to work with briefcase in hand.

Winnipeg, with its Red, Assiniboine and Seine rivers meandering through different quadrants of the city, offers an excellent opportunity for both cross country skiing and ice skating yet few choose to do so as transportation, with the majority viewing these activities as strictly recreational.
Generally speaking, given that ice skating requires a fairly extensive network of frozen waterways, such as the canals found in The Netherlands, or proximity to a frozen waterway, ice skating as transportation is an option available to a limited number of urban residents. Perhaps the time has come for the challenging (and only half-serious, one presumes) proposal by the late Tooker Gomberg, environmental activist and former city councillor, who suggested in 1994 that the City of Edmonton flood streets so that people could skate to work instead of driving.

Changing Attitudes and Influencing Travel Behaviour
But even if the physical barriers are addressed to the extent possible, and the potential modes of active transportation in winter are expanded to include ice skating and cross country skiing in addition to walking and cycling, how do we address attitudinal barriers?

The Winter Cities Association, founded by Toronto journalist Jack Royle in 1982, and which now includes organizations in North America, Europe and Russia along with the International Association of Mayors of Northern Cities, works to celebrate the positives of winter while addressing the challenges. This includes conferences, forums, research, and magazine publications available to member cities.

There may also be a role for social marketing efforts to help change attitudes towards outdoor activity in winter and for individualized marketing efforts to support those who would consider using active modes of transport year-round with some additional supports or resources.

Household travel behaviour change programs share the following key characteristics: using individualized supports and resources to assist households that have self-identified an interest in changing their travel behaviour from driving alone to sustainable forms of transport.

Programs such as TravelSmart developed by Socialdata out of Germany (and marketed under a variety of names in Australia, Europe and North America) and Doug McKenzie-Mohr's community-based social marketing approach in Canada have proven to be successful in getting people out of their vehicles and into active and green modes of travel.

But could an individualized marketing approach be used to specifically encourage and support active transportation in winter? The WinSmart community-based travel marketing program being piloted in select Winnipeg households presents an opportunity to gauge receptiveness to various forms of active transportation in winter by individuals who are already using active modes of travel at least part of the year or who are motivated to change their travel behaviour. Resource Conservation Manitoba, a non-profit, non-governmental organization, is delivering this program as one of the WinSmart initiatives under Transport Canada's Urban Transportation Showcase Program, in partnership with the City of Winnipeg and the Province of Manitoba. Representing the

first time this individualized marketing approach is being piloted in a truly "winter" city in North America, resources and assistance provided to interested households will include a focus on active commuting in winter. Project participant interest in these options will be known by June 2008.

Conclusions

Recent research is showing a direct correlation between seasonality and physical activity levels.

While there are a number of general deterrents to active modes of transport, weather frequently tops the list of deterrents in northern or winter cities.

Influencing travel behaviour is constrained by the physical and attitudinal barriers associated with winter, which can be addressed in part by proper urban planning and building design, as well as the potential of social marketing efforts to cultivate a more positive attitude towards winter. The Community-Based Travel Marketing project underway in Winnipeg presents an opportunity to assess the role of individualized marketing in supporting people who have self-identified an interest in changing their travel behaviour, potentially including active commuting in winter.

Finally, beyond the health benefits of active transportation, it is obviously important from an environmental perspective to support more individuals to use active transport year-round and reduce the number of vehicles on our roads. Environment Canada reports that the first winter smog advisory ever recorded in Canada took place in the first week of February 2005.

Thank you.

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