



September 29, 2014

## BACKGROUND: Residential Preferences and Public Health in Metro Vancouver: Promoting Health and Well Being by Meeting the Demand for Walkable Urban Environments

### Introduction

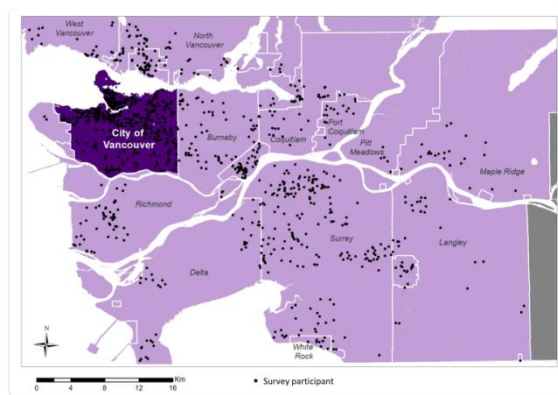
- The Health and Community Design Lab at the University of British Columbia (UBC) is releasing a new report today in partnership with Healthy Canada by Design (HCBD) entitled, *Residential Preferences and Public Health in Metro Vancouver: Promoting Health by Meeting the Demand for Walkable Urban Environments*. The report is available at: <http://health-design.spph.ubc.ca/publications/reports>.
- Funded by The Real Estate Foundation of BC, the new summary report was prepared by Dr. Larry Frank and Suzanne Kershaw of UBC, Jim Chapman of Urban Design 4 Health, and Kim Perrotta of the Heart and Stroke Foundation of Canada.
- It summarizes the Metro Vancouver findings from a residential preferences survey that was conducted in both Metro Vancouver and the Greater Toronto Area with funding provided by Health Canada through the Canadian Partnership Against Cancer's Coalitions Linking Action and Science for Prevention (CLASP) program through the HCBD CLASP Initiative.
- The survey and its findings are described in detail in the background report entitled, *City and Regional Residential Preferences Survey Results for Toronto and Vancouver: A CLASP Final Report*, that was prepared by Dr. Larry Frank, Jim Chapman, Suzanne Kershaw and Sarah Kavage at Urban Design 4 Health ([www.urbandesign4health.com](http://www.urbandesign4health.com)).
- The highlights for the Greater Toronto Area are provided in a companion piece prepared by Toronto Public Health entitled, *The Walkable City: Neighbourhood Design and Preferences, Travel Choices and Health*.
- The GTA findings are also captured in the new report, *Improving Health by Design in the Greater Toronto-Hamilton Area* prepared by the Medical Officers of Health in the Greater Toronto-Hamilton Area.
- All four reports can be found on the Healthy Canada by Design CLASP website at: <http://hcbd-clasp.com>.

### Survey Participants

- 1223 residents in Metro Vancouver participated in the residential survey; 512 from the City of Vancouver and 711 from other areas of Metro Vancouver (Figure 1).

### What is Meant by a Walkable Neighbourhood?

- Walkability is largely a function of the **proximity** and **connectivity** between places, or how easily people can travel directly between their home, job, and other important destinations.
- For this study, a postal code level walkability surface was created for the Metro Vancouver region using four measures: residential density, commercial floor-to-land



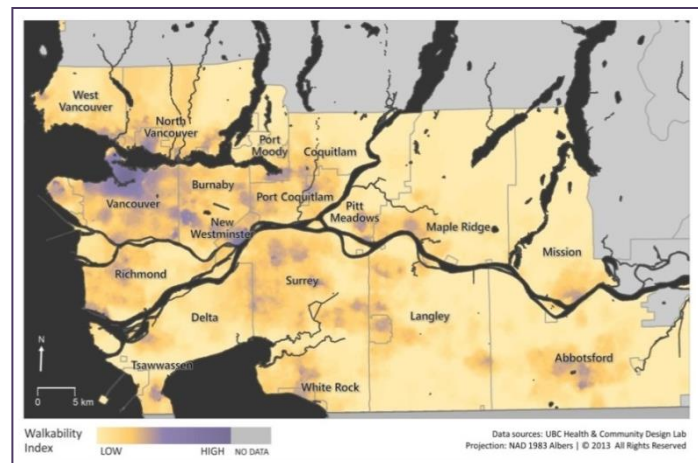
**Figure 1.** Metro Vancouver residential preference survey participants by home postal code. Source: UBC Health and Community Design Lab (<http://health-design.spph.ubc.ca/publications/reports>)

area ratio, land use mix, and intersection density (Figure 2).

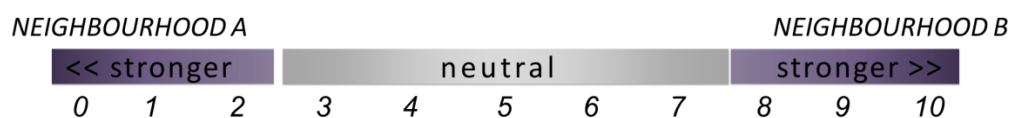
- A walkability score was assigned to each survey participant based on their six-digit home postal code.

## Residential Preferences Survey

- The survey required participants to choose between two scenarios – one more walkable and one more auto-oriented – in a series of illustrated neighbourhood “trade-offs”. (For example: A neighbourhood with larger properties and homes with commercial areas more than a 45 minute walk away *versus* a neighbourhood where it is possible to walk, cycle, or take transit for trips since commercial areas are nearby (within 10 minute walk), even if it means living in a smaller house.
- Factors such as housing cost, job access, and school quality were held equal between the two scenarios.
- The seven neighbourhood design features assessed included:
  - Proximity of commercial services
  - Level of activity and mix of housing
  - Home size and travel options
  - Lot size and commute distance
  - Street design and travel options
  - Public recreation opportunities and lot size
  - Access to and size of food stores
- For each neighbourhood trade-off pairing, a 0 to 10 Likert scale was used to elicit which of the two neighbourhoods the participant identified most with for three questions: preferred neighbourhood; current neighbourhood; and desired neighbourhood, relative to current one.



**Figure 2.** Utilitarian walkability in the Metro Vancouver Region (2011).  
Source: UBC Health and Community Design Lab  
(<http://health-design.spph.ubc.ca/tools/walkability-index>)



## Findings for Metro Vancouver

- The survey found that across all seven questions, there is strong support for walkable neighbourhoods that encourage active modes of travel including transit, even if it means giving up desirable aspects of auto-oriented neighbourhood such as larger lots and more interior living space. A strong preference for walkable neighbourhood features (8-10 on the Likert scale) was expressed by:
  - between 52% and 64% of residents in the City of Vancouver residents; and
  - between 29% to 40% of residents living in other areas of Metro Vancouver.
- A strong preference for auto-oriented neighbourhoods (0-2 on the Likert scale) was expressed by an average of just 8% of City of Vancouver residents and 20% of residents living in other areas of Metro Vancouver.
- 64% of City of Vancouver residents would strongly prefer living in walking distance to shops and services, while just 8% strongly prefer a neighbourhood where commercial areas are kept separate from housing.
- 40% of residents outside the City of Vancouver strongly prefer to live in a neighbourhood where they can easily walk to a wide range of small to medium-sized food stores; 15% strongly prefer a neighbourhood with few food stores within walking distance, but several very large supermarkets within a ten minute drive.

- 52% of City of Vancouver residents would strongly prefer living in a neighbourhood with closely spaced houses on smaller lots if it meant they were within 5 km of work, school, and other important destinations. Just 7% would strongly prefer to live on a larger lot with travel distances over 25 km.
- Living near public recreation and green space was also highly valued by residents living outside the City of Vancouver (37%), even if it means having less private backyard space.

### Which Destinations do Residents Walk To?

- When asked which destinations they most commonly walk to:
  - City of Vancouver participants indicated bus stops and public open spaces (about 8 times/month)
  - Participants living in other areas of Metro Vancouver indicated public open spaces (about 7 times/month), followed by bus stops, grocery stores, and shops/services.

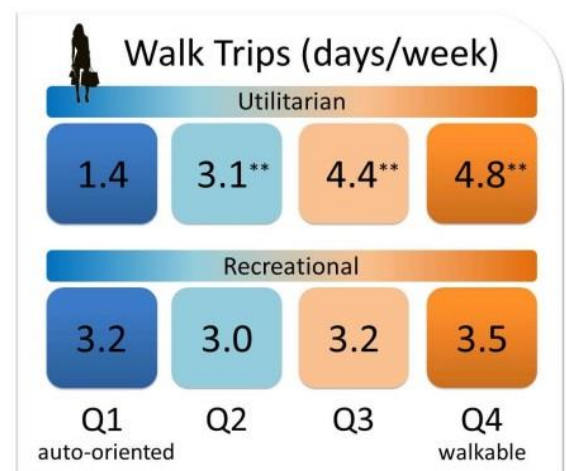
### Unmet Demand for Walkable Neighbourhoods

- The survey identified an unmet demand for more walkable neighbourhoods among those who live in the very auto-oriented neighbourhoods in Metro Vancouver.
- For those who live in a very auto-oriented neighbourhoods:
  - In the City of Vancouver:**
    - 30% would like to live in a neighbourhood within walking distance of a variety of grocery stores, specialty food stores, butchers;
    - 20% desire a community where different types of commercial services are with a ten minute walk;
  - In other areas of Metro Vancouver:**
    - 25% would like to live in a neighbourhood within walking distance of a variety of grocery stores, specialty food stores, butchers;
    - 24% desire a community where different types of commercial services are with a ten minute walk;
    - 19% would like a neighbourhood where commercial areas are within walking distance, even if it means living in a smaller home.
- There is a lesser unmet demand for auto-oriented neighbourhoods among those living in very walkable neighbourhoods:
  - In the **City of Vancouver**, 2-7% would prefer the auto-oriented version of the seven neighbourhood features;
  - In **other areas of Metro Vancouver**, 2-12% would prefer the auto-oriented version of the seven neighbourhood features.

### Neighbourhood Preferences, Walkability, Modes of Transportation and Health

#### Utilitarian and Recreational Walking

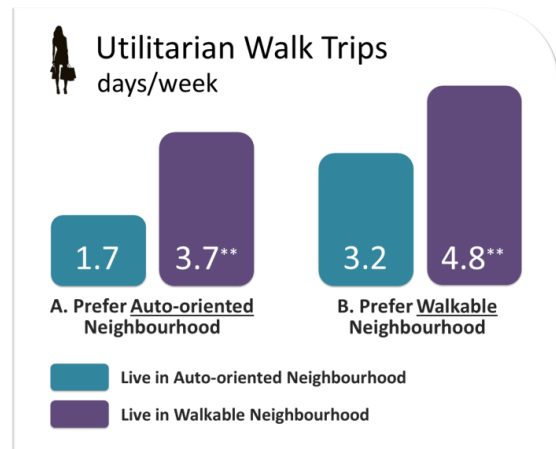
- Those in the most walkable neighbourhoods in Metro Vancouver walk to work, school, or to do errands significantly more frequently than those who live in the least walkable neighbourhoods.
- Recreational walking did not vary significantly among those who live in the least *versus* most walkable neighbourhoods in Metro Vancouver, averaging about 3 days per week.



\*\*significantly different than Q1 ( $p < 0.01$ )

\*significantly different than Q1 ( $p < 0.05$ )

- People who prefer an auto-oriented neighbourhood but live in a walkable one engage in utilitarian walking twice as often (3.7 days/week) as their counterparts who *prefer and live* in an auto-oriented neighbourhood (1.7 days/week).
- People who prefer a walkable neighbourhood but do not live in one walk significantly less often (3.2 days/week) compared to those who *prefer and live* in a walkable neighbourhood (4.8 days/week).

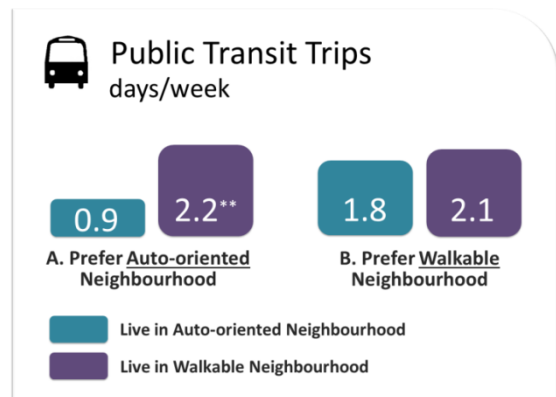
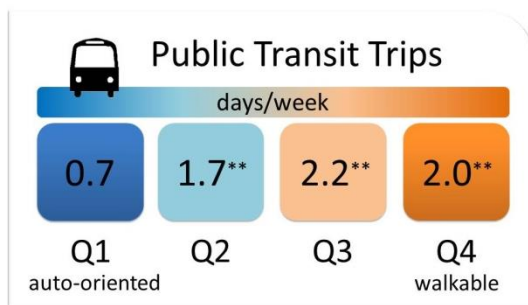


\*\*significantly different than cohort sharing the same preference (p<0.01)

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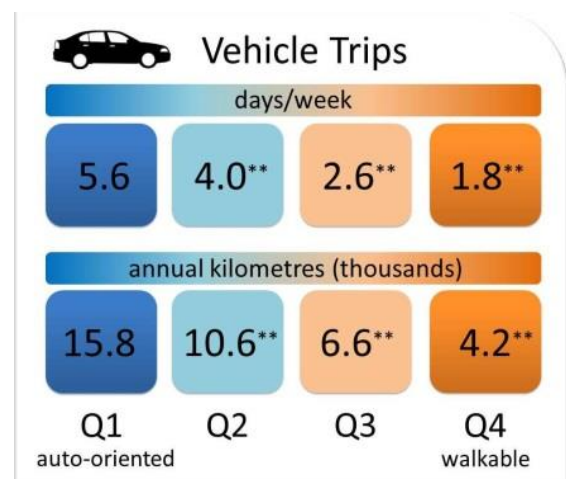
## Public Transit

- Those who live in more walkable neighbourhoods in Metro Vancouver use transit significantly more frequently than those who live in the least walkable neighbourhoods.
- People who prefer an auto-oriented neighbourhood but live in a walkable one take public transit twice as often (2.2 days/week) as those who *prefer and live* in an auto-oriented neighbourhood.

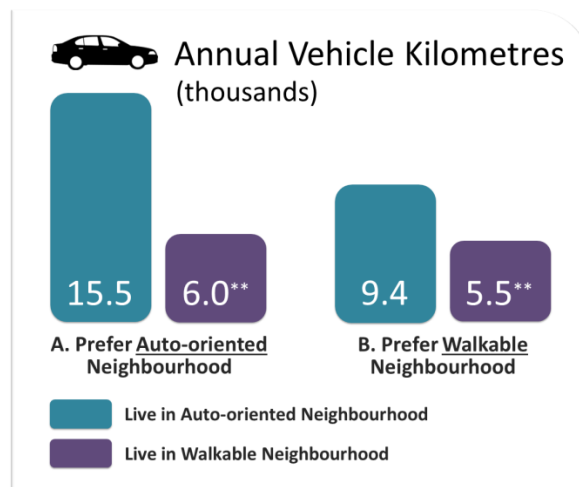
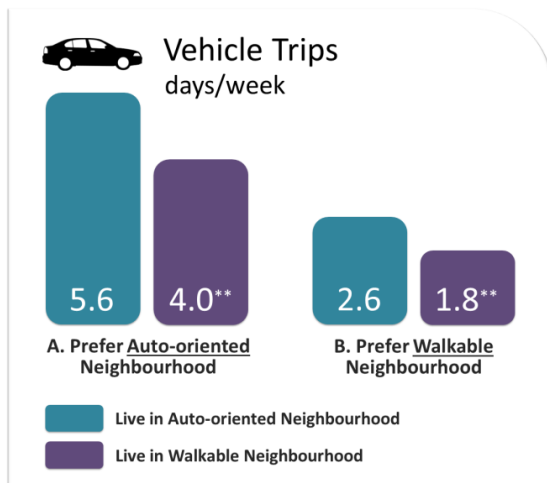


## Automobile Use

- Those who live in the least walkable neighbourhoods in Metro Vancouver drive significantly more frequently (5.6 days/week) than those who live in the more walkable neighbourhoods.
- Similarly, those living in the low walkable neighbourhoods travel significantly further on average (15.8 thousand km/year) than those living in more walkable areas of Metro Vancouver.

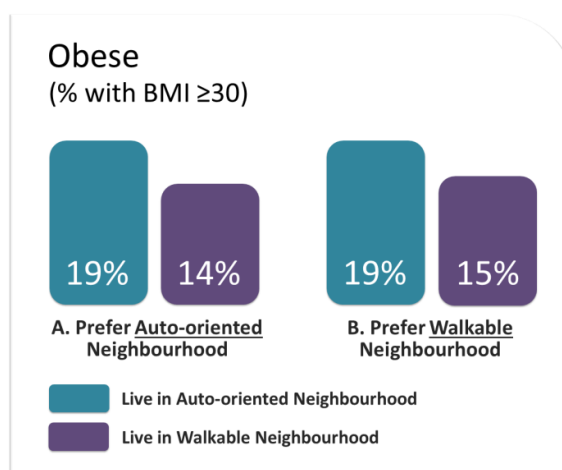
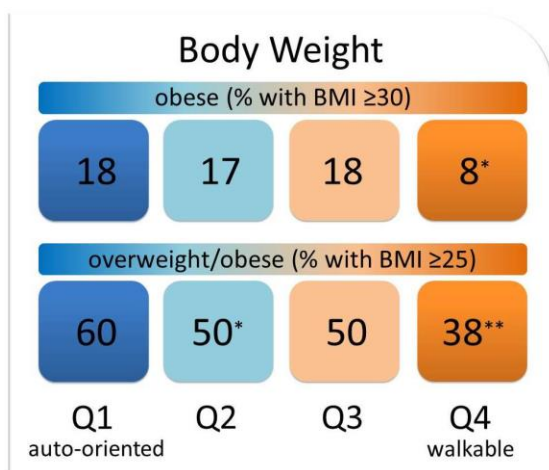


- People who prefer an auto-oriented neighbourhood but live in a walkable one drive significantly fewer days per week (4 days/week) and drive three times fewer annual kilometres than those who *prefer and live* in an auto-oriented neighbourhood.



## Body Weight

- Those living in the most walkable neighbourhoods had significantly lower incidence of body weights classified as overweight / obese than those living in the least walkable neighbourhoods after adjustment for socio-demographics<sup>1</sup>.
- Obesity incidence was lower among those who prefer an auto-oriented neighbourhood, but live in a walkable one (14%) compared to those who *prefer and live* in an auto-oriented neighbourhood (19%), although this difference was not significant after adjusting for socio-demographics.

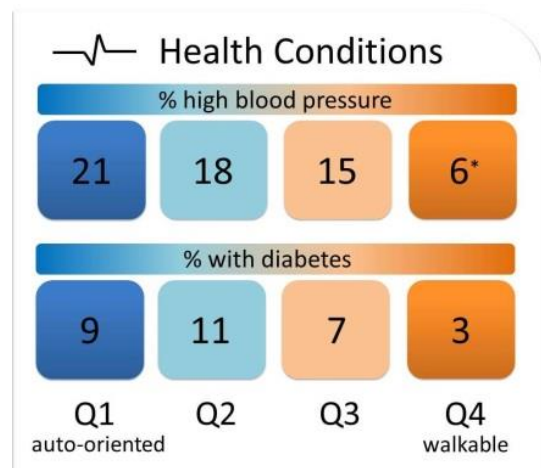


<sup>1</sup> Statistical significance of objectively measured neighbourhood walkability on health-related indicators adjusted for age, sex, and household income.

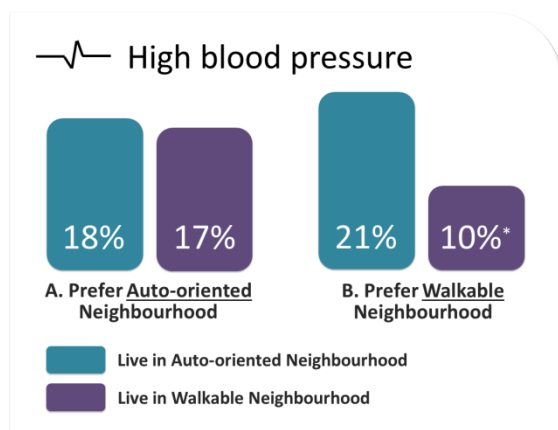


## High Blood Pressure and Diabetes

- Those living in the most walkable neighbourhoods had significantly lower rates of high blood pressure (6%) than those living in the least walkable neighbourhoods (21%) after adjustment for socio-demographics.
- Those living in the most walkable neighbourhoods had lower rates of diabetes (3%) than those living in the least walkable neighbourhoods, although these differences were not significant after adjustment for socio-demographics.



- People who prefer and live in a walkable neighbourhood reported significantly lower incidence of high blood pressure (10%) than those who prefer a walkable neighbourhood, *but do not live in one* (21%).



**Note:** A peer reviewed article on the residential preferences study will be published in the Canadian Journal of Public Health Supplement dedicated to the Healthy Canada by Design CLASP I Initiative in the near future. Watch for it on the HCBD website at: <http://hcbd-clasp.com/>.

