

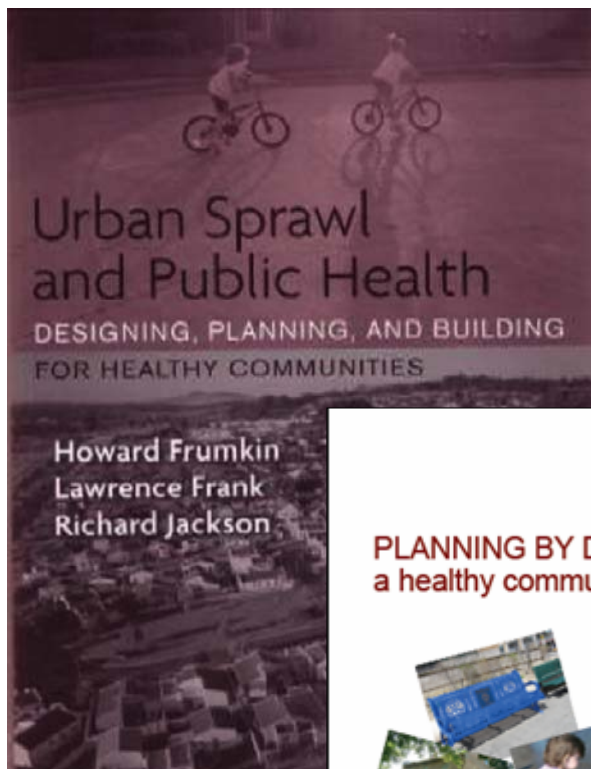
Public Health in the Public Realm: Influencing Street Design with Health in Mind

Dr. David McKeown
Medical Officer of Health

Complete Streets Forum
April 23, 2010



- **The Public Health Role**
 - Requirements are established under Ontario's Health Protection and Promotion Act
 - Health promotion, health protection, and disease and injury prevention are fundamental to public health programs and services
 - Public health actions must consider the needs of diverse communities
- **Creating roads that are safe and accessible for all users is at the heart of the Complete Streets movement**



We are learning more about how land use patterns and transportation systems can affect health. Neighbourhood design influences:

- Physical activity levels & disease incidence (eg., obesity and diabetes)
- Traffic injury
- Air quality & pollution
- Noise
- Liveability and safety

Physical Activity

- 50% of adults living in Toronto are not physically active enough to maintain or improve their health
- In Ontario, 57% per cent of youth aged 12-19 are not active enough for optimal growth and development.





Obesity

- The number of obese children in Canada tripled in past 20 years
- 10-25% of Canadian teenagers are overweight or obese
- 23% of Canadian adults are obese (2004 CCHS)

Diabetes

- Rates of type 2 diabetes are soaring

In Seattle,

A 5% increase in walkability is associated with

- 32% increase in minutes of walking and biking
- $\frac{1}{4}$ pt reduction in BMI 6.5% reduction in per capita vehicle kilometers traveled
- 5.5% reduction in ozone precursors

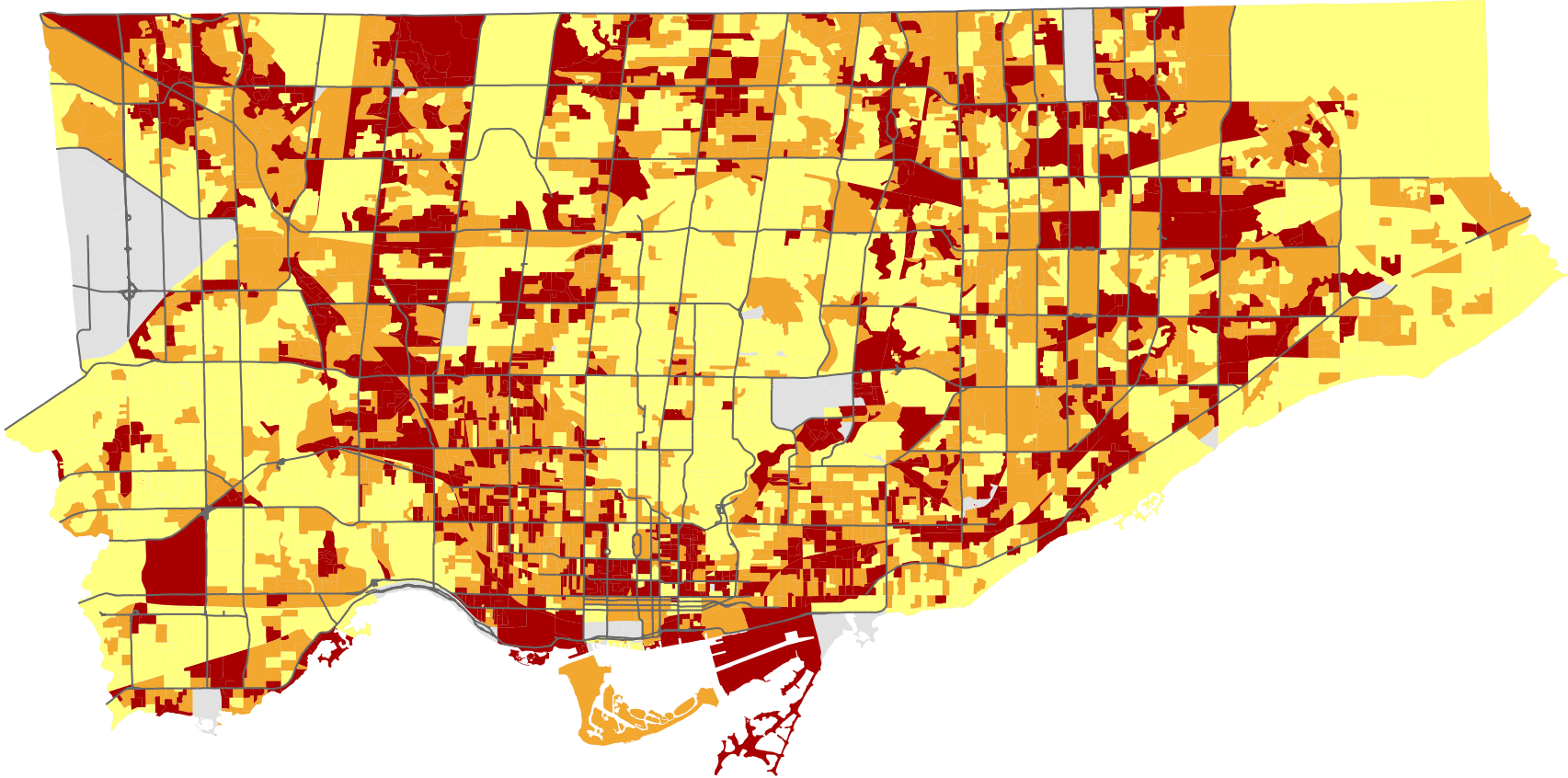
Frank et al. (2006) J Am Plann Assoc 72(1): 75–87.

In Atlanta,





- Every extra 30 minutes of driving is associated with a 3% increase in likelihood of obesity
- Increased walkability is associated with
 - Decreased time spent driving
 - Increased distances walked
- Each extra km walked translates to 4.8% reduction in chance of being obese

Frank et. al. (2004) Am. J. Prev. Med 27(2):87-96

Low Income Families in the City of Toronto, by Dissemination Area, 2001



*Low Income Families (%)

-  < 10.7 (871)
-  10.7 - 22.7 (1295)
-  > 22.7 (1289)
-  No Data

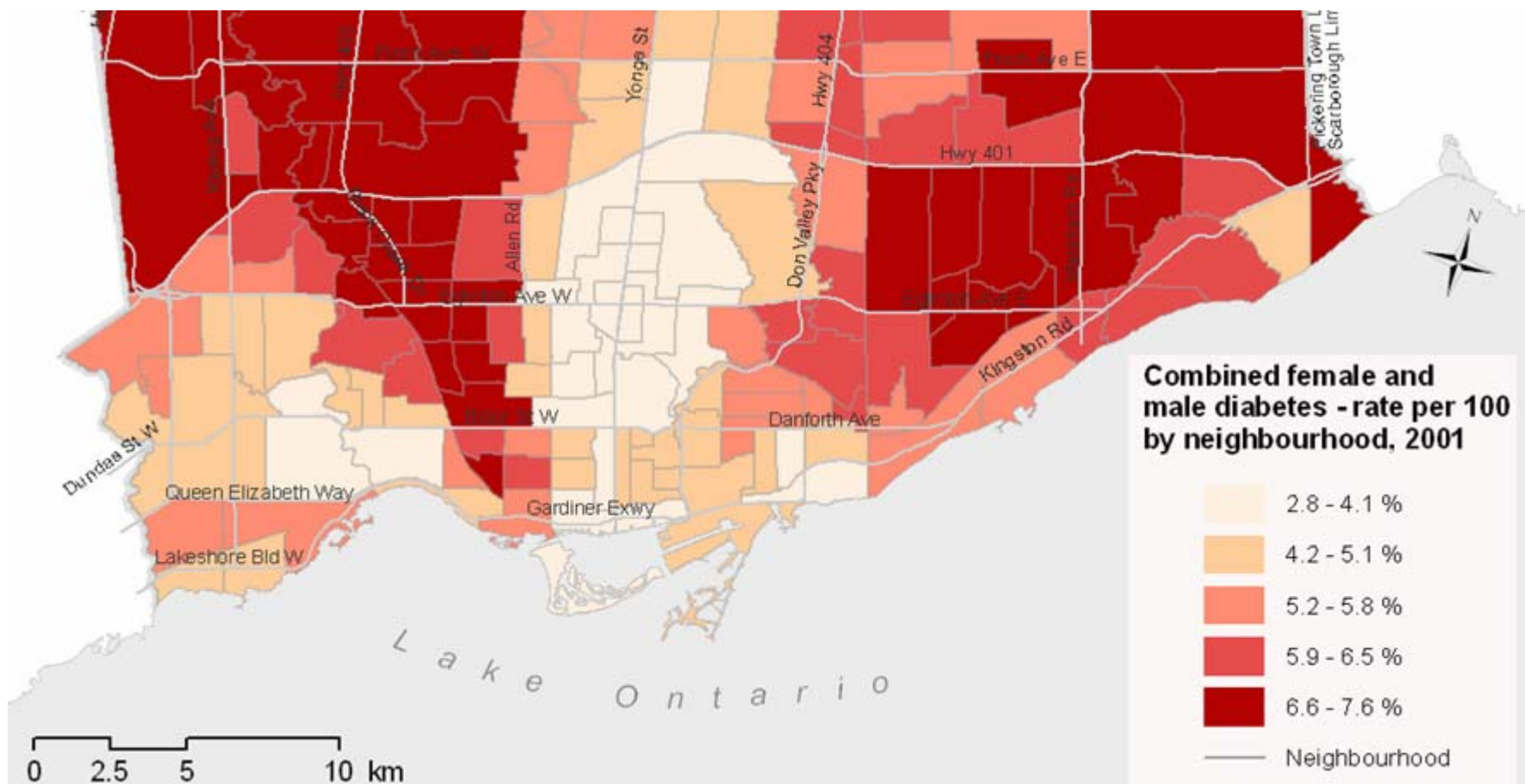
— Street

*Low income values classified using quantile method



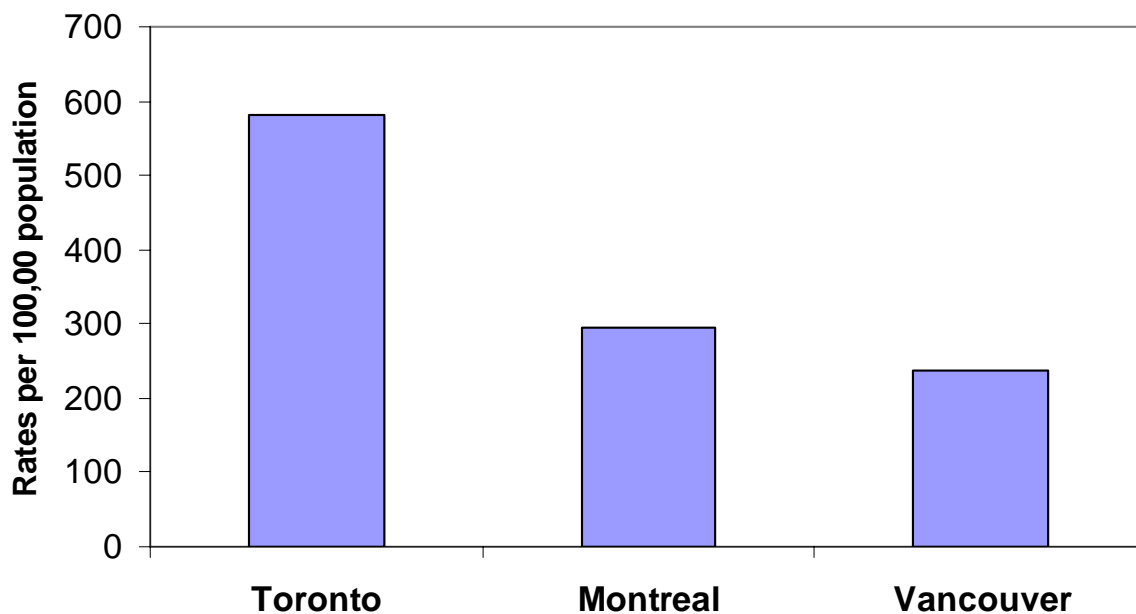
Diabetes Prevalence by Neighbourhood Toronto 2001-2002

Data Source: Ontario Diabetes Database



Booth GL, Creatore M, Gozdyra P and Glazier R. Patterns of Diabetes Prevalence, Complications and Risk Factors In: In: Glazier RH, Booth GL, Gozdyra P, Creatore MI, Tynan AM, editors. Neighbourhood Environments and Resources for Healthy Living—A Focus on Diabetes in Toronto: ICES Atlas. Toronto: Institute for Clinical Evaluative Sciences; 2007. p. 23.

Traffic-Related Injuries



- Of all traffic-related injuries in Toronto, 18% involve cyclists or pedestrians
- In 2008, about 2000 injuries were reported by pedestrians and close to 1000 were reported by cyclists

Data Source: Transportation Services Traffic Management and Safety Unit (2009)

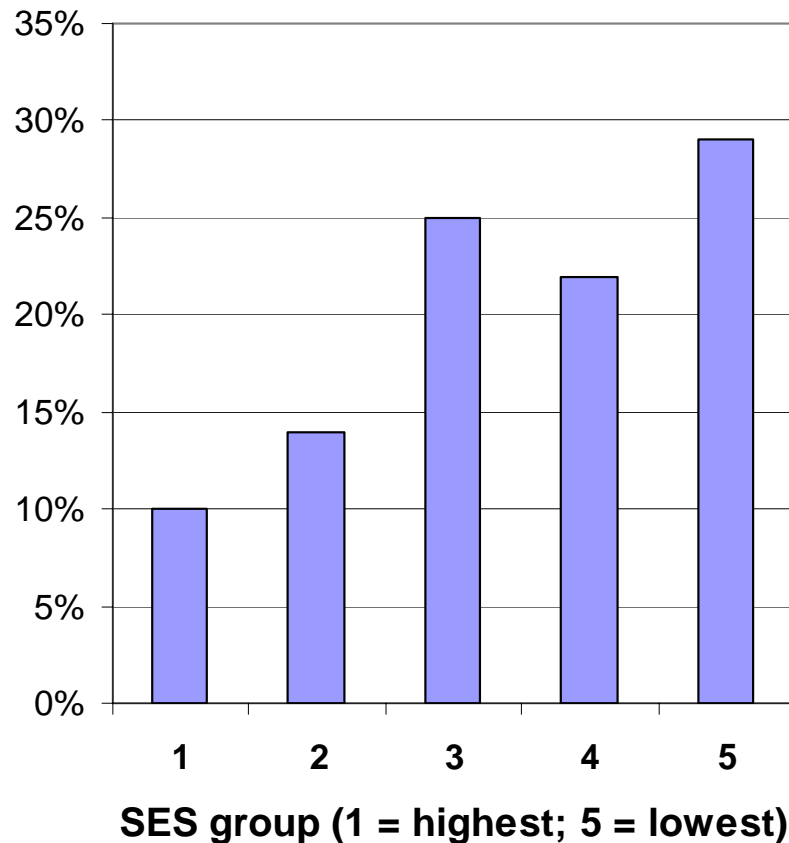
Effective street design prevents injuries

- Traffic injuries and death are predictable and preventable with effective street design
- Steps to enhance pedestrian safety:
 - Wide, well-lit crosswalks and traffic calming to reduce traffic speeds on local roads
 - Separation of vehicles from pedestrians with physical barriers or space
 - Off-street parking
- Steps to enhance cyclist safety
 - Co-ordinated networks of bike paths
 - Separate rights-of-way for bicycles



Bike lane in Copenhagen

% of Total Pedestrian Injuries in Toronto by SES, 2005-2007



- Lowest SES group had 3 times the rate of pedestrian injuries as highest SES group
- Injury prevention must account for inequities

**Air Pollution Burden of Illness
from Traffic in Toronto**
Problems and Solutions



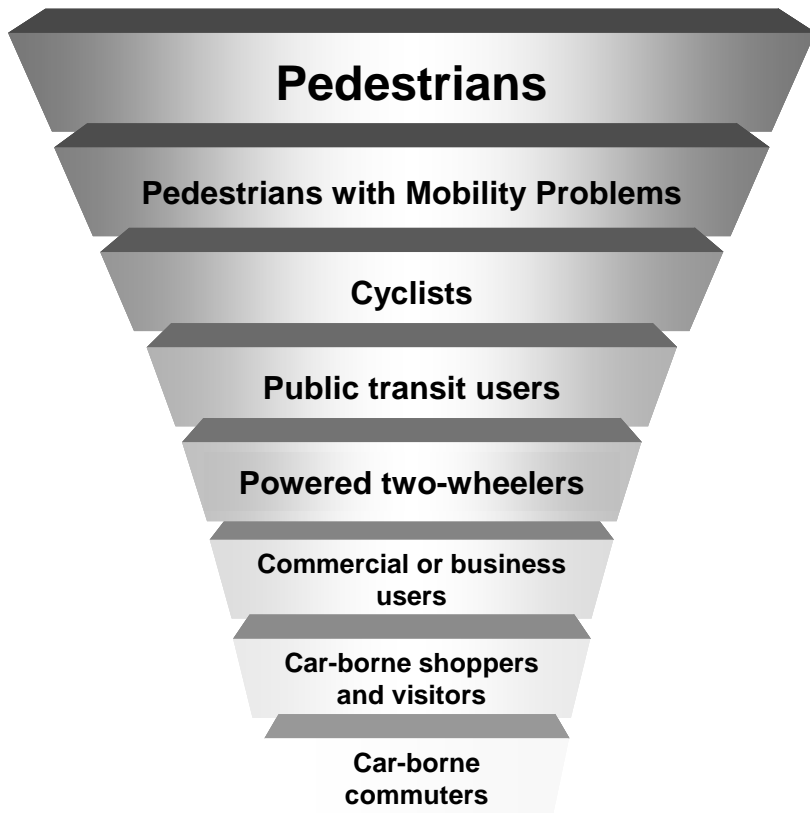
November 2007

Dr. David McKeown
Medical Officer of Health

 TORONTO
Public Health

- **1700 hospitalizations**
- **440 premature deaths**
- **Reducing vehicle pollution by 30% would save 190 lives and \$900 million annually**
- **Strong rationale for shift to active transportation to improve health**

Healthy Transportation Hierarchy



- A sustainable transportation network focuses on active transportation modes first
- A priority setting approach for land use and transport decisions
- Shifting people to healthier forms of transportation benefits health & reduces illness

- Complete streets are likely to be more liveable, which benefits mental, social, and physical health
 - “Eyes on the Street” increase safety
 - Easy access to facilities and increased leisure time
 - More green space
 - Pedestrian-oriented, mixed-use neighbourhoods encourage connections within the community
 - People with fewer social connections may be at risk for poor physical and mental health

“This is something everyone knows: A well-used city street is apt to be a safe street. A deserted city street is apt to be unsafe.”

— Jane Jacobs



Pedestrian Sundays in Kensington Market

- Toronto Public Health partnerships:
 - The Toronto Walking Strategy
 - Walk into Health
 - Active and Safe Routes to Schools
 - Audits of the Built Environment
 - Eg., Lawrence-Allen Revitalization Study
 - Central East Physical Activity Network



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