

VOLUME TWO

THE HEALTH IMPACTS OF
URBAN SPRAWL

ROAD INJURIES & FATALITIES

AN INFORMATION SERIES FROM
ONTARIO COLLEGE OF FAMILY PHYSICIANS

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1. Injury and death on our roads

Many people move to the suburbs to escape the “ills of the city”. They move out of the city to get closer to the country air, to have a bigger yard for their kids to play in, or to get away from the noise and bustle of the city. While suburban life has some benefits, a growing body of evidence suggests there are significant public health costs of spread-out urban development, often called “urban sprawl”. Injury and death caused by traffic accidents is one of the particularly harmful effects of sprawling, car-dependent communities.

Spread-out suburban communities make car travel the fastest, most convenient way to get around. The often long distances separating suburban homes from workplaces means that people spend a significant amount of time each day on busy highways. The more hours people spend driving or riding in cars increases the likelihood they will be injured or killed in a car accident.

In 2005, *The Ontario College of Family Physicians* published a review of recent research on urban sprawl and human health. In this report, the College summarized the effects of sprawl on

- **AIR QUALITY**
- **ROAD ACCIDENTS** (injuries and death)
- **LACK OF PHYSICAL EXERCISE** (obesity, diabetes and heart disease) and
- **MENTAL AND SOCIAL HEALTH**

ROAD INJURIES AND FATALITIES outlines how urban sprawl contributes to injury and death from road accidents and how to build safer, healthier communities.



SPRAWL



MORE HIGHWAYS



MORE DRIVING



MORE ROAD ACCIDENTS

THE IMPACT OF URBAN SPRAWL

2. Injury and death from road accidents

Road accidents are something we are all aware of, but which most of us rarely think seriously about. Injuries and death caused by road accidents have become a familiar part of our lives' background. Most people know someone – a friend or relative – who has been in a car accident. Yet, people are largely unconscious of the risks they run every day when they set out to drive to work, school or the shopping mall.

The number of injuries and deaths caused on the road every year is staggering: nearly a million deaths each year worldwide, tens to hundreds of millions injured and many affected for the rest of their lives.

In North America, road accidents are the leading cause of death between the ages of 4 and 35.¹

Injury and death caused by road accidents are a consequence of the increased distances people drive to work, school and to visit family and friends spread out across the province or country. Over the last 20 years in Canada, road accident deaths have dropped by about one-third as safety improvements in cars have helped to reduce the number of people killed. Injuries, however, have stayed about the same in recent years.

Deaths and injuries on the road in Canada (Transport Canada 2002)										
YEAR	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
FATALITIES	4,216	4,120	4,364	4,068	4,286	4,154	4,246	3,963	3,690	3,501
INJURIES	224,297	237,455	259,189	264,481	280,575	278,618	284,937	262,680	249,217	249,821
YEAR	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
FATALITIES	3,615	3,263	3,351	3,091	3,064	2,949	2,985	2,927	2,781	2,936
INJURIES	247,588	245,110	241,935	230,890	221,349	217,803	222,551	227,458	221,121	227,768

3. More urban sprawl, more driving, more accidents

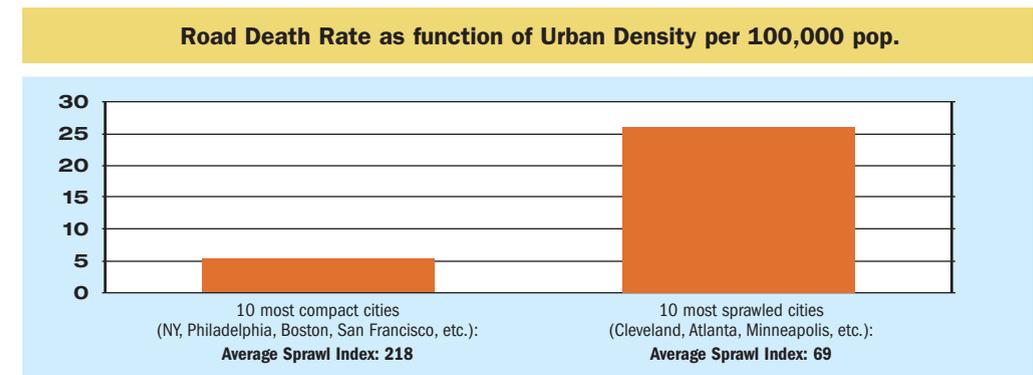
URBAN SPRAWL is poorly-planned development characterized by low-density, car-dependent communities typically built on the outskirts of an urban area. People living in sprawling communities are too spread out to make public transportation convenient or effective. That means people depend on their cars to get around – everything from getting to work or school, running errands or going shopping.

With greater dependence on cars comes an increased risk of death or injury on the roads. To examine the relationship between urban sprawl and road accidents, researchers in the United States took a look at 450 counties, about two-thirds of the total population. Researchers found that the 10 most compact, dense communities (New York, Philadelphia, Boston and San Francisco) had fewer deaths from traffic

accidents than the 10 least dense communities (Cleveland, Atlanta and Minneapolis). In fact, the more spread-out cities had a death rate from car accidents almost five times that of more dense cities.²

Overall, the relationship indicates that a 1% increase in the sprawl index, which signifies increasing density, is associated with a 1.5% decrease in fatality rate. The higher the sprawl index, the more dense and compact the community.

Urban sprawl areas have a higher rate of death from road accidents.



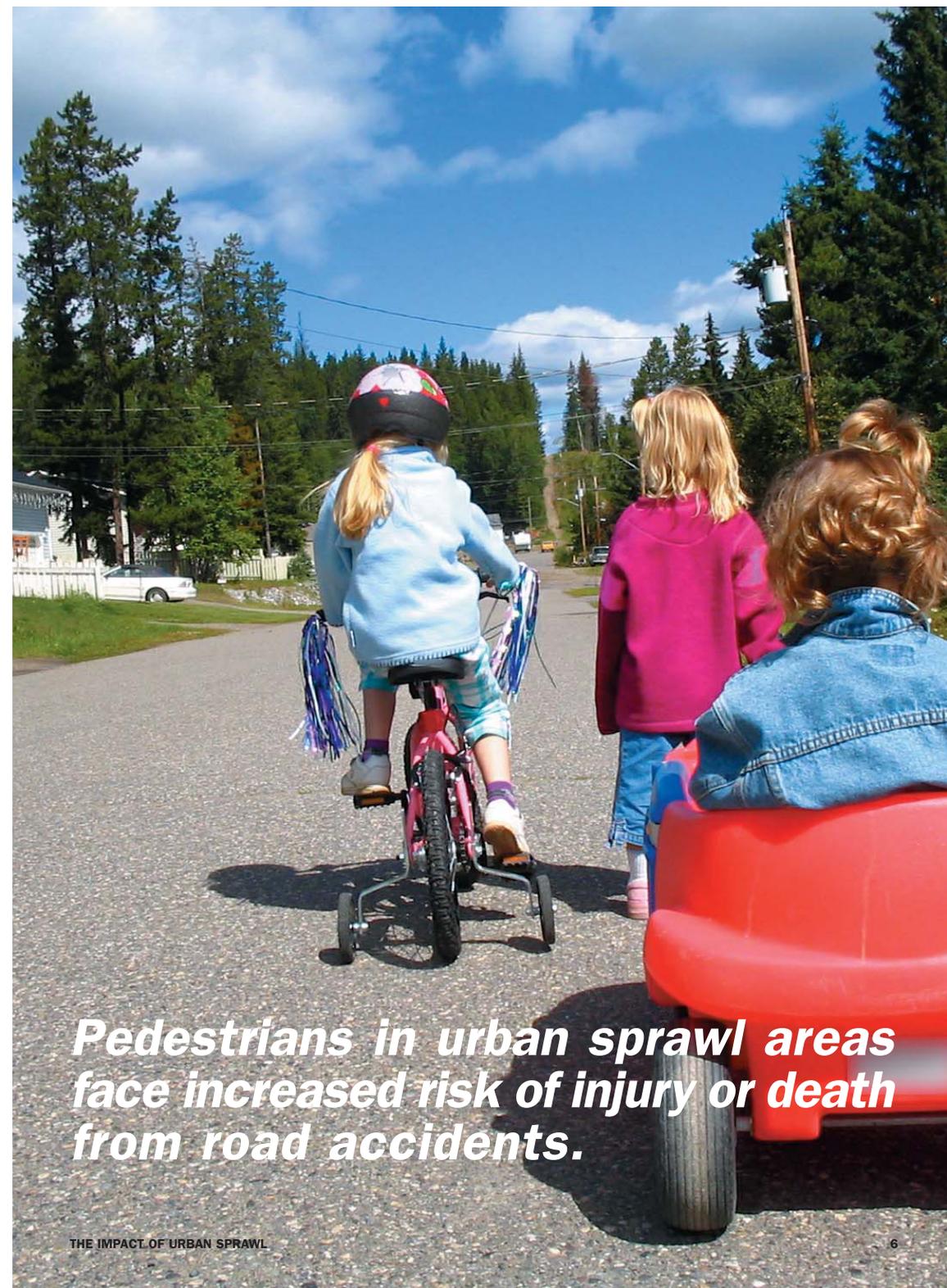
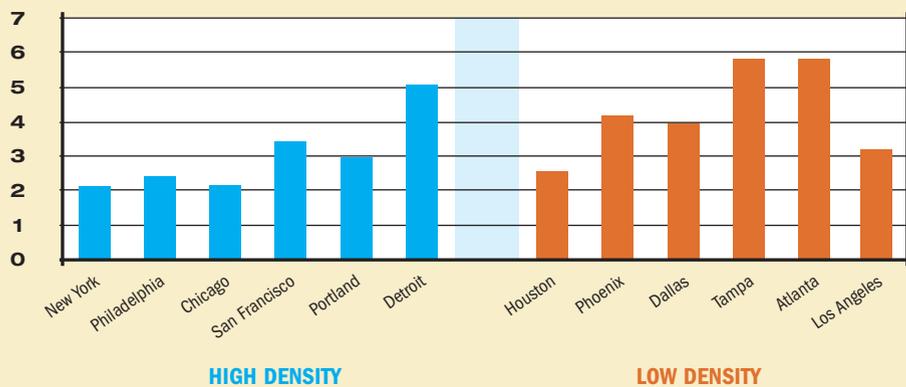
4. Urban sprawl harms pedestrians

Drivers and their passengers are not the only ones affected by increased cars and traffic on suburban roads. Urban sprawl also harms pedestrians. Research in the UNITED STATES shows 6,000 pedestrians are killed and 110,000 injured in accidents involving cars.^{3,4} In Canada, an average of one pedestrian is killed every day on our roads.⁵

Roads in sprawling suburban areas are particularly dangerous for pedestrians. In car-dependent communities, roads and highways are built to serve drivers, not pedestrians. Suburban roads are usually several lanes wide to handle large numbers of cars. They are designed for high speeds to move drivers quickly to and from their destinations. Crosswalks and sidewalks are virtually non-existent, making it very dangerous for people to walk anywhere.

Researchers in the United States found pedestrians in urban sprawl communities experience a higher rate of death from traffic accidents than pedestrians in compact cities.⁶

Pedestrian Fatality Rates for Selected American Cities per 100,000 pop.



Pedestrians in urban sprawl areas face increased risk of injury or death from road accidents.



6. What Can We Do?

Road accidents are a leading cause of death and injury in Canada. The more people need to drive to carry out their everyday activities, the more likely they will be injured or killed on the road. Sprawling communities force people to rely on their cars to do almost everything – get to work, pick up children from school and do their daily errands.

Building more compact, dense communities where residents can walk, cycle or take public transit is one important way to improve the rate of death and injury on our roads. The interests of public health require interventions in urban planning and public transportation.

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➤ **BETTER SUBURBAN ROAD DESIGN.** Pedestrian-friendly, traffic-calming roads can significantly reduce the risk of injury and death for drivers and walkers on suburban roads.

➤ **WALKABLE, COMPACT NEIGHBOURHOODS.** Well-designed, compact communities where people can walk to do errands, go shopping or pick up children from school can cut the risk of death or injury from driving. Governments should encourage zoning changes that promote the diversification of business activities in or near residential locations.

➤ **SAFER ROADS.** Governments should help to publicize and make people aware of the risks of road accidents, concentrating particularly on bad habits that amplify the risk. They should also promote the adoption of suburban road design features to reduce risks.

Urban planners are beginning to tackle the health costs of urban sprawl by designing communities to encourage walking, cycling and public transportation. Stapleton, Colorado is a well-designed community with smaller housing lots, more parks and open spaces and a vibrant town centre with shops, restaurants and theatres nearby. Not surprisingly, 80% of working people in Stapleton use modes of transportation other than a car.⁷

The Ontario government is now working on the second step of its work to curb urban sprawl through the new *Places to Grow* Plan.

The health of **EVERYONE** in southern Ontario will be affected by how well the plan encourages healthy urban planning and public transportation policies.

References

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For further information please contact:

Ontario College of Family Physicians

357 Bay Street, Mezzanine, Toronto, Ontario M5H 2T7

tel. (416) 867-9646 **fax** (416) 867-9990 **e-mail** ocfp@cfpc.ca

www.ocfp.on.ca

