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# SMART GROWTH

THREATENING THE QUALITY OF URBAN LIFE



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By **Wendell Cox**

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# Smart Growth

Threatening the Quality of Urban Life



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Mr. Cox was appointed by Los Angeles Mayor Tom Bradley to serve three terms on the Los Angeles County Transportation Commission (LACTC), and during his tenure (1977–85) was the only principal member of the commission who was not an elected official. LACTC oversaw roadway and mass transit policy in the largest county (nearly 10 million population) in the US. Speaker of the US House of Representatives Newt Gingrich appointed him to fill the unexpired term of New Jersey Governor Christine Todd Whitman on the Amtrak Reform Council (1999–2002), where he was instrumental in drafting the Council’s congressionally mandated plan for intercity rail in the United States. He was commissioned by the Congressional Millennial Housing Commission to produce a policy paper entitled “Smart Growth and Housing Affordability”, and has completed assignments in North America, Europe, Asia, Africa, and Australasia.

Mr. Cox is vice-president of the CODATU Association, which seeks to improve urban transport in the developing world, and a member of the organization committee of the International Conference on Competition and Ownership in Land Passenger Transport. He is also a member of the Advisory Board of the Frontier Centre for Public Policy in Winnipeg.

# EXECUTIVE SUMMARY

In recent years, there has been much discussion about “urban sprawl”, characterized by the low-density suburban development that has occurred in Canada, the US, Australasia, western Europe, and Japan. One result has been the development of an “anti-sprawl” policy agenda, which goes under the name “smart growth”. In general, smart growth involves establishing far more prescriptive controls on land use. It seeks to prohibit urban development outside “urban growth boundaries”, to increase neighbourhood population densities, and to substitute mass transit for highways in order to accommodate the increasing travel demand that accompanies population growth.

Perhaps the world leader in smart growth has been the Portland, Oregon, area. Many urban planners view Portland as a model for limiting sprawl. To showcase what it considers to be its accomplishments, Portland frequently hosts what might be called “Chamber of Commerce” tours from other areas. Most urban areas in North America have generally not adopted Portland’s more radical policies, but some Canadian cities have expressed considerable interest in the concept of smart growth.

Evidence is already mounting, however, that Portland’s policies are not meeting their objectives. Traffic congestion has worsened considerably. Housing prices have been forced up by the land rationing that is the natural consequence of an urban growth boundary. A shortage of commercial land appears to be negatively impacting the regional economy. And voters have passed a referendum to prohibit further densification of existing neighbourhoods. As a result, Portland has been forced to “climb down” from its smart growth policies. An even larger expansion of the urban growth boundary is now being considered to provide commercial land in order to help turn around what has become one of the least healthy major urban economies in the US.

Any Canadian urban area that is considering anti-sprawl or smart growth strategies should carefully consider the predictable consequences that are now emerging in Portland. Perhaps more important, the justification for smart growth rests on faulty foundations. Anti-suburban advocates have failed to identify any problem that requires such policy interventions. This paper’s conclusions include the following:

- It is claimed that urbanization is consuming valuable agricultural land. However, urbanization covers only 3 percent of the total land in the US that has been used for agriculture in the past 50 years. In Canada, too, urban areas are comparatively dense, and the largest are the most dense. The top population quintile of urban areas covers one-eighth of the land area of the lowest population quintile.
- Despite claims by anti-suburban advocates that smart growth policies would reduce traffic congestion, virtually all of the evidence indicates that greater traffic congestion is associated with

higher densities. Portland, with the strongest smart growth policies in the US, has experienced among the worst increases in traffic congestion.

- Mass transit service is not a substitute for cars. Mass transit does an effective job of providing mobility to large downtown areas and within dense urban cores. But beyond those markets, mass transit provides little service that is competitive with automobiles. People will not abandon their cars for mass transit services that are slower or less convenient.
- Air pollution increases as urban traffic speeds become slower and less consistent. The higher traffic intensities that are associated with higher densities produce more concentrated levels of air pollution.
- Anti-suburban advocates propose that planners seek a balance between jobs and housing, to minimize travel between home and employment. But households seek locations for residences based on many factors, and the most important of them may not be proximity to employment.
- Higher population densities are not popular, and the transportation objectives of smart growth cannot be met without radically higher population densities that would require the dismantling of most suburbs. Portland has been forced to abandon its densification plans and will remain less dense than the suburbs of Toronto.
- Anti-suburban advocates claim that newer, less dense communities have higher government costs. In fact, US data indicate that such communities have the lowest government expenditures per capita. Further, Oregon, which has adopted the strongest smart growth policies of any US state, has experienced a considerably higher than average increase in government costs and three times the increase in Georgia, where such policies are absent.
- The belief that larger municipalities have lower unit costs than smaller municipalities has been part of the justification for municipal consolidations that have occurred recently in Ontario, Quebec, and Nova Scotia. US data indicate that the largest municipalities have the highest costs and that medium-sized municipalities have the lowest costs.
- Land rationing increases housing prices and raises barriers to home ownership, especially for younger households, ethnic minorities, and immigrants. Portland, with its smart growth policies, had the greatest loss in housing affordability in the US during the 1990s. Harvard University research indicates that the principal cause of housing affordability differences among US markets is land-use regulation.
- The anti-sprawl development policies of London have produced a much more sprawling urban area than the more traditional policies implemented in Paris (and in much of Canada). Suburban residents of Paris have access to jobs throughout the metropolitan area, while suburban and exurban residents of London can reach far fewer jobs in the same travel time.

All in all, there is no reason to hobble the economy with smart growth policies that would reduce home ownership and worsen traffic congestion. Canada's urban areas and their residents will be far better served by a continuation of the land use policies that have made them such good places to live. With appropriate consideration of the environment, Canada's high quality of suburban life is surely sustainable.

# INTRODUCTION

In recent years, much concern has been expressed about “urban sprawl” — the extent to which urban areas are expanding geographically. This so-called sprawl has been charged with destroying farmland and open space. The extent to which people in urban areas now rely on cars and highways instead of walking and mass transit is perceived as unsustainable by interests opposed to continued suburbanization. Central cities have become comparatively less important as suburban areas have gained in their share of the urban population.

The earliest serious policy concerns were raised in the UK during the massive suburbanization that occurred between World War I and World War II. Serious land use restrictions were adopted after World War II, which, in many ways, have become the model for similar, less stringent regulations elsewhere. More recently, much more serious efforts have been undertaken to implement stringent limits on development to control urban sprawl. In the US, these strategies are described by the moniker “smart growth”. They often include drawing “urban growth boundaries”, similar to the UK’s Green Belts. They may also include mandated smaller lot sizes and the imposition of development impact fees on buyers of new houses.

The principal elements of anti-suburban policy require the densification of land use and the favouring of mass transit over highways. This generally means that highways are not built to meet growing roadway demand. In the US in recent years, planners in Portland, Oregon, have been the philosophical leaders of this anti-suburban movement. Portland has adopted strong region-wide controls on development and has attempted to discourage travel by automobile by limiting highway expansion and building new mass transit routes. In the 1970s, state legislation was enacted requiring each urban area to adopt an “urban growth boundary”. The original urban growth boundary adopted in Portland, the largest urban area, provided ample room for growth, and there was little interference with market-determined development until the 1990s, by which time much of the land had been developed. Rather than expanding the urban growth boundary to accommodate another 20 years of development demand, Metro, Portland’s local land use agency, decided that future growth would be mainly accommodated by densification. In the meantime, however, political and economic realities have forced Metro largely to abandon its densification program (see the Appendix).

In Canada, the debate on urban development continues, although the draconian measures implemented in London and those proposed and since abandoned in Portland have not generally been adopted here. In this paper, I outline the issues raised by the anti-suburban movement, as well as its proposed strategies. I argue that the movement has failed to prove its claims, and that its proposed solutions — for a situation that is not proven to be a problem — would impede progress toward many of the goals the movement seeks to implement.

*“Smart Growth”*

## 2

None of this is meant to suggest that I advocate sprawl or suburbanization. Rather, it is to suggest that, as the Lone Mountain Compact puts it, “absent a material threat to other individuals or the community, people should be allowed to live and work where and how they like”.

This preference for freedom, unless there is a good reason to limit it, proceeds from the fact that economic performance — which is one issue that government can effect significantly through its regulatory functions — is generally better where the free market operates to a greater degree (see, for example, Gwartney et al. 2003). At the same time, this framework provides for appropriate and necessary actions to protect the environment.

# AGRICULTURAL LAND: PLENTIFUL BY ALL ACCOUNTS

One of the most enduring modern myths is that urbanization threatens food supplies by consuming agricultural land (Gurin 2003, 11). New houses built to serve rising demand are often built on former agricultural land on the fringe of urban areas. Yet urbanization presents no threat to agriculture because there is so little of it in relation to farmland. In fact, according to Statistics Canada, Canada's urban land in 2001 equaled less than one-fourth the land that has been taken out of farm production in the past 50 years.

Moreover, urbanization is not the principal cause of farmland loss. Rather, Canada's farmers have become more productive, and the farmland that has been lost has been largely returned to open space because it has not been needed. All of Canada's urban land<sup>1</sup> represents just 3.4 percent of the maximum agricultural land used in the past 50 years.<sup>2</sup> Furthermore, Canada continues to be a net exporter of agricultural products, with exports nearly 1.5 times the value of imports. Urbanization does not pose a threat to agricultural production.<sup>3</sup> Finally, Canada's comparatively low agricultural prices are clear testimony to the fact that there is no agricultural crisis that requires government intervention.

There is a tendency to blame many of the inconveniences of city life on urbanization. Traffic congestion is worse in large urban areas. Air pollution is worse. The vista from the kitchen window may not be as pleasant as in the countryside.

- 
- 1 Urban land is the land covered by "urban areas" as defined by Statistics Canada in the 2001 census. Urban areas are essentially areas of continuous urban development, with a minimum population of 1000. Statistics Canada data include both population and land area for each of Canada's more than 900 urban areas. Urban areas are not to be confused with municipalities. An urban area is normally larger than a municipality, but may be smaller where the municipal boundaries contain rural land. An urban area is also different from a planning area. Planning areas, such as the Greater Vancouver Regional District (GVRD) or the Greater Toronto Area, usually include considerable rural area and may even include more than one urban area — for example, GVRD includes the urban areas of Vancouver, Abbotsford, and White Rock. Furthermore, urban areas are different from Census Metropolitan Areas, which, again, include rural areas that are not a part of a continuously built-up urban area.
  - 2 Although Canada has considerably less agricultural land than the US, its percentage of urban land relative to agricultural land is less. In the US, urban land occupies twice as much land relative to agricultural land than in Canada.
  - 3 This is not to suggest that there may not be a need in some circumstances to preserve prime agricultural land. However, the supply of agricultural land relative to urban land is so large that there is no reason for development bans on significant amounts of land.

**Table 1: Agricultural Land versus Urban Land in Canada**

Province	Agricultural Land, 1951	Agricultural Land, 2001	Change, 1951–2001	Urban Land, 2001	Urban Land, 2001 as a % of Agricultural Land, 1951
			( <i>sq. kms</i> )		(%)
Newfoundland & Labrador	406	406	0	730	179.8
Prince Edward Island	4921	2615	(2306)	101	2.1
Nova Scotia	24,609	4070	(20,539)	713	2.9
New Brunswick	18,365	3881	(14,484)	950	5.2
Quebec	73,099	34,170	(38,928)	7498	10.3
Ontario	92,435	54,663	(37,772)	7644	8.3
Manitoba	77,231	76,018	(1212)	889	1.2
Saskatchewan	264,702	262,658	(2044)	831	0.3
Alberta	210,676	210,676	0	3326	1.6
British Columbia	25,871	25,871	0	4301	16.6
Total	792,314	675,028	(117,286)	26,983	3.4

Source: Statistics Canada.

# THE GROWTH OF URBAN SPRAWL

Urban sprawl is best understood as the result of urbanization. As more people move to urban areas, more land is consumed and traffic increases because they bring their cars with them. If there is to be urbanization, there will be urban sprawl. In a society where people are allowed to live where they like and do not need government authorization to live in urban areas, public policies should facilitate better urban conditions — higher levels of home ownership, less congested traffic, and less intensive air pollution.

Urban growth has been substantial in recent decades. The ten largest Census Metropolitan Areas (CMAs)<sup>4</sup> have risen from a total population of 8.9 million in 1951 to 19.1 million in 2001, an increase of 115 percent.<sup>5</sup> Housing more than 10 million additional people has meant, in turn, that more urban land has had to be developed. Yet, as noted above, urban land covers only 3.4 percent of the land that has been used by agriculture over the past 50 years.<sup>6</sup> The perception that urbanization is consuming large amounts of farmland arises from the fact that most observers live in urban areas. They do not venture out across the wide-open spaces of the country on a daily basis. But a flight on a clear day from Montreal to Calgary, for example, will reveal that the theoretical bounty of agricultural land is indeed real, and is not often interrupted by urbanization.

Virtually all of the urban growth has been outside the core cities, which were already crowded 50 years ago. As a consequence, the share of urban area residents living in the core of cities has declined. This reflects the international trend, and has been the source of a common criticism to the effect that suburbs have “drained the cities”. But even where core city losses have been sustained, suburban growth has largely been the result of in-migration from rural or smaller urban areas. Furthermore, much of the loss in core cities has been the result of falling household sizes, which are down approximately one-quarter over the past 50 years. For core areas to have retained their proportion of population would have required much higher densities of housing.

But Canadian core cities have fared considerably better than those elsewhere in the high-income world. The largest core cities, Montreal and Toronto, have lost comparatively little population within

4 A CMA is, broadly defined, a major labour market that includes both urbanization and rural fringes. An urban area is the continuously developed area, including a core city and its suburbs, without rural territory.

5 See web site <<http://www.demographia.com/db-cancma.htm>>.

6 The total as a percentage of all land in Canada is much smaller, but much of the land (especially in the North) has limited potential use for either urbanization or agriculture.

**Table 2: Canadian Urban Areas by Population Quintile, 2001**

Population Quintile	Population	Land Area (sq. kms)	Density (population per sq. km)	Share of Urban Area Population (%)	Share of Urban Area Land Area (%)
1	4,366,508	1655	2639	18	6
2	5,045,519	2860	1764	21	11
3	5,094,558	4051	1258	21	15
4	4,627,637	5599	826	19	21
5	4,773,989	12,964	368	20	48
Total	23,908,211	27,129	881	100	100

Source: Statistics Canada.

their 1951 borders (14 percent and 5 percent, respectively).<sup>7</sup> Vancouver's city centre has actually gained population, and was at its highest in the 2001 census. This makes Vancouver unique. All other core cities of more than 400,000 population in Canada, western Europe, and the US have lost population, except those that were previously not fully developed within their borders, annexed additional territory, or involved in a government consolidation. By comparison, the city of St. Louis has lost 59 percent of its population, Manchester 48 percent, Glasgow 47 percent, Copenhagen 35 percent, Milan 30 percent, Washington 30 percent, Paris 27 percent, Osaka 18 percent, London 17 percent, and Zurich 15 percent.<sup>8</sup>

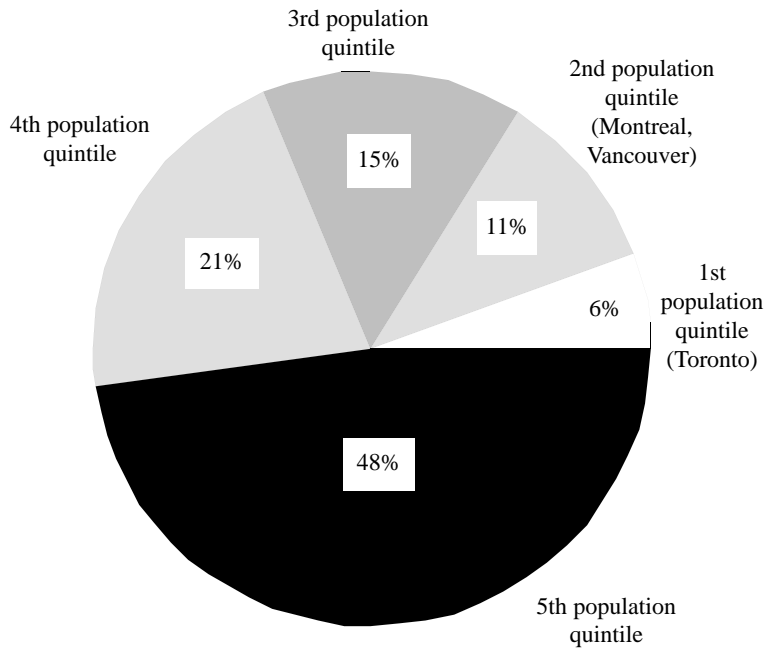
Moreover, urbanization in smaller communities consumes land at a far greater rate than in large urban areas. The lowest population quintile (20 percent) of urban areas covers 48 percent of the total urban land in Canada (see Table 2 and Figure 1). By contrast,

- the Toronto urban area, with approximately 20 percent of Canada's urban population, covers only 6 percent of the nation's urban land, and one-eighth of the land covered by the lowest population quintile;
- the Montreal and Vancouver urban areas represent the second-largest population quintile and more than 11 percent of Canada's total urban land area, less than one-quarter of the land covered by the lowest population quintile; and
- the third population quintile, including Calgary, Ottawa-Gatineau, Edmonton, Quebec City, Winnipeg, Hamilton, Kitchener, and London, covers 15 percent of Canada's urban land area, and less than one-third of the land area covered by the lowest population quintile.

7 See web site <<http://www.demographia.com/db-cancityhist.htm>>.

8 See web site <<http://www.demographia.com/db-intlcityloss.htm>>.

**Figure 1: *Distribution of Canadian Urban Land by Population***



Thus, if suburbanization and low-density development were a problem requiring public policy intervention, then the efforts of anti-sprawl advocates would seem to be best aimed at much smaller (and more sprawling) urban areas such as Shawinigan, Yarmouth, Brandon, Kincardine, or any of the hundreds of others that consume land at a rate three to eight times that of the larger urban areas. In fact, however, the anti-suburban advocates have identified no problem that would require placing limits on even these more geographically expansive areas.

### ***Individual Urban Areas***

Approximately 56 percent of Canada's urbanized land is in Quebec and Ontario. This development houses 65 percent of the population, at higher densities than average. Another 28 percent of urban land is in Alberta and BC (see Table 3). All of the urbanization throughout the rest of the country accounts for less space than is occupied by Boston.

The largest urban areas are generally the most dense. Toronto is the most dense, at 2639 persons per square kilometre. The 28 urban areas with more than 100,000 population are more than 3.5 times as dense as those under 100,000 (see Table 4). They are also more dense, for example, than Portland, which until recently was pursuing strong densification policies.

In Canada and the US, only the Los Angeles urban area is more dense (2729 per square kilometre) than Toronto. Montreal, Hamilton, Ottawa-Gatineau, Vancouver, London, and Windsor all rank among the 20 most dense urban areas with over 250,000 population in the two countries.<sup>9</sup> Each of these areas is denser than Chicago and at least 20 percent denser than Portland.<sup>10</sup> In fact, Portland, with its densification policies, would have been 30 percent less dense than Toronto in 2040, and barely as dense as Montreal.<sup>11</sup> Now, with its having been forced to substantially abandon its densification

9 See web site <<http://www.demographia.com/db-uascan.htm>>.

10 Winnipeg is also more dense than Portland. Calgary and Kitchener are slightly less dense. Portland ranks 33rd in density among Canadian and US urban areas with more than 250,000 population.

11 Rising opposition to higher densities in Portland could well make even this modest increase impossible.

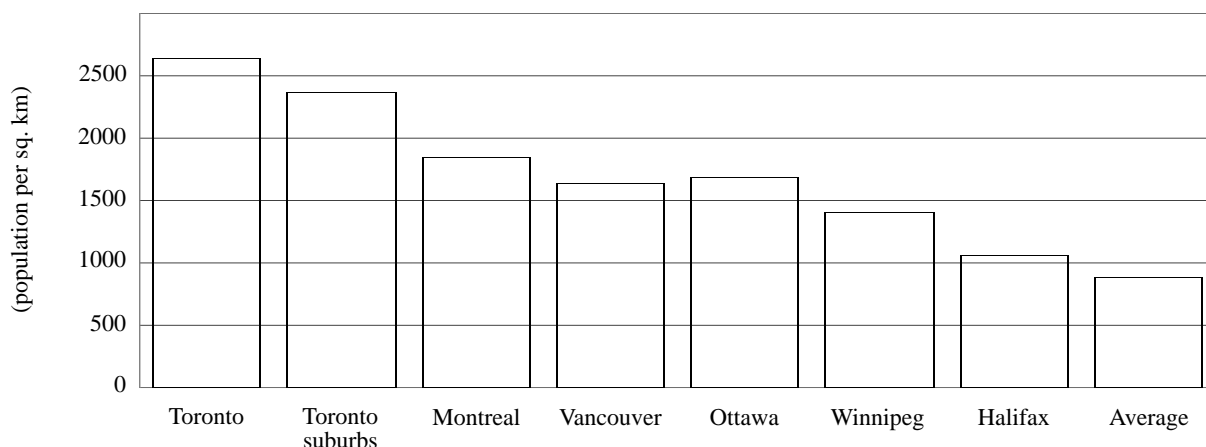
**Table 3: Urban Land and Density by Province or Territory**

Province/Territory	Population	Land Area (sq. kms)	Density (population per sq. km)
Alberta	2,413,000	3326	726
British Columbia	3,309,853	4301	770
Manitoba	805,588	889	906
New Brunswick	370,314	950	390
Newfoundland & Labrador	296,196	730	406
Northwest Territories	21,831	21	1019
Nova Scotia	507,009	713	711
Nunavut	8,689	80	108
Ontario	9,862,441	7644	1290
Prince Edward Island	60,675	101	600
Quebec	5,614,843	7498	749
Saskatchewan	620,929	831	748
Yukon	16,843	45	376
Total	23,908,211	27,129	881

program, Portland's densities will remain below those of Toronto's suburbs (and only marginally above those of suburban Montreal).

The Greater Toronto Area has received perhaps the most attention with respect to the issue of urban sprawl. The Toronto urban area is the largest in Canada, and constitutes approximately one-fifth of the country's total urban population. The Toronto area has grown very rapidly, with a 262 percent increase from 1951 to 2001. Among the 10 largest metropolitan areas in Canada and the US, only Dallas-Fort Worth and Miami have grown faster. Los Angeles, long known for rapid growth, has added a much smaller 195 percent over the past 50 years. Moreover, Toronto's growth

has been comparatively dense. According to the 2001 census, the Toronto urban area has 2639 persons per square kilometre, 42 percent more than the second-most-dense major urban area, Montreal, and approximately three times the average national urban density. Toronto's suburbs alone are more densely populated than the entire Montreal urban area (core city and suburbs) and more dense than any other major urban area in Canada. At 2369 people per square kilometre, Toronto is the least sprawling major urban area in Canada in terms of population density (see Figure 2).

**Figure 2: Population Densities of Selected Canadian Urban Areas, 2001**

**Table 4: Population, Land Area, and Population Density of Major Canadian Urban Areas**

Urban Area	Population	Land Area	Population Density
		(sq. kms)	(population per sq. km)
Toronto	4,366,508	1655	2639
Montreal	3,215,665	1740	1848
Vancouver	1,829,854	1120	1634
Calgary	879,277	702	1252
Ottawa-Gatineau	827,854	490	1688
Edmonton	782,101	850	920
Quebec City	635,184	669	949
Winnipeg	626,685	446	1406
Hamilton	618,820	362	1708
Kitchener	387,319	314	1234
London	337,318	217	1553
St. Catharines-Niagara	299,935	389	771
Victoria	288,346	272	1062
Halifax	276,221	261	1059
Windsor	263,204	167	1581
Oshawa	234,779	136	1728
Saskatoon	196,816	148	1327
Regina	178,225	119	1504
Barrie	129,963	172	758
Abbotsford	129,475	155	836
Sherbrooke	127,354	168	759
St. John's	122,709	124	987
Trois-Rivières	117,758	177	665
Chicoutimi-Jonquière	108,409	131	826
Kelowna	108,330	115	944
Kingston	108,158	92	1180
Guelph	106,920	78	1364
Sudbury	103,879	271	383
Thunder Bay	103,215	180	574
Urban areas over 100,000	17,510,281	11,718	1494
Smaller urban areas	6,397,930	15,411	415
Total urban	23,908,211	27,129	881
Outside urban areas	6,098,883	9,943,481	1
Total Canada	30,007,094	9,970,610	3

Source: Statistics Canada.

# TRANSPORTATION: ROMANTICISM AND REALITY

Anti-suburban advocates often suggest that people have a “love affair” with the automobile, and that they have simply rejected mass transit as an alternative for their daily travel. In fact, the situation is much more complicated than that. For the most part, mass transit service does not exist, practically or at all, for most trips in the modern urban area. This does not keep anti-suburban advocates from using visualizations of happy people riding mass transit as an alternative to current transport systems throughout western Europe and North America that rely almost exclusively on automobiles. This involves two misleading perceptions — that the policies of smart growth would improve traffic congestion, and that convenient mass transit service can be provided throughout the modern urban area.

Anti-suburban policies must necessarily increase population density from what would otherwise develop. This has important transportation impacts. Anti-suburban advocates often claim that their policies would lead to less traffic congestion and air pollution. But the international evidence indicates that higher population densities are associated with more intense traffic congestion (as measured by vehicle kilometres per square kilometre).<sup>12</sup> As density increases, so do relative traffic intensities. In 1990, the most dense international urban areas had traffic intensities 1.5 times that of the average (see Table 5). Of course, higher traffic intensities mean that traffic speeds diminish and that hours of vehicle operation increase. The highest-density urban areas have vehicle-hour intensities more than double the average, making air pollution worse. Moreover, these traffic intensities refer only to automobile traffic; if trucks are included, traffic intensities are even higher.

The relationship between higher traffic densities and greater traffic volumes can also be illustrated by the limited data available for individual urban areas in Canada. Toronto, by far the most densely populated major Canadian urban area, also has by far the highest traffic intensity. Montreal, with the second-highest density, also has the second-highest traffic intensity (see Table 6).<sup>13</sup>

In Portland, anti-suburban, anti-automobile policies have resulted in much worse traffic congestion, with peak hour travel times having increased by 24 percent between 1990 and 2001. This is nearly 2.5 times the US urban average, and more than three times that of nearby Seattle (Table 7).

12 This is consistent with US Department of Transportation research. In general, traffic intensities rise at approximately 0.8 times the rate of population density increase in the US. (Calculated from US Census Bureau data and from Ross and Dunning 1997.)

13 Vancouver is an anomaly, with medium density and the lowest traffic intensity.

**Table 5: Traffic Intensities by Density, International Urban Areas, 1990**

Population Density	Vehicle kms per sq. km	Average Speed	Vehicle Hours per sq. km
<i>(population per sq. km)</i>		<i>(kms per hour)</i>	
8000 and over	95,379	24.5	3894
4000–7999	73,278	31.0	2363
2000–3999	60,927	39.0	1563
750–1999	43,166	48.4	893
Less than 750	30,698	51.0	602
Average	60,690	38.8	1863

Source: Author's calculations from Kenworthy et al. 1999.

**Table 6: Traffic Intensities, Selected Canadian Urban Areas**

Population Density	Traffic Intensity
<i>(population per sq. km)</i>	<i>(vehicle kms per sq. km)</i>
Calgary	1253
Edmonton	920
Montreal	1848
Toronto	2638
Vancouver	1634
Average	1659

Sources: Urbanized area population data from Statistics Canada; traffic data from Energy and Environment Analysis 2000.

**Table 7: Average Time for a 30-km Trip in Uncongested Conditions during Peak Travel Period, Selected US Urban Areas, 1990 and 2001**

	1990	2001	Change
			<i>(%)</i>
US average	36.3	39.9	9.9
Atlanta	34.2	41.7	21.9
Cincinnati	33.6	37.8	12.5
Kansas City	31.2	33.3	6.7
Portland	34.8	43.2	24.1
Seattle	39.9	42.9	7.5

Source: Author's calculations from Texas Transportation Institute data.

**Table 8: Vehicle kms Travelled per sq. km of Urban Land, Selected US Urban Areas, 1990 and 2001**

	1990	2001	Change
			<i>(%)</i>
US average	39,852	38,465	-3.5
Atlanta	33,382	35,323	5.8
Cincinnati	30,466	32,611	7.0
Kansas City	22,247	25,002	12.4
Portland	33,502	42,101	25.7
Seattle	43,478	38,266	-12.0

Source: Author's calculations from US Department of Transportation, *Highway Statistics*.

Portland's decline in travel time was worse even than much faster growing Atlanta, which may be the world's most sprawling urban area and is plagued by a seriously deficient arterial street (non-freeway) roadway system (Cox 2000). Travel time increases were considerably less in Kansas City and Cincinnati, which sprawl much more than Portland but which have effective roadway systems. Overall traffic densities decreased slightly in the US from 1990 to 2001, but in Portland they increased nearly 26 percent. Traffic conditions in Portland are worse than any other urban area of its size in the US (see Table 8).

## Mass Transit

It is sometimes suggested that, if traffic becomes congested enough, drivers will abandon their cars for mass transit. This is a shortsighted view that fails to comprehend the role and extent of mass transit service in the modern urban area.

Generally, mass transit is slower than automobiles. On average, urban roadway speeds are 1.8 times transit speeds (see Table 9). This does not include the additional time necessary to walk to transit stops, wait for buses and trains, and transfer to other routes. Of course, there can be exceptions. An express bus or rail trip, for example to downtown Toronto or downtown Montreal, may be faster than a car trip between the same points. But rapid bus or rail service is simply not provided except to locations outside the largest downtown areas.

Generally, mass transit service competitive with automobiles is not available except in the dense (pre-World War II) urban core and to downtown. Automobile-competitive service, even to downtown, may be provided only during peak travel periods. But between origins and destinations that are not in the core or downtown, there is little automobile-competitive service in any Canadian, western European or US urban area. Moreover, although downtowns may appear to be the focus of most travel activity, the horizontal dominance of their tall buildings can mask the fact that they represent less than one-fifth of urban area employment. In the Greater Toronto Area, for example, 94 percent of employment is outside downtown (see Table 10).

People will not abandon their cars for mass transit unless the service is competitive with an automobile trip. With the exception of Hong Kong, and to a lesser degree Tokyo and Osaka, virtually no

**Table 9: Average Urban Transit and Roadway Speeds, Selected Canadian Urban Areas**

	Roadway Speed	Transit Speed	Road/Transit Speed Ratio
	<i>(kms per hour)</i>		
Calgary	47.7	26.1	1.8
Edmonton	40.0	20.7	1.9
Montreal	39.0	22.8	1.7
Ottawa	46.0	23.9	1.9
Toronto	51.4	24.1	2.1
Vancouver	38.6	28.7	1.3
Winnipeg	35.0	19.0	1.8
Average	42.5	23.6	1.8

Sources: International Union of Public Transport, *Millennium Cities Database*; Kenworthy et al. 1999.

**Table 10: Employment Share in Downtown Area, Selected Canadian Urban Areas**

Urban Area	Share of Employment Downtown
	<i>(%)</i>
Calgary	23
Edmonton	15
Montreal	16
Ottawa	20
Toronto	6
Vancouver	13
Winnipeg	26
Average	17

Sources: International Union of Public Transport, *Millennium Cities Database*; Kenworthy et al. 1999.

high-income urban area in the world has a transit system that provides a large amount of automobile-competitive service. Generally, automobile-competitive public transit service is limited to the downtown area, and then often only during peak periods and perhaps within the dense urban core. This is graphically illustrated by Toronto, Canada's largest urban area and with its largest public transit system. Yet transit service outside the core city is sparse. Even the regional commuter rail system, GO Transit, provides automobile-competitive service only to downtown. More than 95 percent of trips on GO Transit begin or end at Union Station in downtown Toronto. Thus, people who live in suburban areas (now more than one-half of the urban area population) simply have no automobile-competitive service to suburban job locations or to most locations within the city of Toronto. The situation is similar or worse in other urban areas.

At the same time, the case of downtown Toronto shows that people will use mass transit if it is automobile competitive. Even in the somewhat more automobile-oriented US, more than one-half of commuters to downtown areas in New York, Chicago, Boston, and San Francisco use mass transit to get to work. But elsewhere, whether in Canada, western Europe, or the US, automobile-competitive mass transit service is simply not available, and there are insufficient tax resources to extend it sufficiently to make a material difference.<sup>14</sup>

Even so, many of the world's mass transit systems are seemingly in perpetual financial crisis. Fares are repeatedly raised and additional amounts of public subsidy are sought; yet there are few, if any, substantial increases in service levels. One study (Prud'homme et al. 1999) even suggests that, at least in western Europe, mass transit may not be sustainable.

Furthermore, despite substantial new public investments, transit's market share has been falling. From 1980 to 1995, it declined more than 30 percent in Montreal and Winnipeg. In the Toronto area, it dropped more than 20 percent, and in Calgary nearly 10 percent over the same period. Small increases were registered in Ottawa (1 percent) and Vancouver (6 percent), but with the overall transit market share less than 10 percent in each of these urban areas, the overwhelming amount of new travel was by automobile (calculated from Kenworthy et al. 1999).

As desirable as it might seem to transfer substantial amounts of travel from cars to mass transit, there are simply no international models to support that goal, nor is there even a vision composed of more than phantom romanticism. There is good reason for this. No transit system has been designed, much less conceived, that could affordably provide automobile-competitive transit service between the multiplicity of origins and destinations that must be served in the modern, dispersed urban areas that have developed in western Europe, Canada, and the US.

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14 In Hong Kong, where automobile-competitive mass transit service is available throughout, there is little, if any tax support. Fares and commercial revenues pay for nearly all operating and capital costs. In Tokyo-Yokohama, Osaka-Kobe-Kyoto, and Nagoya, where there is much more automobile-competitive mass transit service than in the Western world, the financing situation is similar — users and commercial interests pay virtually all the costs of both operations and capital. These profitable mass transit systems are massive. In Tokyo-Yokohama alone, annual mass transit ridership is ten times that in all of Canada.

All in all, the densification and highway disinvestment policies of smart growth inevitably must lead to more intense traffic congestion. Moreover, virtually all of the Western world's urban planning agencies anticipate that the overwhelming majority of new travel will be by automobile. As a result, there is no responsible transport policy option other than to accommodate that new demand as effectively as possible. This not only means continuing to build roadways to meet the demand, but also incorporating traffic management techniques that squeeze more capacity out of existing roadways.

# AIR POLLUTION: WINNING THE BATTLE

Generally, air pollution emissions from motor vehicles increase as urban speeds slow and traffic speeds become more variable (more “stop and go”). This occurs as traffic intensities increase, unless sufficient additional roadway capacity is provided to neutralize the impact. Such roadway expansions rarely, if ever, occur because of the disruptive effect of major new construction in highly developed areas. The highest urban speeds are in the lowest-density urban areas. The impact of higher traffic densities on air pollution is readily apparent to anyone walking in the dense cores of urban areas such as London, Paris, or Tokyo.

At the same time, substantial progress has been made in reducing air pollution emissions. From 1985 to 2000, emissions of volatile organic compounds from automobiles and light trucks decreased by 45 percent in five large urban areas, while nitrous oxide emissions declined by 35 percent. Concurrently, overall vehicle kilometres increased more than 65 percent.<sup>15</sup> In addition to the already-evident gains, technological improvements in motor vehicles, such as hybrid and fuel cell cars, promise to reduce air pollution considerably more, including emissions of carbon dioxide.

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15 See web site <<http://www.demographia.com/db-canair.htm>>.

# THE JOBS-HOUSING BALANCE: PEOPLE, NOT PLANNERS, DECIDE

Anti-suburban interests often suggest that urban sprawl requires people to travel farther to work, and that planners should seek to better balance employment and housing locations. This view wrongly suggests that urban planners determine where people live and work. In fact, individual households make such decisions, and for a multiplicity of reasons. A US Census Bureau survey indicates that fewer than 20 percent of households choose where they live principally because of proximity to job locations. Other issues are more important, such as the quality of housing, lifestyle, and the fact that many households have more than one worker and their respective jobs may not be close to one another.

This is borne out by the international data. Despite the fact, for example, that affluent Asian urban areas are more than five times as dense as Canadian urban areas, average work trip lengths are only 10 percent shorter in the Asian areas. In Asian urban areas, literally millions of jobs are located closer to the average worker than the job actually filled. In Canada, the number is in the hundreds of thousands. The same effect can be seen in Canadian urban areas. For example:

- The longest average work trip travel distances are in Toronto, by far the most dense urban area. If less sprawl (higher population density) were associated with shorter work trips, then Toronto would be expected to have shorter work trip lengths than average.
- Edmonton, Ottawa-Gatineau, and Calgary are of similar size in population. Yet Edmonton, which covers nearly three-quarters more land area than Ottawa-Gatineau, has an average work trip length of 0.2 kilometres less. Calgary covers 40 percent more land area than Ottawa-Gatineau, but has an average work trip length of 0.1 kilometres less. Again, if more sprawl meant longer trips to work, workers in Calgary and Edmonton would be expected to travel much farther than their counterparts in the National Capital Region (see Table 11).

**Table 11: Work Trip Data, Selected Canadian Urban Areas, 2001**

Urban Area	Population	Urban Density	Median Work Trip Distance	Work Trip Market Share			
				Auto	Transit	Walk & Cycle	Other
	(millions)	(population per sq. km)	(kms)	(%)	(%)	(%)	(%)
Toronto	4.367	2639	9.2	71.4	22.4	5.4	0.8
Montreal	3.215	1848	7.9	70.4	21.7	7.2	0.7
Vancouver	1.830	1634	7.6	79.2	11.5	8.3	1.0
Calgary	0.879	1252	7.7	78.6	13.2	7.3	0.9
Ottawa-Gatineau	0.828	1688	7.8	72.0	18.7	8.7	0.6
Edmonton	0.782	920	7.6	84.3	8.6	5.9	1.2
Quebec City	0.635	949	6.8	81.2	9.8	8.3	0.7
Winnipeg	0.627	1406	6.0	78.4	13.2	7.5	0.8
Hamilton	0.619	1708	8.2	85.3	8.0	6.0	0.7
Kitchener	0.387	1234	5.6	89.3	3.9	6.0	0.7
London	0.337	1553	5.4	85.7	6.0	7.4	0.9
St. Catharines-Niagara	0.300	771	5.5	91.1	2.0	5.9	1.0
Victoria	0.288	1062	4.7	73.5	9.7	15.2	1.6
Halifax	0.276	1059	6.3	77.6	9.9	11.2	1.3
Windsor	0.263	1581	6.1	89.5	3.1	5.7	1.7
Canada average	30.007	0.888	7.2	80.7	10.5	7.8	1.1

Source: Statistics Canada.

## DENSITY: CEAUSESCU'S CHOICE

As noted above, most urban cores have tended to lose population in the past half-century. As people have become more affluent, they have increasingly chosen to live on larger lots, in single-family housing, and to rely on automobiles for most of their mobility. At the same time, household sizes have been falling, which has fueled a larger demand for new housing than the population increase alone would have justified. The result is lower densities, often referred to as “urban sprawl”. Another term for the expansion of urban areas is “suburbanization”, which is occurring virtually wherever incomes are high or rising, and even in some places where they are not (such as Brazil and Argentina). Virtually all population growth in the urban areas of Canada, western Europe, Japan, Australasia, and the US has been outside the urban cores — in suburban areas — in recent decades.

This presents a serious dilemma for interests who believe that suburbanization must be battled. Anti-suburban advocates often suggest what they consider to be the desirability of higher urban densities. For example, the US Sierra Club placed a “density” calculator on its web site, suggesting the advantages of densification. The Club withdrew the calculator after it was pointed out that the densities they seemed to be promoting were higher than those of Calcutta’s infamous “black hole”.<sup>16</sup>

Density is at the core of the issue. To convert from low-density suburbanization to high-density urban living requires substantial increases in density. This creates a serious dilemma for anti-suburban advocates. For example, to achieve the mass transit systems that could provide automobile-competitive mass transit service throughout a metropolitan region would require radically higher densities. Among high-income urban areas, automobile-competitive transit service is available throughout only Hong Kong, which has a population density of more than 40,000 per square kilometre, 16 times that of Toronto. To achieve mass transit automobile competitiveness throughout Toronto would require a density that would involve dismantling more than 90 percent of the urban area. To achieve Hong Kong’s densities, the population of Toronto would have to be accommodated within six kilometres of the Yorkdale Shopping Centre; all of Winnipeg would have to be contained within two kilometres of Portage and Main; while all of Halifax would have to be housed within 1.5 kilometres of the Central Common. Short of such hyperdensities, there are no models for modern, affluent urban areas that can be fully served by mass transit.

In this regard, anti-suburban advocates face what might be called a “Ceausescu’s choice”. In his final years in power, the late Romanian dictator Nicolae Ceausescu set about dismantling villages and

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16 See web site <<http://www.demographia.com/sierraclub500.htm>>.

forcing people to move into high-rise apartment blocks in Bucharest. This is the only modern case of a government that set about on the radical course that would be required to reform urban areas into sufficient density for the smart growth vision to work.

Understandably, anti-suburban advocates have been reluctant to suggest the radical policies that are necessary to achieve their ends. They have, instead, been content with advocating the much more modest (but significant) density increases that they perceive can be accepted politically. Adoption of such policies inevitably must lead to more traffic congestion and higher levels of air pollution, because they necessarily involve concentrating motor vehicle use in somewhat smaller geographical areas that are still far too large in which to provide a comprehensive mass transit alternative.

Portland's policies, only a few years old, are already reaping this result. In addition to intensifying traffic congestion, land rationing that required higher-density building began to destroy the character of Portland's neighbourhoods. Apartment buildings were built adjacent to detached low-density housing. In response, a citizens' movement placed a referendum on the ballot to outlaw further densification. Metro, the land use agency, recognized that densification was unpopular and that its authority was likely to be severely restricted. It therefore placed on the ballot its own, less strict, density limitation, which the electorate passed. Metro has since increased the size of the urban growth boundary by the largest amount ever, and the 2040 target was exceeded by the end of 2002, only seven months after the voters rejected densification.

## LOWER DENSITY MEANS LOWER COSTS

Anti-suburban advocates also claim that newer, more dispersed development results in higher local government costs. But the basis of these claims are studies (such as Burchell et al. 2002) that project costs rather than actually observe the costs that are actually being incurred. A review of available US data indicates that newer, less dense municipalities have the lowest expenditures per capita and that the highest expenditures per capita are in municipalities with the highest densities (Table 12).

**Table 12: Local Government Spending by Age of Community, United States, 2000**

Urban Ring	Year of Construction of Median House	Spending Per Capita	Spending Per Capita Relative to Mean	Population Density
		(US\$)	(%)	(population per sq. km)
Core	1939 & earlier	1218	9.6	3501
1st ring	1940–59	1221	9.8	2110
2nd ring	1960–79	1088	–2.2	1105
3rd ring	1980–99	1005	–9.6	818
Mean	1967	1112	0.0	1458

Source: Author's calculations from US Census Bureau data for 736 municipalities (2000).

than five times the least expensive. A similar analysis found that sewer and water charges are lower in newer, less dense municipalities (Table 13). The US data suggest that political factors are more important determinant than population density or sprawl in local government expenditures per capita (Cox and Utt forthcoming).

As noted above, anti-suburban advocates often claim that their policies will produce lower government costs than more sprawling development. This is not borne out, however, by the data in Oregon, the state with the most stringent anti-suburban legislation in the US. Despite the fact every urban area in the state had to adopt an urban growth boundary, in which urban development was to be contained, overall state and local government expenditures per capita rose significantly more than the national average from 1990 to 2000, and more than triple the rate of Georgia, where anti-suburban

The difference between theory and reality is accounted for by the fact that government costs are not market determined but are politically determined. The evidence indicates that some municipalities simply have higher cost structures than others. A principal reason for this is that employee compensation, accounting for more than 50 percent of municipal expenditures, varies widely. For example, in the Denver metropolitan area, the municipality with the highest wages and salaries per capita pays nearly 1.5 times the average and more

**Table 13: Utility Charges by Age of Community, United States, 2000**

Urban Ring	Year of Construction of Median House	Sewer Charges	Water Charges
Core	1939 & earlier	135	151
1st Ring	1940–59	124	147
2nd Ring	1960–79	123	134
3rd Ring	1980–99	106	130

Source: Author's calculations from US Census Bureau data for 762 municipalities (sewer) and 713 (water) (2000).

**Table 15: Local Government Spending by Size of Municipality, United States, 2000**

Quintile	Population	Spending Per Capita	Spending Per Capita Relative to Mean
			<i>(US\$)</i> <i>(%)</i>
1	273,960	1209	8.7
2	71,320	1038	-6.6
3	38,376	1035	-6.9
4	21,578	1119	0.7
5	8722	1161	4.4
Mean	82,731	1112	0.0

Source: US Census Bureau, sample of 736 municipalities.

**Table 14: State and Local Government Spending, US, Georgia, and Oregon, 1990 and 2000**

	1990	2000	Change
	<i>(US\$)</i>	<i>(US\$)</i>	<i>(%)</i>
<i>Spending Per Capita</i>			
United States	5170	6193	19.8
Georgia	4631	5172	11.7
Oregon	5167	7041	36.3
<i>Education Capital Spending Per Capita</i>			
United States	96	160	67.7
Georgia	129	181	40.6
Oregon	65	114	74.4
<i>Sewer Capital Spending Per Capita</i>			
United States	97	100	2.8
Georgia	71	103	45.7
Oregon	95	171	80.5

Source: Author's calculations from US Census Bureau data.

legislation is not in force. Two particular local government functions that would seem to be most likely to be increased by more sprawling development, education and sewer capital costs, also increased more in Oregon and in each case more than 1.5 times that of Georgia (Table 14).

There is also a view that larger government units are more cost effective. This has been a principal justification for municipal consolidations that have occurred in Nova Scotia, Quebec, and Ontario in recent years, and in Winnipeg three decades ago. US data indicate, however, that larger units of government tend to have higher expenditures per capita. The sample of US municipalities in Table 15 indicates that the highest expenditures per capita are in the largest municipalities and that the lowest expenditures are in medium-sized municipalities (quintiles 2, 3, and 4).

## OTHER ILL EFFECTS OF ANTI-SUBURBAN POLICIES

Rationing raises prices. Thus, it can be expected that land rationing will raise the price of the housing built on it. But the impacts are felt even more than in land costs because, as limits are placed on development, there is less competition among homebuilders, which also raises prices. Moreover, because fewer houses are likely to be built, builders can be expected to target higher-cost markets. Anti-suburban researchers cited the latter factor in explaining why new housing construction expenditures were higher in areas with stronger land use regulation (Mattera with LeRoy 2003). All of these factors combine to raise housing prices. This is consistent with Harvard University research, which found that the principal cause of differences in housing affordability between US metropolitan areas is zoning and land regulation (Glaeser and Gyourko 2002).

Anti-suburban advocates often suggest the necessity of policies to increase housing affordability, but seem immune to understanding that their own policies make the situation worse. There is, in the US, no political prospect of developing policies to finance low-income housing needs. Despite a 70-year commitment, funding has never reached 40 percent of the level required, and government agencies use long waiting lists to deny housing opportunities where funding is not available.

Portland's urban growth boundary appears to have profoundly reduced housing affordability. Between 1991 and 2001, housing affordability in that city declined far more than in any US metropolitan area with more than 500,000 population.<sup>17</sup> Local officials blamed the declining affordability on Portland's strong population growth, suggesting that the increase was driven by higher demand. In fact, however, Portland was not the fastest-growing metropolitan area in the US over the period. Each of the metropolitan areas that grew faster registered housing affordability improvements, with the exception of Dallas-Fort Worth, which experienced a small (0.6 percent) decline.

In addition to urban growth boundaries, many US jurisdictions have levied substantial "impact fees", ostensibly to pay for the infrastructure required to serve new housing. In California cities, impact fees add 10 percent to the cost of new houses and 20 percent to the cost of new apartments (Cox 2002b). This, of course, raises the price of new housing, and has a similar impact on existing housing. This anti-sprawl policy has induced far greater levels of sprawl, as people seeking affordable housing locate from 100 to 150 kilometres away from their jobs. From 1990 to 2000, the greatest increase in average work-trip travel times in the US occurred in the San Joaquin Valley, where the more affordable housing is located.

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<sup>17</sup> See web site <<http://www.demographia.com/db-hafford1991-2001.htm>>.

Another tactic to increase house prices is “down-zoning”, a process by which many governments have increased minimum lot sizes so that development will be less dense.<sup>18</sup> This strategy permits communities to “upgrade” their demographics and deny home ownership to lower-income households, which are more likely to be composed of ethnic minorities.

As would be expected, the escalating impacts of anti-suburban policies on housing prices can be expected to have the greatest effect on lower-income households, which are driven out of the homeownership market. Matthew Kahn (2001) at Tufts University found that more sprawling urban areas have higher rates of African-American home ownership. Similarly, the Tomás Rivera Foundation in California has documented anti-suburban policies such as urban growth boundaries and impact fees as substantial barriers to Hispanic home ownership (Lopez-Aqueres et al. 2002). Thus, the inevitable housing cost increases associated with smart growth’s land-rationing policies are unfair to younger generations, to ethnic minorities, and to immigrants.

Moreover, available evidence indicates that households in less dense urban areas spend less than those in more dense areas. Among the 15 metropolitan areas included in Statistics Canada’s household data (but excluding Yellowknife and Whitehorse), transportation and housing expenditures decline with lower densities in every quintile (Table 16). Overall expenditures for transportation, housing, and food are 12.7 percent higher than average in the metropolitan areas with the highest urban densities and 8.7 percent below average where urban densities are the lowest.<sup>19</sup>

Anti-suburban advocates have even attempted to link the increase in US obesity to changes in land use. The US Centers for Disease Control report that, although obesity has approximately doubled since 1990, there was comparatively little increase in obesity before 1980 (Brownson and Boehmer DATE). If changes in land use have been a principal cause of the increase in obesity, as anti-suburban advocates suggest, then one would expect major land use changes to have taken place in the first instance. Yet, land use has changed little in the US since 1970. Urban population densities are approximately the same,<sup>20</sup> while household densities have changed little since 1960.<sup>21</sup> Thus, land use changes cannot have contributed significantly to the increase in obesity. A more likely cause is the substantial increase in food consumption over the period, particularly in the first half of the 1990s (Nestle and Jacobson 2002).

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18 This would seem to violate efforts to control sprawl (that is, increase population density). But anti-suburban advocates have been supportive of this sprawl-inducing policy because they believe that fewer people will be able to move from the core cities to the suburbs.

19 This is consistent with US experience (see Cox and Utt 2003).

20 US Census Bureau data, from web site <<http://www.demographia.com/db-uland2000.htm>>.

21 See web site <<http://www.demographia.com/db-hhlddens.htm>>.

**Table 16: Household Expenditures by Density Quintile, Major Canadian Urban Areas, 2001**

Density Quintile	Urban Areas	Population Density <i>(population per sq. km)</i>	Average Annual Expenditures per Household				Relative to Average (%)
			Transportation (\$)	Shelter (\$)	Food (\$)	Total (\$)	
1	Toronto, Montreal, Ottawa (ON portion)	2120	8666	12,991	6997	28,654	12.7
2	Vancouver, Regina, Winnipeg	1515	7686	11,384	6387	25,456	0.1
3	Saskatoon, Calgary, Victoria	1214	7521	11,674	6082	25,277	-0.6
4	Halifax, St. John's, Quebec City	998	7541	10,525	6432	24,499	-3.6
5	Edmonton, Charlottetown/ Summerside, Saint John	654	7421	9827	5958	23,207	-8.7
Average		1300	7767	11,280	6371	25,419	0.0

Source: Author's calculations from Statistics Canada data (2001).

Canada faces a similar crisis, though not yet as severe as that in the US. It has been reported that obesity rates in Canada doubled among women from 1985 to 2000, and increased more than 150 percent among men.<sup>22</sup> Here, as in the United States, the principal cause seems to be food consumption. Statistics Canada indicates that, while caloric consumption was relatively unchanged from 1971 to 1991, there was a 17 percent increase from 1991 to 2001.<sup>23</sup> Further evidence that changes in land use are not a principal cause is the fact that walking to work decreased by less than 10 percent over the same period.

22 "Canada's obesity rate doubles in last 15 years", *London Free Press*, October 3, 2003.

23 Statistics Canada, "Food Consumption Highlights", October 21, 2003.

# PORTLAND'S ECONOMIC DILEMMA

Anti-suburban advocates often suggest that their policies deter neither growth nor economic performance. Because Portland's policies are still somewhat new, it is too early to evaluate their impact on economic performance definitively. However, the business climate in the Portland area is less than optimal. There is a shortage of land for business expansion and new business locations. As a result, Metro (the land use planning agency) has banned new developments on the little remaining land available by businesses it deems to not "bring new money into the area".<sup>24</sup> It seems unlikely that Portland's "pick and choose" strategy for controlling commercial development will propel economic growth.

One suburban jurisdiction required a major company, Intel, to commit to paying an "impact fee" for new employees above a particular level as a condition for plant expansion. The Nike Corporation threatened to move its world headquarters from the area when planning regulations required that it include high-density housing in its business expansion plans. Eventually, to keep the corporation, planning officials relented and permitted Nike to expand without building the housing.<sup>25</sup>

Finally, in 1990, Portland's unemployment rate was below the US average and the rate for low-density Atlanta. But during the period in which its densification policies were in effect, Portland's unemployment rate rose to one of the highest in the US and is now approximately 1.5 times that of Atlanta. This rise in unemployment may be due, in part, to the anti-business climate that smart growth policies have fostered and that Portland appears now more willing to confront. Metro is now considering another large expansion of the urban growth boundary in order to increase the availability of industrial and commercial land (see the Appendix).

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24 "Scarce Land Fuels Battle", *The Oregonian*, November 9, 2003.

25 This illustrates the political vulnerability of anti-suburban restrictions to powerful political interests. A similar situation is documented in Cox (2002a).

## A TALE OF TWO CITIES REVISITED

The impact of long-term anti-suburbanization policies can be illustrated by comparing London, with more than 50 years of anti-sprawl policies, and Paris, where less stringent land use regulation has led to an urban form more like that found in the rest of western Europe and Canada (see Figure 3).

In London, a Green Belt was imposed, so that virtually all new residential development was forced 15 to 30 or more kilometres beyond the limit of urban development that existed immediately following World War II. The Green Belt is approximately 5000 sq. kms in area, or approximately ten times the urbanized area of London. It is so large that, except for New York, Tokyo, and Chicago, any of the world's urban areas could fit into it. Under any foreseeable scenario, if development had been allowed to continue as in other urban areas, one-half or more of the Green Belt area would still be undeveloped.

Outside the Green Belt, the government built a number of new towns, such as Milton Keynes and Stevenage, which were to be self-sufficient. As firm believers in the “jobs-housing” balance, UK planners presumed that, by balancing jobs and residences in the new towns, long commutes would not be necessary. What has developed, however, is much different. Many people continue to commute very long distances to central London, crossing the wide Green Belt on the way. Other people commute to jobs in other parts of the extensive exurban area created by the declaring off-limits of virtually all of the land that would have developed if the government had not intervened with such a sharp regulatory weapon (Pennington 2002, 41–43).

The new towns were also to be balanced economically, so that there would be a share of low-income housing as well as middle- and upper-middle-income housing. Instead, the placement of lower-income households in the far reaches of the exurbs has seriously hampered employment possibilities, because it is virtually impossible to travel to other exurban communities in a reasonable amount of time, except by car. The exurban explosion is well beyond most or all of a 40-minute off-peak drive from the rich job markets inside the Green Belt.

In addition, little if any roadway improvements were made in the congested core. There is an orbital motorway (the M-25) that is so far from the centre of London that it provides little or no relief, except for travel among the outer reaches of the urban area. The Circular Road, which would have been similar to the close-in *Périphérique* in Paris, was completed to high-capacity standards only for short stretches. With the exception of the London Orbital, virtually all of the freeways in the exurban explosion are oriented toward London. There are no high-quality roads for people to use to commute

**Figure 3: Suburbanization in London and Paris**



between the exurbs. Even if there were, the exurban development is far too dispersed for most of the exurban jobs to be accessible from the typical exurban location. Indeed, London and southeast England is more of a collection of adjacent, rather than overlapping, labour markets. London's anti-sprawl policy has created a disconnected urban area that spreads over an area more than one-third the size of all the urbanized space in Canada.

In contrast, Paris has developed along more conventional lines. Substantial green spaces were designated, but the urban area was allowed to continue to develop contiguously, and no Green Belt was imposed that would have had the effect, as in London, of artificially separating residents from employment opportunities. The French government also built new towns and sought to achieve an income balance. An effective freeway system was built that facilitates generally convenient travel not only toward the core city of Paris (and around it on the *Périphérique*), but also within the suburbs, both first and second ring.

The result is an urban area composed of significantly overlapping labour markets that makes virtually all of the rich core employment available to all suburbanites. All of the core can be reached from all of the suburbs within a 40-minute off-peak drive.

Furthermore, because of Paris's integrated freeway network, much of the suburban employment is within reasonable driving distance for most suburban residents. The continuous development of Paris also facilitates effective rapid rail service from suburban areas into the city, although, as is the

case throughout virtually all of the Western world, there is little automobile-competitive service between the suburbs.

Remy Prud'homme and Chang-Woon Lee at the University of Paris conclude that, as labour markets increase — as the number of jobs that can be reached by employees increases within a particular time constraint (such as 40 minutes) — the economic performance of the urban area improves (Prud'homme and Lee 1998). The millions of new residents in suburban Paris have a far more accessible labour market than the corresponding millions who have moved into London's exurbs.<sup>26</sup>

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26 As noted above, the cores of both London and Paris have lost population. As a result, virtually all growth has been in the suburbs (suburban Paris has grown by approximately 4.5 million, while exurban London has grown by approximately 3 million).

# SUSTAINABLE QUALITY OF LIFE

Anti-suburban proponents have demonstrated no imperative that compels their radical solutions. Agricultural land is plentiful. Urban areas are expanding consistent with household growth rates, yet many times more land remains rural (and capable of supporting agriculture). Smart growth policies increase both traffic congestion and air pollution. But no amount of encouragement or level of financial expenditure will force people out of their cars and into mass transit services that take too long or do not go where people wish to go. The transportation choice is simply whether or not the capacity will be provided to accommodate the growth that will occur whether or not it is provided. Highways must be expanded to meet growing demand and to sustain urban economies. There is considerable concern about the developing export of highly skilled technical employment to lower-income countries such as India and the Philippines. Canadian urban areas that solve their traffic problems and have better economies will be less susceptible to job losses, whether to other urban areas in Canada or to urban areas in other countries.

Higher densities are unpopular and are being rejected even in Portland. Political factors in the older, more dense cities appear to have more than neutralized any government cost advantage that theory might suggest is obtainable. Overall consumer expenditures are lower where densities are lower. Housing is more affordable where there is no more government interference in land markets than necessary. The comparison of London and Paris illustrates how the distortions of planning can limit economic opportunity.

All in all, Canada's urban areas and their residents will be better served by a continuation of the land use policies that have made them such good places to live. With appropriate consideration for the environment, Canada's combination of low density with a high quality of life is surely sustainable.

## APPENDIX: PORTLAND GIVES UP ON DENSIFICATION

Oregon's state growth management laws require each urban area to draw an urban growth boundary (UGB), outside of which urban development is not permitted to occur. Each urban area has an obligation to maintain a 20-year supply of buildable land within the urban area. By the middle 1990s, the Portland area's land use agency, Metro, needed to expand the UGB to ensure a 20-year supply. Metro projected that, if pre-1990 development trends were to continue to 2040, the urban growth boundary would need to be expanded to 1433 sq. kms, up from the 1990 figure of 939 sq. kms.

However, instead of adopting an expansion that would have been consistent with expected growth, Metro decided to require densification. In 1995, Metro adopted a 2040 Plan that allowed the area inside the UGB to grow only 8.6 percent from 1990 to 2040 (to 1020 sq. kms). With population growth projected at 67 percent, this would have required significant densification. At the same time, Portland would emphasize mass transit and generally not expand roadways to accommodate demand (despite the fact that nearly all new travel demand would be by automobile, according to Metro's own projections).

These decisions led, however, to a rather rapid negative consequence. The lack of sufficient highway capacity led to greater traffic congestion. Portland's traffic congestion grew substantially more than average, and by 2001 was the worst of any medium-sized metropolitan area in the US. The rationing of land drove housing prices up, so much so that housing affordability fell more in the Portland area than in any other metropolitan area of more than 1 million people over the previous ten years. Land for commercial development became scarce at the same time that local authorities sought to impose impact fees and affordability housing requirements on businesses seeking to expand. The business climate worsened, and in recent years the Portland metropolitan area has had one of the highest unemployment rates in the US, after having been lower than the national average in the early 1990s.

But the most serious blow to the 2040 Plan was the reaction of neighborhoods to densification. A citizens' group qualified a referendum for the May 2001 ballot that would have stripped Metro of any authority to increase densities. Metro, fearing its passage, drafted its own, weaker density limitation for the same ballot, which it entitled "Prohibit Density in Existing Neighborhoods". The citizens' measure lost, but Metro's anti-densification measure won with a 66 percent majority.

Obviously, with no more ability to force higher densities in existing neighbourhoods, the 2040 Plan's urban growth boundary target could not possibly accommodate the projected new population (new residential densities would have to be nearly ten times average suburban densities and approximately the same as the pre-amalgamation core city of Toronto for the target to be reached).

It took Metro only seven months to abandon the targets in its 2040 Plan. Metro increased the urban growth boundary to 1030 sq. kms, prematurely exceeding its 2040 target. But that was not enough. The continuing shortage of commercial land has forced Metro to consider adding another 115 sq. kms to the UGB in 2004.

If this supply of land is sufficient for the next 20 years (which it may not be), then by no later than the early 2020s Metro can be expected to expand the UGB to accommodate the next 20 years of growth. If that growth continues as projected, and if Metro added a similar amount of land to the UGB at that time, the urban growth boundary could contain approximately 1400 sq. kms by 2025 — nearly 400 more than had been adopted in the 2040 Plan. The economic realities and political unpopularity of densification, even at the relatively modest rates proposed in Portland, forced abandonment of a 45-year plan in less than seven years. At this point, Portland is on track to have an urban growth boundary incorporating more land in 2040 than Metro had projected if pre-1990 development trends had continued.

This expansion, however, will have been grudgingly controlled by an overly prescriptive planning process whereby housing affordability, traffic congestion, and the general economy will all be worse than if people had been allowed to pursue their preferences more freely.

## REFERENCES

- Brownson, Ross C., and Tegan K. Boehmer. DATE. "Patterns and Trends in Physical Activity, Occupation, Transportation, Land Use and Sedentary Behaviors". Draft paper prepared for the Transportation Research Board, Washington, DC.
- Burchell, Robert W., et al. 2002. *Costs of Sprawl—2000*. TCRP Report 74. Washington, DC: Transportation Research Board.
- Cox, Wendel. 2000. *A Common Sense Approach to Transportation in Atlanta*. Atlanta: Georgia Public Policy Foundation.
- . 2002a. "Glendenning's Smart Growth: Insiders Game". *The Daily Record* (Baltimore), June 15.
- . 2002b. "Smart Growth and Housing Affordability". Paper commissioned by the Congressional Millennial Housing Commission; available from web site <[www.demographia.com/coxsq.pdf](http://www.demographia.com/coxsq.pdf)>.
- Cox, Wendell, and Joshua Utt. Forthcoming. "Urban Sprawl and Municipal Costs: A Review of Actual Spending Data".
- Cox, Wendell, and Ronald D. Utt. 2003. "Transit Advocates Want the Working Poor to Use Bikes and Buses". Heritage Backgrounder 1687. Washington, DC: Heritage Foundation.
- Energy and Environment Analysis. 2000. "An Updated Look at VOC and NOx Emission Trends in Selected Canadian Metropolitan Areas". Report prepared for the Canadian Automobile Association. Arlington, VA.
- Glaeser, Edward L., and Joseph Gyourko. 2002. *The Impact of Zoning on Housing Affordability*. Cambridge, MA: Harvard Institute of Economic Research.
- Gurin, David. 2003. *Understanding Sprawl: A Citizens' Guide*. Vancouver: David Suzuki Foundation.
- Gwartney, James, and Robert Lawson, with Neil Emerick. 2003. *Economic Freedom of the World: 2003 Annual Report*. Vancouver: Fraser Institute.
- Kahn, Matthew E. 2001. "Does Sprawl Reduce the Black/White Housing Consumption Gap?". *Housing Policy Debate* 12 (1): 77–86.
- Kenworthy, Jeffrey R., et al. 1999. *An International Sourcebook of Automobile Dependence in Cities: 1960–1990*. Boulder: University of Colorado Press.
- Lopez-Aqueres, Waldo, Joelle Skaga, and Tadeusz Kugler. 2002. *Housing California's Latino Population in the 21st Century: The Challenge Ahead*. Los Angeles: Tomás Rivera Policy Institute.
- Mattera, Phillip, with Greg LeRoy. 2003. *The Jobs Are Back in Town: Urban Smart Growth and Construction Employment*. Washinton, DC: Good Jobs First.

- Nestle, Marion, and Michael F. Jacobson. 2002. "Halting the Obesity Epidemic: A Public Health Policy Approach". *Public Health Reports*, January/February.
- Pennington, Mark. 2002. *Liberating the Land*. London: Institute of Economic Affairs.
- Prud'homme, Remy, Richard Darbera, David Newbery, Achim Diekman, and Bert Elberk. 1999. *Is Our Present Transport System Sustainable?*. Paris: Presses de l'École national des ponts et chaussées.
- Prud'homme, Remy, and Chang-Woon Lee. 1998. "Size, Sprawl, Speed and the Efficiency of Cities". Paris: Observatoire de l'Économie et des institutions locaux.
- Ross, Catherine E., and Anne E. Dunning. 1997. "Land Use and Transportation Interaction: An Examination of the 1995 NPTS Data". Paper presented to Searching for Solutions: Nationwide Personal Transportation Survey Symposium, US Federal Highway Administration, Washington, DC., October 29–31.

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