Housing Affordability and the Standard of Living in Vancouver

Wendell Cox
About the author

Wendell Cox is principal of Wendell Cox Consultancy (Demographia), a St. Louis-based (Missouri-Illinois) international public policy firm. He is an expert in land-use and transportation policy and is co-author of the “Demographia International Housing Affordability Survey,” which has examined metropolitan areas in Canada, Australia, Ireland, New Zealand, the United Kingdom and the United States since 2004 and will cover 10 nations in its 10th edition (2014).

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He has written and spoken widely on the role of housing affordability in the standard of living and in poverty reduction, including national speaking tours of Australia and during numerous international presentations.

He is author of War on the Dream: How Anti-sprawl Policy Threatens the Quality of Life and the co-author with Richard Vedder of The Wal-Mart Revolution: How Big-Box Stores Benefit Consumers, Workers, and the Economy. In addition to these books, he has been a frequent book chapter contributor and is the author of a regular column in www.newgeography.com.

Cox is also the author of the widely cited “Demographia World Urban Areas,” which is the only compendium of population, land area and population density for all known urban areas (population centres) of 500,000 or more people.

He was a visiting professor for nine years at the Conservatoire national des arts et métiers, a Paris university. He has a BA in Government from California State University, Los Angeles, and an MBA from Pepperdine University in Los Angeles. Mayor Tom Bradley appointed him to three terms on the Los Angeles County Transportation Commission, which was the top policy body in both highways and transit in the largest county in the United States. He was appointed by then Speaker of the United States House of Representatives Newt Gingrich to the Amtrak Reform Council to fulfill the unexpired term of New Jersey Governor Christine Todd Whitman when she resigned from the Council.

He was an invited participant in a forum sponsored by Calgary Transit in 1999.

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Executive Summary

The average household can no longer afford a home in the average price range. Housing is so expensive in Vancouver that an additional annual income of between $22,000 and $40,000 is required for the average house, compared to other major metropolitan areas (Toronto, Montreal, Ottawa, Calgary and Edmonton). Most people are priced out of the market for the average house and have to accept lower-cost housing, which is generally smaller and can be of lower quality. Moreover, Vancouver has the highest house prices relative to income in the New World (Canada, Australia, New Zealand and the United States).

The principal cause of this difference is likely Vancouver’s urban containment land-use policies. Unusually high house prices occur when such policies are strongly enforced. The same policies have also been instrumental in making Vancouver’s traffic congestion the worst in North America (worse than Los Angeles) and third worst in the high-income world.

**Focusing on Priorities:** Over the past two centuries, the world has become urban, as people have moved to the cities to better their lives. **The very purpose of cities is to facilitate a higher standard of living for residents and to reduce poverty.**

Consistent with this, the domestic public policy priority of most governments is the betterment of people by facilitating a higher standard of living and reducing poverty.

Yet, the dominant strain of urban planning, which is urban containment policy, works against the aspirations of households and against the fundamental policy priority of a better standard of living. Urban containment policy (also called “compact city policy,” “smart growth” “livability” and other terms) seeks to limit or prohibit development on or beyond the urban fringe. By creating an imbalance of demand over supply for residential land, house prices are driven up, breaking their historic and fundamental nexus with household income. The increase in housing costs, the largest component of household budgets, reduces discretionary income, which translates into a lower standard of living and more poverty.

There are few, if any, places where this loss of housing affordability and reduction in the standard of living is more evident than in Vancouver.

There is a need to focus on the fundamental priority of improving the standard of living and reducing poverty (**Section 1**).

**The Regional Growth Strategy:** Metro Vancouver, through its Regional Growth Strategy, drafted under the provisions of British Columbia law and policy, oversees land and transportation policy in the Vancouver metropolitan area. A principal feature of the Regional Growth Strategy is an urban containment boundary that bans urbanization on most of the land that is appropriate for development; therefore, comparatively little land is available for the expanding urban area.

Regional authorities are attempting to minimize automobile use and, thus, regional policy favours the expansion of transit. These policies have resulted in a higher
market share for transit, but automobiles continue to account for the vast majority of travel in the Vancouver metropolitan area.

Regional policy has also sought to avoid urban sprawl and to preserve agricultural land. These objectives are consistent with British Columbia law and policy. However, housing affordability and economic development, also objectives of British Columbia law and policy, have received insufficient attention. Housing affordability has deteriorated substantially in this environment (Section 2).

**Housing Affordability and the Standard of Living in Vancouver:** Vancouver has by far the highest housing costs in Canada. In 2013, Vancouver’s housing affordability was the worst among the 85 major metropolitan areas in Canada, the United Kingdom, Australia, Ireland, New Zealand, Singapore and the United States. In 2011, the average existing house price in Vancouver was from 65 per cent to 275 per cent higher than in the other major metropolitan areas. The differences in household income are far more modest.

Vancouver’s house prices were not always unaffordable. As late as 1971, housing affordability was better in the Vancouver metropolitan area than in the Toronto metropolitan area, and it was only slightly worse than in the other four major metropolitan areas (Calgary, Edmonton, Montréal and Ottawa). By comparison, there is little variation in household income among these major metropolitan areas.

The impact of unaffordable housing on the standard of living is illustrated by the additional income that would have been available to Vancouver households if the price to income ratio were the same as those in other major metropolitan areas. At the price to income ratios in the other areas, the average Vancouver household purchasing the average-priced house (detached, semi-detached or apartment) would have needed from $22,000 to $31,000 more income in 2010. Similarly, the average-income household would have needed between $29,000 and $40,000 more at the price to income ratios of the other major metropolitan areas.

Higher amounts spent on housing result in less discretionary income for households. This is money not available for purchasing other goods and services, which would create more employment and economic growth, other things being equal. This has resulted in a lower standard of living for Vancouver residents than would be the case if housing affordability had been retained (Section 3).

**Urban Containment and the Standard of Living:** Vancouver’s excessive housing costs relative to income are consistent with the economic literature that associates urban containment policy with higher housing costs. There is an economic consensus that, other things being equal, scarcity drives up prices. Urban containment boundaries drive up the price of housing by creating an imbalance between demand and supply in which the supply of land is severely restricted. There is considerable research on this issue (Appendix A).

At the same time, there is also evidence that lower-income households pay a heavy price in higher housing costs because of urban containment policy.

In short, the higher housing costs relative to income typical of urban containment
policy, other things being equal, tend to reduce the standard of living and increase poverty by reducing household discretionary income (Section 4).

**Transportation in Vancouver:** As part of its urban containment policies, Vancouver has made substantial improvements to public transit. The most important is the SkyTrain system, which is one of the most successful rail systems developed in North America in recent decades. There have been transit market share increases, though the automobile continues to be the most-used form of travel in the Vancouver area.

The transit improvements have been concentrated in areas in and near the core of the metropolitan area, including downtown and the Vancouver Metro Core. Downtown and the core have by far the most favourable environments in the area for transit ridership increases. Metro Vancouver projects that the overwhelming majority of new employment will be outside of downtown and the Vancouver Metro Core.

Local officials hope to facilitate substantial transit ridership increases in the future. The areas in which new jobs will be concentrated are far less amenable to transit use, principally because the density and coverage of transit routes make most commutes by transit impractical. Given this reality, it could be difficult for transit to maintain its present market share in Vancouver, and the share of travel by automobile could increase.

Moreover, Vancouver has recently emerged as having the worst traffic congestion in North America and the third worst out of more than 120 metropolitan areas in Canada, Western Europe, Australia, New Zealand and the United States. This increase in traffic congestion is consistent with the results of urban containment policies, which seek higher densities and fail to increase roadway capacity consistent with the demand. Further, greater traffic congestion is associated with more local air pollution, which has negative health effects (Section 5).

**Mobility and the Standard of Living:** Greater mobility, which is the ability of residents to commute to the maximum number of jobs in the metropolitan area in a specific period (such as 30 minutes), improves economic growth. Transit, cycling and walking are appropriate for many; however, these modes are unable to compete with the automobile in providing quick and comprehensive mobility throughout the metropolitan area. Further, access to an automobile improves the mobility and standard of living of low-income households (Section 6).

**Sustainability:** Sustainability is a principal underlying justification of the Regional Growth Strategy

Perhaps the most important concern of urban containment policy is the reduction of greenhouse gas (GHG) emissions. Yet, recent research indicates that urban containment policy is an ineffective and expensive means of reducing GHG emissions. Moreover, regional planning efforts around the world routinely fail to subject their strategies to an economic metric. Progress in automobile fuel efficiency that will result in substantial reductions of GHG emissions even while driving continues to increase is anticipated. Similarly, substantial decreases have been made in GHG emissions from detached housing. At the same time, research indicates that GHG emissions per capita are higher from the high-rise residential buildings that are favoured in the
Regional Growth Strategy.

There is also concern about local food production and its importance to the food security of the Vancouver metropolitan area. In fact, local agricultural production provides comparatively little of Vancouver’s food, and local food objectives do not necessarily improve the standard of living of consumers or people involved in agricultural production. Finally, urbanization does not represent a threat to Canadian agriculture. The nation has taken out of production more land than the total area of the entire Maritime provinces, a far greater amount than all of the urbanization that has occurred since the coming of European settlement. At the same time, agricultural production has increased markedly (Section 7).

**Overall Economic Impact:** Not surprisingly, the reduction in household discretionary income associated with urban containment has also led to less-robust metropolitan area growth. Research findings that show this has been published in the United Kingdom, continental Europe and the United States.

There are also concerns about the impact on the national economy. The Bank of Canada has expressed apprehension about rising household debt and rising house prices. These matters were also a factor in the downgrading of most major Canadian banks by international rating agencies in 2012. The longer-term potential for higher interest rates that would put even more pressure on household budgets heightens this concern. However, despite its mandate to maintain economic stability through its inflation target, house prices are largely beyond the ability of the Bank of Canada to control, because of the much stronger influence of metropolitan and provincial land-use policies in driving up prices.

At the same time, Vancouver has already reached the price to income ratio equal to those in the 11 “ground zero” metropolitan areas in the United States that were responsible for three-quarters of the US house-price losses that set off the international Great Recession (Section 8).

**Evaluation:** Vancouver’s urban containment policies have drastically reduced the amount of land available for development, with the predictable consequences of higher house prices, less household discretionary income and a lower standard of living. This is inconsistent with Vancouver’s reputation as one of the world’s most liveable cities. Vancouver’s intense traffic congestion is also inconsistent with this reputation.

Regional policy places insufficient emphasis on the principal priority of improving the standard of living and reducing poverty. This focus needs correcting and requires reforms (Section 9).

**Recommendations:** Vancouver’s urban containment policies, which have little potential for improving the environment while imposing great cost, need to be reformed. The metropolitan area should seek to return to broad-based prosperity in which the average household and lower-income households can have the same standard of living as the other major metropolitan areas. There is a need to put people first in Vancouver land-use policy. Improving the standard of living and reducing poverty need to be the principal objectives.
The province of British Columbia should give clear direction to Metro Vancouver to place housing affordability and economic development as its principal policy priorities. The urban containment boundary should be substantially expanded. Further, Metro Vancouver should subject all of its strategies to an economic metric that measures the cost per tonne of GHG emissions reduction. Jurisdictions in the Lower Mainland should also implement public facility finance options that can improve housing affordability (Section 10).

“The metropolitan area should seek to return to broad-based prosperity in which the average household and lower-income households can have the same standard of living as the other major metropolitan areas.”
1. Focusing on priorities

Throughout history, people have moved to cities for better lives. Cities offered better opportunities because households could expect to enjoy greater discretionary incomes than in rural areas, and there were greater opportunities for upward economic mobility. Cities are economic entities. Former World Bank principal urban planner Alain Bertaud (2004) noted that: Large labor markets are the only raison d’être of large cities.¹ The very purpose of cities is to facilitate a higher standard of living for residents and to reduce poverty. In a more recent paper, he continued:

"Increasing mobility and affordability are the two main objectives of urban planning. These two objectives are directly related to the overall goal of maximizing the size of a city’s labor market, and therefore, its economic prosperity.”²

Yet, urban containment policy, which is the dominant strain in contemporary urban planning, works against the economics of cities — the aspirations of households and their standard of living. People have advocated for urban containment policy for at least seven decades.³ Urban containment is also called “smart growth,” “compact city policy,” “growth management,” “liveability,” and “densification” among other terms. Along with other restrictions, urban containment seeks to limit the expansion of urban areas (suburbanization or pejoratively called “urban sprawl”) by severely restricting or prohibiting development on, or beyond the urban fringe (See Box 1, next page).

A related element of urban containment policy is to limit the use of the automobile⁴ by transferring demand to transit, cycling or walking.

Economic principle holds that other things being equal, a scarcity in the supply of a product will tend to influence its price upwardly. This is true of land for urban development—policies that severely restrict the availability of land are associated with higher and rising house prices. Economists Richard Green and Stephen Malpezzi summarize the issue: “When the supply of any commodity is restricted, the commodity’s price rises. To the extent that land-use, building code, housing finance, or any other type of regulation is binding, it will worsen housing affordability.”⁵

The higher prices associated with urban containment policy have broken the historical connection between house prices and household incomes (Appendix B).

Since housing is the largest item in household budgets,⁶ more expensive housing reduces discretionary incomes, the money left over after taxes and funds needed for necessities. Less discretionary income means a lower standard of living and higher rates of poverty.⁷

The house price increases have occurred across the spectrum of metropolitan areas with urban containment policies, from the most vibrant to those that have experienced significant industrial decline (such as Liverpool and Glasgow). There are few places where housing affordability has deteriorated as severely as in Vancouver.⁸
Moreover, Vancouver has recently emerged as having the worst traffic congestion in North America and the third worst out of more than 120 metropolitan areas in Canada, Western Europe, Australia, New Zealand and the United States. This increase in traffic congestion is consistent with the results of urban containment policies, which seek higher densities and fail to increase roadway capacity consistent with the demand. Further, greater traffic congestion is associated with more local air pollution, which has negative health effects (Section 5.4).

As is indicated in Urban Policy: A Time for a Paradigm Shift, there is a need to focus on the fundamental objectives of maintaining or improving the standard of living and reducing poverty. The focus of this report is land-use and related policy and its effect on the standard of living in the Vancouver metropolitan area.
2. The Regional Growth Strategy

As The Vancouver metropolitan area’s land-use policy is framed by Metro Vancouver, which adopted its present plan in 2011 (the Regional Growth Strategy). This is the latest in a series of plans that stretch back more than 40 years.\(^1\)

One of the most important policy initiatives in the planning process was the designation of the Agricultural Land Reserve (ALR), which severely limits urban expansion into developable land outside the existing urban area. The ALR and other land on which development is prohibited have been referred to as the “Green Zone,” which is delineated by an urban containment boundary (Chart 1). The developable area inside the urban containment boundary remains similar to that of a 1996 map published by the Metro Vancouver predecessor Greater Vancouver Regional District (Chart 2).

Metro Vancouver has implemented strategies to increase travel by transit, walking and cycling in the metropolitan area and has sought to discourage automobile use. Yet, the automobile remains the dominant form of personal transportation.

Vancouver’s urban containment policy generally follows the philosophy of the *British Town and Country Planning Act 1947*, which required limiting the extent of urban areas and permitting limited development in rural areas. Other major metropolitan areas have implemented similar policies, with some of the early followers being Sydney, Australia, and Portland, Oregon, with much of Australia and New Zealand following in recent years.

These policy directions are consistent with some provisions of existing provincial law and policy.\(^2\) This includes objectives to avoid urban sprawl, preserve agricultural
land, “minimize the use of automobiles and encourage walking, bicycling and the
efficient use of public transit.” However, the same set of policies includes housing
affordability and economic development objectives, which have received, at best,
secondary treatment in the Regional Growth Strategy and its predecessor plans.

3. Housing affordability in Vancouver

Vancouver has by far the most expensive housing among the major metropolitan
areas (populations over 1,000,000). In 2011, average existing house prices (all
listed and sold housing) in Vancouver were from 65 per cent to 275 per cent higher
than in the other major metropolitan areas.\textsuperscript{14} By comparison, the differences in
household income were far more modest (Chart 3).\textsuperscript{15} The result is a substantial
disconnection of historical and fundamental relationship between house prices and
household income in Vancouver.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{chart3}
\caption{Average Owned House Price & Household Income
Major Metropolitan Areas (2011)}
\end{figure}

\textbf{In the 10th Annual Demographia International Housing Affordability Survey,}
Vancouver had the most expensive housing in 2013 among the 85 major metropolitan
areas of Canada, Australia, Ireland, New Zealand, Singapore, the United Kingdom
and the United States.\textsuperscript{16}
3.1 Housing affordability in Vancouver

Vancouver’s housing costs relative to income have not always been more expensive than other metropolitan areas. As late as 1971, the Census of Canada reported that the price of the average detached house in the Vancouver metropolitan area was 3.9 times the median household income. Toronto was more expensive, and five other major metropolitan areas had a price to income ratio of 3.5, somewhat below that of Vancouver.

In the subsequent four decades, the price to income ratio (median multiple\textsuperscript{17}) in Vancouver has increased to 10.3. The house price increases have escalated significantly since 2005. By comparison, from 1971 to 2005, the median multiple remained relatively constant in the other major metropolitan areas, indicating stability in the housing market. Since that time, however, house prices have escalated in the other metropolitan areas, especially with the preparation and adoption of urban containment plans (Chart 4).\textsuperscript{18}

![Median Multiple Graph]

**Median Multiple**
Vancouver CMA Compared (1971-2012)

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<tbody>
<tr>
<td>Vancouver</td>
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<tr>
<td>5 Other Major Metropolitan Areas</td>
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</table>

Source: From 1971 Census and the *Demographia International Housing Affordability Survey*. 
The average detached house in Vancouver was approaching double Toronto’s detached-house price (2012). Vancouver’s detached housing average price was at least 2.5 times that of the other four major metropolitan areas (Chart 5). Worse, between 2004 and 2012, the median price of a detached house rose nearly four times that of the median household income (Chart 6, next page). These differences are not the result of construction costs (Section 4).

**CHART 5  New Detached House Prices**  
Major Metropolitan Areas (2012)

Average House Price (MLS)  
Median

Source: CMHC (No data for QC).
With these price pressures, many households are unable to afford detached housing. This has led to a declining relative volume of detached housing construction, and Vancouver had the smallest share of new detached housing among the major metropolitan areas between 2006 and 2011. The urban planning literature sometimes implies that higher density, multi-family housing can be readily substituted among households that prefer detached housing. However, for many households, higher density housing is not an adequate substitute for a detached house with a yard, especially for households with children.

**CHART 6**

**Income and New Detached House Prices**

Vancouver CMA (July 2004-2012)

<table>
<thead>
<tr>
<th>Year</th>
<th>Median Price New Detached Houses</th>
<th>Median Household Income</th>
</tr>
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<tbody>
<tr>
<td>2004</td>
<td></td>
<td></td>
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<tr>
<td>2005</td>
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<tr>
<td>2006</td>
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<tr>
<td>2012</td>
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</table>

Source: CMHC and Estimated from Statistics Canada.
The extent of Vancouver’s detached-house-cost escalation is illustrated in Chart 7, which compares the 2012 median detached-house price in Vancouver with those in Edmonton and the Bellingham metropolitan area (across the United States’ border from the Vancouver metropolitan area) and Dallas-Fort Worth, which is the fastest-growing metropolitan area with more than 5 million people in the high-income world. These comparisons show that Vancouver’s median detached-house price is double that of Edmonton’s, three times that of Bellingham’s and more than 4.5 times that of Dallas-Fort Worth’s. Despite the huge difference in house prices among the metropolitan areas, there is comparatively little difference in household income.

**CHART 7**

*Detached House Prices and Income*

Vancouver and Major Metropolitan Areas Medians (2012)

<table>
<thead>
<tr>
<th>Median Price</th>
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<tbody>
<tr>
<td>$800,000</td>
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<td>$700,000</td>
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<td>$600,000</td>
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<td>$500,000</td>
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<td>$300,000</td>
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<tr>
<td>$200,000</td>
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<tr>
<td>$100,000</td>
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<td>0</td>
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</table>

**Source:** Estimated from NHS and CMHC data, and *Demographia International Housing Affordability Survey.*
3.2 Housing affordability assessment by Metro Vancouver

Metro Vancouver confirms Vancouver’s housing affordability problem. Generally, housing is affordable when housing costs are less than 30 per cent of gross household income. By this standard, most of the Vancouver metropolitan area house sales between 2007 and 2011 were unaffordable. In the area reported upon by the Greater Vancouver Real Estate Board, between 67 per cent and 73 per cent of sales transactions in each year were unaffordable. The Fraser Valley Real Estate Board reports on parts of the Vancouver and Abbotsford metropolitan areas. Its data indicate that between 2007 and 2011, 56 per cent to 60 per cent of sales transactions were unaffordable in each year.²²

Vancouver’s high housing prices also extended to households that rented. Metro Vancouver notes that the number of apartments renting for $750 or less monthly declined 57 per cent between 2007 and 2011.²³

3.3 Vancouver housing prices: Their impact on the standard of living

Vancouver’s high housing costs relative to income result in lower discretionary income and a lower standard of living. The following examples estimate the differences in discretionary income for the average Vancouver household if Vancouver house prices were as low relative to income as they are in the other major metropolitan areas.
Example 1

**Average-priced Existing House (2011):** The average-income Vancouver household cannot afford the average-priced existing house (includes all housing types). The cost of other necessities (food, clothing, transportation, health care, taxes and Canada pension fund) and the mortgage would exceed the average household income by approximately $1,000. This is in stark contrast with the housing affordability (price to income ratio) in the other five major metropolitan areas. If Vancouver’s existing houses were similarly priced relative to income in the other major metropolitan areas, the average household would have from $22,000 (Toronto price to income ratio) to $31,000 (Montréal and Ottawa, Québec-portion price to income ratios) left over to spend on other goods and services or to save (Chart 8). The additional discretionary income would not only improve the standard of living of the households, but the additional purchases the household could make would create jobs and improve the economy and savings rates would be higher. At present house prices, Vancouver households have a lower standard of living than they would have if the price to income ratio replicated those of the other major metropolitan areas.

The average Vancouver household is priced out of the market for the average-priced existing house.
Example 2

Average-priced New Detached House (2011): The average-priced new house is also beyond the financial capability of the average income Vancouver household (2011). The cost of other necessities (food, clothing, transportation, health care, taxes and Canada pension fund) and the mortgage would exceed the average household income by approximately $18,000. This contrasts with the situation for average income households in the other five major metropolitan areas. If the price to income ratios in the other five metropolitan areas were applied in Vancouver, the average household would have from $29,000 (Toronto price to income ratio) to $40,000 (Calgary price to income ratio) left over (Chart 9). As in the case of the existing house, the additional discretionary income would not only improve the standard of living of the household, but the additional purchases the household could make would create jobs and improve the economy, and savings rates would be higher.

Note: Prices and discretionary spending adjusted to Vancouver levels.
4. Urban containment and higher house costs

Vancouver’s excessive housing costs are consistent with the economic literature that associates urban containment with rising housing costs relative to income. There is an economic consensus that other things being equal, scarcity tends to drive up prices (whether the good or service is land, gasoline or any other).

Perhaps the earliest evaluation of urban containment policy was *The Containment of Urban England*, which was a five-year project by a team of academics led by urbanologist Sir Peter Hall (1973) of University College, London, England. The subject of this early 1970s work was the housing market as it had evolved since the enactment of the *Town and Country Planning Act 1947*. Hall *et al.* found that “perhaps the biggest single factor of the 1947 planning system is that it failed to check the rise in land prices which is probably the largest and most potent element of Britain’s postwar inflation.” The results are characterized as being inconsistent “with the objective of providing cheap owner-occupied housing.” Moreover, Hall *et al.* note that the planning system has imposed the greatest burdens on lower-income households.

Former governor of the Reserve Bank of New Zealand Donald Brash wrote in an introduction to the “4th Annual Demographia International Housing Affordability Survey,” “The affordability of housing is overwhelmingly a function of just one thing, the extent to which governments place artificial restrictions on the supply of residential land.”

In reports commissioned by the Blair government, former Bank of England Monetary Policy Committee member Kate Barker wrote of a strong relationship between unaffordable housing prices and urban containment policy.

A New Zealand government report by Arthur Grimes (2007), former chairman of the Board of the Reserve Bank of New Zealand, attributed the loss of housing affordability in the nation’s largest urban area, Auckland, on urban containment policies. In another report (2009), he found that per acre prices just inside Auckland’s urban growth boundary were 10 times that of comparable land on the other side of the boundary.

London School of Economics professor Paul Cheshire concluded from his research that urban containment policy is irreconcilable with housing affordability. Given the importance of housing affordability in household budgets, this means that urban containment policy is incompatible with maintaining or improving the standard of living.

The literature documenting the relationship between urban containment policy and house-price increases is reviewed in more detail in Appendix A.

**Fundamentals of the Housing Market:** For decades, there has been a fundamental relationship between house prices and household income. This relationship, which is indicated by a 3.0 times (or less) ratio between median house prices and median
household income has predominated in Canada, the United Kingdom, Australia, Ireland, New Zealand and the United States (Appendix B).  

Generally, the fundamental connection between house prices and household income has been retained in the metropolitan areas that are not governed by strong urban containment policy or by government policies that create land scarcity. On the other hand, the connection between house prices and household income has been substantially broken only where there are strong urban containment policies. All of the major metropolitan areas with seriously unaffordable or severely unaffordable housing (median multiples above 4.0) in the 10th Annual Demographia International Housing Affordability Survey have strong urban containment policies or other strong land rationing policies. Conversely, none of the major metropolitan areas with liberal land-use policies has seriously unaffordable or severely unaffordable housing. In other words, serious and severely unaffordable housing is strongly associated with urban containment policy.

One of Ireland’s most respected economists, Colm McCarthy of University College, Dublin, described how adoption of urban containment policies not only undermined the fundamentals of the housing market, but also led to Ireland’s destructive bubble and bust (and one of the most significant economic reversals suffered by any nation in decades).

“...Our old friend, the Law of Unintended Consequences, began to impact from the mid-Seventies onwards as house prices in Dublin began to diverge from the national average.

...Before land-use zoning came along, house-builders extended the city by buying up farms on the city’s edge and building at whatever densities the market would support. But as more and more lands were withdrawn from the buildable stock by the planners, prices began to rise and the house-builders moved further away from the city proper.”

McCarthy noted that urban containment policies had been adopted with good intentions. The impact, however, has been disastrous.

Urban Containment and Housing Affordability in Vancouver: Consistent with the international experience, Vancouver’s urban containment boundary creates a scarcity of developable land that is far more expensive than before. Vancouver’s high developer and home builder fees and levies have also likely contributed to the escalation of house prices relative to income (Box 2, page 24). At the same time, Vancouver’s construction costs are not much different from those of other large metropolitan areas (Chart 10, next page).

Much, if not all of the difference is in land and regulatory costs.
Vancouver’s land-use policies are associated with higher house prices, as the analysis above indicates. This results in higher housing costs and, thus, less discretionary income for households. Similarly, housing costs are higher for low-income households, which leads to greater poverty. Vancouver’s land-use policies are producing effects that undermine the economic well-being of people by reducing the standard of living and increasing poverty, as higher house prices reduce discretionary income.

The Social Costs of Higher House Prices: The consequences of urban containment on housing affordability and, thus, the standard of living for low-income households go well beyond the data cited for Vancouver.

This is evident in Portland, one of the international leaders in urban containment policies. House-price increases have been substantial, though less than in Vancouver. Portland’s median multiple rose from the national standard of 3.0 in 1995 to 4.8 in 2013.

However, Portland’s low-income households have experienced a greater loss of housing affordability than the average resident in the metropolitan area average. This is indicated by an analysis of postal codes with poverty rates of 50 per cent or more above average. Owned housing rose in value (median multiple, using values) approximately 75 per cent more in the higher-poverty areas than overall in the metropolitan area. The cost of rented housing (adjusted for incomes) rose nearly three times as much in high-poverty areas.
When comparing 2000 and 2010 census data, *The Oregonian* (the metropolitan daily newspaper) noted that ethnic diversity was on the decline in some denser Portland neighbourhoods. The greater rise in housing costs in higher-poverty areas indicates that the social costs of urban containment are even more burdensome for low-income households than are the additional costs imposed on households with average incomes.

Related research by Guanyu Zheng for the New Zealand Productivity Commission found that the higher prices generated by Auckland’s urban growth boundary were more severe for lower-cost housing: "...when the supply of land on the urban periphery is restricted, the price of available residential land rises and new builds tend to be larger and more expensive houses." Related research by Guanyu Zheng for the New Zealand Productivity Commission found that the higher prices generated by Auckland’s urban growth boundary were more severe for lower-cost housing: "...when the supply of land on the urban periphery is restricted, the price of available residential land rises and new builds tend to be larger and more expensive houses."39

California, which has the U.S. highest housing cost adjusted poverty rate best illustrates the potential for social and economic consequences. This, combined with its highest housing costs relative to income, is stark testimony to the economic and social costs of urban containment policy.

In this connection, economist Anthony Downs wrote: "Higher prices then reflect a pure social cost because the efficiency of society’s resource allocations has decreased."40 This means that if households have to pay more for their basic living expenses, such as housing, they will have a lower standard of living.

**House Price Increases Likely to Continue:** In the absence of reforms to urban containment policy, house-price increases relative to income seem likely to continue in Vancouver.
Government-imposed costs, fees and levies

Before home builders can commence construction, raw land is converted into finished lots. This is usually a principal task of the land developer, who arranges (and pays for) the local streets and utilities, such as sewage, electricity and natural gas lines. The finished land is purchased by home builders, the price of which includes the roads and utilities put in place by the developer. The street and utility improvements are turned over to the municipality and utility system owners.

Government-imposed charges are an important element of new-house costs. These charges include provincial sales taxes, the GST and land transfer taxes as well as transaction fees and infrastructure fees (sometimes called development levies). In addition to the expense of preparing the land for construction, developers are also responsible for the public service levies and fees (sometimes called impact fees) paid to municipalities to offset the cost of off-site municipal improvements, which include infrastructure fees (for streets outside the subdivision and for utilities) and land dedication fees (such as for parks). Generally, these fees are a flat rate per unit of housing, by type of unit (such as single-detached, semi-detached, townhouse, apartment or condominium).

According to the Canada Mortgage and Housing Corporation (CMHC), these fees are very high in the Vancouver metropolitan area. The total government-imposed charges per new detached house in 2009 were estimated at $151,000 in the City of Vancouver, $109,000 in Surrey and $95,000 in Burnaby. In comparison, the national average was $59,000. The higher government-imposed charges in the Vancouver area are related to the much higher new-house costs.

There are equity concerns about funding public facilities through up front charges on developers, which are routinely included in lot prices charged to home builders and home purchasers. Economic literature indicates that these charges are associated with both higher new-house costs and higher existing-house costs, all things being equal.

In effect, new-home buyers pay for the new infrastructure, while existing homeowners and multi-family housing owners receive a windfall from the higher values induced by the development charges. At the same time, buyers of new houses, condominiums and rental units must pay for public facilities in advance, while existing owners are permitted to pay their shares of such expenditures over time.

Other public facility financing methods are available that would permit owners of homes and multi-unit buildings to pay the attributable costs on a pay as you go basis. These include municipal debt instruments and user fees. Reliance on such instruments could reduce the pressure of higher housing costs, both in the new and existing stock, and lead to improved housing affordability.
5. Transportation in Vancouver

An important part of the strategies of Metro Vancouver and its predecessor agencies has been to discourage automobile use while diverting the demand for driving to transit, walking and cycling. Public expenditures have generally favoured transit expansion in preference to providing additional roadway capacity. This has produced a considerable increase in TransLink ridership. However, automobile use has also continued to increase.

The most important transit improvement has been SkyTrain, which opened in 1985. This automated rail system that operates as a high quality Metro (subway, underground or elevated) by virtue of its complete grade separation carries approximately 400,000 weekday trips and has been the model for other systems, such as in Bangkok’s (also called SkyTrain). Among the many new rail systems that have opened in North America since 1960, SkyTrain has achieved greater ridership than all but the Montréal Metro and the Washington Metro.

Transit ridership in the Vancouver metropolitan area now ranks tenth among the metropolitan areas of North America, with the top nine having much larger populations. Transit in Vancouver performs much more strongly than transit does in well-regarded U.S. cities, carrying more than double the ridership of much larger Seattle and 3.5 times the ridership of similarly sized Portland.44

Yet, automobile use has continued to increase, and Vancouver remains largely suburban (Box 3).

Vancouver: A Suburban Metropolitan Area

Queen’s University research indicates that even after four decades of urban containment policy, Vancouver’s urban form and transport differ little from those of other metropolitan areas, none of which has a long history of urban containment policy. Despite efforts to discourage automobile use and with perhaps some of the most substantial transit improvements in North America, the Vancouver metropolitan area continues to be overwhelmingly suburban and exurban. A team led by Dr. David Gordon examined metropolitan areas using factors such as density and work-trip travel mode, and they classified census tracts as “active core” (walkable), “transit suburbs,” “auto suburbs” or (auto) “exurbs.” Vancouver was the least suburban and exurban, though not by much. The other five major metropolitan areas ranged from 75 per cent suburban or exurban (Toronto and Montréal) to 84 per cent suburban and exurban (Calgary). Vancouver was 73 per cent suburban or exurban (Chart 11, next page).
5.1 Aggressive transit ridership increases

However, there are difficulties with transit in Vancouver. According to an efficiency report commissioned by TransLink, costs have been rising at a greater rate than inflation and ridership. More recent information from TransLink indicates efficiency improvements. However, delivering full value in increased transit ridership and fair revenue have been an intractable problem in the transit industry for decades, as was indicated in “Improving the Competitiveness of Metropolitan Areas.”

TransLink hopes that the share of all trips by transit, walking and cycling in the metropolitan area will rise from 27 per cent in 2011 to 50 per cent in 2045. There has been an increase from 19 percent since 1985, when Sky Train opened. This would require a substantial escalation in the market shares of transit, walking and cycling, from an eight percentage point increase over 26 years to a 23 percentage point increase over 34 years.

TransLink acknowledges the difficulty of this task: "Clearly our current trajectory will not bring us to the 50% target ...." (Emphasis in original.)
5.2 Transit and the Vancouver metro core

In announcing the adoption of the Regional Growth Strategy in 2011, Metro Vancouver noted that 40 per cent of the office development between 1990 and 2006 had been downtown, with the balance in regional centres in the rest of the area.\textsuperscript{49} Transit’s strength is service to downtown, both in Vancouver and across Canada. In 2006, more than 40 per cent of morning transit trips were to the downtown area, well above its 13 per cent share of regional employment.\textsuperscript{50}

Regional Growth Strategy projections indicate that only 10 per cent of employment growth from 2006 to 2041 will be in the Vancouver Metro Core (Chart 12). This will reduce the share of employment in the Metro Core, which is where transit is the most successful in the metropolitan area.

Transit is most effective where destinations are concentrated, which means downtown or the urban core, whether in Vancouver, Montréal, Paris or London. Passengers can often walk from their homes to access transit and travel directly to the core, where they exit within walking distance of their destinations (such as in downtown). In suburban areas, transit is often not accessible by walking from the residence, while travel to destinations other than downtown can require time-consuming transfers.

The principal strength of transit in the downtown market is that it can provide virtually direct door-to-door service to the Vancouver Metro Core. As a result, the large increases in transit ridership over the past quarter-century have occurred as system expansions focused on the central area, especially the Vancouver Metro Core and in the rest of the City of Vancouver, Burnaby and New Westminster. Indeed, this is where adding new transit capacity makes the most sense. There is greater demand and it is possible to deliver more-frequent bus service to support the trunk line service provided by SkyTrain.

\begin{figure}
\centering
\includegraphics[width=\textwidth]{chart12.png}
\caption{Share of Employment Growth \hfill \textsuperscript{12}}
\end{figure}

\textbf{Chart 12} Share of Employment Growth

Vancouver Metropolitan Area (2006-2041)

- Regional Centres: 24%
- Metro Core: 10%
- Elsewhere: 76%

Source: Regional Growth Strategy.
Transit cannot effectively compete with the automobile for trips between suburban locations, because it generally cannot provide door-to-door mobility throughout the metropolitan area. Door-to-door travel is the strength of the automobile. In Vancouver, the vast majority of commute trips have a destination outside of the Vancouver Metro Core. Even so, the automobile can also be an effective means of mobility for people working in the core, which is illustrated by the fact that there was more work-trip travel by car than transit to the Vancouver Metro Core in 2006 (49 per cent versus 34 per cent).

5.3 Commuting to areas outside of the Vancouver metro core

Metro Vancouver projects that 90 per cent of job growth to 2041 will be outside of the Metro Core, where the environment for increasing transit use is less favourable. Metro Vancouver hopes to continue its transit market-share increases by focusing jobs in the regional centres (such as Surrey, Burnaby and Richmond) that will have more-frequent transit service. In addition, more jobs will be sought along a “frequent transit network,” with new employment expected near busy transit stops.

Yet, Metro Vancouver figures indicate that in 2006, more than two decades after receiving high-quality SkyTrain service, the regional centres in Burnaby and New Westminster continued to have work-trip destination automobile market shares near or above the metropolitan area average.

The more-suburban areas are substantially different from downtown and core area transit markets. A British Columbia Ministry of Transportation/Greater Vancouver Transportation Authority report on the Vancouver metropolitan area described this reality.

“The predominant suburb-to-downtown commuting that some other cities experience no longer exists in this region, and has not for quite some time. Instead, people travel from everywhere to everywhere. The majority of trips begin and end somewhere in the outer municipalities (either within one outer municipality or in adjacent outer municipalities.)”

Transit’s difficulties outside downtowns and the dense urban cores are summarized by the Transport Association of Canada: “Outside Central Areas, sustainable travel modes—walking, cycling, and transit—have been used for only a small portion of daily trips; they appear to remain unfeasible or not cost- or time-effective compared with automobile use.” (Emphasis added.)

Gains from increasing densities in centres outside the Vancouver Metro Core are unlikely to increase transit ridership or reduce automobile use. Research by Statistics Canada concludes that high densities far from the core are unlikely to reduce automobile use.

“Above 10 kilometres from the city centre, however, the impact of neighbourhood density on automobile use dwindles until it almost vanishes.”
If the effects of other factors are kept constant, the predicted probability that a person living in a medium- or high-density neighbourhood made all trips by car was not statistically different from that of a person living in a low-density neighbourhood.”

Attempting to increase market share outside these central areas results in diminishing returns in passengers per kilometre and in greater expense.

**Walking and Cycling:** Finally, unlike the transit market-share increases that have occurred, the share of commuting by walking and cycling has changed little.

Moreover, walking and cycling are less prevalent to the regional centres than to the Vancouver Metro Core. The smaller walking and cycling shares to areas outside the Metro Core result in higher automobile market shares (Chart 13). This illustrates the fact that these modes rely on very high employment densities that can be reached quickly from nearby areas of high residential density. This is principally a downtown phenomenon. Walking and cycling are not practical for most because of geographical constraints, trip chaining (such as stops for dropping children at daycare facilities), weather and personal travel preferences. Moreover, the broad adoption of cycling and walking for commuting would likely have negative economic consequences because of the resulting economic Balkanization of the metropolitan area (Section 6).

![Chart 13: Commute Mode to Work Location](chart.png)

Source: RGS Urban Centre Descriptions.
**Transit’s Travel Time Disadvantage:** Furthermore, virtually across the country (Chart 14), transit tends to suffer from a substantial travel time disadvantage compared with the automobile (Chart 14). Even after Vancouver’s substantial transit improvements, the average 2011 transit commute took 40.9 minutes one-way, more than 1.5 times the average drive-alone commute time. As the economic research indicates, shorter work-trip travel times are an important contributor to job creation and economic growth in metropolitan areas (Section 6). Moreover, no metropolitan area in the high-income world has seriously considered development of a transit system that would provide service that is competitive with the automobile throughout its urban expanse, not least because it is economically infeasible.56

**Automobile Market Shares Could Increase:** In fact, it could be challenging for transit to maintain its present market share in Vancouver, while the share of travel by automobile could increase. Further, TransLink’s potential for significant transfer of demand from cars is made even more daunting by a challenging funding environment.57
5.4 Traffic Congestion

Higher densities, such as those sought by the Regional Growth Strategy, are associated with greater traffic congestion and more-intense local air pollution.

In a widely cited study, Reid Ewing of the University of Utah, and the University of California, Berkeley’s Robert Cervero reported only a minimal relationship between higher density and less driving per capita. In a meta-analysis of nine studies that examined the relationship between higher density and per household or per capita car travel, they found that for each 1 per cent higher density, there is only 0.04 per cent less vehicle travel per household (or per capita). This would mean that 10 per cent higher density (10 per cent more people) would result in an increase of 9.6 per cent in total driving. In other words, driving increases nearly as much as density.

The relationship between higher densities and greater traffic congestion is obvious. As a defined area increases its number of households, traffic volumes must increase unless both the existing residents and the new residents drive far fewer miles on average than those who lived in the area before the densification. Alternatively, if the existing residents continue to drive the same distances, increased traffic volumes could be avoided only if the new residents do not drive at all. Because there is more traffic in the same geographic area, there is likely to be more traffic congestion and then roadway travel will slow and GHG emissions will increase.

Research by the Rand Corporation and others documents the relationship between higher densities and greater traffic congestion.

Vancouver, Most-congested Metropolitan Area in North America: According to international traffic ratings, Vancouver suffers from serious traffic congestion. According to data from Tom Tom, Vancouver had the worst traffic congestion in North America out of 59 rated metropolitan areas. In the latest data, Vancouver has displaced Los Angeles as the most congested, with travel taking 36 per cent longer due to traffic congestion (Chart 15, next page). This result may be surprising, since Los Angeles has long had the worst traffic congestion, has approximately six times the population of Vancouver and is denser.

Among 122 metropolitan areas in the high-income world (Canada, Western Europe, Australasia and the United States) for which data were developed by Tom Tom, Vancouver has the third-worst traffic congestion (Chart 16, next page).

Without policy reforms that match the capacity of roads to automobile and commercial truck demand, traffic congestion is likely to get worse from the increases in automobile travel (Section 5.3).

Air Pollution Health Effects of High Density: Greater congestion inevitably means a greater intensity of air pollution emissions along the more-congested freeways, arterials and boulevards. Greater traffic congestion increases exposure to the health risks of air pollution in the immediate area, with negative health consequences. As population densities continue to rise under the Regional Growth Strategy, it can be expected that traffic congestion will become more intense, and the resulting localized air pollution will also be more intense.
CHART 15
Traffic Congestion in North America
Most-congested Metropolitan Areas (2013 Q2)

- Vancouver
- Los Angeles
- San Francisco
- Seattle
- Honolulu
- Washington
- Toronto
- San Jose
- New York
- Portland
- Montreal

Excess Travel Time Due to Congestion

Source: Tom Tom Traffic Index (59 Rated).

CHART 16
High Income World Traffic Congestion
Most-congested Metropolitan Areas (2013 Q2)

- Marseille
- Palermo
- Vancouver
- Rome
- Paris
- Stockholm
- Los Angeles
- Sydney
- Brisbane
- Auckland
- San Francisco
- Christchurch
- Lyon
- Nice
- Stuttgart
- Hamburg
- London
- Perth
- Adelaide
- Honolulu
- Seattle
- Berlin
- Melbourne
- Wellington

Excess Travel Time Due to Congestion

Source: Tom Tom Traffic Index (122 Rated).
6. Mobility and the standard of living

Vancouver’s transportation policies and its traffic congestion could retard economic growth.

The economic literature generally associates stronger urban area economic growth and job creation with the ability of workers to access the maximum number of jobs in a short travel time. For decades, this assumption was a principle of transport planning. Projects are routinely evaluated, at least in part, based on the amount of time that they will save users.

Prud’homme and Lee (1998) examine the productivity of cities and relate it to the effective size of labour markets. The labour market is defined both in terms of employers and employees and is measured by the number of jobs in the metropolitan area that can either

(1) Be accessed in a particular period of time (such as 30 minutes) by workers (employee point of view) or;

(2) Be accessed by the labour force in relation to the work location (enterprise point of view).

Further, research by Cervero indicated a strong relationship between higher journey to work travel speeds and employee productivity.  

“... average commute speed—reflecting the provision of transportation infrastructure – most strongly influenced labor productivity in the San Francisco Bay Area, with an elasticity of around 0.10—every 10 percent increase in commuting speed was associated with a one percent increase in worker output, all else being equal.” (Author’s emphasis.)

Similar results were found by Hartgen and Fields for U.S. urban areas and for international urban areas by this author. The economic advantages of personal mobility extend to lower-income households (Box 4, next page).

Metro Vancouver’s efforts to encourage people to live where they can access their employment by walking or rapid transit are likely to be ineffective and could lead to a less productive metropolitan area. The Vancouver metropolitan area is a labour market. As Bertaud indicated, large labour markets are the only reason for large cities to exist. Efforts to Balkanize cities can succeed only by compromising their economic growth, reducing the standard of living and increasing poverty. According to Bertaud:

“Cities’ economic efficiency requires, therefore, avoiding any spatial fragmentation of labor markets. In simpler terms, it means that all the locations where jobs are offered should—at least potentially—be physically accessible from the place of residence of all households within about an hour travel time. This requirement should be borne in mind when evaluating alternative urban shapes. Any type of spatial organization implying that residence and jobs should be matched individually—i.e. that workers need to have a good access only
to their current job location—contradicts our premises that large competitive labor markets are efficient and that this efficiency alone justifies the complexity and high operating costs of large cities.”

People live where they like and commute to the jobs that best suit them. Many who live in the Vancouver Metro Core will have jobs that are close by and may walk to work. Others will choose to live in the farther reaches of White Rock or Langley and commute long distances to work, more often than not by car. Work location is not the principal determinant of residential location. Canada Post change of address data indicates that only 22 per cent of residential moves were for work-related reasons in 2012.\(^{70}\) (A more complete discussion of this subject is found in *Urban Policy: A Time for a Paradigm Shift.*)\(^{21}\)

Virtually across the nation, door-to-door work-trip travel times by automobile are considerably shorter than work trips by transit (Section 5.3).\(^{22}\) Walking and bicycling are inherently more limited than cars in their ability to access employment in metropolitan areas. The automobile maximizes mobility, which leads to greater economic growth throughout the modern metropolitan area.

Vancouver is likely to facilitate a better standard of living for residents if commute travel times are minimized and the transportation system permits ready access to employment throughout the metropolitan area regardless of residential location.
7. Sustainability

A principle goal of the Regional Growth Strategy and previous regional plans has been environmental sustainability. Yet, as the discussion below indicates, the sustainability strategies of urban containment policy produce little benefit at an exorbitant cost.

7.1 Greenhouse Gas Emissions

Urban containment policy, which is largely favoured in urban planning, generally recommends higher densities, opposes detached housing and seeks to transfer travel demand from cars to transit, is of long standing. This thrust stretches back to at least the British Town and Country Planning Act 1947. It encompassed later initiatives, especially in the 1970s in Vancouver, Sydney, Australia and Portland.

In more recent years, these initiatives were strengthened by the concern for reducing GHG emissions. It was generally thought that GHG emissions could be substantially reduced by substituting higher-density housing for detached housing and by discouraging automobile use.

Urban Containment: An Ineffective Strategy for Reducing GHG Emissions: The expectation that urban containment policy would contribute substantially to the objective of reducing GHG emissions has proven to be disappointing. Comprehensive studies indicate that the potential reduction is not only minimal, but it is also prohibitively expensive. Based on their research of urban containment (smart growth) policies in the United Kingdom, Hargreaves, Mitchell and Namdeo concluded:

"Smart growth[76] principles should not unquestioningly promote increasing levels of compaction on the basis of reducing energy consumption without also considering its potential negative consequences. In many cases, the potential socioeconomic consequences of less housing choice, crowding, and congestion may outweigh its very modest CO$_2$ reduction benefits."

The most important reviews in the United States have also indicated that the GHG emissions reductions from urban containment policies are generally small and much less than the gains from improved fuel economy.77

Limitations of Strategies to Reduce Driving: Urban containment policy generally seeks to reduce automobile travel, which, as noted above, is an ineffective strategy for reducing GHG emissions. Even the apparent gains can be illusory. There is an assumption of a virtual one-to-one relationship between kilometres of automobile travel and GHG emissions. In fact, as travel speeds slow and congestion increases, as has occurred in Vancouver, fuel economy suffers. The reduction in GHG emissions can be significantly less than the reduction in driving. This substantially reduces the potential for GHG emission reductions from strategies to reduce vehicle kilometres of travel.
Transport Canada research indicates that the greater fuel consumption in congested traffic can result in GHG emissions that are more than 70 per cent higher per kilometre than emissions in free-flow traffic.\(^7\) Thus, strategies that rely on reducing travel can have a much less significant effect on GHG emission reduction than planned because of the greater congestion that occurs in higher-density areas (Section 5.4).

**The Economic Metric:** Achievement of GHG emissions reductions objectives relies on cost effective approaches. Spending more than necessary not only compromises the ability to reduce GHG emissions, but can also retard economic growth and job creation, reducing discretionary incomes and increasing poverty.

McKinsey & Company estimated that GHG emissions sufficient to achieve the Intergovernmental Panel on Climate Change (IPCC) recommended reduction rates to 2030 could be achieved at an average cost of minus $9 per tonne, with a range of minus $250 to plus $116.\(^7\)

GHG emissions can be reduced by the purchase of carbon credits, with each credit reducing GHG emissions by one tonne. Consumers can purchase carbon credits to offset the GHG emissions from air travel. The cost per tonne of GHG emissions reduction is approximately $13.\(^8\)

Urban containment is a costly strategy for reduction of GHG emissions. The cost of reducing GHG emissions through transit alternatives is estimated at $1,000 per tonne,\(^8\) and the additional housing costs incurred to reduce GHG emissions are estimated at nearly $20,000 per tonne in the United States.\(^8\) Obviously, such exorbitant expenditures are not only unnecessary, but could also seriously delay economic growth and increase poverty. Regional planning agencies virtually never subject their urban containment strategies to the cost per tonne metric. Inevitably, the result is economic disruption, especially to households where the standard of living is reduced by the higher costs of housing. Thus, urban containment policy is not only ineffective and unnecessary, but also inappropriate by virtue of its likely associated economic damage.

**Making Personal Mobility Sustainable:** Meanwhile, new government regulations are projected to reduce GHG emissions much more, even as driving continues to increase. Similar regulations, already adopted in the United States, are expected to yield huge GHG emissions reductions from automobiles, even as driving continues to increase substantially (Chart 17, next page). The EPA and the California Air Resources Board programs are expected to reduce GHG emissions at a cost of less than zero. Two Obama administration regulatory actions were adopted to improve light-vehicle fuel efficiency between 2017 and 2025. Under each of these regulations, the EPA estimates that the cost per GHG emission tonne removed would be approximately minus $200 by 2040 and minus $300 by 2050.\(^8\) Based upon more-conservative driving volumes, other sources project even greater savings. Moreover, these projections assume no regulatory actions to improve GHG emissions after 2025, though such improvements are likely. Importantly, these gains are to be achieved cost-free in Canada—the vehicle operating cost savings are projected to exceed the additional cost of the regulations.\(^8\)
Further regulations are likely, and there is considerable potential for other technological advances to improve automobile fuel efficiency beyond current projections. A New York University research report indicates the potential progress: “The advent of a new generation of automobiles—cars that do not harm the physical environment—represents a major turning point in urban mobility.”

Door-to-door automobile transportation, which plays such a large role in job creation and economic growth, is due for huge improvements in its environmental footprint (Section 5.3).

An example of a technological improvement that could materially improve automobile emissions is the automated car, also called the self driving car. One study suggested that fuel economy could be improved by from 13 per cent to 25 per cent. These improvements are in addition to the already projected GHG emissions reductions.

There may be even more substantial progress in the future. The California Air Resources Board (CARB) is working toward an objective that would have 87 percent of the light vehicle fleet be zero emission vehicles 2050, and 100 percent in the following decade. GHG emissions from cars could become virtually a thing of the past.

**Housing GHGs:** The often-asserted premise is that very dense housing is associated with reduced GHG emissions. Much of the research, however, excludes common GHG emissions (from elevators, common-area lighting, space heating, air conditioning, vertical pumping of water, etc.) in large multi-unit buildings, usually because data...
are not available. Research in Sydney found that townhouses and detached housing produce fewer GHG emissions per capita than higher density housing does when common GHG emissions are included.\(^{88}\)

Improvements have been made in reducing GHG emissions from lower-density housing. According to the Canadian Home Builders’ Association, the residential sector has experienced a 5 per cent net reduction in GHG emissions since 1990, while overall GHG emissions have risen 18 per cent. This improvement in housing GHG emissions occurred despite a substantial increase in housing units and an increase in average new-house size.\(^{89}\)

**Rational Sustainability Policy:** Sustainability policy needs to be economically rational. All policies intended to address sustainability should be subjected to a rigorous cost metric to avoid exorbitant public expenditures that can result in a lower standard of living and greater poverty (and that can reduce public support for GHG emissions reductions programs). Fortunately, there are alternatives for achieving far greater reductions in GHG emissions at lower costs such as the improved automobile fuel economy measures noted above.

McKinsey & Company and The Conference Board found that in the United States, where driving per capita is greater and large urban area densities are lower, sufficient GHG emission reductions can be achieved without reducing driving or living in denser housing.\(^{90}\)

7.2 Agriculture

Concern about the previously mentioned Agricultural Land Reserve is misplaced. Katz finds that local agricultural production provides comparatively little of Vancouver's food. The family farms that ALR was intended to protect have been disappearing in the Fraser Valley.\(^{91}\) According to Pierre Desrochers and Hiroko Shimizu, the benefits of local food production do not necessarily improve the lives of consumers or people dependent on agricultural production (in Canada or beyond).\(^{92}\)

Neither Vancouver nor any other major metropolitan area is self-sufficient with respect to much of what it consumes, whether food, construction materials, cars or other products. The standard of living is improved by relying on producers, local and distant, to supply the metropolitan areas at the lowest possible cost, regardless of the geographical source.

Further, Canadian agriculture is very healthy. As indicated in *Urban Policy: A Time for a Paradigm Shift*, the reduction in Canadian farmland has far exceeded the total urbanization in the four centuries of European settlement. The agricultural land that has been taken out of production exceeds the total land area (Chart 18, next page) of the Maritime provinces (New Brunswick, Nova Scotia and Prince Edward Island). Yet, agricultural productivity has improved substantially. Moreover, urban land areas are very small compared to agricultural lands. The total urban land area is approximately 3 per cent of the combined agricultural and urban land area. Urbanization is not a threat to agricultural production or the supply of rural land.
Urbanization poses no threat to agricultural production. Indeed, as in Europe and the United States, Canada’s agricultural subsidy program provides incentives to farm more land than is needed. New York University professor Shlomo Angel has shown that worldwide there are *adequate reserves of cultivatable land sufficient to feed the planet in perpetuity*.94
8. Overall economic impact

Not surprisingly, reducing discretionary income can be expected to have a negative effect on metropolitan economies and the national economy.

8.1 Impact on metropolitan economies

Housing costs are important to the competitiveness of metropolitan economies. A metropolitan area with inordinately higher house prices relative to income will be at a competitive disadvantage with others, other things being equal. Fewer people are likely to move to the area, and businesses may leave or not relocate to the area because the high housing prices make it difficult to recruit staff at competitive compensation rates. A growing body of literature documents the competitive disadvantages of urban containment policy.

An econometric analysis concluded that there is an association between the more restrictive housing supply limitations from more-strict land-use regulation in the Randstad (Amsterdam-Rotterdam-The Hague-Utrecht and the surrounding areas) and slower economic growth. 95

U.S. Federal Reserve Board economist Raven Saks found that employment growth is 20 per cent less than expected in U.S. metropolitan areas that have stronger land-use policies. 96

After the collapse of the housing market, the U.S. Congress commissioned a report on the causes of the financial crisis. A U.S. Financial Crisis Inquiry Commission minority report identified four hypotheses as possible causes of the U.S. housing bubble. One of these hypotheses involved strong land-use restrictions. The report stated:

“Land use restrictions. In some areas, local zoning rules and other land use restrictions, as well as natural barriers to building, made it hard to build new houses to meet increased demand resulting from population growth. When supply is constrained and demand increases, prices go up.” 92 (Emphasis in original. Author’s italics.)

Urban containment policy has also been associated with higher commercial development costs 98 and higher retail prices. 99

Obviously, these broader economic consequences would reduce discretionary income, undermine the standard of living and lead to greater poverty (other things being equal).
8.2 Impact on the national economy

Concern that a housing bubble may be developing has been expressed. This is an ominous prospect in view of the disastrous impact of the U.S. housing bubble on its economy. Canadian house prices relative to income increased more between 2004 and 2012 than they did in the United States, Australia or New Zealand. The increase was more than 50 per cent relative to household income; however, the effect on household budgets had been masked to some degree by historically low interest rates.

Today’s lower mortgage interest rates seem likely to be a temporary phenomenon. RBC Global Asset Management chief economist Eric Lascelles said: 100

“Of course, rock-bottom interest rates won’t last forever, and the key change on the horizon is higher borrowing costs via the Bank of Canada.”

Higher interest rates could result in substantial increases in mortgage payments. Younger households are likely to have greater financial constraints, especially with many facing substantial student loan debt. The high student loan debts would make home purchases more difficult and are another reason for seeking improved housing affordability.

The escalating house prices have also caught the attention of the Bank of Canada among others. More recently, most of the largest banks have had credit rating downgrades by international credit rating agencies, at least in part out of concern for their inordinately large exposure to huge levels of mortgage debt.

The concern has spread to the Organisation for Economic Co-operation and Development (OECD), which has noted that housing in Canada is overvalued. Yet, prices are still rising (as they are in Norway, New Zealand and to a lesser extent, Sweden). “Economies in this category are most vulnerable to the risk of a price correction—especially if borrowing costs were to rise or income growth were to slow.”102

Former federal finance minister Jim Flaherty noted that the Bank of Canada is unlikely to be able to raise interest rates in order to slow house-price escalation and that a housing bubble could “destabilize the economy.”

The Bank of Canada has a monetary policy objective of keeping “inflation near 2 per cent.”103 Even if the Bank were in a position to raise interest rates substantially, the brake on house prices would likely be ineffective. House prices are not rising principally because of normal market forces in urban containment markets, of which Vancouver is the ultimate; the increases relative to incomes are principally the result of provincial and metropolitan urban containment policy.104
8.3 Vancouver house price ratios reach U.S. bubble levels

Vancouver’s house prices have already reached the critically high levels that precipitated the housing bust in the United States and the international Great Recession.105 In the United States, 11 major metropolitan markets, comprising just 28 per cent of the owned housing stock, accounted for 73 per cent of the house-value losses before the Lehman Brothers’ bankruptcy, which is generally accepted as the point at which the Great Recession began. Vancouver’s median multiple of 10.3 (2013) is already well above the population-weighted peak median multiple of 7.7 in these ground zero U.S. markets (Chart 20, page 50).106 However, this does not necessarily mean that Vancouver house prices are going to suffer a catastrophic decline.

However, the problem is not limited to Vancouver. Various metropolitan areas are mimicking Vancouver’s policies. In less than a decade, substantial house-price increases have occurred (such as in Toronto, Ottawa and Calgary). Vancouver-like house-cost escalation in other metropolitan areas could not only reduce the standard of living and increase poverty, but could also destabilize the national economy. Government, Bank of Canada and international credit rating agency concern about house-price escalation is warranted.

**CHART 19**

**Vancouver and U.S. Bubble Markets**

Comparison of Median Multiples at Peak

- San Francisco
- San Jose
- Los Angeles
- San Diego
- Vancouver
- Riverside-San Bernardino
- Miami
- Sacramento
- Las Vegas
- Washington, D.C.
- Tampa-St. Petersburg
- Phoenix

Source: Demographia International Housing Surveys.
9. Evaluation

Thus, the land-use policies of Metro Vancouver and its predecessors have significantly reduced the land available for urban development. Consistent with economic theory and the experience elsewhere, the resulting scarcity in land supply has been accompanied by an increase in housing costs relative to income. In Vancouver’s case, the house-price increase has been among the largest for which international data are available.

This has reduced the discretionary income of Vancouver residents, most significantly among those who live in poverty. The result is a lower standard of living and a greater intensity of poverty. At the same time, Vancouver has developed the worst traffic congestion in North America and, its congestion is among the worst in the high-income world, exceeding levels in much larger cities. Consistent with the economic literature, it is likely that this has exacted a toll.

Having some of the worst housing affordability and traffic congestion in the world seems inconsistent with Vancouver’s reputation as one of the world’s most liveable cities. Given Vancouver’s physical setting, this reputation is not surprising. Certainly, for those with enough money, such as expatriates working for large international corporations, people able to afford homes in multiple countries and others of substantial means, Vancouver rightly earns this reputation. However, for the average household, the first principle of liveability is affordability. Because of its far higher housing costs, the standard of living available to the average Canadian household is simply beyond reach in Vancouver.

This results from misplaced priorities that have been insufficiently focused on housing affordability. Rather than seeking the principal priority of economic well-being, public policy in the Vancouver metropolitan area has targeted such aspects as the urban form and the way people travel. The pursuit of these secondary priorities might be appropriate if they did not undermine the principal priority of improving the standard of living and reducing poverty. Nevertheless, they have. This is most evident in the enormously higher prices that residents pay for housing in Vancouver.

Unless Vancouver’s urban containment policy is reformed, it will be increasingly difficult for many younger households to remain in Vancouver, and others will be deterred from moving there. The exceptions will be those fortunate enough to obtain quality housing through inheritance. With the continuing scarcity of land for development, it would not be surprising if Vancouver house prices continue their upward climb relative to income, just as they have done over the last decade and before.
10. Recommendations

As noted in Section 6, urban containment policy is incapable of producing material sustainability results, despite its huge costs. The consequences of a reduced standard of living and higher levels of poverty far outweigh any gains. The Vancouver metropolitan area should restore the broad-based prosperity for average and low-income households that exists in other major metropolitan areas and which once existed in Vancouver.

This would require reordering priorities that put people first. People are more important than the urban form, and they are more important than local agricultural production, especially in a world that supplies most of the metropolitan area’s needs from afar. Moreover, people are a higher priority than the mode of travel, especially when encouraging Balkanization and slower travel modes (such as transit for most trips, walking and cycling) would reduce mobility, which is associated with a lower standard of living.

The principal priority of urban policy in the Vancouver metropolitan area should be the well-being of people. This means maximizing the standard of living and minimizing poverty. Other urban policies are secondary.

In this regard, the following recommendations are offered:

• The province of British Columbia should enact sufficient legislation or regulation to direct Metro Vancouver to address housing affordability and economic development as the principal urban objectives. This should include the establishment of housing affordability improvement standards for each type of owned and rented housing, which should be reported upon on an annual basis. Other objectives, such as the urban form and the manner in which people travel, should be secondary.

• Metro Vancouver should focus primarily on improving the standard of living and eradicating poverty by establishing and monitoring affordability improvement standards.

• Metro Vancouver should take immediate steps to liberalize the housing market. This should include a substantial expansion of the urban containment boundary and a roll back of the ALR.

• Metro Vancouver should develop estimates for the impact cost per ton of GHG emissions reduction from its strategies to better inform future policy choices.

• Metro Vancouver and the municipalities should implement public facility financing options that could improve housing affordability. For example:
  • Bonding for Fees and Levies: Governments could issue bonds to finance levies and fees.107 This would improve housing affordability by reducing initial sale prices, which is also likely to lead to more-modest existing house-price increases.108
  • User fees should fully fund all government-financed utilities.
  • Special Districts: Following models being implemented in New Zealand and already operating in California, Colorado and Texas, governments could establish special housing districts or utility districts that offer self-contained public services and utilities.109 Governments, or private developers under the supervision of governments, might sponsor them. New residents in such districts would pay the public facility debt.
• Local authorities should adopt transportation policies that maximize mobility between virtually all locations in the urban portion of the metropolitan area. These strategies should seek to minimize commute travel times throughout the metropolitan areas, regardless of the mode of travel. This would improve the prospects for economic growth and job creation in the Vancouver metropolitan area.
Appendix A:
Summary of economic research: Urban containment and house prices

A principal purpose of urban containment policy is to stop the expansion of urban areas (referred to as “urban sprawl”). This is accomplished by prohibiting development outside so-called urban growth boundaries or other restrictions that confine new development to much smaller areas than before.

A.1 The association between urban containment and higher housing costs

Economic principle holds that, other things being equal, a scarcity in the supply of a product will tend to influence its price upwardly. The same thing is true of land for urban development—policies that severely restrict the availability of land are associated with higher and rising house prices.

This results in significant rationing of land, which like rationing of any good or service, leads to artificially higher land prices, which increases house prices. Economists Richard Green and Stephen Malpezzi summarize the issue:

"When the supply of any commodity is restricted, the commodity’s price rises. To the extent that land—use, building codes, housing finance, or any other type of regulation is binding, it will worsen housing affordability."

Urban containment policy is also strongly associated with higher costs of living, principally due to the resulting higher housing costs relative to incomes. The association between urban containment policies and higher relative house prices is strongly documented in the economic literature.

Housing constitutes the largest share of household budgets. House price differentials are significant between Canada’s major metropolitan areas and are a principal element of cost of living differences.
A.2 Economic research

A limited sampling of the research that indicates an association between urban containment and higher house prices follows.

According to Brookings Institution economist Anthony Downs, the housing affordability problem occurs from the failure to maintain a “competitive land supply.” Downs notes that more urban growth boundaries can convey monopolistic pricing power on sellers of land if sufficient supply is not available, which, all things being equal, is likely to raise the price of land and the housing that is built on it.114

“If a locality limits to certain sites the land that can be developed within a given period, it confers a preferred market position on those sites... If the limitation is stringent enough, it may also confer a monopolistic power on the owners of those sites, permitting them to raise land prices substantially.”

In any policy that seeks to control or direct growth, it is important for jurisdictions to ensure that there is a sufficient supply of competitively priced lands so that their policies do not retard housing affordability. This point was made in a Brookings Institution policy analysis by a team led by urban containment advocate Arthur C. Nelson of the University of Utah, who associated higher house prices in California with such policies. He wrote, “... [T]he housing price effects of growth management policies depend heavily on how they are designed and implemented. If the policies serve to restrict land supplies, then housing price increases are expected.” (Emphasis in original.)

Based on their research on the association between urban containment policy and house prices, Quigley and Raphael (University of California, Berkeley) noted:

“Indeed, many cities complicate and add costs to the process of building new housing. Perhaps the most extreme barriers to new housing come in the form of explicit growth controls. Municipal growth control measures may take the form of moratoria on new developments, urban growth boundaries beyond which development is severely curtailed, or open space requirements intended to preserve undeveloped land.”115

Economic research also identifies slower than expected economic growth in metropolitan areas with urban containment policies. Urban containment policy has been associated with higher commercial development costs116 and higher retail prices.117

World Bank Economist Steven Mayo indicated, “House prices in cities with stricter regulatory policies rose 30 to 60 per cent relative to less restrictively regulated cities over a 15-year period.” He further noted,

“Relative shifts in housing costs are in some cases equivalent to doubling potential residents’ combined federal and state income tax, creating powerful disincentives for moving and for the functioning of labor markets. These and similar findings suggest that systematic policy mistakes have been made, that their costs have been high, and that it is time for a general change in thinking about the aims and instruments of land and housing policy.”118
In additional research, Richard Green of the University of Wisconsin, along with Steven Malpezzi and Stephen Mayo performed an econometric analysis of 44 U.S. metropolitan areas and found that heavily regulated metropolitan areas always had constrained housing supplies (which would lead to higher prices).  

Glaeser, Gottlieb and Gyourko characterized their research as indicating that markets with stronger land-use regulation experienced larger house-price increases during the housing bubble. They said, “...one of the policy implications ... is that in some regions more restrictive building environments exacerbated the bubble in housing prices.”

Other strategies of urban containment policy have similar effects. Infill requirements limit the number of houses that can be developed on or beyond the urban fringe, creating upward pressure on prices. Building moratoria limit the amount of housing that can be built, similarly leading to higher house prices than would otherwise be expected.

Regrettably, the housing affordability consequences were rarely, if ever, considered by government agencies as they imposed urban containment policy. However, the impact was clearly predictable from economic theory, and the files of Metro Vancouver’s predecessor contained analysis that raised housing affordability concerns when the 1976 Livable Region Strategic Plan was adopted.

As in Auckland, urban containment has been associated with huge differences in the price of equivalent and adjacent land. In Portland, there are virtually across the road differences in raw land costs of at least 10 times. The London, U.K., area has even greater disparities.

In a normal market, the price differentials would be minimal.

Dartmouth University professor William Fischel cites studies in the United Kingdom and Korea associating stronger land-use policy with housing affordability losses.

Greater Attraction of Property Investors (Also referred to as “speculators”): As urban containment policy increases house prices, additional property investors are drawn in by the prospect of quick and substantial profits. These market participants are pejoratively called “speculators” or “flippers.” These additional buyers further increase demand relative to supply. The house-cost escalation typical of urban containment policy thus feeds on itself by attracting this additional speculative demand, raising house prices even more. As a result, housing markets with urban containment policies tend to have more-volatile price fluctuations. The role of additional investors was substantial in driving up house prices during the housing bubble.

A.3 Urban containment policy and housing affordability: The experience

California has experienced the most significant house-price escalation in the United States. As late as 1970, California house prices were within the 3.0 median multiple standard, with a ratio of prices to income similar to that of the rest of the nation. However, at about that time, significant housing regulations were adopted in many parts of California, and house prices relative to income began to rise substantially above those in the rest of the country.
Some urban planning analysts, such as Bernard Frieden of the Massachusetts Institute of Technology, were expressing concern about California’s planning-related increases in house prices in the late 1970s and early 1980s. In a study focusing on the San Francisco Bay Area, David Dowall of the University of California, Berkeley, noted in 1984, “But now the costs of this policy are also becoming clear: wherever stringent land-use controls have come up against burgeoning demand for housing, land and home prices have skyrocketed.” Fischel found that by 1990, California house prices had escalated well ahead of the rest of the nation. He found that the higher prices could not be explained by higher construction cost increases, demand, the quality of life, amenities, the property tax reform initiative (Proposition 13), land supply or water issues. He associated the higher prices with the expansion of land-use restrictions.

Appendix B: Measuring housing affordability

Housing costs are the largest share of household budgets, which makes housing affordability an important economic and public policy issue.

There are various methods for measuring housing affordability. One of the most frequently used is the median multiple, which is the median existing-house price divided by the median household income. This measure has been widely used, including by the World Bank, the United Nations and the OECD. Median multiple housing affordability categories are now often used.

<table>
<thead>
<tr>
<th>Housing Affordability Rating Categories</th>
<th>Median Multiple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severely Unaffordable</td>
<td>5.1 &amp; Over</td>
</tr>
<tr>
<td>Seriously Unaffordable</td>
<td>4.1 to 5.0</td>
</tr>
<tr>
<td>Moderately Unaffordable</td>
<td>3.1 to 4.0</td>
</tr>
<tr>
<td>Affordable</td>
<td>3.0 &amp; Under</td>
</tr>
</tbody>
</table>

There has been a long-term relationship between house prices and household income. Generally, it has been a median multiple range of 2.0 to 3.0, which was typical in the metropolitan areas of Canada, Australia, New Zealand, the United States, Ireland and the United Kingdom for most of the period since World War II. Figure 20 from the Reserve Bank of Australia, the central bank, shows housing affordability at or below the median multiple of 3.0 into the late 1980s and early 1990s in each nation.
Housing affordability was the rule across Canada as late as the middle 2000s. In 2004, Calgary’s median multiple was 3.0. Ottawa’s was 2.9 and Montréal had a median multiple of 3.1. In 2005, Edmonton’s median multiple was 2.8. Since then, substantial house-price escalation has occurred, contributing to concerns raised by the federal government, the Bank of Canada, the OECD and international credit rating agencies (Section 8.2).
Endnotes


3. Much of current urban planning theory can be traced to the British Town and Country Planning Act 1947.

4. Throughout this report, the generic term “automobile” denotes automobiles, sport utility vehicles and personal trucks (all of these may also be called “light vehicles” or “personal vehicles”).


7. Discretionary income is gross income minus taxes, mandatory payments and necessities (such as housing, clothing, transportation and health).

8. The term “Vancouver” is used to denote the Vancouver metropolitan area (census metropolitan area), except where designated differently (such as the “city of Vancouver”).


12. Including plans drafted by Metro Vancouver predecessors.


14. The Ottawa CMA, formally called the Ottawa-Gatineau CMA, is divided between Ontario and Quebec. In the some of the figures (charts) below, separate data is provided for the provincial components of the CMA.

15. Estimated from the National Household Survey for 2010, with 2011 income estimated by change in provincial earnings from 2010 to 2011.


17. Median house price divided by median household income.

18. Especially in Toronto and Calgary. A shortage of land has also developed inside the Montreal agricultural limit, which has led to higher prices in that metropolitan area.


21. The Bellingham metropolitan area, consisting of Whatcom County, has a population of over 200,000 and is located across the international border from the Vancouver and Abbotsford metropolitan areas.


23. Ibid.

24. Vancouver average house price for 2011 from Canada Mortgage and Housing Corporation. House prices at other metropolitan area levels are based upon the relationship of their price to income ratio compared with Vancouver’s. The 2011 income is estimated from the National Household Survey, adjusted upward to reflect the increase in average British Columbia earnings.

25. Mortgage assumptions: 10 per cent down payment, 4 per cent interest rate, 25-year amortization.

26. In all cases, the cost of necessities is held constant at the British Columbia household spending rate, which is estimated from the “Survey of Household Spending” and is available online at http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3508&Item_Id=64678&lang=en.
27. Vancouver average house price for 2012 from the Canada Mortgage and Housing Corporation (CHMC). House prices at other metropolitan area levels are based upon the relationship of their price to income ratio compared with Vancouver’s.

28. Mortgage assumptions: 10 per cent down payment, 4 per cent interest 25-year amortization.

29. In all cases, the cost of necessities is held constant at the British Columbia household spending rate, which is estimated from “Survey of Household Spending” and is available online at http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3508&Item_Id=64678&lang=en.

30. Brash, Donald, Introduction to the “4th Annual Demographia International Housing Affordability Survey.”


35. This is indicated by Phoenix and Las Vegas, which have strong land use policies, the effect of which is exacerbated by government ownership of most land that can be developed on the periphery. Land auctions by governments (the federal government in Las Vegas and Arizona government in Phoenix) released land at rates well below demand, resulting in six to 10 times price escalation per hectare during the housing bubble (see Wendell Cox, Phoenix Land Market Analysis, http://www.demographia.com/db-phxland.pdf, and Wendell Cox, Las Vegas Land Market Analysis, http://www.demographia.com/db-lvland.pdf).


37. It is also likely that Portland’s housing affordability losses have been moderated by the less stringent regulatory environment in the portion of the metropolitan area located in the state of Washington (principal Clark County, where the City of Vancouver, Washington is located). Traditional new housing continues to be developed in this part of the metropolitan area, which is without the severe restrictions that exist in the Oregon portion of the metropolitan area. This may be part of the reason that the share of population growth in the Washington part of the metropolitan area has been greater since 1990 than before 1990.


41. This is more than the median price of a detached home in the Atlanta metropolitan area ($143,300 in the second quarter of 2013, according to the U.S. National Association of Realtors. (Atlanta is one of the fastest-growing metropolitan areas in the high-income world, having added 3,000,000 residents between 1980 and 2010. Atlanta has an average house size of 2,300 square feet, the highest in the United States according to the United States Census Bureau’s American Housing Survey, and one of the largest lot sizes.)

42. This is under normal circumstances. A developer is not likely to proceed with a project unless a competitive return on investment can be made, which includes covering the government-imposed charges. Developers may not be able to recoup all of these costs when land prices fall. However, this is unusual in urban containment markets, unless, as happened in the United States, there is a serious housing bust.


Downtown Vancouver is approximately two-thirds smaller in land area than is the city of Los Angeles; Wendell Cox, “Urban Travel and Urban Population Density,” Journeys. Available online at www.rand.org/content/dam/rand/pubs/monographs/2008/RAND_MG748.pdf. Downtown Vancouver is approximately two-thirds smaller in land area than is the Vancouver Metro Core as defined in the Regional Growth Strategy.

51. Metro Vancouver urban centre profiles.


62. The Texas Transportation Institute has measured traffic congestion in U.S urban areas since 1982. Los Angeles has had the worst traffic congestion in 27 of the 30 intervening years. In the early 1980s, Houston had the worst traffic congestion for three years, but roadway expansion has improved Houston’s relative standing. According to Tom Tom, Houston now ranks 18th in traffic congestion in North America (excess travel time of 22 per cent, more than one-third less than Vancouver) despite having added more than three million people (more than the population of the Vancouver metropolitan area. Larger and faster-growing Dallas-Fort Worth is rated even better among North American metropolitan areas, with the 37th worst traffic congestion and an excess travel time of 16 percent, less than one-half that of Vancouver.

63. The 2010 Census indicated a population density of 2,702 per square kilometre for the Los Angeles built-up urban area compared with the 1,856 per square kilometre in the Vancouver built-up urban area (population centre). The Texas A&M Transportation Institute has been measuring traffic congestion in major U.S. urban areas for 30 years. In 23 of these, Los Angeles has had the worst traffic congestion. “2012 Annual Mobility Report,” Texas A&M Transportation Institute. Available online at http://mobility.tamu.edu/ums/.
64. Despite Vancouver's intense traffic congestion, transit commute times are considerably longer than automobile commute times (Section 5.3).


72. Transit commutes are longer than automobile commutes in every major metropolitan area of the nation. In 2007, the average transit work-trip travel time in metropolitan areas with more than one million residents was 88 per cent longer than the average work-trip travel time for people driving alone. Calculated from American Community Survey Data. See "Demographia Journey to Work Data United States: 2007." Available online at http://www.publicpurpose.com/ut-commute2007.pdf.


76. Smart growth is a virtual synonym for urban containment policy.


80. See http://www.terrapass.com/shop/.


Reserve Bank of New Zealand Deputy Governor Grant Spencer recently told a parliamentary committee that monetary policy tools available to his central bank were not sufficient to restrain the growth of house prices in Auckland, which has a strong urban containment policy. See MSN NZ, Money, “RBNZ’s Tool Kit Won’t Stop Housing Bubble.” Available online at http://money.msn.co.nz/businessnews/national/8626288/rbznzs-tool-kit-wont-stop-housing-bubble.


Less price escalation in new housing is likely to moderate cost escalation in the existing housing stock.


“Urban sprawl” has become a pejorative term. Yet it is also poorly defined. For example, “urban sprawl” has been applied to the worlds large urban areas, from the most dense, Dhaka, Bangladesh (http://www.newgeography.com/content/003004-evolving-urban-form-dhaka) to the least dense, Birmingham, Alabama, at 500 per square kilometer (see Demographia World Urban Areas, http://demographia.com/db-worldua.pdf).

An urban growth boundary can be called by varying names, such as an urban limit, or an urban service boundary. The euphemism “growth areas” is also used.

Gross income, minus taxes and necessities (such as housing, food, clothing and transportation).


127. Frieden, Bernard J. (1979), The Environmental Protection Hustle, MIT Press.


Further Reading

April 2014

**Housing Affordability and the Standard of Living in Calgary**

By Wendell Cox


December 2013

**Housing Affordability and the Standard of Living in Regina**

By Wendell Cox


December 2013

**Housing Affordability and the Standard of Living in Saskatoon**

By Wendell Cox


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