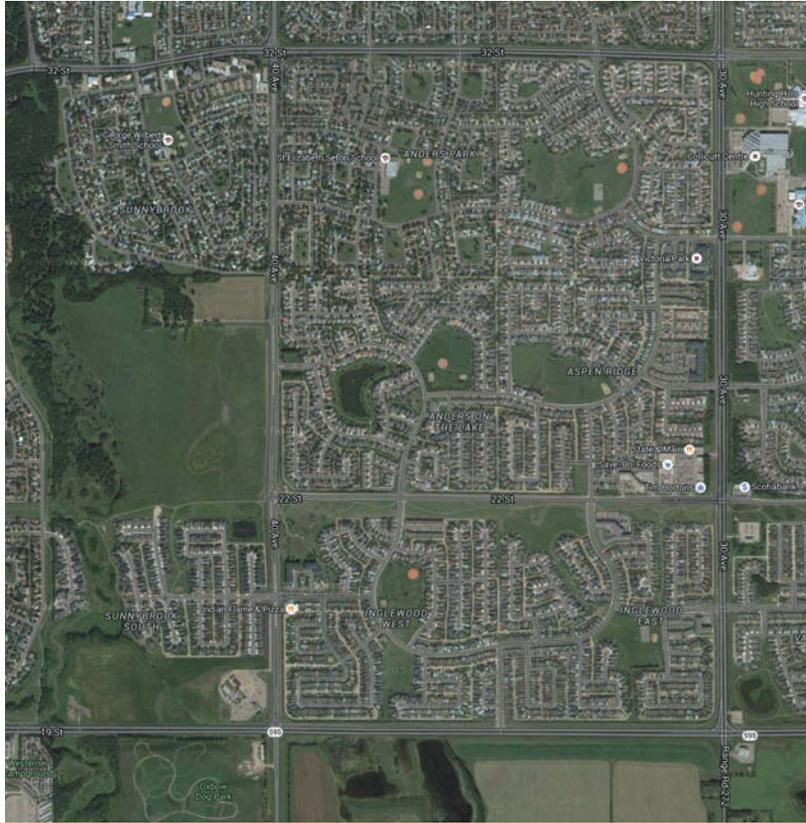


Figure 1: Suburban Sprawl versus Urban Infill



# INTEGRATING LAND USE PLANNING

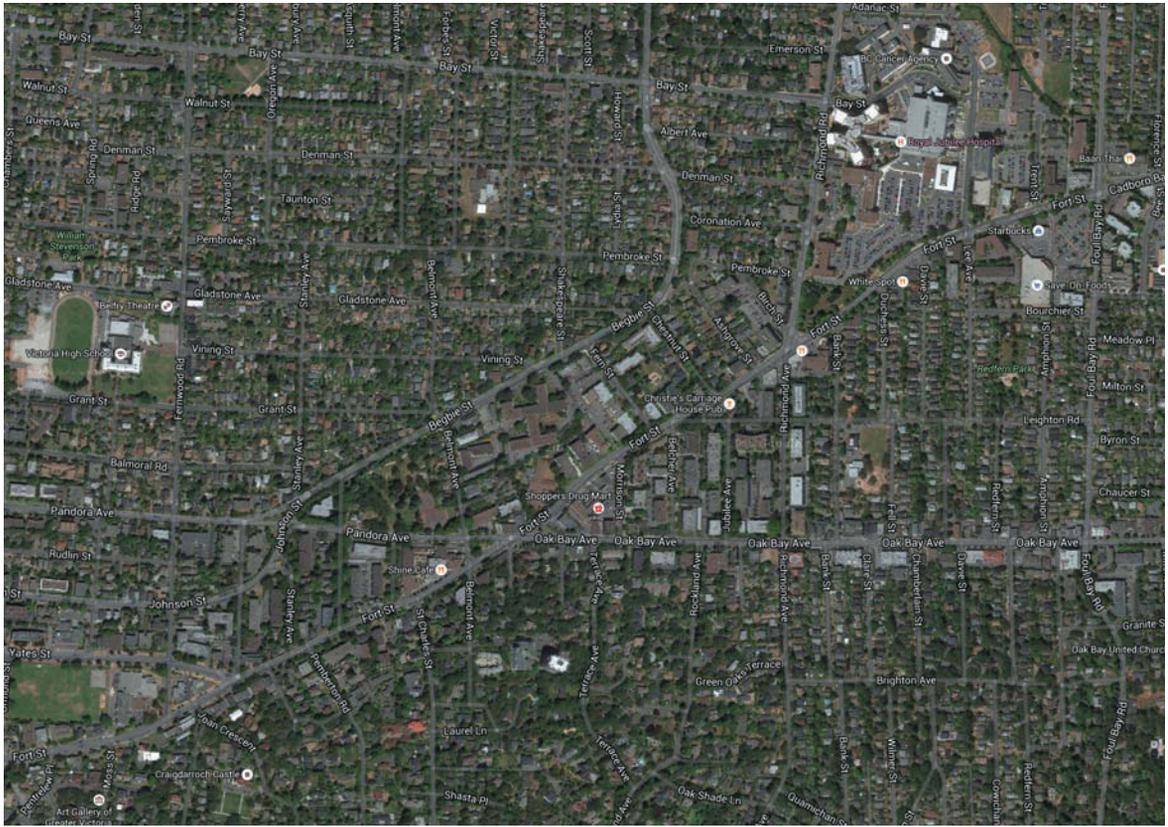
# AND DEVELOPMENT FINANCE TO IMPROVE LOCAL GOVERNMENT SUSTAINABILITY

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**SUMMARY** *Smart Growth, Sustainable Development, Complete Communities and New Urbanism concepts encourage and regulate higher density, mixed use and infill over greenfield development. Recent research and review, however, shows the predominant land development form is still lower density, greenfield over higher density and infill, leading to suburban sprawl. The missing link is understanding the impact of local government financial policy and regulatory decisions, which currently favour suburban sprawl. Key for planners is to undertake local government financial impact analyses on different land use options.*

**RÉSUMÉ** *La croissance intelligente, le développement durable, les communautés complètes et le concept de nouvel urbanisme promeuvent l'aménagement mixte à haute densité de même que l'édification sur terrain intercalaire. Des recherches et examens récents, cependant, montrent que la forme de développement prédominante est encore celle de plus faible densité, dans les zones vertes, ce qui conduit à l'étalement urbain. Le chaînon manquant est la compréhension de l'impact de la politique fiscale municipale et des décisions réglementaires qui favorisent actuellement l'étalement urbain. Il est essentiel pour les urbanistes de procéder à des analyses d'impact financier des différentes options d'aménagement du territoire.*



SOURCE: GOOGLE MAPS, FEBRUARY 26, 2016

**S**mart Growth, Sustainable Development, Complete Communities and New Urbanism concept have directed many local government land use plans in Canada to encourage and regulate higher density, mixed use and infill over greenfield development. Recent research and review, however, shows the predominant land development form is still lower density, greenfield over higher density and infill, and Canadian metropolitan areas continue to be dominated by suburban sprawl (Figure 1).<sup>1</sup> Sprawl is predominantly low density segregated (single-use), automobile-dependent development around urban fringes.<sup>2</sup>

Compared with smart growth, sprawl typically increases per capita land consumption 60–80 per cent and motor vehicle travel by 20 to 60 per cent.<sup>3</sup> Further, it reduces agglomeration efficiencies, drastically increasing infrastructure costs up to three times more than smart growth neighbourhoods.<sup>4</sup> And the majority of the infrastructure cost is borne by local governments for its installation, maintenance and replacement. In a comprehensive study of growth in major Canadian metropolitan areas, based on 2006–2011 Census data, Gordon and Shirokoff found the following:

- 66 per cent of the population in Canada lives in some form of suburb.
- 90 per cent of the Census Metropolitan Area population growth was in auto suburbs and exurbs leaving only 10

per cent in more sustainable active cores and transit suburbs.

- Almost half or 16 of the 33 Census Metropolitan Area had decreases in their core area populations.
- In comparison with their original research of 1996–2001 Census data, Canada became even more suburban from 2006–2011.<sup>5</sup>

**COMPARISON OF SPRAWL VERSUS SMART GROWTH ATTRIBUTES**

A clear indication of this unsustainable growth is the estimated \$200 billion local government infrastructure deficit in Canada, which is increasing at least \$5 billion per year.<sup>6</sup> Local governments only receive 8 cents on the

Figure 2: Developer Paid Assets

City Funded Assets<sup>13</sup>

Infrastructure Type	Quantity	Cost (2012 Dollars)	Infrastructure Type	Quantity	Cost (2012 Dollars)
Local Road (Lane km)	243	\$170,100,000	Transit Facilities (#)	2	\$11,000,000
Collector Road (Lane km)	74	\$66,400,000	Police Stations (#)	1	\$35,000,000
Arterial Road (Lane KM)	105	\$145,000,000	Libraries (#)	1	\$20,300,000
Local Storm Sewer (km)	150	\$308,400,000	Recreation Facilities (#)	1	\$100,000,000
Local Sanitary Sewer (km)	150	\$112,800,000	Parks (ha)	111	\$21,800,000
Service Connections (#)	24,303	\$216,100,000	Fire Stations (#)	2	\$26,300,000
Collector & Trunk Storm Sewers, Outfalls Stations (#)		\$205,300,000	Flyovers (#)	2	\$100,000,000
Trunk Sanitary Sewer		\$15,600,000	Service Interchanges (#)	4	\$400,000,000
Stormwater Management Facilities (#)	34	\$327,800,000	Arterial Road Widening (km)	5	\$40,000,000
Storm/San Misc	N/A	\$76,100,000	Buses (#)	91	\$49,100,000
<b>Total</b>		<b>\$1,643,600,000</b>	Waste Collection		\$30,800,000
			<b>Total</b>		<b>\$834,300,000</b>

tax dollar (the provinces get 42 cents and the federal government gets 50 cents) while owning 60 per cent of the infrastructure in Canada.<sup>7</sup> The *2016 Canadian Infrastructure Report Card* estimated the total value of core local government infrastructure assets to be \$1.1 trillion dollars, or about \$80,000 per Canadian household.<sup>8</sup>

Why are local governments failing to achieve sustainable development and falling even deeper into significant financial deficit? The answers are not solely in local government land use, but rather its lack of integration with local government finance. The problem is succinctly summarized by Dr. Enid Slack:

Whether one favours or opposes sprawl, it is important that residents and businesses who enjoy its benefits be aware of all of the costs associated with it and be required to pay them.<sup>9</sup>

If land development is more expensive because it uses more land, demands more services and causes more environmental and social degradation, it should pay a higher rate. Unfortunately, many local governments subsidize low density sprawl over higher density and infill development in four key areas of infrastructure outlined below: road subsidies, failure to cost recover new growth, use of flat or uniform development charges, and failure to use asset management plans.

**Road Subsidies:** Use of most roads in Canada is free and subsidized heavily by government to almost \$29 billion per year – more than spent on all other transportation modes combined (transit, rail, air, marine) – and four times that of transit alone.<sup>10</sup> This enables daily long-distance commuting and the sprawling distances less viable for transit. Environmental and social externalities are also not included in the financial costs, such as GHG emissions, smog,

traffic congestion delays, noise and collision damages and injury. Estimates of these costs range upwards of \$27 billion per year.<sup>11</sup> Parking is often free in suburban malls, which greatly influences shopping preference over paid parking in urban cores. When the savings of reducing car ownership and operation is included in housing cost, inner city options become more viable and more preferable by an increasing number of urban residents.<sup>12</sup>

While many of the subsidies are for provincial and federal roads, local government road standards are also to blame. Up to 20 per cent of land use in some communities is for roads. Bigger is better is wider is safer is a myth, and it's killing our communities environmentally, socially and financially. Road maintenance and emergency vehicle equipment can be reduced in operable size and still provide expected service levels. And perhaps consider dedicating a lane for bicycles on a few of those four-lane monster collector and arterial roads.

**Failure to cost recover new growth:** Suburban sprawl requires new infrastructure, which incurs local government capital spending. Most provinces enable local governments to partially cost recover new infrastructure demands through development cost charges or offsite levies. If calculated on an area basis, most infrastructure costs for installing roads, sanitary sewer, storm sewer and potable water lines, and some park acquisition, can be recovered. Local governments have not, however, been granted authority to cost recover for all new infrastructure required to service new development, such as fire and ambulance halls, police stations or libraries and recreation facilities. Further, the cost of staffing, operating and replacing these functions must be entirely borne by the existing tax base (regardless if a neighbourhood is served by them).

# A CLEAR INDICATION OF THIS UNSUSTAINABLE GROWTH IS THE ESTIMATED \$200 BILLION LOCAL GOVERNMENT INFRASTRUCTURE DEFICIT IN CANADA, WHICH IS INCREASING AT LEAST \$5 BILLION PER YEAR.

The City of Edmonton undertakes infrastructure and servicing costing of new development through a specialized tool called Growth Impact. It analyses the City's fiscal impact of new infrastructure within its growth boundary (suburban) at the neighbourhood level. Figure 2 shows the City only cost recovers two-thirds of the asset costs in this new suburban development. This leaves the existing tax base to cover the costs, particularly in the early stages of new development when tax assessments and revenue are low until build-out occurs.

As noted by Wally Wells, Executive Director of Asset Management BC, when a developer provides new infrastructure as part of a development through a charge or levy, the community assumes all further costs. On average 20 per cent of the life cycle cost of an asset is capital, so a new asset provided at no cost initially to a local government actually imposes an 80 per cent total asset cost on the existing tax base. The cost varies based on the asset, but 20/80 is an average used.<sup>14</sup> Property taxes from new development will contribute to the cost recovery, which will increase over time to full build-out, but it does not pay for itself. Most residents and taxpayers are not aware of this, so local government officials, including planners, should include this information in their community dialogues.

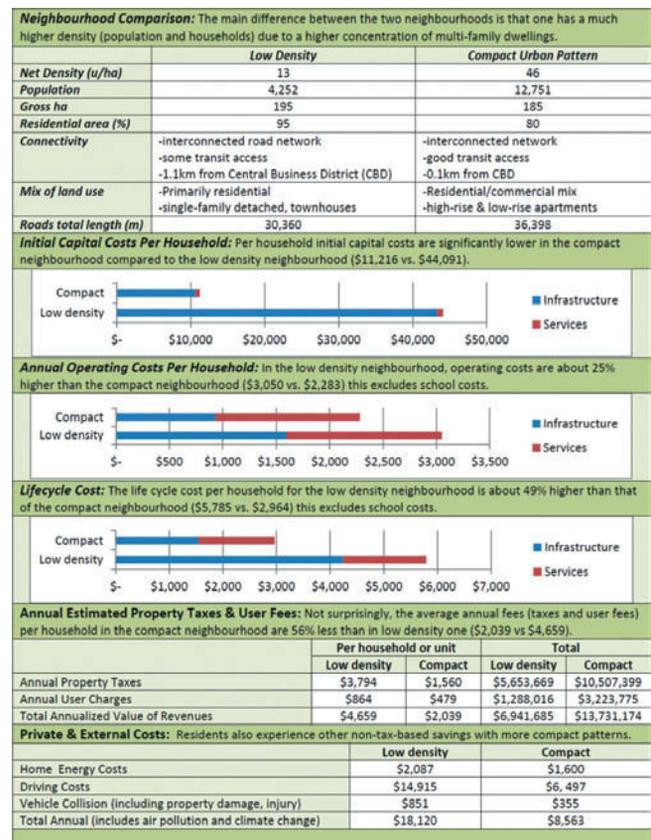
**Flat or Uniform Development Charges:** Development charges can influence land resources usage rates and development design can be adjusted to reflect the higher costs imposed on local governments by sprawling development. Research reviews, however, have found few local governments use development charges proactively to meet planning goals.<sup>15</sup> Common practice is to charge one flat fee regardless of the actual cost of developing in a particular location. The result is a significant subsidy to sprawl over core development. Undercharging developers for infrastructure and other local government costs artificially distorts the market in favour of sprawl.

Development charges can be calculated based on the location in which the development occurs. For example, the City of Kitchener's suburban residential development charges are 74 per cent higher than those for central core. For non-residential buildings, suburban charges are 157 per cent higher. Similarly, the City of Ottawa has higher charges for development outside of its greenbelt. In 2013, the City of Calgary doubled its development charges on new suburbs and reduced the number of new neighbourhood service areas to recover the City's infrastructure costs over a shorter time period. The City of Prince George has lower DCC rates for multi-family development in its Primary and Secondary Growth Areas. The Region of Peel has also doubled its charges for suburban fringe development.<sup>16</sup>

Local governments can also structure their development charges based on the type of development and density. Pamela Blais found many local governments do not vary charges based on the location, intensity, or type of development and argues a flat or uniform approach means "low-cost areas subsidize high-cost areas," "small lots subsidize large lots," and "smaller residential units subsidize larger units." As a large component of development charges is infrastructure calculated on a linear basis—such as roads, sewers, or water—factors such as lot size, density, and development design will affect how much infrastructure is required.<sup>17</sup> Dr. Slack further supports these findings when she advises "the denser the neighbourhood, the smaller the increment of development costs that these services represent."<sup>18</sup>

**Failure to Use Asset Management Plans:** Infrastructure is the economic backbone of our communities, and when combined with other physical assets, such as local government buildings and facilities, comprise usually over 90

**Figure 3: CLIC Tool Comparison of Compact vs Low Density Development**



The British Columbia Ministry of Community, Sport and Cultural Development's new Community Lifecycle Infrastructure Costing (CLIC) Tool estimates the annual and life cycle costs for residential development and compares the financial impacts of various scenarios.

per cent of the corporate value of a local government. It is surprising then, that local governments are not required to either prepare asset management plans (AMPs) (except in Ontario through the 2012 Municipal Infrastructure Strategy) or report on their infrastructure deficits. Local governments are failing to address one of most significant community risks and liabilities. This is further exacerbated by climate change, which is damaging existing infrastructure 3 times more than 30 years ago.<sup>19</sup> Further, provincial and federal governments are starting to require asset management plans and greenhouse gas tracking as conditions of infrastructure funding grants. Given the competitive nature of grants which only cover a fraction of the infrastructure deficit, local governments will best position their chances of grant awards by undertaking AMPs, and implementing their sustainable land use and energy and emissions plans.

Local governments can now model and compare development scenarios in their communities. The BC Ministry of Community, Sport and Cultural Development has a new Community Lifecycle Infrastructure Costing (CLIC) Tool to estimate the annual and life cycle costs for residential development and compare the financial impacts of various scenarios.<sup>20</sup> Using the CLIC Tool, which just received a 2016 PIBC Gold award, the following chart (Figure 3) summarizes a basic scenario of low density versus compact development.<sup>21</sup>

The low density option has significantly higher costs and lower revenues than compared to compact urban development. This includes both infrastructure and services costs. A clear cost savings to the local government and residents is shown by developing in a more compact, complete, energy-efficient way. More specifically, the compact urban pattern has the benefits of 4 times less initial capital costs; 25 per cent less annual operating costs; 2 times less life cycle costs; and 50 per cent savings to residents on private and external costs

The higher density development saves the local government hundreds of millions in infrastructure and servicing costs over the life cycle, and receives almost twice as much revenue. It also means the local government is not cost recovering the incrementally higher costs of low density development.

In summary, several strategies, policies, plans and tools are being used by local governments to integrate to integrate their land use planning and financial management. The integration will change the current practice of financially incenting low density greenfield development to more sustainable forms of urban development. A key for planners is to understand these fiscal realities when undertaking land use planning, participating in budget and capital planning processes, and in designing community involvement opportunities. In particular, undertaking local government financial impact analyses on different land use options should be a key determinant in how to accommodate future growth, how to pay for it, and how to minimize environmental and social impacts.<sup>22</sup> The strategies, policies, plans and tools are available to complete the sustainable integration of land use planning and financial management of local governments in Canada. ■

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