

THE COSTS OF SPRAWL

The costs of sprawl are many and diverse.¹⁷ Some of these costs are counted, meaning they show up on financial statements. Other costs are hidden – they don't show up on financial statements, but they are real and substantial. They are termed “externalities” and economists have been quantifying them for decades.

WHO PAYS FOR SPRAWL?

Different stakeholders pay for sprawl in different ways, either directly or indirectly. However, it is important to realize that we all bear the costs in the end (Individual costs mentioned below will be expanded upon in the following sections).

Businesses pay the costs of sprawl every business day. Roads congested by commuter traffic delay freight and raise delivery costs. Long-distance commuting, as well as the mental and physical health problems associated with sprawl, raise employee absenteeism while reducing productivity.

Homeowners in sprawling areas find themselves dependent on automobiles for transportation, contributing to increased injury risk from collisions and rising obesity levels due to physical inactivity. Smog emissions from automobile use affect residents of neighbourhoods that commuters drive through in order to reach central areas.

Compact neighbourhoods with lower municipal infrastructure costs end up subsidizing low-density areas due to the structure of development charges.¹⁹ Household budgets are impacted by the fuel costs associated with long commutes.

Governments pay many of the costs of development directly, for instance, paying for new roads, pipes and other infrastructure and services used by developments. These costs are often higher per unit for sprawling neighbourhoods than they are for denser, central neighbourhoods. However, this premium is rarely reflected in development charges or property taxes. There is also a legacy liability for

EXTERNALITIES

In the ideal exchange in the marketplace, the full costs of producing a good or services are included in the price. However, in the real world, markets don't obey theories.¹⁸ For many goods and services, the market price doesn't tell the full truth about costs.

The classic example is a factory producing a good and releasing smoke that causes illness to its neighbours. The costs of ill health are not included in the price of the good; neither the company nor the buyer bears the associated health-care costs. Those costs are said to be "externalized" from the market transaction; they are termed "externalities."

Those health-care costs do appear on the financial statements of health agencies and are ultimately picked up by taxpayers. However, those financial statements generally don't identify the causes of the costs.

Furthermore, many of the costs of emissions do not appear on any financial statements (e.g., losses of productivity) and so are further hidden. Economists can generate estimates of such costs, and they are substantial. However, they aren't incorporated in prices.

Such market failures create economic inefficiency. Because the cost of the good is artificially low, it is overproduced – produced at a level higher than the "socially optimal" level.

Governments should, and do, take steps to reduce and eliminate externalities. "Getting the prices right" means addressing not just financial subsidies but also the externalities. Governments often do so through regulation, e.g., by stipulating limits on polluting emissions, which helps to internalize the cost by requiring polluters to install pollution control equipment.

Another way governments address externalities is by adjusting market prices to take externalities into account directly – by raising a price (through a charge, user fee or tax) or reducing a price (rebate, credit, loan or grant). This kind of policy instrument provides an ongoing financial incentive on the producer to internalize the externality. This is known as a dynamic incentive; the more producers reduce the externality, the more money they make or save. Regulatory standards, in contrast, provide a static incentive; once the standard is met, there is no incentive to make further improvements.

Pollution is a negative externality, but some externalities are positive, e.g., education and health care. These provide benefits not only to the individuals directly involved but also to others, like employers and the broader community. In such cases, the appropriate pricing adjustment is a subsidy (e.g. publicly funded education and health care).

In the case of sprawl, there are significant external costs, some of which are discussed below. However, the benefits of sprawl are mainly internal (profits, reduced housing costs), resulting in an overproduction of sprawl.

TABLE 1: EXAMPLES OF NEGATIVE AND POSITIVE EXTERNALITIES

NEGATIVE EXTERNALITIES (FISCAL POLICY: TAXES, CHARGES, USER FEES)	POSITIVE EXTERNALITIES (FISCAL POLICY: REBATES, CREDITS, LOANS, GRANTS)
Water wastage	Transit
Energy wastage	Education
Traffic congestion	Preventive health care
Derelict land and suburban sprawl	Urban revitalization
Habitat destruction	Community facilities and parks

governments: infrastructure maintenance costs continue indefinitely, and rise over time. Governments also pay indirectly – for example, federal and provincial governments covering health-care costs related to diseases linked to sprawl. Municipal governments are spending money on climate change impacts caused partly by excessive automobile use, and on preparing for and adapting to climate change.²⁰

MUNICIPAL INFRASTRUCTURE & OPERATIONS

When a new residential development (or industrial or commercial development) is built on the fringes of a municipality, a variety of new infrastructure investments are required. Some of these infrastructure costs are covered by the developers and are then passed on to buyers. Developers can cover costs directly (sometimes termed “in-kind”) or indirectly (by paying development charges to the municipality). However, many of the costs are left to the municipal government, which translates into higher property taxes and other taxes across the entire municipality. To the extent that federal or provincial grants cover some costs, they are passed along to an even wider set of taxpayers.

In Edmonton, for example, developers pay for sewers, underground electrical cables, roads and sidewalks, water mains and a handful of other costs.²¹ The City and its taxpayers pick up the rest of the infrastructure costs, including fire and police stations, portions of arterial roads, recreation facilities, transit centres and libraries. In addition, the City covers all operating costs – including transit, refuse collection, snow clearing, drainage, and police and fire protection. Finally, and importantly, the City covers the costs of all infrastructure maintenance, repair and renewal. Edmonton is not alone in covering many of the current and future costs of new suburban developments.

The net cost to a municipality can be quite high. In the Edmonton example, it appears the cost to the City of new suburban developments will exceed revenues from those new developments. Across just 17 of the more than 40 new developments underway or planned in Edmonton, net costs have been projected to exceed revenues by nearly \$4 billion over 60 years.²² The City has not published data on what the other twenty-plus planned developments will cost taxpayers.

Certainly, the problem of new developments causing net financial losses is not confined to the City of Edmonton. Other municipalities and regions are becoming more aware of the same problem. For instance, the Region of Peel recently doubled its development charges after determining that new development was not paying for itself.²³ “Staff has given us all kinds of financial statements proving that development is not paying its way,” said Mississauga Mayor Hazel McCallion. “It’s not my opinion here. The facts are on the books. We are going into debt in a big way in the Region of Peel.”²⁴

Of course, development that takes place in any part of a city can entail costs to a municipal government. However, in established areas, much or all of the required infrastructure already exists, and so redevelopment and infill development typically entail significantly lower (sometimes zero) municipal capital spending. Sprawling suburban development, on the other hand, requires new infrastructure and thus new capital spending.

This results in a city being responsible for a larger stock of infrastructure, which means higher maintenance and renewal costs in the future. Roads eventually crack and develop potholes, sidewalks crumble, and pipes decay and begin to leak. Repair and maintenance costs rise to the point where it makes financial sense to replace the aged infrastructure. This happens a few decades after the infrastructure is put in place. Turning back to the Edmonton example, the cost of the 17 developments is projected to exceed revenues in each and every year. However, the net loss to the City is projected to rise dramatically 30 years after initial construction, increasing by five-fold.²⁵

Other cities have found similar results. In 2005, Halifax Regional Municipality (HRM) estimated the cost of services for a range of development densities.²⁶ HRM found that on a per-household basis, the costs of the lowest-density development were more than three times higher than high-density urban development. The costs of many key infrastructure elements are related to distances covered (longer pipes and, particularly, roads cost more than shorter ones).

HRM subsequently adopted a regional plan that set a goal to have 25% of growth take place in urban areas. The existing trend was 16%. HRM recently commissioned another study to determine the net financial savings that could be obtained by meeting the goal of the plan, and by exceeding it (using 40% and 50% urban growth scenarios). The study concluded that HRM could save nearly \$66 million by 2031 through achieving its urban densification goal, and \$715 million by achieving the 50% urban growth scenario.²⁷ Note that such a short timeline (22 years) would exclude the substantial infrastructure renewal costs; the savings from higher density likely would be much larger in the longer term.

**TABLE 2 – HALIFAX REGIONAL MUNICIPALITY
PROJECTED SAVINGS DUE TO URBAN DENSITY²⁸**

REGIONAL GROWTH – URBAN FRACTION	NET SAVINGS 2009-2031
16% (Trend)	0
25% (Goal)	\$66 million
40% (Scenario A)	\$337 million
50% (Scenario B)	\$715 million

Calgary undertook a similar study, with similar findings. It compared the capital costs of new infrastructure for existing patterns of development against those of a denser growth pattern recommended in the Plan It Calgary process. The recommended pattern, which would use 25% less land, would be 33% less expensive to build – resulting in a savings to the City of more than \$11 billion in capital costs alone. Operating costs were also much lower for the denser growth pattern; at the 60-year point, the savings would be on the order of \$130 million per year.²⁹

The City of London found that over a 50-year period sprawling growth would entail capital costs \$2.7 billion higher, and operating costs about \$1.7 billion higher, than for a compact growth scenario.³⁰

These municipal losses amount to an extra subsidy to new suburban development. The financial cost of that subsidy is enormous, and puts a strain on municipal budgets – a strain that will grow larger in future years.³¹

DATA ON MUNICIPAL COSTS

Generating this type of data on the municipal costs of sprawl can be transformative to how municipalities look at growth. For example, some Edmonton city councillors are now openly questioning whether further developments should be approved in the absence of cost-benefit analyses.

Obtaining data on whether a new development is going to make money or lose money for a city is good business-like management. Indeed, it raises the question of why such decisions were ever made *without* the relevant data. Very few businesses make significant decisions without assessing both the benefits and the costs.

For many municipalities considering reining in sprawl, the objection often voiced has been “if we don’t approve it, the next municipality over will get all that development and all the property taxes that go with it.” This may be true; it is also true that the next municipality over will also get a lot of costs – perhaps billions of dollars more than revenues.

The Federation of Canadian Municipalities (FCM) has consistently drawn attention to the fiscal challenges facing cities, particularly infrastructure management costs. FCM is surveying its members in an effort to determine how many municipalities have data on whether new suburban developments yield net revenues or net costs. Some municipalities are collecting this data, but not all have done so.³²