# Building the Case for Improved Infrastructure

**Paul Kovacs**
Executive Director, Institute for Catastrophic Loss Reduction

Canadian insurers are paying the price of almost 30 years of protracted neglect and the resultant collapse of Canada's public infrastructure.

Our public infrastructure is in trouble. Sanitary sewers regularly back-up. Potholes damage vehicles. Several communities are colour-coding hydrants to warn firefighters about low water pressure. Severe storms temporarily close businesses due to power outages. Almost 30 years of protracted neglect and the resulting collapse of our public infrastructure has important consequences for society and Canada's insurers.

## THE SCOPE OF THE PROBLEM

We do not know the true extent of the problem, but a consensus is emerging that decisive action is urgently needed. The Federation of Canadian Municipalities is Canada's champion pressing for infrastructure renewal. The federation has proposed the creation of a comprehensive, national inventory of our public infrastructure, but this has yet to be established. A national inventory would provide detailed data concerning the size, scale and location of the problem.

Statistics Canada provides some information describing aspects of our public infrastructure. These data confirm that Canadians made a significant investment in our public infrastructure over a 25-year period from the early 1950s until the late 1970s. However, this has been followed by a protracted period of reduced spending. Measured as a share of overall economic activity, infrastructure spending over the past 30 years fell to less than half the earlier pace.

Moreover, most spending focused on serving new communities, driven by the doubling of the Canadian population over the last 40 years. For many decades, there has been little spending on maintenance, repair or replacement of our aging systems.

Several recent studies have sought to estimate the scope of the problem. A 2003 study by the Canada West Foundation estimated that our public infrastructure deficit was Cdn$125 billion. Another study published in 2003 by Professors Mirza and Haider of McGill also estimated that

the public infrastructure deficit in Canada was Cdn$125 billion. This was the investment required to re-establish a system of sewers, roads and other public infrastructure that operates as effectively as we experienced in the 1950s, 1960s and 1970s.

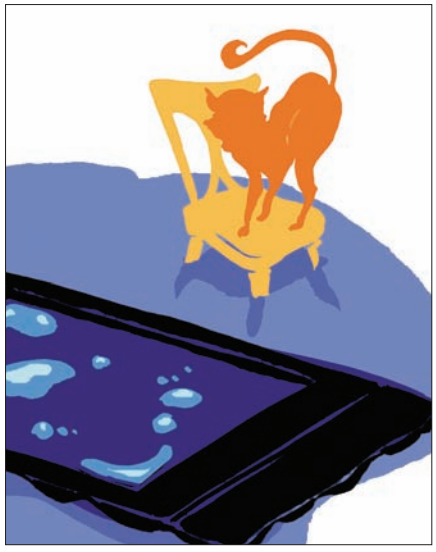
A more recent and comprehensive 2007 study by the Federation of Canadian Municipalities estimated that the deficit in municipal infrastructure increased from $12 billion in 1985 to $123 billion in 2007, a ten-fold increase in just 22 years. Municipal governments manage half (52%) of Canada's public infrastructure, so these new data suggest the national public infrastructure deficit is much larger than the estimate in two earlier studies. I believe that it may now exceed Cdn$250 billion.

One additional study, *The Technology Road Map*, estimates we have used up 80% of the total service life of our public infrastructure, and that 60% of our infrastructure is more than 40 years old. A report for the City of Montreal indicates 33% of its water distribution pipes reached the end of their service lives in 2002; another 34% will do so by 2020. Available data for other large and older communities show a similar risk profile. Accordingly, Mirza and Haider estimate the public infrastructure deficit may more than triple by 2020, growing to $400 billion.

## WATER AND STORM WATER INFRASTRUCTURE

Canada's insurers have reported a marked increase in sewer back-up and other water damage claims over the past decade. Water damage has emerged as the leading claims cost for many companies, surpassing the longstanding focus of property insurance — fire and theft.

The Canadian Water Network identified a water infrastructure deficit of Cdn$39 billion in 2003, with an additional Cdn$90 billion needed to replace and upgrade this infrastructure. The Canadian Water and Wastewater Association estimates that Canada needed to invest Cdn$89 billion to upgrade existing infrastructure and build new water and sewer systems between 1997 and 2012.



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The growth in recent years in sewer back-up and other water damage claims incurred by Canada's insurers is correlated to the marked deterioration in public infrastructure. Increased property damage has been most evident in older communities where systems are long overdue for replacement. We are approaching a tipping point at which further delay to address our infrastructure deficit will seriously increase the risk of property damage and harm our quality of life.

The Ontario Association of Fire Chiefs warns, for example, that aging infrastructure puts lives and property at risk. The association notes that 20-40% of the water supply currently leaks from older pipes. As a result, several communities have begun colour-coding their hydrants to warn firefighters about areas where there may not be sufficient water pressure. In some areas, more than half of the water network is more than 50 years old — some of it is more than 100 years old — and in urgent need of replacement. Our aging infrastructure is adding to the risk of fire losses.

## FINDING SOLUTIONS

The problem is money. Municipal governments provide half of the public infrastructure in Canada, including more than 80% of the water and wastewater systems, and yet local governments account for less than 10% of the Canadian tax base. Over the past decade, the public policy debate about resolving the increasingly evident consequences of our deteriorating public infrastructure has focused largely on financing issues. To what extent should the federal and provincial governments pay for systems managed, owned and operated by municipal governments and their agencies?

The infrastructure financing debate is further complicated by the discussion of other sources of funding — including public-private partnerships and beneficiary-pay mechanisms. And so, despite the consensus that there is a serious problem that urgently needs to be addressed, discussion is continuing about who should pay.

Some of the consequences of the collapse in our public infrastructure are highly visible, such as potholes in the roads and longer commute times. These issues are subject to ongoing public debate; typically there are established action plans seeking to manage the problem. In contrast, many public infrastructure systems are largely invisible, like water and waste water systems. Periods of crisis, like a severe storm event, temporarily focus attention on the growing inadequacy of our public infrastructure, but these systems typically are not subject to ongoing public or political attention.

In recent years, there has been an increase in infrastructure spending by municipal, provincial and the federal governments. Initially, this was only sufficient to slow the prolonged trend of cutbacks. Recently, however, there is a sense that such spending may be sufficient to make some reduction in the infrastructure deficit.

Infrastructure spending was a key element of the federal government's 2009 budget. This builds on previous announcements in most provinces and by most communities. These increases are welcome, and are clearly a step in the right direction. Nevertheless, the increases remain modest relative to the size of the challenge. Moreover, the federal spending announcement was offered as temporary stimulus rather than a permanent increase. We are not yet on a path to resolve our public infrastructure crisis.

## IMPLICATIONS FOR INSURERS

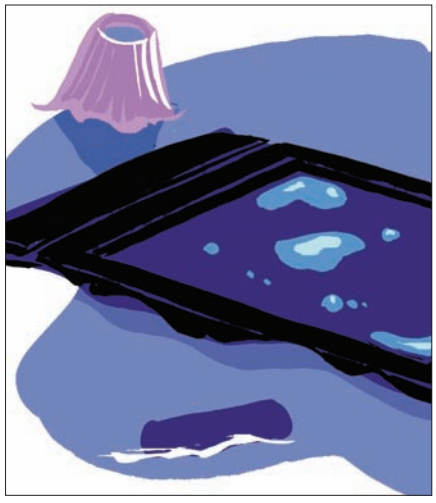
There are at least three lessons for Canada's insurers that stem from this assessment of our aging public infrastructure. First, insurers must actively underwrite the fire, vehicle damage, business interruption, sewer backup and other water damage risks to reflect our knowledge of the state of the local infrastructure. Second, our industry needs to be outspoken in support of elected officials that choose to address the public infrastructure deficit. And third, we need to champion loss prevention and mitigation by policyholders.

### Underwriting water damage risks

Water damage claims have increased over the past decade due to deteriorating public infrastructure, the growing frequency and intensity of severe storms and our increasing urban population. The risk of a damage claim has changed and will continue to change. Some communities are actively addressing their infrastructure problems so the risk of loss is falling; this information should be used when determining rates and coverage conditions. Other communities, however, are exposing citizens to an increasing risk through the absence of sufficient actions to maintain or replace existing systems. In these communities, the role of insurance is to reflect the risk of loss in the cost and conditions of coverage. Water damage claims have grown so much over the past decade that they now require underwriting attention equal to that in place for the risk of fire and theft claims. Moreover, aging public infrastructure affects the risk of loss from fire, damage to vehicles, business interruption and other insured perils — a change in risk that should be reflected in insurance practices.

### Advocating for change

The insurance industry also needs to be proactive in pressing for government action to address the public infrastructure deficit. The Insurance Bureau of Canada (IBC) has made this a priority, speaking on the industry's behalf in national and provincial forums. The IBC's efforts could be bolstered if insurers, brokers and other industry professionals become involved, particularly at the local level. This should include speaking in support of community leaders that choose to actively address public infrastructure problems. Unfortunately, there will also be situations in which insurers may choose to confront communities where poor municipal practices contribute to significant damage events. The primary role for the insurance industry is to align pricing and other practices with local conditions. Industry leaders should speak with pride and demonstrate by our actions that insurance practices reward communities that actively reduce the risk of damage, while increasing costs in communities with a higher risk exposure.



**The insurance industry actively partners with government agencies involved in road safety, fire prevention and crime prevention. A similar relationship should be established for managing the risk of basement flooding.**

## CHAMPIONING LOSS MITIGATION

The insurance industry has a proud tradition of promoting loss prevention and mitigation. Complementary to the urgent need for public infrastructure investments is the need for the active participation of property owners in risk management. Sanitary backwater valves, sump pumps, disconnected downspouts and positive lot grading are some of the elements property owners should address to reduce the risk of sewer back-up and other water damage. Incentives and public education are some of the ways insurers can promote loss control by policyholders. Community by-laws and insurers working directly with municipal officials are further means to champion loss control. The insurance industry actively partners with government agencies involved in road safety, fire prevention and crime prevention. A similar relationship should be established with public agencies responsible for managing the risk of basement flooding.

## CONCLUSION

Thirty years of neglect has compromised the capacity of our public infrastructure. In many communities, this has increased the risk of damage to insured property, including the risk of fire, vehicle damage, business interruption, sewer backup and other water damage. Although the political will to address this problem is emerging, it is unlikely that governments will invest the amount needed to resolve this issue over the next 10-15 years. Canada's insurers should actively underwrite the risk of loss that is resulting from changes in the state of our public infrastructure, support communities that take action to enhance their systems and champion loss prevention and mitigation by policyholders through incentives and public education. The growing risk of damage due to failure of our public infrastructure is an exposure that needs to be actively managed.