Canadian Infrastructure
Report Card

www.CanadaInfrastructure.ca

Project to develop an Infrastructure Report Card for Canada

Project Summary and Update

January 24, 2011 – Presentation at the AM-BC Workshop

The Changing Culture of Asset Management

Vancouver, BC

Project Sponsors:

Association Canadienne de la Construction
Canadian Construction Association

FCM
Federation of Canadian Municipalities
Fédération canadienne des municipalités

CSCE CGC 1887

Canadian Public Works Association
CPWA
Association canadienne des travaux publics

Project Objective

- **Develop a rigorous, repeatable assessment process for the condition of Canada's infrastructure** to raise the awareness of the public, decision-makers and other stakeholders about current infrastructure issues and future trends.

- The results of this process would be published as a **factual** Infrastructure Report Card, not an advocacy document, using a **school-type letter grading system.**

- Project Started in July 2010 and report card expected to be published in 2011.

International Perspective

- Several countries, including the USA, the UK and Australia have produced, and continue to create on a regular basis **state-of-the-infrastructure report cards**.
  - Although there are variations in how the letter grading is assigned, they all use a **school type report** to communicate the results.
- Most state of the infrastructure reports are **aimed at awareness** (the target audience may vary but in general includes the public and elected decision makers). The second main common objective of these studies is to **influence senior government decisions**.
- Most studies are performed in a **12 month timeframe**, and are **repeated on a regular basis** (annually or every two years) to establish trends.

International Perspective (continued)

- **Basic infrastructure systems** are at the core of the studies: transportation, water resources (potable water, wastewater and drainage), energy.
- All of the international initiatives have been **one-dimensional in terms of stakeholder involvement**: most are produced by the engineering community with NZ as the exception, which was an economists exercise.
- The **main barrier** to the production of these reports is consistently **data availability**.

United States
ASCE

http://www.infrastructurereportcard.org/

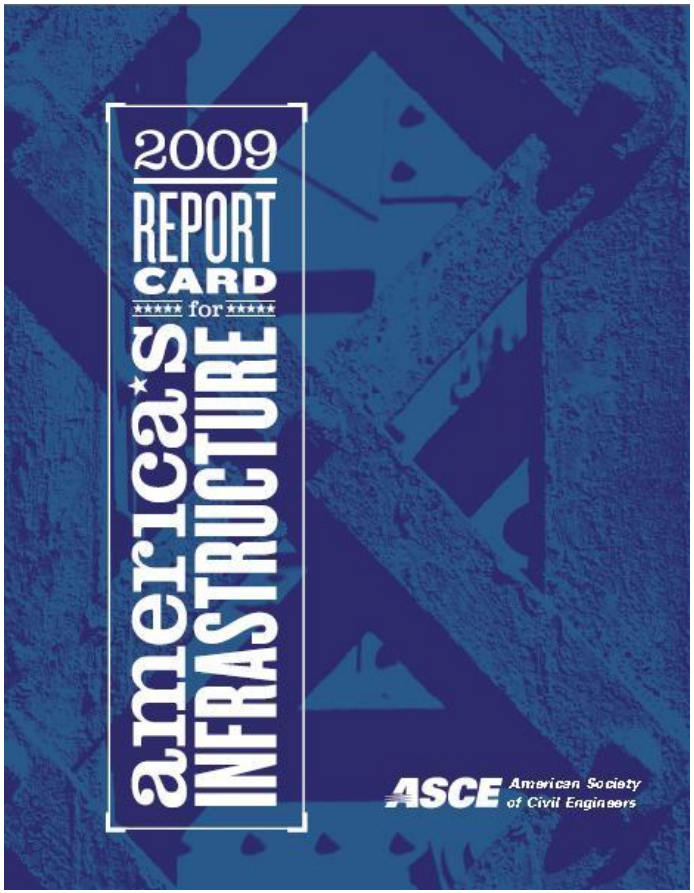


TABLE A ★ 2009 *Report Card for America's Infrastructure*

Aviation	D
Bridges	C
Dams	D
Drinking Water	D-
Energy	D+
Hazardous Waste	D
Inland Waterways	D-
Levees	D-
Public Parks and Recreation	C-
Rail	C-
Roads	D-
Schools	D
Solid Waste	C+
Transit	D
Wastewater	D-

AMERICA'S INFRASTRUCTURE G.P.A. **D**

ESTIMATED 5 YEAR INVESTMENT NEED **$2.2 TRILLION**

NOTES Each category was evaluated on the basis of capacity, condition, funding, future need, operation and maintenance, public safety and resilience

A = Exceptional
B = Good
C = Mediocre
D = Poor
F = Failing

Australia
Engineers Australia

ENGINEERS AUSTRALIA Infrastructure Report Card

Australia

TRANSPORT	2005	2010
Roads	C	To be announced
Rail	C-	
Ports	C+	
Airports	B	

- http://www.engineersaustralia.org.au/irc/irc_home.cfm

Infrastructure Report Cards 2010

Infrastructure Type	ACT 2010	Tas 2010	Vic 2010	SA 2010	NSW 2010	Qld 2010	WA 2010	NT 2010	National 2010	National 2005	National 2001
Roads Overall	B	C-	C+	C-	C-	Release date: TBA	Release date: TBA	Release date: TBA	Release date: 24 Nov	C	N/R*
National Roads		C+	C+	C	B-					C+	C
State Roads		C	C+	C	D+					C	C-
Local Roads		D	C-	D	D+					C-	D
Rail	F	F	D	C	D-					C-	D-
Ports	N/R*	B-	C+	B-	C					C+	B
Airports	B-	B	B	B-	B					B	B
Potable Water	B-	B-	C	B	B-					B-	C
Wastewater	C+	C	B-	B-	C+					C+	C-
Stormwater	C+	C-	C-	D	C					C-	D
Irrigation	N/R*	B-	C-	C+	C					C-	D-
Electricity	B+	B-	C-	B-	C-					C+	B-
Gas	A-	C	C	B+	C					C+	C
Telecommunications	B-	C+	C	C	C-					N/R*	B

* Not Rated

United Kingdom Institution of Civil Engineers

- http://www.ice.org.uk/stateofthenation

ice
Institution of Civil Engineers

THE STATE OF THE NATION
INFRASTRUCTURE 2010

WATER AND WASTEWATER	FLOOD RISK MANAGEMENT	WASTE AND RESOURCE MANAGEMENT
GRADE B	GRADE C	GRADE C
KEY RECOMMENDATIONS:	KEY RECOMMENDATIONS:	KEY RECOMMENDATIONS:
Reform the regulatory regime to drive the long-term investments necessary to address climate change, population growth and overall water infrastructure sustainability and avoid stop-start investment	Improve efficiency through long-term planning, collaborative working and setting performance targets for flood infrastructure	Develop a national resource management infrastructure plan to drive the delivery of facilities required to meet waste management, energy, materials and climate change policy goals
Reduce demand for drinking water by changing the pricing structure, reducing leaks and using low-flow fixtures, supported by water metering	Improve community engagement to agree realistic expectations about flood risk. Highlight the opportunities available for people and communities to reduce flood risk and improve resilience	Reduce waste by designing it out at source
Reduce the volume of water treated at wastewater works by separating flows of sewage and surface water	Increase the use of adaptive natural drainage systems such as sustainable urban drainage systems	Improve the integration of the management of municipal and commercial & industrial waste

International Perspective (continued)

- In terms of lessons learned, three key issues stand out:
  - There needs to be **rigorous evaluation (i.e., process) criteria from the beginning.**
  - **Multidimensional stakeholder involvement** (i.e., from regions, sectors, professions, etc.) is essential.
  - **No one should expect 100% accuracy**

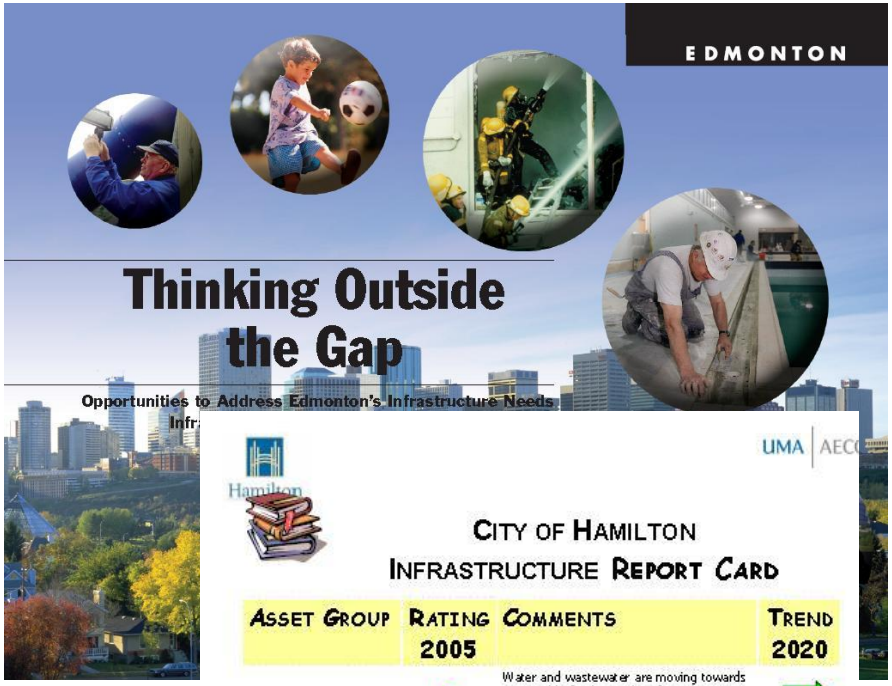
Canadian Examples & Information

Council of Ministers Responsible for Transportation and Highway Safety

Canada's National Highway System

Condition Report 2008

October 2009



Hamilton

UMA | AECOM

CITY OF HAMILTON
INFRASTRUCTURE REPORT CARD

ASSET GROUP	RATING 2005	COMMENTS	TREND 2020
Water	B	Water and wastewater are moving towards sustainable funding. Therefore, the assets are being maintained at an appropriate level of service. However in both asset categories there are significant increases in asset replacement/rehabilitation required over the next 20 years as a result of the aging of the underground inventory.	→
Wastewater	B		→
Roads	D	A significant backlog exists in the road infrastructure and the assets continue to deteriorate. This backlog needs to be addressed to avoid a further slide in asset condition.	↓
m water	C	A long-range plan is currently being prepared for stormwater management. An asset management plan needs to be completed and its costs assessed in terms of impact on the water and sewer revenues, since this function was transferred to the rate program with little (if any) additional funding.	↓
te agement	B-	Many new facilities are being built and new programs being implemented over the next few years. Other facilities are older and will require attention. The challenge will be to immediately implement sustainable management practices in all areas, including funding for future replacement.	↓
ities & n Spaces	C	Many facilities and open spaces are at the end of their useful lives, and the funding for maintenance and replacement is not at a sustainable level. This will have a negative impact on service levels if not addressed in the short term.	↓
isit	B	Currently sustainable, but subject to the vagaries of senior levels of government for funding. System expansion will be a significant challenge in the future.	↓
t	C	Cost recoverable operation as a result of a chargeback system for fleet services. Significant replacement backlog exists, which negatively impact operating costs.	↓

City of Hamilton
2005 Life-Cycle State of the Infrastructure Report on Public Works Assets
7

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Analysis in brief
11-621-M
Number 67
Age of Public

Age of Public Infrastructure: A Provincial Perspective

by Mychèle Gagnon, Valérie Gaudreault and

Expected Benefits

- **Clear communication** of issues with respect to infrastructure assets can help informed decisions – policy, strategic, or operational, at all levels of government. Examples include the use state-of-the-infrastructure reports to:
  - **Gain support** for better cost recovery models;
  - **Help define** the parameters of infrastructure programs (at the regional or national levels);
  - **Establish past trends and forecasts**; and
  - **Evaluate the efficiency of investments** in reducing the "infrastructure deficit".

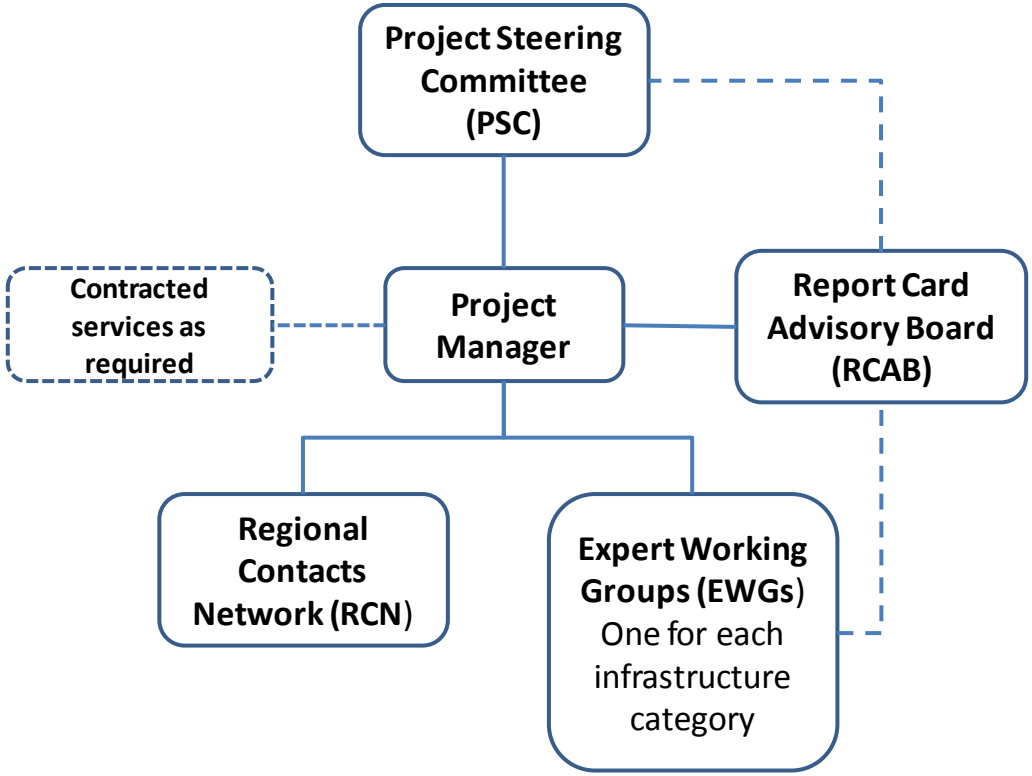
Expected Benefits (continued)

- A state-of-the-infrastructure report can be used to **mobilise stakeholders** (including the professions involved in providing the services, elected decision-makers, and special interest groups) to **focus on the key issues** that can potentially have severe impacts on the health, safety, and economic well being of Canadians and their communities.

Project Principles

- Present the state-of-the-infrastructure in a **school-type format**, i.e., using the letter grades A-D and F
- **Initially** consider infrastructure asset in the following groups: potable water systems, storm and wastewater collection and treatment, and roads.
  - Other infrastructure asset groups will be added in future reports.
- Establish a **robust and repeatable methodology** so that future report cards can be used for trends.
- Use a process that is **inclusive,** drawing on **multi-discipline and multi-sector experts to validate and confirm** the grades.
- Use a combination of **existing** data sources – initial focus on municipalities.

Project Structure



Action or Input relationship
Information sharing

Role of Stakeholder Associations

- **Report Card Advisory Board (RCAB)**
  - A Board member and an alternate (may be a staff person) provide linkages between the Association and its networks with the project
  - As a member of the RCAB, participate in the development of overall assessment statements for the report card
- **Expert Working Groups**
  - Association provides names of experts in the field that can be invited

Progress to date

- **Questionnaire and Online survey**
  - Completed questionnaire based on work by the Infrastructure Canada ***Core Public Infrastructure Advisory Committee*** and Statistics Canada
  - Questionnaire is available online and electronic (pdf) copies can be distributed.
- **Website**
  - Website is operational and provides access to the online survey
  - URL: www.CanadaInfrastructure.ca

Canadian Infrastructure Report Card

Français

2010-11 Report Card Project Sponsors

FCM FEDERATION OF CANADIAN MUNICIPALITIES FÉDÉRATION CANADIENNE DES MUNICIPALITÉS

Introduction

Thank you for taking the time to complete the first Canadian Infrastructure Report Card. This project is sponsored by four major infrastructure stakeholder associations whose members directly impact on, and are intimately involved with, building, operating and maintaining Canada's municipal infrastructure. These associations are the Federation of Canadian Municipalities (FCM), the Canadian Construction Association (CCA), the Canadian Society for Civil Engineering (CSCE) and the Canadian Public Works Association (CPWA).

The main goal of this national survey is to provide comprehensive, scientifically based, repeatable and standardized information on the inventory, condition and asset management practices of Canada's core public infrastructure that municipalities own, manage and operate. Each sponsoring association has released reports over the years, illustrating their respective concerns about the state and performance of municipal infrastructure. Through your involvement in this survey, all orders of government, as well as business, the media, civil society and the general public, will have access to a national account of the state of municipal infrastructure.

Asset categories

For this edition of the Report Card, only municipal roads, potable water systems, wastewater systems and stormwater systems are being considered. In the future, other infrastructure assets will be added - for example, buildings and facilities, and public transit.

The Report Card will present a snapshot in time of the infrastructure being considered. At no time will the Report Card make recommendations on how to address the issues associated with the condition or the

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Go to: Contact Info Part 1: Financial Part 2: Roads Part 3: Potable Water Part 4: Stormwater Part 5: Wastewater

language: English Go

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Canadian Infrastructure Report Card

Canadian Infrastructure Report Card

Survey Purpose

The Canadian Infrastructure Report Card is a project initially sponsored by four major stakeholder associations whose members have direct impacts on and involvement in maintaining and improving the country's municipal infrastructure: the Federation of Canadian Municipalities (FCM), the Canadian Construction Association (CCA), the Canadian Society for Civil Engineering (CSCE) and the Canadian Public Works Association (CPWA).

For the purpose of the current Report Card, only municipal roads, potable water systems, wastewater systems, and stormwater systems are being considered. The objective is to collect information on Canada's core public infrastructure and on the current asset management practices of asset owners. In the future, other infrastructure assets will be added, for example buildings and facilities, and public transit.

The main goal of this national survey is to provide comprehensive, scientifically-based, and standardized information on the inventory and condition of Canada's core public infrastructure that municipalities own, manage and operate. The Report Card will be a factual report that will present a snap-shot in time of the infrastructure being considered. At no time will the Report Card make recommendations on how to address the issues associated with the condition or the management of the infrastructure, nor on how to finance future needs. The Report Card is intended to assist policy-makers, asset owners and managers in their infrastructure asset management, planning and decision-making.

For your organization, the survey results will represent an excellent opportunity to benchmark the state of your core public infrastructure against other similar organizations across Canada.

Progress to date

- **Promotion and Responses**
  - FCM e-mail blast to Heads of Council – December 2010 + follow-up in January 2011 to CAOs
  - ***INVITE PSC member organisations to promote and encourage participation***
  - As of January 24 a.m.
    - 236 municipal registrations
    - 50+ electronic questionnaires sent
  - **Deadline is March 1st 2011**

Response	Chart	Frequency	Count
British Columbia		16%	38
Alberta		16%	37
Saskatchewan		17%	39
Manitoba		8%	19
Ontario		13%	30
Quebec		15%	36
New Brunswick		4%	9
Nova Scotia		4%	9
Prince Edward Island		4%	9
Newfoundland and Labrador		3%	7
Yukon		0%	0
Northwest Territories		1%	2
Nunavut		0%	1
		Total responses:	236

Next Steps

- **Presentations – promotion + engagement**
  - ***Asset Management BC workshop*** – January 24, 2011 (Vancouver)
  - ***National Infrastructure Summit*** – January 26-28, 2011 (Regina)
  - Continue promotion: contact and follow-up with registered municipalities
- **RC Advisory Board**
  - Convene meeting
- **Expert Groups**
  - Appointments

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Canada's Infrastructure Report Card

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