



National Guide to Sustainable
Municipal Infrastructure
(InfraGuide)

InfraGuide®

Case Study

DECISION MAKING AND INVESTMENT PLANNING/POTABLE WATER BEST PRACTICE

HALIFAX SAVES TIME, MONEY, AND DISRUPTIONS BY COORDINATING CAPITAL WORKS

SUMMARY

When Jamie Hannam of the Halifax Regional Water Commission (HRWC) walked into David Hubley's office at the Halifax Regional Municipality (HRM) with InfraGuide's best practice guide *Coordinating Infrastructure Works*¹ in hand, he had a clear mission: minimize the disruption to the public caused by capital works projects. David readily agreed.

Together Jamie and David developed a strategy to achieve that mission guided by the best practice recommendations. They established a committee to improve the level of coordination between all parties involved in water, sewer, storm water and road-works and agreed on a standardized approach to prioritizing projects. The committee's goal was to make sure the best overall results were delivered to citizens across the municipality.



Results have been positive. A greater number of capital projects are being delivered based on the coordination program. The impact of this coordination has been to increase the number of joint projects, reduce the number of road cuts and customer complaints, and increase productivity for all the partners. Importantly, the program has resulted in a noticeable improvement in the partners' image in the community.



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1. InfraGuide best practice publication DMIP 5: *Coordinating Infrastructure Works*, Ottawa, Ontario, 2004.





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BACKGROUND

Halifax is *the focal point for finance, government and academics* in Atlantic Canada. It is a city that is rich in history, serves as the region's cultural center and is guided by local residents' sense of pride and environmental responsibility. Infrastructure is a key enabler for Halifax's vibrant and growing local economy.

Halifax has *a history of looking to partnerships to achieve its goals*. In 1996, the HRM was formed through the amalgamation of four local municipalities. At the same time, the HRWC was created to deliver water services to the 358,000 residents of the newly minted municipality. Though fully owned by HRM, the HRWC is operationally and financially independent from the municipality and governed by a board of commissioners.

Since 1996, the roles and responsibilities for delivering capital infrastructure have been clear, but separate. The HRM was charged with delivering the capital program for streets, sidewalks, retaining walls, bridges and sewers, while the HRWC assumed responsibility for delivering all capital items related to the potable water system.

Halifax's rich history has a *legacy of infrastructure* that is sometimes more than 150 years old and often in *dire need of rehabilitation and replacement*. The criticality of that infrastructure means it needs to be planned and coordinated well into the future based on the priorities of residents. In response HRM staff is putting the final touches on a 25-year regional planning initiative and is engaged in the \$330 million Halifax Harbour Solutions Project that has been underway since 2003. At the same time, the HRWC is developing its five-year business plan to support the municipality's direction and the priorities of its residents.

The size of the respective capital programs is substantial. The 2005 capital rehabilitation budget was \$7 million for potable water, \$18 million for roads and sidewalks, and \$7.6 million for storm and sanitary sewers.

CHALLENGE

Split responsibilities for infrastructure meant that potable water, roads and sewer rehabilitation works at times may have been done in isolation from each other. Some coordination between HRM and HRWC was done at the beginning of each year, but this level of coordination needed to be strengthened. The increase in capital works activities in Halifax demanded a retooling of the coordination process.

SOLUTION

Two things triggered Jamie into action. Firstly he was working on the HRWC's 5-year business plan that included a substantial and escalating potable water main replacement program. Secondly he became aware of the best practice guide on coordination of infrastructure works.





In the future, prioritising decisions will be more fully supported by the implementation of software tools like the HRM's pavement management system (PMS) to help the team use common ways to define the condition of infrastructure.

HOW INFRAGUIDE WAS USED IN THE SOLUTION

When Jamie, David, and their colleagues gathered around their conference table they agreed on the importance of jointly tackling their infrastructure coordination challenge. They also agreed that InfraGuide's best practice Coordinating Infrastructure Works was a great place to start. Together they formed an eight-member coordination committee comprised of staff responsible for potable water, roads, storm water and sanitary sewers that met regularly. They made other stakeholders at the HRM and HRWC aware of the best practices and how they were relevant to tackling Halifax's infrastructure challenges, decided on top-priority actions, established a common language and adopted a common system for prioritizing infrastructure, identified projects that could be combined and delivered more efficiently and effectively as a single integrated project.

Initial solutions were mainly paper-based. Dave's roads team brought in their listing of roads projects, Jamie's water team shared their listing of water-main projects, and John Sheppard's sewer team created their priority list. Together they agreed on projects to combine and adjustments to be made to individual project priority listings.

Jamie, David and John used the InfraGuide best practice *Coordinating Infrastructure Works* to help form the coordination committee, *stimulate discussion* between HRM and HRWC infrastructure professionals, *build stakeholder awareness*, identify potential benefits of coordinating infrastructure works, and *prioritize projects*. Each committee member received a copy of the best practice guide after their initial meeting and used it as a guide throughout the process.

This best practice is a high level strategic guide aimed at the municipal-wide level. It has a stated objective to help senior managers and practitioners appreciate the benefits of coordinating infrastructure.



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VALUE AND BENEFITS TO THE CLIENT

The North End of Halifax provided the best example of the benefits of the committee's efforts. Dave's PMS told him to rehabilitate the roads on three consecutive blocks. Jamie noticed that two of those blocks were also on water's priority listing while John realized this was an important area for sewer rehabilitation.

Why dig up the road in front of people's residences 3 times in two years and hire three different contractors to move in with their heavy equipment? Why not save time, money and frustration by coordinating all infrastructure work?

In the end, they combined the projects, hired only one contractor (at a more reasonable bid price), brought in the equipment once, and completed the job in one well managed project. As a result, one street had been reconstructed over four blocks with new water mains, new sewers, and a brand new road surface. And one North End neighbourhood was left in "good to excellent" condition for the next twenty years.

Overall, coordination has reduced road cuts and related customer complaints, reduced contractor costs, improved stakeholder awareness, improved relationships between technical staff and helped establish a well managed forum that optimizes the overall infrastructure priorities for Halifax.

CONCLUSION

InfraGuide's best practice publication *Coordinating Infrastructure Works* was a catalyst for the coordination of infrastructure works across Halifax. With \$35 million worth of investments in infrastructure in 2005, a growing capital program and the increased disruption to the public, the benefits of the approaches outlined in the guide are substantial. Halifax's approach is applicable to all municipalities that face the challenge of coordinating infrastructure across multiple organizations in an environment where every infrastructure penny needs to be leveraged.

TESTIMONIALS

"I certainly buy into the concept of the integrated approach to infrastructure planning and implementation highlighted in the InfraGuide best practice publication. As a result, we disrupt a neighbourhood only once and achieve cost efficiencies as well."

David Hubley, Manager of Design and Construction Services, HRM

"The use of best practices is part of our culture at the HRWC. We have always sought out and used best practices wherever possible, so we thought of InfraGuide as a natural extension of this"

Jamie Hannam, Chief Engineer, HRWC



LESSONS LEARNED

Infrastructure professionals need to make a conscious effort to work together to meet municipal infrastructure challenges. Supported by InfraGuide best practice publications and InfraGuide national network of infrastructure professionals, local practitioners and elected officials have the tools at their disposal to ensure sustainable municipal infrastructure is delivered.

NEXT STEPS

The committee is already looking down the road to identify more coordination projects, continue to formalize their joint prioritization process, and continue to provide better ways for all players to participate. The committee may also review the possibility of adopting a common way to assess and evaluate the condition of roads, sewers and water networks. This would call *An Integrated Approach to Assessment and Evaluation of Municipal road, Sewer and Water Networks*² into action.

Why not save time, money and frustration by coordinating all infrastructure work?

² InfraGuide best practice publication MD-2: *An Integrated Approach to Assessment and Evaluation of Municipal road, Sewer, and Water Networks*, 2004. Ottawa, Ontario.

CASE STUDY TEMPLATE

InfraGuide is always interested in knowing how municipalities have used these best practices in their effort to build sustainable futures for their communities. If you have an interesting case study that you would like to share with us, please use the following template and email it to us at infraguide@nrc-cnrc.gc.ca.

DESCRIPTION

Provide a brief description of the organization or municipality and describe the scope of the project. (a few sentences)

THE CHALLENGE

Discuss the challenge faced by the municipality. What problem(s) you had to overcome. (one paragraph).

THE SOLUTION

What InfraGuide Best Practices were used to overcome the challenge(s) and describe how the best practice(s) helped you overcome these challenge(s)? If possible, describe what quantitative and qualitative measures were used to assess the project. Against what benchmark was the success of the project measured? (This section can include tables and figures.)

THE VALUE

What are the benefits of the value-added and tangible results that were derived from using InfraGuide best practice(s)?

TESTIMONIAL

Provide brief testimonials that support the use of InfraGuide best practices.



ABOUT INFRAGUIDE

A Network of Excellence

InfraGuide is a national network of experts and a growing collection of best practice publications for core infrastructure—offering the best in Canadian experience and knowledge of core infrastructure.

With our founders—the **Federation of Canadian Municipalities**, the **National Research Council** and **Infrastructure Canada**, and our founding member the **Canadian Public Works Association**—we help municipalities make informed, smart decisions that sustain our quality of life. By gathering and synthesizing the best Canadian experience and knowledge, InfraGuide helps municipalities get the

maximum return on every dollar they spend on infrastructure—while being mindful of the social and environmental implications of their decisions.

Volunteer technical committees and working groups—with the assistance of consultants and other stakeholders—are responsible for the research and publication of the best practices. This is a system of shared knowledge, shared responsibility and shared benefits.

We urge you to become a part of the InfraGuide Network of Excellence.

If you wish to submit a Case Study or require additional information, please contact info@infraguide.ca or visit our Website at www.infraguide.ca.

PLEASE JOIN US

Contact **InfraGuide** toll-free at 1-866-330-3350 or visit our Web site at [**<www.infraguide.ca>**](http://www.infraguide.ca) for more information. We look forward to working with you.

INFRAGUIDE PROJECT INFORMATION

InfraGuide Contacts:

1-866-330-3350

Fax (613) 993-2180

E-mail: infraguide@nrc-cnrc.gc.ca

[**<www.infraguide.ca>**](http://www.infraguide.ca)

City of Halifax

[**<http://www.halifax.ca/>**](http://www.halifax.ca)

Our products:

- Best Practice Publications
- Case Studies
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InfraGuide Best Practices

Potable Water

Michael Tobalt

Tel. (613) 993-5722

Michael.Tobalt@nrc-cnrc.gc.ca

Environmental Protocols

Justin Brulé

Tel. (613) 949-0192

Justin.Brulé@nrc-cnrc.gc.ca

Decision Making and Investment Planning

Harold Murphy

Tel. (613) 993-3816

Harold.Murphy@nrc-cnrc.gc.ca

Storm and Wastewater

Bilgin Buberoglu

Tel. (613) 991-6841

Bilgin.Buberoglu@nrc-cnrc.gc.ca

Municipal Roads

Sylvain Boudreau

Tel. (613) 990-6641

Sylvain.Boudreau@nrc-cnrc.gc.ca

Transit

Sylvain Boudreau

Tel. (613) 990-6641

Sylvain.Boudreau@nrc-cnrc.gc.ca