



National Guide to Sustainable
Municipal Infrastructure
(InfraGuide)



TOWN OF GIBSONS B.C. RECONSTRUCTS FRANKLIN ROAD

A BALANCE OF ECONOMIC NEEDS, SOCIAL INCLUSIVENESS, AND ENVIRONMENTAL SUCCESS

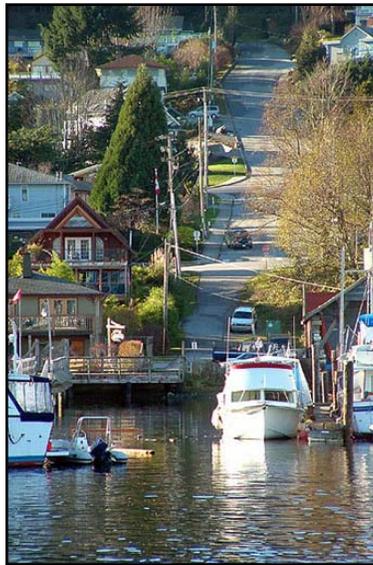
SUMMARY

When Bryan Shoji joined the Town of Gibsons to become its director of municipal operations, the Franklin Road reconstruction legacy was still etched deeply into the minds of the town’s councillors and residents.

What started in early 2000 as a straightforward council decision to rebuild Franklin Road using the conventional design approach prescribed in the town’s existing bylaws had turned into a heated public dispute spearheaded by local residents. The proposed project’s request for funding was rejected by the community and the project was sent back to the drawing board. It wasn’t until September of the following year that the tide of public opinion turned back in the favour of Gibsons’ leadership. Franklin Road, re-designed with the community’s aspirations in mind, became a showcase for a best practices-based approach to infrastructure delivery.

Today, delivering infrastructure to the community in Gibsons means:

- providing for early public consultation and education for all significant projects;
- challenging conventional design approaches;
- introducing innovative practices and design options;
- using InfraGuide as a practical source of solution to their infrastructure challenges; and
- selecting infrastructure solutions that strike the best balance between the community’s need for fiscal restraint, social inclusiveness and environmental responsibility.



In the end, the Franklin Road reconstruction was based on an environmentally responsible design that included drainage through pipe-less infiltration trenches and bio-swales. The final construction cost was more than 30% lower than the conventional design cost estimate of \$816,000 and saved the Town more than \$250,000.

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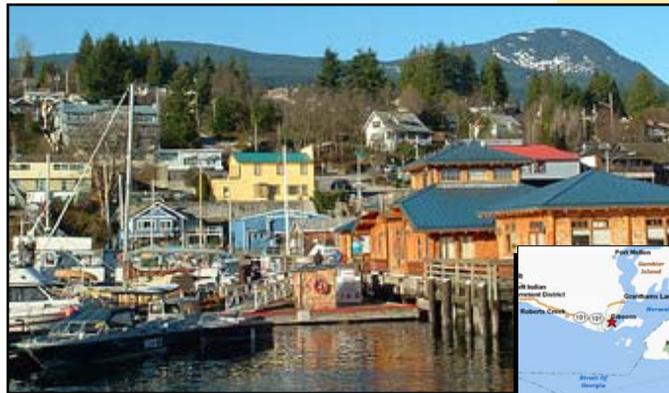
CLIENT BACKGROUND

Finding the right environmental balance is important to the people of Gibsons. But getting closer to nature does not mean the community is less focused on economic and social goals. Tight management of the town's limited financial resources and active public participation in the setting of infrastructure renewal priorities are fundamental expectations in this engaged community of 4,200.

Gibsons is a growing seaside community only accessible by ferry from Greater Vancouver. The town is known for its great outdoor recreation, working harbour, and most recently for winning the *best tasting municipal water* award at the Berkeley Springs International Drinking Water competition in West Virginia.

The local population is a growing mix of those engaged in tourism, commercial fishing, retail, construction, manufacturing, and those who commute to work in Vancouver. The town's growth is fuelled by young and old alike.

Since the mid 90's the need for robust infrastructure has grown along with the population. Infrastructure has played an increasingly important role in supporting the way of life in Gibsons.



CHALLENGE

So what had happened on Franklin Road?

When Franklin Road reached the top of the road reconstruction priority list in early 2000, the conventional approach to reconstruction was the most logical approach to take. The town hired Urban Systems consultant Glen Shkurhan to provide a conventional design based on the guidelines for collector roads outlined in the town's bylaws.

The Town then went to the public to secure funding through a "counter-petition"¹ process, fully expecting the request to be granted and construction started. But many local residents just didn't want the standard urban look, traffic speeding by, the associated environmental impact or the unnecessarily high costs. And they were willing to defeat the counter-petition to emphasize their point.

So it was back to the drawing board for Council and Glen. Their challenge: come up with an alternative road and drainage solution that would address the environmental and social desires of stakeholders, maintain acceptable service levels and satisfy the technical constraint of slope instability at the ocean side Franklin Road site.

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1. Municipalities in BC can apply to the province for a loan to part-fund infrastructure projects. However, townsfolk can "counter-petition" for rejection of the application by collecting enough votes.





After the public debate the right choice was clear. Design Option 2 was better for the environment, resulted in a cost reduction of more than \$250,000 (a savings of more than 30%) and was a more accurate reflection of the community's values.

ADOPTED SOLUTION

The town's design team began to tackle its challenge by initiating extensive consultation with Franklin Road residents, members of council and other stakeholders with an interest in alternative design solutions.

Based on the results of the consultation, they did further analysis of the needs of each stakeholder group to make sure they fully understood everyone's opinion. Those homeowners facing the ocean, for example, preferred a more functional road in their backyard, while those facing the road itself preferred the natural look and feel.

The team held a series of public consultation sessions and determined that the two major concerns with the conventional design were that many local residents did not want an urban style road, preferring a more rural look and feel and that conventional road drainage (storm sewer) would produce point source pollution at an outlet into either the Goosebird Creek or at Atlee Beach.

Based on their analysis, the team came back to council and the public with three design choices: 1) a conventional **fully urban** road design that followed the town's subdivision and development bylaw; 2) a **semi rural** road; or 3) a **fully rural** road design.

All three options were discussed with stakeholders at public meetings and during a door-to-door survey and information campaign. After the public debate the right choice was clear. *Design Option 2* was better for the environment, resulted in a cost reduction of more than \$250,000 (a savings of more than 30%) and was a more accurate reflection of the community's values. **Table 1** shows the comparison between the three options

The Town of Gibsons subsequently adopted the Franklin Road public consultation model as the standard for engaging the public on all significant capital infrastructure projects. In addition, the Town's public works department has adopted the InfraGuide best practice publications as the preferred source of infrastructure solutions for the town's roads, water and sewer challenges.

Table 1: Three design choices discussed with stakeholders.

Option	Road	Drainage ^a	Water	Impact ^b	Cost
1 <i>Fully urban</i> Conventional design	Full width lanes 10.5m total width	Full barrier curbs and gutter, catch-basins, storm sewer outlet	New water main	Point source pollution on beach and/or in river, urban look and feel	\$616K (road and drainage) \$200K (watermain) \$816K
2 <i>Semi-rural</i> Narrower environmentally responsible design	Lesser road width 6m total width	Flush curbs, bio-swales (grassed or vegetated), pervious pipe systems, porous pavement (side walk)	New water main	Rural look and feel, less on-road parking, pervious paths more difficult with wheels, limited pollution, impact on water table (potential basement flooding)	\$310K (road and drainage) \$120K (curbing and landscape) \$214K (watermain) \$644K
3 <i>Fully rural</i>	Lesser road width	Gravel shoulders, bio-swales (grassed or vegetated), pervious pipe systems, porous pavement (sidewalk)	New water main	Rural look and feel, more extensive but uncontrolled on-road parking, limited pollution, impact on water table (potential basement flooding), high level of shoulder maintenance	\$338K (road and drainage) \$60K (landscape) \$214K (water main) \$612K

a. Captured in the InfraGuide best practice: *Source and On-Site Controls for Municipal Drainage Systems and Conveyance and End-of-Pipe Measures for Stormwater Control*, 2005.

b. Captured in the InfraGuide best practice: *Public Consultation for Infrastructure Renewal*, 2005.



HOW INFRAGUIDE WAS USED IN THE SOLUTION

For InfraGuide, Franklin Road is a typical example of the type of grassroots wisdom that has become the hallmark of its best practice publications. A compendium of thoroughly practical approaches developed by and for Canadian infrastructure practitioners joined to solve Canada’s municipal infrastructure challenges.

The best practice publications on drainage systems², storm water control³, and public consultation⁴ were still in the process of being published when the Town of Gibsons was going through its difficult learning experience on Franklin Road. There was no best practice model from which to draw ideas and guidelines so the Town had to respond to the challenges as they arrived on their own.

But for those communities across Canada facing the **Franklin Road** challenge, they will benefit from the experiences of Gibsons. They will also benefit from the experiences of many others that have been captured in InfraGuide best practice publications.



In turn, Bryan Shoji, Glen Shkurhan, and other infrastructure practitioners in the community currently use a number of InfraGuide best practice publications to gain innovative ideas to meeting their infrastructure challenges.

Communities across Canada will benefit from the experiences of Gibsons.

2. InfraGuide best practice on Storm and Wastewater (SWW) #3: *Source and On-Site Controls for Municipal Drainage Systems*, 2004. Ottawa, Ontario.
3. InfraGuide best practice on Storm and Wastewater (SWW) #13: *Conveyance and end-of-Pipe Measures for Stormwater Control*, 2005. Ottawa, Ontario.
4. InfraGuide best practice on Decision Making and Investment Planning (DMIP) #10: *Public Consultation*, 2005. Ottawa, Ontario.

TESTIMONIALS

“The InfraGuide Best Practice publications are very valuable to us — just like many small municipalities with an actively involved community, we are expected to be up to speed with the latest innovations in infrastructure asset management — the publications provide us with sound practical advice on how to get the most from our water, sewer, roads and storm water assets.”

Bryan Shoji, Director of Municipal Operations, Gibsons

“The InfraGuide Best Practices series is an excellent resource for sharing information, such that communities and practitioners can learn from the experiences of others—such as Franklin Road. Since its development, Urban Systems now commonly uses the InfraGuide series as a resource to enhance our innovative thinking and improve the service delivery to our clients.”

Glen Shkurhan, Consultant, Urban Systems

“Conventional urban roads could be found anywhere in the world and are static, however, Franklin Road is alive and will look different in five years’ time.”

Jackie Phelan (resident)





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VALUE AND BENEFITS

The Franklin Road project was successful in balancing the many challenges described above. Franklin Road was upgraded in a sustainable way and met residents’ demands for it to be more rural in nature and ecologically friendly. The photo above shows the re-constructed Franklin Road.

Complementing the environmental benefits of minimizing pollutants discharged to Atlee Beach were the economic benefits of \$254,000 (budget reduction), the social benefits of the support gained from the local community, and the cultural benefits of a solution that better reflects the historic character of the neighbourhood.

In addition, this project was a catalyst for changing a mindset towards lower impact techniques in infrastructure asset renewal.

LESSONS LEARNED AND CONCLUSIONS

It is increasingly important that the needs and priorities of all impacted stakeholders are understood and considered for any significant infrastructure project. Where impacts are great, early involvement and education will produce significant benefits to most people involved. Projects may take longer during the

planning and consultation phases but will ultimately provide more value to the community. Public opinion will improve when all perceptions of what constitutes success are understood and considered.

Not everyone will always be satisfied. One resident complained that the rising groundwater table caused his basement to flood. The location of the nearest parking pocket and vehicles that were parking on the infiltration swales displeased another. Yet a third protested when boulders were later placed to prevent parking on the swales! But using consensus-based public consultation processes ensures that all opinions and priorities are considered so that informed decisions are made.

Communication should be clear to all stakeholders on all issues to ensure the best overall solution is implemented. Education on technical issues is important for the public as well as contractors, while understanding of public opinion is important for technical experts and city staff.

Conventional designs and traditional practices should continue to be challenged as they may not always provide the right balance between form and function, and between social and environmental benefits and service level requirements. This is especially important when working on infrastructure in well-established and historic neighbourhoods.

NEXT STEPS

Bryan Shoji and the Town of Gibsons are moving forward with a number of other infrastructure initiatives, and for many of those they will turn to InfraGuide publications for guidance. The town is also planning to formally adopt InfraGuide as its standard for infrastructure assets as they reduce their infrastructure gap in partnership with their community.



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>](mailto:infraguide@nrc-cnrc.gc.ca).

DESCRIPTION

Provide a brief description of the organization or municipality and describe the scope of the project (*in 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.

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

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Our products:

- Best Practice Publications
- Case Studies
- Knowledge Products
- e-Learning
- Network of Consultants



InfraGuide Best Practices

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