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**When Good Intentions
Are Not Enough -
Working on and Developing Your
Asset Management Strategies**

*In the last issue we presented the following problem
submitted by a harassed local government engineer:*

*"We tried to get ratepayers to use selected roads that
we could afford to maintain but they always ended up
using the shortest routes regardless of the quality of
the road. So, for safety, we had to at least pay mini-
mal attention to all roads. This has spread our mainte-
nance budget so thin that we are not able to maintain
even our selected roads now. So all of our roads are
degrading!"*

*We submitted this problem to the panel and you will
find some helpful suggestions over the page.*

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How to Make Your Strategy Work

As a strategy, the idea of selecting a subset of roads that can be maintained and diverting traffic onto them is a pretty good one – *if it works*. We asked the Advisory Panel for their assistance to the harassed engineer and these are their suggestions.

Strategic or Reactionary?

First of all, do you really have a strategy? Is the council approaching its program in a strategic or reactionary way? Are the road surfaces too poorly engineered to cope with the loadings? If councils did no maintenance then what would be the consequences – for council and the community?

How does council determine its priorities? Does it have a forward 'strategic plan' for its road infrastructure, its role, current condition, required performance levels (see SAM on "service levels", Issue), and planned investment (capital and maintenance) for the next 10-20 years?

Is Council being underfunded for these works? Is Council diverting needed roads funding to other priorities – at the short to long term detriment of the roads?

User and Community Perceptions

This could be about user behaviour and community co-operation in a situation of limited financial resources.

But is it locals doing the harm or through traffic?

Is the community clear about Council's directions and concerns?

An option for an open dialogue with the community might include a brief letter to the ratepayers letting them know the circumstances; highlighting the risks to Council (and hence the community) of not maintaining all its roads; suggesting that

- some of its roads may best be reverted to a lower standard of surface that requires less costly maintenance (nominate which ones)
- some interim road closures (which ones and for how long) to enable works to get ahead of the rate of damage, and
- asking for their opinions on what roads should be given priority for the next three years.

Involve Community in Developing Criteria for Road Works Priorities

- The council should then work with the community to develop some criteria for prioritising works;
- And should indicate its current draft forward works program and seek comments on it - Council should be willing to change the program as a result of the community feedback rather than use the meetings to convince the community against their will;

- Council should also indicate what additional level of rates would be needed to get the performance of the roads up to requirements and keep them that way – this should be done on a road by road basis for some ratepayers may be prepared to pay a special levee to protect roads of particular interest to them.

How to organise your Community Consultation to get Quality Feedback? - The Value of Value Management.

Consider a Value Management Study involving the community to go through the above issues and develop a consensus on what needs to be done and how it will be funded and successfully implemented.

For an investment of about 15-20 person days Council could find a way to unlock their problem situation. They would need about 10 days to get some answers to the above questions, prepare a background briefing paper and then arrange the workshop, plus about seven person days of effort for the workshop, including a brief report. They may then need a couple more days to win Council support and begin implementation. An additional benefit of the Value Management Approach is that councillors can be assured that the community is behind the proposed actions.

For more info on value management

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In Next Issue:

How do you intend to spend the new federal roads grants?

If all else fails then you can try the old carrot and stick method – or “incentive/penalty approach”, to wit:

On the roads where you want to remove traffic

- Block off through routes
- Undertake nuisance repairs with large pieces of equipment
- Encourage street parties
- Use them as test areas for different pavement/seal constructions
- Encourage the Police to set up road traps on them, etc, etc

On the roads you want them to use

- The opposite of the above, plus
- Better landscaping
- Interesting signs
- Information
- Roadside toilets
- Free phones for breakdowns

And the odd attractive nymph flitting across doesn't hurt.

Many organisations want to improve their Asset Management processes. Here is an example of

How the ADELAIDE CITY COUNCIL went about their Asset Management Improvement Plan.

The City of Adelaide committed to an Asset Management Improvement Plan approximately two and half years ago. The Plan focuses on practices and processes.

The methodology for development of the Plan included:

- a determination of the current status
- identification of current best appropriate practice
- a gap analysis which led to the development of an improvement program
- cost benefit analysis of the program
- recommendation of an appropriate strategy.

There were a total of 39 improvement projects included. The following lists a sample:

1. Establish an asset management team and their roles and responsibilities
2. Asset management corporate policy document.
3. Establish levels of service and the performance indicators for each asset group
4. Asset management awareness raising within council and externally.
5. Strategic review of data capture requirements and data collection.
6. Risk management
7. Optimised renewal decision making
8. Establish asset management audit processes for improvement plan
9. Implement life cycle costing
10. Develop enhanced condition assessment techniques & implement monitoring programs
11. Develop predictive modelling techniques
12. Production of annual asset management plans

13. Implement works management system and process enhancements
14. Maintenance optimisation
15. Develop cost benefit analysis technique for project justification

Since then the list of projects has grown to the mid 40's with some projects being combined and others modified to reflect needs. The program is based on a continuous improvement approach and it is seen to be more important to make a start and produce answers, even if the confidence level in the answers is low, rather than to wait until such time as all data and systems are perfect (never attainable).

The focus for asset management is service delivery, that is, assets only exist to support some service delivery function, and the strategies and programs devised for asset management must always be on the basis of what is needed to deliver services at the appropriate

In summary the benefits that the asset management improvement program has delivered to council so far are as follows:

Condition Assessment Methodologies

The introduction of formal and documented condition assessment techniques aimed at assessing the key distress criteria of the asset. In doing so it is expected that savings in time both in the field and in the office analysing the results and defining appropriate intervention strategies will be achieved.

Continued on page 16

CANADA TO SPEND 12.5 MILLION DOLLARS ON NATIONAL GUIDE TO SUSTAINABLE INFRASTRUCTURE - BEST PRACTICE AND INNOVATIONS

On 8th December 2000, the National Government of Canada announced an 12.5 million dollar study project over 4 years involving all levels of government and the private sector. The study is expected to result in annual savings of over \$1 billion within four years. Details of this ambitious study follow:

Objective, Expected Results and Timing

The objective of the National Guide to Sustainable Municipal Infrastructure is to provide municipal infrastructure stakeholders and practitioners (local governments, consulting engineers, construction companies, manufacturers and suppliers) with a compendium of technical best-practices for infrastructure planning, construction, maintenance and repair. The Guide will improve the quality of projects funded under the Infrastructure Canada program and beyond.

Expected results include better and more innovative designs and construction techniques for projects proposed under the Infrastructure Canada program and long-term savings for municipalities on their annual infrastructure costs.

A draft of best practices will be released in September 2001 and the official Guide is to be completed by October 2004.

Consultations

The project definition was developed after extensive consultations and public meetings involving municipal decision-makers and public and private infrastructure stakeholders from all provinces. More than 500 professionals in the field were met with over the last 2 years.

In addition to discussions at learned societies and trade and professional associations meetings, two National Workshops on the Guide were held in 1998 to develop details of the concept, goals, objectives and governance structure of the project.

Project Financing

Infrastructure Canada will invest \$12.5 million (from the \$2.05 billion for municipal infrastructure in Budget 2000) in two phases: \$6.5 million in the first phase that covers the period up to January 2003; and \$6 million from January 2003 to January 2005. The two investments are being committed through separate agreements in order to ensure that the project remains results-oriented.

A \$12.5 in-kind contribution will come from municipalities, provinces and private sector and will be coordinated by the FCM. **An additional \$2 million will come from the NRC.**

Governance

The project will be carried-out by the Federation of Canadian Municipalities in conjunction with the National Research Council. The guide will capitalize on the strengths of both the FCM and the NRC. The FCM will help ensure that the product remains focussed on the needs of the municipalities in all regions of the country, and the NRC brings decades of experience in standards development as well as its internationally recognized expertise in infrastructure research.

A Project Steering Committee will be responsible for overseeing the project, including approving the contents of all deliverables and associated documents.

The Steering Committee will be Chaired by the FCM and will consist of 19 members appointed by the FCM and the NRC, and one appointed by the TBS of Canada. It will also establish and appoint members to Technical Committees, as required. In turn, the Technical Committees will establish Working Groups. The project will be supported by a small Directorate.

The Project will also include an Internship Program. Interns hired under the program will be engineering graduates from recognized Canadian Universities.

Development Process

The development of best practices for each of the sectors and sub-sectors will be incremental, based on: the identification of priority areas, best practices studies contracted out, and work completed by the Working Groups and Technical Committees.

Because knowledge and expertise (at the national and international levels) vary greatly between and within each activity sector, the release of best practices will occur at different times within the project period.

The Technical Committees for each sector will identify specific areas that will most benefit from the dissemination of best practices; the committees' decisions will be based on social, economic, environmental, and technical factors.

The Technical Committees will produce the content of the best practices. Draft documents will be the object of broad public consultation. The consultations will provide feedback for document modification. Once modified, the documents will be finalised and widely disseminated.

Stakeholders

The National Guide has received widespread support from the vast majority of provincial/territorial municipal associations (some 2,280 municipalities; over 90% of Canada's population).

The guide has also received extensive industry and expert support from: the Canadian Construction Association, the Canadian Water and Wastewater Association, the Transportation Association of Canada, the Canadian Homebuilder's Association, the Canadian/ Public Works Association, the Canadian Council of Technologists and Technicians the Canadian Society of Civil Engineers and the National Roundtable on the Environment and the Economy).

Moreover, the Centre d'expertise et de recherche en infrastructure urbaines (CERIU) will be involved. The CERIU's expertise in research in municipal infrastructure will be put to contribution for a section of the Guide on decision-making and investment planning (diagnosis).

Results and Outcomes

The Guide will further Infrastructure Canada's objectives by providing municipal governments and their suppliers of goods and services (consulting engineers, construction companies and manufacturers) with a compendium of technical best-practices for infrastructure planning, construction, maintenance and repair.

Expected results include better and more innovative designs and construction techniques for projects proposed under the infrastructure Canada program, and long-term savings for municipalities on their annual infrastructure costs, assuming the adoption of the best-practices developed through the Guide.

Municipalities spend \$12-15 billion annually on infrastructure, yet there are no national standards to govern investment decisions.

Result is that established best-practices are not fully implemented; some municipalities make sub-optimal investment decisions.

Estimations show that the Guide could cut annual infrastructure maintenance costs by \$800 million to \$1.5 billion per year. The Guide will improve the quality of projects funded under the Infrastructure Canada program.

The Guide is expected to result in savings over a wide variety of infrastructure assets, examples are given below.

At the same time as this technical study is being developed, the National Research Council of Canada is also designing a program to improve strategic asset management—more on this one later. Ed.

Expected Savings from the 12.5 Million Dollar Study

MUNICIPAL ASSET	ANNUAL COST	IMPROVEMENT TARGET	ANNUAL SAVINGS
Water Production	\$2.5B, with 25% water loss	Reduce water loss to 10%	\$350M to \$400M
Sidewalks	\$600M, with 20 year life	Extend asset life to 25 years	\$150M to \$200M
Roads	\$6-8B, with 20 year life	Extend asset life to 24 years	\$300M to \$900M
Total			\$800M to \$1.5B

Continuation from page 12 of

“How the Adelaide City Council Went About Its Asset Management Improvement Plan”

A formal system has been established that aggregates the condition of each asset group within a street segment. This then produces an overall score for each street. Streets scoring poorly are given greater attention when defining or reviewing the streetscape program.

Development of a formal procedure for justifying and ranking candidate capital works projects.

This is a computer based system developed by the council with external programming assistance.

Projects are justified on the basis of the fit with the corporate direction and the consequences of not undertaking the project. Each project is scored against criteria based on these principles. The scores are weighted and combined to provide an overall priority score. The outcome is a prioritised list of projects that fit the corporate direction. Considerable timesaving has been achieved during the selection of candidate projects as well as the subsequent debate that typically accompanies the finalisation of the program.

Development of Asset Management Plans

By developing asset management plans covering all key infrastructure and property services council are now in a position to know the minimum expenditure requirement necessary to maintain the current level of service. This knowledge was not available in the past and expenditure has largely been reactive.

Information Systems Enhancements

Council has introduced a sophisticated asset management system to assist all levels of staff to gain quicker more accurate information and manage sufficient data to carry out the analysis required for sound decision making.

Data Rationalisation

Asset data has been subjected to scrutiny and has been rationalised or augmented to meet the needs of effectively managing the assets.—reducing data management costs and ensuring only data worth managing is retained.

Work Management

Implementation has commenced of a computerised work order system directly linked to the assets being worked on. This is within the Corporate asset management system. Assessment of asset performance and effectiveness of maintenance strategies will be enhanced as data is accumulated.

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