



Asset Management BC
Roadmap Project



Asset Management BC
PROJECT REPORT

MAY 2011

Asset Management BC ROADMAP PROJECT

Report on the development of the
Asset Management BC Roadmap

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1 Introduction

1.1 What is an Asset Management Roadmap?

A Roadmap in its simplest form is something that helps to guide you on a particular path or journey. Asset management as it applies to any organization, is a business model that provides tangible ways to demonstrate:

- Good Asset Ownership;
- Effective Management of Assets and Services;
- Responsible Stewardship, and progress toward
- Long Term Sustainability.

The business of Asset Management starts with a collation and integration of existing management systems and data, but it does not stop there. It goes much further, building on existing processes and tools, complementing and advancing current practice through a process of on-going review and improvement actions.

Thus an Asset Management Roadmap represents a pathway guide to better business and service delivery.



Roadmaps are mechanisms enabling local governments to visualize the services they provide and the physical assets needed to deliver the services, the relationships between these; and the skills, technologies, competencies and capacities needed to meet current and future service requirements



1.2 Project Terms of Reference

The following is a quotation from the Request for Proposal document for the Asset Management Roadmap project. It sets out the overall context for the project and the intended use of the deliverables.

Generic Asset Management Roadmap

“Asset Management BC will co-ordinate four (4) case studies to develop an asset management roadmap. Using the four communities as representative of smaller BC communities, the similarities and differences of each will be examined with respect to the steps necessary to prepare an asset management strategy. A generic approach to a roadmap will be prepared that will be available to any community and used to assist the community in developing an asset management plan and strategy.”

1.3 Scope and Understanding

The project required that a balance be found between:

- delivering a customized outcome to meet the needs of each of the four participating communities; and
- delivering a generic asset management tool useful to any local government in BC; and
- maintaining a simplicity of approach that would encourage even the smallest community to start implementing key asset management practices.

1.4 Project Deliverables

The outcomes of completing the project include:

- An Asset Management Roadmap tool consisting of:
 - *Roadmap Diagram providing an overview and check sheet of key asset management practices*
 - *Roadmap Information Sheets providing general details for implementing 17 basic asset management practice modules. Each sheet includes information on:*
 - › *What is this asset management practice module?;*
 - › *Why do I need to do implement this practice?;*
 - › *How do I implement this asset management practice?;*
 - › *What other comments and advice may be helpful?; and*
 - › *What are the standards required to achieve each level of asset management competency i.e. basic, intermediate and advanced level of asset management?*
- Asset Management Services to each of the participating local governments:
 - *Status of Asset Management review;*
 - *Gap Assessment between current and basic level asset management practice;*
 - *Asset Management Strategy and advice;*
 - *List of key actions for an Asset Management Improvement Plan.*
- Provision of a comprehensive document that reports all aspects and outcomes of the project. The project document is comprised of the following three parts:
 - *Project Report*
 - *Asset Management Roadmap Guide*
 - *Roadmap Case Study Reports (four documents)*

2 Context for Roadmap

2.1 Sustainable Communities

The overall objective of Asset Management is '*Sustainability*'.

In the context of local communities, 'sustainability' requires managing assets (public infrastructure) in a way that provides agreed service levels now and into the future, as far as we can reasonably predict.

A primary objective of implementing asset management practices is to provide good information and promote detailed understanding about physical assets (infrastructure). Connected to this objective is the support of informed decision-making through analysis of asset data and development of decision procedures. Asset management practices are therefore a vital platform for sustainability.

2.2 Purpose of Asset Management

Good asset management practice underpins service delivery, responsible stewardship and risk management. Adopting long-term asset management as the way of doing business will help organizations achieve:

- Good corporate governance;
- Sound long-term financial management;
- Sustainable, equitable and affordable service delivery;
- Effective risk management; and
- Effective management of asset function, capacity, preservation.

2.3 Purpose of the Roadmap

Throughout the province there is growing awareness regarding the link between asset management practices and the long term financial position for local communities. Many smaller BC local governments have requested assistance in defining what an Asset Management Plan should include and the steps to get there. The final product from this project, the 'Roadmap' is intended to directly assist in this regard.

The Roadmap project is being co-ordinated through Asset Management BC (previously LGAMWG – Local Government Asset Management Working Group).

The key project outcome, the Roadmap, is intended for wide use and distribution to assist any local government or similar organization in BC, as they deem appropriate. The Asset Management BC group (AMBC) expects to freely offer the Roadmap of guide for use by our communities, as another part of the asset management tool chest that they provide for local governments in the province.

2.4 Links to Other Asset Management BC Tools

Asset Management BC (AMBC) have previously developed an asset management policy document and an asset management self-assessment tool called AssetSmart. The Roadmap has been designed to work in with these initiatives.

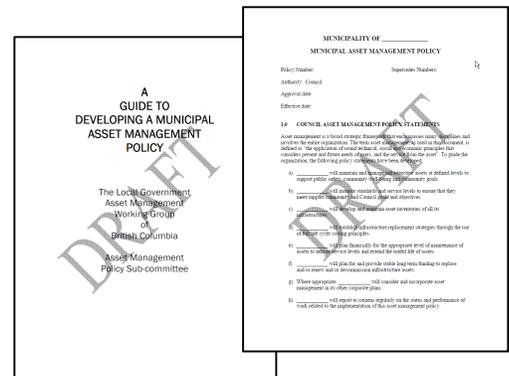
As currently envisioned the Roadmap is seen as the third tool in a suite of tools:

- The Policy;
- The AssetSmart tool;
- The Roadmap.

2.4.1 Asset Management Policy

The Policy is the first tool developed by Asset Management BC. It provides the go ahead to staff to further develop asset management practices in their organization.

The document includes an asset management guide that outlines the principles and components of an asset management policy as well as an example policy document that can be easily adapted and used by organizations.

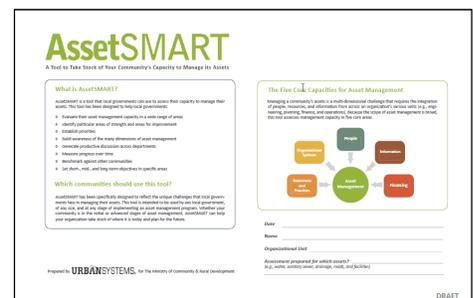


2.4.2 AssetSmart

The second tool AssetSmart, provides a baseline from which staff can begin to develop a strategy. It is a comprehensive self-assessment tool to review the organizations readiness to implement asset management business practice and thereafter to monitor progress of asset management implementation.

The AssetSmart tool considers an organization’s management capacity in the following five core areas:

1. Awareness and Priorities;
2. Organizational Systems;
3. People;
4. Information; and
5. Financing

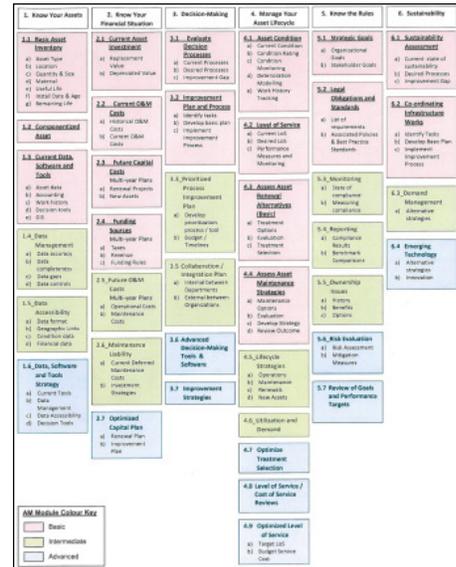


2.4.3 Roadmap

The Roadmap is the third tool, and provides the next logical step in progressing asset management. It provides sufficient detail on asset management practices, to assist staff in identifying and prioritizing the actions required and development of a strategy to implement asset management.

Staff can compare the basic asset management practices in the Roadmap tool with what they already have in place. They can then list the activities and actions that are in the gap between current and desired practice. This list can be prioritized according to the needs of the community and documented into an Asset Management Strategy. Responsibility for each task should be assigned to a person and they should be scheduled in a program with set timeframes and budget allocations.

This will then be an effective Asset Management Implementation (and Improvement) Plan.



2.5 Process for Implementing the Roadmap

The recommended process flow, for implementing asset management in an organization, is outlined in Figure 2.1 (refer below).

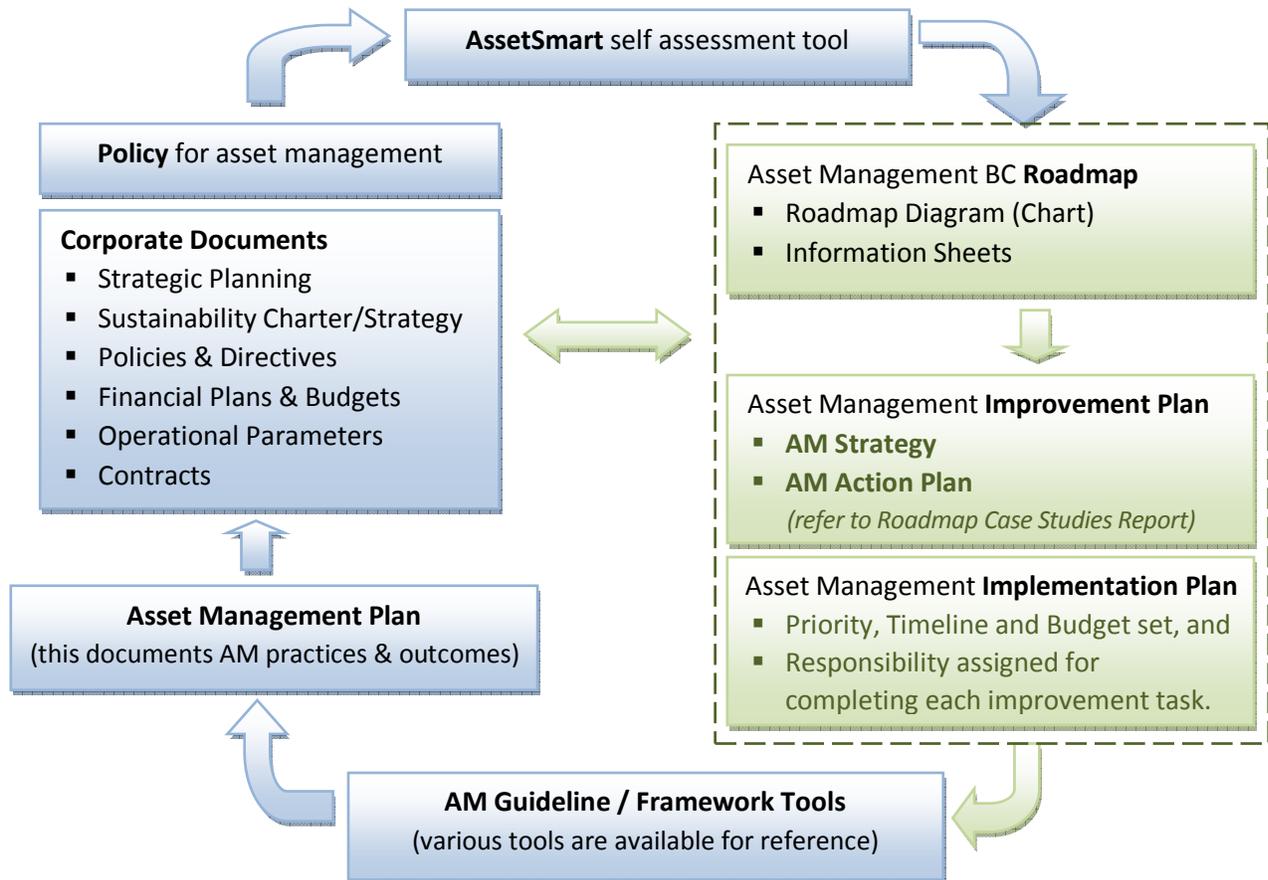
The key elements in this process that relate to the Roadmap are:

- The actual Roadmap (Roadmap chart and associated information sheets);
- The Improvement Plan (Strategy and Action Plan); and
- The Implementation Plan.

The diagram also shows the relationship between the Roadmap tool and other asset management guide documents, framework and manuals.

The Roadmap is intended to assist organizations to get started with asset management. It is consistent with the National Asset Management Framework and it is a precursor to rather than a replacement for manuals and detailed guidance documents.

Figure 2.1: Asset Management Implementation Process



2.6 Frameworks, Guidelines and Manuals

There are a number of national and international documents, manuals and frameworks that provide advice and guidance on aspects of Infrastructure Asset Management. Some are focused primarily on production of an Asset Management Plan and all provide useful information that can assist an organization to implement good business practices relating to management of their assets (asset management practices).

Some of the more commonly referred documents include:

- National Asset Management Framework (Canada)
- Infraguide (developed in Canada for Canadian Municipalities);
- International Infrastructure Management Manual (IIMM) (developed collaboratively between New Zealand and Australia);
- PAS 55 (developed in the UK).

The Roadmap detailed in this report and produced by this project does not seek to supersede any of these available documents. The purpose of the roadmap is to provide organizations with an overview and a starting point. The information sheets included with the roadmap do provide advice and guidance, sufficient for achieving basic level asset management practice. However they are deliberately general in nature and are not intended as a detailed step by step instruction manual. Nor is the Roadmap intended to be used as a formal framework or structure for asset management plan documents.

The Roadmap seeks to provide a bridge between current practice and the comprehensive detail in documents such as those listed above. It seeks to simplify the process to make it easier for organizations to get started on implementing asset management. It is particularly suited to assist small local governments or similar entities with limited people resources. It provides an opportunity for staff to understand the holistic view of how the components of asset management fit together without having to get into a lot of detail at the very beginning.

In the early stages of implementing asset management practice, there are usually many unknowns and assumptions that need to be made in order to progress. It is appropriate therefore to take a simple general approach at the beginning to get initial momentum and build up basic levels of understanding, information and process. This initial work can then be refined, customized and added to in depth of detail and complexity using reference to documents such as those referred to above (or any other approach deemed appropriate or suitable).

The Roadmap neither promotes nor precludes an organization from making their own choice whenever it is appropriate for them, to use or implement any asset management guideline, framework, system or manual. The following sections provide a brief overview of each of the more commonly referred documents mentioned above.

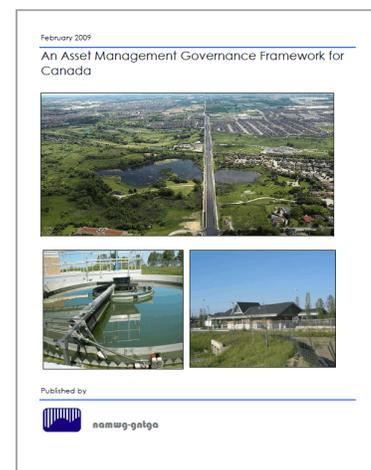
2.6.1 National Framework

The National Asset Management Governance Framework identifies the “why, what and who” of asset management.

It is intended as a basis for asset management strategy development at the local level in Canada. It also assists organizations to identify the roles and responsibility plus the inter-relationships of the various governance levels involved including the users or stakeholders.

This Governance Framework however, specifically does not identify or incorporate the “how” to carry out Asset Management strategy development and implementation.

The Roadmap is consistent with this framework and follows on from it. The Roadmap has information on the “how to” develop a strategy and it identifies what asset management practices are needed to achieve basic level of asset management in the organization.

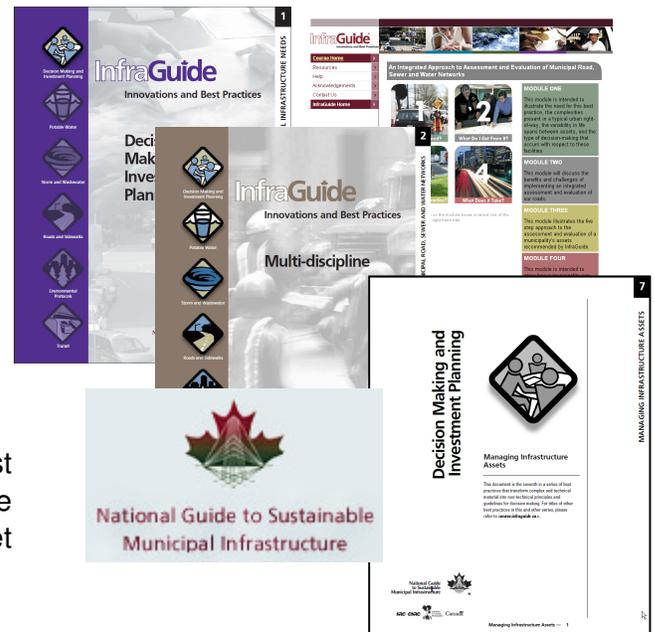


2.6.2 InfraGuide

InfraGuide is both a national network of experts and a collection of published best practice documents and case studies. The InfraGuide documents were written for both municipal decision makers and technical personnel in the public and private sectors.

The purpose of InfraGuide is to help municipalities make informed decisions and promote sustainable infrastructure investment.

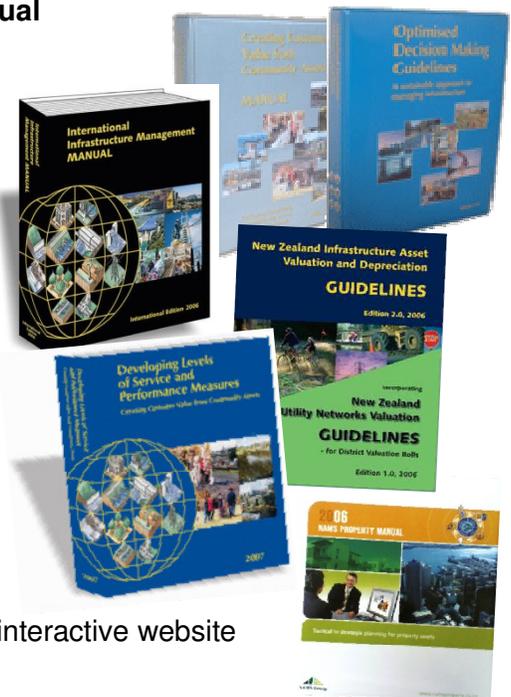
InfraGuide has published over 50 Best Practices to date. These documents provide excellent advice on many areas of asset management practice. Refer to



2.6.3 International Infrastructure Management Manual

The International Infrastructure Management Manual (IIMM) is a comprehensive manual of asset management practice. It includes basic level asset management and advanced level asset management with detailed guidance notes and explanation. In addition to this manual there are several other documents for specific discipline or practice areas. These include:

- Infrastructure Asset Valuation and Depreciation Guidelines;
- Developing Levels of Service and Performance Measures;
- Optimized Decision Making Guidelines; and
- NAMS Property which consists of a manual, interactive website and a demonstration asset planning system.



The International Infrastructure Management Manual (IIMM) has recently been updated with new international content including asset management practice in NZ, AUS, SA, UK and US;

The work completed under the Roadmap can be used with these detailed guides for development of an Asset Management Plan or progressing to advanced asset management.

2.6.4 PAS 55

PAS 55 is a Publicly Available Specification from the British Standards Institution for optimized management of physical assets. The document provides a 28-point requirements checklist of good practices for an optimized, whole-of-life management system for all types of physical assets.



It is similar to the International Infrastructure Management Manual mentioned above although the level of detail and the way the documents are intended to be used are different. Both PAS 55 and the IIMM manual are internationally recognized tools for implementation of asset management.

The work completed under the Roadmap can be used with this standard for development of an Asset Management Plan or progressing to advanced asset management.

2.7 Connecting with Tangible Capital Asset Reporting

Tangible Capital Assets (TCA) Reporting is required by the Public Sector Accounting Board under PSAB 3150. This process has for many local authorities provided the initial boost to generate or collate their asset data. As a result most local authorities have a basic asset inventory for their main asset groups.

This is an excellent foundation from which the Roadmap forward in implementing asset management practice.

The two fundamental asset management practice modules that have to be implemented before any others are directly related to and build on from the TCA work for PSAB 3150. These are:

- Know your assets; and
- Know your financial position.

1.0 Know Your Assets

1.1 Basic Asset Inventory

- a) Asset Type
- b) Location
- c) Quantity & Size
- d) Material
- e) Useful Life
- f) Install Date & Age
- g) Remaining Life

2.0 Know Your Financial Situation

2.1 Current Asset Investment

- a) Replacement Value
- b) Depreciated Value

3 Asset Management Roadmap

The complete asset management roadmap is provided in the document “Asset Management BC Roadmap (May 2011)” available on the Asset Management BC website (www.assetmanagementbc.ca). Four Case Study documents are also available on the Asset Management BC website. These documents provide examples of how to use the Roadmap to develop an Asset Management Strategy.

3.1 Roadmap Chart and Information Sheets

The Roadmap document consists of a chart or diagram that gives an overview of key asset management practices, in a modular format. Each module identifies an asset management practice to be implemented. Associated with each practice module is an information sheet. Each information sheet provides detail on:

- › *What is this asset management practice module?;*
- › *Why do I need to do implement this practice?;*
- › *How do I implement this asset management practice?;*
- › *What other comments and advice may be helpful?; and*
- › *What are the standards required to achieve each level of asset management competency i.e. basic, intermediate and advanced level of asset management?*

3.2 Roadmap Case Studies

Each case study document includes four key elements. These were:

- Status of Asset Management Review
- Gap Assessment of Asset Management Practice
- Proposed Asset Management Strategy
- Recommended Action Plan

Following on from the case study reports, it is expected that each organization would then develop an Asset Management Implementation plan for their organization.

3.2.1 Asset Management Review and Gap Assessment

This is a process to identify the current asset management practices already complete or in progress within an organization. Then to compare the current practices with the desired level of asset management practice identified in the Roadmap. The gap between current and desired practice is then documented. This identifies the work required to reach the desired level of asset management practice.

3.2.2 Asset Management Strategy

This is a planning document that sets out how the organization is going to progress implementation of asset management practices from current to a future desired status.

3.2.3 Asset Management Action Plan

This is a list of tasks to be done to implement the asset management practices in accordance with the Asset Management Strategy. The strategy and action plan together form the improvement plan. This identifies what needs to be done and why.

The action that must come after the improvement plan is the implementation plan.

3.2.4 Asset Management Implementation Plan

This is the actual work program for completing the improvement tasks. Many similar organizations may have similar improvement plans, but their communities can have different priorities and different capacity to pay. Therefore the implementation plan has to be customized to each community and this will include to:

- › *Prioritize the tasks identified in the Improvement Plan;*
- › *Assign responsibility for completion of each task to specific people; and*
- › *Set completion dates and provide funding to complete the tasks.*

The implementation plan would be developed from the Action Plan (refer 3.2.3) and in the context of the Strategy (refer 3.2.2), but takes into account budget and timelines to set up a specific program and assign responsibility for completing the work as scheduled.

4 Asset Management Practice: Free Thinking

4.1 Overview

This section is intended to be a commentary of general issues, experiences and opinion on Asset Management and related topics.

The word Asset Management is becoming more common, but there is confusion about what it actually means and what the purpose of Asset Management is. Why should we do it?

The answer is that the goal of any asset management principle or practice is sustainability.

Asset Management has been accurately described as being a business model that is particularly suited to organizations that use assets to provide services. Asset Management practices are particular tasks or procedures that assist an organization to make better decisions so that the provision of their services will be sustainable long term.

4.2 Where to Start?

It can be hard to know where to start? How do you decide what procedures or tools are essential for now and what can be implemented in stages or developed over time?

The Roadmap provides good guidance on these issues. However it is still necessary to consider the needs of your own organization and community when establishing priorities.

Generally however there are 'Four First Things' that will provide a solid foundation for implementing Asset Management. These are;

1. Know you assets;
2. Know your financial position;
3. Understand how you make decisions;
4. Implement an improvement process.

For each of these essential items, there is a starting point or a basic level to be attained and there are things that can be improved over time to progress your Asset Management business model to an advance level.

4.3 How much do I need to know about the Assets?

There is a point at which the cost of determining or locating missing information out-weighs the benefit of knowing that information. For this reason it is recommended to put time and effort into establishing a field reporting system as early as possible. The procedure should not be onerous and in most cases will be served adequately by minor changes to current filed sheets and some training. The purpose is to capture field observations and update inventory data

accordingly. There is no better check on what diameter and material a pipe is than to have the person who has just done work on it, report what they have seen.

Other specific data capture or investigation projects can supplement the field observations if there are a lot of gaps in the asset data that need to be known.

4.4 How can a forecast of Renewal Costs help me?

Without at least an initial 'best guess graph' of forecast renewal costs it is difficult to identify the long term impact of the decisions you are making today. You cannot know with if the current way of doing business is sustainable as the assets age.

It is very important to get an understanding as quickly as possible of the order of magnitude of renewal costs and the amount of time you have available to plan, prepare and save for these expenditures. Therefore even a first best guess graph has value. The financial predictions and timing of works can be improved upon as more information becomes available.

In addition to the big picture view and the funding issues, a forecast of renewal costs will also indicate where to spend your money on condition research. The assets that are most likely to need replacement should be inspected to assess their remaining life more accurately. Assets that still have a significant remaining life need not be inspected until a later date.

4.5 Why bother documenting Decision-making?

The first benefit in documenting decision-making is the process of considering these issues. Often it is not until such considerations occur that gaps in the decision process are identified. Many times relatively small changes can be made to greatly increase the quality and robustness of decision processes. An organization may be collecting all the desired information but one department may not be aware of the information available in another department.

The second benefit is in understanding clearly what information is important and what is not.

The third benefit is in having a structured process that is repeatable, defensible and captures the corporate knowledge. The decision process is therefore unaffected by staff changes.

4.6 The Role of Computer Systems

Computer software systems are tools to assist Asset Management along with a wide range of other tools in the form of strategies, procedures, assessments and documents. However it is recommended that you understand your decision processes and what data you need for decision-making, before you commit to purchase of systems.

Experience has shown that organizations that start their asset management journey with a review of information needs based on what they need to make decisions are able to progress quickly to tangible outcomes. However some organizations that start with purchase of a software tool become data focused and take longer before they impact decision-making.

5 Improvement Plan

5.1 Overview

Asset management is an on-going process of improvement and refinement as tasks are completed and knowledge increases. For this reason it is important to have a review and update process.

The needs of users of the Roadmap will change as they progressively implement asset management practices. The Roadmap in its current form has been tailored to the organizations that are at the early stages of understanding asset management. When the majority of these organizations reach a basic level of asset management practice, they will need more information than the current Roadmap provides.

The following section provides some suggestions on progressive improvements for the Roadmap. The purpose of these improvements is to provide for the changing needs of users.

5.2 Suggested Improvements

The following actions are listed in the proposed order of completion:

1. The Roadmap is to be presented at an interactive workshop at the CNAM Conference in May 2011. Feedback from participants of this workshop should be reviewed to determine if any changes to the Roadmap would be beneficial to users.
2. During the first 6 months after launch of the Roadmap, work should progress on preparing the information sheets for the intermediate practice modules. This is the next level of asset management practice and users will be looking for this advice as they near completion of all the basic level modules.
3. Consultation with users should be planned to obtain feedback and submissions for change requests. This consultation could include a combination of:
 - Posting a message on the website requesting feedback;
 - Contacting randomly selected organizations to ask if they have used the Roadmap and whether they have any changes they would like to see; and
 - Announcing proposed updates and requesting submissions on the proposal.
4. Annually review whether the Roadmap is still providing the assistance needed and action any recommended improvements.