



Municipal Asset Management Case Study

Adanac Township

Overview

Adanac Township is a lower-tier municipality in Ontario with a permanent population of 10,008. The Township is located in a rural, picturesque part of Ontario and encompasses 600 square km. The population expands to approximately 14,000 during the summer months.

Adanac contains a small commercial downtown business area where the municipal government, community centre, library and fire station are located. There are approximately 5,600 homes and cottages spread out across the Township serviced by a combination of paved and gravel roads, municipal water and wastewater, and private residential water and septic systems.

A high level summary of some of Adanac's infrastructure portfolio is listed in *Table 1 – Adanac Township Infrastructure Inventory*.

Heritage

The Township is close to Georges Bay and is proud of its agricultural heritage. Council has increased efforts to promote Adanac as a desirable summer destination and made the goal a part of its strategic plan. In 2010, as part of an effort to attract more 'cultural tourism', the Township commissioned a large, whimsical rabbit sculpture¹ in a field outside the downtown core.

The Big Rabbit has been popular making Adanac more well known, but the municipality has incurred unexpectedly high costs over the past several years from vandalism and graffiti to the sculpture. Insurance costs have risen an average of 6.5% per year during the past term of Council. Councillors have raised concerns about expensive lawsuits against the municipality arising from potential accidents or injuries.



¹ This big white rabbit was actually part of the Taoyuan Land Art Festival in Taiwan in 2014. It was created by the Dutch artist Florentijn Hofman. No such municipal rabbit exists in Ontario.

Commercial/Industrial Changes Transform Community

Through the early 1990s, Adanac used to be the home of several large manufacturers that supplied the automotive sector and heavy industry. As these plants shuttered, the municipality lost 65% of its commercial tax base. In addition, displaced workers and their families moved away from Adanac. In 2006, Adanac's population was approximately 12,200. Since the 2006 Census, Adanac's population has declined an average of 2% per year. Moreover, the average age of the population has increased from 43 years old in 2006 to 55 years old in 2016. One of the local elementary schools has been targeted for rationalization by the Ministry of Education due to low enrollment.

During the recent 2018 municipal election, voters were adamant about keeping taxes low and providing more services to the growing senior citizen community, most of whom are retired. Attitudes towards tourists are mixed. People recognize that they support local businesses but locals dislike the crippling traffic and excess garbage, especially when it gets dumped irresponsibly around the park and local streets. Some voters

criticized Council for wasteful spending and not anticipating the ongoing maintenance and security costs associated with the Big Rabbit.

At several all-candidate meetings in the lead-up to the election, residents complained that they are bearing high taxes in order to support assets (a park, community centre, and library) that are utilized by smaller adjacent municipalities which levy lower taxes on their residents. Several new Councillors were elected on a platform of fiscal responsibility and committed to keeping tax increases below the rate of inflation growth (historically: 2%). Reserves were drawn down partly to internally finance the Big Rabbit.

Council's Priority for Adanac Downtown

As part of Council's continuing efforts to promote tourism, Adanac's downtown core was revitalised 5 years ago. The roads, sidewalks lighting and street furniture were upgraded, and the local Business Improvement Area (BIA) supported the Mayor's and Council's efforts. Council is now turning its attention to possible improvements to the broader community infrastructure in order to support Council's strategic direction of an 'Active Destination' – not just for transient tourists to the Big Rabbit but for people who want to spend substantial portions of their summer in Adanac and Georges Bay.

Regulation & Adanac's 2013 Asset Management Plan

On December 27, 2017, the Province passed a regulation, 'Asset Management Planning for Municipal Infrastructure' (O.Reg. 588/17). The last update to Adanac's asset management plan occurred in 2013, when a consultant prepared a study as a precondition to receive Ontario Community Infrastructure Fund (OCIF) money. The Treasurer compiled the data and provided it to the consultant. The report was tabled at Council but not subsequently used to manage the township's infrastructure. Last year, Adanac was unsuccessful in its application for an Ontario Community Infrastructure Fund 'top-up' grant.

Township staff view the new regulation as an opportunity to revisit its asset management practices. At the same time, however, Council is pressuring senior management to do more with less. Staff are stretched – there is not enough time or resources to get everything done.

Pilot Project – Roads Asset Management Plan

Senior management decided that the best way to develop and implement an in-house asset management program was first to undertake a pilot project on one area of the Township's infrastructure portfolio. It was decided that roads infrastructure would be the pilot for the following reasons:

- The water infrastructure has recently been upgraded to meet provisions from the *Clean Water Act*;
- The wastewater infrastructure is also relatively new;
- There is not much condition data on the water mains and sewers from which to assess the state of infrastructure and the time that would be required to assemble the necessary information;
- The infrastructure for the other program service areas was not deemed substantial enough to carry out a robust pilot project;
- The condition of the bridges and major culvert had been assessed the previous year by a qualified consulting engineer;
- The condition of the roads had been visually assessed the previous year by the Operations Division over a six-month period as part of their regular patrols;
- The roads infrastructure was deemed to have the greatest need for asset improvements/upgrades. On the consultant-prepared Asset Management Plan from 2013, the Roads were rated with an overall condition of 'C+'.
- Improving the roads is directly related to Council's direction to support and promote sustainable tourism.

Exercise 1 – Establishing the Asset Hierarchy

In order to get the asset management program underway, it was decided that the data gathered for the 2013 asset management plan would be the basis of the asset inventory for Adanac Township. The newly hired Asset Management Coordinator (AMC) was provided the full inventory of assets from 2013 provided in a summary format on Table 1 – Adanac Township Infrastructure Inventory. The AMC reached out to the Township stakeholders to structure the assets into a hierarchy for improved planning.

TASK:

Using the materials provided and your own municipal experiences, suggest how the assets on Table 1 could be organized into a hierarchy for improved planning.

Required Materials:

- Exercise 1 – Adanac Roads, Service to Asset Hierarchy (printed copies provided)
- The “Adanac Township Case Study Background”
- Table 1 – Adanac Township Infrastructure Summary
- Table 2 – Partial Adanac Township Database

Additional reference materials (optional):

- Service to Asset Hierarchy Framework
- Service to Asset Hierarchy, Water Example

Exercise 2 – Developing an Asset Register

Adanac's senior management agrees on the asset hierarchy that has been established.

TASK:

Building on this, use the Asset Register Framework to:

- a) Determine what information is available from the 2013 asset management plan that can be carried forward for asset information and decision making; and***
- b) Identify gaps in the data and asset inventory.***

Required materials:

- Exercise 2 – Adanac Asset Database Inventory: Data Gap Analysis
- The "Adanac Township Case Study Background"
- Table 1 – Adanac Township Infrastructure Summary
- Table 2 – Partial Adanac Township Database

Additional reference material (optional):

- Asset Data Management Framework

Exercise 3 – Setting Levels of Service

A consulting engineering firm inspected the bridge and culvert conditions in 2018, thus updating the condition information that was used for the 2013 asset management plan. The consultant equated their Bridge Condition Index rating to a general rating system used by the municipality (see attached Adanac’s Asset Rating Guide).

At request of Township staff, two major retaining walls were also inspected by the consultant . The Smith Road retaining wall supports the roadside along Dales River while the Forest Avenue retaining wall supports the hillside embankment overlooking Forest Avenue. Both retaining walls were found to be in very poor condition and in need of immediate repairs.

The consultant also provided for the Township a number of recommended actions based on each bridge, culvert or retaining wall structural rating.

Table 3 – Bridge and Culvert Rating & Recommendation Guide

Bridge Rating	Status	Recommended Action
Very Good	Functional	Continue normal maintenance routines.
Good	Functional	Note deficiencies to be monitored and continue normal maintenance routines.
Fair	Functional	Initiate minor repairs and conduct more frequent monitoring and maintenance routines.
Poor	Marginally functional	Prioritize for immediate major repairs and conduct high frequency maintenance and daily inspection routines. Weight restrictions may be contemplated.
Very Poor	Not functional	Immediate major repairs required and weight restrictions/closure enforced. Conduct high frequency maintenance and daily inspection routines and prioritize major rehabilitation or replacement.

Roads Condition Assessments

Also in 2018, road conditions were visually inspected by experienced Operations staff and given a rating using the scales in the same **Adanac’s Asset Rating Guide**.

The inspections also included most minor cross culverts. Collapsed or blocked culverts were noted and put into the annual operations and maintenance plan.

The operations and engineering staff agreed to a similar table of recommendations as was developed for the bridges and culverts The ratings and recommended actions are summarized on Table 4.

Table 4 – Roads Rating & Recommendation Guide

Road Rating	Status	Recommended Action
Very Good	Functional	Continue normal maintenance routines
Good	Functional	Continue normal maintenance routines
Fair	Functional	Increase normal maintenance and monitor
Poor	Functional limitations	Initiate minor repairs and more frequent maintenance routines and plan for major rehabilitation
Very Poor	Barely or non-functional	Initiate major repairs, undertake high frequency maintenance and daily inspection routines and prioritize major rehabilitation

Considering Asset Levels of Service Targets

The Township wants to use the rating system on the Manager Rating Guide to set and measure asset level of service targets for roads infrastructure. Per Table 1 and Table 2 of Adanac Infrastructure Summary, the ratings are already being used to indicate the current asset levels of service for Adanac’s assets.

There has been much debate between staff, Council and public interest groups about what the condition targets should be. Most agree that the current levels of service for many of the asset classes and asset are not desirable and the Township would like to test some reasonable targets to determine priorities and eventually test the long term sustainability of the targets. There are a number of competing considerations which need to be balanced:

1. Council is under pressure not to increase taxes and therefore wants to minimize expenditures on asset renewals
2. Council and the BIA wants to maintain the downtown commercial core and Big Rabbit in “Good” to “Very Good” condition to attract tourism and mitigate reputational risk
3. Both Council and senior staff have noted that:
 - Public complaints increased markedly when bridge and culverts enter a “Poor” rating
 - Public complaints about roads suddenly begin to increase when roads enter a ‘Fair’ rating.
4. Council has suggested that the condition rating at which public complaints rise should be used to set the targets for asset levels of service

5. Council, the public and staff put a high priority on health and safety and therefore have a low tolerance for such risks. In order to meet this objective, staff are recommending that all assets at least be maintained in a 'Fair' or 'functional' state and perhaps critical assets (such as bridges and major retaining walls) be maintained in a 'Good' state.
6. An annual line item is maintained in the capital budget to resurface the gravel roads on a regular 5-year schedule to keep them in 'Fair' condition. In line with this schedule, approximately 20% of the Township's gravel roads are re-surfaced annually.
7. The storm sewer manholes, inlets and catch basins were inspected from the ground surface as part of the roads inspection process. There is no data available on the internal condition of the pipes and there is no rating system by which to set asset levels of service targets.

TASK:

Using the information above, recommend asset levels of service targets for each of the asset classes that you feel would strike a balance between:

- ***Affordability;***
- ***Providing acceptable services to the public;***
- ***Meeting Council's objective of a desirable tourist destination;***
- ***Mitigating risks to a reasonable level.***

Required materials:

- Exercise 3 – Adanac Roads Levels of Service Diagram (printed copies provided)
- Exercise 3 – Adanac Roads Levels of Service Diagram (printed copies provided)
- Completed Exercise 1 – Adanac Roads, Service to Asset Hierarchy
- Managers' Rating Guide

Exercise 4 – Evaluating Asset Risks: A Risk Assessment Process

There will be many infrastructure gaps between current and desired asset levels of service. Closing the gaps will take many years with limited resources. The challenge for Adanac is to prioritize the asset management plan to address the highest asset priorities. To do this, Adanac will need to conduct a risk assessment of its infrastructure.

TASK:

Using the risk assessment tools, complete risk assessments for the following:

- ***Storm Sewers (group exercise)***
- ***LCB Pavement***
- ***Bridges***
- ***Culverts***
- ***Retaining walls***

Required materials:

- Table 2 – Partial Adanac Township Database
- Completed Exercise 3A – Adanac Roads Levels of Service Diagram
- Completed Exercise 3B – Adanac Roads Levels of Service Diagram
- Exercise 4A – Storm Sewer Risk Assessment (done on the computer)
- Exercise 4B – LCB Pavement Risk Assessment (done on the computer)
- Exercise 4C – Bridge Risk Assessment (done on the computer)
- Exercise 4D – Culvert Risk Assessment (done on the computer)
- Exercise 4E – Retaining Wall Risk Assessment (done on the computer)
- Consequence Guide (printed copies provided)
- Likelihood Guide (printed copies provided)
- PowerPoint “Tips Sheet for Assessing Risk” (Session 4 slide deck)

Exercise 5 – Prioritized Decision-Making Using Enterprise Risk Management

Decisions need to be made by Council and staff on cross organizational asset priorities to achieve Council’s objective of making Adanac a desirable tourist destination. A cross organizational assessment is required.

TASK:

Using the risk assessment tools do a cross organizational assessment of infrastructure priorities for those assets in ‘Poor’ condition.

Required materials:

- Table 1 – Adanac Township Infrastructure Summary
- Exercise 4B – LCB Pavement Risk Assessment
- Exercise 4C – Bridge Risk Assessment
- Exercise 4D – Culvert Risk Assessment
- Exercise 4E – Retaining Wall Risk Assessment
- Exercise 5 – Big Rabbit Risk Assessment
- Consequence Guide
- Likelihood Guide
- PowerPoint “Tips Sheet for Assessing Risk” (Session 4 slide deck)

Exercise 6: Leadership & Governance

Further Case Background

The Township currently has four departments accountable for a number of service programs as indicated on Table 2.

Table 2 – Adanac Departments and Services

Department	Services
Finance & Internal Services	Financial Reporting Clerks & Legal Services Purchasing IT Services
Public Works	Roads
	Water
	Wastewater
	Solid Waste
Fire & Emergency Services	Prevention & Protection
Community & Recreation	Recreation & Tourism
	Community Services

In the past, the Treasurer/Director of Finance was responsible for asset management. Besides hiring a consultant in late 2012 to complete an Asset Management Plan, the Treasurer reports on capital-related issues in the annual Financial Information Returns (FIRs), such as Schedules 51 (Tangible Capital Assets) and 60 (Continuity of Reserves and Reserve Funds). The Treasurer also prepares the annual operating and capital budgets.

The Treasurer purchased asset management software several years ago. However, this has been largely underutilized and not integrated with the Rhinestone software that the Finance department uses for financial accounting and budgeting.

The dynamics of the Township’s senior leadership team are changing. The former Public Works Director did not feel comfortable using spreadsheets and maintaining asset data. The new Public Works Director, hired in 2017, wants to be more actively involved and believes the asset management function should be led within Public Works. The Treasurer believes that Finance should continue being the lead coordinating department for asset management.



After the passage of O.Reg. 588/17, the CAO was concerned with whether Adanac's asset management governance model could be improved, especially in light of the new regulatory requirements. The CAO consulted with Adanac's senior leadership team as well as with Council.

At a recent senior leadership meeting, the CAO announced a new governance structure that would place the asset management functions under the control of the Public Works Department. The reasoning for the decision was based on a number of factors:

- Most of the Township's asset portfolio was being managed by the Public Works Department;
- Experience in infrastructure design, construction, operations, maintenance, condition assessments resides in the Public Works Department; and
- Although the Finance Department previously led the data management function (by default, and focusing solely on financial or Public Sector Accounting Board-based reporting), the new Public Works Director has experience in managing asset condition data.

The CAO directed the governance model to include points of contact between Public Works asset management staff and designated staff in the other departments to ensure that the asset management program upheld the asset management-related requirements of the other departments.

Asset Management Coordinator

As part of the governance structure review, the Township identified the need to hire an Asset Management Coordinator.

Senior management are planning to request support to hire an Asset Management Coordinator FTE (full-time employee) through this year's upcoming budget process. Council may be supportive of the hiring, in principle, but may question whether a part-time hire could suffice or whether that resource can be shared with another municipality.

At a recent regional AMCTO meeting, a couple of municipalities asked for people's experiences in sharing (e.g., co-hiring) an Asset Management Coordinator. No nearby municipality had hired a shared Asset Management Coordinator, but one clerk in attendance privately mentioned her municipality's mixed experience of 'sharing' a by-law enforcement officer with another municipality. In the end, senior management and Council settled on hiring a contract Asset Management Coordinator to undertake an asset management program for Adanac Township.

TASK:

Discussion

- **What asset management governance structure does Adanac utilize?**
- **Besides the change in leadership structure, what other priority issues should management address that would shape how effectively asset management is done at Adanac Township?**
- **In anticipating fiscal concerns from Council, are there cost-saving opportunities that management should explore?**
- **Are there new, incremental operating costs that management should make Council aware of that will increase the ongoing operational/capital costs of the municipality?**