CITY OF TIMMINS

ASSET MANAGEMENT PLAN

In Association with:

NOVEMBER 28, 2014

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Planning for growth

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December 10, 2014

City of Timmins
220 Algonquin Blvd East
Timmins, ON
P4N 1B3

Dear Sir/Madam:

Re: Asset Management Plan

Watson & Associates Economists Ltd. (Watson) in association with Ainley Group (Ainley) is pleased to submit the enclosed Asset Management Plan.

The Asset Management Plan has been created to conform with the "Building Together: Guide for Municipal Asset Management Plans" as published by the Province of Ontario. This guide documents the components, information and analysis that are required to be included in a municipality's asset management plan. A high level summary of the components follows:

1. Executive Summary;
2. Introduction;
3. State of Local Infrastructure;
4. Desired Levels of Service;
5. Asset Management Strategy; and
6. Financing Strategy.

The Asset Management Plan was developed through coordination with City staff and through sound engineering and financial judgement of applicable assets. The ultimate goal was to provide the City with a useful document that not only assists with future grant applications, but also provides a tool for ongoing capital forecasting needs.

If you have any questions about the plan, please do not hesitate to contact us.

Yours Very Truly,
Watson & Associates Economists Ltd.

Dan Wilson

Dan Wilson, BBA, CPA, CA
Associate Director

cc. Gary Scott, Ainley Group

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CONTENTS

EXECUTIVE SUMMARY

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This report contains the Asset Management Plan for the City of Timmins (City) and has been organized as follows:

Chapter 1: Introduction;
Chapter 2: State of Local Infrastructure;
Chapter 3: Expected Levels of Service;
Chapter 4: Asset Management Strategy;
Chapter 5: Financing Strategy; and
Chapter 6: Recommendations.

The "state of local infrastructure" chapter provides an overview of the capital assets owned by the City. This includes detailed information on the City's asset inventory, including asset attributes, accounting valuations, replacement costs, useful life, age and asset condition. This information provides the foundation for other sections of the asset management plan.

"Expected levels of service" compares the current level of service provided by the City to the level of service determined to be expected in each area. This analysis combines both descriptions/comments as well as performance measures in establishing service levels.

The "asset management strategy" provides a long term operating and capital forecast for asset related costs, indicating the requirements for maintaining, rehabilitating, replacing/disposing and expanding the City's assets, while moving towards the specified expected levels of service identified above. The goal of the asset management strategy is to have the City in (or moving towards) a sustainable asset management position over the forecast period.

The "financing strategy" identifies a funding plan for the asset management strategy, including a review of historical results and recommendations with respect to the required amounts and types of funding (revenue) annually. Also, any infrastructure funding deficits/shortfalls are identified and recommendations are made regarding potential approaches to reduce and mitigate the shortfall over the forecast period.

Overall, this asset management plan is a tool to be used by City staff for capital and financial decision making. It can be tied to various existing reports (such as the City's budget, official plan and strategic planning reports) to ensure the asset management plan can be updated to reflect any changes in City priorities.

1. INTRODUCTION

1. INTRODUCTION

1.1 Overview

The main objective of an asset management plan is to use a City's best available information to develop a comprehensive long term plan for capital assets. In addition, the plan should provide sound methodologies and support in order to improve the accuracy of the plan on a go forward basis.

Watson & Associates Economists Ltd. (Watson) in association with Ainley Group (Ainley), was retained by the City to prepare an asset management plan. This plan is intended to be a tool for City staff to use during various decision making processes, including the annual budgeting process and capital grant application processes. This plan will serve as a road map for sustainable infrastructure planning going forward.

The following assets are included in this asset management plan:

- Road related (roads, bridges, guide rails, sidewalks and traffic lights);
- Stormwater related (mains, manholes and catch basins);
- Facilities;
- Airport related (buildings, machinery/equipment, and infrastructure)
- Parks related (land improvements);
- Fleet (vehicles and machinery/equipment);
- Water related (mains, facilities, hydrants, valves, vehicles and machinery/equipment); and
- Wastewater (mains, facilities, man holes vehicles and machinery/equipment).

The City's goals and objectives with respect to their capital assets relate to the level of service being provided to City residents. Services should be provided at expected levels, as defined within this asset management plan. City infrastructure and other capital assets should be maintained at condition levels that provides a safe and functional environment for its residents. Therefore, the asset management plan and its implementation will be evaluated based on the City's ability to meet these goals and objectives.

1.2 Plan Development

The asset management plan process developed a program that leverages the City's asset database information, staff input and asset management principles.

The development of the City's asset management plan was based on the steps summarized below:

1) Develop a complete listing of capital assets to be included in the plan, including attributes such as size/material type, useful life, age, accounting valuation and current valuation. Update current valuation, where required, using applicable inflationary indices.
2) Assess current condition of the assets, based on a combination of existing City reports, inspections and an asset age analysis.
3) Assess the risk of asset failure for each asset, based on determining the probability of each asset failing, as well as the consequence of the asset failing. This risk analysis identifies priority projects for inclusion in the City's capital forecast, as well as high risk assets that require mitigation.
4) Determine and document current levels of service, as well as expected levels of service, based on discussions with City staff.
5) Prepare an asset management strategy (i.e. operating and capital forecast) based on the asset inventory, identified priorities, forecast scenarios, and level of service analysis discussed above.
6) Determine a financing strategy to support asset management strategy, thus determining how the operating and capital related expenditure forecast will be funded over the period.
7) Prepare a comprehensive Asset Management Plan final report.

1.3 Maintaining the Asset Management Plan

The asset management plan should be updated as the capital needs and priorities of the City change. This can be accomplished in conjunction with specific asset legislative requirements as well as the City's budget process. City staff will have the tools available to perform updates to the plan when needed.

When updating the asset management plan, note that the state of local infrastructure, expected levels of service, asset management strategy and financing strategy are integrated and impact each other. Looking at these components in reverse order, the financing strategy outlines how the asset management strategy will be funded. The asset management strategy illustrates the costs required to maintain expected levels of service at a sustainable level. The expected levels of service component summarizes and links each service area to specific assets contained in the state of local infrastructure section and thus determines how these assets will be used to provide expected service levels.

While this report covers a forecast period of 20 years, the full lifecycle of the City's assets was considered in the calculations. It is suggested that more focus and attention be put on the first 5 years of the asset management plan, to ensure accurate capital planning in the short term.

1.4 Plan Integration

The municipal environment is a continually changing and demanding environment when it comes to legislation and other responsibilities. Integrating the asset management plan with the City's budget process as well as Public Sector Accounting Board Section 3150 (PSAB 3150) requirements can make updates in all three areas more efficient.

With respect to integrating the City's budget process with asset management planning, both require a projection of capital and operating costs of a future period. The budget outlines total operating and capital requirements of the City, while the asset management plan focuses in on specific asset related requirements. With this link to the annual budget, the budget update process can become an asset management plan update process.

Both asset management and PSAB 3150 require a complete and accurate asset inventory. The significant difference between the two lies in valuation approaches; PSAB 3150 requires historical cost valuation, while asset management requires future replacement cost valuation. Using a single asset inventory containing both valuation methods is an effective approach to maintaining the City's asset data.

Further integration into other City financial/planning documents would assist in ensuring the ongoing accuracy of the asset management plan, as well as the integrated financial/planning documents. The asset management plan has been developed to allow linkages to documents such as:

- Official Plan;
- Water and Wastewater Rate Study;
- Strategic Planning Reports;
- Fiscal Impact/Operating Studies; and
- Insurance valuations and records.

2. STATE OF LOCAL INFRASTRUCTURE

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2.1 Scope and Process

This section of the plan provides an opportunity to develop a greater understanding of the capital assets owned by the City. The state of local infrastructure analysis includes:

- An asset database documenting asset types, sub-types including quantities, materials and other similar asset attributes;
- Financial accounting valuation (where available);
- Replacement cost valuation;
- Asset age distribution analysis and asset age as a proportion of expected useful life;
- Asset condition information;
- Data Verification and Asset Condition policies; and
- Documentation of assumptions made in creating the asset inventory.

The state of local infrastructure analysis was performed by Ainley. This included the compilation of applicable asset inventory, inclusion of asset data from various existing City reports, valuation calculations, condition ratings and risk assessments (see Chapter 4). Please refer to Appendix A for the complete asset inventory listings and to Appendix B for Ainley's State of Infrastructure Report. Appendix C contains the assumptions made while completing the asset management plan.

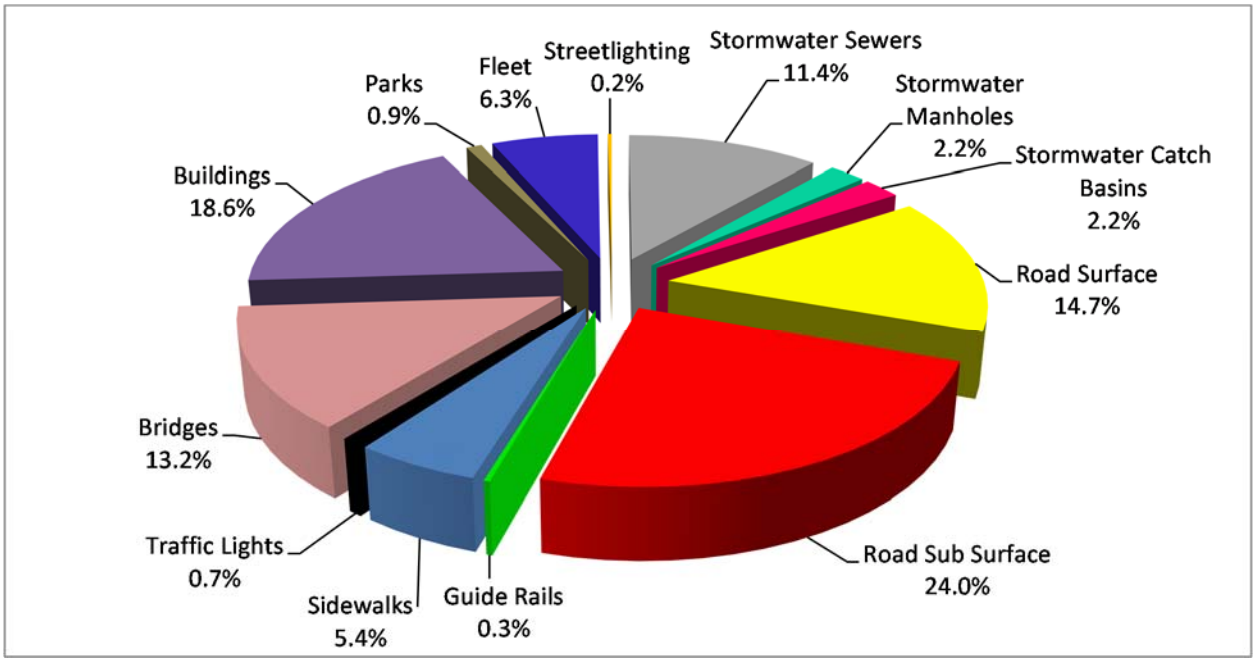
2.2 Capital Asset Overview

The City presently owns and manages tax supported capital assets with a 2014 replacement value of approximately $629.77 million (excluding land asset, airport assets and assets not referred to in Section 1.1, as they are not included in this plan). Table 2-1 outlines the breakdown of these totals and Figure 2-1 illustrates the breakdown.

Table 2-1
2014 Tax Supported Assets

Asset Type	Historical Cost 13/31/2012	Accumulated Amortization 12/31/2012	Net Book Value 12/31/2012	Replacement Cost 2014$
Stormwater Sewers	22,991,960	7,922,655	15,069,305	71,637,576
Stormwater Manholes	4,396,750	1,602,525	2,794,225	13,621,997
Stormwater Catch Basins	2,212,270	702,229	1,510,041	14,088,433
Road Surface	49,179,834	37,186,767	11,993,067	92,453,212
Road Sub Surface	11,841,738	2,364,410	9,477,329	150,972,353
Guide Rails	596,241	498,300	97,940	1,702,379
Sidewalks	5,604,203	2,958,360	2,645,843	34,268,100
Traffic Lights	-	-	-	4,135,450
Bridges	34,393,430	14,014,266	20,379,164	82,915,000
Buildings	49,574,819	23,593,222	25,981,597	117,020,420
Parks	2,428,774	1,931,695	497,079	5,832,457
Fleet	29,866,339	16,391,911	13,474,428	39,682,810
Streetlights	883,613	499,731	383,883	1,440,128
Total Tax Supported Capital Assets	**$ 213,969,971**	**$ 109,666,071**	**$ 104,303,900**	**$ 629,770,316**

Figure 2-1
2014 Tax Supported Assets Distribution
Based on Replacement Cost

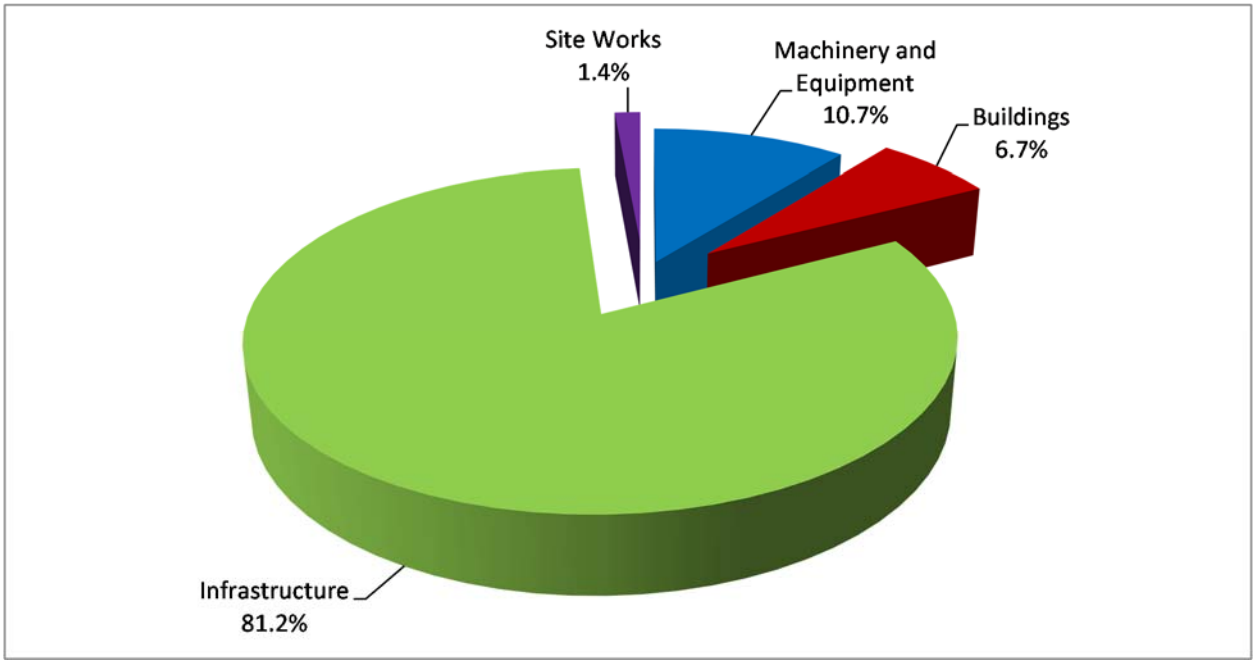


The City presently owns and manages airport capital assets with a 2014 replacement value of approximately $35.94 million (excluding land assets and assets not referred to in Section 1.1, as they are not included in this plan). Table 2-2 outlines the breakdown of these totals and Figure 2-2 illustrates the breakdown.

Table 2-2
2014 Airport Assets

Asset Type	Historical Cost 13/31/2012	Accumulated Amortization 12/31/2012	Net Book Value 12/31/2012	Replacement Cost 2014$
Machinery and Equipment	49,841	13,359	36,482	3,837,265
Buildings	-	-	-	2,396,810
Infrastructure	-	-	-	29,191,230
Site Works	-	-	-	515,000
Total Airport Capital Assets	**$ 49,841**	**$ 13,359**	**$ 36,482**	**$ 35,940,305**

Figure 2-2
2014 Airport Assets Distribution
Based on Replacement Cost

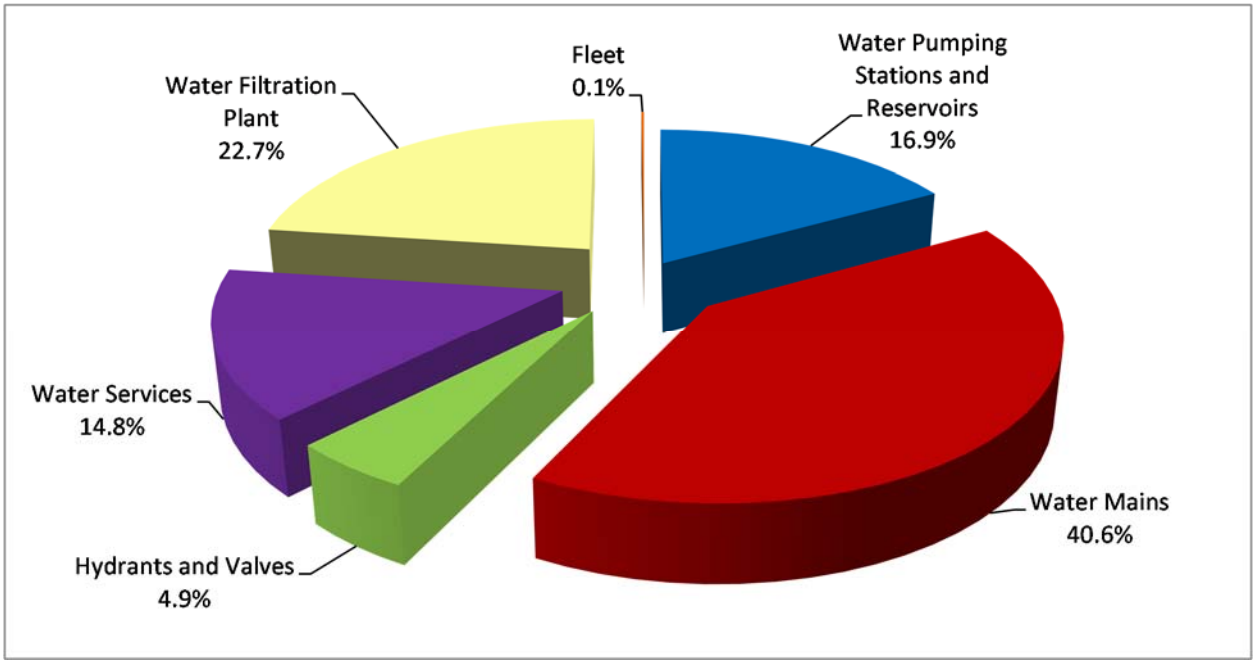


The City presently owns and manages water capital assets with a 2014 replacement value of approximately $260.02 million (excluding land assets and assets not referred to in Section 1.1, as they are not included in this plan). Table 2-3 outlines the breakdown of these totals and Figure 2-3 illustrates the breakdown.

Table 2-3
2014 Water Assets

Asset Type	Historical Cost 13/31/2012	Accumulated Amortization 12/31/2012	Net Book Value 12/31/2012	Replacement Cost 2014$
Water Pumping Stations and Reservoirs	8,358,351	2,966,690	5,391,660	43,882,120
Water Mains	22,694,436	8,894,423	13,800,013	105,620,320
Hydrants and Valves	2,082,285	891,413	1,190,872	12,727,092
Water Services	11,804,112	5,913,355	5,890,757	38,383,465
Water Filtration Plant	9,916,044	4,208,689	5,707,355	59,046,810
Fleet	289,527	239,691	49,837	363,590
Total Water Capital Assets	**$ 55,144,755**	**$ 23,114,261**	**$ 32,030,494**	**$ 260,023,397**

Figure 2-3
2014 Water Assets Distribution
Based on Replacement Cost

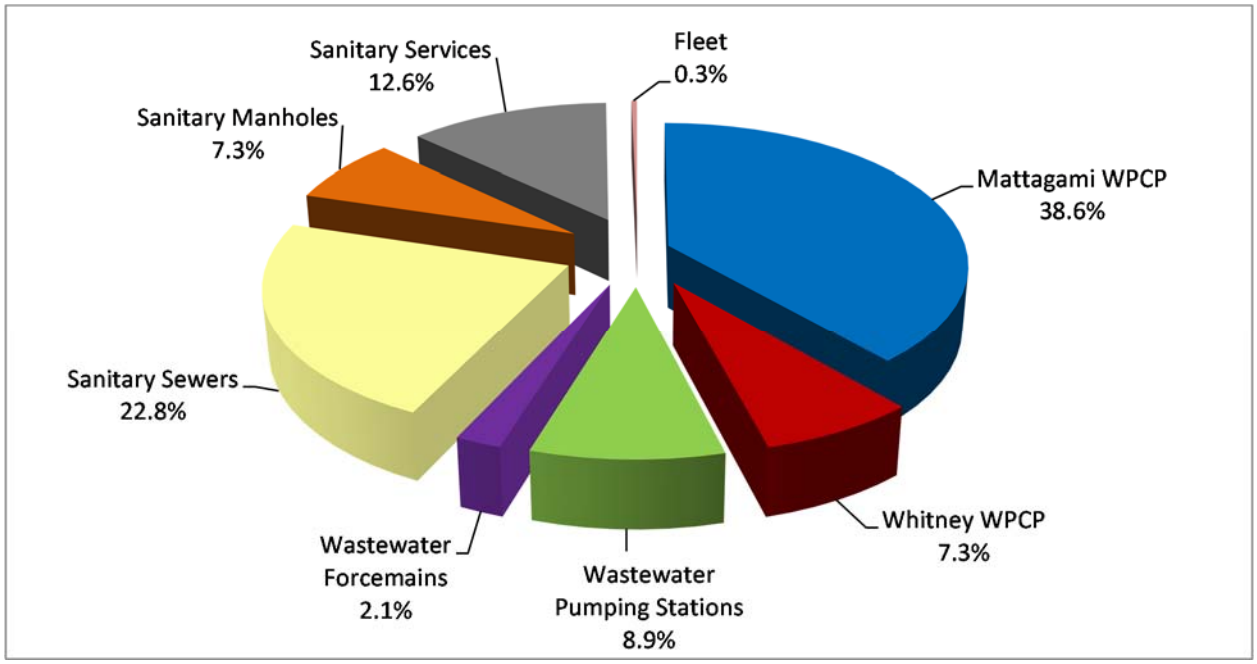


The City presently owns and manages wastewater capital assets with a 2014 replacement value of approximately $257.33 million (excluding land assets and assets not referred to in Section 1.1, as they are not included in this plan). Table 2-4 outlines the breakdown of these totals and Figure 2-4 illustrates the breakdown.

Table 2-4
2014 Wastewater Assets

Asset Type	Historical Cost 13/31/2012	Accumulated Amortization 12/31/2012	Net Book Value 12/31/2012	Replacement Cost 2014$
Mattagami WPCP	437,638	175,293	262,075	99,417,270
Whitney WPCP	1,838,083	1,720,327	117,756	18,756,815
Wastewater Pumping Stations	1,747,222	1,123,420	623,802	22,932,950
Wastewater Forcemains	978,501	471,888	506,613	5,500,200
Sanitary Sewers	18,294,815	4,590,496	13,704,319	58,618,330
Sanitary Manholes	4,402,927	1,568,181	2,834,745	18,841,893
Sanitary Services	7,207,854	2,655,936	4,551,917	32,361,776
Fleet	812,649	317,086	495,563	896,100
Total Wastewater Capital Assets	**$ 35,719,688**	**$ 12,622,628**	**$ 23,096,790**	**$ 257,325,334**

Figure 2-4
2014 Wastewater Assets Distribution
Based on Replacement Cost



Tables 2-1 to 2-4 also show the City's financial accounting valuation summary by asset type. Since 2009, the City has been required under PSAB 3150 to maintain asset listings complete with historical cost (i.e. the original cost to purchase or construct an asset), accumulated amotization and net book value. These values are reported on the City's audited financial statements each year.

The detailed capital asset inventory is contained in Appendix A. Assumptions pertaining to the asset inventory were documented as part of the asset management process are shown in Appendix C.

2.3 Asset Age Analysis

Each asset is tracked based on estimated total useful life and remaining service life. Using this information, an age analysis of the City's assets can assist in identifying potential areas of focus for the asset management plan.

Table 2-4 provides an age analysis summary, including the weighted (based on replacement cost) average useful life and weighted average remaining useful life for all of the assets included in this plan. This analysis can assist in identifying potential short-term priorities within specific asset areas.

Table 2-5
Asset Age Analysis

Tax Supported Assets

Asset Type	Weighted Average (rounded)		
	Useful Life	Remaining Useful Life	% Useful Life Remaining
Stormwater Sewers	70	36	52.12%
Stormwater Manholes	70	35	50.62%
Stormwater Catch Basins	70	36	51.06%
Road Surface	16	3	15.81%
Road Sub Surface	50	29	58.72%
Guide Rails	25	1	3.30%
Sidewalks	44	6	13.35%
Traffic Lights	25	8	30.81%
Bridges	49	26	52.98%
Buildings	58	28	47.85%
Parks	23	6	25.29%
Fleet	15	7	43.82%
Streetlights	20	8	40.00%

Airport Assets

Asset Type	Weighted Average (rounded)		
	Useful Life	Remaining Useful Life	% Useful Life Remaining
Machinery and Equipment	52	23	43.18%
Buildings	80	41	51.57%
Infrastructure	31	6	20.34%
Site Works	38	4	9.47%

Water Assets

Asset Type	Weighted Average (rounded)		
	Useful Life	Remaining Useful Life	% Useful Life Remaining
Water Pumping Stations and Reservoirs	69	38	55.01%
Water Mains	75	32	42.34%
Hydrants and Valves	75	18	24.50%
Water Services	75	31	41.07%
Water Filtration Plant	65	35	53.64%
Fleet	12	1	10.15%

Wastewater Assets

Asset Type	Weighted Average (rounded)		
	Useful Life	Remaining Useful Life	% Useful Life Remaining
Mattagami WPCP	65	55	84.74%
Whitney WPCP	72	37	51.26%
Wastewater Pumping Stations	40	14	34.70%
Wastewater Forcemains	70	35	49.67%
Sanitary Sewers	70	24	34.13%
Sanitary Manholes	70	24	34.14%
Sanitary Services	70	26	37.59%
Fleet	14	9	64.98%

Total useful life and remaining service life for each capital asset is documented in Appendix A.

While this analysis can be useful in looking at the overall age characteristics of specific asset areas, asset condition (see below) will assist in providing a more accurate assessment of assets reaching the end of their useful life.

2.4 Asset Condition

Including condition assessments in the asset management plan provides for a higher level of accuracy than simply relying on useful life assumptions, especially when it comes to older, highly used or more financially significant assets. Condition assessments can provide more realistic estimates of remaining service life, which can then be used to establish rehabilitation or replacement schedules.

Please refer to Appendix B, for the detailed process, guidelines and assumptions used by Ainley to assign condition to each asset. A grade rating was determined using the data included in Appendix B, where a rating of 1 represents an asset in very good condition and a 5 represents an asset in critical/very poor condition. A high level summary of the weighted average condition in each asset category is as follows:

Table 2-7
Weighted Average Condition by Asset Category

Tax Supported Assets

Asset Type	Asset Condition
Stormwater Sewers	3
Stormwater Manholes	3
Stormwater Catch Basins	3
Road Surface	4
Road Sub Surface	2
Guide Rails	5
Sidewalks	4
Traffic Lights	3
Bridges	3
Buildings	3
Parks	2
Fleet	3
Streetlights	

Airport Assets

Asset Type	Asset Condition
Machinery and Equipment	3
Buildings	2
Infrastructure	2
Site Works	3

Water Assets

Asset Type	Asset Condition
Water Pumping Stations and Reservoirs	2
Water Mains	3
Hydrants and Valves	4
Water Services	3
Water Filtration Plant	3
Fleet	4
Total Water Capital Assets	

Wastewater Assets

Asset Type	Asset Condition
Mattagami WPCP	1
Whitney WPCP	3
Wastewater Pumping Stations	4
Wastewater Forcemains	3
Sanitary Sewers	4
Sanitary Manholes	4
Sanitary Services	4
Fleet	3

Further discussion of condition assessments will take place in Chapter 4 when assessing asset risk and identifying asset priorities. Furthermore, detailed asset conditions are documented in Appendix A to this report. As some condition assessments are currently based on the age of the assets, it is recommended that these condition assessments be updated as new information becomes available. Please see section 2.5 for further details.

2.5 Data Accuracy and Completeness

An important element of this asset management plan is ensuring that tools and procedures are in place to maintain accuracy and completeness of the asset data and calculations moving forward. As time passes, assets are used, maintained, improved, disposed of, and replaced. All of these lifecycle events can trigger changes to the asset database used within the asset management plan. Therefore, tools and procedures are essential to ensure the asset data remains accurate and complete. Please refer to Appendix D to this report for the "Data Verification and Condition Assessment Policy" for the City. This policy illustrates how the asset data will be updated and verified going forward. This includes the timing of condition assessments for each asset area, as well as what should be included within the condition assessment procedures.

3. EXPECTED LEVELS OF SERVICE

3. EXPECTED LEVELS OF SERVICE

3.1 Scope and Process

A level of service (LOS) analysis gives the City an opportunity to document the level of service that is currently being provided and compare it to the level of service that is expected. This can be done through a review of current practices and procedures, an examination of trends or issues facing the City, or through an analysis of performance measures and targets that staff can use to measure performance.

Expected LOS can be impacted by a number of factors, including:

- Legislative requirements;
- Strategic planning goals and objectives;
- Resident expectations;
- Council or City staff expectations; and
- Financial or resource constraints.

The previous task of determining the state of the City's local infrastructure establishes the asset inventory and condition, as well as asset management policies and principles to guide the refinement and upkeep of asset infrastructure. The LOS analysis will utilize this information and factors in the impact of asset service level targets. It is important to document an expected LOS that is realistic to the City. It is common to strive for the highest LOS, however these service levels usually come at a cost. It is also helpful to consider the risk associated with a certain LOS. Therefore, expected LOS should be determined in a way that balances both level of investment and associated risk to the City.

3.2 Current Levels of Service versus Expected Levels of Service

The City's current LOS has resulted in the current state of infrastructure discussed in chapter 2. The current LOS also relates to the risk assessment discussed in later report sections. Regarding the cost of LOS, the City has established an operating and capital budget for the current year that includes the cost of providing this LOS to residents.

Therefore in moving from the current LOS to an expected LOS, consideration has to be made for the associated cost (or impact on the City's current budget). The table below outlines broad LOS descriptions (both current and expected LOS). This analysis was documented through discussions with City staff, through workshops organized by BluePlan Engineering (a sub-consultant to Ainley). As this analysis relates to services that are guided by legislative requirements and standards (i.e. roads, parks, water and wastewater), the current and expected LOS are similar.

Please refer to Appendix E of this report for a table summarizing the estimated budget impacts associated with implementing the expected LOS over the 20 year forecast period. This impact analysis will be factored into the asset management strategy discussed in chapter 4 of this report.

Table 3-1
Level of Service Analysis

Roads

Department	Level of Service Description		Comments
	Current	Expected	
Roads (paved)	Lifecycle (run to failure), priority based on matching with Water & Sewer Projects & higher volume traffic	Pavement Condition Index based (to be determined, typically maintain PCI>60); Goal to Reduce Number of Boulevards	Average historical index was approximately 56 across the system.
Roads (gravel)	Lifecycle (run to failure), priority based on visual inspection & customer complaints		Decision to keep roads gravel or convert to surface treated/paved is based on traffic volumes. For lower volume roads the current practices to inspect and react to complaints.
Roads (surface treated)	Resurface every 5 years, customer complaints can accelerate schedule.		Surface treated roads with a traffic volume of under 500 per day will be considered for conversion to gravel.
Bridges/Culverts	75 Year Service Life (with load restrictions allowed).	75 Year Service Life (no load restrictions allowed).	Perform OSIM inspections (every 2 years) to identify capital & operating plan. Includes routine maintenance, rehabilitation and replacement requirements. Increase annual maintenance required to extend service life. Goal: Track BCI for all bridges (maintain BCI>70).
Street Lights	Maintenance based on a contract. Energy efficiency programs can accelerate replacement programs.		
Traffic Lights	Lifecycle (maintain to 25 year service life)		City continuing to look at opportunities to reduce the number of intersections if traffic volumes do not warrant traffic lights.
Storm Sewers (pipe, MH, catch basins)	Water and sewer pipe replacement program drives early replacement of storm. Otherwise a 75 year useful life.		
Sidewalks	Mostly sidewalks on both sides of each street. Annual inspection for condition (maintain to reduce trip hazards).	Reduce to 1 side of street where possible. Maintain to reduce trip hazards.	Focus on bike lane/trail enhancements.

Fleet

Department	Level of Service Description		Comments
	Current	Expected	
Buses	Lifecycle (18 years of service for 40' buses, 7 years of service for 25' buses). 1 major refurbishment over lifespan), Quantity based on required run time + spare for cleaning/service.		City is trying to maintain or reduce the size of the servicing area to maintain budgets & level of service. Lifecycle dependant on road conditions.
Fire	Replace based on service life estimates.		Budget $325k annually for replacement of Fire fleet and equipment.
Police	Active Cruisers - Lifecycle (3 year replacement cycle)		
Light Fleet	Lifecycle (8-10 year service life)	Lifecycle (7 year service life)	Will reduce the maintenance requirements if they replace earlier.
Heavy Fleet	Increased maintenance to maintain fleet beyond typical lifespan.	Replace based on service life estimates. Increase quantity of fleet to support service requirements (i.e. sidewalk plows).	
Specialty Equipment	Lifecycle (run to estimated service life for each type).		

Table 3-1
Level of Service Analysis

Water

Department	Level of Service Description		Comments
	Current	Expected	
Water mains (pipes, valves, hydrants, services)	Lifecycle (run to failure), priority based on recent breaks and complaints.	Condition based maintenance and replacement (total breaks & breakage pattern). Addition of anodes (valves/exposed pipes) to extend service life.	Consider installation of water meters.
Water Treatment Plant (process)	Meet Regulations (CofA), energy efficiency/obsolescence can prioritize replacement.		
Water Treatment Plant (building)	Lifecycle (run to failure). Reactive prioritization based on observations.		Roofs of key facilities (i.e. clear wells) inspected every 5 years.
Reservoirs/ Pumping Stations	Meet Regulations, energy efficiency/obsolescence can prioritize replacement		

Sewer

Department	Level of Service Description		Comments
	Current	Expected	
Sewers (pipes, MH, laterals)	Lifecycle (run to failure), priority based on backups/complaints.	Condition based maintenance and replacement (maintain CCTV records).	Potential main relining in areas where open cut is difficult.
Sewage Treatment Plant (process)	Meet Regulations (CofA), energy efficiency/obsolescence can prioritize replacement.		
Sewage Treatment Plant (building)	Lifecycle: Reactive prioritization based on observations.		
Sewage Pump Stations	Capacity to eliminate 90% of backups & overflows/bypasses, lifecycle (run to failure) on equipment (i.e. pumps).	Capacity to eliminate all (100%) backups & overflows/bypasses, lifecycle (inspection based replacement).	Running pumps beyond estimated service life. Want to move from reactive to proactive maintenance, expect a 20-25% increase in maintenance costs, in order to offset failure costs.
Sewage Force mains	Lifecycle: Priority based on breaks. Capacity requirements to match Pumping Station expansions.	Lifecycle (before end of service life to reduce potential breaks and disruption). Capacity requirements to match Pumping Station expansions.	

Buildings

Department	Level of Service Description		Comments
	Current	Expected	
Buildings	Moving from reactive to limited condition inspections	Lifecycle: Proactive, condition inspections, priority based on reducing maintenance & energy costs.	Higher priority to be set on public/office/fire/emergency/water buildings over other buildings (i.e. storage and warehousing).

Table 3-1
Level of Service Analysis

Parks

Department	Level of Service Description		Comments
	Current	Expected	
Playground Equipment	Striving to meet Regulations (CSA Playground Standards).	Meet Regulations (CSA Playground Standards).	
Sports Fields	Lifecycle (estimated service life).	Lifecycle (estimated service life).	Currently run to an alternative (lessor) standard for quality for some sports fields. Updates required.
Fencing	Lifecycle (estimated service life). Proactive Maintenance.		Decision needed regarding the improvement, replacement or elimination (with subsitution) of the grand stands.

3.3 Level of Service Performance Measures

As mentioned above, using performance measures in the LOS review can also be helpful in measuring the City's goals and objectives when it comes to asset management. The City currently tracks specific performance measures as part of the Municipal Performance Measurement Program (MPMP) which the province has in place as part of the annual Financial Information Return (FIR) submission. The FIR provides the annual financial results of the City, while the MPMP provides an evaluation of the City's "performance". The following table provides a summary of the specific MPMPs relating to capital asset effectiveness.

Table 3-2
Performance Measures Analysis

Department	Assets	Performance Measure Description	Historical Performance			Goal
			2011	2012	2013	
Fire	Buildings, Equipment, Vehicles	Residential fire civilian injuries per 1,000 persons	0.0700	0.0230	0.0230	Minimize
Fire	Buildings, Equipment, Vehicles	Residential fire civilian fatalities per 1,000 persons	0.0230	-	-	Minimize
Fire	Buildings, Equipment, Vehicles	Number of residential structural fires per 1,000 households	1.0830	1.2320	1.2280	Minimize
Police	Buildings, Equipment, Vehicles	Total crime rate per 1,000 persons	69.9870	76.1260	64.5890	Minimize
Transportation	Roads	Percentage of paved lane km where condition is rated as good to very good	78.90%	78.90%	78.90%	Maximize
Transportation	Bridges & Culverts	Percentage of bridges & culverts where condition is rated as good to very good	66.70%	88.90%	88.90%	Maximize
Transportation	Roads	Percentage of winter events where response met or exceeded local service levels	100.00%	100.00%	100.00%	Maximize
Wastewater	Wastewater Mains	Number of wastewater main backups per 100 km of mains	17.5439	9.3567	20.3488	Minimize
Wastewater	Buildings	Percentage of wastewater estimated to have by-passed treatment	0.28%	0.73%	1.26%	Minimize
Water	Water mains	Weighted # days when a boil water advisory was issued	0.0001	-	-	Minimize
Water	Water mains	Number of water main breaks per 100 km of pipe	11.0132	21.4192	26.8722	Minimize
Solid Waste	Buildings, Vehicles	Number of complaints received concerning garbage & recycling collection	15.4720	10.2670	10.2320	Minimize
Solid Waste	Buildings	Number of days where a compliance order for remediation was in effect	-	-	-	Minimize
Solid Waste	Buildings	Percentage of residential solid waste diverted for recycling	26.20%	14.40%	14.60%	Maximize
Recreation & Culture	Buildings	Participant hours for recreation programs per 1,000 persons	34.7500	34.7500	34.7500	Maintain or Increase
Library	Buildings	Total library uses per person	12.7350	10.6090	12.7350	Maintain or Increase

The City will continue to calculate and monitor these performance measures, both for MPMP and asset management purposes. As the City's asset management plan evolves over time, new performance measures can be introduced to further measure the LOS being provided in each service area.

4. ASSET MANAGEMENT STRATEGY

4. ASSET MANAGEMENT STRATEGY

4.1 Scope and Process

The asset management strategy provides the recommended course of actions required to maintain (or move towards) a sustainable asset funding position while delivering the expected levels of service discussed in the previous chapter. The course of actions, when combined together, form a long-term operating and capital forecast that includes:

a) Non-infrastructure solutions: reduce costs and/or extend expected useful life estimates;
b) Maintenance activities: regularly scheduled activities to maintain existing useful life levels, or repairs needed due to unplanned events;
c) Renewal/Rehabilitation: significant repairs or maintenance planned to increase the useful life of assets;
d) Replacement/Disposal: complete disposal and replacement of assets, when renewal or rehabilitation is no longer an option; and
e) Expansion: given planned expansion due to the introduction of new services.

Priority identification becomes a critical process during the asset management strategy development. Priorities have been determined based on assessment of the overall risk of asset failure, which is determined by looking at both the probability of an asset failing, as well as the consequences of failure. The consequences of the City not meeting desired levels of service must also be considered in determining risk. As discussed in chapter 3, moving to expected levels of service results in both operating and capital budget impacts over the 20 year forecast period. This has to be taken into consideration, with the overall objective of reaching sustainable levels while mitigating risk.

4.2 Risk Assessment

Probability of Failure Assessment

Probability of failure refers to the likelihood that asset will fail. In general the asset was evaluated or ranked from 1 to 5 with the probability of a problem occurring (asset failing) ranked as:

1 - **Rare** - May occur only in exceptional circumstances.
2 - **Unlikely** - Could occur if circumstances change.
3 - **Possible** - Might occur under current circumstances.
4 - **Likely** - Will probably occur in most circumstances.
5 - **Almost Certain** - Is expected to occur unless circumstances change.

Probability of failure has been linked to the condition assessment for each of the assets, assuming that an asset with a condition rating “very good” would have a “rare” probability of failure.

Consequence of Failure Assessment

In general the following assessment system was used to rate the consequence of failure for each asset with each asset evaluated or ranked from 1 to 5:

1 - **Insignificant** - No or very minor impact on the facility performance or service delivery.

2 - **Minor** - Limited loss of performance of the facility or service delivery.

3 - **Medium** - Moderate loss of performance, which can be accommodated on the odd occurrence.

4 - **Major** - Significant loss of performance or service delivery which could result in serious damages.

5 - **Extreme** - Unable to provide performance or deliver service for an extended period of time.

The risk of an asset failing is defined by the following calculation:

Risk of Asset Failure = Probability of Failure X Consequence of Failure

The product of the probability of failure multiplied by the consequence of failure determines the level of overall risk to the asset and was used to prioritize and schedule the required upgrades.

Table 4-1 below, illustrates the quantity and replacement value of assets that are considered to be higher risk assets.

Table 4-1

Tax Supported Assets

Asset Type	Extreme Risk		High Risk		Total	
	Number of Assets	Total Replacement Cost	Number of Assets	Total Replacement Cost	Number of Assets	Total Replacement Cost
Stormwater Sewers	0	-	3	906,000	3	906,000
Stormwater Manholes	0	-	0	-	0	-
Stormwater Catch Basins	0	-	0	-	0	-
Road Surface	10	5,647,300	17	1,588,300	27	7,235,600
Road Sub Surface	0	-	6	631,300	6	631,300
Guide Rails	38	725,943	4	45,512	42	771,455
Sidewalks	0	-	0	-	0	-
Traffic Lights	1	150,000	4	470,000	5	620,000
Bridges	2	4,800,000	11	25,900,000	13	30,700,000
Buildings	29	23,985,739	25	25,770,593	54	49,756,332
Parks	0	-	2	266,000	2	266,000
Fleet	0	-	19	3,115,000	19	3,115,000
Total Tax Supported Capital Assets	80	35,308,982	91	58,692,705	171	94,001,687

Water Assets

Asset Type	Extreme Risk		High Risk		Total	
	Number of Assets	Total Replacement Cost	Number of Assets	Total Replacement Cost	Number of Assets	Total Replacement Cost
Water Pumping Stations and Reservoirs	1	1,500,000	1	1,300,000	2	2,800,000
Water Mains	3	1,960,000	1	640,000	4	2,600,000
Hydrants and Valves	0	-	5	407,000	5	407,000
Water Services	0	-	0	-	0	-
Water Filtration Plant	1	100,000	11	3,726,000	12	3,826,000
Fleet	0	-	0	-	0	-
Total Water Capital Assets	**5**	**$ 3,560,000**	**18**	**$ 6,073,000**	**23**	**$ 9,633,000**

Wastewater Assets

Asset Type	Extreme Risk		High Risk		Total	
	Number of Assets	Total Replacement Cost	Number of Assets	Total Replacement Cost	Number of Assets	Total Replacement Cost
Mattagami WPCP	0	-	4	263,160	4	263,160
Whitney WPCP	0	-	2	730,000	2	730,000
Wastewater Pumping Stations	0	-	0	-	0	-
Wastewater Forcemains	0	-	0	-	0	-
Sanitary Sewers	14	2,756,000	16	2,457,000	30	5,213,000
Sanitary Manholes	14	661,500	16	486,150	30	1,147,650
Sanitary Services	0	-	0	-	0	-
Fleet	0	-	0	-	0	-
Total Wastewater Capital Assets	**28**	**$ 3,417,500**	**38**	**$ 3,936,310**	**66**	**$ 7,353,810**

Airport Assets

Asset Type	Extreme Risk		High Risk		Total	
	Number of Assets	Total Replacement Cost	Number of Assets	Total Replacement Cost	Number of Assets	Total Replacement Cost
Machinery and Equipment	1	30,000	7	122,000	8	152,000
Buildings	0	-	0	-	0	-
Infrastructure	0	-	0	-	0	-
Site Works	0	-	0	-	0	-
Total Airport Capital Assets	1	30,000	7	122,000	8	152,000

Risk levels can be reduced or mitigated through planned maintenance, rehabilitation and/or replacement. An objective of this asset management plan is to reduce risk levels where they are deemed to be too high, as well as ensure assets are maintained in a way that maintains risk at acceptable levels.

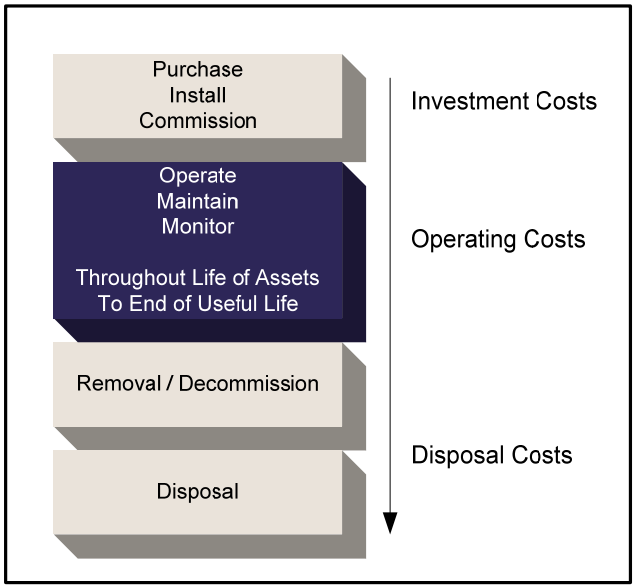
Please refer to Appendix A for the detailed risk assessment for each of the City's capital assets. Appendix B outlines specific risk calculation strategies for each asset type. It is recommended that this risk assessment be refined further by City staff in the future.

4.3 Long-term Forecast

For many years, lifecycle costing has been used in the field of maintenance engineering and to evaluate the advantages of using alternative materials in construction or production design. The method has gained wider acceptance and use recently in the management of capital assets. By definition, lifecycle costs are all the costs which are incurred during the lifecycle of a capital asset,

from the time it is purchased or constructed, to the time it is taken out of service for disposal. The stages which an asset goes through in its lifecycle are as follows:

Figure 4-1
Asset Lifecycle Diagram



In defining the long-term forecast for the City's asset management strategy, costs incurred through an asset's lifecycle were considered and documented.

Asset Replacement Analysis

In forecasting the City's asset replacement needs, comparisons were made between the following scenarios:

- *Scenario 1: Replacement forecast based on "PSAB 3150 Asset Data"*
  - Utilizing the PSAB 3150 inventory, year of installation and estimated service life, the replacement of each asset was projected.
- *Scenario 2 (Tax Supported): Replacement forecast based on "Adjusted PSAB 3150 Asset Data*";
  - In addition to using the installation date, adjustments were made to estimated useful lives, where applicable to better predict the timing of replacement.
- *Scenario 3 : Replacement forecast based on "Phased-in Replacement*";
  - The results of the Scenario above were refined to allow for a gradual increase in capital over the forecast period, resulting in a smoothed impact scenario.

Scenario 1: Replacement forecast based on "PSAB 3150 Asset Data"

The replacement forecast based on the PSAB 3150 asset data provides a snapshot of assets at or nearing the end of their useful lives from a purely financial accounting perspective.

Figures 4-2 to 4-5 below show the forecasts over a 10 year period, where approximately $121.5 million (replacement cost) in tax supported capital assets, $107.9 million in water capital assets, $39.5 million in wastewater capital assets and $14.67 million in airport capital assets are showing as "immediate needs". For this scenario, this simply means that these assets have reached the end of their accounting useful lives. Please refer to Appendix F for charts and graphs depicting the entire 20 year forecast for this scenario.

Figure 4-2
10 Year Forecast

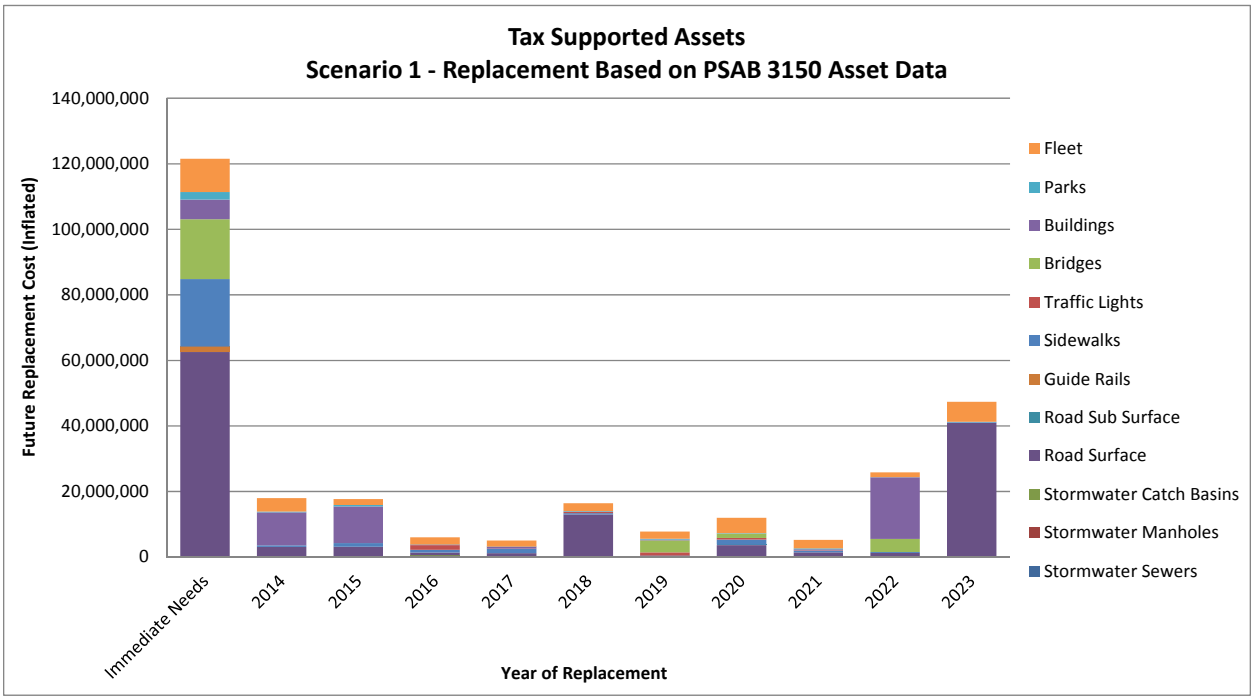


Figure 4-3
10 Year Forecast

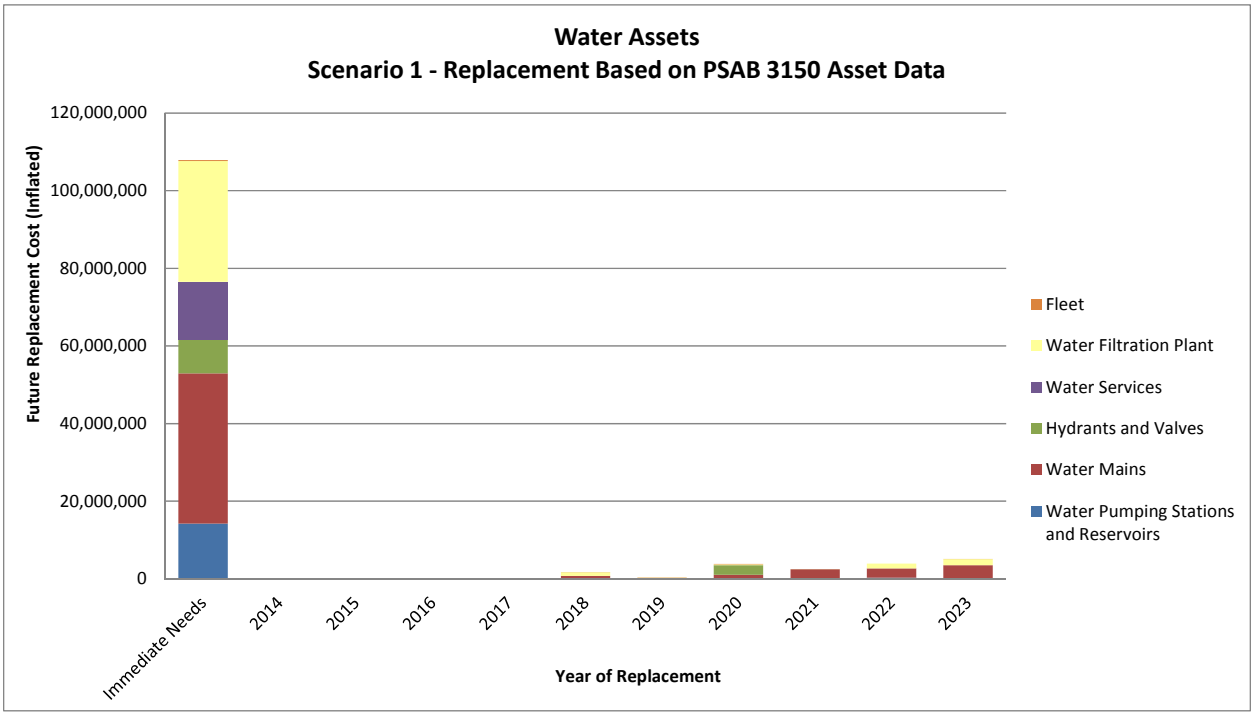


Figure 4-4
10 Year Forecast

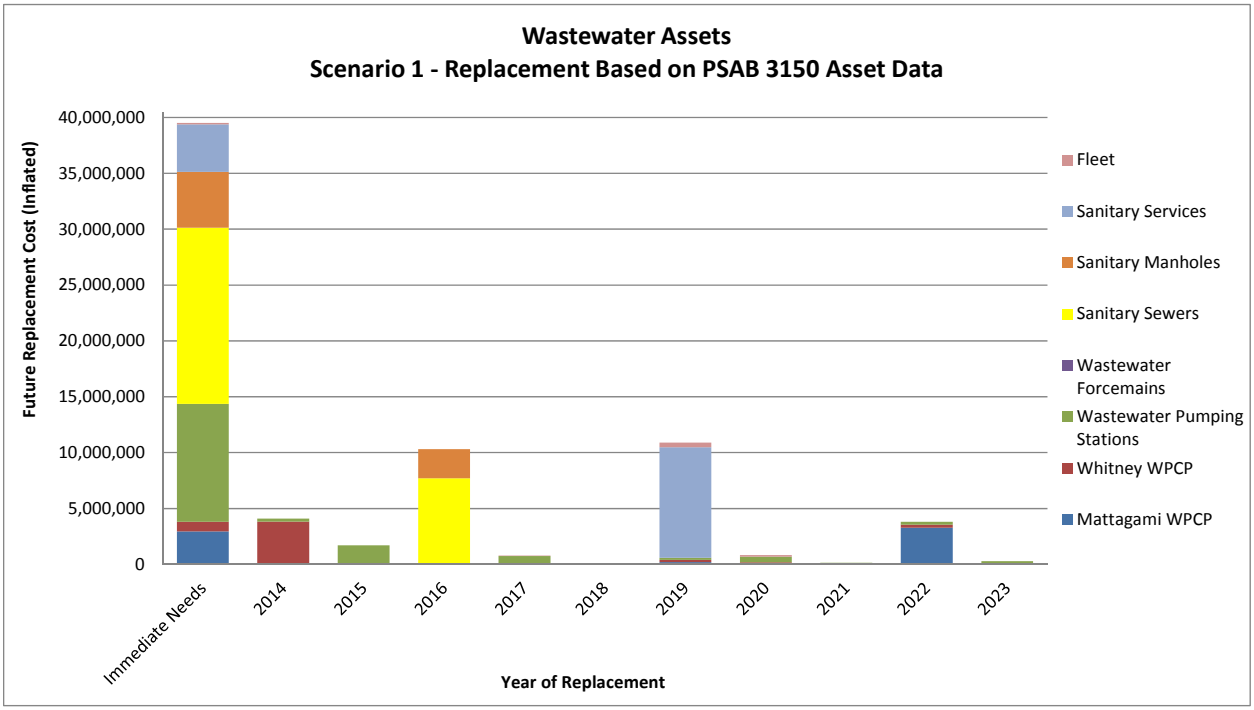
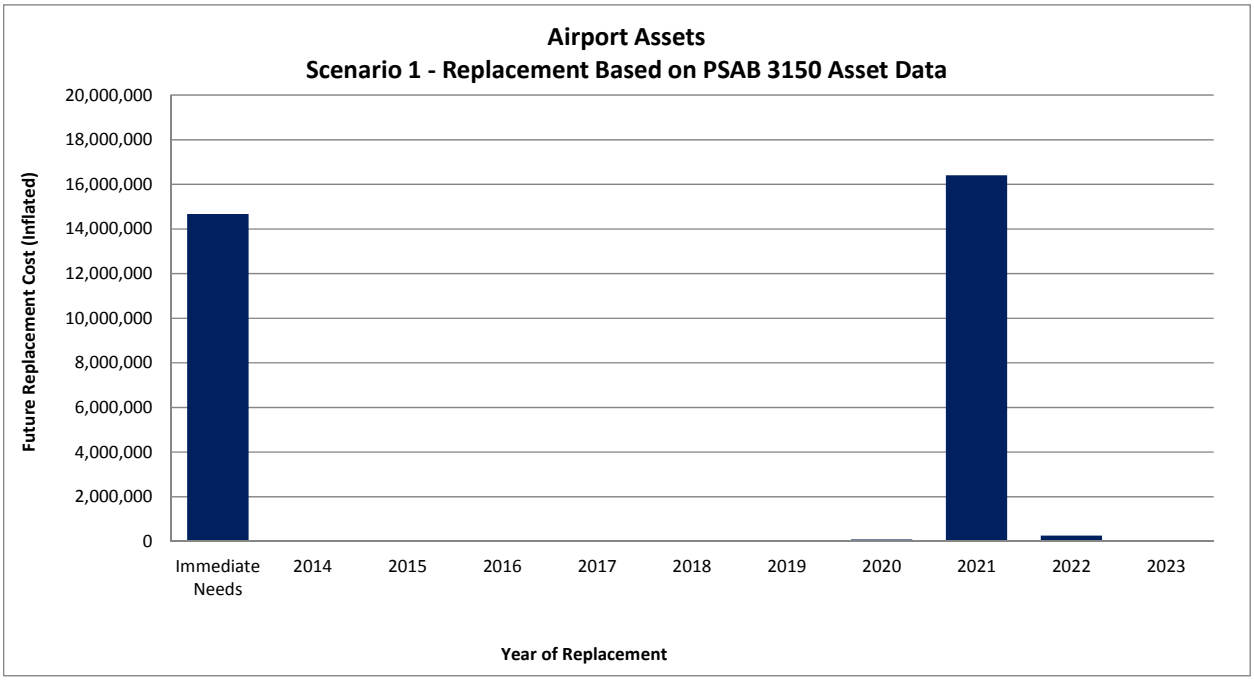


Figure 4-5
10 Year Forecast

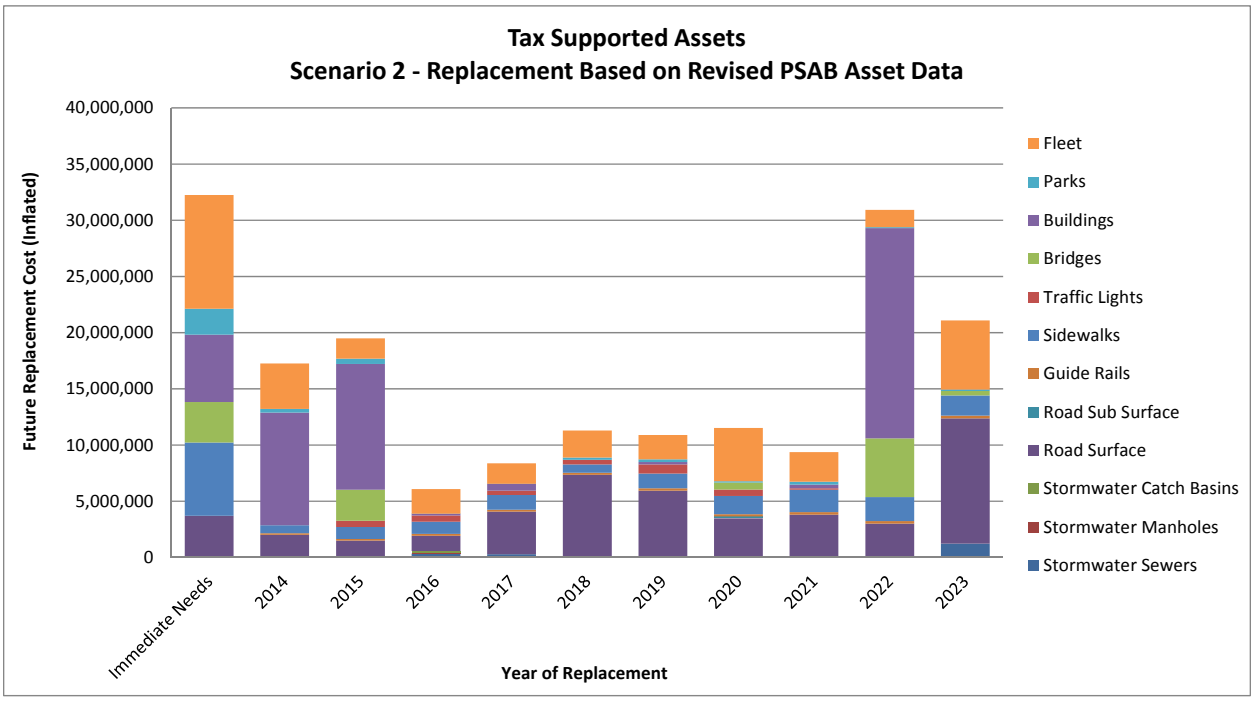


Scenario 2: (Tax Supported) Replacement forecast based on "Adjusted PSAB 3150 Asset Data"

Figure 4-6 below shows the asset replacement forecast for tax supported assets developed using adjusted useful life estimates and staff replacement revisions. Under this scenario, approximately $32.26 million in assets, are showing as "immediate needs". While this scenario below provides a more realistic view of tax supported replacement needs over the forecast period, it is not financially feasible, given the City's current annual capital investment amounts. Therefore, a third scenario was developed for tax supported assets (see below).

Please refer to Appendix F for charts and graphs depicting the entire 20 year forecast for this scenario.

Figure 4-6
10 Year Forecast



Scenario 3: Replacement forecast based on "Phased-In Approach"

Within this scenario, items that had been identified under the Scenario 2 for tax supported capital assets and under Scenario 1 for water, wastewater and airport capital assets have been distributed within the forecast period. Based on these adjustments, $0 capital assets are identified as "immediate needs" for all areas. Figures 4-7 to 4-10 show the 10 year forecast under this scenario.

This is the recommended scenario for tax supported, water, wastewater and airport capital assets for the City. It allows for a gradual increase in capital investments over the forecast period, with the City staff using the risk/priority rankings described in this chapter as a basis for selecting specific project timing. Please refer to Appendix F for a charts and graphs depicting the entire 20 year forecast for this scenario.

A total of $462.94 million in tax supported capital, $117.5 million in water capital, $109.47 million in wastewater capital and $48.14 million in airport capital replacement needs are identified over the 20 year forecast period ($166.16 million, $49.94 million, $45.7 million and $16.33 million respectively in the first 10 years).

Maintenance, Non-Infrastructure Solutions, Renewal & Rehabilitation

For the recommended scenario to be feasible, the level of service adjustments discussed in Chapter 3 and Appendix D are required in conjunction with current level of service amounts in

order to effectively maintain and rehabilitate the assets as needed. Appendix D provides additional rehabilitation and maintenance requirements over the forecast period.

The financing strategy discussed in the next Chapter will incorporate the level of service adjustments outlined in Appendix D into the recommended financing analysis. In addition, expansion related needs will be layered into the forecast to determine total capital needs for each year.

Figure 4-7
10 Year Forecast

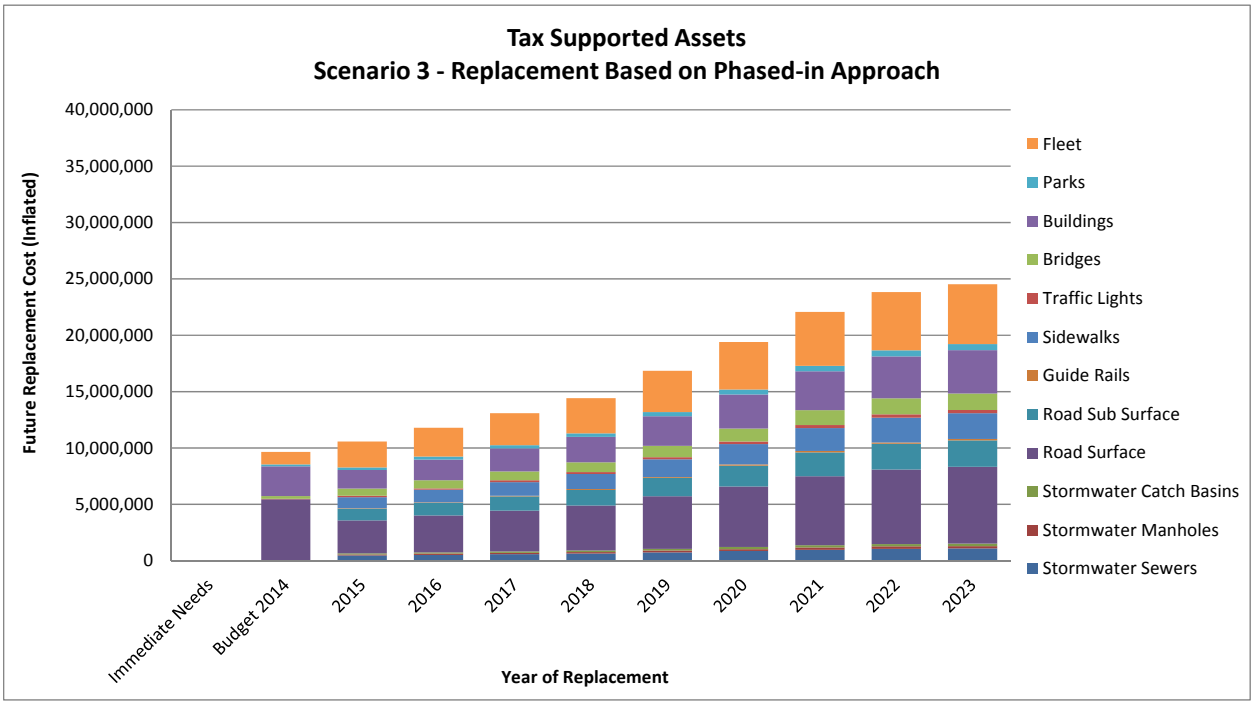


Figure 4-8
10 Year Forecast

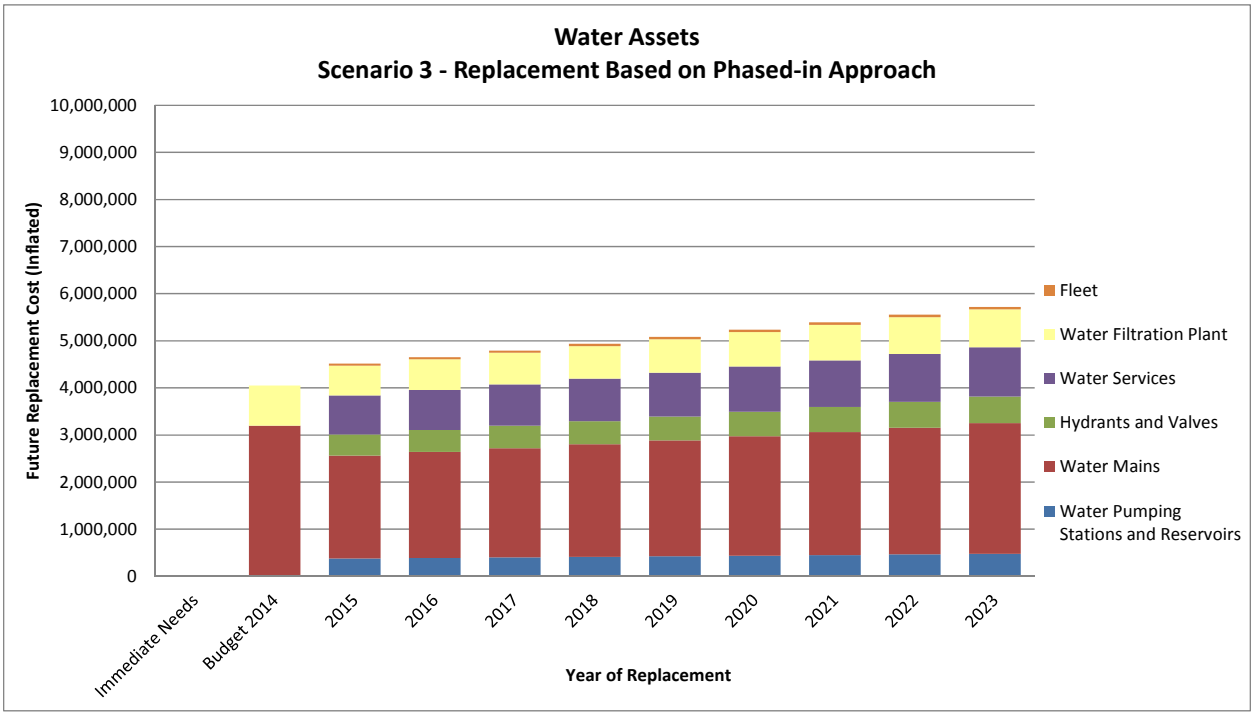


Figure 4-9
10 Year Forecast

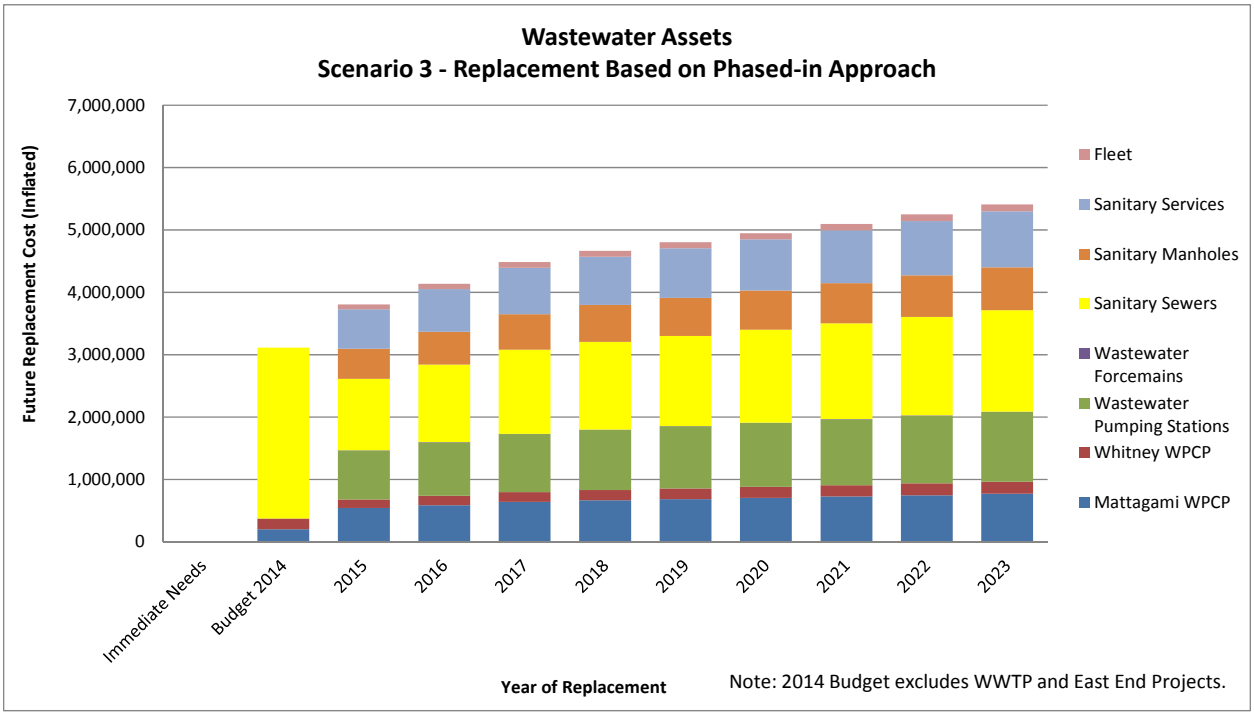
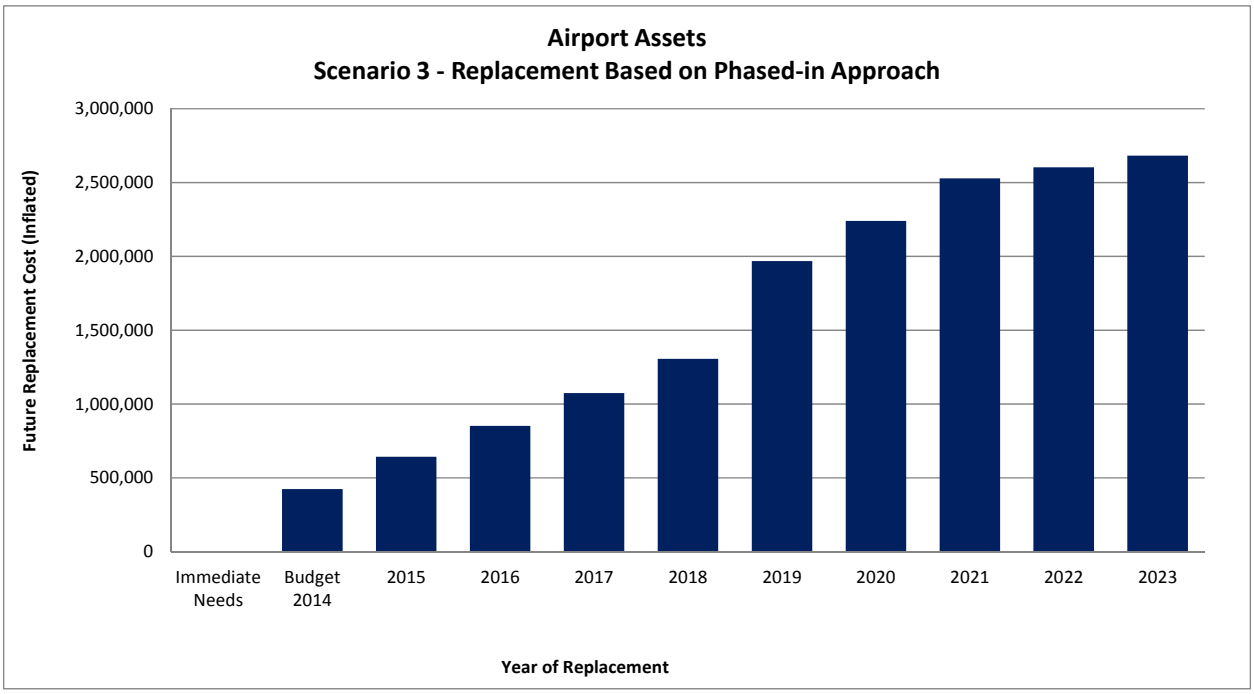


Figure 4-10
10 Year Forecast



4.4 Priority Identification

Ainley's State of Local Infrastructure report (See Appendix B, Section 4), contains various recommendations with respect to capital priorities in each asset area. The table below compares the recommended priorities within the first ten (10) years of the forecast to the recommended capital scenario discussed in section 4.3 of this report. As noted in the table below, the recommended scenario will fund the capital priorities for most asset areas. However, in some cases, priorities are either deferred beyond the first five (5) years of the forecast, or outside of the first ten (10) years of the forecast. These situations exist due to the financial constraints within the plan's financing strategy (see Chapter 5), as well as from an attempt to smooth the capital forecast. In order to address these deferrals, the City could consider the following:

- Shifting available funding from alternate asset types (keeping in mind applicable funding sources);
- Issuing more debt than shown in the financing strategy, resulting in an acceleration of the capital program; and
- Assessing the overall risk of deferring the identified capital priorities.

Table 4-2
Recommended versus Feasible Replacement Schedule

Asset Type	Recommended Capital Forecast Scenario		Recommended Works (Ainley State of Local Infrastructure Report, Appendix B)		Comments
	0 - 5 Years	6 - 10 Years	0 - 5 Years	6 - 10 Years	
Water Reservoirs and Pumping Stations	1,578,906	2,255,153	2,800,000	-	Some 0-5 year works shown as funded in years 6-10.
Watermains & Services	15,813,494	18,015,867	5,400,000	-	Recommended forecast adequate to fund recommended works.
Water Valves & Hydrants	1,875,205	2,678,357	407,000	-	Recommended forecast adequate to fund recommended works.
Water Filtration Plant Assets	3,498,329	3,782,611	5,700,000	4,600,000	Some 0-5 year works shown as funded in years 6-10.
Sewage Pumping Stations	3,542,039	5,287,348	17,000,000	-	Recommended works partially funded. Additional funding (i.e. debt) required.
Sewermains, Forcemains & Services	10,725,761	11,924,705	2,756,000	-	Recommended forecast adequate to fund recommended works.
Sewer Manholes	2,168,776	3,237,422	662,000	-	Recommended forecast adequate to fund recommended works.
Mattagami WPCP	2,629,196	3,626,161	1,030,000	-	Recommended forecast adequate to fund recommended works.
Whitney WPCP	786,109	912,228	6,150,000	400,000	Recommended works partially funded. Additional funding (i.e. debt) required.
Road Assets	24,045,858	39,794,478	1,084,000	3,753,000	Recommended forecast adequate to fund recommended works.
Sidewalks & Guide Rails	4,885,331	10,451,627	-	-	Recommended forecast adequate to fund recommended works.
Stormwater Collection Assets	3,102,255	6,636,931	-	-	Recommended forecast adequate to fund recommended works.
Bridges	3,230,408	6,376,252	4,079,000	-	Some 0-5 year works shown as funded in years 6-10.
Traffic Light Assets	637,385	1,256,646	873,000	-	Some 0-5 year works shown as funded in years 6-10.
Airport Assets	4,304,707	12,020,758	380,000	-	Recommended forecast adequate to fund recommended works.
Fleet (Tax Supported, Water and Wastewate	12,447,447	23,924,187	3,000,000	-	Recommended forecast adequate to fund recommended works.
Building Assets	10,428,376	16,673,494	1,838,000	-	Recommended forecast adequate to fund recommended works.
Park Assets	1,247,866	2,327,369	1,350,000	-	Recommended forecast adequate to fund recommended works.
Total	106,947,448	171,181,595	54,509,000	8,753,000	

Note: Excludes enhancements or expansion related capital requirements.

4.5 Procurement Methods

Section 270(1) of the Municipal Act, S.O. 2001, provides that municipalities (and local boards) shall adopt and maintain policies with respect to its procurement of goods and services. Procurement policies are developed to provide a framework to support open, fair, transparent and accountable purchasing processes, and to ensure procurement processes are consistently managed. Moreover, the establishment of a by-law adopting the procurement policy provides a document which has the approval of Council, which allows an opportunity for public debate.

An effective procurement policy assists municipalities in identifying cost-effective options for providing services, while at the same time reducing risk. Innovative project management models, such as public-private partnerships (P3's) or co-operative purchasing, can help bring together expertise, resources and funding opportunities. Where appropriate, bidders can be required to provide lifecycle costing for the products and/or services being tendered. Lifecycle costs can include initial construction/purchase price, plus operating costs for a contracted period of time. Incorporating a lifecycle perspective in the procurement process can encourage effective asset management in the time period following the initial capital investment.

In order to have an effective and efficient procurement program, especially related to the purchase/construction of large capital assets, the procurement policy can include clauses to protect the City, as well as assist in receiving competitive responses. Examples include:

- Identification of the criteria used to determine the type of competitive process to be followed (i.e. tender, RFP, RFQ);
- Identification of circumstances when Sole Sourcing, Negotiation, and/or In-House Bids can be used;
- Description of the methods to be used for advertising a competitive process;
- Providing direction for purchasing in cases of emergency;
- Providing direction for purchasing as part of a co-operative purchasing group;
- Outlining any requirements related to bid deposits or other financial security;
- Inclusion of a non-discrimination clause highlighting positions such as having a 'no local preference' policy;
- Notification that any bid can be rejected by the City;
- Identification of reasons for terminating a contract with a supplier/contractor (i.e. poor performance, unethical behaviour);
- Identification of restrictions on the types and/or amounts of damages to which bidders may be entitled, arising from their responding to a competitive process; and
- Requirement for bidders to supply proof of insurance and WSIB.

As part of the continuous asset management update process, it is recommended that the City's procurement policies and procedures be reviewed and compared against procurement best practices to ensure resources are being allocated in an efficient manner.

5. FINANCING STRATEGY

5. FINANCING STRATEGY

5.1 Scope and Process

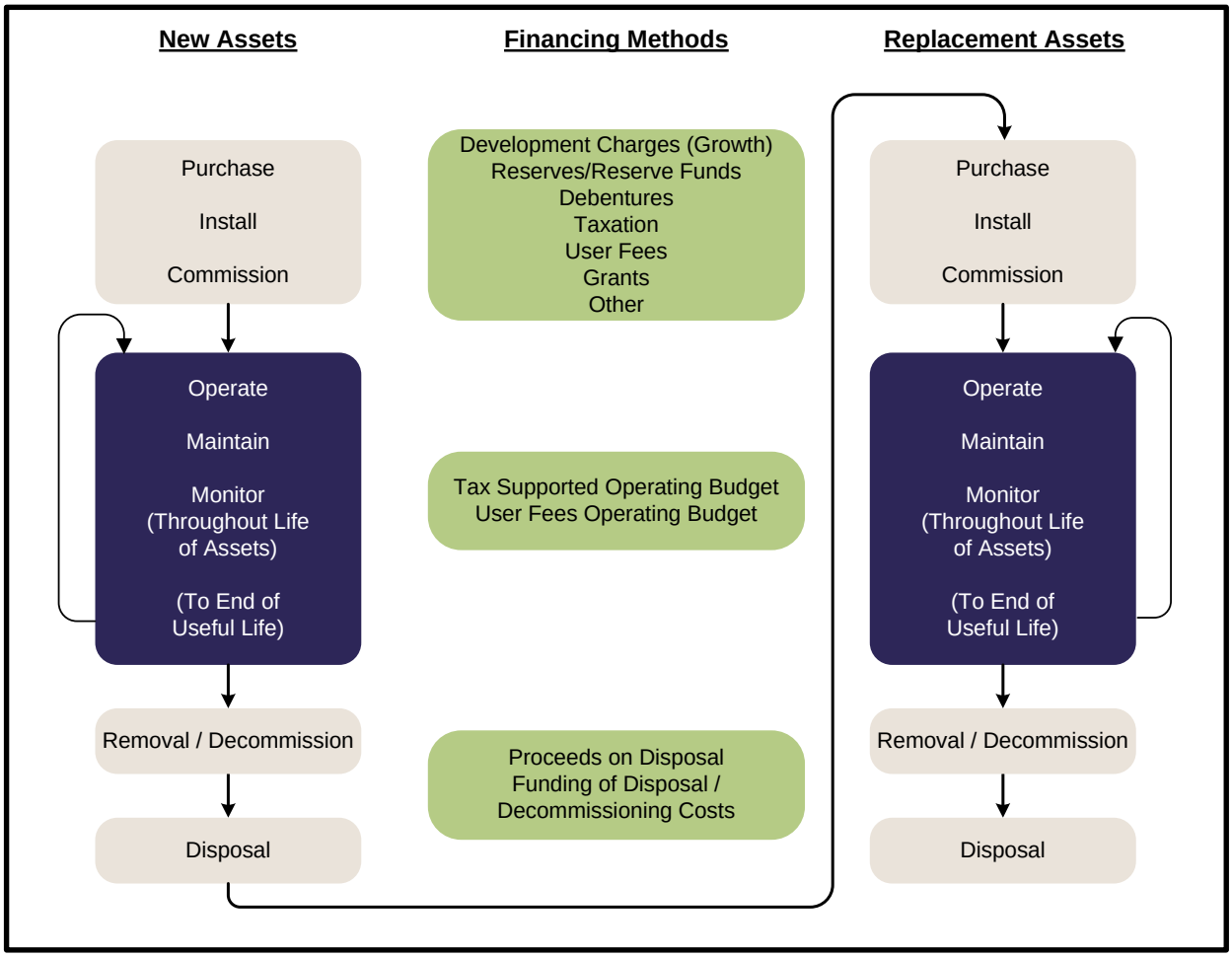
The financing strategy outlines the suggested financial approach to funding the recommended asset management strategy outlined in Chapter 4, while utilizing the City's existing budget structure. This section of the asset management plan includes:

- Annual expenditure forecasts broken down by:
    - Maintenance/non-infrastructure solutions;
    - Renewal/rehabilitation activities;
    - Replacement/disposal activities; and
    - Expansion activities.
- Expenditures in the above named categories for 2011 to 2014;
- A breakdown of annual funding/revenue by source;
- Identification of the funding shortfall, including how the impact will be managed; and
- All key assumptions are documented within Appendix B.

The long-term financing strategy forecast (including both expenditure and revenue sources) was prepared, consistent with the City's departmental budget structure, so that it can be used in conjunction with the annual budget process. Various financing options, including taxation, reserves, reserve funds, debt, user fees and grants were considered and discussed with City staff during the process. Figure 5-1 provides a visual representation of how various financing methods can be used for both initial asset purchases, as well as asset replacements.

For the recommended asset management strategy scenario, a detailed twenty (20) year plan was generated. The plan identifies specific maintenance & non-infrastructure solutions, renewal & rehabilitation, replacement & disposal, and expansion activities required for the 20 year forecast period as described in Chapter 4.

Figure 5-1
Financing Methods of Lifecycle Costs



5.2 Historical Results

Table 5-1 outlines the historical maintenance/non-infrastructure costs for 2011 and 2012, as well as 2013 and 2014 budgeted results. All maintenance for assets was funded through taxation revenue for tax supported assets, water rates for water related assets and wastewater rates for wastewater related assets based on the City's budget structure.

Table 5-1
Historical Results
Maintenance & Non-Infrastructure Solutions

Tax Supported

Description	Actual 2011	Actual 2012	Budget 2013	Budget 2014
Asset Maintenance	4,310,927	4,611,716	3,567,100	3,716,400
Taxation Funding	4,310,927	4,611,716	3,567,100	3,716,400
Net Unfunded	-	-	-	-

Water

Description	Actual 2011	Actual 2012	Budget 2013	Budget 2014
Asset Maintenance	349,674	371,608	462,700	309,000
Water Rate Revenue	349,674	371,608	462,700	309,000
Net Unfunded	-	-	-	-

Wastewater

Description	Actual 2011	Actual 2012	Budget 2013	Budget 2014
Asset Maintenance	360,277	437,371	302,450	333,100
Wastewater Rate Revenue	360,277	437,371	302,450	333,100
Net Unfunded	-	-	-	-

Airport

Description	Actual 2011	Actual 2012	Budget 2013	Budget 2014
Asset Maintenance	487,126	604,353	609,600	661,170
Airport Revenue	487,126	604,353	609,600	661,170
Net Unfunded	-	-	-	-

Tables 5-2 to 5-5 outline the historical capital for 2011 to 2014 including renewal/rehabilitation, replacement/disposal, and expansion. The capital funding includes the use of reserve/reserve funds, cost and revenue sharing funds, sale of asset funds, grants, other revenue as well as contributions from the operating budget.

Table 5-2
Tax Supported Historical Results
Renewal/Rehabilitation, Replacement/Disposal & Expansion

Description	Budget 2011	Budget 2012	Budget 2013	Budget 2014
Capital Expenses				
Building Inspection	5,000	5,000	40,000	30,000
Bridges	-	-	344,000	250,000
Roads Capital	6,335,000	5,229,700	5,595,000	5,430,000
Traffic Lights	45,000	45,000	50,000	50,000
Engineering Capital	25,000	25,000	25,000	15,000
Public Works Shops Capital	175,000	210,000	265,300	197,800
Parks & Recreation	863,000	367,000	381,500	160,000
Building Maintenance	2,130,000	1,342,000	1,936,000	2,407,000
Fire Fleet	325,000	325,000	275,000	200,000
Police Fleet	230,000	230,000	170,515	160,000
Transit	657,800	505,000	985,000	660,000
Vehicles - Other	-	-	-	80,000
Total Capital Expenditures	**10,790,800**	**8,283,700**	**10,067,315**	**9,639,800**
Capital Financing				
Provincial/Federal Grants	-	-	180,000	-
Tax Levy	4,765,500	3,933,000	4,562,000	4,464,000
Gas Tax Funding	5,702,800	2,759,700	3,855,000	3,480,000
Reserve	322,500	1,591,000	1,000,315	1,532,800
NOHFC Funding	-	-	470,000	-
Other	-	-	-	163,000
Total Capital Financing	**10,790,800**	**8,283,700**	**10,067,315**	**9,639,800**
Total Capital Expenditures less Capital Financing	**-**	**-**	**-**	**-**

Table 5-3
Water Historical Results
Renewal/Rehabilitation, Replacement/Disposal & Expansion

Description	Actual 2011	Actual 2012	Budget 2013	Budget 2014
Capital Expenses				
Water Pumping Stations and Reservoirs	-	2,189,257	-	-
Watermains	1,002,783	457,825	-	-
Hydrants and Valves	213,048	175,290	-	-
Water Services	289,363	36,255	-	-
Water Filtration Plant	55,073	212,408	-	-
Fleet	-	22,579	-	-
Water Source	-	-	1,775,000	3,200,000
Water Transmission	-	-	700,000	850,000
Total Capital Expenditures	**1,560,268**	**3,093,615**	**2,475,000**	**4,050,000**
Capital Financing				
Provincial/Federal Grants	-	-	-	-
Non-Growth Related Debt	-	-	-	-
Growth Related Debt	-	-	-	-
Reserve Fund: Development Charges (All)	-	-	-	-
Unfinanced Capital	-	-	-	693,700
Transfer from Operating	1,272,982	1,419,187	2,475,000	3,356,300
Total Capital Financing	**1,272,982**	**1,419,187**	**2,475,000**	**4,050,000**
Total Capital Expenditures less Capital Financing	**287,286**	**1,674,428**	**-**	**-**

Table 5-4
Wastewater Historical Results
Renewal/Rehabilitation, Replacement/Disposal & Expansion

Description	Actual 2011	Actual 2012	Budget 2013	Budget 2014
Capital Expenses				
Whitney WPCP	-	-	165,000	175,000
Wastewater Pumping Stations	217,157	-	-	-
Lift Station	-	-	-	150,000
Sanitary Sewers	1,036,960	126,332	5,210,700	3,555,900
Sanitary Manholes	152,214	36,837	-	-
Sanitary Services	284,157	21,370	-	-
Timmins WPCP	-	-	180,000	200,000
Total Capital Expenditures	**1,690,488**	**184,539**	**5,555,700**	**4,080,900**
Capital Financing				
Provincial/Federal Grants	-	-	-	-
Non-Growth Related Debt	-	-	-	-
Growth Related Debt	-	-	-	-
Reserve Fund: Development Charges (All)	-	-	-	-
Transfer from Operating	1,159,580	1,280,060	3,858,350	4,899,500
Unfinanced Capital	-	-	1,697,350	(818,600)
Total Capital Financing	**1,159,580**	**1,280,060**	**5,555,700**	**4,080,900**
Total Capital Expenditures less Capital Financing	**530,908**	**(1,095,521)**	**-**	**-**

Table 5-5
Airport Historical Results
Renewal/Rehabilitation, Replacement/Disposal & Expansion

Description	Budget 2011	Budget 2012	Budget 2013	Budget 2014
Capital Expenses				
Airport	448,903	23,408	276,000	426,000
Total Capital Expenditures	**448,903**	**23,408**	**276,000**	**426,000**
Capital Financing				
Provincial/Federal Grants	-	-	-	-
Operating Transfers - Airport Revenue	448,903	23,408	276,000	426,000
				-
Total Capital Financing	**448,903**	**23,408**	**276,000**	**426,000**
Total Capital Expenditures less Capital Financing	**-**	**-**	**-**	**-**

5.3 Financing Strategy

Tax Supported

Table 5-6 shows the tax supported expenditure forecast for maintenance, renewal/rehabilitation, replacement/disposal and expansion for the first 10 years of the forecast. While this summary only shows high level cost classifications, further detail (including the full 20 year forecast) can be obtained from Appendix G.

Table 5-6
Tax Supported Expenditure Forecast Summary

Asset Lifecycle Costs	Forecast (Inflated)									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Maintenance: Current Service Levels	3,790,728	3,866,543	3,943,873	4,022,751	4,103,206	4,185,270	4,268,975	4,354,355	4,441,442	4,530,271
Maintenance: LOS Adjustment	223,380	279,868	412,810	550,958	694,467	843,496	998,208	1,158,771	1,325,358	1,498,144
Total Asset Maintenance	4,014,108	4,146,411	4,356,683	4,573,709	4,797,673	5,028,766	5,267,183	5,513,126	5,766,800	6,028,415
Renewal/Rehabilitation/Replacement	10,564,393	11,788,102	13,075,726	14,429,997	16,844,617	19,391,126	22,075,266	23,820,264	24,534,872	25,270,918
Renewal/Rehab/Replace: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Replacement/Disposal	10,564,393	11,788,102	13,075,726	14,429,997	16,844,617	19,391,126	22,075,266	23,820,264	24,534,872	25,270,918
Expansion: LOS Adjustment	731,300	-	-	-	-	-	-	-	-	-
Total Expansion	731,300	-	-	-	-	-	-	-	-	-
Total	**15,309,801**	**15,934,513**	**17,432,409**	**19,003,706**	**21,642,290**	**24,419,892**	**27,342,450**	**29,333,390**	**30,301,672**	**31,299,333**

Items in Table 5-6 labelled as "LOS Adjustment" refer to the level of service analysis discussed in Chapter 2 and Appendix E.

Table 5-7 summarizes the recommended strategy to finance the asset related costs identified in Table 5-6.

Table 5-7
Breakdown of Annual Tax Supported Funding (Revenue) by Source

Funding (Revenue) by Source	Forecast									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Taxation	4,014,108	4,146,411	4,356,683	4,573,709	4,797,673	5,028,766	5,267,183	5,513,126	5,766,800	6,028,415
Grants	-	-	-	-	-	-	-	-	-	-
Other Contributions	-	-	-	-	-	-	-	-	-	-
Debentures	1,000,000	1,000,000	-	-	-	-	-	-	-	-
Provincial Gax Tax Reserve Funds	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000
Federal Gas Tax Reserve Funds	2,499,721	2,624,707	2,624,707	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693
Capital Reserve Fund	7,195,972	7,563,395	9,851,019	11,080,304	13,494,924	16,041,433	18,725,573	20,470,571	21,185,179	21,921,225
Total	**15,309,801**	**15,934,513**	**17,432,409**	**19,003,706**	**21,642,290**	**24,419,892**	**27,342,450**	**29,333,390**	**30,301,672**	**31,299,333**

These lifecycle costs are being recovered through several methods:

- Taxation funding is suggested for all maintenance costs, as well as level of service adjustment related costs related to operations.
- Debt financing is shown as required in years where significant capital needs are identified.
- Gas Tax funding has been shown as a stable and long-term funding source for eligible capital projects.
- The City will be dependent upon maintaining healthy capital reserves/reserve funds in order to provide the remainder of the required lifecycle funding over the forecast period. This will require the City to proactively increase amounts being transferred to these capital reserves during the annual budget process.

While the annual funding requirement may fluctuate, it is important for the City to implement a consistent, yet increasing annual investment in capital so that the excess annual funds can accrue in capital reserve funds.

In order to fund the recommended asset requirements over the forecast period using the City's own available funding sources (i.e. using taxation, gas tax funding and debentures), an increase in the City's taxation levy of 4.95% per year would be required for years 2015 to 2024 of the forecast period, declining to 2.47% thereafter. This assumes that all City operating accounts would increase at 2% annually. However, if other funding sources become available (i.e. grant funding) or if maintenance and rehabilitation practices allow for the deferral of capital works, then the impact on the City's taxation levy would decrease.

Water

Table 5-8 shows the water expenditure forecast for maintenance, renewal/rehabilitation, replacement/disposal and expansion for the first 10 years of the forecast. While this summary only shows high level cost classifications, further detail (including the full 20 year forecast) can be obtained from Appendix H.

Table 5-8
Water Expenditure Forecast Summary

Asset Lifecycle Costs	Forecast (Inflated)									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Maintenance: Current Service Levels	315,180	321,484	327,913	334,472	341,161	347,984	354,944	362,043	369,284	376,669
Maintenance: LOS Adjustment	25,500	52,020	79,591	108,243	138,010	168,924	201,020	234,332	268,896	304,749
Total Asset Maintenance	340,680	373,504	407,504	442,715	479,171	516,908	555,964	596,375	638,180	681,418
Renewal/Rehabilitation/Replacement	4,517,000	4,652,509	4,792,085	4,935,847	5,083,923	5,236,440	5,393,534	5,555,340	5,722,000	5,893,660
Renewal/Rehab/Replace: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Replacement/Disposal	4,517,000	4,652,509	4,792,085	4,935,847	5,083,923	5,236,440	5,393,534	5,555,340	5,722,000	5,893,660
Expansion: LOS Adjustment	412,000	-	-	225,102	-	-	-	253,354	-	-
Total Expansion	412,000	-	-	225,102	-	-	-	253,354	-	-
Total	**5,269,680**	**5,026,013**	**5,199,589**	**5,603,664**	**5,563,094**	**5,753,349**	**5,949,498**	**6,405,068**	**6,360,179**	**6,575,078**

Items in Table 5-8 labelled as "LOS Adjustment" refer to the level of service analysis discussed in Chapter 2 and Appendix E.

Table 5-9 summarizes the recommended strategy to finance the asset related costs identified in Table 5-8.

Table 5-9
Breakdown of Annual Water Funding (Revenue) by Source

Funding (Revenue) by Source	Forecast									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Water Rate Revenue	340,680	373,504	407,504	442,715	479,171	516,908	555,964	596,375	638,180	681,418
Grants	-	-	-	-	-	-	-	-	-	-
Other Contributions	-	-	-	-	-	-	-	-	-	-
Debentures	500,000	-	-	-	-	-	-	-	-	-
Capital Reserve Fund	4,429,000	4,652,509	4,792,085	5,160,949	5,083,923	5,236,440	5,393,534	5,808,694	5,722,000	5,893,660
Total	**5,269,680**	**5,026,013**	**5,199,589**	**5,603,664**	**5,563,094**	**5,753,349**	**5,949,498**	**6,405,068**	**6,360,179**	**6,575,078**

These lifecycle costs are being recovered through several methods:

- Water rate revenue is suggested for all maintenance costs, as well as level of service adjustment related costs related to operations.

- Debt financing is shown as required in years where significant capital needs are identified.
- The City will be dependent upon maintaining healthy capital reserves/reserve funds in order to provide the remainder of the required lifecycle funding over the forecast period. This will require the City to proactively increase amounts being transferred to these capital reserves during the annual budget process.

While the annual funding requirement may fluctuate, it is important for the City to implement a consistent, yet increasing annual investment in capital so that the excess annual funds can accrue in capital reserve funds.

In order to fund the recommended asset requirements over the forecast period using the City's own available funding sources (i.e. using water rate revenue and debentures), an increase in revenue (i.e. combination of growth and rate increases) of 5.96% per year would be required for years 2015 to 2024 of the forecast period, declining to 2.98% thereafter. This assumes that all water operating accounts would increase at 2% annually. However, if other funding sources become available (i.e. grant funding) or if maintenance and rehabilitation practices allow for the deferral of capital works, then the impact on City water rate revenue would decrease. In order to assess the impacts of the water rates specifically, a water rate study would be required.

Wastewater

Table 5-10 shows the water expenditure forecast for maintenance, renewal/rehabilitation, replacement/disposal and expansion for the first 10 years of the forecast. While this summary only shows high level cost classifications, further detail (including the full 20 year forecast) can be obtained from Appendix I.

Table 5-10
Wastewater Expenditure Forecast Summary

Asset Lifecycle Costs	Forecast (Inflated)									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Maintenance: Current Service Levels	339,762	346,557	353,488	360,558	367,769	375,125	382,627	390,280	398,085	406,047
Maintenance: LOS Adjustment	25,500	52,020	79,591	108,243	138,010	168,924	201,020	234,332	268,896	304,749
Total Asset Maintenance	365,262	398,577	433,079	468,801	505,779	544,049	583,647	624,612	666,981	710,796
Renewal/Rehabilitation/Replacement	27,903,185	13,634,907	4,483,110	4,663,779	4,803,693	4,947,803	5,096,237	5,249,125	5,406,598	5,568,796
Renewal/Rehab/Replace: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Replacement/Disposal	27,903,185	13,634,907	4,483,110	4,663,779	4,803,693	4,947,803	5,096,237	5,249,125	5,406,598	5,568,796
Expansion: LOS Adjustment	51,500	-	1,092,727	-	-	-	-	-	-	-
Total Expansion	51,500	-	1,092,727	-	-	-	-	-	-	-
Total	**28,319,947**	**14,033,484**	**6,008,916**	**5,132,580**	**5,309,472**	**5,491,852**	**5,679,885**	**5,873,736**	**6,073,580**	**6,279,592**

Items in Table 5-10 labelled as "LOS Adjustment" refer to the level of service analysis discussed in Chapter 2 and Appendix E.

Table 5-11 summarizes the recommended strategy to finance the asset related costs identified in Table 5-10.

Table 5-11
Breakdown of Annual Wastewater Funding (Revenue) by Source

Funding (Revenue) by Source	Forecast									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Wastewater Rate Revenue	365,262	398,577	433,079	468,801	505,779	544,049	583,647	624,612	666,981	710,796
Grants	2,300,000	3,000,000	-	-	-	-	-	-	-	-
Other Contributions	-	-	-	-	-	-	-	-	-	-
Debentures	22,200,000	8,300,000	3,300,000	2,000,000	1,400,000	900,000	200,000	-	-	-
Capital Reserve Fund	3,454,685	2,334,907	2,275,837	2,663,779	3,403,693	4,047,803	4,896,237	5,249,125	5,406,598	5,568,796
Total	**28,319,947**	**14,033,484**	**6,008,916**	**5,132,580**	**5,309,472**	**5,491,852**	**5,679,885**	**5,873,736**	**6,073,580**	**6,279,592**

These lifecycle costs are being recovered through several methods:

- Wastewater rate revenue is suggested for all maintenance costs, as well as level of service adjustment related costs related to operations.
- Approved grant funding for the WWTP and East End projects has been included.
- Debt financing is shown as required in years where significant capital needs are identified.
- The City will be dependent upon maintaining healthy capital reserves/reserve funds in order to provide the remainder of the required lifecycle funding over the forecast period. This will require the City to proactively increase amounts being transferred to these capital reserves during the annual budget process.

While the annual funding requirement may fluctuate, it is important for the City to implement a consistent, yet increasing annual investment in capital so that the excess annual funds can accrue in capital reserve funds.

In order to fund the recommended asset requirements over the forecast period using the City's own available funding sources (i.e. using wastewater rate revenue and debentures), an increase in revenue (i.e. combination of growth and rate increases) of 9.99% per year would be required for years 2015 and 2016, an increase of 7.54% for years 2017 to 2022 of the forecast period, declining to 3.02% thereafter. The suggested increases in 2015 and 2016 are predominantly due to the impact of new debt from existing projects (WWTP and East End). This increase assumes that all wastewater operating accounts would increase at 2% annually. However, if other funding sources become available (i.e. grant funding) or if maintenance and rehabilitation practices allow for the deferral of capital works, then the impact on City wastewater rate revenue would decrease. In order to assess the impacts of the wastewater rates specifically, a wastewater rate study would be required.

Airport

Table 5-12 shows the airport expenditure forecast for maintenance, renewal/rehabilitation, replacement/disposal and expansion for the first 10 years of the forecast. While this summary only shows high level cost classifications, further detail (including the full 20 year forecast) can be obtained from Appendix J.

Table 5-12
Airport Expenditure Forecast Summary

Asset Lifecycle Costs	Forecast (Inflated)									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Maintenance: Current Service Levels	674,393	687,881	701,639	715,672	729,985	744,585	759,477	774,666	790,159	805,963
Maintenance: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Asset Maintenance	674,393	687,881	701,639	715,672	729,985	744,585	759,477	774,666	790,159	805,963
Renewal/Rehabilitation/Replacement	644,222	853,134	1,074,000	1,307,352	1,968,067	2,240,489	2,527,485	2,603,309	2,681,408	2,761,851
Renewal/Rehab/Replace: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Replacement/Disposal	644,222	853,134	1,074,000	1,307,352	1,968,067	2,240,489	2,527,485	2,603,309	2,681,408	2,761,851
Expansion: LOS Adjustment	-	-	-	-	-	-	-	-	-	-
Total Expansion	-	-	-	-	-	-	-	-	-	-
Total	**1,318,615**	**1,541,015**	**1,775,639**	**2,023,023**	**2,698,052**	**2,985,074**	**3,286,961**	**3,377,975**	**3,471,568**	**3,567,813**

Items in Table 5-12 labelled as "LOS Adjustment" refer to the level of service analysis discussed in Chapter 2 and Appendix E.

Table 5-13 summarizes the recommended strategy to finance the asset related costs identified in Table 5-12.

Table 5-13
Breakdown of Annual Airport Funding (Revenue) by Source

Funding (Revenue) by Source	Forecast									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Airport Revenue	674,393	687,881	701,639	715,672	729,985	744,585	759,477	774,666	790,159	805,963
Grants	-	-	-	-	-	-	-	-	-	-
Other Contributions	-	-	-	-	-	-	-	-	-	-
Debentures	-	-	-	-	-	-	-	-	-	-
Capital Reserve Fund	644,222	853,134	1,074,000	1,307,352	1,968,067	2,240,489	2,527,485	2,603,309	2,681,408	2,761,851
Total	**1,318,615**	**1,541,015**	**1,775,639**	**2,023,023**	**2,698,052**	**2,985,074**	**3,286,961**	**3,377,975**	**3,471,568**	**3,567,813**

These lifecycle costs are being recovered through several methods:

- Airport revenue is suggested for all maintenance costs, as well as level of service adjustment related costs related to operations.
- The Airport will be dependent upon maintaining healthy capital reserves/reserve funds in order to provide the remainder of the required lifecycle funding over the forecast period. This will require the City to proactively increase amounts being transferred to these capital reserves during the annual budget process.

While the annual funding requirement may fluctuate, it is important for the City to implement a consistent, yet increasing annual investment in capital so that the excess annual funds can accrue in capital reserve funds.

In order to fund the recommended asset requirements over the forecast period using the Airport's own available funding sources (i.e. using airport revenue), an increase in revenue of 5.88% per year would be required for years 2015 to 2025 of the forecast period, declining to 2.94% thereafter. This assumes that all airport operating accounts would increase at 2% annually. However, if other funding sources become available (i.e. grant funding) or if maintenance and

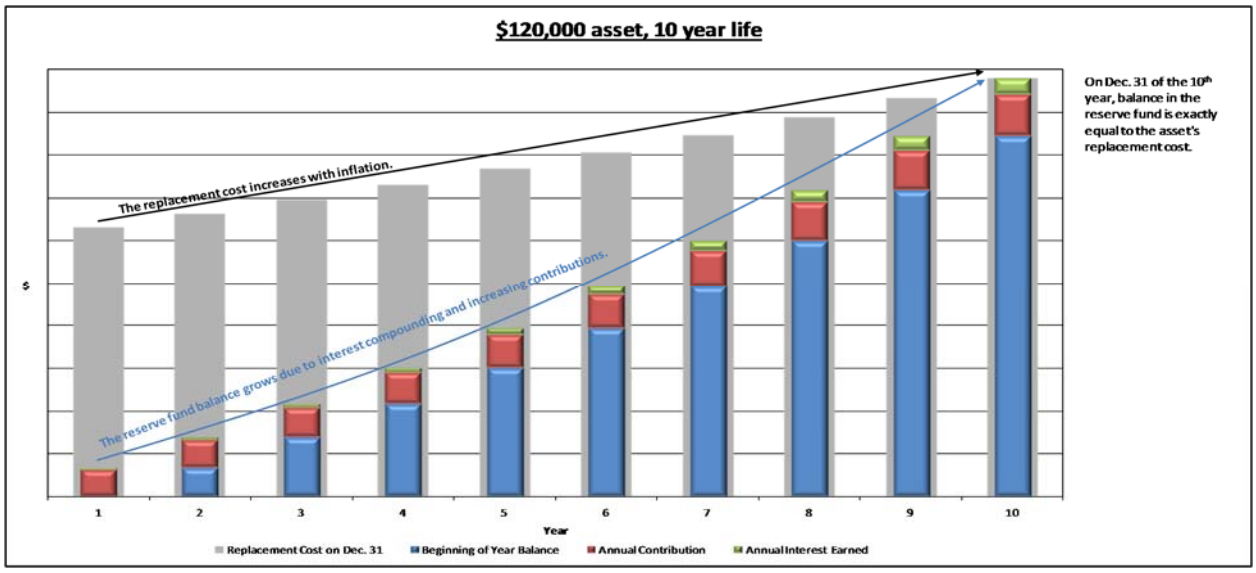
rehabilitation practices allow for the deferral of capital works, then the impact on the airport revenue would decrease.

5.4 Funding Shortfall

Assuming the City maintains adequate capital reserve funds, the recommended asset management strategy discussed in Chapter 4 will be fully funded. It is believed this can be accomplished through each annual budget process. However, the recommended asset management strategy does defer significant capital replacements, in comparison to recommendations stated in various City asset related reports. In the event that certain deferred replacements result in increased risks and/or projected asset failures, further funding may be required to address the costs associated with accelerating replacement timelines.

A fundamental approach to calculating the cost of using a capital asset and for the provision of the revenue required when the time comes to retire and replace it is the “sinking fund method”. This method first estimates the future value of the asset at the time of replacement, by inflating the current value of the asset at an assumed annual capital inflation rate. A calculation is then performed to determine annual contributions which, when invested in a reserve fund, will grow with interest to a balance equal to the future replacement cost. The contributions are calculated such that they also increase annually with inflation. Under this approach, an annual capital investment amount is calculated where funds are available for short-term needs while establishing a funding plan for long-term needs. Annual contributions in excess of capital costs in a given year would be transferred to a “capital replacement reserve fund” for future capital replacement needs. This approach provides for a stable funding base, eliminating variances in annual funding requirements, particularly in years when capital replacement needs exceed typical capital levy funding. Please refer to Figure 5-2 for an illustration of this method.

Figure 5-2
Sinking Fund Method



Tax Supported

From a tax supported asset base perspective, the estimated annual sinking fund requirement, based on using the calculations discussed above, is approximately $22.96 million (in 2014 dollars). Based on the City's 2014 budget, current annual capital investment is approximately $4.46 million. This would provide a high level estimate of the City's annual tax supported infrastructure funding deficit at $18.5 million (in 2014 dollars).

Water

From a water asset base perspective, the estimated annual sinking fund requirement, based on using the calculations discussed above, is approximately $7.73 million (in 2014 dollars). Based on the City's 2014 budget, current annual capital investment is approximately $4.05 million. This would provide a high level estimate of the City's annual water infrastructure funding deficit at $3.68 million (in 2014 dollars).

Wastewater

From a wastewater asset base perspective, the estimated annual sinking fund requirement, based on using the calculations discussed above, is approximately $6.13 million (in 2014 dollars). Based on the City's 2014 budget, current annual capital investment is approximately $4.08 million. This would provide a high level estimate of the City's annual Wastewater infrastructure funding deficit at $2.05 million (in 2014 dollars).

Airport

From an airport asset base perspective, the estimated annual sinking fund requirement, based on using the calculations discussed above, is approximately $2.34 million (in 2014 dollars). Based on the City's 2014 budget, current annual capital investment is approximately $474,430. This

would provide a high level estimate of the City's annual airport infrastructure funding deficit at $1.86 million (in 2014 dollars).

Under the recommended financing strategy, the City would be making proactive attempts to mitigate these funding gaps over the forecast period. Please see Figures 5-3 to 5-6 below for a 10 year forecast of implementing this strategy for tax supported, water, wastewater and airport assets respectively. The blue portion of the graph outlines the current capital investment amounts, increasing at inflation over the forecast period. The red portion indicates the result of implementing recommended increases in available funding sources (resulting in increases in capital investment annually). The green represents optimal annual capital investment amounts (calculated as described above). Please note "optimal" capital investment funding can come from a number of additional sources, such as grants, donations, debt and other contributions. Please refer to Appendices G (tax supported), H (Water), I (Wastewater) and J (Airport) for 20 year versions of these graphs, indicating that if recommended annual funding levels are achieved, the annual infrastructure funding gap would be eliminated during the forecast period.

Figure 5-3
Tax Supported Assets

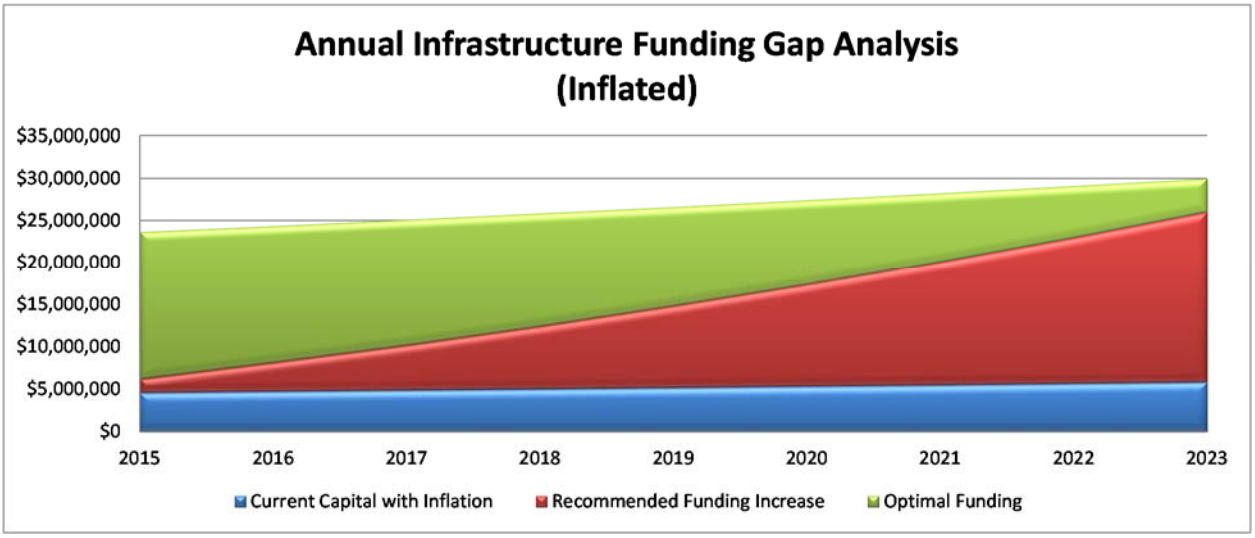


Figure 5-4
Water Assets

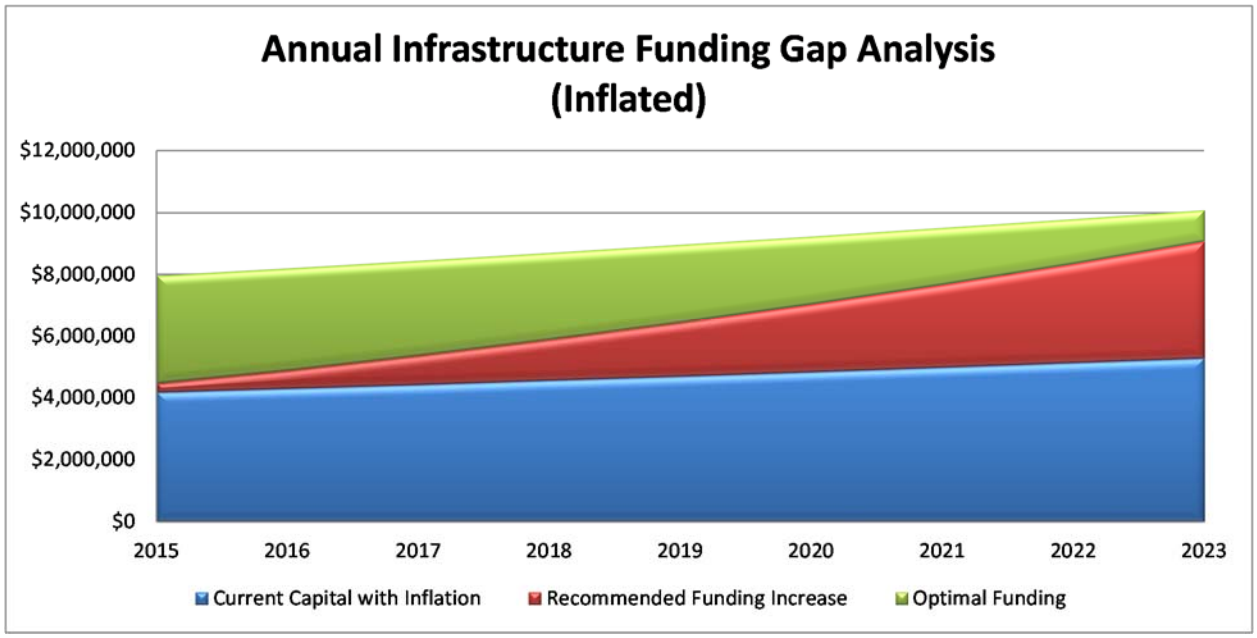


Figure 5-5
Wastewater Assets

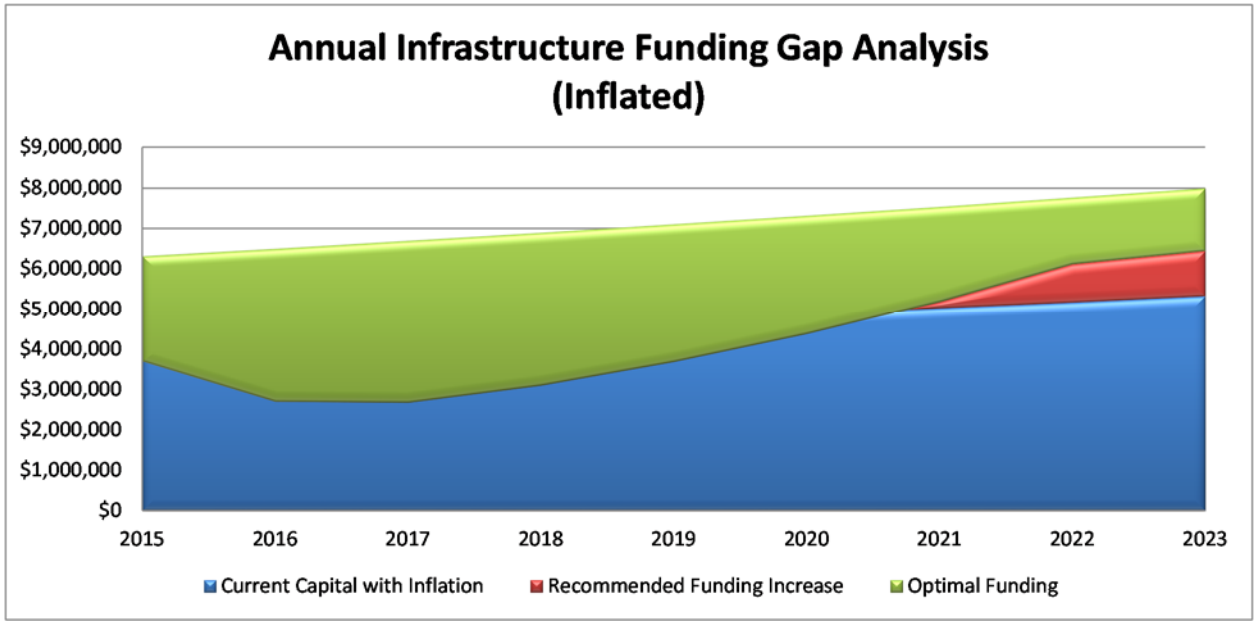
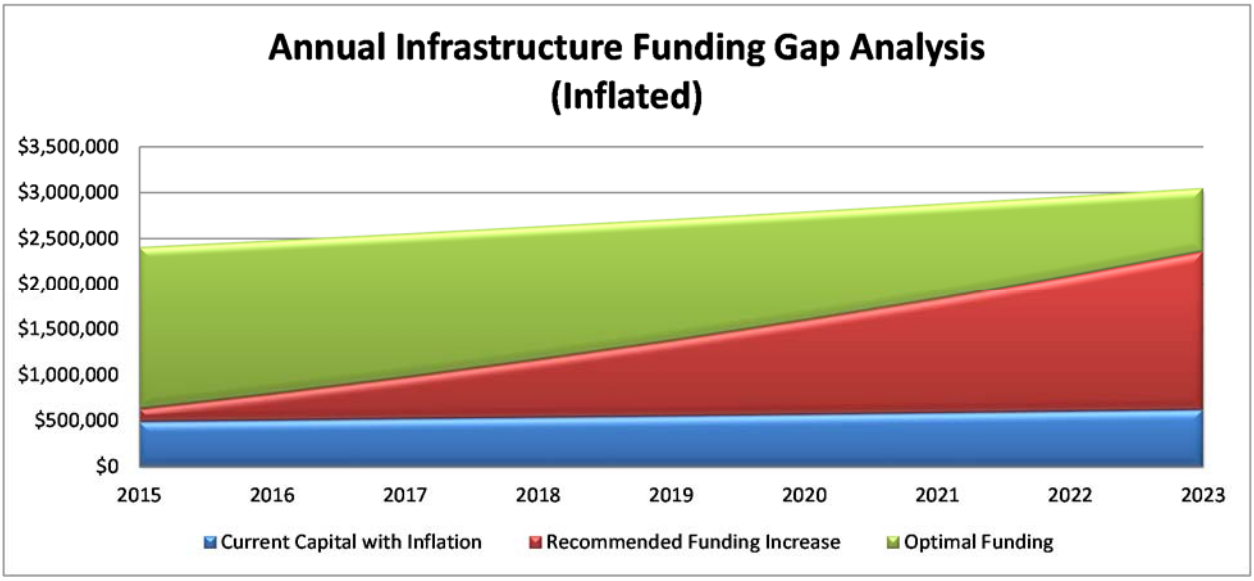


Figure 5-6
Airport Assets



To further mitigate the potential infrastructure funding deficit, the City could consider:

- Decreasing expected levels of service to make available capital funding;
- Issuing debt for significant and/or unforeseen capital projects, in addition to the debt recommended within this report, while staying within the City's debt capacity limits (this would have the impact of spreading out the capital repayment over a defined term);
- Actively seeking out and applying for grants;
- Consider approaching the development community for funding assistance with respect to growth/expansion related projects;
- Rate increases, where needed (i.e. taxation, user fees); or
- Implementing operating efficiencies (i.e. reduced operating costs to allow more capital investment).

6. RECOMMENDATIONS

6. RECOMMENDATIONS

The following recommendations have been provided for consideration:

- That the City of Timmins Asset Management Plan be received and approved by Council;
- That consideration of this Asset Management Plan be made as part of the annual budgeting process to ensure sufficient capital funds are available to fund capital requirements; and
- That this Asset Management plan be updated as needed over time to reflect the current priorities of the City.

The current level of funding for asset replacement and renewal at the City will not sufficiently fund capital needs or close the infrastructure funding gap. As such, it is recommended that the following additional recommendations be considered during the annual budget process:

- Initiation of "level of service" (LOS) strategies discussed in Chapters 3, 4 and Appendix D;
- An increase in taxation as part of upcoming budget deliberations, dedicated to capital, to be transferred to capital reserve(s);
- Water and wastewater revenue increases consistent with the calculations provided in this report and should be verified through a rate study/financial plan project in the future;
- Allocating a portion (i.e. at least 50%) of any annual operating surplus to applicable capital reserve funds;
- When annual budget savings are realized from fully paying debt obligations, these budget savings are to be invested in future capital needs;
- Consider the capital priorities identified within this report when applying for future grants; and
- Increase the accuracy of the asset data (i.e. valuation, condition, useful life, remaining service life, etc…) in order to increase the accuracy of the overall asset management plan.

Substantial investment in capital needs will be required over the forecast period. Through the recommendations provided above, proactive steps would be taken to increase capital investment, as well as reduce the annual infrastructure funding gap for these assets. Enhanced level of service will assist in maintaining adequate asset conditions, mitigate asset risk, as well as potentially defer capital needs within the forecast period. In addition, the City should pursue available capital grants, wherever possible, to further reduce the infrastructure funding gap.

Through the creation of this plan, City staff have been provided with a model in which amendments and revisions can be made as needed. It is anticipated that the final plan adopted by Council will be monitored and updated frequently by City staff as part of the budget process, with refinements and specific recommendations being provided with respect to the priority of each individual project.

APPENDIX A
DETAILED ASSET INVENTORY

PLEASE REFER TO TECHNICAL APPENDIX

APPENDIX B
STATE OF LOCAL INFRASTRUCTURE
(AINLEY GROUP)

City of Timmins Asset Management Plan Development Project

State of Local Infrastructure

Ainley & Associates Limited
280 Pretty River Parkway
Collingwood, ON
L9Y4J5

November, 2014
File No. 113092

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1.0 Overview

One of the requirements in the process of developing the City of Timmins' Asset Management Plan is to establish the State of the City's Infrastructure. The main purpose of establishing the State of Local Infrastructure was to determine the current state of infrastructure, remaining useful life and ultimately, major maintenance and/or replacement needs.

This report documents and outlines the process followed in determining the state of the City's infrastructure including establishment of an asset condition rating system together with the assumption and guidelines used in determining and grading asset conditions including consequence and probability of failure assessment and guidelines for determining asset replacement cost .

The report gives an overview of the condition assessment exercise that was used to determine the state of local infrastructure and the findings of this exercise. The report then summarizes the critical maintenance activities and immediate replacement requirements identified during the exercise.

2.0 Asset Condition Assessment Guidelines and Assumptions

2.1 Asset Condition Assessment Grading System

2.1.1 Overview

This section provides an overview of the Asset Condition Grading System that was used to assess and establish the condition of assets as part of the task to determine the current state of infrastructure for the City of Timmins' Asset Management Plan. The general grading system was refined to come up with specific asset grading guidelines for the different types of infrastructure assets depending on the assessment method and available information.

2.1.2 Condition Grading System

Asset condition assessment was facilitated by the use of a condition grading system that projected remaining useful life and in addition used to identify and prioritize the renewal requirements for assets.

The Condition Grading System (Table 1) used was developed from a number of industry asset grading standards with focus on standards in the following reports detailed in ***Appendix A*** (Tables 2 – 5):

1. City of Timmins 2010 report on Facilities Capital and Financial Plan by Conestoga Rovers Associates
2. Region of Durham Asset Condition Rating System
3. Managing Public Infrastructure Assets report, by the Association of Metropolitan Sewerage Agencies
4. Ministry of Infrastructure's Municipal Infrastructure Strategy Asset Management Tool Kit

Table 1: General Condition Rating Guideline Used

Grade	Condition	Soundness (Physical Condition)	Performance / Functionality*	Maintenance Requirements / Risk of Failure	Age
1	**Very Good**	Sound	- As Intended - Operable & well-maintained - Asset expected to perform adequately with routine maintenance for 10 years or more *(25yrs for Civil Structures)*	- Limited deterioration on systems - To perform adequately with routine maintenance for at least another 80 % the life cycle	New – **90%** estimated useful life remaining
2	**Good**	Sound	- As Intended - Shows minor wear that has minimal impact on performance - Potential for deterioration or impaired performance over next 5-10yrs *(10yrs for Civil Structures)*	- Acceptable minor work (if any) required - Minimum short-term failure risk	Mid-Range of Expected Life – **70%** estimated useful life remaining
3	**Fair**	- Signs of deterioration - Functionally sound but showing wear and diminished performance	- Lower than intended - Potential for further deterioration and diminished performance within next 5yrs *(10yrs for Civil Structures)*	- Exceeding acceptable levels. - Renewal or major component replacement expected within next 5yrs. -Minor work required but asset is serviceable. Moderate short-term failure risk	Later Stage of Expected Life – **50%** estimated useful life remaining
4	**Poor**	- Signs of deterioration - Asset functions but requires high level of maintenance to remain operational	- Much lower than intended - Likely to have significant deterioration in performance within next 2yrs - Renewal or replacement expected within next2yrs	- Significantly above normal levels - Substantial work required, asset barely serviceable - High risk of short-term failure	Approaching End of Expected Life – **20%** estimated useful life remaining
5	**Critical/ Very Poor**	- Unsound - Asset failed or failure is imminent	- Not performing as intended - Significant health and safety hazard.	- Costs unacceptable & rehabilitation not cost effective - Excessive maintenance required and no further service life expectancy	Past End of Life – less than **10%** estimated useful life remaining

* **Performance / Functionality –** based on the assessment criteria given in ***Appendix A*** (Table 1) which also provides more details on the criteria that was used to assess the condition of the assets.

2.2 Consequence of Failure Assessment

In general the following assessment system was used to rate the consequence of failure for each asset with each asset evaluated or ranked from 1 to 5:

1 - Insignificant - No or very minor impact on the facility performance or service delivery.

2 – Minor - Limited loss of performance of the facility or service delivery.

3 – Medium - Moderate loss of performance, which can be accommodated on the odd occurrence.

4 - Major - Significant loss of performance or service delivery which could result in serious damages.

5 – Extreme - Unable to provide performance or deliver service for an extended period of time.

2.3 Probability of Failure Assessment

Probability is the likelihood that asset will fail. In general the asset was evaluated or ranked from 1 to 5 with the probability of a problem occurring (asset failing) ranked as:

1 - Rare - May occur only in exceptional circumstances.

2 - Unlikely - Could occur if circumstances change.

3 - Possible - Might occur under current circumstances.

4 - Likely - Will probably occur in most circumstances.

5 - Almost certain - Is expected to occur unless circumstances change.

The condition and age of the asset usually gives an indication on the chances of the asset failing.

The product of the probability number multiplied by the consequence number determines the level of risk to the facility and was used to prioritize and schedule the required upgrades.

2.4 Specific Asset Condition Assessment Guidelines

2.4.1 Water Distribution Assets Condition Assessment

Water Reservoirs and Pumping Stations

Condition Rating: was based on field observations, interviews of Operations staff and review of reports. Rated using approved Condition Grading System.

Consequence of Failure: Depends on asset use, availability of a standby / back-up capacity, size of infrastructure and service area.

Probability of Failure: is largely based on condition rating. The following ranking was used:

Table 2: Probability of Failure based on condition rating

Condition Rating	Probability
5	4
4	3
3 - 2	2
1	1

These ratings and ranking were confirmed after further review of repair and maintenance history reports and input from staff.

Critical Maintenance Activities / Immediate Replacement: In general assets with a condition rating of 5 and a Risk of more than 15 should be replaced or refurbished within the next 3 years.

Water Mains

Condition Rating: is based on the estimated remaining useful life with a rating as follows:

Table 3: Condition Rating based on remaining useful life

Estimated Remaining Useful Life	Condition Rating
More than 80%	1
From 79% to 60%	2
From 59% to 35%	3
From 34% to 10%	4
From 9% to 0%	5

The rating was adjusted based on findings from report reviews and Operations staff interviews.

Consequence of Failure: The impact to service delivery of water mains largely depends on their size. As a starting point the rating system based on the cross section area of the water mains. The system used as a guide in assessing the consequence of failure for water mains is given in ***Appendix A*** (Table 6).

The assessed impact was confirmed after further review of the water distribution system identifying critical service areas.

Probability of Failure: same as for water reservoirs and pumping stations.

Critical Maintenance Activities / Immediate Replacement: In general assets with a condition rating of 5 and a Risk of more than 12 should be replaced or twinned within the next 5 years.

Water mains with a risk greater than 12 and a condition rating of 4 or more should be assessed for possible replacement within 1 to 3 years and water mains with a risk greater than 9 and a condition rating of 5 should be assessed for replacement within 3 to 5 years.

2.4.2 Water Filtration Plant Assets Condition Assessment

Condition Rating: The condition rating of the assets in the filtration plant was based on a combination of age, useful life, operating condition and visual inspection. Assets that were not directly accessible during the field inspection were assessed based on age, useful life and staff opinion on operating conditions.

The ratings were adjusted based on findings from report reviews and Operations staff interviews.

Consequence of Failure: The impact to service delivery was assessed based on the ability of the filtration plant to operate when a particular asset has failed. The impact on the quality of the processed water, reduction to plant capacity and the availability of back-up systems were considered.

The assessed impact was confirmed after further with the Operations staff to identify critical assets.

Probability of Failure: The failure probability score was largely based on the historical rate of failure of similar assets operating under similar conditions. The probability ranking also takes into account

the current life stage of the individual assets. Systems that are generally more sensitive to changes in the operating condition (pressure, electrical current, etc.) are assigned a higher probability of failure.

These ratings and ranking were confirmed after further review of repair and maintenance history reports and input from staff.

Critical Maintenance Activities / Immediate Replacement: In general assets with a condition rating of 4 and a Risk of more than 12 should be replaced within the next 5 years.

2.4.3 Wastewater Collection Assets Condition Assessment

Sewage Pumping Stations

Condition Rating: was based on field observations, interviews of Operations staff and review of reports. Rated using approved Condition Grading System.

Consequence of Failure: Depends on asset use, availability of a standby / back-up capacity, size of infrastructure and service area.

Probability of Failure: same as for water reservoirs and pumping stations.

Critical Maintenance Activities / Immediate Replacement: In general assets with a condition rating of 5 and a Risk of more than 10 should be replaced or refurbished within the next 3 years.

Sewer Mains

Condition Rating: was based on the estimated remaining useful life (Table 3).

Consequence of Failure: The impact to service delivery of sewers largely depends on their size. As a starting point assessing the consequence of failure for sewers is therefore the same as for water mains (***Appendix A-***Table 6). The assessed impact was confirmed after further review of the wastewater collection systems identifying critical service areas.

Probability of Failure: same as for sewage pumping stations.

Critical Maintenance Activities / Immediate Replacement: In general assets with a condition rating of 5 and a Risk of more than 15 should be replaced or twinned within the next 5 years.

Sanitary mains with a risk greater than 18 and a condition rating of 5 should be assessed for possible replacement within 2 to 5 years.

Force Mains

Condition Rating: was based on the estimated remaining useful life.

Consequence of Failure: The impact to service delivery of force mains also largely depends on their size. The impact to service delivery of wastewater force mains is higher since there is no redundancy in the system. As a starting point the following was used as a guide in assessing the consequence of failure for force mains:

Table 4: Consequence of Failure – Force mains

Size (mm)	Impact Rating
100 - 200	3
200 - 300	4
More than 300	5

Probability of Failure: same as for sewer main.

Critical Maintenance Activities / Immediate Replacement: In general assets with a condition rating of 5 and a Risk of more than 12 should be replaced or twinned within the next 5 years.

2.4.4 Storm Water Collection Assets Condition Assessment

Storm Sewer Mains

Condition Rating: was based on the estimated remaining useful life.

Consequence of Failure: The impact to service delivery of storm water mains depends on their size. As a starting point the following rating system based on the cross section area of the sewers. The system used as a guide in assessing the consequence of failure for storm water mains is given in ***Appendix A*** (Table 7). The assessed impact was confirmed after further review of the collection system identifying critical service areas.

Probability of Failure: same as for sewer mains.

Critical Maintenance Activities / Immediate Replacement: Storm Water mains with a risk greater than 18 and a condition rating of 5 should be assessed for possible replacement within the next 3 to 5 years.

Manhole and Catch Basins

Condition Rating: was based on the estimated remaining useful life).

Consequence of Failure: The impact to service delivery of manholes and catch basins depends on the number of manholes and catch basins. If a large amount of manholes and catch basins are out of service at one time it would have larger impact on the service.

Table 5: Consequence of Failure – Manhole and Catch Basins

Number of MH/CB	Impact Rating
1-50	2
51-100	3
More than 100	4

The assessed impact was confirmed after further review of the collection systems identifying critical service areas.

Probability of Failure: same as for storm water mains.

Critical Maintenance Activities / Immediate Replacement: same as for storm water mains.

2.4.5 Waste Water Treatment Plants Assets Condition Assessment

Condition Rating: same as for the water filtration plant.

Consequence of Failure: same as for the water filtration plant.

Probability of Failure: same as for the water filtration plant.

Critical Maintenance Activities / Immediate Replacement: same as for the water filtration plant.

2.4.6 Park Assets Condition Assessment

Condition Rating: was based on the field audit that involved the visual inspection of the asset. A grade of from 1 through 5 was given for the overall condition of the asset.

Probability of Failure: was based on condition rating.

Consequence of Failure: was based on the type of Park (neighbourhood/regional), type/use of asset and importance of the asset to the park. Regional Parks have a larger consequence of failure since if an asset is out of service it will have a larger effect on the public. The rating for assets in Regional Parks was increased by one compared to Neighbourhood Parks. Fencing was given a rating of 1 as it would not have a large effect on the services of the Park, can easily be replaced/fixed and the Park can still be used by the public. Play structures were given a rating of 3 as the play structure is the main feature of the park and if it were to fail could cause injuries to those using it and it would be more difficult to replace.

2.4.7 Fleet Assets Condition Assessment

Condition Rating: was based on the estimated remaining useful life.

Consequence of Failure: Depends on the type, use / department and availability of a back-up fleet. Trailers have a rank of 2 in general, with emergency and transit fleet with a rank of 4.

Probability of Failure: was based on condition rating.

Critical Maintenance Activities / Immediate Replacement: In general fleet with a condition rating of 5 and a Risk of more than 12 should be replaced or refurbished (for transit & heavy duty fleet) within the next 1 to 3 years.

2.4.8 Roads Assets Condition Assessment

Road Surfaces and Sub surfaces

Condition Rating: Two condition rating systems were used for the assessment of the road surface condition. For assets that were addressed by the “Network Summary Analysis Report” by Stantec in March 2011 the road condition was based on the recommended rehabilitation. In general there were five different recommendation made for various roads. The recommendations and the associated condition are given in table 6.

Table 6: Condition Rating – Stantec report

Stantec Recommendation	Condition Rating
50 mm Overlay	2
Pad + 50 mm Overlay	2
Mill + 50 mm Overlay	2
Pulverize + 50 mm Overlay	2
Reconstruct	4

Roads that were not addressed by the Stantec report were assessed based on age and a useful life (Table 8). The rating was adjusted based on findings from report reviews and Operations staff interviews.

Consequence of Failure: The impact to service delivery of roads largely depends on their traffic volume and functional class. As a starting point the following was used as a guide in assessing the consequence of failure of a road:

Table 7: Consequence of Failure – Roads

Functional Class	Impact Rating			
	2 Lanes	3 Lanes	4 Lanes	5 Lanes
Rural	1.5	2	2.5	3
Local – Residential	2	2.5	3	3.5
Local – Commercial/ Industrial	2.5	3	3.5	4
Collector – Residential	3	3.5	4	4.5
Collector – Commercial/ Industrial	3	3.5	4	4.5
Arterial	3.5	4	4.5	5

The assessed impact was confirmed after further review of the road network identifying critical service areas.

Probability of Failure: was based on condition rating.

Critical Maintenance Activities / Immediate Replacement: In general assets with a condition rating of 5 and a Risk of more than 12 should be replaced or rehabilitated within the next 5 years. The recommendations of the Stantec report are also included in the maintenance activities and should be completed according to their original schedule.

Guide Rails

Condition Rating was based on the estimated remaining useful life.

Consequence of Failure: The consequence of a guiderail failure depends on the volume of traffic and the traffic speed which can be estimated by the functional class of the road.

Table 8: Consequence of Failure – Guard Rails

Functional Class	Impact Rating
Rural	2
Local – Residential	2
Local – Commercial/ Industrial	3
Collector – Residential	3
Collector – Commercial/ Industrial	4
Arterial	5

Probability of Failure: was based on condition rating.

Critical Maintenance Activities / Immediate Replacement: In general assets with a condition rating of 5 should be replaced or rehabilitated within the next 5 years.

2.4.9 Traffic & Street Light Assets Condition Assessment

Condition Rating: was based on field observations, interviews of Operations staff, review of reports and age. Rated using approved Condition Grading System.

Consequence of Failure: Depends on whether asset is part of a main city route or side route, asset is being considered for removal due to reduced use, and interdependence with other assets in area.

Probability of Failure: was based on condition rating.

Critical Maintenance Activities / Immediate Replacement: These numbers align with observed priorities as discussed during meetings with Operations staff, with "1" being the highest priority.

2.4.10 Buildings

Condition Rating: was based on the CRA and the MPCE reports for each site. The PSAB was cross referenced to see if the deficiencies were entered as new works and then the capital plans were checked to establish if budgets addressed outstanding needs presented in the reports. The desk top condition rating was based on the date of construction or repair versus the End of Useful life value presented in the report. Field review offered Ainley the opportunity to revise this value (if it was observed).

Consequence of Failure: This was influenced by the Ontario Building Code. Certain buildings are assigned Importance Factors that are higher than other facilities, due to its function after a natural disaster. If the building encloses emergency services and life sustaining services, a higher the consequence of failure rating value was assigned. Redundancy was considered in the consequence of failure as well. Cultural importance associated with the facility is also factored into this rating. The consequence is lower if the building has low human occupancy.

Probability of Failure: This rating was directly related to the condition rating value.

2.4.11 Bridges

Condition Rating: was based on the Ontario Structural Investigation Manual (OSIM) reports prepared by Greer Galloway Group Inc. for the City of Timmins. There are several components to a bridge that have different useful life periods, but the Ainley asset inventory presents each bridge asset individually. The OSIM reports also breakdown each element into % from excellent to bad. Ainley has weighted each element and determined a general condition index for each bridge.

Consequence of Failure: In order to establish the consequence of failure, the type of structure and its redundancy for emergency access was considered. To establish the emergency access, a road map of Timmins was reviewed and the redundancy for emergency vehicles to access the public and how far the redundant option would take emergency vehicles to reach the hospital. Although not completely transferable to all emergency departments, this is accurate enough for the purposes of this report. Other emergency departments should be consulted to make this value more accurate.

The following rules were applied:

- A culvert with two (2) access routes to the hospital with the detour <10km: Consequence of Failure Rating = 3
- A culvert with one (1) access route only to the hospital: Consequence of Failure Rating = 5.
- A bridge with two (2) access routes to the hospital with the detour <15km: Consequence of Failure Rating = 4.
- A bridge with one (1) access route only to the hospital >15km: Consequence of Failure =5.
- Pedestrian bridge: Consequence of Failure = 3.
- Structure T-8 unused by CNR overpass: Consequence of Failure = 3.

Probability of Failure: Since it is mandated in the Ontario Structural Inspection Manual (OSIM) that bridges are to be inspected and reported on every two years, the probability of extreme failure is reduced. The type of bridge be it culvert or multi-lane bridge will impact the value (culverts having a

lower Probability of Failure). The Probability of Failure is also linked with the Condition Rating: The following logic has been applied to determine the Probability of Failure Index.

The Probability rating =Condition Rating Index (+) modification factor shown below:

- Culvert Modification Factor = -1
- Rural Road Class Modification Factor = -2
- Arterial Road Class Modification Factor = 0
- Local Residential Road Class Modification Factor = -1
- Local Commercial/Index Modification Factor = -1
- Pedestrian Bridge Modification Factor = -1
- Probability of Failure (Minimum) = 1

The exception to this approach is when the condition rating index is 5. The Grassy River Culvert (RBC-CUL-02) was also an exception due to its large span. In this case, the Probability of Failure was reduced by two instead of three.

2.5 Other Asset Condition Assessment Assumption and Guidelines

2.5.1 Replacement Costs

In general replacement cost estimates were largely based on recent tenders for the City of Timmins and market rates. The replacement cost of assets in the water filtration plant was based primarily on the inflated historical cost. Typical installation costs were used for assets that had no available historical cost. Adjustments were made for those assets for which inflated historical costs were considered to be unreasonable. ***Appendix B*** provides a list for representative unit costs used.

2.5.2 Estimated Useful Life

The useful life for assets of a number of asset categories including Water Filtration Plant, Wastewater Treatment Plants and Water mains were re-assessed. The updated useful lives of assets are largely based on the historical useful life of similar assets operating under similar conditions. They were confirmed after further review with the Operations and Maintenance staff.

3.0 Determination the State of Local Infrastructure

3.1 Desk top review

For desk top review, the condition of assets was established based on report / record reviews and staff interviews. The condition of the following asset categories was established primarily based on desk top review:

1. Roads – based on review of the 2011 Stantec 10 year Road Needs Report and existing database information.
2. Bridges – based on review of the 2012 Greer Galloway Group 10 year Bridge Report and existing database information.
3. Water mains, Sanitary and Storm Sewers – based review of existing database information.
4. Municipal Fleet – based review of existing database information.

For Buildings Assets desk top review, the following documents were reviewed (see ***Appendix A)*** for details:

1. PSAB 3150 Capital Assets List, City of Timmins.
2. City of Timmins Facility Capital Plan and Financial Plan by Conestoga Rovers & Associates, that includes:
    a. Report dated August 2010.
    b. Proposed 2010 Capital Budget.
    c. Final Consolidated Inventory.
    d. Final Facility Reports.
    e. Accessibility Assessment Reports.
3. McIntosh Perry Consulting Engineers Ltd. – Non-Destructive Inspection of Structural Building Components. September 2012.
4. 2011, 2013 Capital Budgets.

3.2 Full Asset Audit

Under full asset audit review the condition of assets was established based on physical inspection of assets, review of reports and staff interviews. Field visits to the City of Timmins were conducted from September 3 to 6, 2013 and then on November 4 & 5, 2013. The purpose of the site visits was to conduct a full Asset Condition review for:

- Timmins Water Filtration Plant.
- Water Distribution Plants including: Hollinger Standpipe, MacLean Drive Reservoir and Pumping Station, Moneta Booster Station, PRV Building and the Tisdale Reservoir & Pumping Station.
- Mattagami WPCP.

- Whitney WPCP.
- 19 Sewage Pumping Stations.
- Buildings - Full audit for (see ***Appendix A*** for details): the New Chapel at Pine Street cemetery, Timmins Transit office and bus depot, Sewage pumping stations – 1 to 6, MacLean Drive Reservoir and building, Tisdale Reservoir and building.
- Municipal Parks.
- Traffic Lights and Street Lights.
- Airport.

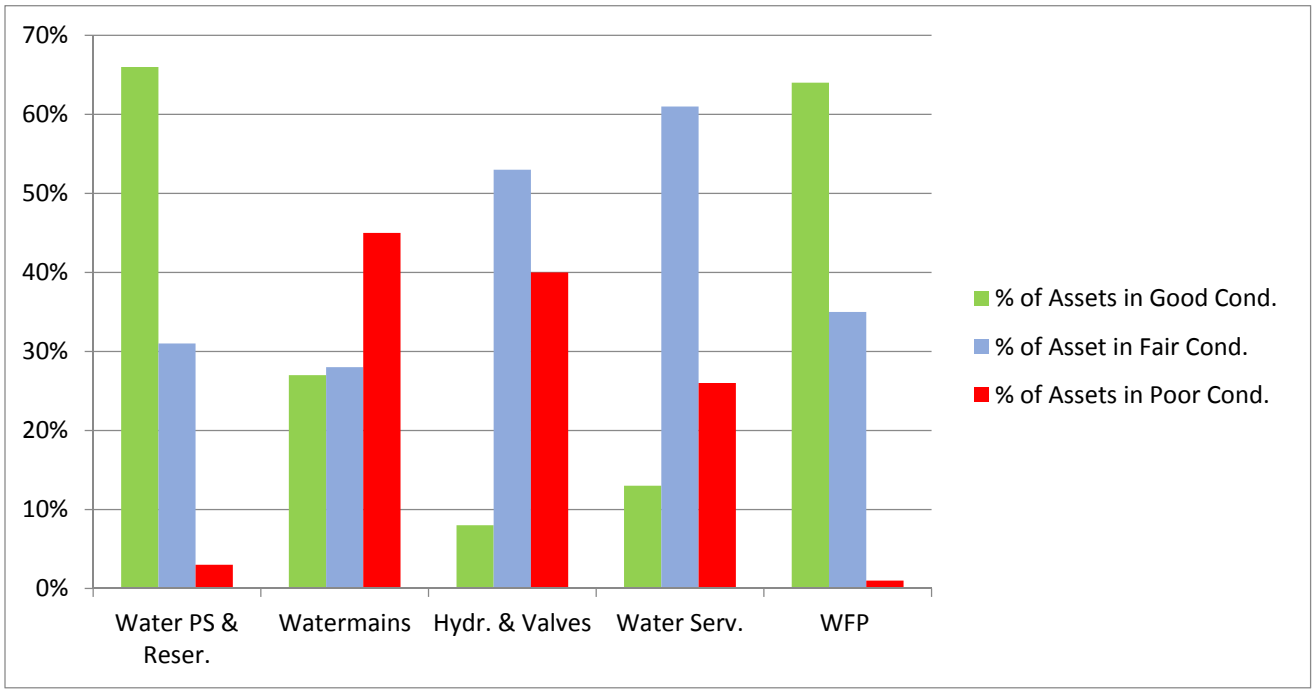
Site photos taken and Field Inspection Check lists / records (***Appendix C***) have been provided to the City.

3.3 Asset Condition Assessment Findings

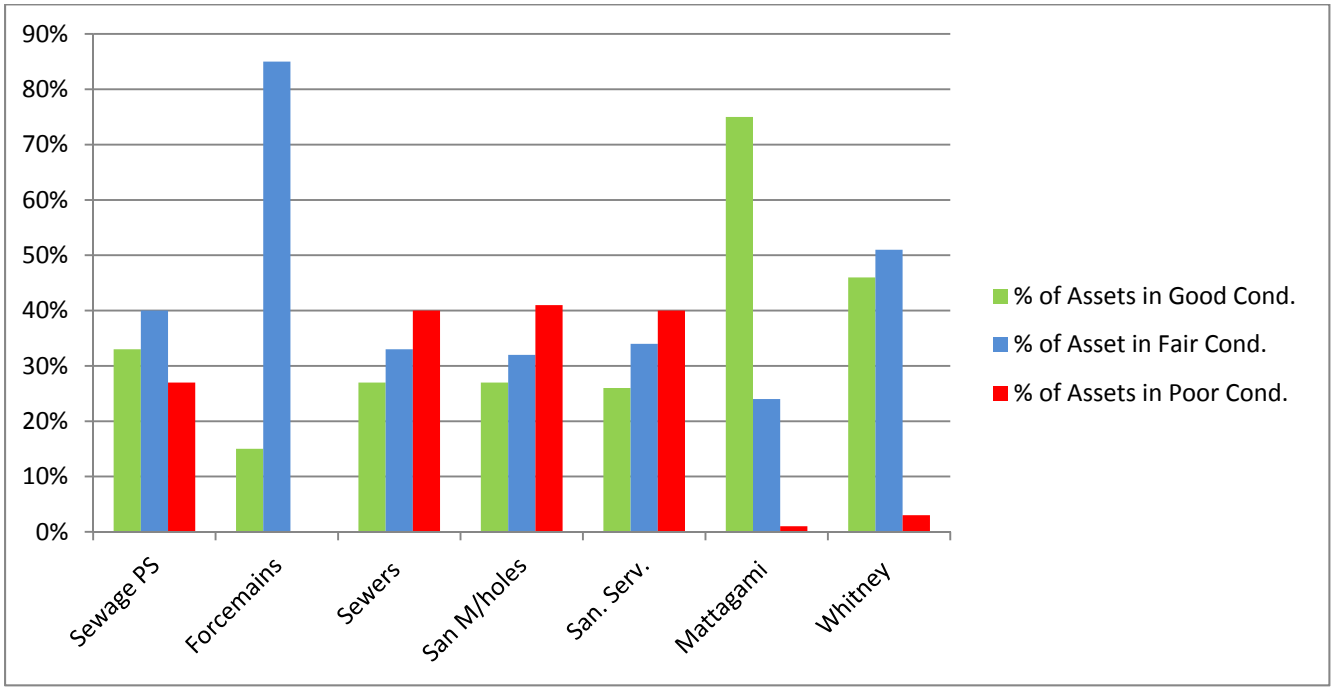
Asset condition was assessed based on physical inspection for the assets identified for full asset audit and by comparing asset repair history and other available data to its expected life. The exercise involved a desk top review of reports and a field visit to establish asset condition. The findings of the condition assessment exercise were used to reconcile existing asset information and develop asset inventory databases as part of the City of Timmins Asset Management Plan.

Graphs 1 to 4 provide an overview of the status of the conditions various asset categories.

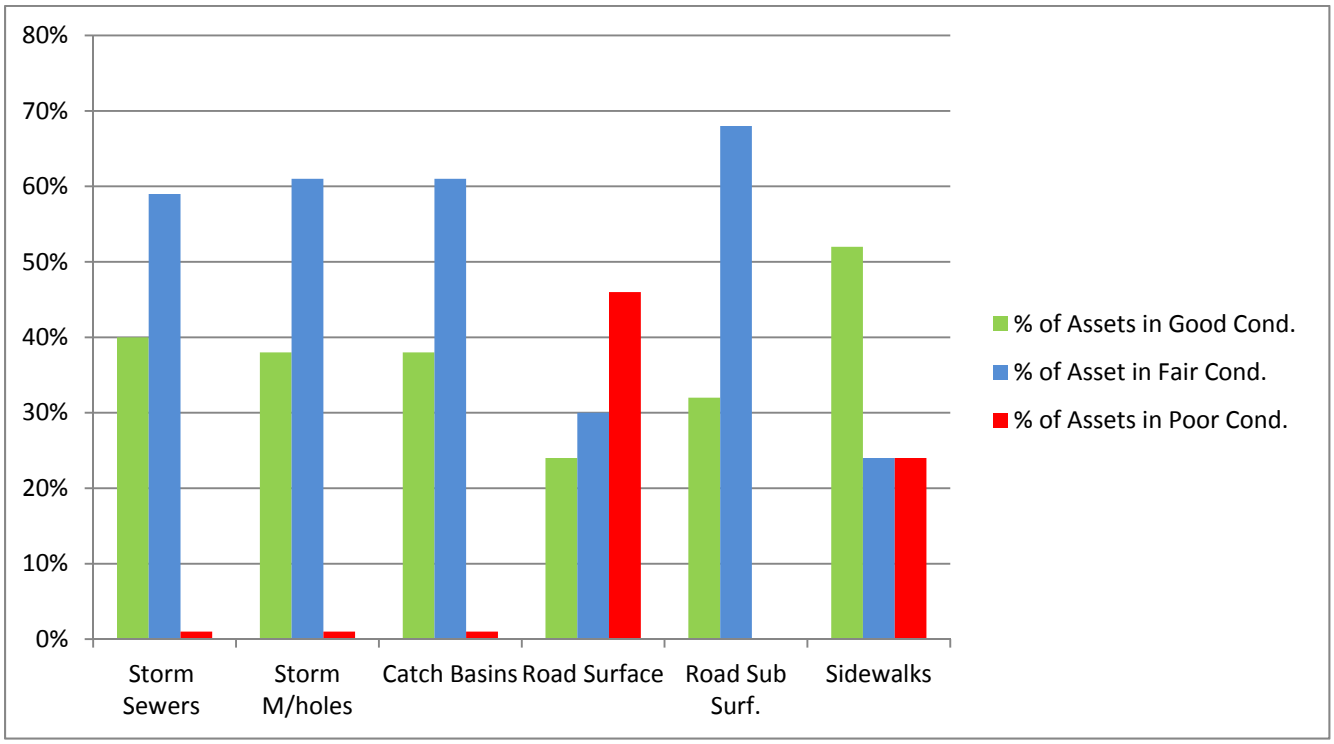
Graph 1: Water Treatment and Distribution Assets Condition



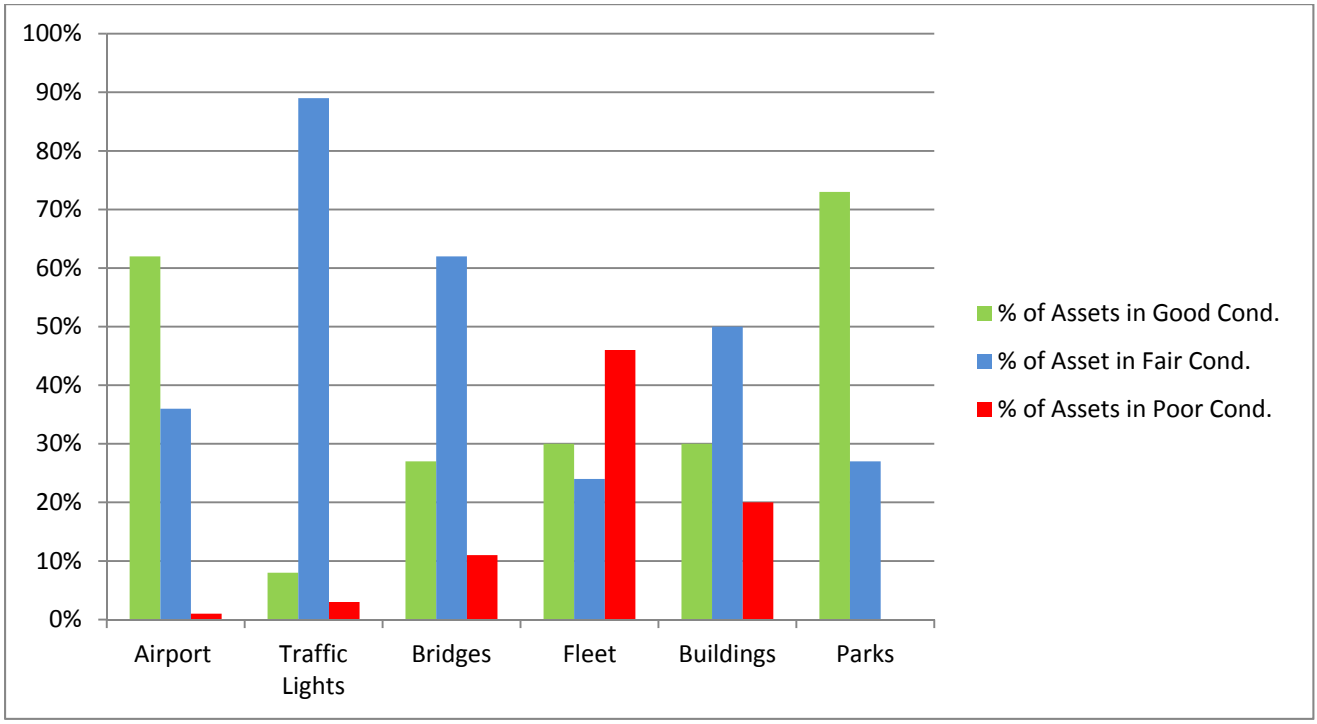
Graph 2: Wastewater Treatment and Collection Assets Condition



Graph 3: Road Assets Condition



Graph 4: Transportation, Building and Parks Assets Condition



4.0 Critical Maintenance Activities / Immediate Replacement Requirements

4.1 Overview

This section summarizes the critical maintenance activities and immediate replacement requirements identified during the exercise of determining the City of Timmins' state of local infrastructure. The ultimate goal for the assessment was to identify critical infrastructure projects that will address urgent public health and safety issues and maintain public health and safety in the long-term.

4.2 Water Distribution Assets

4.2.1 Water Reservoirs and Pumping Stations

	Asset	Deficiency	Critical Activity and Timing	Cost Estimate ($'000)
1	Hollinger Standpipe Coating	Rusted Coating	Repaint tank inside and out-side within 1 year	1,300
2	Hollinger Booster Station	Station is in a very poor conditions	Station requires complete refurbishment or replacement	1,500
	Total			**2,800**

4.2.2 Water Mains

	Asset	Deficiency	Critical Activity and Timing	Cost Estimate ($'000)
1	500mm WM along Commercial Ave. from WTP to Mattagami Blvd.	WM has failed numerous times and is beyond repair	Replace within 1 to 2 years to ensure security of supply	530
2	500mm WM along Second Ave. from Mountjoy St. to Pine St.	Critical WM approaching end of useful life	Assess condition for possible replacement within 1 to 3 yrs.	550
3	450mm WM along Second Ave. from Pine St. to Water Tower	Critical WM approaching end of useful life	Assess condition for possible replacement within 1 to 3 yrs.	640
4	500mm WM along Commercial Ave. from Mattagami Blvd. to Mountjoy St.	Critical WM approaching end of useful life	Assess condition for possible replacement within 1 to 3 yrs.	880
5	300mm WM along Riverside Dr. from Mattagami River Bridge to Government Rd.	1 km section of the WM in poor condition	Assess condition for possible replacement within 3 to 5 yrs.	700
	Total			**3,300**

The following less critical 300mm water mains in poor condition should also further be assessed within the next 5 years to determine the need replacement at an estimated cost of $2.1 million.

a. Ductile Iron Watermain along Aura Lake St from Hydro (Row) to Fourth Ave
b. PVC Watermain along Fern Ave from Moore St to Main St
c. PVC Watermain along King St from Hallnor Rd to East To Norfab
d. PVC Watermain along King St from Onr (Row) to Hallnor Rd
e. Ductile Iron Watermain along Mountjoy St from Algonquin Blvd to Vimy Ave
f. Ductile Iron Watermain along Patricia Blvd from Eighth Ave to Hart St
g. Ductile Iron Watermain along Pine St from Iroquois Rd to Moneta Ave
h. Ductile Iron Watermain along Schumacher Dr from Hwy 655 to Hollinger Lane
i. Ductile Iron Watermain along Spruce St from Second Ave to Algonquin Blvd

In addition 24 Valves that were determined to be in a poor condition should further be assessed within the next 5 years to determine the need for replacement at an estimated cost of $407,000.

4.2.3 Water Distribution Infrastructure Asset Requirements for Improved System Performance

In addition to the above critical asset replacement needs that are part of the Asset Management Plan, infrastructure asset requirements that will improve the performance of the water distribution system were identified. The following needs were identified as water distribution system enhancements that will improve the performance of the system contributing to the overall goal of ensuring an efficient, reliable and secure service delivery at an estimated cost of $1.5 million.

a. Twin existing watermain along Moneta Dr. from Pine St. to Ontario Hydro (ROW) with a 300mm WM within 1 year to ensure security of supply ($400,000).
b. Construct a 200mm WM to connect existing WMs at Flacon and Earl St. within the next 5 to 10 years to ensure security of supply ($200,000).
c. Construct a 300mm WM to connect Maclean Dr. reservoir to J.V Bonhomme Blvd within the next 5 to 10 years to ensure security of supply ($700,000).
d. Twin existing watermain along Michener Blvd from Clement St. to Renison Ave. with a 200mm WM within the next 5 to 10 years to ensure security of supply ($200,000).

4.3 Water Filtration Plant Assets

	Asset	Deficiency	Critical Activity and Timing	Cost Estimate ($'000)
1	Blending Chamber	Concrete structure has failed and has begun to leak.	Replace with improved, more secure, blending system. Including piping and valve improvements. 0 to 5 years.	1,500
2	Filters 1,3,6	Concrete needs maintenance.	Continue filter refurbishment, 1/year (3 years).	1,200

3	Process Equipment	Aged, critical process mechanical components.	Continue replacement of critical mechanical and electrical components. Yearly.	200
4	Chlorination System	Reaching end of useful life.	Replace aged, critical chlorinators and associated equipment. 5-10 years.	150
5	High Lift Pumping Area	Reaching end of useful life.	Replace critical valves, headers, pumps, and pump controls. Fully automate the high lift system including VFD control. 5-10 years.	2,400
6	Sewage Pumps	Reaching end of useful life.	Replace pumps. 5-10 years	150
7	Backwash	Process components reaching end of useful life.	Replace critical header, blower and pump components. Replace strainers and control valves. 5-10 years.	500
8	Reservoir /Contact Chamber	Concrete maintenance required.	Refurbish concrete; replace cell 2 roof membrane, critical valves and hatches. 5-10 years.	100
9	Building	Failure of various building components.	Replace/ repair aged building components. 5-10 years.	300
10	Instrumentation and Control Systems	Reaching end of useful life.	Replace all hardware, software and instruments over a 5 year phased upgrade plan.	1,200
11	Contact chamber	Curtains reaching end of useful life.	Replace the contact chamber curtains.	800
	Total			**8,500**

4.4 Wastewater Collection Assets

4.4.1 Sewage Pumping Stations

	Asset	Deficiency	Critical Activity and Timing	Cost Estimate ($'000)
1	Park Ave. Sewage Pumping Station Building	Rusted Roof	Repair Rusted Roof and install fence within 1 year. Assess wet well ventilation	100
2	Porcupine Sewage Pumping Stations 1 to 6	Critical stations with mechanical and electrical equipment in very poor conditions	Replace equipment and refurbish pumping stations within 1 to 4 years	16,900
	Total			**17,000**

4.4.2 Sewer Mains and Force mains

The following Sanitary Sewer mains should further be assessed and considered for replacement within the next 2 to 5 years.

	Asset	Deficiency	Cost Estimate ($'000)
1	600mm Sewer along Cameron St from Columbus Ave to Wende Ave	Critical Sewer with age beyond useful life	94
2	900mm Sewer along Wilson Ave from Mattagami Blvd to Cloutier St	Critical Sewer with age beyond useful life	203
3	750mm Sewer along Wilson Ave from Cloutier St to Cameron St	Critical Sewer with age beyond useful life	104
4	525mm Sewer along Algonquin Blvd from Balsam St to Railway Underpass	Critical Sewer with age beyond useful life	190
5	525mm Sewer along Algonquin Blvd from Railway Underpass to Brunette Rd	Critical Sewer with age beyond useful life	130
6	525mm Sewer along Algonquin Blvd from Brunette Rd to Hydro Row	Critical Sewer with age beyond useful life	155
7	900mm Sewer along Vimy Ave from Cameron St to Mcleod St	Critical Sewer with age beyond useful life	84
8	1200mm Sewer along Vimy Ave from Theriault Blvd to Cameron St	Critical Sewer with age beyond useful life	340
9	600mm Sewer along Vimy Ave from Cameron St to Mcchesney Road	Critical Sewer with age beyond useful life	510
10	675mm Sewer along Vimy Ave from Mcleod St to Rea St	Critical Sewer with age beyond useful life	72
11	600mm Sewer along Waterloo Rd from Carlin Ave to Borden Ave	Critical Sewer with age beyond useful life	264
12	525mm Sewer along Balsam St from Algonquin Blvd to Sixth Ave	Critical Sewer approaching end of useful life	135
13	600mm Sewer along Gillies St (Area W) from Algonquin Blvd to Vimy Rd	Critical Sewer approaching end of useful life	275
14	525mm Sewer along Sixth Ave from Balsam St to Mountjoy St	Critical Sewer approaching end of useful life	200
	Total		**2,756**

In addition 57 Manholes that were determined to be in a very poor condition should further be assessed within the next 5 years to determine the need for replacement at an estimated cost of $662,000

4.4.3 Wastewater Collection Asset Requirements for Improved System Performance

In addition to the above critical asset replacement needs the following were identified as enhancements that will improve the performance and operation of the wastewater collection system contributing to the overall goal of ensuring an efficient, reliable and secure service delivery.

a. Install SCADA communication systems to improve operations & control for the 10 Timmins Sewage Pumping Station at an estimated cost of $1 million.

b. Install Generator at the Shirley St. Sewage Pumping Station to avoid emergency flow by-pass into the creek located upstream of the intake for the WTP at an estimated cost of $50,000.

4.5 Wastewater Treatment Plants Assets

4.5.1 Mattagami WPCP

	Asset	Critical Activity and Timing	Cost Estimate ($'000)
1	Chlorination System	Upgrade to UV disinfection. 0-5 years	1,000
2	Change Rooms/ Lunch Room/ Training Room	Refurbish. 0-5 years.	30
3	De-chlorination System	Switch to Alum system for phosphorus removal. System in good condition but will not be required after switched to UV. 10-15 years.	500
	Total		**1,530**

4.5.2 Whitney WPCP

	Asset	Critical Activity and Timing	Cost Estimate ($'000)	Asset
1	Comminutors	Currently not operational	Repair and reinstate comminutors. 0-5 years.	20
2	Incoming Power Transformer	Reaching end of useful life.	Replace incoming power transformer. 0-5 years.	30
3	HVAC	Non-compliance in screening room and reaching end of useful life.	Upgrade screening room components to meet building code and refurbish existing system throughout the building. 0-5 years.	100
4	Clarifiers 1 & 2	Required maintenance	Institute concrete repairs and steel painting. Gate and valve replacement. 0-5 years.	2,000
5	Clarifiers 3 & 4	Required maintenance	Institute concrete repairs and steel painting. Gate and valve replacement. 0-5 years.	2,000
6	Phosphorus Removal	Non-compliance upgrade	Upgrade plant to increase phosphorus removal. 0-5 years.	2,000
7	Blowers	Reaching end of useful life	Replace blowers. 5-10 years.	150
8	Instrumentation and control	Reaching end of useful life	Upgrade plant instruments and control systems. 5-10 years.	250
9	Building	Required maintenance	Replace/ repair aged building components and roof membrane. 10-15 years.	100
	Total			**6,650**

4.6 Roads and Transportation Assets

4.6.1 Roads Assets

The critical maintenance outlined in this section is a prioritized list of repairs from the suggested maintenance as outlined in the "Network Summary Analysis Report" provided by Stantec. It should be noted that any road section that did not appear within the report was analysed based on age. The report does however make reference to an average road condition index (RCI) of the road network indicating that each individual road section was assessed. It is suggested that the city pursue this raw data and update the road conditions within the asset inventory based on RCI as it will provide a more accurate assessment of the actual road condition.

	Asset	Deficiency	Critical Activity and Timing	Cost Estimate ($'000)
1	Riverside Drive (HWY 101), Fabian St. to Clifford St.	Critical condition	Reconstruct, 150mm AC, 150mm GA, 600mm GB. replacement within 0 to 5 yrs.	552
2	Harold Ave (HWY 101), Crawford St. to HWY 101	Critical Condition	Reconstruct, 150mm AC, 150mm GA, 600mm GB. replacement within 0 to 5 yrs.	532
3	HWY 101, Harold Ave. to Lawrence St.	Critical Condition	Reconstruct, 150mm AC, 150mm GA, 600mm GB. replacement within 5 to 10 yrs.	2,487
4	Hwy 101, Lawrence St. to Bristol Rd.	Critical Condition	Reconstruct, 150mm AC, 150mm GA, 600mm GB. replacement within 5 to 10 yrs.	999
5	Harold Ave., Main St. to Crawford St.	Critical Condition	Reconstruct, 150mm AC, 150mm GA, 600mm GB. replacement within 5 to 10 yrs.	267
	Total			**4,837**

In addition to the critical road repairs suggested by the "Network Summary Analysis Report" there is a considerable number of road sections along Highway 101 that require resurfacing. The road resurfacing along this major road should be prioritized to prevent further need for full road reconstruction. With the exception of the guide rails along Bruce Ave. all of the guide rails have reached the end of their expected life cycle of 25 years. It is suggested that the city should complete a visual inspection of each guide rail to determine the current condition. Guide rails that have failed should be scheduled for replacement at the time when road repairs are done.

4.6.2 Storm Water Collection Assets

No critical maintenance activities or immediate replacement requirements.

4.6.3 Bridges

	Asset	Deficiency	Critical Activity and Timing	Cost Estimate ($'000)
1	RBC-BRG-01 (TW-1A) Airport Rd Kraft Creek Bridge	Many deficient components	Recommend replacement in the next 2 yrs.	1,800
2	RBC-CUL-18 (T-9) Riverside Dr. Culvert	Many deficient components	Recommend replacement within 1 yr.	675
3	RBC-BRG-11 (TE-3A) Bruce Ave. Bridge	Many deficient components	Recommend replacement within 1 yr.	340
4	RBC-BRG-02 (TW-1B) Laforest Rd. Kraft Creek Bridge	Poor deck and wearing surface	Major repairs within the next 1 to 3 years	330
5	RBC-BRG-07 (T-5A) Feldman Rd. Crossing at Mountjoy River	Structure Painting	Clean and paint abutment steel within 1 to 2 years	10
6	RBC-BRG-08 (T-5B) Feldman Rd. Pedestrian Bridge	Structure wood repairs	Major repairs within the next 1 to 2 years	20

7	RBC-BRG-09 (T-6) Dalton Road Bridge	Expansion Joint Paving	Major repairs within the next 1 to 2 years	100
8	RBC-CUL-08 (T-7B) Creek Box Culvert 4.5m	Rehabilitation	Rehabilitation within the next 1 to 2 years	521
9	RBC-CUL-23 (TE-2) Porcupine River Box Culvert	Repair cracks and concrete	Major repairs within the next 1 to 2 years	80
10	RBC-BRG-12 (TE-3B) Pedestrian Bridge near Bruce Ave	Structural Painting	Major repairs within the next 1 to 2 years	9
11	RBC-BRG-13 (TE-4) Golden Ave Bridge	Rehabilitate	Major repairs within the next 1 to 2 years	9
12	RBC-BRG-14 (TE-5) Evans St. Bridge	Repair wood structure	Major repairs within the next 1 to 2 years	30
13	RBC-BRG-15 (TE-8) Porcupine River Bridge @HWY 101	Structure Painting & Joint Seals	Major repairs within the next 1 to 2 years	25
14	RBC-BRG-19 (TE-14) Finn Rd. Bridge #1	Str. Painting and Abut.	Major repairs within the next 1 to 2 years	130
	Total			**4,079**

The Bruce Ave. Bridge is assumed to be TE-3A as per the Greer Galloway Group Inc. Structure numbering system and the cost estimate includes a complete load assessment which seems unnecessary if the bridge is being replaced in a year. For bridge RBC-BRG-07, Bailey Bridges are considered temporary as per the MTO's Structural Manual. This bridge system requires frequent inspections and should have the useful life of 50 years reduced.

4.6.4 Traffic & Street Light Assets

	Asset	Deficiency	Critical Activity and Timing	Cost Estimate ($'000)
1	Traffic light intersection at 655 and 101	Safety hazard, bad layout, upgrade	Safety risk - replace as soon as possible	80
2	Traffic light intersections Algonquin downtown	Poles are highly corroded, important high traffic area	Recommend replacement within 1 to 3 yrs.	562
3	Traffic light intersections at 101 & Porcupine Mall;101 & Ferguson Road; Airport Rd & Lafleur	Outdated controllers, unreliable	Recommend replacement within 1 to 3 yrs.	231
	Total			**873**

Per discussion with City, it was determined that evaluating individual street light and pole conditions would be unsuitable for the quantities involved. Also noted is the possibility of the poles and lights being completely retrofitted with LED in the near future, which would make data of this type obsolete.

Handling the Street light poles in general terms, the City estimates approximately 1% of the poles are in need of replacement. Given that information provided indicate 1,794 poles owned by city or of indeterminate ownership, approximately 18 poles need replacement at a budget of $5,000 per pole. At a typical replacement rate of 3-4 poles a year, the existing city maintenance budget is sufficient to meet present needs.

4.6.5 Airport

	Asset	Deficiency	Critical Activity and Timing (all within the next 1 to 3 years)	Cost Estimate ($'000)
1	Water Pumping Station - Chlorination System	Lack of operational control, lack of containment, temporary set-up.	Replace current system with more robust design. Add operational control to ensure chlorine addition while pumping from Well 2. Remove holding tank adjacent to the pump house.	50
2	Water Pumping Station - Control	PLCs reaching end of useful life	Replace the control systems for the duty pumps and the fire pumps.	50
3	Water Pumping Station - Pumps	Pumps are reaching end of useful life	Replace the two 10 HP duty pumps	40
4	Water Supply – Well 1	Electrical unit reaching end of useful life	Replace the existing MCC, move controls inside well structure to the exterior and provide and enclosure.	40
5	Transport – Taxiway A	Heaving along the taxiway.	Investigate if there is an abandoned pipe that has failed beneath taxiway. Dig a full depth 4 m wide trench along the failure, remove pipe if necessary and backfill to the existing taxiway specifications.	200
	Total			**380**

4.6.6 Fleet Assets

19 Municipal Fleet (5 Fire Trucks, 6 Vans & Trucks, 3 Buses, 3 Equipment/Machinery and 2 Cars) in very poor condition mainly because their age is way beyond the useful life should further be assessed and considered for replacement or refurbishment within the next 1 to 3 years at an estimated cost of $3 million.

4.7 Buildings and Parks Assets

4.7.1 Building

	Asset	Deficiency	Critical Activity and Timing	Cost Estimate ($'000)
1	City Hall	Critical structural review,	Structural review within 1 year.	5
2	South Porcupine Fire Hall	Critical system replacement	Fire alarm replacement within 1 year.	15
3	Schumacher Fire Hall	Critical system replacement	Fire alarm replacement within 1 year.	15
4	Whitney (Porcupine) Fire Hall	Critical Structure review and system replacement	Structural review and fire alarm replacement within 1 year	20
5	Timmins Fire Hall	Critical system replacement	Install Fire Alarm support system, install new security system and replace overhead door within 1year	275

6	Mountjoy Fire Hall	Critical system replacement	Replace roof, security and alarm replacement within 1 year	43
7	Connaught Fire Hall/Community Centre	Critical Structural renovations, roof repairs and system replacement	Accessibility and roof framing renovations, roof repairs within 1 year.	80
8	Engineering Building	Critical repairs and flooring replacement	Replace flooring, repair entrance ramp and repair exterior walls within 1 year	170
9	Transit Terminal	Critical structural review,	Roof Structure, drainage and AODA	5
10	Maurice Londry Community Centre	Critical system replacement	security and alarm replacement within 1 year	10
8	Mountjoy Arena	Critical structural review	Structural review within 1 year.	5
9	McIntyre Arena	Critical structural review, roof and floors replacement	Structural review, curling club roof replacement and floors replacement in the ballroom and auditorium within 1 yr.	145
10	Archie Dillon Sportsplex	Critical structural review, roof over stairs and exterior wall repairs	Structural review, replace roof over stairs and repair flashing and masonry on north wall within 1 year	60
11	Archie Dillon Sportsplex - Pool	Critical System Addition	Supply and install dehumidifier within 1 year	500
12	Arenas	Critical System Addition	Supply and install access systems within 1 year	140
13	Museum – Storage building	Critical structural replacement and addition	Replace roof and insulate building within 1 year	200
11	Storage Building (Quonset Hut)	Critical structural replacement	Replace Quonset hut with new building within 1 year	300
	Total			**$1,838**

This is not the complete list of critical items for building, nor does it include any items beyond the one year items. The list of needs for building assets is extensive. Doubling the listed value for all of the building assets would be reasonably accurate.

4.7.2 Parks

	Asset	Deficiency	Critical Activity and Timing	Cost Estimate ($'000)
1	Parking Lot at Hollinger Park	Asphalt is cracked and heaving (new base with drainage and repave)	Replace within 1 year	1,000
2	Grand Stand at Hollinger Park	Structure is unsafe	Replace within 1 year	200
3	Bleachers at Boozer Park	Wood is rotting, and panels broken	Repair within 1 year	20
4	Bannerman Tennis Court Surface	Surface in fair condition (repaint)	Repair within 1 year	20
5	Delvillano Tennis Court Surface	Surface in fair condition (repaint)	Repair within 1 year	25
6	Porcupine Tennis Court Surface	Pavement is cracked and heaved and not safe to use. (convert to multi-use court)	Replace within 1 year	75
7	Canteen Building at Hollinger Park	Roof Shingles coming off	Repair within 3 to 5 years	10
	Total			**$1,350**

It is suggested that a percentage of the funds be allocated for repair/replacement and treatment of vandalism. Some of the critical maintenance issues noted above are due to vandalism. It was noted throughout the field inspections, on a large amount of park assets vandalism was observed. The City should allocate 0.5% of asset replacement cost to account for fixing vandalism to park assets.

Respectfully submitted

Ainley & Associates Limited

Appendix A – Details for Assets Condition Assessment Guidelines and Assumptions

1.0 Condition Grading System – Background Information

Table 1: Condition and Performance Assessment Criteria (*Condition Assessment Strategies and Protocols for Water and Wastewater Utility Assets – WERF (2007)*

Assessment type	Assessment criteria
Sewers	• Levels of service (V/O/M) • Operating costs (M) • Design regarding current standards (O)
Watermains	• Levels of service (V/O/M) • Operating costs (M) • Design regarding current standards (O)
Buildings	• Security (V/O) • Weatherproof/leaks (V/O) • Damp/rising damp (V/O) • Level and urgency of maintenance required (O) • Rust staining (V) • Cracking of brick work or masonry (V) • Pointing condition (V) • Broken slipped roof tiles (V) • State of woodwork; sound to rotten (V) • Structural integrity (V/M) • Serviceability; useable or not? (V/O/M) • Safety of building; considered unsafe? (V/O)
Civil Assets	• Soundness of structure (V/O) • Level of wear and tear (V) • Corrosion (V/M) • Level and urgency of maintenance required (O) • Presence of cracking/spalling (V) • Presence of staining (V) • Leakage (V/O) • Deformation of structure (V/M)

	• Safety of structure; considered unsafe? (V/O) • Contamination of potable water (O/M) •
Electrical Asset Condition	• Electrically safe (O/M) • Level and urgency of maintenance required (O) • Visible wear and tear (V) • Condition of insulation (V/M) • Break downs and failure history (M) • Maintenance costs (M) • Health and safety issues (V/O) • Serviceability (V/O/M)
Mechanical Asset Condition	• Soundness of unit; as new? (V) • Level and urgency of maintenance required (O) • Level of wear and tear (V) • Condition of protective coatings (V/M) • Corrosion (V/M) • Break down and failure history (M) • Maintenance costs (M) • Serviceability (V/O/M) • Health and safety issues (V/O)

KEY:

- (V): Visual; an auditor would be able to evaluate the assessment criteria directly (visually)
- (O): Opinion based; the auditor would be able to evaluate the assessment criteria indirectly (by interview)
- (M): Measurable; the assessment criteria could be directly measured (inspected/monitored) or assessed through analysis of available operations/maintenance data

2.0 Industry Asset Condition Grading Standards

Table 2: Condition rating for the City of Timmins 2010 report on Facilities Capital and Financial Plan by Conestoga Rovers Associates Condition

1- Very Good	• Sound physical condition • Operable and well maintained • Asset expected to perform adequately with routine maintenance for at least another 80 percent of its life cycle
3- Fair	• Functionally sound but showing signs of wear and diminished performance • The condition poses a moderate short-term failure risk • The potential for further deterioration and diminished performance over the next 5 years exists • Work required, but asset is serviceable
5 – Very Poor	• Asset has failed or failure is imminent • Excessive maintenance is required • No further service life expectancy • The condition poses a significant health and safety hazard • Major work or replacement is urgently required

Table 3: Region of Durham Asset Condition Rating System

Grade	Descriptor	Factors			
		Soundness	**Functionality**	**Maintenance Costs**	**Age**
A	Very Good	Sound	As Intended	Well Within Normal Level	New
B	Good	Sound	As Intended	Acceptable But Increasing	Within Mid-Range of Expected Life
C	Fair	Signs of Deterioration	Lower Than Intended	Exceeding Acceptable Levels & Increasing	Later Stage of Expected Life
E	Poor	Signs of Deterioration	Much Lower Than Intended	Significantly Above Normal Levels	Approaching End of Expected Life
F	Critical	Unsound	Not Performing As Intended	Costs Unacceptable & Rehabilitation Not Cost Effective	Past End of Life

Table 4: Condition Grading System based on The Managing Public Infrastructure Assets report, published by the Association of Metropolitan Sewerage Agencies

Condition Grade Guideline	Description
Very Good	• Sound physical condition. Operable and well-maintained. • Asset expected to perform adequately with routine maintenance for 10yrs or more.
Good	• Acceptable physical condition. Shows minor wear that has minimal impact on performance. Minimum short-term failure risk. • Potential for deterioration or impaired performance over next 5-10yrs. • Minor work (if any) required.
Fair	• Functionally sound but showing wear and diminished performance. Moderate short-term failure risk. • Potential for further deterioration and diminished performance within next 5yrs. • Renewal or major component replacement expected within next 5yrs. Minor work required but asset is serviceable.
Poor	• Asset functions but requires high level of maintenance to remain operational. High risk of short-term failure. • Likely to have significant deterioration in performance within next 2yrs. Renewal or replacement expected within next 2yrs. • Substantial work required, asset barely serviceable.
Very Poor	• Asset failed or failure is imminent. Excessive maintenance required. No further service life expectancy. • Significant health and safety hazard. Major Non-Operation work or replacement is urgent.
Abandoned	• Asset abandoned (no longer in use) or no longer exists.

Table 5: Sample Asset Condition Model (Ministry of Infrastructure' Building Together; Municipal Infrastructure Strategy Asset Management Tool Kit):

Asset Condition	Description
A	The asset and its components are functioning as intended; limited (if any) deterioration observed on major systems.
B	The asset and its components are functioning as intended; for most infrastructure assets, this would suggest that no maintenance is anticipated within the next five years
C	The asset and its components are functioning as intended; normal deterioration and minor distress observed; maintenance will be required within the next five years to maintain functionality.
D	The asset and its components are not functioning as intended; significant deterioration and distress observed; maintenance and some repair required within the next year to restore functionality.
E	The asset and its components are not functioning as intended; significant deterioration and major distress observed possible damage to support structure; may present a risk to people or materials; must be dealt with without delay.

3.0 Consequence of Failure Details

Consequence of Failure for Watermains and Sanitary Sewers

This largely depends on the size of the mains. As a starting point the rating system was based on the cross section area of the mains with following ratings used as a guide in assessing the consequence of failure.

Table 6: Consequence of Failure – water mains and sanitary sewers

Size (mm)	Impact Rating
50	1
100	1.1
150	1.3
200	1.6
250	2.0
300	2.4
350	2.9
400	3.5
450	4.2
500	5
750	5

Consequence of Failure for Storm Sewers

Table 7: Consequence of Failure – storm sewers

Size (mm)	Impact Rating
100	1
200	1.1
250	1.2
300	1.3
375	1.5
400	1.5
450	1.7
525	2.0
600	2.3
675	2.6
735	2.9
750	3.0
760	3.1
825	3.5
850	3.6
900	3.9
975	4.4
1050	5
1200, 1350, 1500, 2400, 2700	5

4.0 Buildings Assets – Condition Assessment Guidelines Details

For the desk top review, the following documents were utilized (Appendix E provides the details of this review) :

1. PSAB 3150 Capital Assets List, City of Timmins.
2. City of Timmins Facility Capital Plan and Financial Plan by Conestoga Rovers & Associates, include a:
    a. Report dated August 2010
    b. Proposed 2010 Capital Budget
    c. Final Consolidated Inventory
    d. Final Facility Reports
    e. Accessibility Assessment Reports
3. McIntosh Perry Consulting Engineers Ltd. – Non-Destructive Inspection of Structural Building Components. September 2012.
4. 2011, 2013 Capital Budgets.

1) City of Timmins PSAB 3150 Capital Assets List

All buildings listed in this list are included in the Asset Inventory list provided by Ainley Group. Where available, replacement costs and accounting information has been sourced from this document.

Each building listed in the PSAB 3150 has been included in the Ainley Asset Inventory. Three (3) sub-categories have been used to encompass the facility as a whole. They are as follows:

1. Structure: Encompasses the following:
    - Site, exterior structural elements including foundation frame and cost framing.
    - Exterior finishes
    - Interior finishes
    - Accessibility
2. Roofing: Encompasses all roofing assemblies pertaining to structure.

3. M & E Systems: Encompasses the following:
    - HVAC systems
    - Plumbing systems
    - Security systems
    - Fire safety systems
    - Electrical systems
    - SCADA systems process

In some cases, the Ainley Asset Management Inventory lists additional entries of similar sub-categories. These are the product of PSAB entries and have been organized to each applicable facility (some items may need to be confirmed for certain assets since the PSAB did not have the associated facility identified).

The PSAB has listed certain facilities or elements of facilities as controlled assets. It is reported that this form identifies all elements less than $50,000 in the case of facilities as controlled assets. For the sake of the asset inventory, many of these elements are either components of a larger facility or considered to have a replacement value that is greater than this datum value. In these instances, the Ainley asset inventory has presented replacement costs based on our reference database and comparisons with values presented elsewhere in the PSAB.

2) Timmins Facility Capital Plan and Financial Plan by Conestoga Rovers & Associates (CRA)

This assessment reviews 32 sites in the City of Timmins and breaks down the outstanding needs observed for each site. In some cases, a site may have more than one facility. This report groups these buildings together for each site.

Part of this report includes a facility summary for each site. At the end of each summary, a replacement cost is listed. This replacement cost has been used where no cost is provided by the PSAB. These costs are thought to include all items within the facility, so these values should be confirmed by the City. The Ainley Asset Inventory lists all assets within several facilities included in the PSAB. Facilities such as the Mattagami waste water facility should not include the assets within the facility in the listed replacement cost of the building since they are listed elsewhere in the asset inventory.

Much of the critical maintenance listed in the Ainley Asset Inventory were sourced from the final consolidated inventory spreadsheet. Many of these items have costs associated with them but all list when the need is to be replaced. Where costing is not provided, Ainley has referenced its tender database and drawn on experience to provide a reasonable value. Facility sizes and areas were not available from the information submitted to establish the asset inventory so the listed pricing should be evaluated by the City on a building by building basis.

Where additional buildings are presented in PSAB but not in the CRA documents, all information presented in the asset management plan is reviewed with an age base perspective.

Buildings for the airport have been eliminated from this list and will be presented at a later date. CRA combines all buildings and does not address each asset. Ainley will be providing separate condition assessments for these facilities.

Where replacement costs have not been provided, estimates have been presented. Ainley has limited information to base the estimates on so the City of Timmins should review these presented costs.

3) McIntosh Perry Consulting Engineers Ltd. (MPCE) Non-Destructive Inspection of Structural Building Components

This report reviews the arena facilities as per the "Guidelines for Assessment of Areas for Structural Adequacy" issued by the Professional Engineers of Ontario (PEO). Deficient structural elements are identified and recommended costs are listed and a suggested time line is presented for the repair. The following facilities were addressed in this report.

i. Archie Dillon Sportsplex Arena and Pool
ii. Confederation Sports Complex
iii. McIntyre Arena Complex
iv. Mount Joy Arena
v. Whitney Arena and Hall
vi. Hollinger Grandstand

4) 2011 and 2012 Capital Budgets, City of Timmins

Those documents have been referenced for actual costing for work and to revise condition indexes and End of Life values in the asset inventory.

5) Field Reviews

Several facilities had condition assessment completed by the Ainley Group through field review. The methodologies contained within the ASTM International E2018-01 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment was utilized. The review was expanded from this standard where attic/ceiling spaces and basements/crawl spaces were made available by City staff.

Generally, a consistent approach to the reviews that were performed by the Conestoga Rovers & Associates was undertaken by the Ainley Group. The same key elements described in the August 2010 GRA report were reviewed by the Ainley field staff.

The assessment was performed by compiling relevant documents for the two facilities reviewed. The City staff members responsible for maintaining the facility were interviewed prior and during the review. Where possible, users of the facility were also interviewed. An evaluation by the Ainley field staff was performed which consisted of a visual walk-through analysis to identify physical operating and functionality of the facilities.

City of Timmins Asset Management Plan Development Project

APPENDIX B: Unit Replacement Cost Estimates

(largely based on recent tenders for the City of Timmins)

	Unit Replacement Cost Estimates	Comment
Water Distribution	**Cost/m**	Based on City & Peel rates for 50mm to 300mm and York rate for larger WMs
WATERMAINS		
750 mm diameter Watermain	$1,900	
500 mm diameter Watermain	$1,100	
450 mm diameter Watermain	$900	
400 mm diameter Watermain	$700	
350 mm diameter Watermain	$600	
300 mm diameter Watermain	$500	
250 mm diameter Watermain	$450	
200 mm diameter Watermain	$400	
150 mm diameter Watermain	$350	
100 mm diameter Watermain	$300	
50 mm diameter Watermain	$280	
Valves		
400 mm diameter Gate Valves	$10,500	
300 mm diameter Gate Valves	$3,500	
200 mm diameter Gate Valves	$2,300	
150 mm diameter Gate Valves	$1,800	
Combination Air Valve Chamber	$26,250	
Double Drain Valve Chamber	$42,000	
Water Services and Hydrants		
38 mm diameter Water Service	$2,500	
19 mm diameter Water Services	$1,900	
Fire Hydrants	$6,200	
Others		
500 mm diameter HDPE DR11 Watermain, installation by directional drilling	$840	
Wastewater Collection		
Sanitary Sewers		
1200 mm diameter Sanitary Sewer	$850	
900 mm diameter Sanitary Sewer	$700	
750 mm diameter Sanitary Sewer	$650	
675 mm diameter Sanitary Sewer	$600	
600 mm diameter Sanitary Sewer	$550	
525 mm diameter Sanitary Sewer	$500	
500 mm diameter Sanitary Sewer	$480	

	450 mm diameter Sanitary Sewer	$450	
	400 mm diameter Sanitary Sewer	$400	
	375 mm diameter Sanitary Sewer	$360	
	350 mm diameter Sanitary Sewer	$350	
	300 mm diameter Sanitary Sewer	$340	
	250 mm diameter Sanitary Sewer	$320	
	200 mm diameter Sanitary Sewer	$300	
	150 mm diameter Sanitary Sewer	$290	
	100 mm diameter Sanitary Sewer	$280	
	38mm diameter Sanitary Sewer	$150	
	Maintenance Holes		
	1800 mm diameter Maintenance Hole	$15,750	More that 1000m
	1500 mm diameter Maintenance Holes	$10,500	500mm to 1000m
	1200 mm diameter Maintenance Holes	$6,825	Up to 450mm
	Maintenance Hole Drop Structures	$5,250	
	Safety Platforms for Maintenance Holes	$1,260	
	Sanitary Services		
	125 mm diameter Sanitary Services	$1,600	
	SEWAGE FORCEMAIN		
	450 mm diameter PVC Sewage Forcemain	$440	
	400 mm diameter PVC DR18 Sewage Forcemain	$420	
	350 mm diameter PVC Sewage Forcemain	$410	
	300 mm diameter PVC Sewage Forcemain	$400	
	250 mm diameter PVC Sewage Forcemain	$380	
	200 mm diameter PVC Sewage Forcemain	$360	
	150 mm diameter PVC Sewage Forcemain	$340	
	100 mm diameter PVC Sewage Forcemain	$300	
	Stormwater Collection		
	PVC STORM SEWER 2700mm	$1,800	
	PVC STORM SEWER 2400mm	$1,500	
	PVC STORM SEWER 1500mm	$1,400	
	PVC STORM SEWER 1350mm	$1,100	
	PVC STORM SEWER 1200mm	$1,000	
	PVC STORM SEWER 1145mm	$980	
	PVC STORM SEWER 1050mm	$950	
	PVC STORM SEWER 975mm	$900	
	PVC STORM SEWER 900mm	$820	
	PVC STORM SEWER 850mm	$750	
	PVC STORM SEWER 825mm	$700	
	PVC STORM SEWER 750mm	$675	
	PVC STORM SEWER 675mm	$600	
	PVC STORM SEWER 500mm	$450	

	PVC STORM SEWER 525mm	$450	
	PVC STORM SEWER 450mm	$400	
	PVC STORM SEWER 400mm	$350	
	PVC STORM SEWER 375mm	$340	
	PVC STORM SEWER 350mm	$300	
	PVC STORM SEWER 300mm	$280	
	PVC STORM SEWER 250mm	$260	
	PVC STORM SEWER 200mm	$240	
	PVC STORM SEWER 150mm	$200	
	Maintenance Holes		Average (used)
	STORM MANHOLE 1.2m	$5,000	
	STORM MANHOLE 1.5m	$5,420	**$6,340**
	STORM MANHOLE 1.8m	$8,600	
	CATCHBASIN MANHOLE 1.2m	$5,000	
	CATCHBASIN SINGLE	$2,370	**$3,670**
	CATCHBASIN DOUBLE	$3,640	
	SEWAGE PUMP STATIONS		

Pumps in General (Cost estimates include piping & accesory connections, engineering & contract

		Pump	**Submersible Pumps**	**Motor**
	5 HP (3.7KW)	$20,000	$25,000	$5,000
	15 HP (11.2KW)	$25,000	$30,000	$10,000
	25 HP	$30,000	$40,000	$12,000
	30 HP (22.4KW)	$40,000	$50,000	$15,000
	40 HP (22.4KW)	$60,000	$75,000	$20,000
	50 HP (37.3KW)	$120,000		$40,000
	70 HP	$150,000		$60,000
	80 HP	$180,000		$80,000
	100 HP (74.6KW)	$220,000		$100,000
	200HP (149.1KW)	$300,000		$150,000
	Generator set (220 KW)	$120,000		

Road Surfaces Replacement Cost

The replacement cost of the road surfaces is based on assumed costs based on the provided contract tender documents and a standardized road design for each of the functional classes of roads. The unit material costs are listed below:

A

Item	Unit	Cost
Asphalt (UA)	$/tonne	178
Granular "A" (GA)	$/tonne	32.5
Granular "B" (GB)	$/tonne	13
Excavation (UE)	$/m^3	15
Surface Treatment (LCB)	$/ km	25,000

The assumed dimensions of the road surfaces are as follows:

		Depth (mm)	
Functional Class	**Lane Width**	**Asphalt**	**Granular "A"**
Rural (NP)	3.25	N/A	150
Local - Residential (NP)	3.25	N/A	150
Local - C/I (NP)	3.25	N/A	150
Rural	3	50	N/A
Local - Residential	3	50	N/A
Local - C/I	3.25	50	N/A
Collector - Residential	3.25	90	N/A
Collector - C/I	3.5	90	N/A
Arterial	3.5	90	N/A

For this replacement cost the surface of a non-paved road is considered to be the entire depth of granular "A" on the road surface. The surface of HCB paved roads is strictly the asphalt surface. With the exception of rural roads, replacement costs of LCB treated roads were estimated based on replacing the existing surface with HCB at the end of the current useful life. The replacement cost of LCB treated rural roads were estimated using a unit cost of double surface treatment by km.

For paved roads the cost is based on the following formula:

$$Cost = (2.45 \times EF \times CF \times HCB \times DHCB \times LW) \times Lane\ Km$$

For unpaved roads the cost is based on the following formula:

$$Cost = (2.4 \times EF \times CF \times DGA \times GA \times (LW + 1)) \times Lane\ Km$$

Road Sub-Surface Replacement Cost

The replacement cost of the road sub-surfaces is based on an assumed standardized road design for each of the functional classes of roads. The assumed dimensions of the road sub-surfaces are as follows:

		Depth (mm)	
Functional Class	**Platform Width**	**Granular "A"**	**Granular "B"**
Rural (NP)	4.25	N/A	300
Local - Residential (NP)	4.25	N/A	300
Local - C/I (NP)	4.25	N/A	650
Rural	4.25	150	300
Local - Residential	4.25	150	300
Local - C/I	4.25	150	650
Collector - Residential	4.5	150	300
Collector - C/I	4.5	150	650
Arterial	4.5	150	650

The replacement of the road sub-surface includes the road shoulder. Curbs, sub-drains and other storm water management assets are not included in the replacement cost of the road sub-surface or road surface.

The cost of a sub-surface replacement is based on the following formula:

$$Cost = (EF \times CF \times PW \times Lane\ Km) \times [(2 \times DGB \times GB) + (2.4 \times DGA \times GA) + ((DGB + DGA + DHCB) \times (UE))]$$

EF = Engineering Factor CF = Contingency/ Basic Construction Factor
PW = Platform Width LW = Lane Width

DGB = Depth Granular "B" DHCB = Depth Asphalt
DGA = Depth Granular "A"
An engineering factor of 1.1 and a contingency/ basic construction factor of 1.1 were assumed.

Guard Rails Replacement Cost

The replacement costs for guide rails are completed using the unit costs in the chart below.

Item	Unit	Cost
3-Cable Guide rail (UC)	m	$40
Cable Guide rail Removal (URC)	m	$4
Anchor Block (UAB)	each	$1,500
Anchor Block Removal (URAB)	each	$170
Steel Beam (US)	m	$100
Steel Removal (URS)	m	$8
Attenuating System (UAS)	each	$4,000
Attenuating System Removal (UA	each	$300

In general the formula for replacing a 3-cable guiderail is as follows:

$$Cost = Length \times (UC + URC) + 2 \times (UAB + URAB)$$

It should be noted that if cable guide rail exceeds 170 m a central anchor block is required in addition to the anchor block at each end. Two additional anchor blocks are required if the guide rail exceeds 340 m and so on. This need for additional anchor blocks is reflected in the replacement costs.

The formula for replacing a steel guiderail is as follows:

$$Cost = Length \times (US + URS) + 2 \times (UAS + URAS)$$

Parks Replacement Unit Costs

APPENDIX B: Unit Replacement Cost Estimates	Unit	Unit Cost
Playground Structure	Ea.	$16,000.00
Swing Set Single Bay	Ea.	$900.00
Swing Set Double Bay	Ea.	$1,500.00
Bench	Ea.	$500.00
Picnic Table	Ea.	$400.00
Grills	Ea.	$205.00
Teeter Totter	Ea.	$500.00
Plastic Barrier	Ft	$12.50
Bleachers	Ea.	$1,500.00
Fencing	Ft.	$416.67
Asphalt (HL8 at 50mm)	m^2	$20.00
Gravel (Granular 'B' at 500 mm)	m^2	$5.00
Interlocking Brick	m^2	$100.00
Flag Pole	Ea.	$1,500.00
Flower Planter	Ea.	$1,000.00
Bollard	Ea.	$150.00
Lighting	Ea.	$5,000.00*
Bollard	Ea.	$150.00
Dock	Ea.	$10,000.00*
Statue	Ea.	$25,000.00*
Waterpark	Ea.	$150,000.00*
Gazebo	Ea.	$50,000.00*
Washroom Building	Ea.	$150,000.00*
Canteen Building	Ea.	$90,000.00*
Cenotaph	Ea.	$250,000.00*
Clock Tower	Ea.	$50,000.00*
Grand Stand	Ea.	$500,000.00*
Dugout	Ea.	$40,000.00*
Pavilion	Ea.	$100,000.00*
Skateboard Park	Ea.	$250,000.00*
Brick Retaining Wall	Ea.	$10,000.00*
Soccer Fields		
Nets	Ea.	$5,000.00
Topsoil and sod	m^2	$8.00
Tennis Court		
Nets & posts	Ea.	$1,000.00
Asphalt court	m^2	$20.00
Lighting	Ea.	$5,000.00
Fencing	Ft.	$833.34
Basketball Court		

Nets, Backboard and post	Ea.	$1,200.00
Asphalt Court	m^2	$20.00
Concrete court	m^2	$100.00
Beach Volleyball Court		
Nets & posts	Ea.	$1,000.00
Sand	m^2	$5.00
Item	**Unit**	**Unit Cost**
Baseball Diamond		
Topsoil & Sod	m^2	$8.00
Sand soil Infield	m^2	$3.00*
Crushed Dust/Gravel Infield	m^2	$5.00*
Lighting	Ea.	$5,000.00*
Back Fencing	Ft.	$833.34
Netting and Bases	Ea.	$900.00

Equipment cost for playground equipment was estimated from the prices listed on globalindustrial.ca
Material costs for asphalt, granulars and concrete were obtained from recent tenders.
Measurements were taken off of the City's GIS and are an estimate.
* Indicates the cost was estimated/assumed.

APPENDIX C
ASSET MANAGEMENT ASSUMPTIONS

APPENDIX C: ASSET MANAGEMENT PLAN ASSUMPTIONS

The following assumptions were made during the creation of the City's asset management plan.

1. STATE OF LOCAL INFRASTRUCTURE
   a) All external reports and documentation containing data relating to capital assets including condition data, replacement cost, age, etc…, where available, have been utilized.
   b) For any applicable, water, wastewater or stormwater main assets, the value in the plan may exclude the cost of road reinstatement. It is recommended, where required, that staff for budgeting purposes, determine where this road reinstatement costs are to be funded.
   c) Indexing: Where current replacement costs was unavailable, asset values were inflated to current replacement value.
   d) In order to establish an initial condition assessment for some assets, calculations were performed to link condition to asset age. This was done in order to establish condition ratings for this report and it is recommended that the City follow the "Condition Assessment Guideline" shown in Appendix D in the future.
   e) Please see Appendix B for assumptions used by Ainley.

2. ASSET MANAGEMENT STRATEGY
   a) Capital inflation rate will be assumed to be 3% annually.
   b) Operating budget inflation rate will be assumed to be 2% annually.
   c) Regarding operating expenses included in the City's current budget, it is assumed that they will increase at an operating inflation rate annually, unless staff have provided alternative impacts.
   d) When any existing debenture payments are complete (if applicable), annual budget savings created through removing these payments have been dedicated to capital.

3. FINANCING STRATEGY
   a) Taxation assessment growth is assumed to be 0.0% annually.
   b) Gas tax revenue has been identified as a funding source for the purposes of this analysis (i.e. for asset replacement purposes), and has been assumed to continue throughout the forecast period.
   c) Interest rate earned on a Capital Replacement Reserve Fund will be 2% annually.
   d) In the case where debt financing is needed, the model assumed debt terms of 20 years at 5% annual interest.

APPENDIX D
DATA VERIFICATION AND CONDITION ASSESSMENT POLICY

APPENDIX D: DATA VERIFICATION AND CONDITION ASSESSMENT POLICY

City of Timmins
Data Verification and Condition Assessment Policy

Data Verification

1. The main source of asset data updating and editing will be though the City's PSAB 3150 compliance procedures.
2. Asset additions, disposals, betterments, and write-offs will be recorded based on the City's PSAB 3150 Compliance Policies.
3. Verification of the correct treatment of asset revisions will be completed through frequent annual reviews by the City's Treasurer as well as an annual review by the City's external auditor.
4. During years in which condition assessments are not being performed, asset replacement cost will be determined based on a combination of inflating previous current values or thorough the use of the current year's historical invoice data. Where indices are being used, the Non-Residential Building Construction Price Index (NRBCPI) shall be used for construction related assets (i.e. roads related, stormwater, water, wastewater and facilities) and the Consumer Price Index (CPI) shall be used for all other assets (i.e. machinery & equipment, vehicles and land improvements).

Condition Assessment

1. Condition assessments shall be performed as outlined in Table C-1 below. Condition assessments shall be performed by qualified individuals (or companies) and shall include a review of the following:
    - Current asset condition (consistent with the rating format used within this report, unless City staff stipulate a new format);
        i. Identify any unusual wear from asset use that may hinder asset performance and eventually reduce useful life.
        ii. Assess asset performance and identify (if any) capital improvements that can be applied to extend the asset's useful life and/or bring the asset back to proper service levels.
    - Current asset replacement cost. This is to be based on replacing the asset under current legislation/requirements using the City's specifications; and
    - Remaining service life, assuming current maintenance and usage levels.

The condition assessment process will continue to be guided by provincial legislation and environmental regulations. The provisions provided above are not intended to replace other required processes.

Table D-1

Condition Assessment Time Table

Asset Type	Frequency of Condition Assessment
Roads Related	Every 5 years, based on Minimum Maintenance Standards
Bridges and Culverts (greater than 3m)	Every 2 years, based on applicable legislation
Facilities	Every 5-10 years, with priority given to older buildings
Vehicles, Machinery and Equipment	Annually (typically by City staff), part of maintenance program
Water, Wastewater, Stormwater Related	Every 5 years or more frequently based on applicable legislation and environmental regulations

APPENDIX E
LEVEL OF SERVICE IMPACT ANALYSIS

City of Timmins
2014 Asset Management Plan
Asset Management Strategy - Change in Level of Service

Table E-1
Tax Supported Services

Departments	Description	Planned Actions	Impact (2014$)	Phase-in Period (in Years)	Impact (in Current Year $)																	
					2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Transportation Services																							
Expenditures																							
Operating Expenditures	Increase Roads/Storm Maintenance	Maintenance	400,000	10	40,000	80,000	120,000	160,000	200,000	240,000	280,000	320,000	360,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000
Operating Expenditures	Increase Bridge Maintenance	Maintenance	100,000	10	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
Sub-total Expenditures			500,000		50,000	100,000	150,000	200,000	250,000	300,000	350,000	400,000	450,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000
Buildings																							
Expenditures																							
Operating Expenditures	Increase Buildings Maintenance	Maintenance	600,000	10	60,000	120,000	180,000	240,000	300,000	360,000	420,000	480,000	540,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000
Capital Expenditures	Archie Dillon Sportsplex Pool - Dehumdifer	Expansion	500,000	1	500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Expenditures	Engineering Design/Review Expenses/Project Overuns	Maintenance	70,000	1	70,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Expenditures	Arenas - Install Access Systems	Expansion	140,000	1	140,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Expenditures	Museum - Install Insulation	Expansion	70,000	1	70,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total Expenditures			1,380,000		840,000	120,000	180,000	240,000	300,000	360,000	420,000	480,000	540,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000
Recreation/Cultural Services																							
Expenditures																							
Operating Expenditures	Vandalism Repairs	Maintenance	29,000	1	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000	29,000
Operating Expenditures	Increase Parks Maintenance	Maintenance	100,000	10	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sub-total Expenditures			129,000		39,000	49,000	59,000	69,000	79,000	89,000	99,000	109,000	119,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000	129,000
Total Expenditures (Uninflated)					**929,000**	**269,000**	**389,000**	**509,000**	**629,000**	**749,000**	**869,000**	**989,000**	**1,109,000**	**1,229,000**	**1,229,000**	**1,229,000**	**1,229,000**	**1,229,000**	**1,229,000**	**1,229,000**	**1,229,000**	**1,229,000**	**1,229,000**

Total Operating Expenditures (Uninflated)	219,000	269,000	389,000	509,000	629,000	749,000	869,000	989,000	1,109,000	1,229,000	1,229,000	1,229,000	1,229,000	1,229,000	1,229,000	1,229,000	1,229,000	1,229,000	1,229,000
Total Capital Expenditures (Uninflated)	710,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenditures (Inflated)	223,380	279,868	412,810	550,958	694,467	843,496	998,208	1,158,771	1,325,358	1,498,144	1,528,107	1,558,669	1,589,843	1,621,639	1,654,072	1,687,154	1,720,897	1,755,315	1,790,421
Total Capital Expenditures (Inflated)	731,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Planned Actions Summary	Impact (Inflated)																		
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Maintenance	223,380	279,868	412,810	550,958	694,467	843,496	998,208	1,158,771	1,325,358	1,498,144	1,528,107	1,558,669	1,589,843	1,621,639	1,654,072	1,687,154	1,720,897	1,755,315	1,790,421
Rehabilitation/Renewal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replacement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Expansion	731,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total (Inflated)	954,680	279,868	412,810	550,958	694,467	843,496	998,208	1,158,771	1,325,358	1,498,144	1,528,107	1,558,669	1,589,843	1,621,639	1,654,072	1,687,154	1,720,897	1,755,315	1,790,421

City of Timmins
2014 Asset Management Plan
Asset Management Strategy - Change in Level of Service

Table E-2
Environmental Services - Water

Departments	Description	Planned Actions	Impact (2014$)	Phase-in Period (in Years)	Impact (in Current Year $)																	
					2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Water Services																							
Expenditures																							
Operating Expenditures	Increase Asset Maintenance	Maintenance	250,000	10	25,000	50,000	75,000	100,000	125,000	150,000	175,000	200,000	225,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Capital Expenditures	Twin existing watermain along Moneta Dr. from Pine St. to Ontario Hydro (ROW) with a 300mm watermain	Expansion	400,000		400,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Expenditures	Construct a 200mm watermain to connect existing watermains at Falcon and Earl St.	Expansion	200,000		-	-		200,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Expenditures	Twin existing watermain along Michener Blvd from Clement St to Renison Ave. with a 200mm watermain	Expansion	200,000		-	-	-	-	-	-	-	200,000	-	-	-	-	-	-	-	-	-	-	-
Total Expenditures (Uninflated)					**425,000**	**50,000**	**75,000**	**300,000**	**125,000**	**150,000**	**175,000**	**400,000**	**225,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**

Total Operating Expenditures (Uninflated)	25,000	50,000	75,000	100,000	125,000	150,000	175,000	200,000	225,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Total Capital Expenditures (Uninflated)	400,000	-	-	200,000	-	-	-	200,000	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenditures (Inflated)	25,500	52,020	79,591	108,243	138,010	168,924	201,020	234,332	268,896	304,749	310,844	317,060	323,402	329,870	336,467	343,196	350,060	357,062	364,203
Total Capital Expenditures (Inflated)	412,000	-	-	225,102	-	-	-	253,354	-	-	-	-	-	-	-	-	-	-	-

Planned Actions Summary	Impact (Inflated)																		
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Maintenance	25,500	52,020	79,591	108,243	138,010	168,924	201,020	234,332	268,896	304,749	310,844	317,060	323,402	329,870	336,467	343,196	350,060	357,062	364,203
Rehabilitation/Renewal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replacement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Expansion	412,000	-	-	225,102	-	-	-	253,354	-	-	-	-	-	-	-	-	-	-	-
Grand Total (Inflated)	437,500	52,020	79,591	333,345	138,010	168,924	201,020	487,686	268,896	304,749	310,844	317,060	323,402	329,870	336,467	343,196	350,060	357,062	364,203

City of Timmins
2014 Asset Management Plan
Asset Management Strategy - Change in Level of Service

Table E-3
Environmental Services - Wastewater

Departments	Description	Planned Actions	Impact (2014$)	Phase-in Period (in Years)	Impact (in Current Year $)																
					2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Wastewater Service																							
Expenditures																							
Operating Expenditures	Increase Asset Maintenance	Maintenance	250,000	10	25,000	50,000	75,000	100,000	125,000	150,000	175,000	200,000	225,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Capital Expenditures	SCADA Communication System	Expansion	1,000,000		-	-	1,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Expenditures	Generator at Shirley St. PS	Expansion	50,000	1	50,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenditures (Uninflated)					**75,000**	**50,000**	**1,075,000**	**100,000**	**125,000**	**150,000**	**175,000**	**200,000**	**225,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**	**250,000**

Total Operating Expenditures (Uninflated)	25,000	50,000	75,000	100,000	125,000	150,000	175,000	200,000	225,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Total Capital Expenditures (Uninflated)	50,000	-	1,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenditures (Inflated)	25,500	52,020	79,591	108,243	138,010	168,924	201,020	234,332	268,896	304,749	310,844	317,060	323,402	329,870	336,467	343,196	350,060	357,062	364,203		
Total Capital Expenditures (Inflated)	51,500	-	1,092,727	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Planned Actions Summary	Impact (Inflated)																				
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033		
Maintenance	25,500	52,020	79,591	108,243	138,010	168,924	201,020	234,332	268,896	304,749	310,844	317,060	323,402	329,870	336,467	343,196	350,060	357,062	364,203		
Rehabilitation/Renewal		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replacement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Expansion	51,500	-	1,092,727	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total (Inflated)	77,000	52,020	1,172,318	108,243	138,010	168,924	201,020	234,332	268,896	304,749	310,844	317,060	323,402	329,870	336,467	343,196	350,060	357,062	364,203		

City of Timmins
2014 Asset Management Plan
Asset Management Strategy - Change in Level of Service

Table E-4
Airport Services

Departments	Description	Planned Actions	Impact (2014$)	Phase-in Period (in Years)	Impact (in Current Year $)																	
					2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Airport Services																							
Expenditures					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenditures (Uninflated)					**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Total Operating Expenditures (Uninflated)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures (Uninflated)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Operating Expenditures (Inflated)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Capital Expenditures (Inflated)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Planned Actions Summary	Impact (Inflated)																		
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Maintenance	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rehabilitation/Renewal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Replacement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Expansion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total (Inflated)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX F
SCENARIO ANALYSIS – CAPITAL FORECASTS

City of Timmins
2014 Asset Management Plan
Scheduled Capital Replacement (Tax Supported Assets) - Inflated

Table F-1
Replacement Year Based on Scenario 1

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**121,507,070**	**17,966,932**	**17,685,624**	**6,001,115**	**4,998,047**	**16,424,479**	**7,743,549**	**11,994,714**	**5,273,437**	**25,884,083**	**47,366,333**	**6,083,431**	**9,217,259**	**4,731,395**	**19,018,925**	**32,084,049**	**21,978,701**	**18,805,431**	**15,035,123**	**10,456,448**	**183,085,873**	**603,342,017**
Stormwater Sewers	-	-	-	354,044	294,883	-	-	-	-	-	-	5,537	-	-	-	-	194,169	-	-	419,088	23,324,120	24,591,842
Stormwater Manholes	-	-	-	96,990	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,026,877	5,123,868
Stormwater Catch Basins	-	-	-	112,289	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,024,349	5,136,637
Road Surface	62,597,600	3,088,146	3,162,331	845,006	839,292	12,990,709	459,233	3,594,552	1,466,160	1,246,580	40,937,709	301,486	911,489	565,826	4,028,329	17,972,868	-	3,029,174	2,399,579	-	113,058,229	273,494,297
Road Sub Surface	-	-	-	-	-	-	-	161,851	-	-	-	41,527	365,565	-	6,568,875	5,577,212	5,797,644	7,390,543	7,160,433	4,752,527	12,409,610	50,225,787
Guide Rails	1,587,955	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,587,955
Sidewalks	20,590,000	494,400	1,060,900	841,400	1,316,845	417,339	11,941	1,586,537	468,705	260,955	161,270	318,374	727,138	822,379	60,504	140,217	272,800	793,367	953,363	210,421	2,022,845	33,531,697
Traffic Lights	-	-	-	1,382,300	112,551	405,746	943,301	442,755	126,677	-	-	-	513,274	117,483	272,266	-	-	-	306,438	-	-	4,622,790
Bridges	18,300,000	-	-	-	-	-	3,701,562	1,352,861	-	4,044,797	-	-	-	-	-	-	5,295,531	2,148,702	-	-	1,986,722	36,830,176
Buildings	5,991,835	10,016,877	11,190,582	174,836	619,030	-	197,019	-	316,693	18,722,965	-	541,928	2,851,522	616,784	1,754,604	545,289	1,604,706	1,033,022	1,228,305	2,108,356	4,183,385	63,697,738
Parks	2,311,680	317,549	476,768	6,611	6,753	197,077	252,542	134,671	271,722	69,153	127,000	255,391	557,615	182,906	291,552	413,843	116,341	418,997	302,267	441,007	2,153,517	
Fleet	10,128,000	4,049,960	1,795,043	2,187,639	1,808,693	2,413,609	2,177,951	4,721,486	2,623,481	1,539,632	6,140,354	4,619,188	3,290,656	2,426,018	6,042,796	7,434,621	8,697,509	3,991,627	2,684,737	2,525,049	13,896,220	95,194,268
																						-

Table F-2
Replacement Year Based on Scenario 2

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**32,255,415**	**17,260,866**	**19,480,721**	**6,087,037**	**8,370,290**	**11,295,743**	**10,903,433**	**11,508,268**	**9,367,672**	**30,915,373**	**21,078,725**	**17,821,457**	**19,469,478**	**13,141,688**	**22,984,784**	**30,702,287**	**32,835,863**	**23,955,413**	**20,160,168**	**23,563,421**	**70,382,011**	**453,540,115**
Stormwater Sewers	-	-	-	354,044	294,883	-	-	-	-	-	1,222,964	1,553,110	1,661,011	1,710,842	1,854,435	1,975,503	2,060,443	2,109,034	2,174,007	2,253,255	2,347,945	21,571,476
Stormwater Manholes	-	-	-	96,990	-	-	-	-	-	-	-	-	-	-	-	-	893,263	920,061	947,663	976,093	1,005,375	4,839,445
Stormwater Catch Basins	-	-	-	112,289	-	-	-	-	-	-	-	-	-	-	-	-	892,814	919,598	947,186	975,602	1,004,870	4,852,358
Road Surface	3,713,900	2,003,144	1,492,580	1,364,925	3,775,632	7,361,854	5,937,306	3,480,051	3,809,304	3,002,414	11,161,629	8,825,321	6,645,471	4,483,874	4,333,721	12,755,391	10,584,323	4,405,665	3,455,769	9,321,112	21,117,594	133,030,981
Road Sub Surface	-	-	-	-	-	-	-	161,851	-	-	-	41,527	365,565	-	6,568,875	5,577,212	5,797,644	7,390,543	7,160,433	4,752,527	12,409,610	50,225,787
Guide Rails	-	152,337	144,230	150,612	160,154	175,523	201,262	218,395	225,899	230,117	230,819	-	-	-	-	-	-	-	-	-	-	1,889,347
Sidewalks	6,510,000	721,000	1,060,900	1,103,654	1,316,845	741,935	1,313,458	1,611,135	1,993,896	2,131,999	1,792,784	1,984,991	2,443,754	2,575,808	1,866,536	2,000,430	2,188,820	2,766,867	953,363	210,421	343,161	37,631,758
Traffic Lights	-	-	562,277	535,436	388,301	405,746	823,896	565,742	126,677	-	-	-	513,274	117,483	272,266	-	-	-	306,438	-	-	4,617,535
Bridges	3,600,000	-	2,758,340	-	-	-	-	614,937	-	5,219,093	403,175	-	1,140,609	1,027,974	-	-	-	-	-	-	11,920,334	26,684,461
Buildings	5,991,835	10,016,877	11,190,582	174,836	619,030	-	197,019	-	316,693	18,722,965	-	541,928	2,851,522	616,784	1,754,604	545,289	1,604,706	1,033,022	1,228,305	2,108,356	4,183,385	63,697,738
Parks	2,311,680	317,549	476,768	6,611	6,753	197,077	252,542	134,671	271,722	69,153	127,000	255,391	557,615	182,906	291,552	413,843	116,341	418,997	302,267	441,007	2,153,517	
Fleet	10,128,000	4,049,960	1,795,043	2,187,639	1,808,693	2,413,609	2,177,951	4,721,486	2,623,481	1,539,632	6,140,354	4,619,188	3,290,656	2,426,018	6,042,796	7,434,621	8,697,509	3,991,627	2,684,737	2,525,049	13,896,220	95,194,268
																						-

Table F-3
Replacement Year Based on Scenario 3

Asset Type	Immediate Needs	Budget 2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**-**	**9,639,800**	**10,564,393**	**11,788,102**	**13,075,726**	**14,429,997**	**16,844,617**	**19,391,126**	**22,075,266**	**23,820,264**	**24,534,872**	**25,270,918**	**26,029,045**	**26,809,917**	**27,614,214**	**28,442,641**	**30,627,553**	**31,546,379**	**32,492,770**	**33,467,554**	**34,471,580**	**462,936,733**
Stormwater Sewers	-	-	464,473	518,275	574,886	634,428	740,589	852,549	970,559	1,047,280	1,078,698	1,111,059	1,144,391	1,178,722	1,214,084	1,250,507	1,346,568	1,386,965	1,428,574	1,471,432	1,515,574	19,929,613
Stormwater Manholes	-	-	96,219	107,364	119,092	131,426	153,418	176,611	201,058	216,951	223,459	230,163	237,068	244,180	251,506	259,051	278,951	287,319	295,939	304,817	313,961	4,128,552
Stormwater Catch Basins	-	-	96,641	107,835	119,614	132,003	154,091	177,386	201,940	217,903	224,440	231,173	238,108	245,251	252,609	260,187	280,174	288,580	297,237	306,154	315,339	4,146,665
Road Surface	-	5,445,000	2,929,143	3,268,435	3,625,449	4,000,942	4,670,432	5,376,492	6,120,712	6,604,539	6,802,676	7,006,756	7,216,958	7,433,467	7,656,471	7,886,165	8,491,966	8,746,725	9,009,127	9,279,401	9,557,783	131,128,639
Road Sub Surface	-	-	1,012,169	1,129,412	1,252,778	1,382,530	1,613,874	1,857,854	2,115,020	2,282,207	2,350,673	2,421,193	2,493,829	2,568,644	2,645,703	2,725,074	2,934,410	3,022,442	3,113,115	3,206,509	3,302,704	43,430,141
Guide Rails	-	-	53,200	59,362	65,846	72,666	84,826	97,649	111,166	119,953	123,552	127,259	131,076	135,009	139,059	143,231	154,233	158,860	163,626	168,535	173,591	2,282,699
Sidewalks	-	-	981,947	1,095,689	1,215,372	1,341,250	1,565,685	1,802,380	2,051,868	2,214,063	2,280,485	2,348,899	2,419,366	2,491,947	2,566,706	2,643,707	2,846,791	2,932,195	3,020,161	3,110,766	3,204,089	42,133,365
Traffic Lights	-	50,000	124,460	138,877	154,047	170,001	198,448	228,449	260,071	280,629	289,048	297,720	306,651	315,851	325,326	335,086	360,827	371,651	382,801	394,285	406,114	5,390,343
Bridges	-	250,000	631,515	704,665	781,636	862,591	1,006,932	1,159,156	1,319,608	1,423,920	1,466,637	1,510,636	1,555,955	1,602,634	1,650,713	1,700,234	1,830,843	1,885,769	1,942,342	2,000,612	2,060,630	27,347,029
Buildings	-	2,634,800	1,651,371	1,842,654	2,043,929	2,255,622	2,633,062	3,031,119	3,450,690	3,723,459	3,835,163	3,950,218	4,068,724	4,190,786	4,316,509	4,446,005	4,787,539	4,931,165	5,079,100	5,231,473	5,388,417	73,491,804
Parks	-	160,000	230,507	257,207	285,302	314,851	367,536	423,099	481,665	519,739	535,331	551,391	567,933	584,971	602,520	620,595	668,269	688,317	708,966	730,235	752,142	
Fleet	-	1,100,000	2,292,750	2,558,327	2,837,775	3,131,687	3,655,723	4,208,382	4,790,911	5,169,621	5,324,710	5,484,451	5,648,985	5,818,454	5,993,008	6,172,798	6,646,981	6,846,391	7,051,782	7,263,336	7,481,236	99,477,309
																						-

Figure F-1
Tax Supported Assets
Scenario 1 - Replacement Based on PSAB 3150 Asset Data

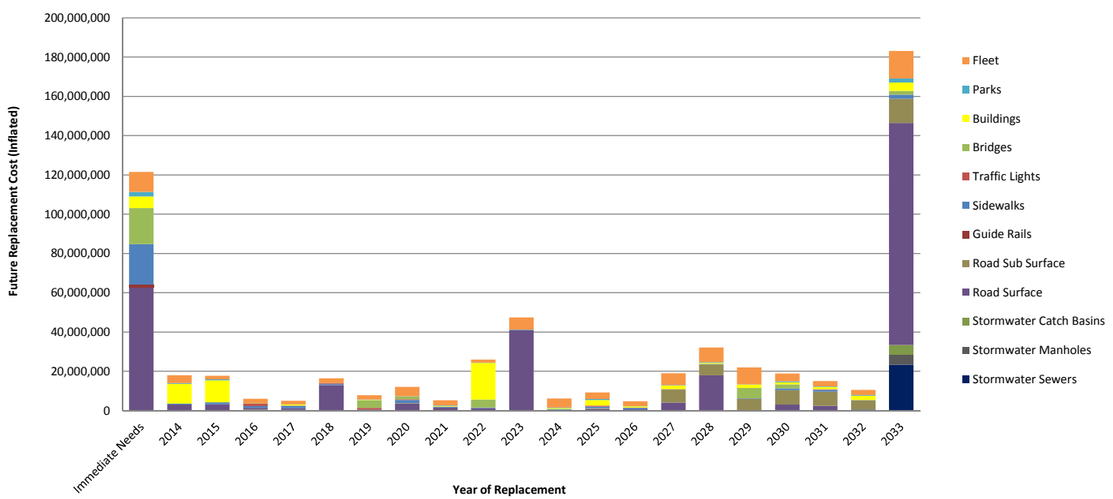


Figure F-2
Tax Supported Assets
Scenario 2 - Replacement Based on Revised PSAB 3150 Asset Data

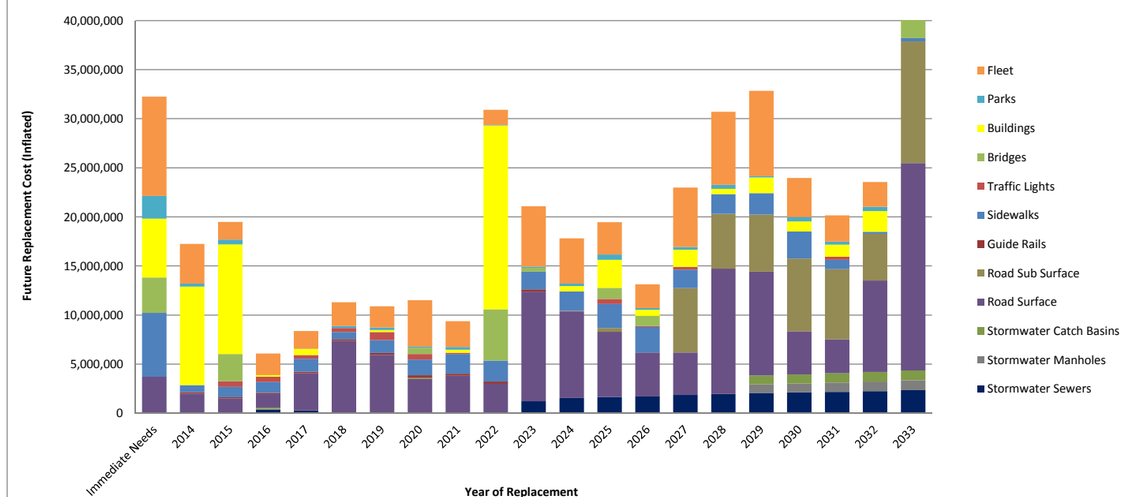
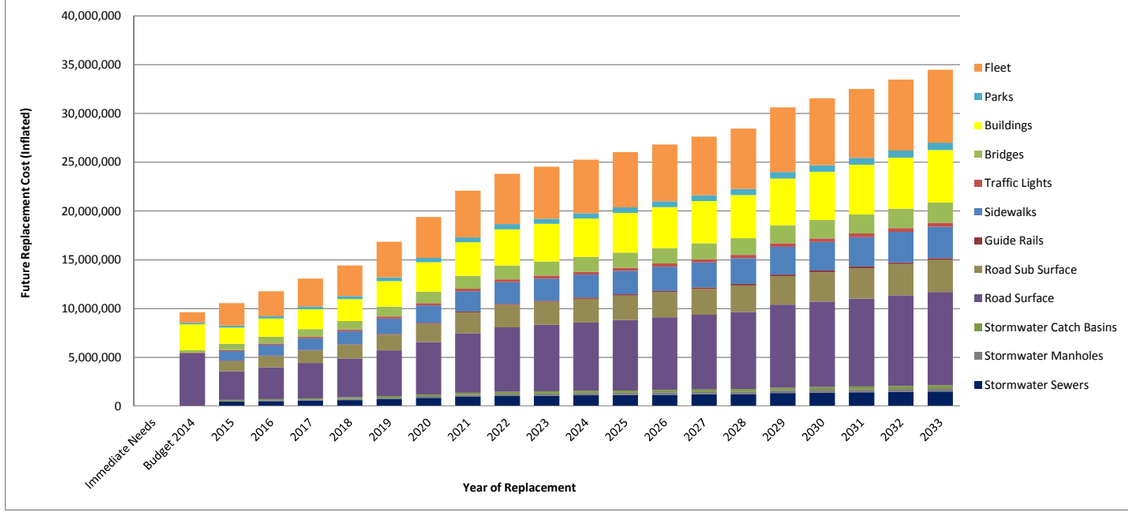


Figure F-3
Tax Supported Assets
Scenario 3 - Replacement Based on Phased-in Approach



City of Timmins
2014 Asset Management Plan
Scheduled Capital Replacement (Water Assets) - Inflated

Table F-4
Replacement Year Based on Scenario 1

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**107,905,000**	**105,060**	**204,754**	**38,245**	**219,474**	**1,720,363**	**250,751**	**3,810,641**	**2,525,940**	**3,927,367**	**5,156,607**	**22,237,994**	**4,569,564**	**4,852,035**	**7,413,202**	**6,238,102**	**1,665,685**	**11,713,731**	**2,495,767**	**2,889,778**	**69,439,559**	**259,379,619**
Water Pumping Stations and Reservoirs	14,230,000	20,600	122,004	-	-	57,964	202,989	227,527	24,069	300,098	147,831	27,685	345,034	-	453,777	77,898	1,481,144	305,777	-	1,437,875	4,930,684	24,392,954
Water Mains	38,720,000	-	-	-	-	718,750	-	836,314	2,432,199	2,387,735	3,386,669	1,204,283	3,621,433	4,508,399	4,810,035	202,536	144,424	10,214,598	2,281,260	70,140	7,964,951	83,503,726
Hydrants and Valves	8,752,000	-	-	-	-	-	-	2,477,458	-	-	-	297,887	-	-	-	-	-	831,382	-	-	-	12,358,727
Water Services	14,816,000	-	-	-	-	-	-	-	-	-	-	17,939,671	-	-	-	-	-	-	-	-	-	32,755,671
Water Filtration Plant	31,144,000	84,460	72,141	-	180,081	934,375	11,941	152,504	69,672	1,239,535	1,564,319	2,720,020	588,839	299,581	2,020,820	5,945,204	40,118	287,595	154,921	1,381,763	56,204,376	105,096,264
Fleet	243,000	-	10,609	38,245	39,393	9,274	35,822	116,838	-	-	57,788	48,448	14,258	44,056	128,570	12,464	-	74,378	59,585	-	339,549	1,272,277
																						-

Table F-5
Replacement Year Based on Scenario 3

Asset Type	Immediate Needs	Budget 2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**-**	**4,050,000**	**4,517,000**	**4,652,509**	**4,792,085**	**4,935,847**	**5,083,923**	**5,236,440**	**5,393,534**	**5,555,340**	**5,722,000**	**5,893,660**	**6,070,470**	**6,252,584**	**6,440,161**	**6,633,366**	**6,832,367**	**7,037,338**	**7,248,458**	**7,465,912**	**7,689,889**	**117,502,883**
Water Pumping Stations and Reservoirs	-	-	377,401	388,723	400,385	412,396	424,768	437,511	450,637	464,156	478,081	492,423	507,196	522,412	538,084	554,226	570,853	587,979	605,618	623,787	642,500	9,479,137
Water Mains	-	3,200,000	2,187,687	2,253,318	2,320,918	2,390,545	2,462,262	2,536,129	2,612,213	2,690,580	2,771,297	2,854,436	2,940,069	3,028,271	3,119,119	3,212,693	3,309,074	3,408,346	3,510,596	3,615,914	3,724,391	58,147,858
Hydrants and Valves	-	-	448,225	461,671	475,522	489,787	504,481	519,615	535,204	551,260	567,798	584,832	602,376	620,448	639,061	658,233	677,980	698,319	719,269	740,847	763,072	11,258,000
Water Services	-	-	827,279	852,097	877,660	903,990	931,109	959,043	987,814	1,017,448	1,047,972	1,079,411	1,111,793	1,145,147	1,179,502	1,214,887	1,251,333	1,288,873	1,327,539	1,367,366	1,408,387	20,778,649
Water Filtration Plant	-	850,000	633,022	652,013	671,573	691,721	712,472	733,846	755,862	778,538	801,894	825,950	850,729	876,251	902,538	929,615	957,503	986,228	1,015,815	1,046,289	1,077,678	16,749,537
Fleet	-	-	43,385	44,687	46,027	47,408	48,830	50,295	51,804	53,358	54,959	56,608	58,306	60,055	61,857	63,713	65,624	67,593	69,621	71,709	73,860	1,089,701
																						-

Figure F-4
Water Assets
Scenario 1 - Replacement Based on PSAB 3150 Asset Data

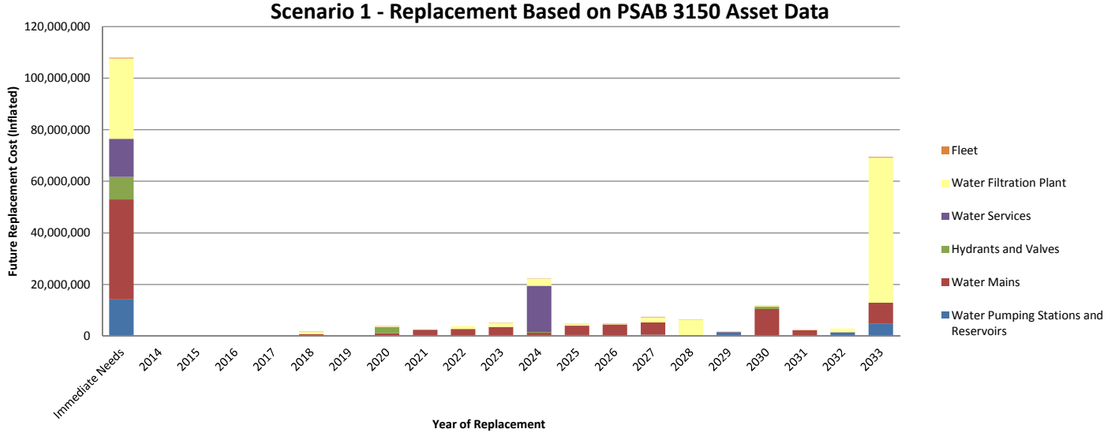
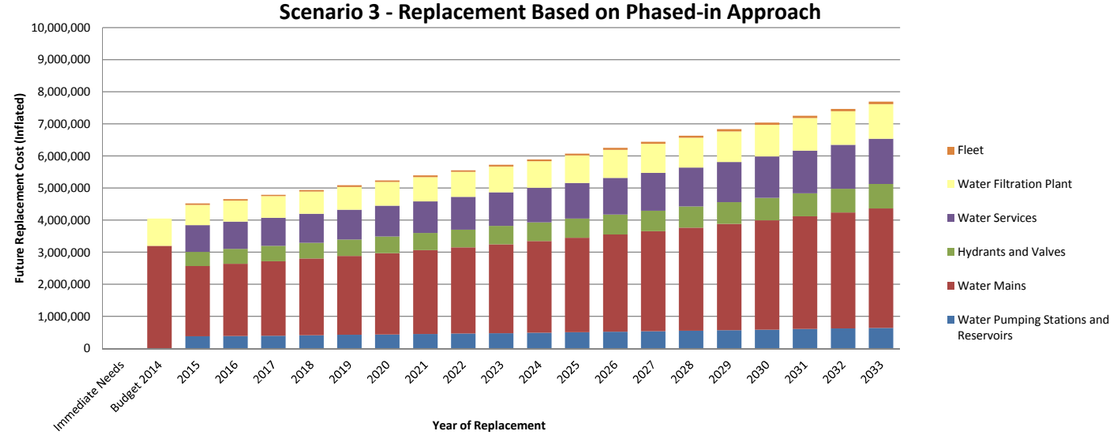


Figure F-5
Water Assets
Scenario 3 - Replacement Based on Phased-in Approach



City of Timmins
2014 Asset Management Plan
Scheduled Capital Replacement (Wastewater Assets) - Inflated

Table F-6
Replacement Year Based on Scenario 1

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**39,506,200**	**4,089,100**	**1,711,232**	**10,314,786**	**793,484**	**104,335**	**10,916,504**	**835,084**	**152,012**	**3,820,376**	**288,942**	**880,373**	**2,712,492**	**1,343,708**	**267,728**	**758,730**	**7,289,141**	**10,340,197**	**1,445,366**	**9,539,073**	**20,401,965**	**127,510,827**
Mattagami WPCP	2,953,000	-	20,157	7,649	-	-	210,153	23,368	-	3,274,981	6,720	29,069	305,807	-	48,403	28,043	81,840	3,266,034	-	9,293,582	5,477,935	25,026,742
Whitney WPCP	862,000	3,841,900	36,071	53,544	33,765	-	202,989	166,033	38,003	271,393	13,439	83,054	54,179	447,903	45,378	6,232	190,960	760,310	57,883	122,745	1,260,666	8,548,445
Wastewater Pumping Stations	10,565,000	247,200	1,655,004	27,318	720,326	104,335	179,108	504,248	114,009	274,002	268,783	719,802	2,352,505	895,806	-	163,587	6,402,779	628,082	1,208,727	122,745	13,518,743	40,672,109
Wastewater Forcemains	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	119,170	-	-	119,170
Sanitary Sewers	15,758,000	-	-	7,613,029	-	-	-	-	-	-	-	-	-	-	-	-	24,071	4,457,730	-	-	104,754	27,957,584
Sanitary Manholes	4,981,200	-	-	2,613,246	-	-	-	-	-	-	-	-	-	-	-	-	11,797	1,228,040	-	-	39,867	8,874,150
Sanitary Services	4,272,000	-	-	-	-	-	9,894,395	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14,166,395
Fleet	115,000	-	-	-	39,393	-	429,859	141,435	-	-	-	48,448	-	-	173,948	560,868	577,694	-	59,585	-	-	2,146,231
																						-

Table F-7
Replacement Year Based on Scenario 3

Asset Type	Immediate Needs	Budget 2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**-**	**3,112,300**	**3,803,185**	**4,134,907**	**4,483,110**	**4,663,779**	**4,803,693**	**4,947,803**	**5,096,237**	**5,249,125**	**5,406,598**	**5,568,796**	**5,735,860**	**5,907,936**	**6,085,174**	**6,267,729**	**6,455,761**	**6,649,434**	**6,848,917**	**7,054,384**	**7,194,075**	**109,468,805**
Mattagami WPCP	-	200,000	540,749	587,914	637,423	663,111	683,004	703,494	724,599	746,337	768,727	791,789	815,542	840,009	865,209	891,165	917,900	945,437	973,800	1,003,014	1,022,876	15,322,099
Whitney WPCP	-	175,000	136,035	147,901	160,355	166,818	171,822	176,977	182,286	187,755	193,387	199,189	205,165	211,320	217,659	224,189	230,915	237,842	244,977	252,327	257,323	3,979,243
Wastewater Pumping Stations	-	-	788,472	857,244	929,433	966,889	995,896	1,025,773	1,056,546	1,088,243	1,120,890	1,154,517	1,189,152	1,224,827	1,261,571	1,299,419	1,338,401	1,378,553	1,419,910	1,462,507	1,491,468	22,049,712
Wastewater Forcemains	-	-	3,518	3,825	4,147	4,314	4,443	4,576	4,714	4,855	5,001	5,151	5,305	5,464	5,628	5,797	5,971	6,150	6,335	6,525	6,654	98,373
Sanitary Sewers	-	2,737,300	1,143,646	1,243,398	1,348,105	1,402,433	1,444,506	1,487,842	1,532,477	1,578,451	1,625,805	1,674,579	1,724,816	1,776,561	1,829,858	1,884,753	1,941,296	1,999,535	2,059,521	2,121,306	2,163,313	34,719,500
Sanitary Manholes	-	-	482,778	524,887	569,088	592,023	609,783	628,077	646,919	666,327	686,316	706,906	728,113	749,956	772,455	795,629	819,498	844,083	869,405	895,487	913,220	13,500,950
Sanitary Services	-	-	631,099	686,145	743,926	773,906	797,123	821,037	845,668	871,038	897,169	924,084	951,807	980,361	1,009,772	1,040,065	1,071,267	1,103,405	1,136,507	1,170,602	1,193,782	17,648,764
Fleet	-	-	76,887	83,594	90,633	94,286	97,114	100,028	103,028	106,119	109,303	112,582	115,959	119,438	123,021	126,712	130,513	134,429	138,462	142,615	145,439	2,150,163
																						-

Figure F-6
Wastewater Assets
Scenario 1 - Replacement Based on PSAB 3150 Asset Data

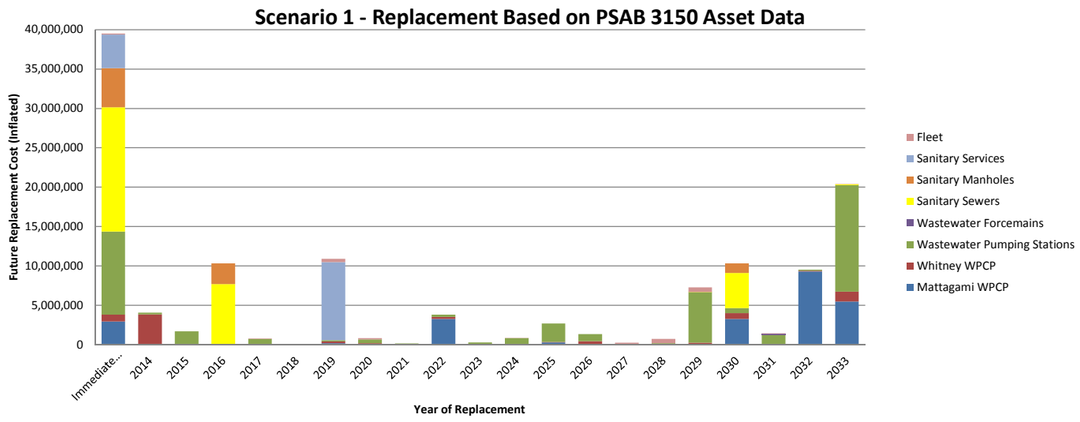
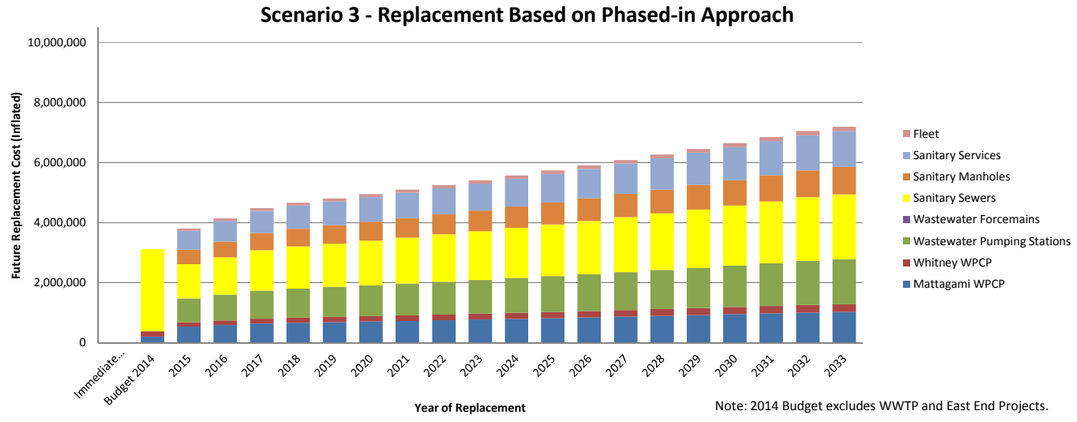


Figure F-7
Wastewater Assets
Scenario 3 - Replacement Based on Phased-in Approach



Note: 2014 Budget excludes WWTP and East End Projects.

City of Timmins
2014 Asset Management Plan
Scheduled Capital Replacement (Airport) - Inflated

Table F-8
Replacement Year Based on Scenario 1

Asset Type	Immediate Needs	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**14,666,000**	**-**	**-**	**16,937**	**-**	**57,964**	**-**	**87,936**	**16,402,139**	**260,955**	**-**	**-**	**4,277**	**-**	**428,063**	**28,043**	**-**	**113,220**	**-**	**1,099,448**	**8,019,134**	**41,184,116**
Airport	14,666,000	-	-	16,937	-	57,964	-	87,936	16,402,139	260,955	-	-	4,277	-	428,063	28,043	-	113,220	-	1,099,448	8,019,134	41,184,116
																						-

Table F-9
Replacement Year Based on Scenario 3

Asset Type	Immediate Needs	Budget 2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	TOTAL
Total Scheduled Capital - Inflated	**-**	**426,000**	**644,222**	**853,134**	**1,074,000**	**1,307,352**	**1,968,067**	**2,240,489**	**2,527,485**	**2,603,309**	**2,681,408**	**2,761,851**	**2,844,706**	**2,930,047**	**3,017,949**	**3,108,487**	**3,201,742**	**3,297,794**	**3,396,728**	**3,498,630**	**3,760,267**	**48,143,667**
Airport	-	426,000	644,222	853,134	1,074,000	1,307,352	1,968,067	2,240,489	2,527,485	2,603,309	2,681,408	2,761,851	2,844,706	2,930,047	3,017,949	3,108,487	3,201,742	3,297,794	3,396,728	3,498,630	3,760,267	48,143,667
																						-

Figure F-8
Airport Assets
Scenario 1 - Replacement Based on PSAB 3150 Asset Data

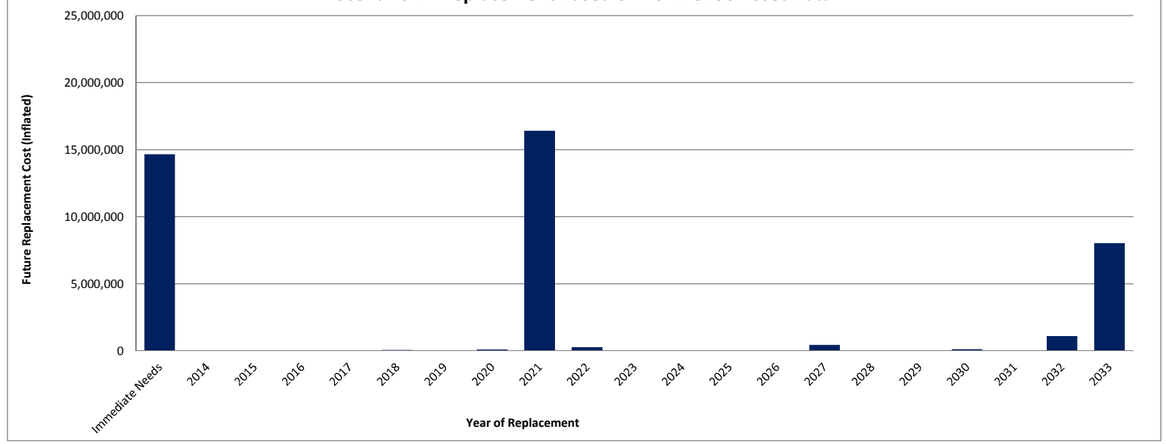
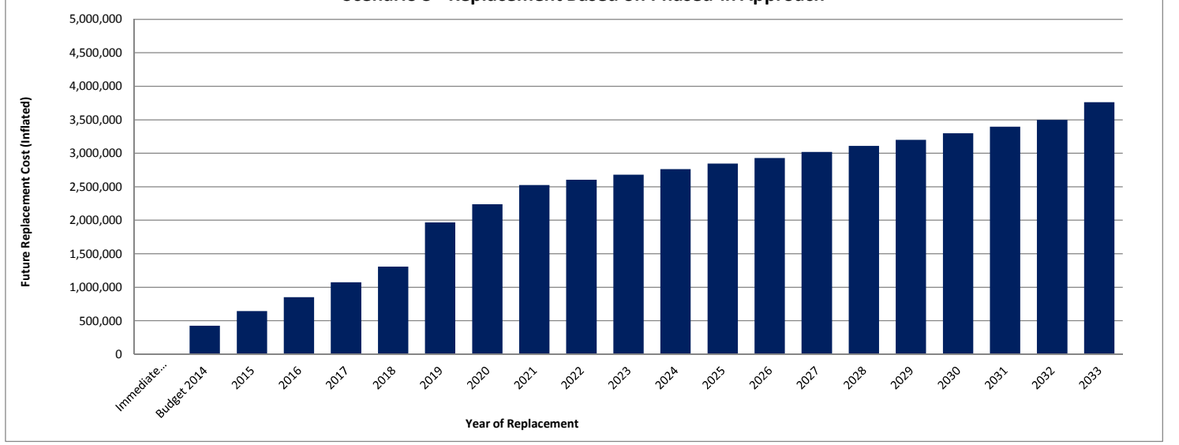


Figure F-9
Airport Assets
Scenario 3 - Replacement Based on Phased-in Approach



APPENDIX G
TAX SUPPORTED ASSET MANAGEMENT STRATEGY & FINANCING STRATEGY

City of Timmins
2014 Asset Management Plan
Financing Strategy

Table G-1
Tax Supported Capital Forecast

Description	Budget 2011	Budget 2012	Budget 2013	Budget 2014	Forecast 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Prior Capital Expenses																							
Building Inspection	5,000	5,000	40,000	30,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bridges	-	-	344,000	250,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Roads Capital	6,335,000	5,229,700	5,595,000	5,430,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Traffic Lights	45,000	45,000	50,000	50,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Engineering Capital	25,000	25,000	25,000	15,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Public Works Shops Capital	175,000	210,000	265,300	197,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Parks & Recreation	863,000	367,000	381,500	160,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Building Maintenance	2,130,000	1,342,000	1,936,000	2,407,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fire Fleet	325,000	325,000	275,000	200,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Police Fleet	230,000	230,000	170,515	160,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transit	657,800	505,000	985,000	660,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vehicles - Other	-	-	-	80,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Replacement Forecast																							
Stormwater Sewers					464,473	518,275	574,886	634,428	740,589	852,549	970,559	1,047,280	1,078,698	1,111,059	1,144,391	1,178,722	1,214,084	1,250,507	1,346,568	1,386,965	1,428,574	1,471,432	1,515,574
Stormwater Manholes					96,219	107,364	119,092	131,426	153,418	176,611	201,058	216,951	223,459	230,163	237,068	244,180	251,506	259,051	278,951	287,319	295,939	304,817	313,961
Stormwater Catch Basins					96,641	107,835	119,614	132,003	154,091	177,386	201,940	217,903	224,440	231,173	238,108	245,251	252,609	260,187	280,174	288,580	297,237	306,154	315,339
Road Surface					2,929,143	3,268,435	3,625,449	4,000,942	4,670,432	5,376,492	6,120,712	6,604,539	6,802,676	7,006,756	7,216,958	7,433,467	7,656,471	7,886,165	8,491,966	8,746,725	9,009,127	9,279,401	9,557,783
Road Sub Surface					1,012,169	1,129,412	1,252,778	1,382,530	1,613,874	1,857,854	2,115,020	2,282,207	2,350,673	2,421,193	2,493,829	2,568,644	2,645,703	2,725,074	2,934,410	3,022,442	3,113,115	3,206,509	3,302,704
Guide Rails					53,200	59,362	65,846	72,666	84,826	97,649	111,166	119,953	123,552	127,259	131,076	135,009	139,059	143,231	154,233	158,860	163,626	168,535	173,591
Sidewalks					981,947	1,095,689	1,215,372	1,341,250	1,565,685	1,802,380	2,051,868	2,214,063	2,280,485	2,348,899	2,419,366	2,491,947	2,566,706	2,643,707	2,846,791	2,932,195	3,020,161	3,110,766	3,204,089
Traffic Lights					124,460	138,877	154,047	170,001	198,448	228,449	260,071	280,629	289,048	297,720	306,651	315,851	325,326	335,086	360,827	371,651	382,801	394,285	406,114
Bridges					631,515	704,665	781,636	862,591	1,006,932	1,159,156	1,319,608	1,423,920	1,466,637	1,510,636	1,555,955	1,602,634	1,650,713	1,700,234	1,830,843	1,885,769	1,942,342	2,000,612	2,060,630
Buildings					1,651,371	1,842,654	2,043,929	2,255,622	2,633,062	3,031,119	3,450,690	3,723,459	3,835,163	3,950,218	4,068,724	4,190,786	4,316,509	4,446,005	4,787,539	4,931,165	5,079,100	5,231,473	5,388,417
Parks					230,507	257,207	285,302	314,851	367,536	423,099	481,665	519,739	535,331	551,391	567,933	584,971	602,520	620,595	668,269	688,317	708,966	730,235	752,142
Fleet					2,292,750	2,558,327	2,837,775	3,131,687	3,655,723	4,208,382	4,790,911	5,169,621	5,324,710	5,484,451	5,648,985	5,818,454	5,993,008	6,172,798	6,646,981	6,846,391	7,051,782	7,263,336	7,481,236
Level of Service Adjustments																							
Rehabiliation and Renewal Works					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Expansion Projects					731,300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenditures	**10,790,800**	**8,283,700**	**10,067,315**	**9,639,800**	**11,295,693**	**11,788,102**	**13,075,726**	**14,429,997**	**16,844,617**	**19,391,126**	**22,075,266**	**23,820,264**	**24,534,872**	**25,270,918**	**26,029,045**	**26,809,917**	**27,614,214**	**28,442,641**	**30,627,553**	**31,546,379**	**32,492,770**	**33,467,554**	**34,471,580**
Capital Financing																							
Provincial/Federal Grants	-	-	180,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Debentures	-	-	-	-	1,000,000	1,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund: Gas Tax - Federal	5,085,000	2,279,700	2,895,000	2,880,000	2,499,721	2,624,707	2,624,707	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693	2,749,693
Reserve Fund: Gas Tax - Provincial (Transit)	617,800	480,000	960,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000	600,000
Reserve/Reserve Fund: Other	322,500	1,591,000	1,000,315	1,532,800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other (NOHFC, Donations)	-	-	470,000	163,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer from Operating	4,765,500	3,933,000	4,562,000	4,464,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund: New Capital (Tax Supported)	-	-	-	-	7,195,972	7,563,395	9,851,019	11,080,304	13,494,924	16,041,433	18,725,573	20,470,571	21,185,179	21,921,225	22,679,352	23,460,224	24,264,521	25,092,948	27,277,860	28,196,686	29,143,078	30,117,861	31,121,887
Total Capital Financing	**10,790,800**	**8,283,700**	**10,067,315**	**9,639,800**	**11,295,693**	**11,788,102**	**13,075,726**	**14,429,997**	**16,844,617**	**19,391,126**	**22,075,266**	**23,820,264**	**24,534,872**	**25,270,918**	**26,029,045**	**26,809,917**	**27,614,214**	**28,442,641**	**30,627,553**	**31,546,379**	**32,492,770**	**33,467,554**	**34,471,580**
Total Capital Expenses less Capital Financing	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Table G-2
Debt Requirements

Debt Schedule - Tax Supported Year	Principal (Inflated)	Budget 2014	Forecast 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Budget 2014	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2015	1,000,000			80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243
2016	1,000,000				80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243	80,243
2017	-					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2018	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2019	-							-	-	-	-	-	-	-	-	-	-	-	-	-	-
2020	-								-	-	-	-	-	-	-	-	-	-	-	-	-
2021	-									-	-	-	-	-	-	-	-	-	-	-	-
2022	-										-	-	-	-	-	-	-	-	-	-	-
2023	-											-	-	-	-	-	-	-	-	-	-
2024	-												-	-	-	-	-	-	-	-	-
2025	-													-	-	-	-	-	-	-	-
2026	-														-	-	-	-	-	-	-
2027	-															-	-	-	-	-	-
2028	-																-	-	-	-	-
2029	-																	-	-	-	-
2030	-																		-	-	-
2031	-																			-	-
2032	-																				-
2033	-																				
Total Annual New Debt Charges	**2,000,000**	**-**	-	80,243	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485

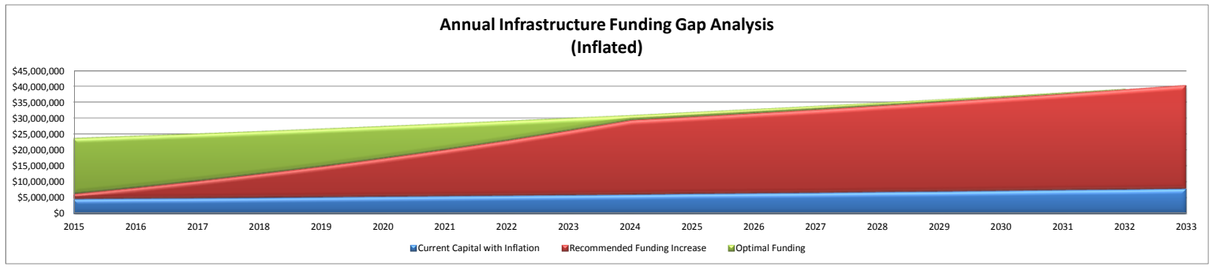
City of Timmins
2014 Asset Management Plan
Financing Strategy
Table G-3
Reserve and Reserve Fund Continuity Schedules

Capital Reserve/Reserve Funds (Tax Supported)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Forecast																		
Opening Balance	2,896,359	1,939,587	2,583,506	2,965,397	4,385,632	5,807,965	7,258,527	8,766,849	11,470,661	16,633,410	24,480,942	32,809,689	41,640,406	50,994,326	60,893,599	70,002,752	79,635,813	89,814,592	100,561,557
Transfers From Operating/Capital	6,201,170	8,156,657	10,174,764	12,414,547	14,803,375	17,349,671	20,061,997	22,949,468	26,021,782	29,288,738	30,364,772	31,474,462	32,618,553	33,798,228	35,014,410	36,268,261	37,560,786	38,893,030	40,266,282
Transfer to Capital	7,195,972	7,563,395	9,851,019	11,080,304	13,494,924	16,041,433	18,725,573	20,470,571	21,185,179	21,921,225	22,679,352	23,460,224	24,264,521	25,092,948	27,277,860	28,196,686	29,143,078	30,117,861	31,121,887
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Earned	38,031	50,657	58,145	85,993	113,882	142,324	171,899	224,915	326,145	480,018	643,327	816,479	999,889	1,193,992	1,372,603	1,561,487	1,761,070	1,971,795	2,194,119
Closing Balance	1,939,587	2,583,506	2,965,397	4,385,632	5,807,965	7,258,527	8,766,849	11,470,661	16,633,410	24,480,942	32,809,689	41,640,406	50,994,326	60,893,599	70,002,752	79,635,813	89,814,592	100,561,557	111,900,071
Note: Closing reserve fund balance as a percentage of capital asset balance	0.31%	0.40%	0.44%	0.64%	0.82%	0.99%	1.17%	1.48%	2.08%	2.98%	3.88%	4.78%	5.68%	6.58%	7.35%	8.12%	8.89%	9.66%	10.44%

Table G-4
Tax Supported Operating Budget Forecast Summary

Net Impact on Taxation	Actual 2011	Actual 2012	Budget 2013	Budget 2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
					Forecast																		
Other Departments																							
Net Expenditures	34,401,199	34,694,333	39,804,830	42,514,270	43,364,600	44,231,900	45,116,500	46,018,800	46,939,200	47,878,000	48,835,600	49,812,300	50,808,500	51,824,700	52,861,200	53,918,400	54,996,800	56,096,700	57,218,600	58,363,000	59,530,300	60,720,900	61,935,300
Transfer to Capital	330,000	879,800	628,445	740,100	754,900	770,000	785,400	801,100	817,100	833,400	850,100	867,100	884,400	902,100	920,100	938,500	957,300	976,400	995,900	1,015,800	1,036,100	1,056,800	1,077,900
Sub-total - Other Departments	34,731,199	35,574,133	40,433,275	43,254,370	44,119,500	45,001,900	45,901,900	46,819,900	47,756,300	48,711,400	49,685,700	50,679,400	51,692,900	52,726,800	53,781,300	54,856,900	55,954,100	57,073,100	58,214,500	59,378,800	60,566,400	61,777,700	63,013,200
Specific Departments:																							
Storm Sewer	106,661	211,559	135,000	142,000	144,800	147,700	150,700	153,700	156,800	159,900	163,100	166,400	169,700	173,100	176,600	180,100	183,700	187,400	191,100	194,900	198,800	202,800	206,900
Building Maintenance	952,612	1,006,300	843,000	900,250	918,300	936,700	955,400	974,500	994,000	1,013,900	1,034,200	1,054,900	1,076,000	1,097,500	1,119,500	1,141,900	1,164,700	1,188,000	1,211,800	1,236,000	1,260,700	1,285,900	1,311,600
Parks & Recreation	3,020,061	3,501,354	1,645,454	2,803,350	2,859,400	2,916,600	2,974,900	3,034,400	3,095,100	3,157,000	3,220,100	3,284,500	3,350,200	3,417,200	3,485,500	3,555,200	3,626,300	3,698,800	3,772,800	3,848,300	3,925,200	4,003,800	4,083,900
Public Works - Roads/Bridges/Culverts	13,116,952	13,226,173	12,048,300	11,945,550	12,184,400	12,428,100	12,676,700	12,930,200	13,188,800	13,452,600	13,721,600	13,996,000	14,275,900	14,561,400	14,852,600	15,149,600	15,452,600	15,761,700	16,077,000	16,398,500	16,726,500	17,061,000	17,402,200
Net Expenditures due to Level of Service Adjustments	-	-	-	-	223,380	279,868	412,810	550,958	694,467	843,496	998,208	1,158,771	1,325,358	1,498,144	1,528,107	1,558,669	1,589,843	1,621,639	1,654,072	1,687,154	1,720,897	1,755,315	1,790,421
Transfer to Capital	4,765,500	3,933,000	4,562,000	4,464,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfers to Reserve Funds																							
Transfers to Current Reserve Funds (Capital Related)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Tax Supported Capital Reserve Fund(s)	-	-	-	-	6,201,170	8,156,657	10,174,764	12,414,547	14,803,375	17,349,671	20,061,997	22,949,468	26,021,782	29,288,738	30,364,772	31,474,462	32,618,553	33,798,228	35,014,410	36,268,261	37,560,786	38,893,030	40,266,282
Debentures																							
New Debt Payments					-	80,243	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485
Surplus/(Deficit) Adjustment	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Taxation Levy	**56,692,985**	**57,452,519**	**59,667,029**	**63,509,520**	**66,650,950**	**69,947,767**	**73,407,659**	**77,038,690**	**80,849,327**	**84,848,452**	**89,045,390**	**93,449,924**	**98,072,325**	**102,923,367**	**105,468,864**	**108,077,316**	**110,750,281**	**113,489,353**	**116,296,167**	**119,172,400**	**122,119,768**	**125,140,030**	**128,234,988**
Taxation Levy Analysis																							
Prior Year Taxation Levy	54,067,137	56,692,985	57,452,519	59,667,029	63,509,520	66,650,950	69,947,767	73,407,659	77,038,690	80,849,327	84,848,452	89,045,390	93,449,924	98,072,325	102,923,367	105,468,864	108,077,316	110,750,281	113,489,353	116,296,167	119,172,400	122,119,768	125,140,030
Add: Provision for Assessment Growth (see below)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Current Year Taxation Levy at 0.0% Increase	54,067,137	56,692,985	57,452,519	59,667,029	63,509,520	66,650,950	69,947,767	73,407,659	77,038,690	80,849,327	84,848,452	89,045,390	93,449,924	98,072,325	102,923,367	105,468,864	108,077,316	110,750,281	113,489,353	116,296,167	119,172,400	122,119,768	125,140,030
Additional Increase in Taxation Levy for the year	2,625,848	759,534	2,214,510	3,842,491	3,141,430	3,296,817	3,459,892	3,631,031	3,810,637	3,999,125	4,196,938	4,404,534	4,622,401	4,851,042	2,545,497	2,608,452	2,672,964	2,739,072	2,806,815	2,876,232	2,947,368	3,020,262	3,094,958
Total Taxation Levy	**56,692,985**	**57,452,519**	**59,667,029**	**63,509,520**	**66,650,950**	**69,947,767**	**73,407,659**	**77,038,690**	**80,849,327**	**84,848,452**	**89,045,390**	**93,449,924**	**98,072,325**	**102,923,367**	**105,468,864**	**108,077,316**	**110,750,281**	**113,489,353**	**116,296,167**	**119,172,400**	**122,119,768**	**125,140,030**	**128,234,988**
Percentage Increase (Factoring in Assessment Growth)					**4.95%**	**4.95%**	**4.95%**	**4.95%**	**4.95%**	**4.95%**	**4.95%**	**4.95%**	**4.95%**	**4.95%**	**2.47%**	**2.47%**	**2.47%**	**2.47%**	**2.47%**	**2.47%**	**2.47%**	**2.47%**	**2.47%**

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Forecast																		
Assessment Growth Estimate (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%



APPENDIX H
WATER ASSET MANAGEMENT STRATEGY & FINANCING STRATEGY

City of Timmins
2014 Asset Management Plan
Financing Strategy

Table H-1
Water Capital Forecast

Description	Actual 2011	Actual 2012	Budget 2013	Budget 2014	Forecast 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Prior Capital Expenses																							
Water Pumping Stations and Reservoirs	-	2,189,257	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Watermains	1,002,783	457,825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hydrants and Valves	213,048	175,290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Services	289,363	36,255	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Filtration Plant	55,073	212,408	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fleet	-	22,579	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Source	-	-	1,775,000	3,200,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Transmission	-	-	700,000	850,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Replacement Forecast																							
Water Pumping Stations and Reservoirs					377,401	388,723	400,385	412,396	424,768	437,511	450,637	464,156	478,081	492,423	507,196	522,412	538,084	554,226	570,853	587,979	605,618	623,787	642,500
Watermains					2,187,687	2,253,318	2,320,918	2,390,545	2,462,262	2,536,129	2,612,213	2,690,580	2,771,297	2,854,436	2,940,069	3,028,271	3,119,119	3,212,693	3,309,074	3,408,346	3,510,596	3,615,914	3,724,391
Hydrants and Valves					448,225	461,671	475,522	489,787	504,481	519,615	535,204	551,260	567,798	584,832	602,376	620,448	639,061	658,233	677,980	698,319	719,269	740,847	763,072
Water Services					827,279	852,097	877,660	903,990	931,109	959,043	987,814	1,017,448	1,047,972	1,079,411	1,111,793	1,145,147	1,179,502	1,214,887	1,251,333	1,288,873	1,327,539	1,367,366	1,408,387
Water Filtration Plant					633,022	652,013	671,573	691,721	712,472	733,846	755,862	778,538	801,894	825,950	850,729	876,251	902,538	929,615	957,503	986,228	1,015,815	1,046,289	1,077,678
Fleet					43,385	44,687	46,027	47,408	48,830	50,295	51,804	53,358	54,959	56,608	58,306	60,055	61,857	63,713	65,624	67,593	69,621	71,709	73,860
Level of Service Adjustments																							
Rehabiliation and Renewal Works					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Expansion Projects					412,000	-	-	225,102	-	-	-	253,354	-	-	-	-	-	-	-	-	-	-	-
Total Expenditures	**1,560,268**	**3,093,615**	**2,475,000**	**4,050,000**	**4,929,000**	**4,652,509**	**4,792,085**	**5,160,949**	**5,083,923**	**5,236,440**	**5,393,534**	**5,808,694**	**5,722,000**	**5,893,660**	**6,070,470**	**6,252,584**	**6,440,161**	**6,633,366**	**6,832,367**	**7,037,338**	**7,248,458**	**7,465,912**	**7,689,889**
Capital Financing																							
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Debentures	-	-	-	-	500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer from Operating	1,272,982	1,419,187	2,475,000	4,050,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund: New Capital	-	-	-	-	4,429,000	4,652,509	4,792,085	5,160,949	5,083,923	5,236,440	5,393,534	5,808,694	5,722,000	5,893,660	6,070,470	6,252,584	6,440,161	6,633,366	6,832,367	7,037,338	7,248,458	7,465,912	7,689,889
Total Capital Financing	**1,272,982**	**1,419,187**	**2,475,000**	**4,050,000**	**4,929,000**	**4,652,509**	**4,792,085**	**5,160,949**	**5,083,923**	**5,236,440**	**5,393,534**	**5,808,694**	**5,722,000**	**5,893,660**	**6,070,470**	**6,252,584**	**6,440,161**	**6,633,366**	**6,832,367**	**7,037,338**	**7,248,458**	**7,465,912**	**7,689,889**
Total Capital Expenses less Capital Financing	**287,286**	**1,674,428**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Table H-2
Debt Requirements

Debt Schedule Year	Principal (Inflated)	Budget 2014	Forecast 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Budget 2014	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2015	500,000			40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121
2016	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	-					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2018	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2019	-							-	-	-	-	-	-	-	-	-	-	-	-	-	-
2020	-								-	-	-	-	-	-	-	-	-	-	-	-	-
2021	-									-	-	-	-	-	-	-	-	-	-	-	-
2022	-										-	-	-	-	-	-	-	-	-	-	-
2023	-											-	-	-	-	-	-	-	-	-	-
2024	-												-	-	-	-	-	-	-	-	-
2025	-													-	-	-	-	-	-	-	-
2026	-														-	-	-	-	-	-	-
2027	-															-	-	-	-	-	-
2028	-																-	-	-	-	-
2029	-																	-	-	-	-
2030	-																		-	-	-
2031	-																			-	-
2032	-																				-
2033	-																				
Total Annual New Debt Charges	**500,000**		-	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121

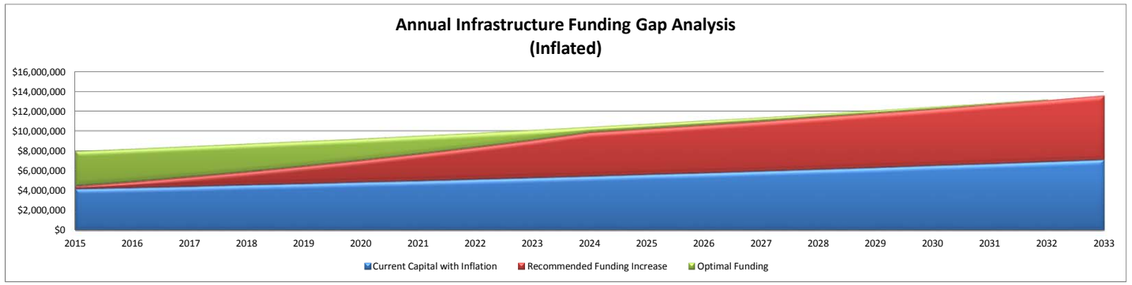
City of Timmins
2014 Asset Management Plan
Financing Strategy

Table H-3
Reserve and Reserve Fund Continuity Schedules

Capital Reserve/Reserve Funds	Forecast																		
(Water)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Opening Balance	-	45,287	284,918	881,760	1,643,524	3,064,972	4,964,067	7,387,094	10,125,244	13,743,448	18,045,396	22,620,165	27,480,137	32,638,119	38,107,364	43,901,690	50,035,396	56,523,386	63,381,188
Transfers From Operating/Capital	4,473,399	4,886,553	5,371,638	5,890,487	6,445,273	7,038,201	7,671,716	8,348,309	9,070,725	9,841,776	10,201,706	10,573,730	10,958,180	11,355,408	11,765,875	12,189,958	12,628,147	13,080,945	13,548,675
Transfer to Capital	4,429,000	4,652,509	4,792,085	5,160,949	5,083,923	5,236,440	5,393,534	5,808,694	5,722,000	5,893,660	6,070,470	6,252,584	6,440,161	6,633,366	6,832,367	7,037,338	7,248,458	7,465,912	7,689,889
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Earned	888	5,587	17,289	32,226	60,097	97,335	144,845	198,534	269,479	353,831	443,533	538,826	639,963	747,203	860,817	981,086	1,108,302	1,242,768	1,384,799
Closing Balance	45,287	284,918	881,760	1,643,524	3,064,972	4,964,067	7,387,094	10,125,244	13,743,448	18,045,396	22,620,165	27,480,137	32,638,119	38,107,364	43,901,690	50,035,396	56,523,386	63,381,188	70,624,773
Note: Closing reserve fund balance as a percentage of capital asset balance	0.02%	0.11%	0.32%	0.58%	1.05%	1.65%	2.38%	3.17%	4.17%	5.32%	6.47%	7.63%	8.80%	9.98%	11.16%	12.35%	13.55%	14.75%	15.95%

Table H-4
Water Operating Budget Forecast Summary

Net Impact on Water Revenue	Actual 2011	Actual 2012	Budget 2013	Budget 2014	Forecast															
					2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Operating Expenditures	5,337,779	5,553,738	6,250,800	6,228,700	6,353,300	6,480,400	6,610,000	6,742,200	6,877,000	7,014,500	7,154,800	7,297,900	7,443,900	7,592,800	7,744,700	7,899,600	8,057,600	8,218,800	8,383,200	8,550,900	8,721,900	8,896,300	9,074,200
Water - Other Revenue	(290,449)	(335,751)	(257,000)	(983,700)	(1,003,400)	(1,023,500)	(1,044,000)	(1,064,900)	(1,086,200)	(1,107,900)	(1,130,100)	(1,152,700)	(1,175,800)	(1,199,300)	(1,223,300)	(1,247,800)	(1,272,800)	(1,298,300)	(1,324,300)	(1,350,800)	(1,377,800)	(1,405,400)	(1,433,500)
Net Expenditures due to Level of Service Adjustments	-	-	-	-	25,500	52,020	79,591	108,243	138,010	168,924	201,020	234,332	268,896	304,749	310,844	317,060	323,402	329,870	336,467	343,196	350,060	357,062	364,203
Transfer to Capital	1,272,982	1,419,187	2,475,000	4,050,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfers to Reserve Funds																							
Transfer to Other Reserve/Reserve Funds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfers to Current Reserve Funds (Capital Related)	-	2,600,515	731,200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital Reserve Fund (Water)	-	-	-	-	4,473,399	4,886,553	5,371,638	5,890,487	6,445,273	7,038,201	7,671,716	8,348,309	9,070,725	9,841,776	10,201,706	10,573,730	10,958,180	11,355,408	11,765,875	12,189,958	12,628,147	13,080,945	13,548,675
Debentures																							
New Debt Payments	-	-	-	-	-	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121	40,121
Surplus/(Deficit) Adjustment	2,764,344	(15)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Water Service Revenue	**9,084,656**	**9,237,674**	**9,200,000**	**9,295,000**	**9,848,799**	**10,435,594**	**11,057,350**	**11,716,151**	**12,414,204**	**13,153,846**	**13,937,557**	**14,767,962**	**15,647,842**	**16,580,146**	**17,074,071**	**17,582,711**	**18,106,503**	**18,645,899**	**19,201,363**	**19,773,375**	**20,362,428**	**20,969,028**	**21,593,699**
Percentage Increase					**5.96%**	**5.96%**	**5.96%**	**5.96%**	**5.96%**	**5.96%**	**5.96%**	**5.96%**	**5.96%**	**5.96%**	**2.98%**	**2.98%**	**2.98%**	**2.98%**	**2.98%**	**2.98%**	**2.98%**	**2.98%**	**2.98%**



APPENDIX I
WASTEWATER ASSET MANAGEMENT STRATEGY & FINANCING STRATEGY

City of Timmins
2014 Asset Management Plan
Financing Strategy

Table I-1
Wastewater Capital Forecast

Description	Actual 2011	Actual 2012	Budget 2013	Budget 2014	Forecast 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Prior Capital Expenses																							
Whitney WPCP	-	-	165,000	175,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Pumping Stations	217,157	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lift Station	-	-	-	150,000																			
Sanitary Sewers	1,036,960	126,332	5,210,700	3,555,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitary Manholes	152,214	36,837	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sanitary Services	284,157	21,370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Timmins WPCP	-	-	180,000	200,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WWTP				23,200,000																			
Capital Replacement Forecast																							
Mattagami WPCP					540,749	587,914	637,423	663,111	683,004	703,494	724,599	746,337	768,727	791,789	815,542	840,009	865,209	891,165	917,900	945,437	973,800	1,003,014	1,022,876
Whitney WPCP					136,035	147,901	160,355	166,818	171,822	176,977	182,286	187,755	193,387	199,189	205,165	211,320	217,659	224,189	230,915	237,842	244,977	252,327	257,323
Wastewater Pumping Stations					788,472	857,244	929,433	966,889	995,896	1,025,773	1,056,546	1,088,243	1,120,890	1,154,517	1,189,152	1,224,827	1,261,571	1,299,419	1,338,401	1,378,553	1,419,910	1,462,507	1,491,468
Wastewater Forcemains					3,518	3,825	4,147	4,314	4,443	4,576	4,714	4,855	5,001	5,151	5,305	5,464	5,628	5,797	5,971	6,150	6,335	6,525	6,654
Sanitary Sewers					1,143,646	1,243,398	1,348,105	1,402,433	1,444,506	1,487,842	1,532,477	1,578,451	1,625,805	1,674,579	1,724,816	1,776,561	1,829,858	1,884,753	1,941,296	1,999,535	2,059,521	2,121,306	2,163,313
Sanitary Manholes					482,778	524,887	569,088	592,023	609,783	628,077	646,919	666,327	686,316	706,906	728,113	749,956	772,455	795,629	819,498	844,083	869,405	895,487	913,220
Sanitary Services					631,099	686,145	743,926	773,906	797,123	821,037	845,668	871,038	897,169	924,084	951,807	980,361	1,009,772	1,040,065	1,071,267	1,103,405	1,136,507	1,170,602	1,193,782
Fleet					76,887	83,594	90,633	94,286	97,114	100,028	103,028	106,119	109,303	112,582	115,959	119,438	123,021	126,712	130,513	134,429	138,462	142,615	145,439
WWTP					16,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East End Project					7,600,000	9,500,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Level of Service Adjustments																							
Rehabiliation and Renewal Works					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Expansion Projects					51,500	-	1,092,727	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenditures	**1,690,488**	**184,539**	**5,555,700**	**27,280,900**	**27,954,685**	**13,634,907**	**5,575,837**	**4,663,779**	**4,803,693**	**4,947,803**	**5,096,237**	**5,249,125**	**5,406,598**	**5,568,796**	**5,735,860**	**5,907,936**	**6,085,174**	**6,267,729**	**6,455,761**	**6,649,434**	**6,848,917**	**7,054,384**	**7,194,075**
Capital Financing																							
Provincial/Federal Grants	-	-	-	9,500,000	2,300,000	3,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Debentures	-	-	-	13,700,000	22,200,000	8,300,000	3,300,000	2,000,000	1,400,000	900,000	200,000	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund: Gas Tax	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve/Reserve Fund: Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unfinanced Capital	-	-	1,697,350	(818,600)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer from Operating	1,159,580	1,280,060	3,858,350	4,899,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund: New Capital	-	-	-		3,454,685	2,334,907	2,275,837	2,663,779	3,403,693	4,047,803	4,896,237	5,249,125	5,406,598	5,568,796	5,735,860	5,907,936	6,085,174	6,267,729	6,455,761	6,649,434	6,848,917	7,054,384	7,194,075
Total Capital Financing	**1,159,580**	**1,280,060**	**5,555,700**	**27,280,900**	**27,954,685**	**13,634,907**	**5,575,837**	**4,663,779**	**4,803,693**	**4,947,803**	**5,096,237**	**5,249,125**	**5,406,598**	**5,568,796**	**5,735,860**	**5,907,936**	**6,085,174**	**6,267,729**	**6,455,761**	**6,649,434**	**6,848,917**	**7,054,384**	**7,194,075**
Total Capital Expenses less Capital Financing	**530,908**	**(1,095,521)**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Table I-2
Debt Requirements

Debt Schedule Year	Principal (Inflated)	Budget 2014	Forecast 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Budget 2014	13,700,000		1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323	1,099,323
2015	22,200,000			1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385	1,781,385
2016	8,300,000				666,013	666,013	666,013	666,013	666,013	666,013	666,013	666,013	666,013	666,013	666,013	666,013	666,013	666,013	666,013	666,013	666,013
2017	3,300,000					264,801	264,801	264,801	264,801	264,801	264,801	264,801	264,801	264,801	264,801	264,801	264,801	264,801	264,801	264,801	264,801
2018	2,000,000						160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485	160,485
2019	1,400,000							112,340	112,340	112,340	112,340	112,340	112,340	112,340	112,340	112,340	112,340	112,340	112,340	112,340	112,340
2020	900,000								72,218	72,218	72,218	72,218	72,218	72,218	72,218	72,218	72,218	72,218	72,218	72,218	72,218
2021	200,000									16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049	16,049
2022	-										-	-	-	-	-	-	-	-	-	-	-
2023	-											-	-	-	-	-	-	-	-	-	-
2024	-												-	-	-	-	-	-	-	-	-
2025	-													-	-	-	-	-	-	-	-
2026	-														-	-	-	-	-	-	-
2027	-															-	-	-	-	-	-
2028	-																-	-	-	-	-
2029	-																	-	-	-	-
2030	-																		-	-	-
2031	-																			-	-
2032	-																				-
2033	-																				
Total Annual New Debt Charges	**52,000,000**		1,099,323	2,880,709	3,546,722	3,811,523	3,972,008	4,084,348	4,156,566	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615

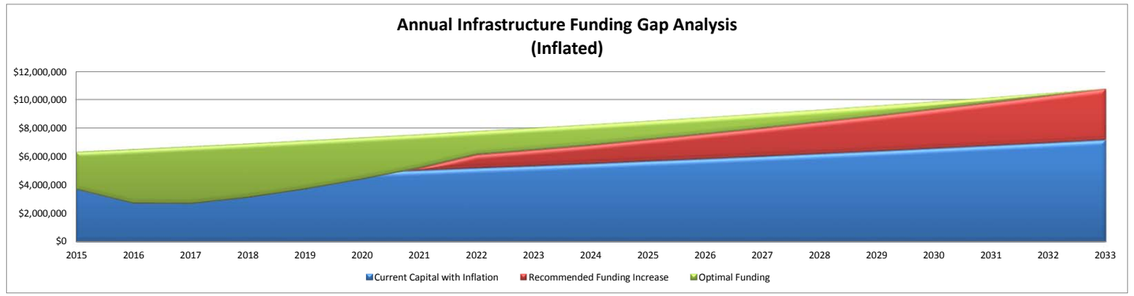
City of Timmins
2014 Asset Management Plan
Financing Strategy

Table I-3
Reserve and Reserve Fund Continuity Schedules

Capital Reserve/Reserve Funds (Wastewater)	Forecast																		
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Opening Balance	20,289	263,630	643,305	1,059,230	1,520,155	1,833,316	2,206,170	2,540,995	3,473,619	4,602,811	5,938,682	7,523,396	9,369,780	11,491,215	13,901,661	16,615,469	19,647,712	23,013,898	26,730,293
Transfers From Operating/Capital	3,692,857	2,701,968	2,670,993	3,094,897	3,680,906	4,377,399	5,181,239	6,113,639	6,445,539	6,788,222	7,173,057	7,570,599	7,981,291	8,405,593	8,843,776	9,296,428	9,763,850	10,246,656	10,745,282
Transfer to Capital	3,454,685	2,334,907	2,275,837	2,663,779	3,403,693	4,047,803	4,896,237	5,249,125	5,406,598	5,568,796	5,735,860	5,907,936	6,085,174	6,267,729	6,455,761	6,649,434	6,848,917	7,054,384	7,194,075
Transfer to Other																			
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Earned	5,169	12,614	20,769	29,807	35,947	43,258	49,823	68,110	90,251	116,445	147,518	183,721	225,318	272,582	325,794	385,249	451,253	524,123	605,630
Closing Balance	263,630	643,305	1,059,230	1,520,155	1,833,316	2,206,170	2,540,995	3,473,619	4,602,811	5,938,682	7,523,396	9,369,780	11,491,215	13,901,661	16,615,469	19,647,712	23,013,898	26,730,293	30,887,130
Note: Closing reserve fund balance as a percentage of capital asset balance	0.10%	0.24%	0.39%	0.54%	0.63%	0.74%	0.83%	1.10%	1.41%	1.77%	2.18%	2.63%	3.13%	3.68%	4.27%	4.90%	5.57%	6.28%	7.05%

Table I-4
Wastewater Operating Budget Forecast Summary

Net Impact on Wastewater Revenue	Actual 2011	Actual 2012	Budget 2013	Budget 2014	Forecast															
					2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Net Expenditures (Revenues)	3,271,108	3,462,897	3,641,650	4,119,100	4,201,500	4,285,500	4,371,200	4,458,600	4,547,800	4,638,800	4,731,600	4,826,300	4,922,900	5,021,400	5,121,900	5,224,400	5,328,900	5,435,400	5,544,100	5,654,900	5,768,000	5,883,300	6,000,900
Net Expenditures due to Level of Service Adjustments	-	-	-	-	25,500	52,020	79,591	108,243	138,010	168,924	201,020	234,332	268,896	304,749	310,844	317,060	323,402	329,870	336,467	343,196	350,060	357,062	364,203
Transfer to Capital	1,159,580	1,280,060	3,858,350	4,080,900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfers to Reserve Funds																							
Transfers to Current Reserve Funds (Capital Related)	201,578	2,086,596	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund: New Capital (Wastewater)	-	-	-		3,692,857	2,701,968	2,670,993	3,094,897	3,680,906	4,377,399	5,181,239	6,113,639	6,445,539	6,788,222	7,173,057	7,570,599	7,981,291	8,405,593	8,843,776	9,296,428	9,763,850	10,246,656	10,745,282
Debentures																							
New Debt Payments	-	-	-		1,099,323	2,880,709	3,546,722	3,811,523	3,972,008	4,084,348	4,156,566	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615	4,172,615
Surplus/(Deficit) Adjustment	1,349,349	(1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater Service Revenue	**5,981,615**	**6,829,552**	**7,500,000**	**8,200,000**	**9,019,180**	**9,920,197**	**10,668,506**	**11,473,263**	**12,338,724**	**13,269,471**	**14,270,425**	**15,346,886**	**15,809,950**	**16,286,986**	**16,778,416**	**17,284,674**	**17,806,208**	**18,343,478**	**18,896,958**	**19,467,139**	**20,054,525**	**20,659,633**	**21,283,000**
Percentage Increase					**9.99%**	**9.99%**	**7.54%**	**7.54%**	**7.54%**	**7.54%**	**7.54%**	**7.54%**	**3.02%**	**3.02%**	**3.02%**	**3.02%**	**3.02%**	**3.02%**	**3.02%**	**3.02%**	**3.02%**	**3.02%**	**3.02%**



APPENDIX J
AIRPORT ASSET MANAGEMENT STRATEGY & FINANCING STRATEGY

City of Timmins
2014 Asset Management Plan
Financing Strategy

Table J-1
Airport Capital Forecast

Description	Actual 2011	Actual 2012	Budget 2013	Budget 2014	Forecast 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Prior Capital Expenses																							
Airport	448,903	23,408	276,000	426,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capital Replacement Forecast																							
Airport					644,222	853,134	1,074,000	1,307,352	1,968,067	2,240,489	2,527,485	2,603,309	2,681,408	2,761,851	2,844,706	2,930,047	3,017,949	3,108,487	3,201,742	3,297,794	3,396,728	3,498,630	3,760,267
Level of Service Adjustments																							
Rehabiliation and Renewal Works					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Expansion Projects					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Expenditures	**448,903**	**23,408**	**276,000**	**426,000**	**644,222**	**853,134**	**1,074,000**	**1,307,352**	**1,968,067**	**2,240,489**	**2,527,485**	**2,603,309**	**2,681,408**	**2,761,851**	**2,844,706**	**2,930,047**	**3,017,949**	**3,108,487**	**3,201,742**	**3,297,794**	**3,396,728**	**3,498,630**	**3,760,267**
Capital Financing																							
Provincial/Federal Grants	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Debentures	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer from Operating	448,903	23,408	276,000	426,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reserve Fund: Capital (Airport)	-	-	-	-	644,222	853,134	1,074,000	1,307,352	1,968,067	2,240,489	2,527,485	2,603,309	2,681,408	2,761,851	2,844,706	2,930,047	3,017,949	3,108,487	3,201,742	3,297,794	3,396,728	3,498,630	3,760,267
Total Capital Financing	**448,903**	**23,408**	**276,000**	**426,000**	**644,222**	**853,134**	**1,074,000**	**1,307,352**	**1,968,067**	**2,240,489**	**2,527,485**	**2,603,309**	**2,681,408**	**2,761,851**	**2,844,706**	**2,930,047**	**3,017,949**	**3,108,487**	**3,201,742**	**3,297,794**	**3,396,728**	**3,498,630**	**3,760,267**
Total Capital Expenses less Capital Financing	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Table J-2
Debt Requirements

Debt Schedule - Airport Year	Principal (Inflated)	Budget 2014	Forecast 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Budget 2014	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2015	-			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2016	-				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2017	-					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2018	-						-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2019	-							-	-	-	-	-	-	-	-	-	-	-	-	-	-
2020	-								-	-	-	-	-	-	-	-	-	-	-	-	-
2021	-									-	-	-	-	-	-	-	-	-	-	-	-
2022	-										-	-	-	-	-	-	-	-	-	-	-
2023	-											-	-	-	-	-	-	-	-	-	-
2024	-												-	-	-	-	-	-	-	-	-
2025	-													-	-	-	-	-	-	-	-
2026	-														-	-	-	-	-	-	-
2027	-															-	-	-	-	-	-
2028	-																-	-	-	-	-
2029	-																	-	-	-	-
2030	-																		-	-	-
2031	-																			-	-
2032	-																				-
2033	-																				
Total Annual New Debt Charges	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

City of Timmins
2014 Asset Management Plan
Financing Strategy

Table J-3
Reserve and Reserve Fund Continuity Schedules

Airport Reserve Fund	Forecast																		
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Opening Balance	3,417,979	3,471,475	3,483,229	3,452,813	3,380,177	2,842,862	2,242,860	1,580,152	1,086,017	779,743	682,095	815,313	992,113	1,215,333	1,487,872	1,812,793	2,193,331	2,632,798	3,134,687
Transfers From Operating/Capital	629,650	796,589	975,882	1,168,437	1,375,010	1,596,509	1,833,793	2,087,880	2,359,845	2,650,829	2,961,938	3,087,394	3,217,339	3,351,852	3,491,118	3,635,326	3,784,571	3,939,055	4,098,984
Transfer to Capital	644,222	853,134	1,074,000	1,307,352	1,968,067	2,240,489	2,527,485	2,603,309	2,681,408	2,761,851	2,844,706	2,930,047	3,017,949	3,108,487	3,201,742	3,297,794	3,396,728	3,498,630	3,760,267
Transfer to Operating	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest Earned	68,068	68,299	67,702	66,278	55,742	43,978	30,983	21,294	15,289	13,374	15,987	19,453	23,830	29,174	35,545	43,006	51,623	61,464	69,468
Closing Balance	3,471,475	3,483,229	3,452,813	3,380,177	2,842,862	2,242,860	1,580,152	1,086,017	779,743	682,095	815,313	992,113	1,215,333	1,487,872	1,812,793	2,193,331	2,632,798	3,134,687	3,542,873
Note: Closing reserve fund balance as a percentage of capital asset balance	9.66%	9.41%	9.06%	8.61%	7.03%	5.38%	3.68%	2.46%	1.71%	1.45%	1.69%	1.99%	2.37%	2.82%	3.33%	3.92%	4.56%	5.28%	5.79%

Table J-4
Airport Operating Budget Forecast Summary

Net Impact on Airport Budget	Actual 2011	Actual 2012	Budget 2013	Budget 2014	Forecast																
					2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Net Expenditures																							
Airport	2,536,857	3,053,462	2,856,900	3,280,570	3,346,200	3,413,100	3,481,400	3,551,000	3,622,000	3,694,400	3,768,300	3,843,700	3,920,600	3,999,000	4,079,000	4,160,600	4,243,800	4,328,700	4,415,300	4,503,600	4,593,700	4,685,600	4,779,300
Net Expenditures due to Level of Service Adjustments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Capital - Airport	448,903	23,408	276,000	426,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfers to Reserve Funds																							
Transfers to Current Reserve Funds (Capital Related)	370,468	1,339,935	329,100	48,430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transfer to Airport Capital Reserve Fund(s)	-	-	-	-	629,650	796,589	975,882	1,168,437	1,375,010	1,596,509	1,833,793	2,087,880	2,359,845	2,650,829	2,961,938	3,087,394	3,217,339	3,351,852	3,491,118	3,635,326	3,784,571	3,939,055	4,098,984
Debentures																							
New Debt Payments					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Surplus/(Deficit) Adjustment	(7)	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Airport Revenue	**3,356,221**	**4,416,806**	**3,462,000**	**3,755,000**	**3,975,850**	**4,209,689**	**4,457,282**	**4,719,437**	**4,997,010**	**5,290,909**	**5,602,093**	**5,931,580**	**6,280,445**	**6,649,829**	**7,040,938**	**7,247,994**	**7,461,139**	**7,680,552**	**7,906,418**	**8,138,926**	**8,378,271**	**8,624,655**	**8,878,284**
Percentage Increase in Revenues					**5.88%**	**5.88%**	**5.88%**	**5.88%**	**5.88%**	**5.88%**	**5.88%**	**5.88%**	**5.88%**	**5.88%**	**5.88%**	**2.94%**	**2.94%**	**2.94%**	**2.94%**	**2.94%**	**2.94%**	**2.94%**	**2.94%**