



**Town of Midland
Asset Management Plan
For the Period 2014 to 2033**

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Executive Summary

The Town of Midland has over \$300 million of infrastructure in the water, wastewater, storm sewers and road systems. A significant portion of these assets were constructed in the 60's, 70's and 80's, while some of these assets are over 100 years old. Many of these assets are operating beyond their expected useful lives and as a result the risk of failure is ever increasing.

The Town has undertaken a review of our infrastructure and the development of an asset management plan in order to better understand the current state of our infrastructure, the expected levels of service, our asset management strategy, funding requirements and any shortfall that may exist.

\$57 million or 20% of the infrastructure examined in this report is currently being used beyond its expected useful life. This backlog is expected to increase to \$75 million within the next 10 years.

In order for the Town to not increase the backlog in infrastructure over the next ten years, the Town would need to raise an additional \$1.8 million annually representing approximately a 10% increase to the municipal levy. The Town cannot solve its infrastructure funding gap on its own from own source revenue. Midland requires significant, stable funding from senior levels of government in addition to an increase to own source funds and improved asset management strategies in order to maintain current expected levels of service.

The development of this plan and future review and evaluation of it is a key component to increasing our understanding of the needs and risks to our municipality's infrastructure and the related funding requirements. It will be used in our continued efforts to review of what, how and when we do things to meet the community's expectations while minimizing overall life cycle costs.

Introduction

Infrastructure has always been critical to the continuing economic vitality of a community, but the challenge of providing infrastructure has changed for smaller local governments. Resources have diminished.

The budget for capital assets competes with other potential uses for funds, many of which have a higher public profile and bring more visible, immediate benefit to the public.

What is Capital Asset Management?

The Asset Management Governance Framework for Canada defines Asset Management as “an integrated business approach involving planning, finance, engineering and operations to effectively manage existing and new infrastructure to maximize benefits, reduce risk and to provide satisfactory levels of service to community users in a socially, environmentally and economically sustainable manner”.

It is a comprehensive look forward to ensure that the results meet the expectations of our community.

Asset management is managing a network of interrelated assets with interdependent programs and services that:

- Allocates scarce resources (\$) amongst valid and competing asset needs;
- Considers the useful life of an asset plus the technical, financial and program spending needs to operate, maintain, renew and replace an asset over its useful life;
- Links user expectations for asset condition, performance and availability to investment strategies; and
- Is going to be used as a “business-like approach” to managing assets, which implies:
 - o Looking at projects and programs as investments
 - o Monitoring asset performance and value
 - o Developing sound and competitive short and long term investment strategies

The asset management plan is set out to ask and answer certain key questions:

1. What do we own and where is it located?
2. What is it worth?
3. In what condition is it in?
4. What condition is acceptable to meet legislative standards and our taxpayers' expectations?
5. What is its remaining useful life?
6. What needs to be done? Maintain, repair, replace or expand for growth?
7. When do we need to do it?
8. How much will it cost?
9. How will we pay for it?

Goal of Asset Management

The goal of an asset management program is to build, maintain and operate infrastructure cost effectively and to provide value to taxpayers for the services delivered. Infrastructure assets support economic activity and improve quality of life.

In managing the Town's infrastructure, the optimal outcome is attained when the desired level of service in terms of safety, physical condition and capacity are provided reliably at the minimum life cycle cost.

Improves Decision Making

Asset management improves the decision making process by basing decisions on the plan's goals and objectives, by using a long range vision to guide the resource allocation decisions, by identifying and evaluating technical and financial alternatives and by using performance based analysis to confirm achievement.

Roles and Responsibilities

Each department is responsible for the management of their respective infrastructure in terms of maintenance, repair, rehabilitation and replacement.

Stewardship

The role of elected officials is to represent the citizens and make decisions on their behalf. They, therefore, are the ones who make the decisions regarding the level of service to be provided and the appropriate allocation of resources. In order to make informed decisions, elected officials need to know the financial resources required in order to sustain existing assets into the future while delivering various levels of service.

Asset Planning

It is the responsibility of each department to provide elected officials and financial managers with the information regarding the financial resources required to maintain, repair, rehabilitate and replace infrastructure assets at a defined level of service while minimizing the life cycle costs within the context of a long term strategy and not the next year's operating or capital budget.

Financial Planning

It is the role and responsibility of the Treasurer to provide the information regarding the magnitude and sources of financial resources available to support the multitude of requests. Given infrastructure assets typically have long service lives, it is often necessary to provide for these assets within the context of long term financial strategies that consider the service lives of the assets.

In order to make informed decisions about the allocation of resources, the Treasurer, and ultimately Council, need information related to when maintenance, repair, rehabilitation and replacement of infrastructure assets will be required, as well as the associated costs. This information is critical for estimating future revenue requirements relative to the community's ability to pay for and sustain such systems, the objective being to minimize the life cycle costs of these assets while delivering the desired level of service.

Plan Coverage

The plan currently covers roads, water and wastewater systems for the next 20 years. The goal is to expand this plan to all assets of the municipality over their entire lifecycle.

Once the plan has matured, it is to be updated every 5 years unless considerable growth is anticipated. The Development Charge Study and Water Master Plan are also updated every 5 years.

How Plan Developed

The Town of Midland has developed an approach to move from paper to an electronic environment. This process started 10 years ago and was accelerated approximately 5 years ago. The first part of the process was to digitize our existing paper plans. This has now been completed and checked. The next phase was to verify the services and laterals in the field. This is an ongoing process. Almost 100% of the Town has been completed.

We have also had a chance to verify that old 'As-Constructed' plans were accurate. Replacement life cycles have been based on industry standards used by other municipalities and best practices.

Plan Evaluation

Short Term

The plan will be evaluated within the next three years and be improved upon by way of measuring our experience versus our expectations and reviewing best practices of other municipalities. Anticipated growth will be factored into the plan if substantial.

Long Term

All of the Town's assets will be included into the plan (i.e. buildings, vehicles, equipment, IT infrastructure, etc.). Anticipated growth will be factored into the plan if substantial.

The plan will continue to be a living document which will forever expand and evolve.

State of Local Infrastructure

Description of Inventory Database

The asset inventory database resides in a PostgreSQL database with the PostGIS spatial extension. PostgreSQL is an object-relational database system, compliant with the ANSI-SQL:2008 standard and runs stored procedures in more than a dozen programming languages. In this instance, we are using mostly PL/pgSQL and Python to extend the capabilities of SQL queries to produce the required datasets and reports.

The spatial database (hereafter referred to as the GIS) is the backend for various map services, including a web-based viewer which is the primary portal for users to view and access the data. This grants read-access to all staff for the purposes of validation and feedback.

There are many integration points where data is linked between the GIS and other databases. For example, live dataviews exist between the Town's financial, permitting, and inspection databases. Integrations have also been achieved with the various software programs used by operations in order to incorporate road patrol and valve exercising into the asset management system, for example.

Data Lifecycle

Asset information in the GIS database was derived from a wide variety of sources. Between May 2006 and the end of 2008, the Midland Engineering Department worked to compile asset data from paper engineering drawings and maps, Engineering surveys and construction records, CAD documents, in-field GPS data collection, digitization from ortho-photography, traditional photography and video, and Google Streetview. All asset data was reviewed and approved by section managers.

On a going-forward basis, the GIS data is now integrated in all workflows in order to ensure the data stays current. All construction activity is recorded and entered in the GIS. All maintenance and operations activity is accompanied by a digital copy or printout from the GIS to allow operators to verify existing information and update as necessary.

Measuring Asset Performance

Through the workflows and maintenance operations of the various sections, we are able to collect the condition and performance ratings for the various asset classes. For example while a crew is flushing the sewers, they can inspect and rate the maintenance holes and enter the data into the database. The table below shows the various performance factors that are currently recorded in the GIS and used to evaluate the performance and condition of the asset.

TABLE 2.1.1 ASSET PERFORMANCE INDICATORS		
Sanitary Sewers	Hotspots	Identified by PW Maintenance Operations
	Age	

	Material	
Storm Sewer	Hotspots	Identified by PW Maintenance Operations
	Age	
	Material	
	Under-sized	Pipes less than 300mm dia.
Watermains	Age	
	Material	
	Under-sized	
	Main Breaks	Recorded by Water Operations
	Flow Test / Flushing	Ongoing program by Water Operations
Watermain Valves	Valve Exercising	Ongoing program by Water Operations
Streetlighting	Operational / Deficient	Routine Inspection by PW Maintenance Operations
Road Signs	Reflectivity	Routine Inspection by PW Maintenance Operations
Sidewalks	Cracks	Annual Inspection by Engineering Department
	Elevated/ Sunken Bays	
Road Surface	Potholes/other deficiencies	Routine Inspection by PW Maintenance Operations
Road Surface - Asphalt	Surface Defects	Bi-annual Inspection by Engineering
	Surface Deformations	
	Longitudinal Wheel Track Cracking	
	Centerline Cracking	
	Pavement Edge Cracking	
	Transverse Cracking	
	Mid-Lane Cracking	
Road Surface - Gravel	Loose Gravel	Bi-annual Inspection by Engineering Department
	Dust	
	Potholes	
	Breakup	
	Washboard	
	Rutting	
	Flat/Reverse Crown	
	Distortion	

Stormwater Management Ponds	Embankment & Emergency Spillway	Bi-Annual Inspection by Engineering Department
	Riser & Service Spillway	
	Permanent Pool	
	Sediment in Forebays	
	Outfalls	
	Other	

Summary of Asset Holdings

ROAD SYSTEM -		
Road Kilometers	124251	metres
Arterial	16135	metres
Collector	23642	metres
Local	84474	metres
Lane Kilometers	262177	metres
Arterial	47232	metres
Collector	48037	metres
Local	166908	metres
Bus Shelters	12	
Curbs & Gutters	139860	metres
Guardrails	684	metres
Road Signs	2391	
Regulatory	1702	
Warning	221	
Street Name Sign	368	
Other	100	
Sidewalks	69866	metres
Streetlights	1796	
L.E.D.	113	
High-Pressure Sodium	1425	
Mercury Vapour	102	
Incandescent	156	
Traffic Signals (total)	24	
Full Signals	14	
Pedestrian Signals	3	
Flashing Beacon	3	
School Zone	4	
SEWERS		
Maintenance Holes	2308	

Storm	1066				
Sanitary	1242				
Storm Sewers	66838	metres			
AC	3894	metres	PE	2577	metres
CLAY	667	metres	PVC	17041	metres
CONC	40654	metres	STEEL	190	metres
CSP	1313	metres	TILE	98	metres
HDPE	388	metres	TRNST	16	metres
Sanitary Sewers	100991	metres			
AC	33555	metres	PE	67	metres
CI	1228	metres	PVC	39959	metres
CLAY	17316	metres	TILE	702	metres
CONC	8004	metres	TRNST	161	metres
Catchbasins	1906				
Single	1584				
Double	322				
Storm Leads	13073	metres			
Sanitary Pumpstations	7				
StormCeptors	6				
Entrance Culverts	4492	metres			
Stormwater Management Ponds	16				

WATER DISTRIBUTION

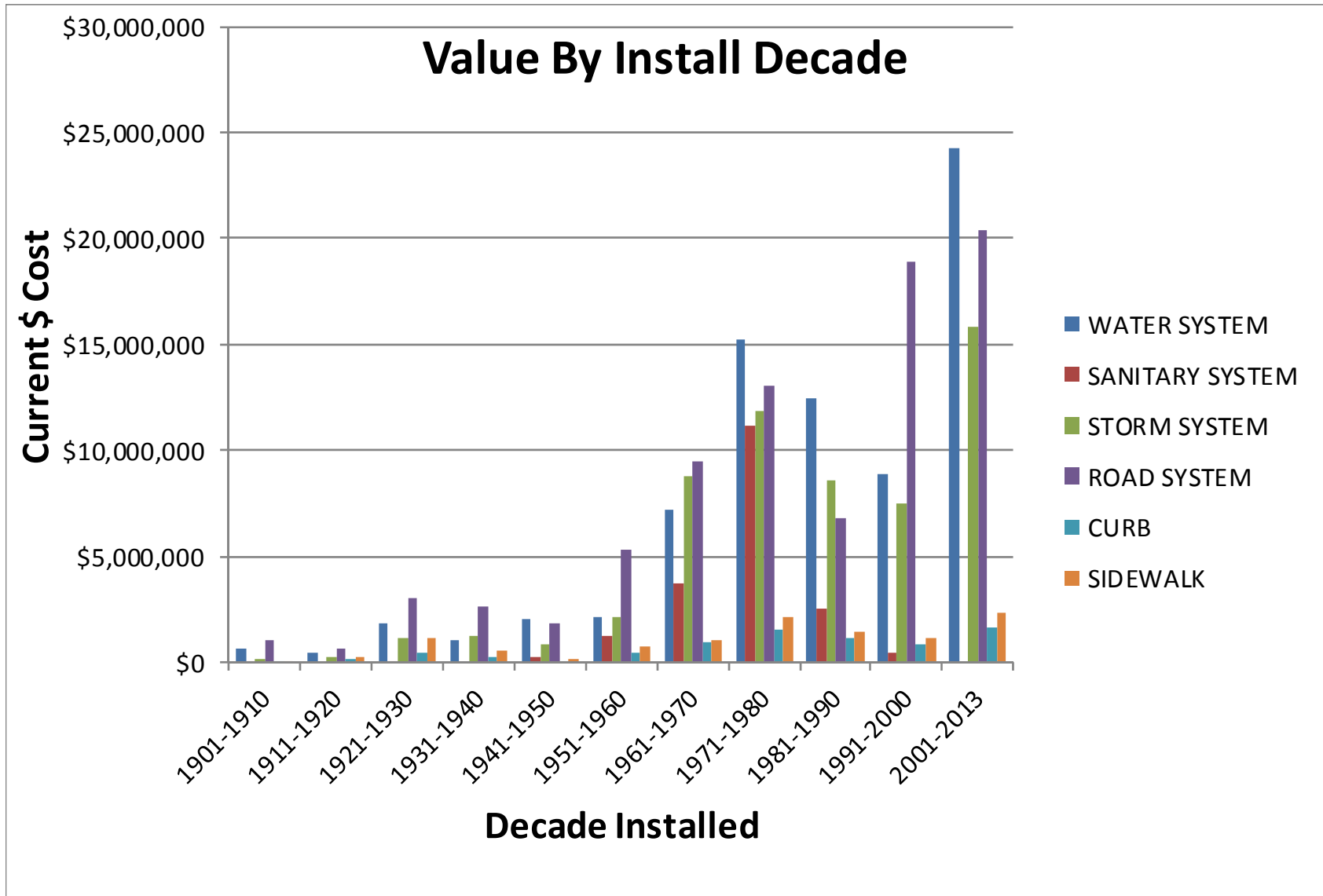
Watermains	115900	metres			
AC	5941	metres	PEX	121	metres
CI	12557	metres	PVC	47693	metres
DI	42481	metres	PVC TW	3165	metres
GALV	1350	metres	TRNST	967	metres
PE	1627	metres			
Hydrants	564				
Main Valves	1040				
Production Wells	15				
Water Storage	14,837	m ³			
Sampling Stations	29				

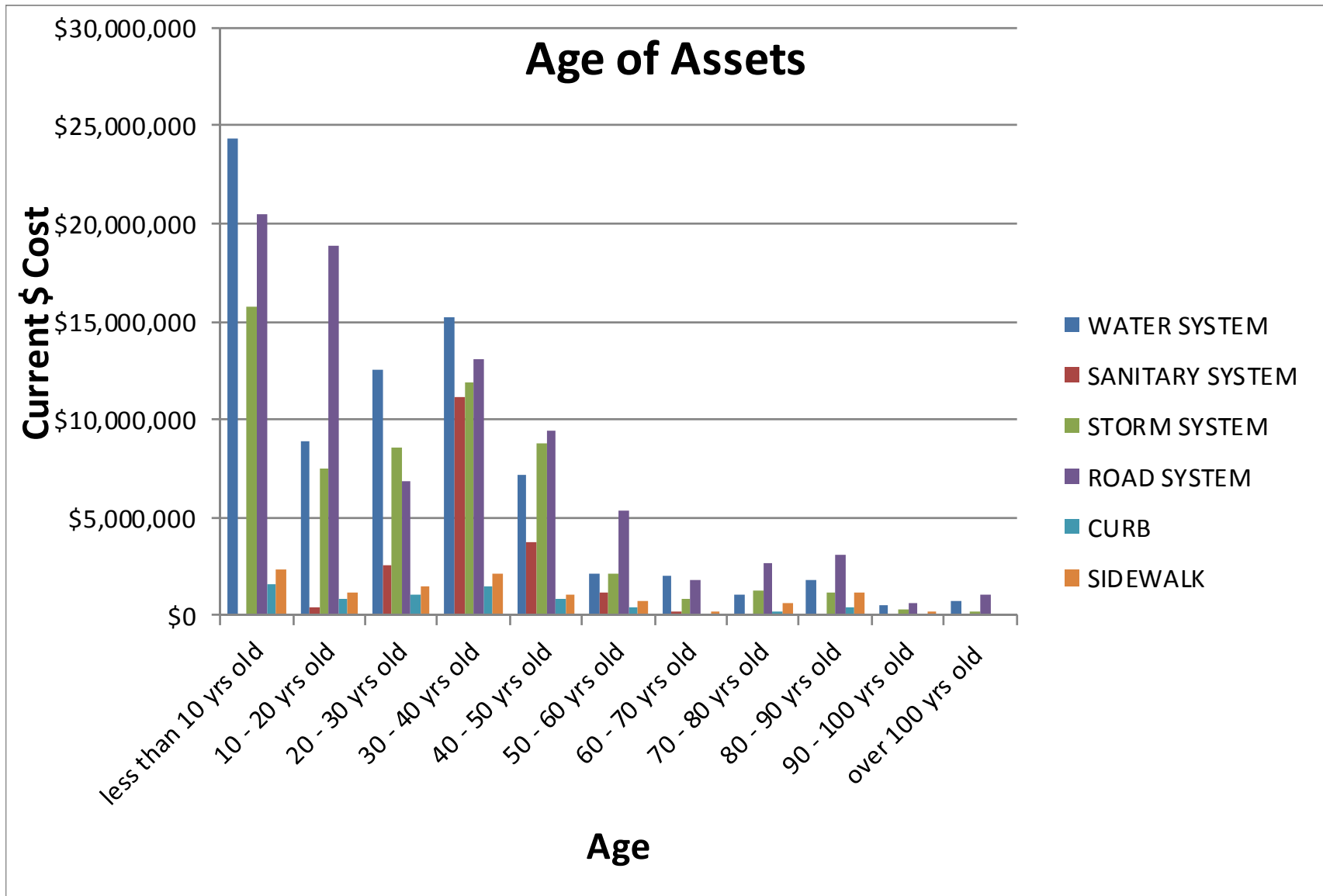
Valuation

<u>ASSET</u>	Current <u>Replacement Cost</u>	Inflated Replacement <u>Cost at End of Useful Life*</u>	Net Book <u>Value</u>
Linear Water System (l.m.)	\$42,397,013	\$136,925,678	\$9,392,262
Non-Linear Water System	\$34,415,700	\$69,283,450	\$15,134,091
Linear Sanitary System (l.m.)	\$60,111,686	\$137,119,234	\$6,767,819
Non-Linear Sanitary System	\$22,421,750	\$43,339,303	\$5,453,019
Linear Storm System (l.m.)	\$47,722,279	\$58,814,781	\$6,769,222
Non-Linear Storm System	\$10,610,950	\$17,122,669	\$4,213,094
Road System (LANE l.m.)	\$75,402,588	\$142,956,987	\$21,605,146
Non-Linear Road System	\$7,335,000	\$10,054,919	\$2,743,052
Curbs (l.m.)	\$7,219,322	\$11,311,218	\$1,982,325
Sidewalks (l.m.)	\$11,134,562	\$16,976,091	\$3,285,420
	<hr/>	<hr/>	<hr/>
	\$318,770,850	\$643,904,330	\$77,345,450

* Inflated at 2% annually

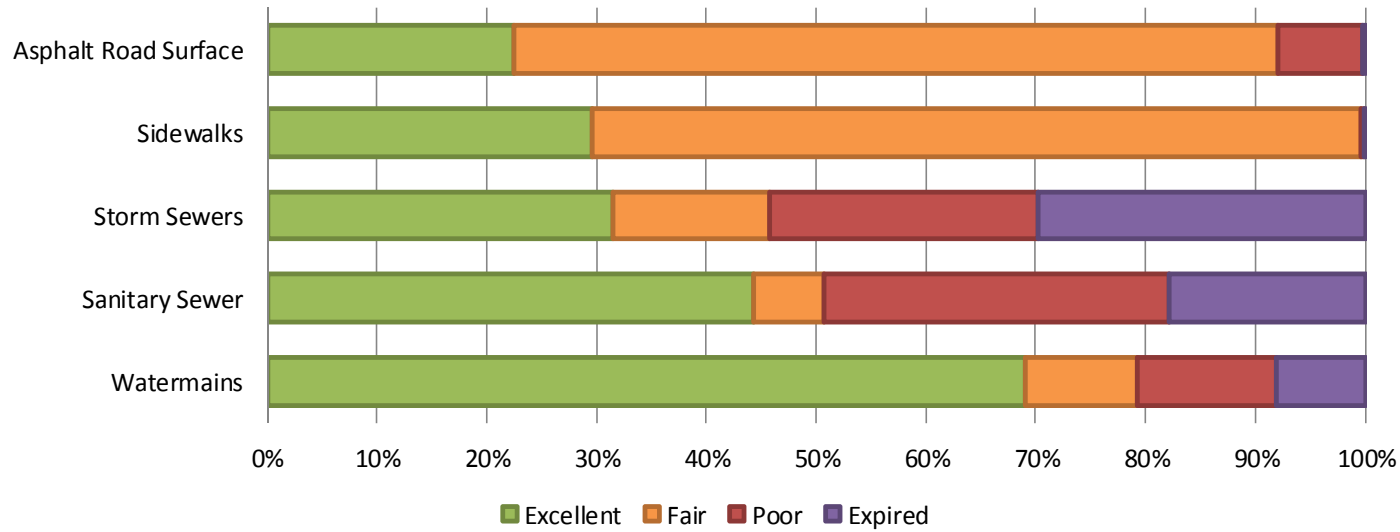
Asset Age





Asset Condition

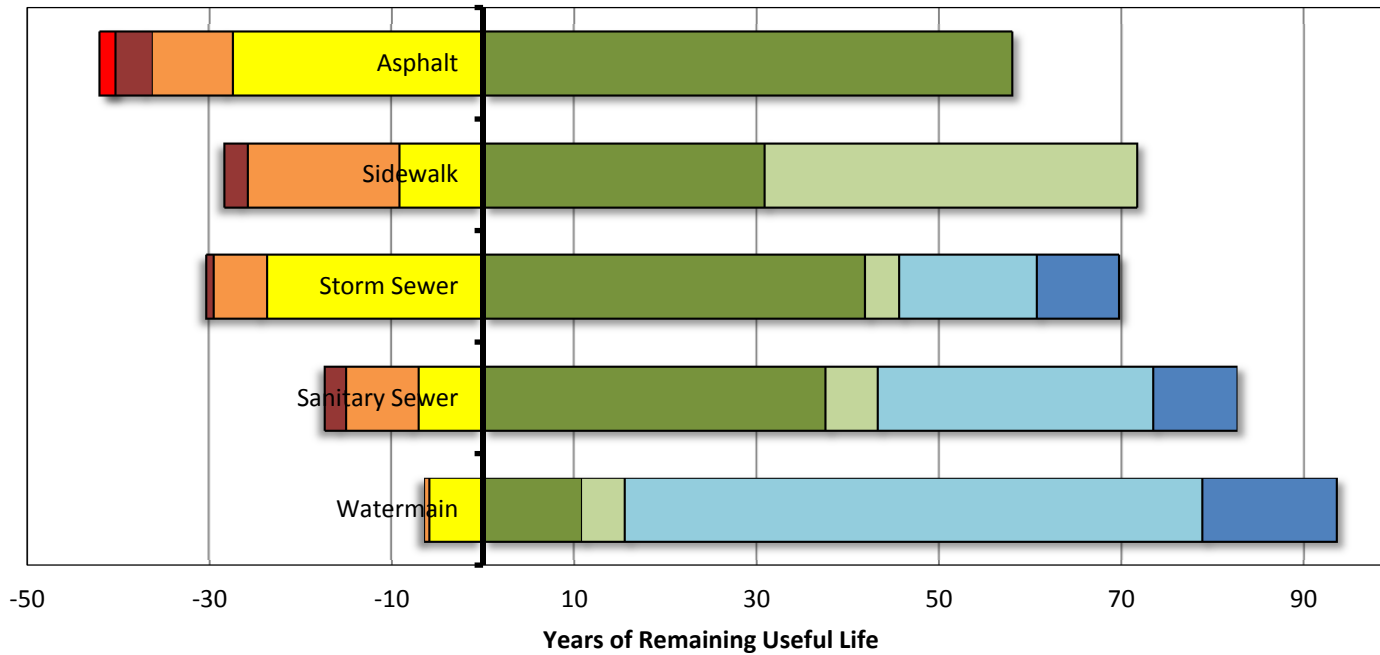
Linear Asset Condition



The chart above shows the current conditions of various asset types. Relatively good asphalt and sidewalk conditions reflect today's climate of liability issues where the public interacts directly with municipal infrastructure – a higher standard must be maintained. Of the underground pipe networks, the markedly better watermain conditions are a result of increased regulation and infrastructure funding in a post-Walkerton world.

Useful Life Remaining

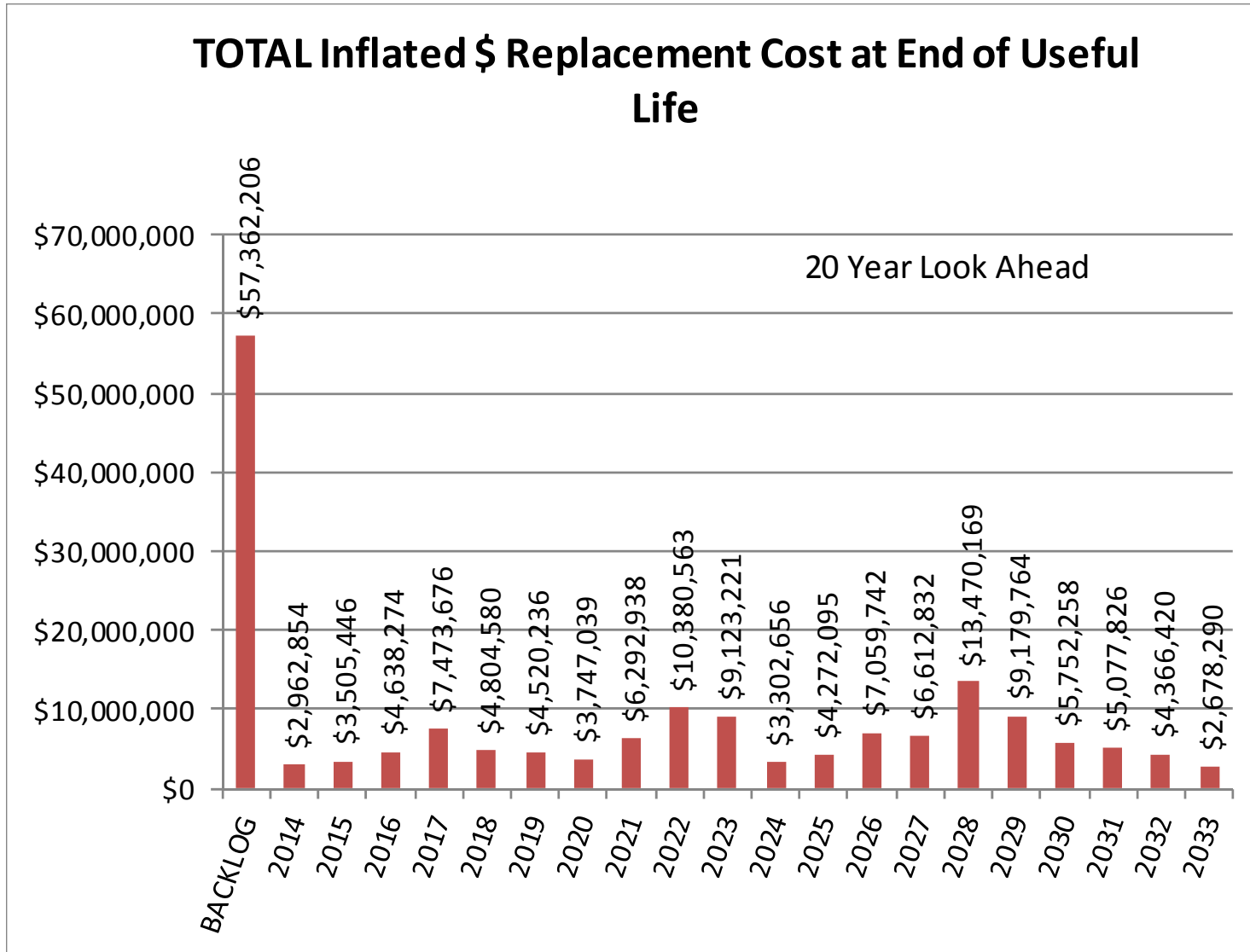
Proportion of Useful Life Remaining - Linear Assets



■ 76-100 yrs Expired ■ 51-75 yrs Expired ■ 26-50 yrs Expired ■ 0-25 yrs Expired ■ 0-25 yrs Remaining ■ 26-50 yrs Remaining ■ 51-75 yrs Remaining ■ 76-100 yrs Remaining

This chart shows the amount of remaining useful life for each asset group. Percentages to the left of zero represent assets currently in use that are operating past their expected useful life.

Future Replacement Needs



Project Risk Matrix

PROJECT RISK MATRIX		Consequence of Failure				
		Insignificant	Low	Medium	High	Severe
Probability of Failure	Almost Certain		Rebuild Norene @ Hugel to Yonge	Relocate Montreal Street Standpipe	Realign Fuller/Harbourview	West Zone Booster Station Rebuild Manly @ Bay to Hugel Construct New Well Facility
	Highly Likely	Queen Street Reconstruction	Rebuild Hugel @ Midland to George	Bay Street Relining	Reconfigure TRW Entrance	
	Likely		Rebuild Queen @ Hugel to Yonge	Leascaut Redundant Watermain Twin Harbourview Watermain Rebuild King @ Bayshore to Yonge	Extend Lescaut Pressure Zone East Boost South Pressure Zone	New Pumps for Leascaut Pump
	Unlikely		Sunnyside Water Tank Feeder Main Dominion Avenue Water Tower Secondary Clarifier Expansion	Javelin Slope Stabilization		Realign William/Bayshore Bay/Fourth intersection
	Almost Certainly Not	Dominion Avenue Reconstruction Leachate Pretreatment Facility Prospect Boulevard Construction	Gawley Infrastructure Replacement Rebuild Dominion @ Russel to Eighth	Lanigan Watermain Looping College Street Watermain Looping Hannah Street Watermain		

Desired Levels of Service

The Level of Service for the Town of Midland’s infrastructure has a major impact on the economy and quality of life for the Town’s residents. The objective is to provide the best maintenance and replacement program to meet legislative requirements and community expectations given the resources available.

The quality of the maintenance and capital program on any road, sewer or watermain is dependent on the following factors: number of repairs, age of the infrastructure, materials, traffic volumes and maintenance demand on the asset and visual inspection where applicable. Various current regulations govern the water system and wastewater system along with the MMS for roads.

Response Times

See tables below

Public Works Maintenance Section

<u>TASK</u>	<u>FREQUENCY</u>	<u>RESPONSE TIME REG. HRS.</u>	<u>RESPONSE TIME AFT. HRS/EMERG.</u>	<u>MINIMUM COMPLETION TIME</u>	<u>MAXIMUM COMPLETION TIME</u>
Locates ¹	Monthly	within 5 business days	within 2 hours	.5 hours	8 hours
Sanitary sewer main Breaks	0-1/yearly	Within 1 hour	within 2 hours	6 hours	10 hours
Emergency Sanitary sewer main repairs- Non -	0-1/yearly	72 hours	N/A	2 hours	10 hours
Emergency Sanitary sewer lateral -	1-4/yearly	within 2 hours	within 2 hours	4 hours	8 hours
Emergency Sanitary sewer lateral- NON- Emergency	Monthly	within 3 weeks	N/A	4 hours	8 hours
Sanitary sewer main flushing ²	3 years ³	N/A	N/A	390 man hours- 2 men	450 man hours - 2 men
Sanitary sewer main flushing - Hot spots	every 2 months ⁴	Within 1 hour	N/A	8 hours	14 hours
Storm sewer main Breaks - Emergency	0-1/yearly	within 8 hours	within 2 hours	3 hours	8 hours
Storm sewer main Breaks - Non-Emergency	0-1/yearly	within 48 hours	within 2 hours	3 hours	8 hours
Catch Basins Cleaning	Yearly ⁵	Within 48 hours	N/A	175 man hours	225 man hours
Emergency Catch Basins repairs	30 to 50 days	within 24 hours	within 2 hours	2 hours	8 hours
Catch Basins - Non-emergency	Weekly	within 60 days	N/A	1 hour	8 hours
Tree Removal - Emergency	1 to 4 /Yearly	within 24 hours	within 24 hours	4 hours	8 hours

Tree Removal / Complaints - Non-Emergency	Weekly	within 60 days	N/A	4 hours	8 hours
Streetlight inspections	every 2 month	within 30 days	N/A	1 hours	2 hours
Stop Sign inspections – Non-Emergency	every 2 months	within 24 hours	N/A	1 hour	1 hour
Stop sign Repair/ Replace –Emergency	Monthly	Within 1 hour	within 2 hours	1 hour	1 hour
Stop signs Repair- Non-Emergency	Monthly	within 48 hours	N/A	1 hour	1 hour
Pot Hole Repairs - Emergency ⁶	30 to 50 Days	within 4 hours	within 2 hours	.5 hour	1 hours

1. completion timelines pending size of area located
2. frequencies dependent upon new construction and development
3. 99,322 metres
4. except from Mid Dec to Mid-March
5. 1,860 catch basins
6. Emergency pot holes are 10 cm & deeper

Water and Wastewater Section

TASK	FREQUENCY	RESPONSE TIME REG. HRS.	RESPONSE TIME AFT. HRS / EMERG.	MINIMUM COMPLETION TIME	MAXIMUM COMPLETION TIME
Locates ¹	Daily	within 5 business days	within 2 hours	.5 hours	8 hours
Water Main Breaks - Emergency	4-6/year	Within 1 hour	within 2 hours	6 hours	10 hours
Water Main Repairs - Non-Emergency	4-6/year	Within 72 hours	N/A	2 hours	8 hours
Water Service Breaks - Emergency	6-10/year	within 2 hours	within 2 hours	4 hours	8 hours
Water Service Repairs - Non-Emergency	weekly (approx. 300+/- per year)	within 48 hours	N/A	1 hour	6 hours
Water Meters - New Installs ²	30-40/year	within 48 hours	N/A	1 hour	2 hours
Water Meters - Exchange/Upgrade/Repair	weekly (approx. 300+/- per year)	within 48 hours	within 2 hours	1 hour	2 hours
Water off/on Request	Monthly	within 48 hours	within 2 hours	.5 hours	1 hour
Water Disconnects - Non - Payment	Monthly	within 48 hours	N/A	.5 hours	1 hour
Customer Complaints - Quality/Quantity	12/year	within 24 hours	Within 30 minutes	Next Business Day	N/A
Customer Complaints - Water Pressure	12/year	within 24 hours	Within 30 minutes	.5 hours	1 hour
Customer Complaints - High Water Consumption ³	Daily	within 2 hours	N/A	.5 hours	1 hour
Customer Meter Data Logging	Monthly	within 24 hours	N/A	1 hour	1 hour
Flow Test	6-10/year	within 5 business days	N/A	.5 hours	1 hour

1. completion timelines pending size of area located
2. frequencies dependent upon new construction and development
3. water metering billing items

Asset Management Strategy

The asset management strategy is the set of actions that will enable the assets to provide the desired levels of service in a sustainable way, considers direct and indirect costs and benefits, while managing risk at the lowest lifecycle cost. Opportunities to save resources by coordinating solutions to multiple problems are explored.

Roads

Pavement life of a newly constructed road is affected by design, traffic volumes and loads, construction quality and climate but generally the end of its useful life is:

Arterial Roads –	17 years
Collector Roads –	20 years
Local Roads –	23 years

Rehab and Replacement Criteria

The Town of Midland has developed a rating system for its roads conditions. Based on an annual inspection of the road condition, we compare this data to the underground replacement table and assemble a schedule for road replacement.

Rehab and Replacement Strategies

Based on the Town's rating system, road classification (arterial, collector, local), curbed or no curbs and benefit/cost ratio the following rehabilitation strategies are selected:

- Routing and crack sealing pavements
- Mill and resurface patches of pavement
- Overlay with hot mix asphalt
- Pulverization & remixing
- Strip and resurface pavement
- Mill and resurface pavement
- Total reconstruction of pavement

Sidewalks

Concrete life of newly constructed sidewalk is affected by traffic loads, construction quality and climate but generally the end of its useful life is 50 years.

Rehab and Replacement Criteria

The Town of Midland has developed a rating system for its sidewalks conditions. Based on an annual inspection of the sidewalk condition, we formulate a table with sidewalk rated based on their age and condition. From this we have developed a replacement table which is updated annually.

Rehab and Replacement Strategies

Based on the Town's rating system, road classification (arterial, collector, local) and benefit/cost ratio the following rehabilitation or replacement strategies are selected:

- Concrete ramps for accessibility and texturing where required
- Removal of trip edges
- Lift and level sidewalk panels
- Total sidewalk replacement

Traffic Signal Lights

The anticipated useful lives are:

1. Controllers: 15-20 years
2. Lamps – Incandescent: 2-3 years
Lamps – LED: 10 years
3. Signal Head/Support Arms: 30 years
4. Poles: 30 years

Rehab and Replacement Criteria

Based on the improvements required to the Levels of Service (LOS) due to changing vehicular and/or pedestrian volumes on roadway infrastructure reconstruction programs, updated component technologies and life cycle requirements as outlined above.

Rehab and Replacement Strategies

Depending on cost/benefit, replace with LED when replacement necessary.

Street Lights

The anticipated useful lives are:

1. Luminaire: 20 years
2. Lamps – Incandescent: 3-5 years
Lamps – LED: 15-20 years
3. Poles – Wood: 60 years
Poles – Steel: 30 years
Poles – Aluminum: 30 years

Rehab and Replacement Criteria

Based on MPUC pole line rebuilds, updated component technologies, life cycle requirements and roadway infrastructure reconstruction.

Rehab and Replacement Strategies

Depending on cost/benefit, replace with LED when replacement necessary.

Water Distribution

Anticipated asset life cycle is 50-100 years.

Rehab and Replacement Criteria

The criteria for prioritizing the replacement schedule for watermains is the break history of the pipe, age of pipe, material type of pipe, size of pipe, soil conditions surrounding the pipe and pressure related issues.

The road rehab program may bump up the replacement of a pipe segment if replacement is scheduled in the near future. The replacement criteria is difficult to define but studying break histories and failure trends can determine when maintenance costs are increasing at a high enough rate that economically it makes sense to simply replace or rehab the pipe.

Rehab and Replacement Strategies

Watermain rehabilitation is based on the current condition of the pipe. It is difficult to determine the condition since it is buried. For this reason, the replacement strategy relies entirely on the break history, age/size and material type of pipe plus keeping up with current road projects. There are numerous methods of rehabilitation for watermains such as:

- Cleaning and cement mortar lining
- Slip lining and pipe bursting
- Complete replacement

Sanitary Sewers

The anticipated asset life cycle is between 50-100 years.

Rehab and Replacement Criteria

The criteria for prioritizing the replacement schedule for sanitary sewers is based upon an assessment through a closed circuit television (CCTV) inspection, age of infrastructure and number of repairs. Other criteria that is considered is sewer collapses, material type, upsizing requirements as well as the coordination with the roads program.

Rehab and Replacement Strategies

Sanitary sewers are straight forward when it comes to rehab strategies. Once the pipe has been inspected, we can determine what method of rehabilitation best suits the situation. Different conditions suggest different repair or replacement options. Replacement is the most common method for collapsed and heavily deteriorated pipe. Cured in place pipe (CIPP) is a method of lining the sewer with a new resin impregnated felt that helps prolong the life of a sewer that has remaining service life by as much as 50 years. This method helps reduce the costs associated with restoration when the project is complete. This method has been used in Midland for the past 10 years.

Storm Sewers

The anticipated asset life cycle is between 40-80 years.

Rehab and Replacement Criteria

The criteria for prioritizing the replacement schedule for storm sewers is based upon an assessment through a closed circuit television (CCTV) inspection, age of infrastructure and number of repairs. Other criteria that is considered is sewer collapses, material type, upsizing requirements as well as the coordination with the roads program.

Rehab and Replacement Strategies

Storm sewers are straight forward when it comes to rehab strategies. Once the pipe has been inspected, we can determine what method of rehabilitation best suits the situation. Different conditions suggest different repair or replacement options. Replacement is the most common method for collapsed and heavily deteriorated pipe. Cured in place pipe (CIPP) is a method of lining the sewer with a new resin impregnated felt that helps prolong the life of a sewer that has remaining service life by as much as 50 years. This method helps reduce the costs associated with restoration when the project is complete. Other methods include spot repairs and joint sealing.

Procurement

The Town's Procurement By-Law governs the municipality's procurement process. The by-law has the mechanisms in place that allows the municipality to obtain quality goods and services in a competitive bid process in order to attain low cost solutions.

Financing Strategy


The financing strategy is a critical component to the Asset Management Plan. The plan has identified a total current infrastructure backlog of \$57M. Without additional monies from senior levels of government this backlog is expected to grow to \$75M by 2023 and \$76M by 2033.

Beyond modifications and improvements to our methods, expectation levels and asset strategies, a combination of financial tools is required to manage the infrastructure backlog, future maintenance, rehabilitation and replacement needs.


Following are historical trends as well as forecasted needs for maintaining and replacing our infrastructure as well as our available financial tools.

Historical Financial Information by Functional Area

Summary

 TOWN OF MIDLAND ASSET MANAGEMENT 5 YR HISTORY GROSS CAPITAL REVENUES AND EXPENDITURES AMP Version 1 Run Date: 9-Dec-2013					
	2011	2012	2013	2014	
	ACTUALS	ACTUALS	BUDGET	ANTICIPATED	AVERAGE
SOURCE OF FUNDS					
TAXES	-1,634,865	-1,523,625	-1,373,764	-1,238,392	1,442,661
WATER RATES	-1,190,873	-1,348,491	-1,767,312	-1,247,881	1,388,639
WASTEWATER RATES	-1,636,199	-1,637,585	-2,386,074	-1,684,288	1,836,036
GRANTS	-500,923	-500,923	-500,923	-500,923	500,923
DONATIONS	-25,000	-30,000			13,750
LONG TERM FINANCING			-2,430,000	-500,000	732,500
DEVELOPER CONTRIBUTION	-26,393	-6,662	-45,000		19,514
DEVELOPMENT CHARGES	-181,221	-334,748	-199,500	-204,000	229,867
COST RECOVERIES	0	0	0	-139,051	34,763
TOTAL SOURCE OF FUNDS	-5,195,473	-5,382,033	-8,702,573	-5,514,535	-6,198,654
TOTAL CAPITAL EXPENDITURES	4,480,575	3,312,957	6,849,168	2,912,836	4,388,884
TOTAL MAINTENANCE EXPENDITURES	\$699,312	\$622,090	\$736,930	\$732,187	697,630
TOTAL DEBT CHARGES	1,295,411	1,282,990	1,688,414	1,784,747	1,512,891
TOTAL USE OF FUNDS	\$6,475,298	\$5,218,037	\$9,274,512	\$5,429,770	\$6,599,404
TOTAL NET CONTRIBUTION (USE) OF RESERVES	-1,279,825	163,996	-571,939	84,765	400,751
UNALLOCATED	0	0	0	0	0

Storm Sewers

 TOWN OF MIDLAND ASSET MANAGEMENT 5 YR HISTORY GROSS CAPITAL REVENUES AND EXPENDITURES Storm Sewers Run Date: 9-Dec-2013					
	2011	2012	2013	2014	AVERAGE
	ACTUALS	ACTUALS	BUDGET	ANTICIPATED	
SOURCE OF FUNDS					
TAXES	(\$354,107)	(\$284,965)	(\$183,220)	(\$83,220)	(\$226,378)
WATER RATES	(\$54,690)	(\$282,092)	(\$160,064)	(\$34,611)	(\$132,864)
WASTEWATER RATES	(\$280,802)	(\$372,060)	(\$216,878)	(\$28,395)	(\$224,534)
DEVELOPER CONTRIBUTION	\$0	(\$6,662)	\$0	\$0	(\$1,666)
TOTAL SOURCE OF FUNDS	(\$689,599)	(\$945,779)	(\$560,162)	(\$146,226)	(\$585,441)
CAPITAL EXPENDITURES					
2210 CONTRACTED SERVICE	\$3,418	\$53,161	\$0	\$38,000	\$23,645
2220 TENDERED CONTRACT	\$486,563	\$846,205	\$500,000	\$30,000	\$465,692
3205 MATERIALS	\$3	\$0	\$0		\$1
TOTAL CAPITAL EXPENDITURES	\$489,984	\$899,366	\$500,000	\$68,000	\$489,338
MAINTENANCE EXPENDITURES					
4131 Storm Sewer and Catchbasin Maintenance	\$94,318	\$61,654	\$83,220	\$83,220	\$80,603
TOTAL MAINTENANCE EXPENDITURES	\$94,318	\$61,654	\$83,220	\$83,220	\$80,603
TOTAL USE OF FUNDS	\$584,302	\$961,020	\$583,220	\$151,220	\$569,941
NET CONTRIBUTION (USE) OF RESERVES					
Road Capital/Construction Reserve	\$51,023	\$0	\$0	\$0	\$12,756
Storm Water Reserve	\$75,000	(\$9,393)	\$0	\$0	\$16,402
WWTC Reserve	\$47,080	(\$57,940)	(\$33,122)	(\$10,605)	(\$13,647)
Water Reserve	(\$67,806)	\$52,092	\$10,064	\$5,611	(\$10)
TOTAL NET CONTRIBUTION (USE) OF RESERVES	\$105,297	(\$15,241)	(\$23,058)	(\$4,994)	\$15,501
UNALLOCATED	\$0	\$0	(\$0)	(\$0)	\$0

Street Lighting



TOWN OF MIDLAND


ASSET MANAGEMENT 5 YR HISTORY GROSS CAPITAL REVENUES AND EXPENDITURES

Street Lighting


Run Date: 9-Dec-2013

	2011	2012	2013	2014	AVERAGE
	ACTUALS	ACTUALS	BUDGET	ANTICIPATED	
SOURCE OF FUNDS					
TAXES	(\$151,185)	(\$151,912)	(\$117,870)	(\$124,551)	(\$136,379)
DONATIONS	(\$25,000)	(\$30,000)	\$0	\$0	(\$13,750)
LONG TERM FINANCING	\$0	\$0	(\$500,000)	(\$500,000)	(\$250,000)
TOTAL SOURCE OF FUNDS	(\$176,185)	(\$181,912)	(\$617,870)	(\$624,551)	(\$400,129)
CAPITAL EXPENDITURES					
2298 CARRYFORWD PROJ EXPENSE BUDGET	\$0	\$0	\$27,785	\$0	\$6,946
5520 EQUIPMENT PURCHASES	\$18,870	\$17,215	\$500,000	\$545,000	\$270,271
TOTAL CAPITAL EXPENDITURES	\$18,870	\$17,215	\$527,785	\$545,000	\$277,218
MAINTENANCE EXPENDITURES					
2225 CONTRACTED MAINTENANCE	\$63,454	\$68,481	\$60,000	\$60,000	\$62,984
TOTAL MAINTENANCE EXPENDITURES	\$63,454	\$68,481	\$60,000	\$60,000	\$62,984
DEBT CHARGES					
4811 DEBT INTEREST	\$3,973	\$2,035	\$13,750	\$29,801	\$12,390
4812 DEBT PRINCIPLE	\$38,758	\$40,696	\$44,120	\$95,750	\$54,831
TOTAL DEBT CHARGES	\$42,731	\$42,731	\$57,870	\$125,551	\$67,221
TOTAL USE OF FUNDS	\$125,055	\$128,427	\$645,655	\$730,551	\$407,422
NET CONTRIBUTION (USE) OF RESERVES					
STREETLIGHTING RESERVE	\$51,130	\$25,700	\$0	(\$106,000)	(\$7,293)
PROJECTS CARRIED FORWARD	\$0	\$27,785	(\$27,785)	\$0	\$0
TOTAL NET CONTRIBUTION (USE) OF RESERVES	\$51,130	\$53,485	(\$27,785)	(\$106,000)	(\$7,293)
UNALLOCATED	\$0	\$0	\$0	\$0	\$0


Sidewalks

 TOWN OF MIDLAND ASSET MANAGEMENT 5 YR HISTORY GROSS CAPITAL REVENUES AND EXPENDITURES Sidewalks Run Date: 9-Dec-2013					
	2011	2012	2013	2014	
	ACTUALS	ACTUALS	BUDGET	ANTICIPATED	AVERAGE
SOURCE OF FUNDS					
TAXES	(\$138,944)	(\$185,033)	(\$184,200)	(\$209,536)	(\$179,428)
DEVELOPER CONTRIBUTION	(\$26,393)	\$0	\$0	\$0	(\$6,598)
DEVELOPMENT CHARGES	(\$6,689)				(\$1,672)
TOTAL SOURCE OF FUNDS	(\$172,025)	(\$185,033)	(\$184,200)	(\$209,536)	(\$187,699)
CAPITAL EXPENDITURES					
2210 CONTRACTED SERVICE	\$95,735	\$25,709	\$0	\$0	\$30,361
2220 TENDERED CONTRACT	\$60,312	\$86,236	\$177,000	\$143,036	\$116,646
2298 CARRYFORWD PROJ EXPENSE BUDGE	\$0	\$0	\$32,964		\$8,241
3205 MATERIALS	\$37	\$91	\$0	\$0	\$32
TOTAL CAPITAL EXPENDITURES	\$156,084	\$112,036	\$209,964	\$143,036	\$155,280
MAINTENANCE EXPENDITURES					
3122 Repairs and Maintenance	\$30,988	\$40,033	\$39,200	\$42,500	\$38,180
TOTAL MAINTENANCE EXPENDITURES	\$30,988	\$40,033	\$39,200	\$42,500	\$38,180
TOTAL USE OF FUNDS	\$187,072	\$152,069	\$249,164	\$185,536	\$193,460
NET CONTRIBUTION (USE) OF RESERVES					
SIDEWALK RESERVE	\$12,765	\$0	(\$32,000)	\$24,000	\$1,191
DEVELOPMENT CHARGE RESERVE	(\$27,811)	\$0	\$0	\$0	(\$6,953)
PROJECTS CARRIED FORWARD	\$0	\$32,964	(\$32,964)		\$0
TOTAL NET CONTRIBUTION (USE) OF RESE	(\$15,047)	\$32,964	(\$64,964)	\$24,000	(\$5,762)
UNALLOCATED	\$0	\$0	\$0	\$0	(\$0)


Roads

TOWN OF MIDLAND					
		ASSET MANAGEMENT 5 YR HISTORY GROSS CAPITAL REVENUES AND EXPENDITURES			
		Roads			
Run Date: 9-Dec-2013					
	2011	2012	2013	2014	
	ACTUALS	ACTUALS	BUDGET	ANTICIPATED	AVERAGE
SOURCE OF FUNDS					
TAXES	(\$990,630)	(\$901,714)	(\$888,474)	(\$821,085)	(\$900,476)
WATER RATES	(\$182,412)	\$0	(\$525,276)	(\$167,089)	(\$218,694)
WASTEWATER RATES	(\$433,966)	(\$324,926)	(\$492,313)	(\$116,492)	(\$341,924)
GRANTS	(\$500,923)	(\$500,923)	(\$500,923)	(\$500,923)	(\$500,923)
DEVELOPMENT CHARGES	(\$56,389)	(\$208,376)	(\$64,000)	(\$97,000)	(\$105,191)
COST RECOVERIES				(\$60,000)	(\$15,000)
TOTAL SOURCE OF FUNDS	(\$2,164,320)	(\$1,930,939)	(\$2,470,986)	(\$1,762,589)	(\$2,082,209)
	\$0	\$0	\$0	\$0	
CAPITAL EXPENDITURES					
	\$0	\$0	\$0	\$0	
1110 DISTRIBUTED LABOUR	\$0	\$6,053	\$0	\$0	\$1,513
1210 DISTRIBUTED BENEFITS	\$0	\$2,094	\$0	\$0	\$524
2210 CONTRACTED SERVICE	\$212,537	\$290,346	\$40,000	\$953,000	\$373,971
2220 TENDERED CONTRACT	\$2,342,352	\$1,365,030	\$2,705,000	\$536,400	\$1,737,196
3205 MATERIALS	\$42,972	\$4,397	\$0	\$0	\$11,842
3670 TOWN EQUIPMENT RENTAL	\$0	\$6,317	\$0	\$0	\$1,579
TOTAL CAPITAL EXPENDITURES	\$2,597,861	\$1,674,237	\$2,745,000	\$1,489,400	\$2,126,624
	\$0	\$0	\$0	\$0	
MAINTENANCE EXPENDITURES					
3141 Patching	\$143,774	\$105,283	\$211,810	\$189,310	\$162,544
TOTAL MAINTENANCE EXPENDITURES	\$143,774	\$105,283	\$211,810	\$189,310	\$162,544
TOTAL USE OF FUNDS	\$2,741,635	\$1,779,520	\$2,956,810	\$1,678,710	\$2,289,169
NET CONTRIBUTION (USE) OF RESERVES					
Road Capital/Construction Reserve	\$274,040	(\$502,280)	\$255,587	\$31,798	\$14,786
Wastewater Reserve	\$72,760	(\$50,599)	(\$75,187)	(\$43,508)	(\$24,134)
Water Reserve	(\$226,159)	\$0	\$33,026	\$27,089	(\$41,511)
DC - Roads Reserve	(\$201,532)	\$200,183	(\$204,750)	\$64,500	(\$35,400)
DC - Tiffin Reserve	\$7,921	\$3,193	\$5,500	\$4,000	\$5,154
Gas Tax Reserve - Federal	(\$504,345)	\$500,923	(\$500,000)	\$0	(\$125,856)
TOTAL NET CONTRIBUTION (USE) OF RESERVES	(\$577,315)	\$151,419	(\$485,824)	\$83,879	(\$206,960)
UNALLOCATED	\$0	\$0	\$0	\$0	\$0

Water

 TOWN OF MIDLAND ASSET MANAGEMENT 5 YR HISTORY GROSS CAPITAL REVENUES AND EXPENDITURES Water Run Date: 9-Dec-2013					
	2011	2012	2013	2014	
	ACTUALS	ACTUALS	BUDGET	ANTICIPATED	AVERAGE
SOURCE OF FUNDS					
WATER RATES	(\$953,771)	(\$1,066,399)	(\$1,081,972)	(\$1,046,181)	(\$1,037,081)
LONG TERM FINANCING	\$0	\$0	(\$420,000)		(\$105,000)
DEVELOPMENT CHARGES	(\$78,639)	(\$81,161)	(\$87,500)	(\$68,000)	(\$78,825)
COST RECOVERIES				(\$31,238)	(\$7,810)
TOTAL SOURCE OF FUNDS	(\$1,032,410)	(\$1,147,560)	(\$1,589,472)	(\$1,145,419)	(\$1,228,715)
CAPITAL EXPENDITURES					
1110 DISTRIBUTED LABOUR	\$0	\$12,544	\$0	\$0	\$3,136
1210 DISTRIBUTED BENEFITS	\$0	\$4,540	\$0	\$0	\$1,135
2120 LEGAL FEES	\$0	\$29	\$0	\$0	\$7
2130 CONSULTANTS FEES	\$29,299	\$31,897	\$35,000		\$24,049
2210 CONTRACTED SERVICE	\$245,067	\$373,691	\$346,400	\$180,000	\$286,290
2220 TENDERED CONTRACT	\$779,525	\$70,754	\$402,000	\$231,650	\$370,982
2298 CARRYFORWD PROJ EXPENSE BUDGET	\$0	\$0	\$18,019		\$4,505
3205 MATERIALS	\$148,596	\$85,514	\$80,000		\$78,528
TOTAL CAPITAL EXPENDITURES	\$1,202,487	\$578,969	\$881,419	\$411,650	\$768,631
MAINTENANCE EXPENDITURES					
4144 Watermains	\$111,435	\$111,158	\$106,000	\$106,000	\$108,648
4145 Water Service	\$90,651	\$77,963	\$94,000	\$91,533	\$88,537
TOTAL MAINTENANCE EXPENDITURES	\$202,086	\$189,121	\$200,000	\$197,533	\$197,185
DEBT CHARGES					
4811 DEBT INTEREST	\$161,075	\$113,838	\$136,692	\$127,222	\$134,707
4812 DEBT PRINCIPLE	\$242,204	\$192,650	\$290,308	\$303,592	\$257,189
TOTAL DEBT CHARGES	\$403,279	\$306,488	\$427,000	\$430,814	\$391,895
TOTAL USE OF FUNDS	\$1,807,852	\$1,074,578	\$1,508,419	\$1,039,997	\$1,357,712
NET CONTRIBUTION (USE) OF RESERVES					
Water Reserve	(\$679,081)	\$148,802	\$36,572	\$71,793	(\$105,478)
DC - Water	(\$96,361)	(\$93,839)	\$62,500	\$33,629	(\$23,518)
PROJECTS CARRIED FORWARD	\$0	\$18,019	(\$18,019)		\$0
TOTAL NET CONTRIBUTION (USE) OF RESERVES	(\$775,442)	\$72,982	\$81,053	\$105,422	(\$128,996)
UNALLOCATED	\$0	\$0	\$0	(\$0)	\$0

Waste Water

 TOWN OF MIDLAND ASSET MANAGEMENT 5 YR HISTORY GROSS CAPITAL REVENUES AND EXPENDITURES Wastewater Run Date: 9-Dec-2013					
	2011	2012	2013	2014	
	ACTUALS	ACTUALS	BUDGET	ANTICIPATED	AVERAGE
SOURCE OF FUNDS					
WASTEWATER RATES	(\$921,430)	(\$940,599)	(\$1,676,883)	(\$1,539,400)	(\$1,269,578)
DEVELOPER CONTRIBUTION	\$0	\$0	(\$45,000)		(\$11,250)
LONG TERM FINANCING	\$0	\$0	(\$1,510,000)		(\$377,500)
DEVELOPMENT CHARGES	(\$39,505)	(\$50,210)	(\$48,000)	(\$39,000)	(\$44,179)
COST RECOVERIES				(\$47,813)	(\$11,953)
TOTAL SOURCE OF FUNDS	(\$960,935)	(\$990,809)	(\$3,279,883)	(\$1,626,213)	(\$1,714,460)
CAPITAL EXPENDITURES					
2130 CONSULTANTS FEES	\$10,400	\$1,797	\$160,000		\$43,049
2210 CONTRACTED SERVICE	\$4,889	\$0	\$25,000	\$192,000	\$55,472
2220 TENDERED CONTRACT	\$0	\$0	\$1,800,000	\$63,750	\$465,938
5520 EQUIPMENT PURCHASES		\$29,337			\$7,334
TOTAL CAPITAL EXPENDITURES	\$15,289	\$31,134	\$1,985,000	\$255,750	\$571,793
MAINTENANCE EXPENDITURES					
4124 Sanitary Sewer Maintenance	\$164,692	\$157,518	\$142,700	\$159,624	\$156,134
TOTAL MAINTENANCE EXPENDITURES	\$164,692	\$157,518	\$142,700	\$159,624	\$156,134
DEBT CHARGES					
4811 DEBT INTEREST	\$218,707	\$216,736	\$237,233	\$189,550	\$215,557
4812 DEBT PRINCIPLE	\$630,694	\$717,035	\$966,311	\$1,038,832	\$838,218
TOTAL DEBT CHARGES	\$849,401	\$933,771	\$1,203,544	\$1,228,382	\$1,053,775
TOTAL USE OF FUNDS	\$1,029,382	\$1,122,423	\$3,331,244	\$1,643,756	\$1,781,701
NET CONTRIBUTION (USE) OF RESERVES					
Wastewater Reserve	\$42,048	(\$31,824)	(\$74,361)	(\$56,543)	(\$30,170)
DC - Wastewater	(\$110,495)	(\$99,790)	\$23,000	\$39,000	(\$37,071)
TOTAL NET CONTRIBUTION (USE) OF RESERVES	(\$68,447)	(\$131,614)	(\$51,361)	(\$17,543)	(\$67,241)
UNALLOCATED	\$0	\$0	\$0	\$0	\$0

20 Year Forecast

Summary

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED
SOURCE OF FUNDS																				
TAXES	(\$1,238,392)	(\$1,263,160)	(\$1,288,423)	(\$1,314,191)	(\$1,340,475)	(\$1,367,285)	(\$1,394,631)	(\$1,422,523)	(\$1,450,974)	(\$1,479,993)	(\$1,509,593)	(\$1,539,785)	(\$1,570,580)	(\$1,601,992)	(\$1,634,032)	(\$1,666,713)	(\$1,700,047)	(\$1,734,048)	(\$1,768,729)	(\$1,804,103)
WATER RATES	(\$1,247,881)	(\$1,318,797)	(\$1,418,712)	(\$1,478,021)	(\$1,557,616)	(\$1,661,276)	(\$1,763,269)	(\$1,798,534)	(\$1,834,505)	(\$1,871,195)	(\$1,908,619)	(\$1,946,791)	(\$1,985,727)	(\$2,025,441)	(\$2,065,950)	(\$2,107,269)	(\$2,149,414)	(\$2,192,403)	(\$2,236,251)	(\$2,280,976)
WASTEWATER RATES	(\$1,684,288)	(\$1,767,140)	(\$1,822,565)	(\$1,962,918)	(\$2,067,320)	(\$2,045,524)	(\$2,302,475)	(\$2,348,525)	(\$2,395,495)	(\$2,443,405)	(\$2,492,273)	(\$2,542,119)	(\$2,592,961)	(\$2,644,821)	(\$2,697,717)	(\$2,751,671)	(\$2,806,705)	(\$2,862,839)	(\$2,920,096)	(\$2,978,497)
GRANTS	(\$500,923)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)
LONG TERM FINANCING	(\$500,000)																			
DEVELOPMENT CHARGES	(\$204,000)	(\$208,080)	(\$212,242)	(\$216,486)	(\$220,816)	(\$225,232)	(\$229,737)	(\$234,332)	(\$239,019)	(\$243,799)	(\$248,675)	(\$253,648)	(\$258,721)	(\$263,896)	(\$269,174)	(\$274,557)	(\$280,048)	(\$285,649)	(\$291,362)	(\$297,189)
COST RECOVERIES	(\$139,051)																			
TOTAL SOURCE OF FUNDS	(\$5,514,535)	(\$5,057,177)	(\$5,241,941)	(\$5,471,617)	(\$5,686,228)	(\$5,799,317)	(\$6,190,112)	(\$6,303,914)	(\$6,419,992)	(\$6,538,392)	(\$6,659,160)	(\$6,782,343)	(\$6,907,990)	(\$7,036,150)	(\$7,166,873)	(\$7,300,210)	(\$7,436,214)	(\$7,574,939)	(\$7,716,437)	(\$7,860,766)
TOTAL CAPITAL REPLACEMENT NEEDS	\$2,962,854	\$3,505,446	\$4,638,274	\$7,473,676	\$4,804,580	\$4,520,236	\$3,747,039	\$6,292,938	\$10,380,563	\$9,123,221	\$3,302,656	\$4,272,095	\$7,059,742	\$6,612,832	\$13,470,169	\$9,179,764	\$5,752,258	\$5,077,826	\$4,366,420	\$2,678,290
TOTAL MAINTENANCE EXPENDITURES	\$732,187	\$746,831	\$761,767	\$777,003	\$792,543	\$808,394	\$824,561	\$841,053	\$857,874	\$875,031	\$892,532	\$910,383	\$928,590	\$947,162	\$966,105	\$985,427	\$1,005,136	\$1,025,239	\$1,045,743	\$1,066,658
TOTAL DEBT CHARGES	\$1,784,747	\$1,784,747	\$1,130,965	\$1,009,763	\$1,009,763	\$1,009,763	\$1,009,763	\$912,061	\$912,061	\$433,135	\$372,135	\$372,135	\$188,324	\$188,324	\$188,324	\$188,324	\$188,324	\$0	\$0	\$0
TOTAL USE OF FUNDS	\$5,479,788	\$6,037,024	\$6,531,007	\$9,260,442	\$6,606,886	\$6,338,392	\$5,581,364	\$8,046,051	\$12,150,498	\$10,431,387	\$4,567,323	\$5,554,613	\$8,176,656	\$7,748,317	\$14,624,598	\$10,353,515	\$6,945,718	\$6,103,065	\$5,412,163	\$3,744,948
TOTAL NET CONTRIBUTION (USE) OF RESERVES	\$84,765																			
INCREASE (DECREASE) TO BACKLOG	\$50,018	\$979,847	\$1,289,065	\$3,788,825	\$920,658	\$539,075	(\$608,747)	\$1,742,138	\$5,730,506	\$3,892,995	(\$2,091,837)	(\$1,227,730)	\$1,268,666	\$712,168	\$7,457,726	\$3,053,305	(\$490,496)	(\$1,471,874)	(\$2,304,274)	(\$4,115,818)
INFRASTRUCTURE BACKLOG, BEGINNING OF YEAR	\$57,362,206	57,412,224	58,392,072	59,681,137	63,469,962	64,390,620	64,929,695	64,320,948	66,063,085	71,793,591	75,686,587	73,594,750	72,367,019	73,635,685	74,347,853	81,805,579	84,858,884	84,368,388	82,896,514	80,592,240
INFRASTRUCTURE BACKLOG, END OF YEAR	\$57,412,224	\$58,392,072	\$59,681,137	\$63,469,962	\$64,390,620	\$64,929,695	\$64,320,948	\$66,063,085	\$71,793,591	\$75,686,587	\$73,594,750	\$72,367,019	\$73,635,685	\$74,347,853	\$81,805,579	\$84,858,884	\$84,368,388	\$82,896,514	\$80,592,240	\$76,476,422

Assumptions

1. Taxes have been estimated to increase 2% annually (high end of current Council direction).
2. Water and Wastewater rates are estimated to increase as per the estimates in the Water and Wastewater rate study in 2010.
3. Grants are the federal gas tax which is anticipated to continue at current levels.
4. No uncommitted financing has been included in this forecast as per guidelines in "Building Together - Guide for Municipal Asset Management Plans".
5. Development charges were estimated to increase 2% annually. No significant growth currently anticipated.
6. Capital replacement needs are based on the estimated useful lives of infrastructure. Costs of assets are estimated to increase 2% annually.
7. Maintenance expenditures were estimated to increase 2% annually.
8. Debt charges are forecasted based on committed financing only. No uncommitted financing has been included (see Note 4).
9. For the purposes of this financial statement, no increases or decreases to reserves have been forecasted.

Tax Based

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED
SOURCE OF FUNDS																				
TAXES	(\$1,238,392)	(\$1,263,160)	(\$1,288,423)	(\$1,314,191)	(\$1,340,475)	(\$1,367,285)	(\$1,394,631)	(\$1,422,523)	(\$1,450,974)	(\$1,479,993)	(\$1,509,593)	(\$1,539,785)	(\$1,570,580)	(\$1,601,992)	(\$1,634,032)	(\$1,666,713)	(\$1,700,047)	(\$1,734,048)	(\$1,768,729)	(\$1,804,103)
GRANTS	(\$500,923)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)	(\$500,000)
LONG TERM FINANCING	(\$500,000)																			
DEVELOPMENT CHARGES	(\$97,000)	(\$98,940)	(\$100,919)	(\$102,937)	(\$104,996)	(\$107,096)	(\$109,238)	(\$111,423)	(\$113,651)	(\$115,924)	(\$118,242)	(\$120,607)	(\$123,019)	(\$125,480)	(\$127,989)	(\$130,549)	(\$133,160)	(\$135,823)	(\$138,540)	(\$141,311)
COST RECOVERIES	(\$60,000)																			
TOTAL SOURCE OF FUNDS	(\$2,396,315)	(\$1,862,100)	(\$1,889,342)	(\$1,917,129)	(\$1,945,471)	(\$1,974,381)	(\$2,003,868)	(\$2,033,946)	(\$2,064,625)	(\$2,095,917)	(\$2,127,835)	(\$2,160,392)	(\$2,193,600)	(\$2,227,472)	(\$2,262,021)	(\$2,297,262)	(\$2,333,207)	(\$2,369,871)	(\$2,407,269)	(\$2,445,414)
TOTAL CAPITAL REPLACEMENT NEEDS	\$1,835,544	\$1,908,666	\$3,173,970	\$2,267,468	\$3,971,279	\$3,042,336	\$2,671,320	\$5,179,972	\$3,007,469	\$3,130,331	\$1,521,491	\$3,264,119	\$4,309,153	\$5,139,032	\$7,458,328	\$4,418,480	\$3,450,315	\$3,054,164	\$2,607,207	\$1,239,547
TOTAL MAINTENANCE EXPENDITURES	\$375,030	\$382,531	\$390,181	\$397,985	\$405,945	\$414,063	\$422,345	\$430,792	\$439,407	\$448,196	\$457,159	\$466,303	\$475,629	\$485,141	\$494,844	\$504,741	\$514,836	\$525,133	\$535,635	\$546,348
TOTAL DEBT CHARGES	\$125,551	\$125,551	\$125,551	\$125,551	\$125,551	\$125,551	\$125,551	\$125,551	\$125,551	\$64,551	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL USE OF FUNDS	\$2,336,125	\$2,416,748	\$3,689,702	\$2,791,004	\$4,502,774	\$3,581,951	\$3,219,216	\$5,736,314	\$3,572,427	\$3,643,077	\$1,978,650	\$3,730,422	\$4,784,782	\$5,624,173	\$7,953,173	\$4,923,221	\$3,965,151	\$3,579,296	\$3,142,843	\$1,785,895
TOTAL NET CONTRIBUTION (USE) OF RESERVES	(\$3,115)																			
INCREASE (DECREASE) TO BACKLOG	(\$63,304)	\$554,648	\$1,800,361	\$873,875	\$2,557,303	\$1,607,570	\$1,215,347	\$3,702,369	\$1,507,803	\$1,547,160	(\$149,185)	\$1,570,029	\$2,591,182	\$3,396,701	\$5,691,151	\$2,625,959	\$1,631,944	\$1,209,425	\$735,574	(\$659,519)
INFRASTRUCTURE BACKLOG, BEGINNING OF YEAR	\$42,428,124	42,364,820	42,919,468	44,719,829	45,593,704	48,151,007	49,758,577	50,973,924	54,676,293	56,184,096	57,731,256	57,582,071	59,152,100	61,743,282	65,139,984	70,831,135	73,457,094	75,089,038	76,298,463	77,034,037
INFRASTRUCTURE BACKLOG, END OF YEAR	\$42,364,820	\$42,919,468	\$44,719,829	\$45,593,704	\$48,151,007	\$49,758,577	\$50,973,924	\$54,676,293	\$56,184,096	\$57,731,256	\$57,582,071	\$59,152,100	\$61,743,282	\$65,139,984	\$70,831,135	\$73,457,094	\$75,089,038	\$76,298,463	\$77,034,037	\$76,374,518

Assumptions

1. Taxes have been estimated to increase 2% annually (high end of current Council direction).
2. Grants are the federal gas tax which is anticipated to continue at current levels.
3. No uncommitted financing has been included in this forecast as per guidelines in "Building Together - Guide for Municipal Asset Management Plans".
4. Development charges were estimated to increase 2% annually. No significant growth currently anticipated.
5. Capital replacement needs are based on the estimated useful lives of infrastructure. Costs of assets are estimated to increase 2% annually.
6. Maintenance expenditures were estimated to increase 2% annually.
7. Debt charges are forecasted based on committed financing only. No uncommitted financing has been included (see Note 4).
8. For the purposes of this financial statement, no increases or decreases to reserves have been forecasted.

Water Wastewater

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED	ANTICIPATED
SOURCE OF FUNDS																				
WATER RATES	(\$1,247,881)	(\$1,318,797)	(\$1,418,712)	(\$1,478,021)	(\$1,557,616)	(\$1,661,276)	(\$1,763,269)	(\$1,798,534)	(\$1,834,505)	(\$1,871,195)	(\$1,908,619)	(\$1,946,791)	(\$1,985,727)	(\$2,025,441)	(\$2,065,950)	(\$2,107,269)	(\$2,149,414)	(\$2,192,403)	(\$2,236,251)	(\$2,280,976)
WASTEWATER RATES	(\$1,684,288)	(\$1,767,140)	(\$1,822,565)	(\$1,962,918)	(\$2,067,320)	(\$2,045,524)	(\$2,302,475)	(\$2,348,525)	(\$2,395,495)	(\$2,443,405)	(\$2,492,273)	(\$2,542,119)	(\$2,592,961)	(\$2,644,821)	(\$2,697,717)	(\$2,751,671)	(\$2,806,705)	(\$2,862,839)	(\$2,920,096)	(\$2,978,497)
DEVELOPMENT CHARGES	(\$107,000)	(\$109,140)	(\$111,323)	(\$113,549)	(\$115,820)	(\$118,137)	(\$120,499)	(\$122,909)	(\$125,368)	(\$127,875)	(\$130,432)	(\$133,041)	(\$135,702)	(\$138,416)	(\$141,184)	(\$144,008)	(\$146,888)	(\$149,826)	(\$152,822)	(\$155,879)
COST RECOVERIES	(\$79,051)																			
TOTAL SOURCE OF FUNDS	(\$3,118,220)	(\$3,195,077)	(\$3,352,600)	(\$3,554,488)	(\$3,740,757)	(\$3,824,936)	(\$4,186,243)	(\$4,269,968)	(\$4,355,368)	(\$4,442,475)	(\$4,531,324)	(\$4,621,951)	(\$4,714,390)	(\$4,808,678)	(\$4,904,851)	(\$5,002,948)	(\$5,103,007)	(\$5,205,067)	(\$5,309,169)	(\$5,415,352)
TOTAL CAPITAL REPLACEMENT NEEDS	\$1,127,310	\$1,596,780	\$1,464,304	\$5,206,208	\$833,301	\$1,477,899	\$1,075,720	\$1,112,966	\$7,373,094	\$5,992,890	\$1,781,165	\$1,007,976	\$2,750,588	\$1,473,799	\$6,011,841	\$4,761,284	\$2,301,943	\$2,023,663	\$1,759,212	\$1,438,743
TOTAL MAINTENANCE EXPENDITURES	\$357,157	\$364,300	\$371,586	\$379,018	\$386,598	\$394,330	\$402,217	\$410,261	\$418,466	\$426,836	\$435,372	\$444,080	\$452,961	\$462,021	\$471,261	\$480,686	\$490,300	\$500,106	\$510,108	\$520,310
TOTAL DEBT CHARGES	\$1,659,196	\$1,659,196	\$1,005,414	\$884,212	\$884,212	\$884,212	\$884,212	\$786,510	\$786,510	\$368,584	\$368,584	\$368,584	\$184,773	\$184,773	\$184,773	\$184,773	\$184,773	\$0	\$0	\$0
TOTAL USE OF FUNDS	\$3,143,663	\$3,620,276	\$2,841,304	\$6,469,438	\$2,104,112	\$2,756,442	\$2,362,149	\$2,309,737	\$8,578,071	\$6,788,310	\$2,585,121	\$1,820,640	\$3,388,323	\$2,120,593	\$6,667,875	\$5,426,744	\$2,977,016	\$2,523,769	\$2,269,320	\$1,959,053
TOTAL NET CONTRIBUTION (USE) OF RESERVES	\$87,879																			
INCREASE (DECREASE) TO BACKLOG	\$113,322	\$425,199	(\$511,295)	\$2,914,950	(\$1,636,645)	(\$1,068,495)	(\$1,824,095)	(\$1,960,231)	\$4,222,703	\$2,345,835	(\$1,946,203)	(\$2,801,311)	(\$1,326,067)	(\$2,688,085)	\$1,763,024	\$423,795	(\$2,125,991)	(\$2,681,299)	(\$3,039,848)	(\$3,456,299)
INFRASTRUCTURE BACKLOG, BEGINNING OF YEAR	\$14,934,082	15,047,404	15,472,603	14,961,308	17,876,258	16,239,613	15,171,118	13,347,023	11,386,792	15,609,495	17,955,331	16,009,128	13,207,817	11,881,750	9,193,665	10,956,689	11,380,484	9,254,493	6,573,194	3,533,346
INFRASTRUCTURE BACKLOG, END OF YEAR	\$15,047,404	\$15,472,603	\$14,961,308	\$17,876,258	\$16,239,613	\$15,171,118	\$13,347,023	\$11,386,792	\$15,609,495	\$17,955,331	\$16,009,128	\$13,207,817	\$11,881,750	\$9,193,665	\$10,956,689	\$11,380,484	\$9,254,493	\$6,573,194	\$3,533,346	\$77,046

Assumptions

1. Water and Wastewater rates are estimated to increase as per the estimates in the Water and Wastewater rate study in 2010.
2. No uncommitted financing or grants have been included in this forecast as per guidelines in "Building Together - Guide for Municipal Asset Management Plans".
3. Development charges were estimated to increase 2% annually. No significant growth currently anticipated.
4. Capital replacement needs are based on the estimated useful lives of infrastructure. Costs of assets are estimated to increase 2% annually.
5. Maintenance expenditures were estimated to increase 2% annually.
6. Debt charges are forecasted based on committed financing only. No uncommitted financing has been included (see Note 4).
7. For the purposes of this financial statement, no increases or decreases to reserves have been forecasted.

Taxes

Competing demands for tax dollars in other areas have led to a reduction in tax dollar use to fund infrastructure in the past few years. Council's direction is to keep overall Town tax increases within a range of 0% and 2%. Any increase in expenditure costs above these targets as well as any enhancements or new initiatives must be funded from service level reductions and reduced infrastructure investment.

The tax based infrastructure backlog is currently \$42M and is projected to increase to \$58M by 2023 and to \$76M by 2033 if taxes are increased 2% annually and no other funding is made available from senior levels of government.

User Rates – Water/Wastewater

In 2010, the Town undertook a water and wastewater rate study. This study identified and recommended increases to the Town's rates and a schedule of rate increases for the period of 2011 to 2020. The objective of the study was to review and recommend new water and wastewater rates that address water consumption by different types of users, total anticipated water demand, full recovery of system operating costs, full recovery of capital infrastructure financing needs (net of DC recoveries) and establish reserves to fund the rehabilitation and replacement of infrastructure. The analysis and the model are built on the concept of establishing full cost recovery rates consistent with the requirements of the Sustainable Water and Sewage Systems Act. The analysis provides for a gradual phase-in to full funding. A full cost recovery structure is projected to occur by 2020.

The gradual phase-in to full funding results in average annual increases of 5.9% for water and 5.5% for wastewater to 2020 and 2% thereafter.

Development Charges

The Development Charges Act, 1997 (DCA) and its associated Ontario Regulation 82/98 allow municipalities in Ontario to recover growth-related capital costs from new development. Growth increases demand on all Town services and infrastructure.

Development charges require a development charges background study. The last such study for the Town was dated April 2009. A new study is currently underway and will be completed in 2014. Collection of development charges has fallen significantly short of the expectations in the previous study as a result of lower growth than anticipated.

As a result of lower than expected growth, more tax dollars have been needed to fund debt charges of previous projects which puts increased pressure on taxation dollars as well as development charge rates.

Debt Financing

The Town periodically uses debt to finance large projects. When determining when to use debt, the Town considers prevailing interest rates, current debt levels, debt servicing costs and criticality of the project. In recent years, the Town has taken advantage of historically low borrowing costs in order to reduce the infrastructure backlog, mostly within water and wastewater.

Reserves

The Town uses reserves in order to mitigate the annual impacts to taxation as a result of significant fluctuations in annual capital needs. The Town's reserves have been decreasing annually for the past 5 years. Any surpluses that occur during the year are strongly considered for allocation to capital reserves for future projects depending on competing needs. Reserves are of critical importance to the Town's ability to maintaining and replacing its infrastructure needs.

Grants

The only confirmed infrastructure grants that the Town currently has is the Federal gas tax grant valued at approximately \$500K per year. While this grant is critically important to the Town due to its significance and predictability, it is not nearly enough to maintain the current expected levels of infrastructure renewal needs.

The Town applies for grants from senior levels of government on an ongoing basis to aid with its infrastructure replacement needs as funding becomes available. There are currently no other committed funds to the Town.

The current level of funding from senior levels of government is not adequate in helping the Town to sustainably maintain and replace our Municipal infrastructure.

Conclusion

The Town has over \$300 million of infrastructure, a significant portion being constructed in the 60's, 70's and 80's. The current backlog is estimated at \$57 million and projected to increase to \$75 million by 2023 which represents an additional \$1.8 million per year over 10 years, the equivalent to a 10% increase to the tax levy.

The Town can't solve its infrastructure funding gap solely from own source revenue. Significant stable, funding from senior levels of government in addition to increased own-source funds and improved asset management strategies will be required to maintain current expected levels of service.

The development of the Asset Management Plan is one key step to increasing our understanding of the needs and risks to our municipality's infrastructure and related funding requirements. It will be used in our continued efforts to review what, how and when we do things to meet service level expectations and provide value to taxpayers by minimizing overall life cycle costs.