2024 Asset Management Plan
Phase III – Non-Core Assets

Asset Management Plan – O. Reg. 588/17

Phase 1 Asset Management Policy	• Every municipality in Ontario must have a strategic asset management policy approved by Council • The policy is to be reviewed, and if necessary updated, at least every five years • Completed and approved by Council by July 1, 2019
Phase 2 Asset Management Plan Core Infrastructure	• Every municipality in Ontario must have approved asset management plans for core infrastructure assets at the **current** levels of service • Completed and approved by Council by July 1, 2022
Phase 3 Asset Management Plan All Other Infrastructure	• Every Municipality in Ontario must have approved asset management plans for all other infrastructure (non-core) assets at the **current** levels of service. • Requires Council approval and to be made available to the public by July 1, 2024
Phase 4 Proposed Levels of Service by Category	• Every asset management plan must include **proposed** levels of service for each category of infrastructure assets • Requires Council approval and to be made available to the public by July 1, 2025

Core vs Non-Core Assets

Core	Non-Core
Water System	Facilities including IT & Site Works
Sanitary System	Fleet, Machinery & Equipment
Stormwater System	Furniture & Equipment
Road Network	Natural Assets
Bridges	Land & Land Improvements
	Road Signs, Curbs, Sidewalks & Streetlights
	Any other assets

AMP Layout

- Introductory Section
- Series for Each Asset Category
  - State of the Local Infrastructure
  - Levels of Service Strategy
  - Lifecycle Strategy
  - Risk Strategy
- Financial Strategy
- Growth Assumptions
- Various Appendices

Replacement Cost

Replacement Cost were derived based on several sources

- Historic construction contracts and tenders
- User-defined costs based on industry sources
- Consumer Price Index (CPI)

Estimated Useful Life and Service Life Remaining

- The EUL of an asset is the period an asset should be in service
- An asset's service life remaining is the projected in-service years remaining after any adjustment to its EUL.

Item	In-service Year	Asset Age as of 2024	Initial Lifecycle EUL	Condition Assessment and/or Event(s)	Adjusted EUL	Service Life Remaining
HCB Road	2000	24 Years	40 Years	None	40 Years	16 Years
HCB Road	2000	24 Years	40 Years	Micro-surfacing, holds condition 5 years	45 Years	21 Years

$$Annual\ Requirement = \frac{Replacement\ Cost}{Estimated\ Useful\ Life}$$

Condition Assessment Approach

Condition	Description	Criteria	Service Life Remaining (%)
Very Good	Fit for the future	Well-maintained, new or recently rehabilitated	>80%
Good	Adequate for now	Acceptable, generally approaching mid-stage of expected service life	>=60% and <80%
Fair	Requires attention	Signs of deterioration, some elements exhibit significant deficiencies	>=40% and <60%
Poor	Increasing potential of affecting service	Approaching the end of service life, condition below standard, large portion of system exhibits significant deterioration	>=20% and <40%
Very Poor	Unfit for sustained service	Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable	<20%

Levels of Service

- Community and Technical LOS for Core Assets
- LOS for Non-Core Assets
- New 2024 LOS
- Corporate and Expanded Community LOS.

Levels of Service

Table 30: Buildings: Levels of Service

Community Levels of Service			Technical Levels of Service	
Scope	Description, which may include maps, of municipally owned buildings.	See maps in Appendix B.4		
Safety			% of facilities where annual internal inspections have been completed	100%
Quality			% of facility assets that are in fair or better condition (Age or Condition Based)	84%
Usage			Number of bookings at Recreational Facilities	12238
Performance			Capital re-investment rate	0.63%

Table 38: Fleet: Levels of Service

Community Levels of Service			Technical Levels of Service	
Quality			% of equipment in fair or better condition	74%
			% of vehicles where regulatory inspections have been completed	100%
Environmental Stewardship	Vehicles and Equipment have minimal impact on the environment	The Township's Climate Action Plan includes the following goals: CAP goal #16[16] CAP goal #17[17] CAP goal #18[18]	% of vehicles that are zero-emission vehicles	0%
Performance			Capital re-investment rate	3.17%

Table 34: Machinery, Furniture, and Equipment: Levels of Service

Community Levels of Service			Technical Levels of Service	
Quality			% of equipment in fair or better condition	74%
			% of essential equipment where regulatory inspections have been completed	100%
Environmental Stewardship	Vehicles and Equipment have minimal impact on the environment	The Township's Climate Action Plan includes the following goals: CAP goal #17[13]		
Performance			% of facilities where annual internal inspections of IT networking equipment have been completed	100%
			Capital re-investment rate	1.59%

Table 42: Land Improvements: Levels of Service

Community Levels of Service			Technical Levels of Service	
Safety			% of play structures where regulatory inspections have been completed	100%
			% of play structures in compliance with CSA Standards	65%
			% of sport fields where inspections have been completed	50%
			% of walkway & trail assets inspected annually	100%
Quality			% of play structures in fair or better condition	73%
			% of sport fields in fair or better condition	N/A[25]
Quantity			Asphalt Walkways	6.4 km
			Gravel Walkway	4.1 km
			Earth/Grass Walkways	0.6 km
Usage			Number of Sport fields bookings	839
Performance			Capital re-investment rate	1.28%

Lifecycle vs End-of-Life Scenario

For the Road Network, lifecycle management strategies have been developed to identify Capital Costs that are realized through strategic rehabilitation and renewal of the Township's roads.

1. End-of-Life Scenario – based on the assumption that assets deteriorate and – without regularly scheduled maintenance and rehabilitation – are replaced at the end of their service life
2. Lifecycle strategy Scenario – based on the assumptions that lifecycle activities are performed at strategic intervals to extend the service life of assets until replacement is required

HCB Roads		
Lifecycle Activity	**Type**	**Trigger/Timeline - chronologically triggered by condition**
Rejuvenator	Capital - preventative maintenance	4 years following initial construction or resurfacing - repeated up to 4 times
Micro Surfacing	Capital - rehabilitation	8 years following rejuvenator - repeated up to 4 times
Resurfacing		12 to 15 years following micro surfacing - repeated up to 3 times
Reconstruction	Capital - replacement	Projected at 94 years with lifecycle events

Lifecycle Strategy

Lifecycle Activity	Description	Examples for Roads
Maintenance	Regularly scheduled inspection of maintenance, or more significant repair activities associated with unexpected events.	Grading/ditching on gravel roads
Preventative Maintenance	Regularly scheduled maintenance or more significant repairs that may extend the useful life of the asset.	Soft spot repairs on gravel roads, rejuvenating agents on HCB roads
Rehabilitation	Significant treatments designed to extend the life of the asset.	HCB road resurfacing, LCB road re-profile
Replacement	Activities that are expected to occur once an asset has reached the end of its EUL and renewal/rehabilitation is no longer an option (if applicable).	Reconstruction of base and surface of HCB & LCB roads

Risk Strategy

- Infrastructure needs generally exceed capacity
- Municipalities must carefully select projects based on:
  - The state of infrastructure
  - Economic development goals
  - Needs of an evolving and growing community.
  - Social and environmental considerations
- Consequence & Probability of Failure models are used to prioritize projects

Risk Strategy – Consequence of Failure

Table 31: Buildings - Consequence of Failure Risk Model

Range	Economic (34%) Replacement Cost (100%)	Social (33%) Fixed Risk by Service Area (100%)	Health & Safety (33%) Fixed Risk by Asset Sub-Type (100%)	Consequence of Failure
1	<$75,000	Corporate Services	Building Fixtures	Insignificant
2	=>$75,000 and <$125,000	Utilities Services (non-core)[18]	Building Site Services	Minor
3	=>$125,000 and <$250,000	Transportation Services	Building HVAC	Moderate
4	=>250,000 and <$500,000	Recreation Services	Building Electrical Building Mechanical	Major
5	> $500,000	Emergency Services	Building Structural	Severe

Table 39: Fleet - Consequence of Failure Risk Model

Score	Economic (34%) Replacement Cost (100%)	Operational (33%) Fixed Risk by Asset Profile (100%)	Social (33%) Fixed Risk by Asset-Type (100%)	Consequence of Failure
1	<$25,000	N/A	Building Services	Insignificant
2	>=$25,000 and <$75,000	General Fleet	Recreation & Facilities	Minor
3	>=$75,000 and <$125,000	N/A	Utilities[19]	Moderate
4	>=$125,000 and <$200,000	Plows	Public Works	Major
5	>$200,000	Emergency Fleet - All	Emergency Services	Severe

Table 17: Road Network - Consequence of Risk Model

Range	Economic (34%) Replacement Cost (100%)	Operational (33%) Fixed Risk (100%)	Health & Safety (33%) Road Class Attribute (100%)	Consequence of Failure
1	<$100,000	N/A	6 (Local)	Insignificant
2	>=$100,000 and <$250,000	N/A	5 (Local)	Minor
3	>=$250,000 and <$500,000	Gravel Roads	4 (Collector)	Moderate
4	>=$500,000 and <$1,000,000	LCB Roads Road Guiderails	3 (Collector)	Major
5	>$1,000,000	HCB Roads	1 & 2 (Arterial)	Severe

Table 50: Core Water System - Consequence of Failure Risk Model

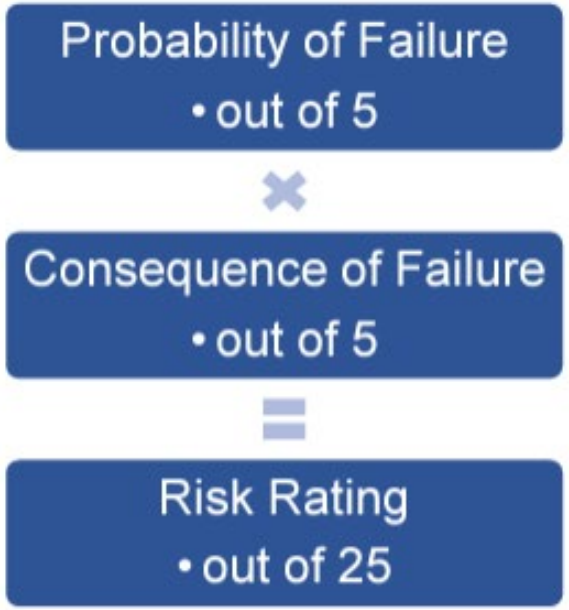
Score	Economic (34% All) Replacement Cost (100%)	Operational (33% Valves, Meters, Mains) Asset Classifications & Fixed Risk (100%)	Health & Safety (33% Valves, Meters, Mains) (66% Hydrants, Facilities) QMS Risk Number (100%)	Consequence of Failure
1	<$25,000	Valve Diameter - 25 mm Water Meters - All Water Main Diameter - 25 to 50 mm	6	Insignificant
2	>=$25,000 and <$75,000	Valve Diameter - 100 to 150 mm Water Main Diameter - 100 to 150 mm	8	Minor
3	>=$75,000 and <$125,000	Valve Diameter - 200 to 250 mm Water Main Diameter - 200 to 250 mm	12	Moderate
4	>= $125,000 and <$200,000	Valve Diameter - 300 mm Water Main Diameter - 300 mm	16	Major
5	>$200,000	Valve Diameter - 400 mm Water Main Diameter - 400 mm	25	Severe

Risk Strategy – Probability of Failure

Table 8: All Assets - Probability of Risk Model

Range	Probability of Failure	Economic (100%) Condition (Service Life Remaining) (100%)	Condition
1	Rare	>80%	Very Good
2	Unlikely	>=60% and <80%	Good
3	Possible	>=40% and <60%	Fair
4	Likely	>=20% and <40%	Poor
5	Almost Certain	<20%	Very Poor

Risk Rating



Range	Risk Rating
1 to 4	Very Low
5 to 9	Low
10 to 14	Moderate
15 to 19	High
20 to 25	Very High

Risk Ratings are used to prioritize work within an asset class and is not directly comparable between different asset classes

Future Demand

- Growth
  - Housing growth is outpacing population growth
  - Growth continues to outpace the 2019 Population, Housing and Employment Projections study
  - 96% of growth within the study period is projected to occur in the urban areas of Amherstview, Bath & Odessa
- Climate Change
  - Strategic Plan
  - O.Reg 588/17 requirements
- Increased Service Level Expectations

Continuous Improvement

- Continuous validation of data and information
- Formalization of condition assessment strategies
- Continued implementation and alignment of risk-based decision-making
- Continuous review, development, and implementation of optimal lifecycle management strategies
- Community and Technical Levels of Service
- Proposed Levels of Service
- Refinement of the Financial Strategy

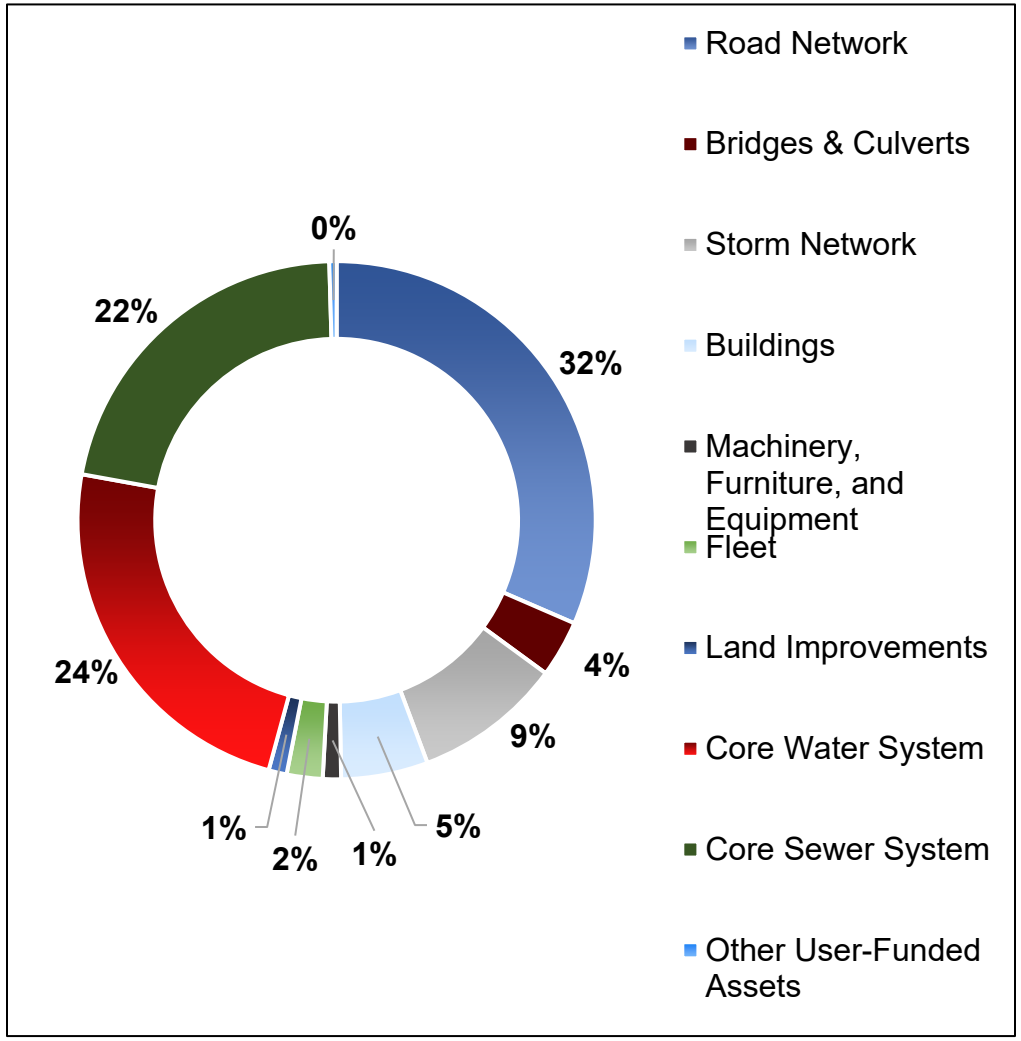
State of the Local Infrastructure

The State of the Local Infrastructure (SOLI) as presented in each asset category provides the following:

- Summary of asset inventories
- Estimated replacement cost of the assets
- Description of the proportion of estimated service life remaining relative to an asset category's EUL.
- Average condition of the assets weighted by replacement cost.
- Description of the data sources

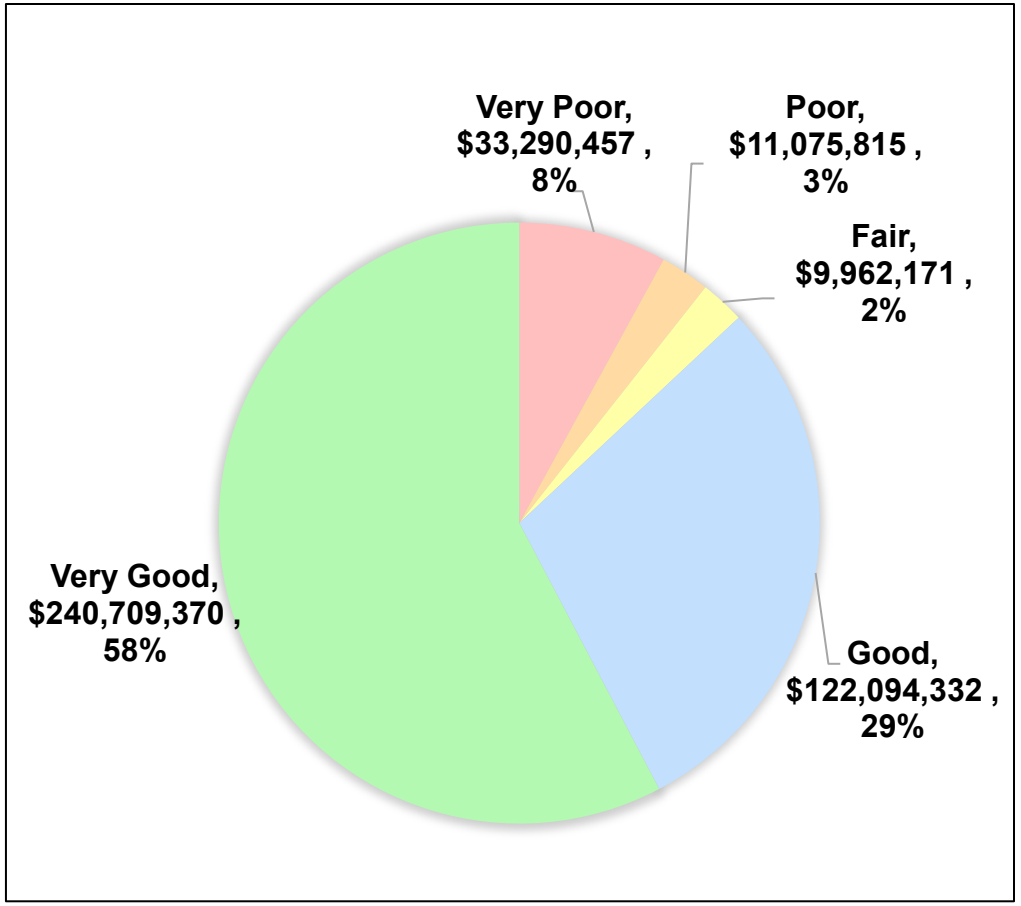
State of the Local Infrastructure (SOLI)

- $774 Million Total Asset Replacement Cost
  - $104 Million increase since 2022 of which $50 Million is related to new or developer donated assets
- Approximately 87% of the assets are in the Roads, Water, Sewer, & Storm networks

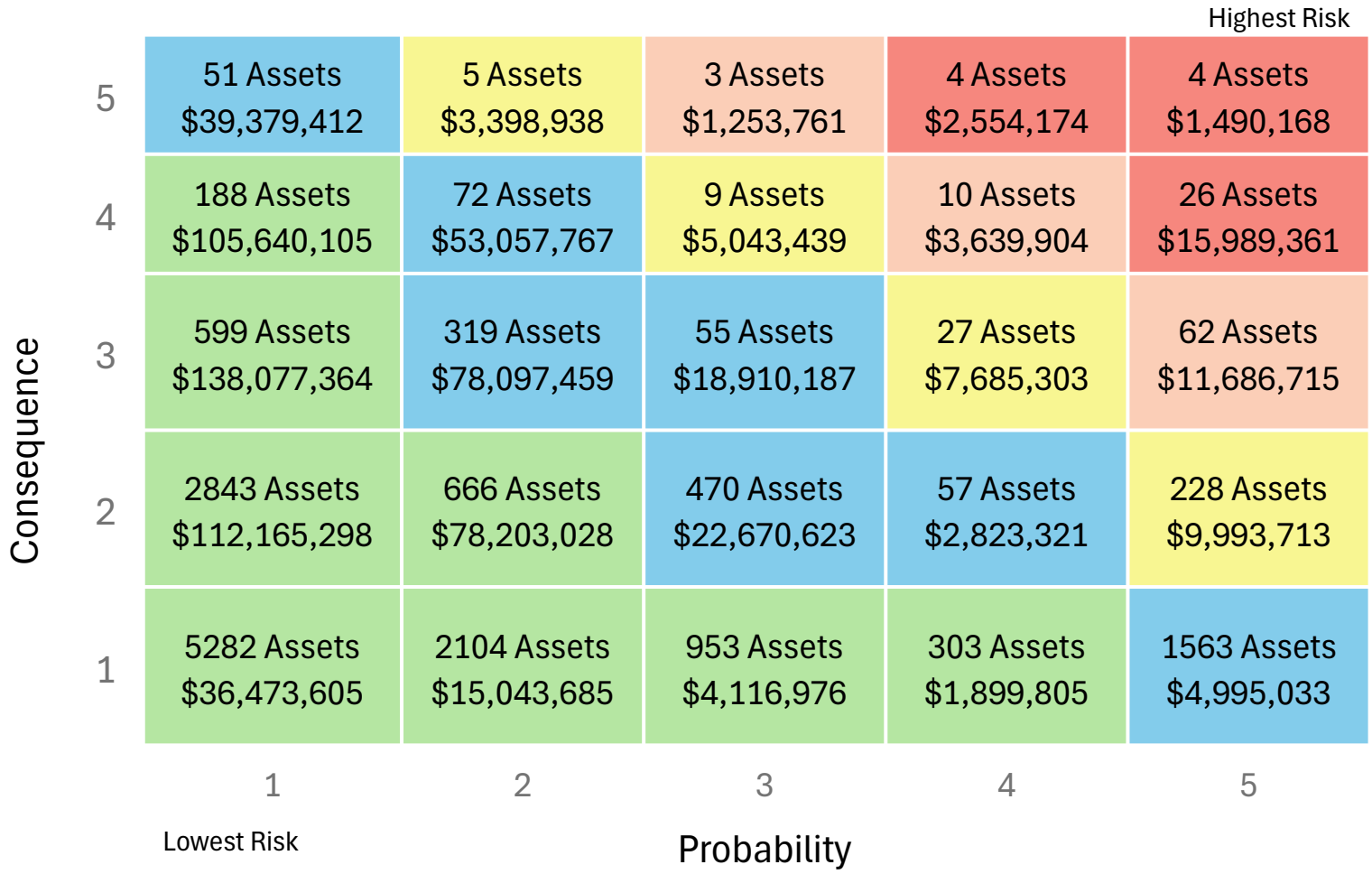


SOLI – Condition by Replacement Cost

- 89% of the assets are in fair or better condition
- 11% of the assets with a value of $44.4M are in poor or very poor condition. This is approximately 5 years of capital works.



SOLI – Risk Rating & Replacement Cost

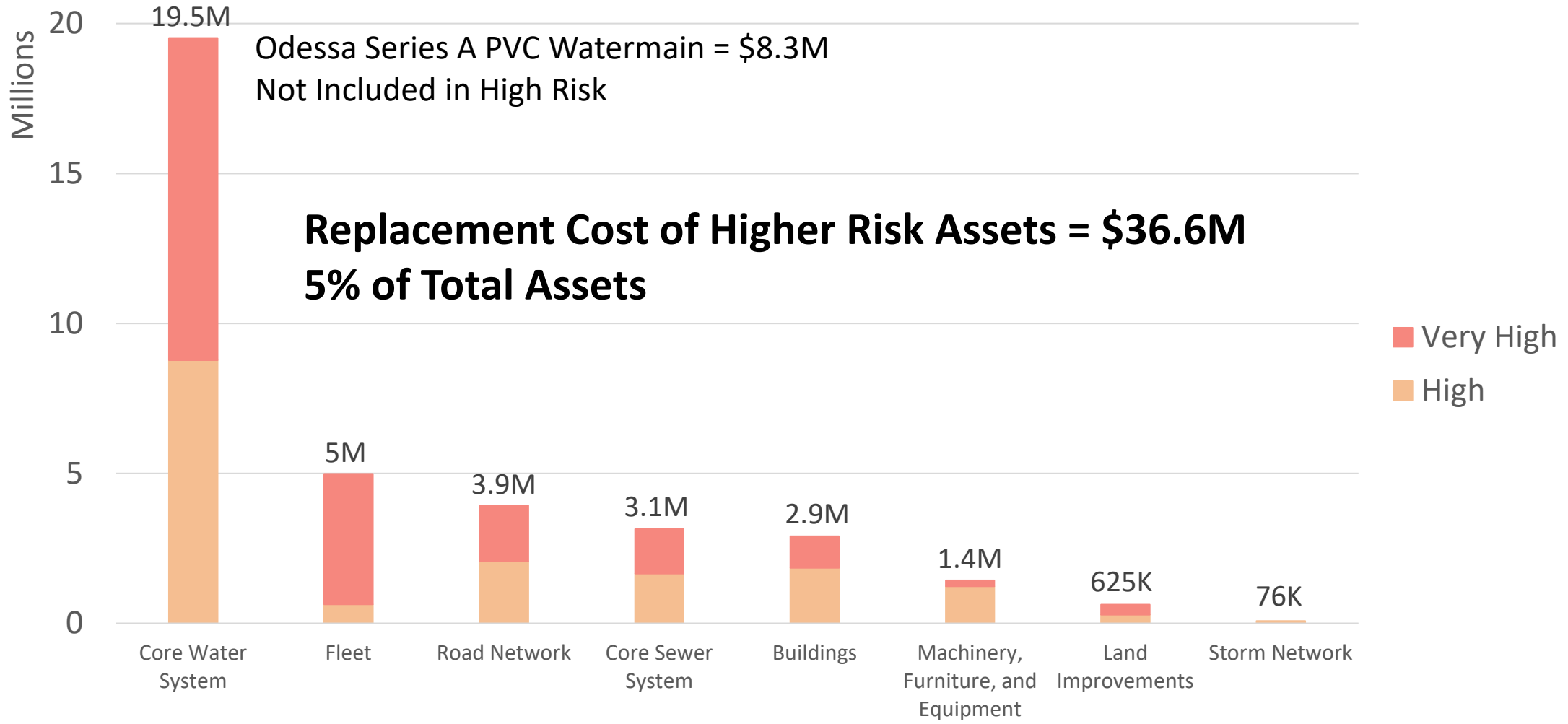


SOLI – High and Very High-Risk Assets

Asset Type	Replacement Cost
4 Emergency Services Tankers	$1.5M
1 Emergency Services Pumper	$620K
1 Emergency Services Squad	$200K
Emergency Services Equipment	$112K
2 Public Works Tractors	$318K
4 Public Works Snowplows	$2.0M
1 Public Works Sidewalk plow	$174K
1 Public Works Loader	$200K
1 Public Works Grader	$400K
4 Road Sections	$3.9M
1 Storm Sewer Section	$76K

Asset Type	Replacement Cost
Parks & Facility Equipment	$156K
WJ Henderson Facility	$2.3M
Other Facilities	$858K
Sports fields	$418K
Play Structures	$207K
4 Sanitary Sewer Pipe Sections	$2.0M
Sanitary Treatment Equipment	$1.2M
55 Watermains Sections	$18.4M
Water Treatment Equipment	$1.1M

SOLI - Higher Risk Assets - Replacement Cost



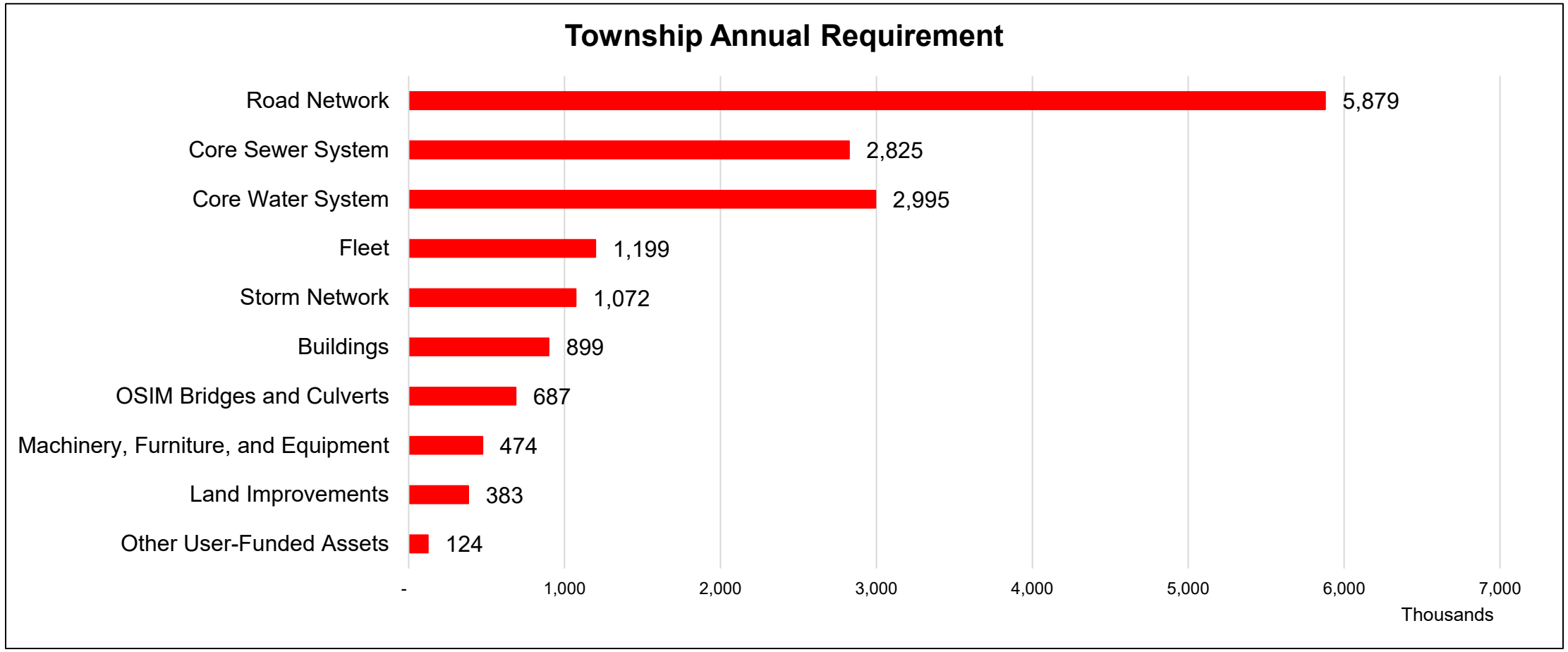
Lifecycle Savings – Road Network

Subcategory	Annual Requirement - Lifecycle ($)	Annual Requirement - End of Life ($)	Savings (costs)
Core Assets	5,177,386	6,158,550	981,165
Non-Core Assets	701,757	701,757	-
Road Network Total	5,879,143	6,860,308	981,165

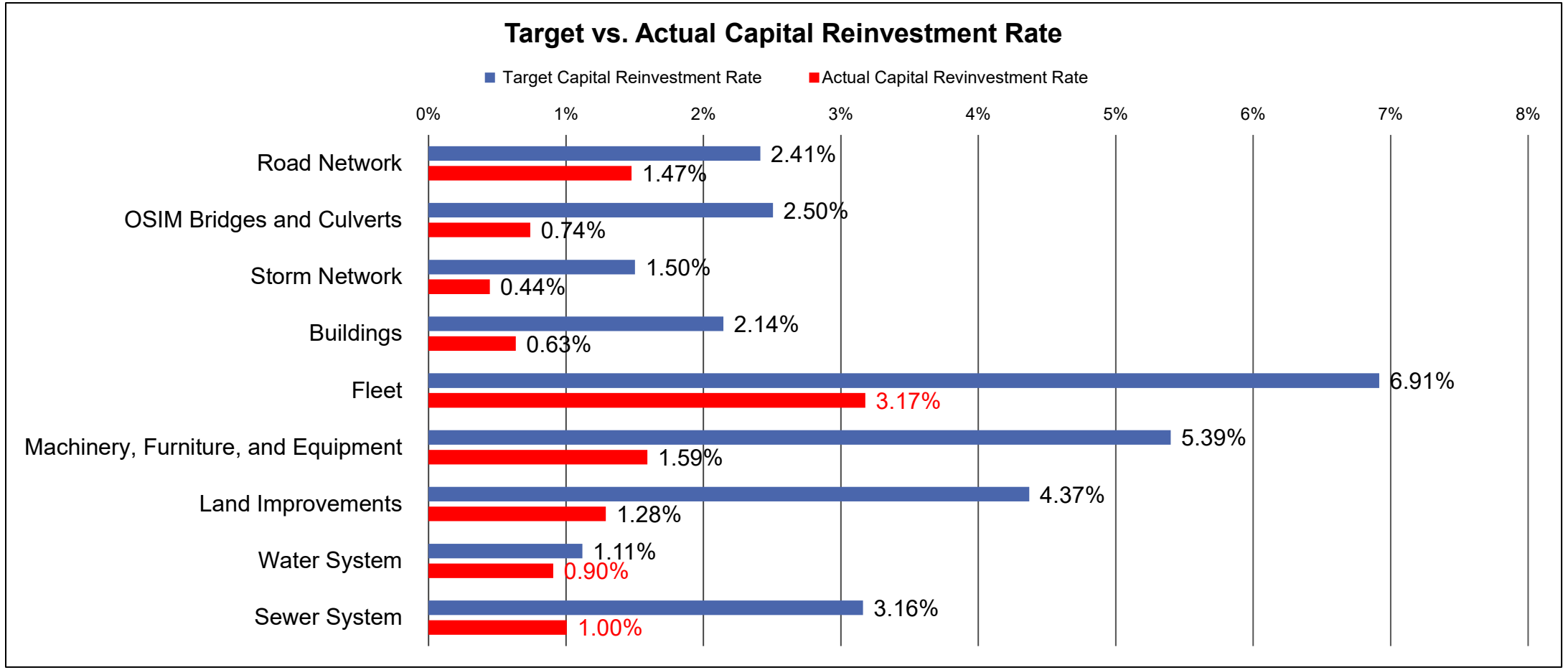
“Why are they doing that, they should just pave the road”

“My road is worse”

Annual Requirement



Target vs Actual Capital Reinvestment Rate



2022 AMP Recommendations

That the Township implement the 20-year option that captures the changes in debt payments. This involves full funding being achieved over 20 years by:

- Increasing tax revenues by 1.1% each year for the next 20 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.
- Increasing water user revenues by 0.2% each year for the next 20 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP
- Increasing sewer user revenues by 1% each year for the next 20 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP
- Allocating the CCBF, OCIF and OMPF revenue as outlined previously.
- Increasing existing and future infrastructure budgets by the applicable CPI on an annual basis in addition to the deficit phase-in.

2024 AMP Results – Tax-Funded

Asset Category	Avg. Annual Requirement ($)	Annual Funding Available ($)				Annual Deficit ($)
		Taxes	CCBF (formerly Gas Tax)	OCIF	Total Available	
Road Network	5,879,143	1,729,300	564,130	1,299,608	3,593,038	2,286,105
OSIM Bridges and Culverts	687,017	202,100	-	-	202,100	484,917
Storm Network	1,071,964	315,300	-	-	315,300	756,664
Buildings	898,677	264,300	-	-	264,300	634,377
Fleet	1,198,513	550,000	-	-	550,000	648,513
Machinery, Furniture, and Equipment	474,362	139,500	-	-	139,500	334,862
Land Improvements	382,664	112,600	-	-	112,600	270,064
Natural Assets	-	-	-	-	-	-
Total:	**10,592,340**	**3,313,100**	**564,130**	**1,299,608**	**5,176,838**	**5,415,502**
2022 AMP:	+1,412,940	+570,100	+25,930	+547,408	+677,038	+735,902
Annual increase:	+5.1%	+6.9%	+1.6%	+24%	+5.0%	+5.2%

2024 AMP Results – Tax-Funded

	Without Capturing Changes				Capturing Changes			
	5 Years	10 Years	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	5,415,502	5,415,502	5,415,502	5,415,502	5,415,502	5,415,502	5,415,502	5,415,502
Change in Debt Costs	N/A	N/A	N/A	N/A	(203,100)	(243,300)	(362,200)	(449,800)
Resulting Infrastructure Deficit:	5,415,502	5,415,502	5,415,502	5,415,502	5,212,402	5,172,202	5,053,302	4,965,702
Tax Increase Required	25.3%	25.3%	25.3%	25.3%	24.3%	24.1%	23.6%	23.2%
Annually:	**5.1%**	**2.5%**	**1.7%**	**1.3%**	**4.9%**	**2.4%**	**1.6%**	**1.2%**

2022 AMP

+735,902

+132,000

+867,902

+0.5%

+0.1%

2024 AMP Results – User-Funded

Asset Category	Avg. Annual Requirement ($)	Annual Funding Available ($)			Annual Deficit ($)	Difference from 2022 AMP
		User Rates	Other	Total Available		
Water System	3,056,561	2,474,800	-	2,474,800	581,761	(51,539)
Sewer System	2,887,102	915,700	-	915,700	1,971,402	(91,898)
Total	**5,943,663**	**3,390,500**	**-**	**3,390,500**	**2,553,163**	
2022 AMP:	+614,563	+758,000		+758,000	(143,437)	
Annual Increase:	+3.8%	+9.6%		+9.6%	-1.7%	

2024 AMP Results – User-Funded (Water)

Water									
	Without Capturing Changes				Capturing Changes				
	5 Years	10 Years	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years	Difference from 2022 AMP
Infrastructure Deficit	581,761	581,761	581,761	581,761	581,761	581,761	581,761	581,761	(51,539)
Change in Debt Costs	N/A	N/A	N/A	N/A	(98,100)	(170,400)	(184,300)	(242,000)	+900
Resulting Infrastructure Deficit:	581,761	581,761	581,761	581,761	483,661	411,361	397,461	339,761	(52,439)
Rate Increase Required	8.4%	8.4%	8.4%	8.4%	3.9%	3.3%	3.2%	2.7%	(2.2%)
Annually:	**1.7%**	**0.8%**	**0.6%**	**0.4%**	**0.8%**	**0.3%**	**0.2%**	**0.1%**	(0.1%)

2024 AMP Results – User-Funded (Sewer)

Sewer									
	Without Capturing Changes				Capturing Changes				Difference from 2022 AMP
	5 Years	10 Years	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years	
Infrastructure Deficit	1,971,402	1,971,402	1,971,402	1,971,402	1,971,402	1,971,402	1,971,402	1,971,402	(91,898)
Change in Debt Costs	N/A	N/A	N/A	N/A	(249,400)	(408,200)	(458,000)	(496,300)	+91,900
Resulting Instracture Deficit:	1,971,402	1,971,402	1,971,402	1,971,402	1,722,002	1,563,202	1,513,402	1,475,102	(183,798)
Rate Increase Required	36.3%	36.3%	36.3%	36.3%	13.9%	12.6%	12.2%	11.9%	(9.0%)
Annually:	**7.3%**	**3.6%**	**2.4%**	**1.8%**	**2.8%**	**1.3%**	**0.8%**	**0.6%**	(0.4%)

2024 Recommendations

The 2025 AMP will require the Township to provide proposed LOS and a funding plan for the next 10 years.

- That the annual increase for tax funded assets remain at 1.1% until the completion of the 2025 AMP and then any adjustments made.
- That the annual increase for user funded assets remain at 0.2% for water and 1% for sewer until the completion of the 2025 AMP and then any adjustments made.
- Increasing existing and future infrastructure budgets by the applicable CPI on an annual basis in addition to the deficit phase-in.

Challenges

- Aged Based Condition
- Replacement Costs
- Buildings
- Un-pooling of Assets
- Tax-Funded Funding Gap
- Service Level Expectations
- Staffing

Successes

User-Funded Funding Gap

Strategic Plan

AMP Preventative Maintenance Programs

Collaborative Effort

FIVE WORKING GROUPS

APPROXIMATELY 30 STAFF WITH REPRESENTATION FROM EVERY DEPARTMENT

Questions?