THE CORPORATION OF THE TOWNSHIP OF SOUTHGATE

BY-LAW NUMBER 2022-156

being a By-law to adopt "Asset Management Plan 2022"

Whereas the Municipal Act, S.O. 2001, Chapter 25, as amended, Section 5 (3), states that municipal power, including a municipality's capacity, rights, powers and privileges, shall be exercised by by-law unless the municipality is specifically authorized to do otherwise; and

Whereas the Municipal Act, S.O. 2001, Chapter 25, as amended, Section 9, provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under this or any other Act; and

Whereas the Council of The Township of Southgate has deemed it desirable to adopt Asset Management Plan 2022,

Now therefore be it resolved that the Corporation of the Township of Southgate hereby enacts as follows:

1. **That** "Asset Management Plan 2022" attached hereto as Schedule A is hereby adopted; and

2. **That** this by-law shall come into force and effect on the date of its passing.

3. **That** By-law 2021-084, and any other contrary to the provisions set out in the by-law are hereby rescinded.

Read a first, second and third time and finally passed this 5th day of October, 2022.

John Woodbury – Mayor

Lindsey Green – Clerk

TOWNSHIP OF SOUTHGATE

ASSET MANAGEMENT PLAN 2022

TOWNSHIP OF SOUTHGATE

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1. INTRODUCTION and BACKGROUND

1.1 What is ASSET MANAGEMENT?

The Township of Southgate (referred to in this document as Southgate) owns and manages a diverse portfolio of assets, to provide stakeholders (residents, businesses, and visitors) with safe access to important services, such as transportation, recreation, waste management, economic development and much more. These assets include roads and bridges/ culverts, wastewater and storm sewer systems, and drinking water systems, known as Core Assets. Other asset groups include buildings, vehicle fleet, technology and machinery/ equipment. Asset management is the short title for an integrated business approach, within an organization, to strike a balance between managing the lifecycle costs of owning, operating and maintaining assets, managing an acceptable level of risk, and managing the continuous delivery of established levels of service for current and future customers, and doing all of these tasks in a manner designed to be environmentally and financially sustainable.

There are several key words, within this definition, that will be explained in more detail throughout this document. This document is designed, within Provincial format guidelines, to assist Southgate with the pursuit of asset management of its core assets. The Asset Management Plan will be expanded to eventually include all non-core assets. Buildings were added in 2022. A concise definition of Core Assets would be those assets that deliver the services that residents cannot do without. This ~~2021~~ 2022 AMP for Southgate deals with ~~core assets~~Building Condition Assessments.

As a subsidiary of Asset Management, Infrastructure asset management is the combination of management, financial, economic, engineering and other practices applied to physical assets, with the objective of providing the required Level of Service in the most cost-effective manner. It includes the management of the whole life cycle of physical and infrastructure assets:

- Design
- Construction
- Commissioning
- Operating and maintaining
- Repairing and modifying
- Replacing and decommissioning/disposal

1.2 What are the benefits of ASSET MANAGEMENT?

Asset management is an integrated process, which means it touches most of the divisions of Southgate's business activities. This can often lead to some significant overhauls of existing processes, practices and procedures. Organizational change can be valuable, and it can improve outcomes for all Southgate stakeholders. Key benefits of asset management are:

- Data-driven decision making
- Enhanced sustainability of infrastructure assets
- Good governance and increased accountability
- Improved levels of service and quality of life
- Accurate forecasting of infrastructure replacement and enhancement needs
- Municipal compliance with Federal and Provincial regulations

1.3 What is an ASSET MANAGEMENT PLAN?

A concise definition of an Asset Management Plan (shortened to AMP) is a strategic planning document, identifying key asset data, and the resources and funding required to meet organizational objectives.

Seven essential elements of an AMP are commonly presented as questions. These questions can be answered through the asset management process:

Seven Essential Elements of an AMP	Answers
What does the municipality own?	Asset Inventory
What is it worth?	Valuation of the Inventory
What is its condition?	Condition ratings, remaining life
What needs to be done?	Levels of Service, lifecycle actions
When do you need to do it?	Risk Assessment, Project Prioritization
How much will it cost?	Revenue Requirements, price forecasts
How will you pay for it?	Long Term Financial Plan

Provincial regulations require the AMP to be updated every five years (or less). The reason for this requirement for future updates is to allow Southgate to re-evaluate the state of its infrastructure assets, as well as to review how its financial strategies are progressing. Unexpected events can cause AMP targets to be missed (Covid), and strategies must be altered in response to events.

AMP content includes basics like an asset inventory, condition assessments, and replacement costs. Other required elements of an AMP, per the Provincial regulation, are:

- Asset Management Strategies (risk assessment, lifecycle, prioritization)
- Levels of Service (performance measurement)
- Climate Change impacts
- Financial strategies

1.4 Infrastructure Ownership and O. Reg. 588/17

In Ontario, municipalities own and manage more infrastructure assets than both the Provincial and Federal governments combined. Across Canada, the shares of infrastructure assets are:

- Federal ownership 2%
- Provincial ownership 41%
- Municipal ownership 57%

The Province of Ontario, in 2015, passed the Infrastructure for Jobs and Prosperity Act (IJPA) followed by consultations with municipalities during 2016, to collect feedback on its proposed Regulation. The IJPA update came into force on Jan. 1, 2017 as O. Reg. 588/17, with these selected timelines and requirements for all municipalities in this Province:

PHASE 1 Core Assets	Due by July 1, 2021	1. Inventory analysis 2. Current levels of service 3. Costs and lifecycle activities required to maintain current levels of service 4. ONLY IF POP.> 25,000 : Population and Employment forecasts, and costs to service growth in next 10 yrs.
PHASE 2 ALL Assets	Due by July 1, ~~2023~~2024	Same requirements as Phase 1 above, but applied to ALL infrastructure assets
PHASE 3	Due by July 1, ~~2024~~2025	1. Proposed Levels of Service for next 10 years 2. Updated Inventory analysis 3. Lifecycle Management Strategy 4. Financial Strategy 5. Addressing Financial Shortfalls 6. ONLY IF POP.> 25,000 : how Growth Assumptions impact Lifecycle Mgmt. and Financial Strategy

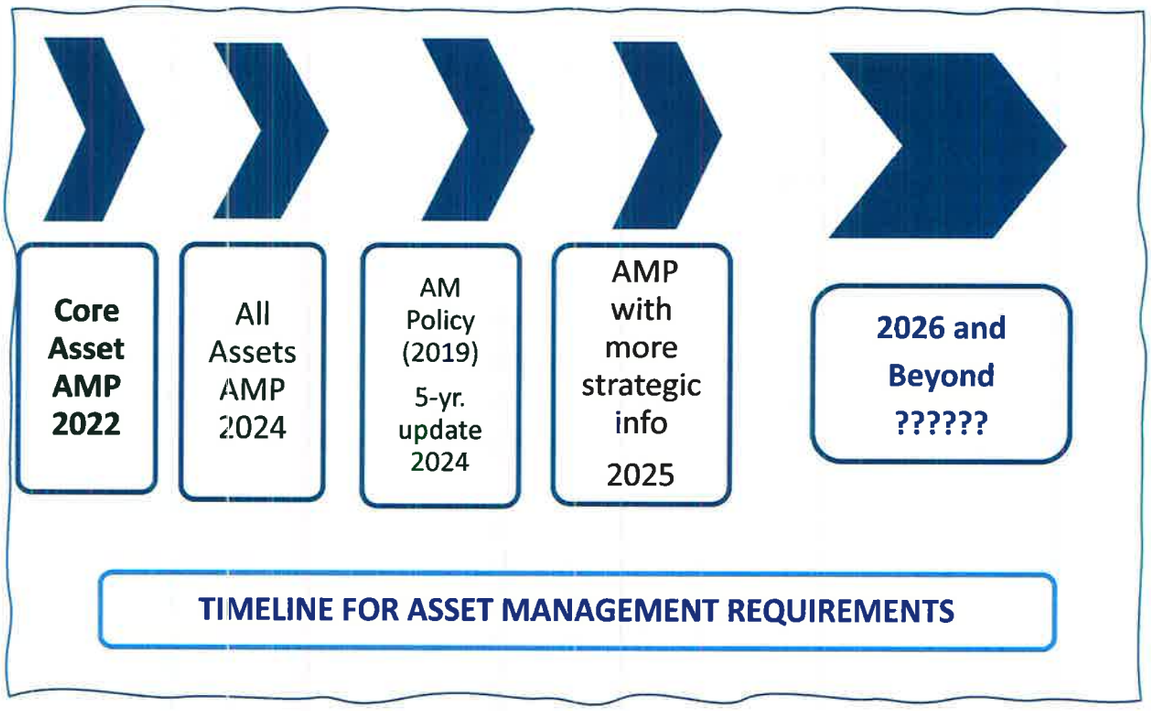
A concise definition of Core Assets would be those assets that deliver the services that residents cannot do without. This ~~2021~~ 2022 AMP for Southgate deals with ~~core assets~~Building Condition Assessments.

UPDATE

In March 2021, in response to municipal concerns over the impacts from COVID-19, the Province announced a one-year deferral for the three phases above. New required dates are:

1. Core Assets version of the AMP due by July 1, 2022
2. Expanded AMP covering all assets due by July 1, 2024

3. Proposed Levels of Service due by July 1, 2025



For the 2025 AMP, the additional "strategic information" includes:

- Proposed Levels of Service for next 10 years
- Addressing Shortfalls within the Financial Strategy
- Lifecycle management strategy
- Explain how Growth will impact Lifecycle and Financial Strategies

1.5 Integration with Other Plans

With respect to integrating the Township's budget process with asset management planning, both require a projection of capital and operating costs of a future period. Both the capital budget and the AMP should contain a ten-year forecast window for capital assets. Situations will change, assets will become damaged or worn-out earlier than expected. The annual budget process can respond to these circumstances because it is more frequent (annual) than the AMP process. The annual Southgate budget-setting process can be like an asset management plan update process.

Both asset management and PSAB 3150 (Public Sector Accounting Board) accounting rules 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. Historical cost values can be misleading when an asset is very old, because the difference between its historical cost and its replacement cost will likely be large.

Further integration into other Township financial/planning documents would assist with the ongoing accuracy of the AMP, as well as the accuracy of integrated financial/planning documents. This AMP has been developed to allow linkages to documents such as:

- Development Charge Background Study;
- Official Plan;
- Water and Wastewater Rate Study;
- Road Needs Study;
- OSIM Structure studies (every structure updated in a two-year cycle); and
- Insurance valuations and records.

References are made throughout this AMP to asset data that was obtained from these sources.

1.6 Annual Progress Review

The Regulation (section 9) requires "*every municipal Council shall conduct an annual review of its asset management progress on or before July 1 in each year*" and the review must address:

- The progress in implementing the AMP
- Any factors impeding the ability to implement the AMP
- Strategy to address the factors described above

The review may be done through a status update report to Council. A completely re-done AMP is not necessary for this annual review. The requirements for entirely re-done AMPs are spelled out in the table above (Phases Two and Three). After the Phase Three requirements are met, AMPs must be updated (re-done) at least every five years. See section on Next Steps.

2. STATE OF LOCAL INFRASTRUCTURE

In this section, Southgate core assets are itemized, along with information on condition assessments and estimated replacement costs. The annual Southgate audited financial statements are prepared using historical costs. Many assets in the inventory are decades old, so their historical cost bears little resemblance to current values. Historical values can be of little value in terms of asset management practices. Therefore, historical cost data is not referenced in this AMP, except for the first table below, just to show the differences between historical and replacement costs.

Asset data was based on the various sources listed in section 1.5, and not on historical cost financial accounting records. An exception to this is for recently acquired assets. Some of the data sources listed in section 1.5 are dated in 2018 or 2019, and so they are slightly outdated. Assets purchased after those reports were done have been picked up from the accounting records of recent years, for inclusion in this AMP, up to and including 2020 acquisitions.

2.1 Consolidated View of Core Assets

In this table, an overview is provided of all the core assets being reviewed in this AMP.

	Quantity measurement	Replacement Value Estimate	Net Book Value, Historical Cost, end of 2019
Roads – all types	517.812 km	$114,285,190	$ 23,043,478
Structures – all types	118 structures	$ 77,182,770	$ 8,656,469
Waterworks system, mains + other	as listed	$ 20,000,000	$ 3,908,248
Storm sewer mains, catch basins	as listed	$ 6,500,000	$ 525,744
Wastewater system, mains + other	as listed	$ 22,500,000	$ 738,685
Facilities Covered in 2022 BCA	as listed	$ 19,466,836	$ 8,670,669
COMBINED		$ 259,934,796	$ 45,543,293

The following sections will take a closer look at each of these asset groups.

2.2 Roads

Roads are the single most significant asset type in the asset inventory. Roads are classified by surface type. At Dec. 31, 2019, the road inventory was:

Length in km. 2013		Length in km. 2019	Replacement Value Estimate
27.149	Paved roads, urban & semi-urban	26.248	14,436,400
127.319	Paved roads, rural areas	137.388	37,921,950
44.084	Surface-treated roads	53.417	9,615,060
304.127	Gravel roads	291.131	52,311,780
9.628	Earth roads	9.628	No plans to replace
512.307		517.812	$114,285,190

Replacement values used above are: Urban/Semi-Urban Paved Roads $550,000/km., Rural Paved $275,000/km., Rural Surface-Treated $180,000/km., and Rural Gravel $180,000/km. These are the estimated costs to fully reconstruct each type of road, including its base and surface.

Total km. in the system (now 517.8 km. or 1,035 lane-kms.) will increase slightly, as new roads are assumed by Southgate from new subdivisions. Here is some road data taken from AMP's of comparable (mostly rural) or nearby municipalities, to confirm the reasonableness of the road valuation above.

Comparator	Total km	Paved or ST	Gravel	Replac. Value	
Melancthon	248.5	81.2	167.3	$ 112,000,000	
Wellington North	424	230	194	$ 121,798,073	
Minto	286.3	224	62.3	$ 122,200,000	
West Grey	1,000.9	524	476.9	$ 284,170,354	
Springwater (Simcoe County)	440	189.2	250.8	$ 131,070,000	

Roads are classified by the Ministry of Transportation (O. Reg. 612/06) into Road Classes, based on a combination of Average Daily Traffic (ADT) volumes and Speed Limits. There are six classes, Class 1 being the highest volume and speeds over 80 km/hr. and daily traffic volumes 5,000 to 50,000+. An example of Class 1 would be four-lane or six-lane roads, like Dixie Road in Mississauga and Brampton. Southgate roads have low traffic volumes, are mostly two lanes, and are mostly 80 km/hr. in rural areas, with urban streets posted at 40 km/hr.

There are no Southgate roads in MTO Classes 1, 2 or 3. The 517.8 km network of roads in Southgate are analyzed as:

2013 Study		2019 Study	
411.7 km	MTO Class 4	411.4 km	Speeds 40-80km/hr. ADT 500-999
18.2 km	MTO Class 5	16.1 km	Speeds 40-80 km/hr. ADT 200-499
82.4 km	MTO Class 6	90.3 km	Speeds 40-80 km/hr. ADT 0 - 199
512.3 km		517.8 km	

Many Southgate Class 6 roads have an ADT of just 0-49 vehicles, which is the lowest ADT measure there is. The MTO Road Class has relevance for asset management because the lower traffic volumes, and lower speeds, indicate that Southgate roads might reasonably be expected to have longer useful life estimates, because they are subjected to lesser usage. Paved road surfaces are typically assigned lifespans of 15 to 25 years before planned resurfacing is required, whereas Southgate has been using a 50-year paved road lifespan.

Road Asset Condition

Asset condition is a critical factor in decision-making for capital asset management. The 2019 Triton study provides Pavement Condition Index ratings (PCI) for all paved and surface-treated roads. PCI is the standard measure for "hardtop" roads condition. PCI is a combination of Field Condition Rating (FCR) and Ride Comfort Index (RCI), on a scale from 0 to 100. A road that has just been resurfaced would rate a PCI of 100. Roads with a PCI of less than 50 are considered deficient and in need of rehabilitation.

Triton found, in 2019, nearly one-third of Southgate's hardtop roads were in need of rehabilitation. Triton noted that because many Southgate roads were hard-surfaced at the time of amalgamation with thin lift asphalt pavement, many of those roads have now reached the end of their service life.

Microsurfacing of paved roads binds the surface and keeps material in Place. It works best when the road base is still adequate, and the road's paved-surface distresses are mostly cracking, including alligator cracking. Microsurfacing is less costly than resurfacing. However, microsurfacing does not address rutting, or more deep-seated structural road distresses.

The other hardtop road type (after paved roads) is Surface-treated roads, also referred to as Low Class Bituminous (LCB), which are typically rural roads with moderate traffic volumes. The treatment maintains the surface, and provides dust control, but requires re-sealing roughly every seven years, per Triton.

Here is an analysis of PCI values for all hard top roads (both paved and LCB) from the 2019 Triton data, altered slightly for the roads that were paved in 2020 (sections of Road 22 and Wilder Lake Road) and were changed to an Excellent PCI value.

PCI value range	No. of Km.	Segments	
91-100 Excellent	35.001	43	
71-90 Good	35.084	55	
51-70 Fair	83.733	92	
31-50 Poor	59.623	36	
< 30 Critical	3.612	3	← on Rd. 4, Rd. 14
	217.053	229	229 of 428 segments have a PCI

Paved urban + Paved rural + Surface-treated rural = 217.053 km. of hardtop

Note that these are 2019 PCI ratings (with a couple of 2020 updates), and so there could be a small number of roads that have declined from one range to the next range (e.g. from Good to Fair) since 2019. It is noteworthy that there are 35 km. rated excellent, just as many as rated Good. This is an indication of an improvement in the amount of paving work accomplished in recent years. All 43 road segments in the Excellent list were either newly added/built, initially paved (formerly Gravel), or repaved, since 2014.

Gravel roads are appropriate in rural areas, and in low to very low traffic volumes. These roads represent over 50% of Southgate's road network. Triton's report says gravel surfaces are best for roads with poor subgrade conditions, such as topsoil present in the upper portions of the road base, and/or poor drainage conditions. These roads would not support a hard surface, as they would break up prematurely. Southgate maintains a regular gravel road program, along with brushing and ditching for improved drainage. Gravel roads of course do not have a PCI, but they do have an FCR. The Triton 2019 report says the weighted average FCR across the gravel road inventory was 5.7, considered to be good. The report states that *"while gravel roads should be maintained at an average FCR of 7.0, lower traffic-volume gravel roads can have FCR between 5.0 to 7.0 and provide satisfactory performance".*

2.3 Structures (bridges and culverts)

Southgate has a high number of structures, namely 118 structures. In Ontario, structures must undergo inspections every two years. Inspections are performed, on an element-by-element basis on each structure, by external engineers (R. J. Burnside "RJB"). Inspections are made in accordance with the Ministry of Transportation – Ontario Structure Inspection Manual (OSIM). See the section on Structures Asset Condition for details on the findings of the most recent OSIM inspections.

Structures by location:

Southgate Road	# structures	
Road 4	6	
Road 8	7	
Road 10	9	
Road 12	13	
Road 14	13	
Road 22	3	
Road 24	9	
Road 26	12	
Sideroad 7	4	
Sideroad 11	1	
Sideroad 13	3	
Sideroad 15	3	
Sideroad 19	1	
Sideroad 21	3	
Sideroad 41	3	
Sideroad 47	4	
Sideroad 49	9	
Sideroad 55	1	
Sideroad 57	4	
Sideroad 61	2	
Sideroad 71	2	
Sideroad 75 / Ida St.	3	
Eco Pkwy., Feairs Dr., Sligo Rd.	3 (1 each)	
	118	

Structures by most common type (types with under 3 structures are left out):

Cast-in-place concrete rigid frame	62
CSP multi-plate ellipse culvert(s) [might be single or double]	11
Steel I-girder, concrete deck	9
Cast-in-Place concrete box culvert	8

Precast concrete box culvert	6
CSP round culvert(s) [might be single or double]	4
Precast concrete I-girder	4
CSP Arch culvert(s) [might be single or double]	3
All Other	11

The structures Replacement Value of $77.18 million, shown in Section 2.1 above, comes from values found in the OSIM studies of 2019 and 2020, except that only the core asset value was used. RJB cost estimates for roadside protection features (like Guiderails and end treatments), engineering design, environmental assessments, and 10% cost contingencies were all excluded. This is because recent experience shows actual structure projects, completed by Southgate in recent years, have consistently come in well under the OSIM Study replacement cost estimate. Therefore, the OSIM core asset values, taken alone, are likely still on the high side for estimated replacement values.

Structure Asset Condition

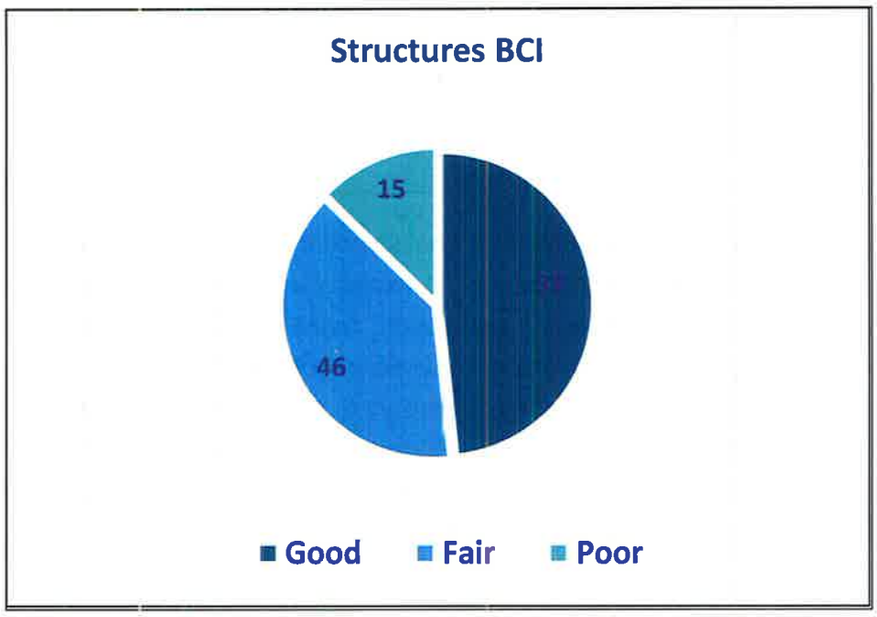
Asset condition is a critical factor in decision-making for capital asset management. Structure asset condition is measured by the Bridge Condition Index, the BCI for short. BCI value ranges are Good = 70 to 100, Fair = 50 to 70, and Poor = <50.

OSIM inspections are done on half of the Southgate structure inventory every year, so that every structure is inspected once in a two-year cycle. This cycle ensures that

- Inspection information is kept very recent (as compared to roads data)
- BCI measurement trends can be analyzed over time by comparing results over several recent cycles

The OSIM study every year includes a "five-year Capital Plan" from RJB, which is helpful to township staff in developing the township's capital plan in the annual budget. In addition to capital cost plans, the annual operational budget provides funding for routine maintenance of structures. Routine maintenance is important, to extend the service life of structures. Routine bridge sweeping, washing of decks, drains, joints, bearing seat areas and girders will improve service life. Removal or trimming of vegetation, as well as addressing minor erosion concerns regularly, will pre-empt more serious issues.

In September 2020, RJB stated 48.3% of Southgate structures were Good (57 of 118), 39.0% were Fair (46 of 118) and 12.7% were Poor (15 of 118). MTO has established a goal for municipalities of keeping 85% of structures in "good" condition. At 48.3% Good, Southgate is underperforming when compared to that MTO 85% goal.



However, since the 2015/2016 inspections cycle, Southgate has accomplished enough maintenance and capital work on its structures to keep its overall average BCI, across all 118 structures, holding steady at 67.3 (see Level of Service table). Recently completed capital work was done on structures S043, S118 and S126 (all in 2019), and S031 in 2020.

Here is a table of all 118 BCI values, by specific ranges:

B C I value range	No. of structures		
75 to 100 Good	32		
70.1 to 74.9 Good	25	close to dropping to Fair	
56 to 70 Fair	41		
50 to 55.9 Fair	5	close to dropping to Poor	
20 to 49.9 Poor	15		
< 20 Critical	none		

This breakdown of BCI ranges was designed to show how many structures are nearing the point of BCI value that would drop them down one category. Finally, although BCI is a good measure of the overall condition of a structure, and its relative construction need, other factors beyond BCI are often considered when prioritizing bridge work. Other decision-making factors include:

- Traffic volume and # trucks that regularly use the road the Structure is on
- Load capacity restrictions
- Geometric restrictions (alignment or width is difficult to alter)
- Pedestrian or cycling requirements
- History of accidents or traffic conflicts

- History of flooding or ice problems
- Nearby area population growth and development

2.4 Waterworks, Sanitary Sewer and Storm Sewer Systems

There are three remaining core asset groups considered in the AMP: Waterworks system assets, Sanitary Sewer (Wastewater) system assets, and Storm Sewer (Stormwater) assets. These asset groups do not have external measurements like a PCI or a BCI, as roads and structures have. Instead, to measure asset condition in these groups, the AMP has used a five-part General Condition Grading System, per the Table below, and asked township staff who are most familiar with these assets to assign the condition rating they believe to be the most accurate.

Grade	Description of Asset Condition
VG Very Good	Typically new or recently rehabilitated asset. Only normal maintenance required
G Good	Minor deterioration only in some elements; some minor maintenance required
F Fair	Significant Maintenance required to return to Accepted Level of Service. General signs of deterioration.
P Poor	Mostly below standard, many elements nearing the end of their service life. Requires Renewal, or significant upgrade.
VP Very Poor	Asset is not serviceable. Widespread signs of advanced deterioration. Components exhibit signs of imminent failure.

2.4-1 Waterworks system

The drinking water system in Dundalk is a ground water source system, consisting of three production wells (D3, D4, D5), three water storage reservoirs, one monitoring well and a distribution system of approx. 19.8 km. of watermains of varying size, with 1067 service connections (per 2020 Annual Report).

The system is monitored by a new SCADA system installed in 2020, which communicates through RF towers and PLC's in the wells, to record data and monitor operations.
Below are tables listing key components of each well:

Well D3 280 Victoria St. W.		Condition Grade
Drilled ground water well, pumphouse structure, 86.9 m deep, 250 mm. diameter steel well casing to bedrock at 28 m. depth		G
Submersible pump that transfers water from wellhead into the reservoir, rated capacity 777 L/min. at 38.1 m TDH		G

One 100 mm. magnetic flow meter		G
Two vertical turbine high lift pumps to pump water from reservoir to distrib. system through 250 mm. diameter watermain		G
One 100 mm. magnetic flow meter on pump discharge header		G
Two fire flow pumps, rated cap. 5,678 L/min 1 Electric-driven		F
1 Diesel driven		F
One backflow preventer on the fire pump system		G
Secondary containment for chemicals and diesel fuel		G
Piping, valves, controls & equip within the pumphouse		G
1,364 cu. m. pre-stressed concrete Reservoir, circular, ground level, with baffle curtains and two mixers		F
Two UV light reactors for disinfection with one UVT monitor		G
Sodium hypochloride dosing pump, storage tank		G
Residual analyzer and downstream dosing pump		G
Turbidity analyzer on raw water piping		G
Metering pump flow switch with alarming and controls		G
Standby Power : 80kW diesel generator		VG

Well D4 550 Main St. E. (built 2004)		Condition Grade
Drilled ground water well, pumphouse structure, 100.6 m deep, 250 mm. diameter steel well casing to bedrock at 32 m. depth		G
Submersible pump that transfers water from wellhead into the reservoir, rated capacity 1,136.5 L/min. at 32.6 m TDH		G
One 100 mm. magnetic flow meter		G
Two vertical turbine high lift pumps to pump water from reservoir to distrib. system through 250 mm. diameter watermain		G
One 100 mm. magnetic flow meter on pump discharge header		G
179 m. of 250 mm. diameter PVC watermain connecting Well D4 to existing distrib. system		G
One turbidity analyzer		G
Piping, valves, controls & equip within the pumphouse		G
One baffled Reservoir approx. volume 187.7 cu. m.		G
Sodium hypochlorite metering pumps (2) with flow switch, auto switch-over, alarm and shutdown features		G
Sodium hypochlorite tank		G
One free chlorine residual analyzer		G
Standby Power : 100kW diesel generator with 284 L fuel tank		G

Well D5 250 Hagan St. (drilled 2017, installation 2019)		Condition Grade
Drilled ground water well, pumphouse structure, 96 m deep, 250 mm. diameter steel well casing to bedrock at 35.35 m. depth		VG
Submersible pump that transfers water from wellhead into the reservoir, rated capacity 1,363.5 L/min. at 35.2 m TDH		VG
One 100 mm. magnetic flow meter		VG
Two vertical turbine high lift pumps rated at 1,363.5 L/min with variable frequency drives		VG
One 100 mm. magnetic flow meter on pump discharge header		VG
179 m. of 250 mm. diameter PVC watermain connecting Well D5 to existing distribution system		VG
One turbidity analyzer		VG
Piping, valves, controls & equip within the pumphouse		VG
One baffled Reservoir, capacity 536 cu. m.		VG
Sodium hypochlorite dosing pumps (2) with flow switch, auto switch-over, alarm and shutdown features		VG
Sodium hypochlorite tank		VG
One free chlorine residual analyzer downstream		VG
Standby Power : 150kW diesel generator with double walled under base fuel tank for 24-hrs run time		VG

SCADA system (replaced in 2020)		Condition Grade
One level sensor in each Well		VG
One Well-pump operation sensor in each well		VG
One Well-pump flowmeter in each well, on raw water inlet to reservoir		VG
Six pump speed sensors, two at each well, with one on each highlight pump		VG
Three VFD failure monitors, one at each well		VG
Three ultra-sonic level sensors, one at each well		VG
Three float type level sensors, one at each well		VG
Eight Chlorine pump operation monitors, including failure alarms, two at Well D3, three at D4 and three at D5		VG
Three Chlorine and turbidity analyzers, one at each well		VG
Three Chlorine analyzers, located on treated water lines, one at each well		VG
Three treated-water flowmeters, located on treated water lines, one at each well		VG

Fuel Oil Systems, Diesel fuel	Condition Grade
One 550 L above ground double walled storage tank, outside the diesel generator, for pump house D3	VG
One 1,138 L above ground double walled storage tank, outside D3 fire system pump	F
One 680 L above ground double walled storage tank, outside the diesel generator, for pump house D4	G
One 1,137 L above ground double walled storage tank, outside the diesel generator, for pump house D5	VG

Watermains total 19,846 m.	Condition Grade
Main St E installation 2019/20 total 1,481 m. of 150, 200, and 250 mm dia. gasketed PVC main, including tracer wire, from Proton St. easterly to Sinclair St.	VG
Other recent installs: Elm St.	VG
Young St.	VG
Rowe's Lane	VG
Mains across remainder of system, 18,365 m. EXCEPT these Specific sections requiring attention :	F
Victoria St W	P
Proton St S	P
Gold St W	P
Ida St S	P

Water Meters:	Condition Grade
Approx. 1,200 units, both installed + inventory held	G
Hydrants	
Inventory count = 116 across the Town	G

2.4-2 Stormwater assets: storm sewers and catch-basins

Managing rain water (stormwater) is important for reducing the risk of flooding, and the risk of damage to other infrastructure assets. The stormwater system includes approx. 17.5 km. of stormwater drainage pipe, and approx. 160 catchbasins on various streets in Dundalk, including recent street additions (Doyle, Elm) and one Stormwater Holding Pond, located just south-east of the Sheffield Street cul-de-sac, with a holding capacity of 1,272 cu. m.,

covering 0.23 hectares. There is a partially-submerged inlet from the in-street collection system to the Pond.

2.4-3 Wastewater system

The Dundalk Sewage Treatment Works (STW), at 752051 Ida Street S. consists of a four cell waste stabilization pond facility, flowing into an aeration cell pond. Components of the system are a Pumping Station, Chemical Feed System, the Stabilization Ponds, a Post Aeration Cell, Blower Building, Tertiary Treatment Filter Building, and Discharge to the Foley Drain connected to the Grand River Watershed. In 2014, upgrades were completed on the pumping station, post-aeration cell, blower building, and the tertiary treatment filter building.

The system underwent inspection in May 2019 by the MECP (Ministry of Environment, Conservation and Parks). A sewage lagoons sludge assessment was conducted by Triton Engineering in 2020.

STW Component	Year	Condition Grade
Pumping station building	1972	G
Wet Well Pump #1	2019	VG
Wet Well Pump #2	2017	G
230 mm forcemain to stabiliz. ponds		G
Controls building, houses pump control equipment	2014	VG
50 kW diesel generator, auto transfer switch	2014	VG
2.2 sq. m. Chemical Metering building	2000	F
24.5 cu. m. capacity chemical storage tank (Alum)		G
Chemical metering pump w/ flow recorder+totalizer		VG
OTHER PUMPS:		
Influent Pump 1	2008	G
Influent Pump 2	2020	VG
Influent Pump 3	2016	G
Backwash Pump 4	2018	VG
Backwash Pump 5	2011	G
Backwash Pump 6	2020	VG
Stabiliz. Pond 1 depth 1.8 m. 6.5 hectares	1984	G
Stabiliz. Pond 2 depth 1.8 m. 6.5 hectares	1984	G

Stabiliz. Pond 3 depth 1.8 m. 4.1 hectares	1972	G
Stabiliz. Pond 4 depth 1.8 m. 4.1 hectares	1972	G
Post Aeration cell depth 2.1 m. 4,546 cu. m.	1984	G
Blower building	2014	G
Steel roof	2019	VG
Two Blowers, air main + diffusers	2014	VG
Tertiary Treatment Filter building	2000	G
Three variable frequency drives	2000	G
5,680L capacity chemical storage tank	2000	G
Flocculation tank with mixer+backwash filter	2000	G
50 cu. m. filter effluent tank	2000	G
50 cu. m. backwash waste tank	2000	G
Oxygen monitoring equipment, air piping, fine bubble air diffusers	2014	VG
Discharge system	2000	G
Sanitary sewer mains/pipes, approx. 17,500 m. or 17.5 km.		Condition Varies
Inventory of manholes		Condition Varies

The Sanitary Sewage Lagoons south of Eco Parkway, which treat the sewage from the community, are designed to treat 1,832 m3/day.

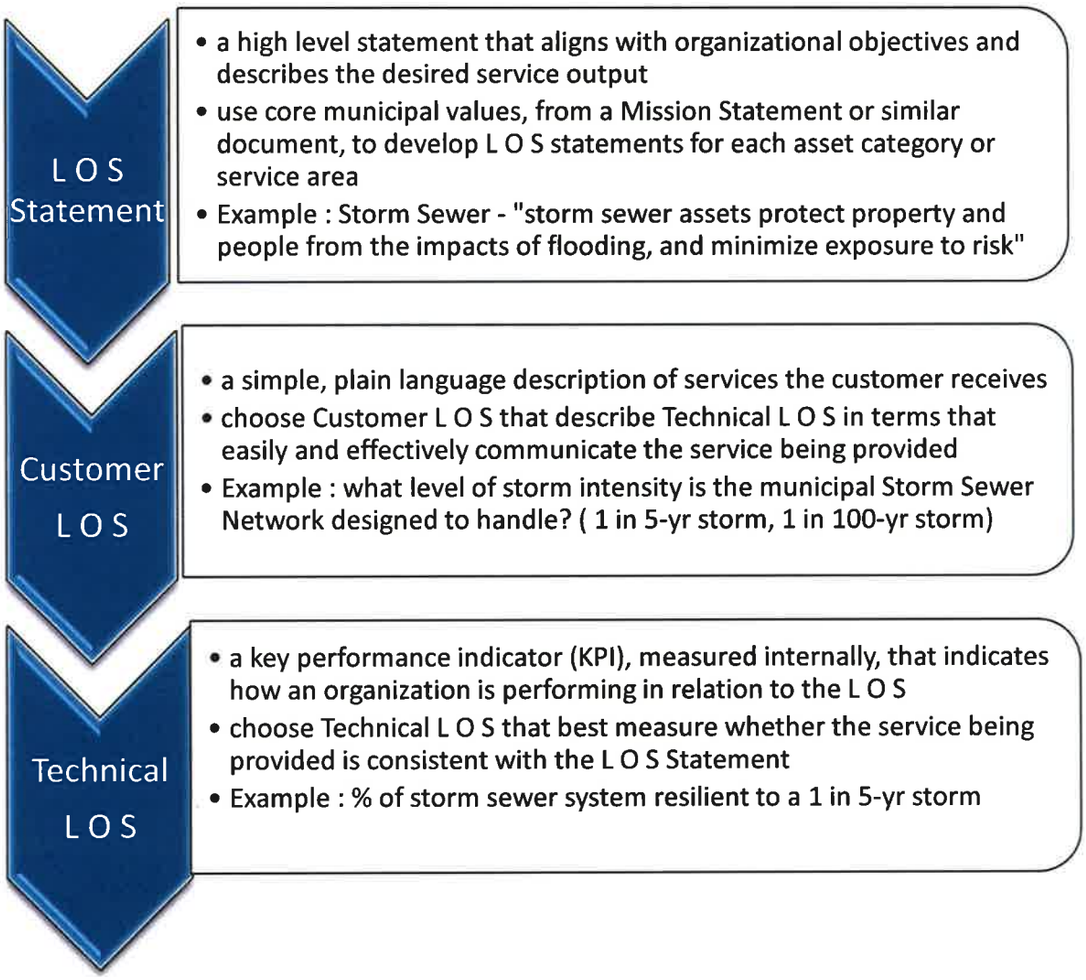
2.4-4 Facilities

Southgate owns and operates several facilities to deliver various services to its residents. While facilities are not considered a core asset under *O.Reg588/17* the importance of facilities can not be understated. Facilities are used in almost every facet of Southgate's operations – including the provision of services through core assets.

Appendix 9 has a list of all the facilities that have been reviewed as part of the Building Condition Assessments along with their replacement cost.

3. LEVELS OF SERVICE

Every AMP needs to balance affordability of municipal services with customer needs and expectations. Levels of Service (LOS) is the standard used for this aspect of Asset Management. LOS are specific parameters that describe the extent and quality of services that the municipality provides to its users.
Here is a basic guide to establishing LOS:



Developing realistic LOS, using meaningful Key Performance Indicators (KPIs), is necessary for managing citizen expectations, identifying areas requiring additional investments, driving organizational performance, and securing the highest value-for-money from public assets. Municipalities face diminishing returns with their LOS and KPI frameworks; in other words, the more LOS and KPI measures are kept, the less and less incremental value they provide. The objective should be to track only LOS measures that are relevant and insightful to Southgate.

The O. Reg. 588/17 prescribes, in tables, a minimum number of LOS measures to be provided, at least initially, set out in section 6 of the regulation.

For core assets, per the diagram above, there are two types of LOS:

1. Customer LOS, sometimes referred to as External Outcomes. A simple, plain language description of what customers expect to receive from Southgate
2. Technical LOS, key performance indicators (KPI's) used to measure performance of assets and performance of services to customers

Reg. 588/17 section 5(2) sub-section (1)(i) sets out the need to include in the AMP some specific basic measures, for core assets, given in Reg. Tables 1 to 5. In future, Southgate should expand upon these basic LOS as more data on performance is collected.

	LOS Statement /Customer LOS	Technical LOS and KPI's
WATER	Provide a safe and reliable supply of drinking water to residents connected to the municipal waterworks system	% of Dundalk properties connected to the water system - 99.0%
		% of Dundalk properties where Fire Flow is available - 100.0%
	Service requests are promptly responded to	Annual number of Boil-water Advisories - 2020 : 0 2019 : 0 2018 : 0
		Number of watermain breaks – 2020 – 2 2019 – 2 2018 – 3
WASTEWATER	Wastewater network is maintained and managed to enable continuous and reliable provision of sewage services	Number of emergency sewer repairs per year - 2020 : 0 2019 : 1 2018 : 0
		Number of sanitary sewer backups per year - 2020 : 0 2019 : 0 2018 : 0
	Service requests are promptly responded to	Number of raw sewage bypass events 2020 : 0 2019 : 0 2018 : 0
STORM WATER SYSTEM	Stormwater network is maintained in good condition to enable continuous and reliable provision of services	% of properties resilient to a 100-year storm - 75%
		% of properties resilient to a 5-year storm - 100%
ROADS	Road network is convenient and available to the whole community.	Average Pavement Condition Index (PCI) value for paved roads : 2019 – 68.63

	There are minimal service disruptions. It is safe to use; traffic signs and markings are easy to see and understand. Service requests are promptly responded to. Example : potholes filled	
		Average Condition Rating for Surface Treated roads: 2019 - 5.7 2014 – 6.4
		Average Condition Rating for Paved Asphalt roads : 2019 - 6.1 2014 – 6.6
		Average Condition Rating for Gravel roads : 2019 - 5.7 2014 – 5.7
STRUCTURES	All Bridges and Culverts provide safe vehicular and pedestrian passage. All Structures are fully compliant with regulatory requirements. Traffic that is supported by Structure Network • Heavy trucks • Passenger vehicles • Emergency vehicles • Cyclists • Pedestrians	Average bridge condition index (BCI) : 2015/16 OSIM cycle : 67.2
		2017/18 OSIM cycle : 67.3
		2019/20 OSIM cycle : 67.3
		Do all Structures undergo OSIM inspections per MTO regulations? : YES
		Structures with Loading Restrictions: 9 of 118 = 7.6% They are S033, S070, S079, S080, S081, S085, S107, S113, S119

These LOS are basic and are a starting point for Southgate. The next version of the AMP will bring in more LOS for other types of assets, such as Buildings and Vehicles. Many other LOS measures for core assets could be added to this list, however they would require a commitment to gathering the data required. In some cases, historical data is not available because it was not kept. Therefore, some LOS measures will be kept only for 2021 and beyond.

Taking LOS to the next step will require some group discussion of Target values for Technical LOS. One example would be to say that an overall paved road PCI value of 70.0 is the target. Any targets that are beyond the current actual values in Southgate would, of course, require increased financial and human resources to achieve.

Target values appropriate for Southgate cannot be determined by this AMP. Average BCI through the past three OSIM cycles, per the table, has been kept constant, based on the spending level for structures, as previously approved. Council and staff would need to discuss how much more money

they are comfortable with spending, and whether the capacity even exists to accommodate the amount of work needed to get to a higher Target LOS. Capacity can be limited by not only budgets, but by available contractors and other service providers, and the amount of time that staff can afford to devote to projects, without impairing their existing, mandatory operational duties.

Risk

Another aspect of asset management that is directly linked to LOS is Risk. Risk represents the combination of the chance, or likelihood, of an event occurring, and its potential positive or negative consequences to customers/residents. In asset management, the event we are talking about is the failure of an asset to provide services; it could be caused by a weather-related event.

A Risk Matrix with sliding scales of values for Likelihood and Consequence is often used, such as this one:

CONSEQUENCE	Insignificant = 1	Minor Impact = 2	Moderate = 3	Major Impact = 4	Catastrophic = 5
LIKELIHOOD					
Rare = 1	1*1 = 1	2*1 = 2	3	4	5
Unlikely = 2	2*1 = 2	4	6	8	10
Possible = 3	3	6	9	12	15
Likely = 4	4	8	12	16	20
Almost Certain = 5	5	10	15	20	25

An example might be a severe winter storm event in Texas, an event with a likelihood = Unlikely, but Catastrophic consequences, for a value of 10 (2 times 5) in the matrix. Climate change is just one factor that can alter the likelihood of certain weather-related events, as the frequency of occurrence of weather-related events changes. (see Section 6 on Climate Change)

Assets can be assigned a likelihood of failure, and consequence of failure, such as a bridge closure, with consequences based on where the asset is located, available detour options, and traffic volume. A methodology is needed to identify where the most cost-effective risk reductions are, and what amount of risk can be mitigated, as risk cannot be fully eliminated (in other words, we cannot control the weather).

This will lead to a prioritization of asset needs. Prioritization is a necessary concept for Southgate, because the two Strategy sections of this AMP (Asset Strategy, Section 4 and Financial Strategy, Section 5) will make clear that there are not sufficient resources available to address all asset needs, and so choices must be made, priorities set, and postponements grudgingly accepted, when selecting assets for rehabilitation or replacement. It is unclear whether the assignment of Risk values, to core assets, would result in any significant changes to the timing of core asset projects from how the projects currently appear in the capital plan.

It is recommended that LOS measures, and Risk measures, should be factored-in during Southgate capital budget discussions for 2022 and beyond.

Past practice in Southgate for the selection and timing of capital projects, for the Capital Plan, has been influenced by a combination of:

1. the results received from external consultants in the most recent OSIM inspection report and the Road Needs report (but not simply taking exactly the same timing, or exactly the same sequence, of projects as given by the consultants, at face value)
2. the advice and input of township staff, based on their hands-on knowledge and experience of the state of existing assets, that they use every day

This past practice is very common among municipalities, as the additional work of devoting time and effort into an expansion of detailed LOS measures and Risk evaluation is just beginning to be developed, in 2021, especially in smaller municipalities. It is recommended that Southgate begins going down the road of keeping more specific LOS measures, and documenting how these measures influence the setting of its future budgets.

Selecting LOS

Asset Management Ontario (AMONT) is an organization providing help and advice on asset management to municipalities of all sizes. AMONT offers the following "tips" for developing LOS in the near term:

- keep LOS simple, focus on asset objectives
- minimize the number of LOS, focus on "Why do we need this LOS?" and "What will this LOS tell us about the asset/service?"
- will the data needed for desired LOS be available?
- avoid using specific design criteria that is too detailed, too numerous, too prescriptive

These tips have been followed for the purposes of LOS in this AMP. It is recommended that, as updated versions of AMPs from other comparable municipalities are adopted and publicly released~~, later in 2021,~~ Southgate staff research these other Plans to discover LOS measures contained in them, that could be useful for Southgate to begin to measure and maintain, keeping in mind the AMONT Tips listed above.

Selecting KPIs

Selecting which KPIs to use, and to set targets for, when establishing Technical LOS is not a science, but there are a few important considerations. These are referred to as the SMART system, developed by the Institute of Public Works Engineering Australasia (IPWEA):

S Specific aspect of service
M be Measurable
A be Achievable (have a clear plan for reaching the KPI target)

R be Relevant to the LOS and to a strategic objective
T be Timebound, have a clear timeframe for achieving KPI target

Proposed Levels of Service (LOS), both Customer LOS and Technical LOS

Part 6 of the Regulation requires future versions of the AMP to include [now required by July 1, 2025] a discussion of Proposed LOS, including:

1. the Proposed LOS measures
2. an explanation why the Proposed LOS are appropriate
3. proposed performance of each asset category, for each of the next ten years
4. a lifecycle management and financial strategy, in each asset category

Although not required for the ~~2021~~ 2022 AMP, here are some initial considerations about developing Proposed LOS.

Future LOS for Southgate would most likely be built around maintaining the current LOS, at least in the near term. This expectation is based on the economic and practical limitations that a municipality like Southgate must operate within. Maintenance of just the "status quo", on its own, will be a challenge for Southgate, and will require more resources than those being used in ~~2021~~2022, because:

- Southgate is experiencing substantial growth in population and households now, and growth is expected to continue, so to keep current LOS will demand more from existing core assets, even as they age
- Climate Change, and severe weather events, will have negative impacts on specific core assets, putting them under more stress, and likely shortening their service lives. In other words, assets are likely to need more frequent replacement in future.

Climate change is an area of asset management that is taking on more and more significance. Section 6 of this AMP discusses climate change and its potential impacts on the assets that Southgate has in service.

Southgate must have chosen some Proposed LOS (by June 2025), and started to record and track those chosen. Here are some ideas for specific Technical LOS measures (KPIs) that could be tracked in the future:

ROADS and STRUCTURES

- Percentage of Capital investment/spending to asset replacement value
- Historical cost depreciation compared to annual expenditures
- Costs per capita (Operations and Capital)
- Maintenance costs per square metre

- Achieved overall BCI (per OSIM inspections) compared to target overall BCI
- Achieved overall roads PCI compared to target overall PCI
- Percentage of road lane-km. rated as Poor and Critical
- Percentage of customer requests getting a response within 24 hours

WATER AND SEWER

- Cost of borrowing compared to total operating costs
- Percentage of mains where condition is rated Poor or Critical
- Number of wastewater main backups per 100 km. of main
- Number of customer requests received per year
- Percentage of customer requests with a response within 24 hours
- Percentage of network inspected
- Percentage of Replacement Value spent on operations and maintenance

Other non-core asset classes, including buildings, vehicles and machinery, will be added to the next expanded AMP, and these asset classes will have KPIs of their own to add to this list.

But what are the right LOS/KPI's for Southgate? Factors that can influence which LOS and KPI will be selected for tracking in the future include:

1. Strategic Objectives and Corporate Goals
    - Southgate's long-term direction outlined in its adopted corporate Plans
    - this direction will influence the types of services to be delivered, the quantity and quality

2. Community Expectations
    - General public will have insights on what they consider to be a "good Condition" for a road, or where they feel new roads are needed based on travel patterns

3. Economic Trends
    - Interest rates (example: a KPI that relates debt service cost to another metric)
    - Currency exchange rates
    - Fuel and utility prices (example: KPI that measures fuel efficiency, Km per litre)

4. Demographic Changes
    - If Skewing younger = more parks and recreation services
    - If Skewing older = more well-being centers

5. Environmental Change
    - more extreme storm events will require more KPIs related to asset resiliency

Future Reviews

Reg. 588/17 part 9 requires annual reviews of progress of the Southgate AMP. This requirement has been added, by the Province, to encourage municipalities to treat asset management as an ongoing activity, make it part of annual budget preparations, and not something to be set aside for several years. This often has been the case for many municipalities, where their first AMP was completed in 2013 or 2014, but seldom looked at since.

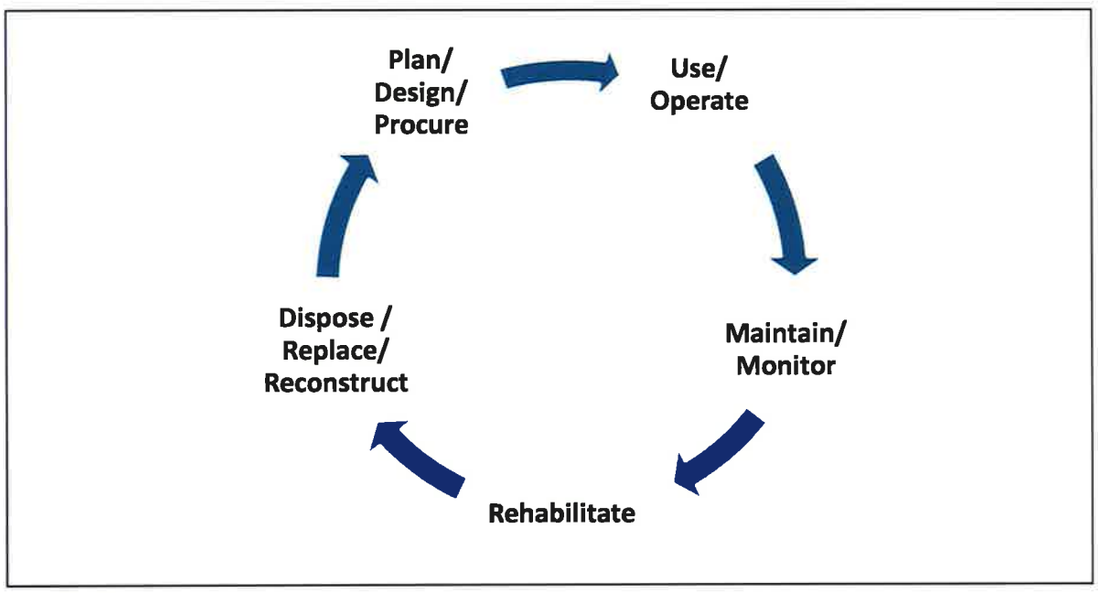
One mandatory piece of these annual reviews should be an historical tracking of Southgate LOS and KPI measures over time, to identify trends, and any new measures that have been added. The number of LOS and KPI measures kept by Southgate will certainly increase beyond this initial 2021 group.

4. ASSET STRATEGY

The purpose of Southgate's Asset Management Strategy (AM Strategy) is to evaluate current practices, and to establish future practices that will be sustainable and cost-effective. This AM Strategy considers asset/infrastructure solutions, and non-infrastructure solutions. There should be a focus on continuous improvement of asset management activities, towards the goal of improved service delivery from township assets.

Non-infrastructure solutions means using tools like external studies, master plans, and public consultations about LOS and asset condition assessment. In Southgate, these studies and plans are included in the budget as "special projects".

Steps needed in the AM Strategy are (a) data collection (including lifecycle data and risk data), (b) asset condition assessment, and (c) the analysis of the data collected.



Asset Lifecycle

(A) DATA COLLECTION

This diagram depicts a typical "cradle to grave" lifecycle of an asset. Township staff already follow this process for the assets they regularly work with, but it would be useful for proper asset management practice to, more formally, document best-estimate timetables of the various stages of key assets, including timing expected for rehabilitation and disposal. This is already in place to a certain degree; it has to be in place, to be able to prepare an annual capital budget and ten-year

capital plan. However, there is room for expansion of lifecycle record-keeping and for formalizing the processes followed. Introducing risk matrix calculations can be part of this expanded record-keeping. It is recommended that the Asset Co-ordinator (AC) work with front-line staff to develop a more uniform record-keeping process.

Gaps in asset data were encountered often during the preparation of this AMP. Confidence in the asset data presented in Section 2 State of the Infrastructure could be significantly improved through the work of a cross-functional team with the leadership of the AC. It is recommended that such an internal group, initially established by staff in 2021, become more active.

An important life-cycle stage is the maintenance and monitoring of assets, after they have been procured and put into operational use. Proper maintenance is essential to maximize the useful life of an asset, and to minimize risk. Maintenance will avoid the need for earlier-than-anticipated replacement, thereby saving financial resources, and maintenance will ensure the performance of the asset is meeting LOS expectations. Monitoring asset condition with written or electronic log books is critical, to avoid duplication of maintenance activities and to find defects early on, before they develop into serious issues. Not only does asset performance benefit from this monitoring, there are health and safety benefits for employees who rely upon proper performance of assets.

Maintenance activities should consider factors such as cost-effectiveness (how long will this repair last? and Is just a "clean-up" enough, or should an entire part be replaced?), time delays (how long will the asset under maintenance be kept out of service?), and co-ordination with utilities (gas company, hydro company) and other municipalities (does a temporary detour need to go through part of a neighbouring municipality? If so, for how long?).

(B) ASSET CONDITION ASSESSMENT

In Section 2 of the AMP, asset condition was used to analyze the State of the Infrastructure. Accurate and comprehensive data on an asset's CURRENT condition are fundamental to a good AM Strategy. Such information mitigates premature asset replacement and/or failure of assets.

For some entire asset classes, Southgate has followed a more cost-effective, but cursory, approach to condition rating, using metrics like the five stages *Very Good, Good, Fair, Poor and Critical.* This approach enables an overview of the assets, and it does indicate which assets are most in need of attention. A better understanding of asset condition leads to more sound management practices and helps to minimize unnecessary expenditures. When combined with risk management frameworks, asset condition assessment will help to identify potential future asset failures, leading to the scheduling of repairs, preventative maintenance and rehabilitation programs that are financially accountable and transparent.

Gravel roads require frequent maintenance, especially after wet periods, and when accommodating heavier traffic. Deterioration involves wheel rutting and water run-off, and eventual road destruction if unchecked. Gravel roads require a cycle of perpetual maintenance, including general re-grading, reshaping of the crown and cross section, gravel spot and section replacement, dust abatement, ditching and brush removal.

For the entire road network, it is recommended that Southgate firmly maintain a regular schedule of comprehensive Road Needs Studies, at least every five years. There is no requirement for the timing of these studies, and so they could be less frequent. However, it is recommended that Southgate does not allow more than five years to elapse between external studies, because of the growth being experienced, leading to new roads being added to the network, and increased traffic volumes that have an impact on road asset condition. Roads can deteriorate quickly, if Southgate experiences one or two winter seasons that happen to involve unusually high numbers of freeze-thaw cycles, as opposed to a "Normal Winter" that gets cold and stays cold for the full season.

It is recommended that, based on factors such as substantial growth in population and vehicles on township roads, that the next Road Study be budgeted for 2023, four years after the most recent (2019) Study.

Structures fall under the Provincial rules of OSIM, and are thereby inspected every two years. There is a regular system of external inspections in place already in Southgate. This system fulfills the need, and does not need to be amended.

Also as required under legislation, water systems, sanitary sewer systems and the lagoon are reported on regularly, as to the water quality found in testing samples, effluent measurements, and so on. The reporting of test sample results is about the functioning of the systems, such as shut-downs or main breaks, but not focused on the condition of the assets in each system. As a result, the cursory approach to condition rating mentioned above (the five stages) was applied in this AMP. It is recommended that a more detailed, risk-based approach be made to gather more specific information on the condition of these assets.

A common method used for storm and sanitary mains is Closed Circuit Television Video (CCTV). The process involves a small robotic crawler vehicle, with a CCTV camera attached, that is lowered down a maintenance hole, into the main. The camera provides a live video feed to a truck on the road above. Deterioration problems that can be seen include open/displaced joints, presence of roots, infiltration and inflow, cracking, fracturing, collapse and deformation of pipe. CCTV is a costly process and it does take significant time to inspect large volumes of pipes.

It is recommended that Southgate establish a sewer condition assessment program and devote a portion of capital funding to this program.

(C) ANALYSIS OF DATA COLLECTED

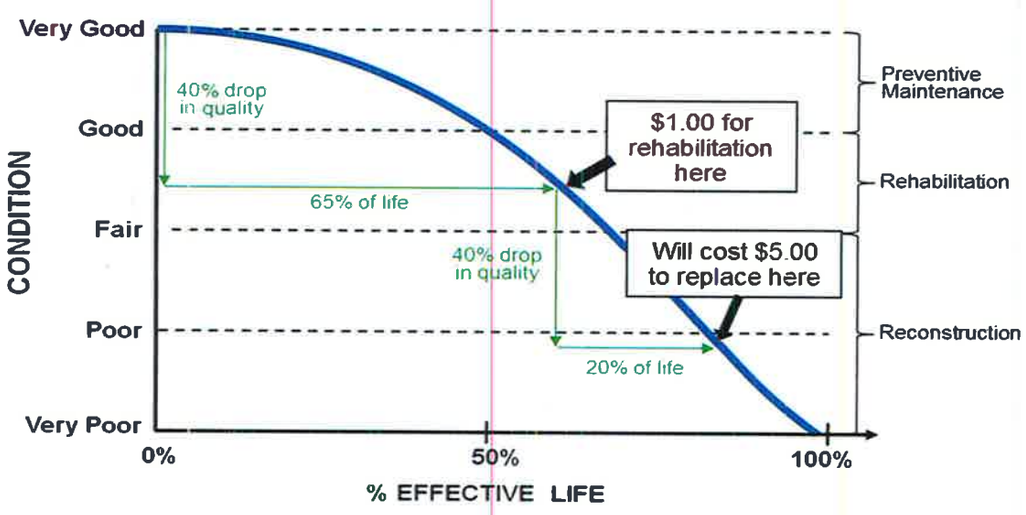
How data on assets is used is critical to asset management. An understanding of what the data tells us, and knowledge of what pitfalls to avoid from misinterpretation of data, is critical.

For road assets, PCI data taken alone could lead to a "worst-first" budget approach, where no lifecycle activities are done, other than simply performing reconstruction at the end of a road's service life. This is the most costly method of managing a road network. Road data collection needs to go beyond only PCI.

Section 4 of the Reg. 588/17 specifies the need for the ~~2021~~ 2022 AMP to discuss "lifecycle activities" for core assets. Asset useful lives can vary across a wide range of years, depending upon how well the assets are maintained. The lowest cost type of lifecycle activity is regular maintenance of core assets. Southgate has been doing core asset maintenance, as the main lifecycle activity, and will continue to do so. In addition to regular inspections, minor and major repairs are done every year, within budget limits.

Preventative maintenance activities can only be applied to a road at a relatively early point in its lifecycle. At a certain point, despite the efforts to maintain a road's condition, its life cycle stage will dictate more substantial rehabilitation. Activities such as routing and crack-sealing, or tar-and-chip on rural roads, have the lowest associated cost (per sq. m.) to obtain one year (or more) of added life.

Here is a commonly used graphic to illustrate lifecycle stages:



This graphic shows that regular preventive maintenance can see an asset through the first 60-65% of its normal life, at which time some major rehabilitation will keep the asset in service for an extended period. Skipping the major rehabilitation step will lead to an earlier than expected need for full asset reconstruction/replacement, typically when the asset is at about only 80-85% of its normal life. The rehabilitation will delay the need for full replacement until the normal end of the asset's life, or perhaps even a bit beyond that end-point, if the asset has been well maintained, rehabilitated, and not excessively used.

Below is a chart listing road lifecycle activity, making use of PCI (pavement condition) values:

Condition	PCI range	LIFECYCLE ACTIVITY
EXCELLENT	91-100	• Maintenance only
GOOD	71-90	• Crack sealing • Emulsions
FAIR	51-70	• Resurface – mill & pave • Resurface – asphalt overlay • Single & double surface treatment (rural roads)
POOR	31-50	• Reconstruct – pulverize & pave • Reconstruct – full surface & base reconstruction
CRITICAL	0-30	• Assets now beyond their useful life • Same activities as Poor above

A high proportion of gravel roads, as is the case with Southgate, can have a significant impact on the maintenance budget. It is recommended that Southgate study the traffic volumes on its gravel roads closely. Studies have found converting certain roadways to paved roads can be cost beneficial. Considerations for paving should include:

- Functional importance of the road (location, landmarks nearby)
- Traffic volumes AND type of traffic (example near a landfill site or waste drop-off)
- Known safety issues (accident records)
- Frequency of maintenance, recent history of spending

It is recognized that Southgate has been following this recommended practice; for example, in 2020 some gravel portions of Wilder Lake Road were paved.

Also, where it is appropriate, Southgate might decide to return a paved road back to gravel, based on multiple factors mentioned earlier. One recent example of this was the 0.510 km Orchardville Sideroad, at the west boundary near Highway 6 and Road 14.

When it comes to structures, again other factors beyond BCI should be considered. Operations staff perform routine visual inspections of structures. The best approach to minimize lifecycle costs is to perform smaller, low-cost repairs earlier in the lifecycle.

Routine maintenance of structures, like roads, is the lowest cost lifecycle activity for extending the lives of structures, enabling them to continue to meet existing levels of service.

Recurring items that should be completed every year include:

- Cleaning winter sand and salt from bridge decks (sweeping)
- washing of decks, drains, joints, bearing seat areas and girders
- Vegetation removal or trimming
- Routing and sealing cracks, as needed
- Placing rip-rap in washouts on slopes adjacent to bridge wingwalls, with minor erosion concerns

Funding for these tasks is provided in the annual Public Works operating budget. They are in fact performed annually by township staff now.

In the OSIM reports, consultants also recommend additional studies and investigations to evaluate the condition of certain elements beyond a visual inspection. Typical investigations that may be recommended include:

- Deck condition surveys
- Structure evaluations (load capacity)
- Monitoring of deformations, settlements and movements
- Monitoring crack widths

These actions are being done by Public Works staff, to the best of their available human resources. These actions recommended by RJB are for structures currently demonstrating severe material defects or performance deficiencies, which may need an inspector to require more detailed information. In the 2020 OSIM report, page 4, 31 structures had additional investigations recommended.

Sometimes these investigations may not be completed, due to budget constraints. There is provision made in the operations budget, however, for emergency repairs when needed. Structures S114 (2018) and S119 (2020) are examples where emergency repairs were performed.

Taking a step back to a broader look, not at just one asset class, but looking at AM Strategy in general, part of any data analysis should involve considering Future Demands; in particular, this is important for a growing municipality like Southgate. AM strategies must consider future growth, where it will take place, when it will happen (quickly or gradually) and what services are likely to be the most impacted. The Official Plan and other planning documents should be consulted to gather such information. AM Strategy applies to more than just existing asset infrastructure, it also applies to new assets yet to be constructed or acquired.

There are a series of Risks that have the impact of imposing limits on an AM Strategy:

- One risk to AM Strategy, and decision-making, is resiliency to Climate Change. The Province has recognized this, and made it a requirement for AMP's of 2021 and beyond to include separate sections on Climate Change. Please refer to that section in this AMP.
- Affordability versus LOS. The LOS will certainly deteriorate if capital budgets remain "flat". Southgate capital budgets have increased in recent years, but the next section on Financial Strategy will show it is not enough. Like all municipalities of its size, Southgate will have to make a trade-off between capital asset management, LOS, and levels of taxation on its residents.
- Damage claims from accidents caused by substandard condition of assets like roads and structures are another risk to be factored into AM Strategy decisions.
- Adequate staff resources, in terms of manpower and skills training, is another risk factor. As affordability forces capital projects to be delayed in the ten-year plan, beyond the optimal time to do the work, trained staff resources devoted to inspections and regular maintenance become more essential.
- Knowledge retention is related to the staff resources risk. Human resource divisions can provide data on turnover rates and pending retirements. This data can be factored into succession plans, to minimize the loss of corporate knowledge about capital assets.

Reg. 588/17 part 5, section 5, requires an AMP to provide "***A description of assumptions regarding future changes in population or economic activity***" and how these changes will impact asset management for Southgate. Here are population data for Southgate:

	2001 Census	2006 Census	2011 Census	2016 Census	2021 Forecast	2026 Forecast	2031 Forecast
TOTAL SG Population	6,907	7,167	7,190	7,355	8,530	9,810	11,280
% increase		3.76%	0.32%	2.28%	15.98%	15.00%	14.98%
Breakdown							
Male		3,677	3,705	3,815	*t b d*	*t b d*	*t b d*
Female		3,490	3,485	3,540	*t b d*	*t b d*	*t b d*
0 to 24		2,539	2,365	2,450	*t b d*	*t b d*	*t b d*
25 to 49		2,385	2,270	2,045	*t b d*	*t b d*	*t b d*
50 to 74		1,870	2,210	2,480	*t b d*	*t b d*	*t b d*
75 plus		373	345	380	*t b d*	*t b d*	*t b d*
Households		2,564	2,620	2,710	*t b d*	*t b d*	*t b d*
Avg. HH Size		2.79	2.74	2.71	*t b d*	*t b d*	*t b d*
Increase of 90 households or 3.4% over 5 yrs. 2011 to 2016							

Forecasts taken from the Southgate Recreation Master Plan 2021

The 2026 and 2031 forecasts above may be a bit on the high side. The most recent Southgate Development Charges Study (2017) provided population forecasts, based on 10-year and 20-year

time horizons, namely 9,350 by 2027 and 10,790 by 2037, per page 3-3 of the DC Study. The DC Study forecast for Households was 3,513 by mid-2027 and 4,133 by mid-2037, per page 3-5 of the DC Study.

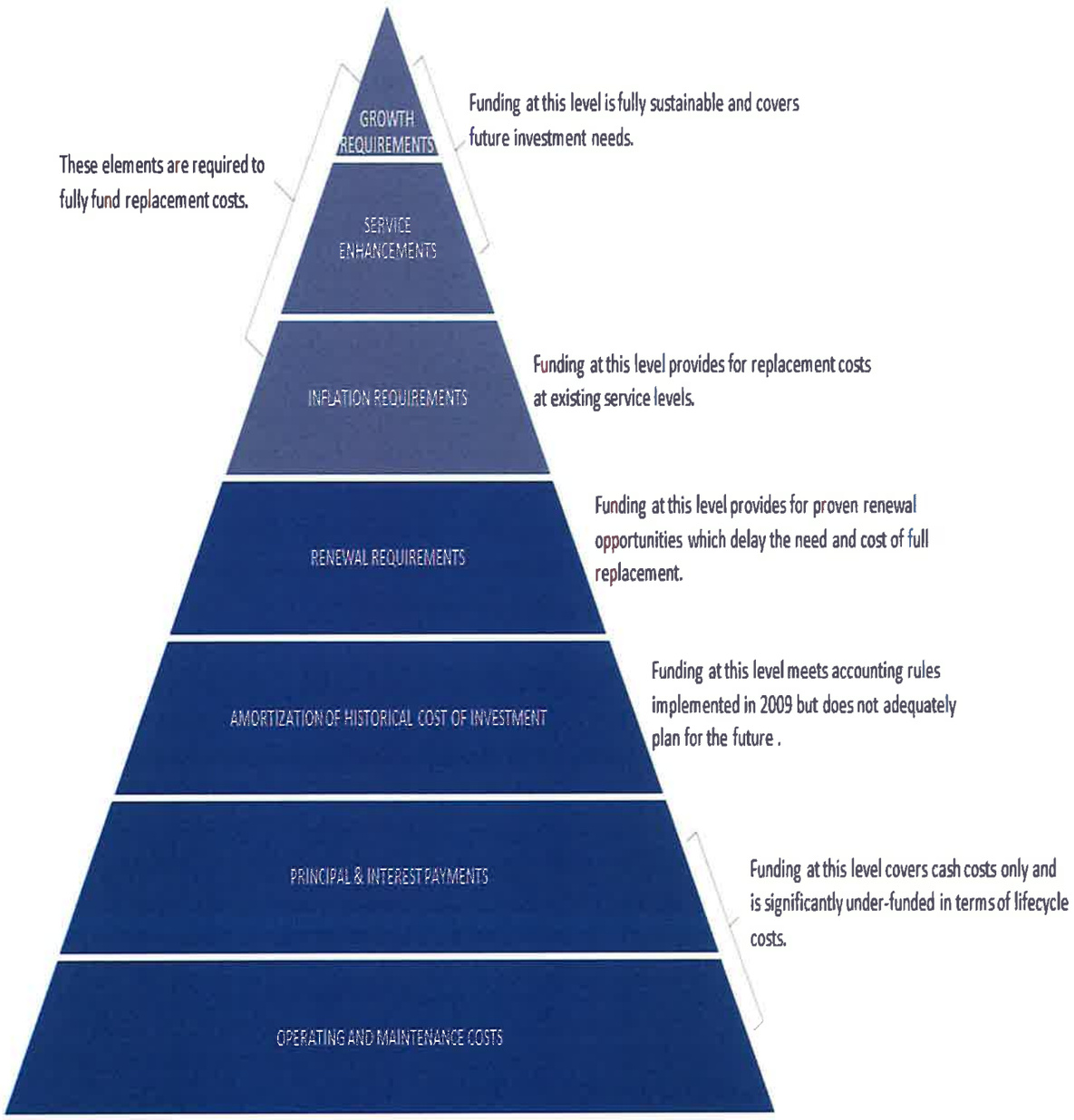
It should be acknowledged that a Grey County Growth Study is currently underway which will include the upper-tier's population forecasts.

What really counts, from the asset management viewpoint, is the impact of this pace of growth. The impact would be an increased demand for township services and in turn, increased demands on township assets needed to deliver those services, at LOS which are at or above 2021 LOS.

When assets are increased in their number, or existing assets get heavier use, there are impacts on the Operating Budget, and that should be considered as part of the Asset Strategy. For example, if the snowplow fleet is expanded by one unit, the Operating Budget for Winter Control should reflect increases in fuel, oil and repairs.

5. FINANCIAL STRATEGY

To make this AMP effective and meaningful, it must be integrated with financial planning and long-term budgeting. Here is a commonly referenced hierarchy of capital asset funding levels, presented in many AMPs, that measures the funding provided for capital needs, by seven levels:



Southgate currently is only slightly above Level Three. However, for many years Southgate was like many other municipalities, including others in Grey County, with its funding below Level Three. It was during those years that large backlogs developed in work to be done, backlogs commonly referred to as the Infrastructure Gap (the I-Gap).

At its current funding level, the I-Gap in Southgate is still growing. Every municipality has an I-Gap today, including the very largest municipalities, with the most human and financial resources at their disposal. The I-Gap is large enough now, in practically every municipality, that realistically it will never be fully resolved.

Stated simply, speaking realistically, there will always be an I-Gap, in every municipality.

What every municipality can do is, to the best of their ability based on resource restraints, firstly prevent their I-Gap from growing any larger, and secondly, do as much as is affordable to reduce their Gap gradually, year-by-year. It should be the AM Strategy of all municipalities to make consistent progress against their I-Gap in every single future year. There should be no "time-outs" taken, progress should be uninterrupted, barring catastrophic events that are unforeseen.

There will be bumps in the road. The economic damage from COVID may set back the progress against the I-Gap in the short term; many municipalities may find it more difficult to increase taxes to reduce their I-Gap while their local economy is suffering. There may also be unanticipated setbacks from weather-related events, that likewise could cause municipal finances to be temporarily re-directed away from the work to be done against the I-Gap. Even in those years, a reasonable compromise would be to make only a minor amount of progress against the I-Gap, less that what had been planned, but at least some improvement is made.

It will always require taxation increases to make any progress on an I-Gap. Taxation is the largest source of infrastructure funding, except when a very large borrowing is done in the year of a large project. Borrowing is appropriate for a major infrastructure project that results in an asset that will last many years, because borrowing spreads out the cost over future years, and over future taxpayers, who benefit from the services that asset will provide. However, borrowing adds to the cost of the asset by adding an interest expense. Borrowing also limits Council's control over its own budget, since debt servicing costs are a fixed cost that Council cannot cut from the budget.

In addition to raising more money, there are other actions to take, as mentioned earlier, such as better asset data gathering, proper asset maintenance and regular repairs, long term planning, and seeking out grant funding. Senior government levels recognized the I-Gap issue years ago, and so in recent times we have seen many actions they have taken:

- Doubling the amount of Federal Gas Tax provided to municipalities, in specific years.

- Expanding the kinds of projects eligible for Gas Tax funding.
- Expanding the range of services eligible to use Development Charges.
- Increasing the frequency and amounts of competition-based, single project-based grant funding programs available.
- Increasing (albeit gradually) the funding for annual non-competitive, per-capita grant programs, such as OCIF
- Uploading of some services by the Province, the direct opposite of the downloading of both services and capital asset responsibilities (specific roads, social housing, for example) onto municipalities, that happened during the same years when the I-Gap was growing.

Here is a review of how Southgate has recently stepped-up against its I-Gap:

Year	Taxes levied for Capital and Special Projects (e.g. studies)	Deprec. Expense on Audited Fin. Statements *(excludes W&S)*
	excludes Water Systems and Sewer Systems which are user-fee funded	
2011	$ 450,200	$ 1,334,243
2013	$ 831,000	$ 1,357,499
2015	$ 1,373,777	$ 1,399,672
2017	$ 1,447,896	$ 1,523,272
2019	$ 1,766,700	$ 1,647,668
2020	$ 2,055,854	$ 1,761,500
2021	$ 2,236,539	Estim. $ 2,000,000

Taxes levied annually, for tax-supported capital assets in Southgate, were inadequate until about 2015. Level Three, namely taxation matching the depreciation expense, is a bare minimum to reach, since depreciation is a flawed number that is based on often extremely outdated asset historical-cost values, and therefore Level Three funding will not come close to the cost of replacing an asset at current prices. This situation is particularly bad in low-growth municipalities, where many municipal assets are quite old, and there are not many newer assets because there has been no pressure coming, from municipal growth, to build new assets to service growth.

Southgate had not reached Level Three until 2015. Growth had picked up at about that time. Like most other municipalities, the I-Gap in Southgate was getting larger every year, until about 2015 when taxation-funding levels for capital assets began to approach what was necessary to stop things from continuously getting worse. However, since the I-Gap problem kept getting worse for roughly a twenty year stretch from 1995 to 2015, it will take many years of gradual progress, around enhanced financing, to resolve the problem.

Southgate's 10-year Capital Plan, as shown in its 2021 budget documents, recognizes the I-Gap problem and does strive to keep up with the need for increased attention to capital assets. Tax levy forecasts for Capital (and Special Projects):

Year	Forecasted TAX LEVY for Capital Budget (and Special Projects)	Increase in $$	Increase % over prior year	Gross Capital project costs for the year, forecasted
2020	$ 2,055,854 Adopted	$299,154	17.03%	
2021	$ 2,236,539 Adopted	$180,685	8.79%	$11,215,797
	Draft amounts from 10-year Capital Plan			
2022	$ 2,555,635	$319,096	14.27%	
2023	$ 2,828,163	$272,528	10.66%	
2024	$ 3,146,084	$317,921	11.24%	
2025	$ 3,508,870	$362,786	10.34%	
2026	$ 3,930,985	$422,115	12.03%	
2027	$ 4,410,125	$479,140	12.19%	
2028	$ 4,927,548	$517,423	11.73%	
2029	$ 5,519,127	$591,579	12.01%	
2030	$ 6,198,637	$679,510	12.31%	
	excludes Water Systems and Sewer (W&S) Systems which are user-fee funded			

Under this plan, taxation for capital projects would increase by 201.5% over 10 years, from 2020 to 2030; in other words, tax support would triple in ten years. This would be a major increase, going by the standards set by Southgate's budgets prior to 2020. On the other hand, for some perspective take note that:

- Sept. 2020 OSIM report from RJB on Structures provides a five-year proposed Capital Plan (Table 8 in the report) costing $5,605,500 (no inflation adjustment)
- The same RJB report shows a forecasted cost for the next ten years of $28,322,400 for Structure "rehabilitation and replacement", NOT INCLUDING associated costs for roadside protection work and additional investigations (another $4.7 million). These costs are not adjusted for inflation (so 2020 costing is used throughout the ten-year period)
- The 2019 Triton Road Needs Study estimated a cost of $20.11 million over ten years for major rehabilitations and new pavements (again no inflation adjustment)

Taking these numbers, at the lowest options, it works out to roughly $2 million per year for roads capital and $1.1 million per year for structures ($5.6 M/ 5 years) for a total of $3.1 million per year of gross capital spending recommended by external consultants, just for roads and structures.

The Southgate Tax Levy for 2021 capital projects, per the Table above, is $2.236 million for all its departments, and all its assets (not just roads and structures), including vehicle fleet, machinery and buildings, but excluding water and sewer (W&S) assets. The net levy for Public Works, for 2021 road and structure projects only, is $761,830 or about one-third of the full 2021 Levy, on gross project costs of $2.7095 million. This does not include fleet replacements, equipment, signs or debt servicing, it just includes road and structure projects. [*Funding of the $2.7095 million of work for 2021 comes from Grants $828K, from Reserves $294.4K, from borrowing $825.3K and from Taxation $761.8K.]* The $2.7 million amount of approved road and structure capital costs for 2021 is getting

reasonably close to the $3.1 million figure from the consultants. Southgate is making some progress against its I-Gap.

It is unusual to see borrowing as a funding source, especially when every infrastructure project in Public Works, across the entire ten-year Plan, are rehabilitations or replacements of existing assets. There are no new assets appearing in the Plan, just replacements or upgrades of assets already in place, but wearing out. In every year in the ten-year Plan, the projects listed are for an existing structure (as proof, the Structure ID # is given) or an existing section of road. In fact, borrowing appears as a financing source not just in 2021, but also in 2022, 2023 and 2024.

This use of debt for financing asset replacement is a signal of financial stress; in many municipalities, it is their adopted policy to only use debt for the construction of new assets, such as a building, where there is no asset currently. In Southgate, certain projects are placed within the capital plan, in specific years, because the work needs to get done, but there are not enough funds available to pay for them, so the shortfall is made up by borrowing some money every year. Late budget changes were made by Council to reduce the amount being borrowed in 2021, while keeping within Council's limits for the overall taxation increase. The debt service costs, created by this planned borrowing, become an annual expense in later years of the Plan, so that by year 2025 there are four infrastructure debt-servicing amounts (principal plus interest) appearing, under Public Works, taking up 2025 taxation revenue room, and leaving less room for new project costs.

The financial stress situation, shown by the need for borrowing for asset replacements, comes from prior years of under-funding capital assets, years when the I-Gap was expanding. It should also be noted that this stress is also reflected, but less noticeably, in the timing of capital projects throughout the ten-year Plan. You can point to multiple cases where Township staff would want to see specific projects scheduled earlier, but projects reluctantly get delayed to the year when they could be "fitted" within the Plan's annual financial limitations.

Another serious source of stress on asset management is capacity issues. It might be great to expand budget dollars, and to make plans to get more work completed each year. What must not be overlooked is the realistic capacity to accomplish the work. Consideration must be given to the human resources available to design, supervise and complete projects. Capital work projections, and capital budgets, that do not consider capacity limits will result in multiple unfinished projects, unspent funding, and high levels of work-in-progress.

One further point to be made about capacity issues is Covid-19's impact. Covid has put many 2020 projects of other municipalities into deferral, province-wide, (but not Southgate, however), leaving a work backlog to be filled by the same number of potential contractors, or perhaps even fewer contractors, when you consider that perhaps some were put out of business by Covid.

Looking at the final year in the Plan, 2030, the taxes levied are forecasted to be $4.920 million for the roads and structures segment of Public Works (79% of the forecasted 2030 capital tax-support Levy of $6.198 million). Within that amount, $450,000 is for debt payments, leaving $4.47 million [4.92 – 0.45] for 2030 project costs. This is about double the overall amount of adopted 2021 taxes levied for capital, in all departments combined, of $2.236 million, and is much improved over the $0.7618 million levied in 2021 tax support for road and structure projects.

Many other municipalities have adopted an "Infrastructure Levy" as part of their annual budget process. Typically, you will see others have approved 1% or 2% annual municipal tax levy increase commitments, for capital assets. Southgate's overall Tax Levy for 2020 was $7,584,704 (capital and operations) so the increase in 2021 taxes levied for capital purposes, namely $180,685 per the table above, was effectively a 2.38% increase over the 2020 levy, so Southgate is making a similar commitment to capital without naming it directly as an "infrastructure Levy". Notice that in the table above, draft tax increases for capital support, planned in 2022 and beyond, are all greater than the 2021 increase.

It is recommended that Southgate stay determined to meet those targets shown in the years 2022 to 2030 in its Capital Plan. Another recommendation is to pursue other revenue sources such as external grants and subsidies, to enable the Township to advance planned capital projects to earlier timeslots, without amending the targets for annual taxation support.

It is also recommended that as debt payments for past projects expire, the "savings" from the debt payments dropping off should be applied to new projects in the capital budget, and not be "returned to the taxpayer" by lowering the taxes levied for capital.

It is often asked "what is the appropriate level of taxes to raise for capital purposes?". There is no standard answer for this question; circumstances are different in every municipality. The size of the I-Gap, resulting from past actions (or lack thereof), is one factor, and municipal growth is another factor.

For example, the County of Grey tax levy for 2021 is 26.75% for capital costs and 73.25% for operations. For comparison, in 2020 Grey County's tax levy was 24.74% for capital costs and 75.26% for operations. Further, in 2015, the Grey County tax levy was 20.77% for capital costs and 79.23% for operations. For Southgate, its tax levy for capital in 2021 was 28% of the total levy; in 2018 it was 27% of the total levy; in 2013 it was 20.57% of the total levy.

A 25% / 75% target ratio is quite typical in larger municipalities. Grey County has 887 km of County roads and 192 structures. This does not mean 75/25 is the right target for Southgate. The taxation

ratio split depends on the kind of services being delivered. Upper-tier municipalities, like the County of Grey, perform many "soft services" such as Child Care, Elder Care and Social Assistance, where the costs are weighted towards personnel and are more operational, as opposed to Public Works where there are a high number of capital assets to maintain. Notice the County levy-share going to capital costs has been increasing; this is what should ideally be happening in municipalities that are actively trying to address their I-Gap. This has also been happening in Southgate.

AMP's often will illustrate the I-Gap on a line-graph, as part of a Financial Strategy designed to close their I-Gap over time, using increased property taxes and other actions. These graphs will often show the tax increases that would be necessary to get the I-Gap all the way down to zero in the future. Where the I-Gap is large, this analysis can result in calculations that give required annual tax increases, needed to "eliminate" the I-Gap in the specified timeframe, that are not reasonable or realistic, and very unlikely to ever be approved by Council.

This approach is not recommended.

In the case of Southgate, it is more realistic to state honestly that the I-Gap will never be zero; instead, we recommend that the municipal leaders be disciplined in their efforts to raise property taxes, for capital project purposes, at a manageable but steady pace, and consistently accomplish as much capital work each year as the municipality has the capacity to complete. Avoid the "over-promise and under-deliver" scenario. The targets for tax support already in the Southgate Capital Plan are a good start.

The evidence of future advances accomplished by Southgate, against the I-Gap, will be clearly measurable, by using the future PCI and BCI results in external consultants' reviews of the state of Southgate's core infrastructure (Roads and Structures), when these reports are completed in future years. Results achieved (or not achieved) will also be reflected through comments and opinions received, from local ratepayers, about the state of township core infrastructure.

User-rate Supported Assets (Water and Sewer system)

Water and sewer systems are required by Ontario legislation to be self-sustaining financially. User Rates must be set at levels needed to fund all operational costs, capital costs and debt-servicing costs. Capital costs can be more than what is needed to finance current-year capital projects, to build capital-project reserves, in anticipation of major capital project costs upcoming.

Even when reserves for water and sewer projects are built in advance of major capital projects, the reserves may not be built up to the full project cost by the time of project construction. This could happen because there was not enough time available to build reserves before a project was

started, or some unusual events happened from an operational standpoint, that resulted in higher operating costs, leaving smaller amounts to go into the reserves than what was planned for.

For very large capital projects, it may be necessary to plan long-term borrowing for those projects. Then user rates would be set such that annual debt-servicing costs can be fully carried from the rate revenues collected. This is like securing a mortgage loan on the purchase of a home. Borrowing is appropriate for the purchase (or major rehabilitation) of a long-lived asset, such as a new sewage treatment plant, so long as the debt payments can be carried by rate revenues.

Southgate operates utilities in Dundalk only. The User Rate system ensures that only the residents in Dundalk are paying for the costs and the debt of the utilities, and not the residents in the remainder of the township. Southgate does in fact have several large capital purchases scheduled in the medium-term for both its water and sewage systems (projects of $1.0 million or more). Capital project data obtained from the 2021-2030 Plan:

YEAR	SANITARY SEWAGE SYSTEM CAPITAL BUDGET	FORECASTED NEW DEBT	DEBT TERM		WATERWORKS SYSTEM CAPITAL BUDGET
2021	60,000	0			233,000
2022	16,316,200	10,993,185	20 yrs.	SWR	
2022		3,225,000	20 yrs.	WTR	3,337,000
2023	0	0			172,000
2024	0	0			47,000
2025	1,500,000 (but no debt)	0			352,000
2026	0	1,684,000	10 yrs.	WTR	1,736,000
2027	1,000,000 (but no debt)	0			242,000
2028	0	4,250,000	20 yrs.	WTR	4,202,000
2029	0	0			2,000
2030	1,000,000 (but no debt)	0			2,000
		20,152,185			
	SANITARY SEWAGE SYSTEM CAPITAL BUDGET	FORECASTED NEW DEBT			WATERWORKS SYSTEM CAPITAL BUDGET

Southgate borrowed $3,731,925 in 2019 in respect of Well D5 waterworks capital project. Plans are in place, per this table, to take on a further $20 million of debt over the next ten years for utilities projects. Future user rates must take the future debt-servicing costs into consideration. Interest rates for municipal borrowing are very favorable at the current time, and they are expected to remain that way for many years ahead.

Major projects in the Capital Plan, reflected in the table above, are:

- 2022 sewage treatment facility upgrade
- 2022 construct new water tower

- 2025 Ida St. S. & Eco Parkway sewage pumping station
- 2026 Main St. W. watermain (oversizing) [Main St. E. mains were done in 2019/20]
- 2027 Glenelg St. sewer
- 2028 construct new Well D6
- 2030 Ida St. N. & Glenelg St. sewer

The Plan expects to have adequate funds in reserve for the pumping station (2025) and the two sewer projects (2027 and 2030) to fully fund those projects from the sewer system reserve, without issuing any new debt. From the seven projects above, four are expected to require incurring new debt.

Debt-servicing costs can also be funded from Development Charges (DC), so long as the projects were DC eligible (in other words, they were growth-related projects, in full or in part, and they were in the current DC Bylaw). At the time of project construction, it is likely there will not be enough DC funds collected to date, to pay the DC-eligible share of project costs in full. Instead, over subsequent years, as more DC are collected each year, they may be applied annually towards debt-servicing costs.

Additional Financial Considerations

One further point to make about financing is for information only, as Southgate is a long way from being in the following position. [This point also appeared in the 2013 Southgate AMP.]

Municipalities with strong levels of financial resources available to them, due to large populations and high property values, may follow the "Sinking Fund Method (SFM)" for financing capital assets. The SFM takes asset management planning to another level. SFM builds large reserve balances for the future replacement of assets. These reserves get started soon after an asset is replaced, contributions are made to the reserves consistently every year, and the outcome is many subsidiary reserves, covering nearly every asset class. These large reserves are invested, to earn investment income that gets added to the reserves, to build the reserves more quickly, and to be put towards the future project costs. The practice of SFM is part of formal Long-Term Financial Plans (LTFP), found more commonly in larger municipalities with "deeper pockets".

For one example, there could be subsidiary reserves in place for the replacement of the HVAC systems and the parking lots of every single building owned by the municipality. The need to replace any one HVAC system or parking lot could be five to ten years away, but some funds are being raised and placed into reserve now, and in every future year, so that when the asset replacement time arrives, the full funding is in place. These capital reserves are often pooled by asset component. For example, a single "HVAC reserve" and a "parking lot" reserve, are recorded, and used for the next HVAC or parking lot project (but not a separate reserve for every lot).

The problem with this approach comes from those who may object to taxing current residents today, for part of the cost of a project that will not be undertaken for at least five years. This approach results in very large reserve balances and very large cash balances in the municipality, which can create the appearance that the municipality is "over-taxing" its residents today, and simply accumulating large sums of money, even though the municipality can always explain specifically what its plans are, for its reserve funds, if asked to do so. This financial position, of large cash balances and large reserve balances, can be found in the financial statements of many larger municipalities.

Rather than being able to implement SFM, the capital project taxation raised by Southgate in any given year is directly applied to projects to be undertaken in that same year. Funds raised in 2021 are not being set aside for future years (see one exception noted below). This is the result of Southgate having a substantial I-Gap, being in the position of playing "catch-up" with its capital asset work. There are more assets in need of attention now than there is funding available to rehabilitate them. Instead of using SFM, Southgate finds itself having to defer capital projects to one or two years further on, within the capital plan, than it would otherwise prefer, because of limited funding. Capital Reserves are not large.

One exception to this situation in Southgate arises if, in any given year, the projects completed for that year, or the assets bought (like vehicles for example), turn out to cost less than the taxes raised (being under-budget). Annual tax contributions beyond the actual capital costs would be transferred to a "capital replacement reserve fund" for future needs. Unspent funds placed into Capital Reserves also protect against the possibility of the opposite situation happening, in another year (project costs turn out to be greater than the taxes raised, or over-budget). This practice for handling variances from budget helps ensure that Southgate does not need to deviate from its (recommended) commitment to gradually, but consistently, increase its tax support for capital work.

Other strategies for financing capital projects include:

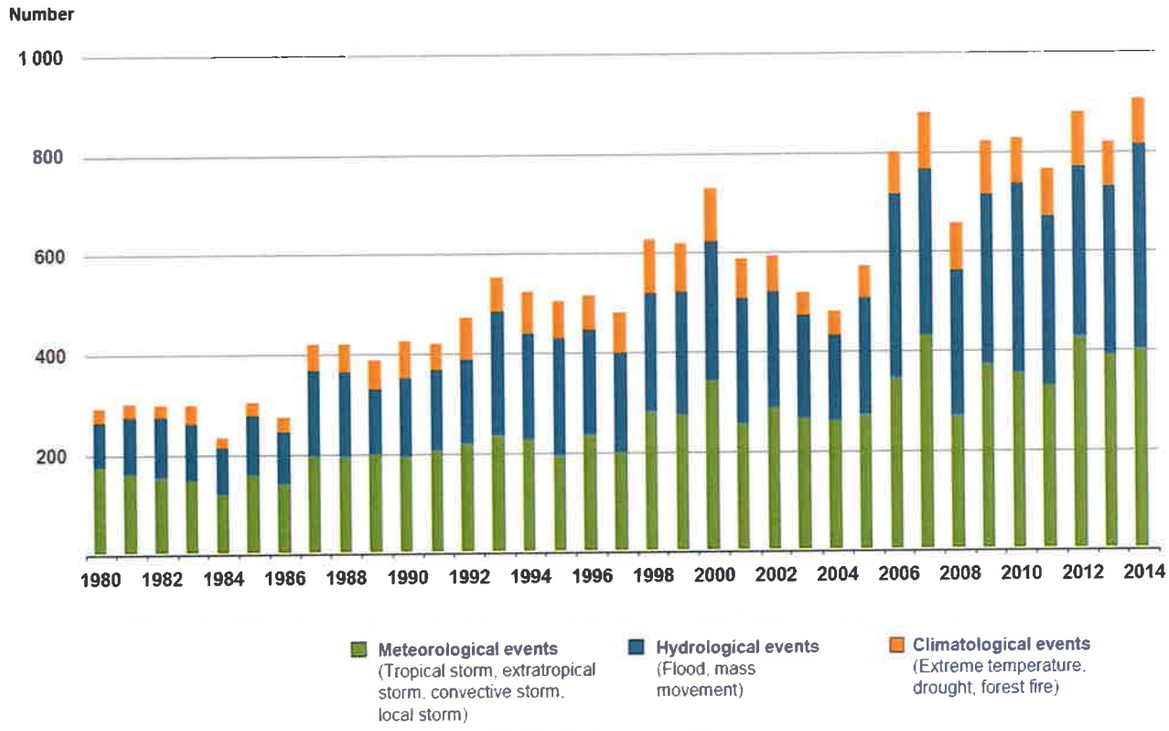
- Actively seeking out and applying for grants and subsidies
- Implementing operating efficiencies, reducing operating costs, to permit directing more funds to capital projects
- Decreasing expected levels of service, to reduce operational costs and make more capital funding available
- Updating the Development Charges Bylaw, to more closely match with the capital plan project list, normally resulting in higher DC rates
- Approaching the development community for funding assistance with respect to growth/expansion related project

6. CLIMATE CHANGE

The impacts of climate change present an increasingly serious challenge to municipal infrastructure. As temperatures and sea levels rise, and extreme weather events occur with greater frequency, it is critical that municipalities attempt to understand the emerging threat of climate change and develop strategies to ensure that vital services and critical infrastructure continue to operate as expected.

This will require consideration of four key factors of climate change (exposure, vulnerability, resiliency and adaptation, see comments below) at every stage of an asset's lifecycle.

Globally, there has been a serious increase in weather-related loss events, resulting in property damage and/or bodily injury (see chart below). Municipal infrastructure is at particular risk to meteorological, hydrological and climatological events, potentially leading to an increasing rate of asset deterioration, failure and service disruption. Here is a graphic depiction of the global increase in frequency of "climate events" from about 300 in 1980 to 900 in 2014.



Moving from a global perspective to just Canada, Canada is warming up twice as fast as the rest of the world, and municipalities across the country are facing the biggest impacts (see Exposure

section). Historical trends can no longer be used to predict future scenarios, and what used to be infrequent extreme weather occurrences are now common.

1. **EXPOSURE**

Exposure refers to the state of being in a place, or situation, where there is no protection from something harmful or unpleasant. Exposure is a combination of the probable range of a climate stressor and the physical characteristics of a geographic location, for example sea-level concerns for a coastal region.

In 2018, the Intergovernmental Panel on Climate Change (IPCC, an international body responsible for assessing the science related to climate change) reported that the world has already warmed by 1 degree C above pre-industrial levels (1850-1900) due to human activities, and is projected to reach 1.5 degrees C by 2030-2052, at the current rate of warming.

Canada is warming at a faster rate with overland temperatures increasing an average of 1.7 degrees C between 1948 and 2016, and about 2.3 degrees C for northern Canada, with the majority of the warming due to human activities. Ontario's Ministry of the Environment and Climate Change (MOECC) reports that the average annual temperature in Ontario has increased by 1.4°C over the last 60 years, and models suggest that by 2050 the average annual temperature in Ontario could increase by another 2.5°C to 3.7°C. Along with this, comes the increased likelihood of extreme weather events such as prolonged heatwaves, wind storms, and flooding.

1. **VULNERABILITY**

Vulnerability refers to a weakness in the ability of a person, structure, or natural system to respond to a negative force, such as a hazard. A municipality's vulnerability to a hazard can be addressed, by developing adaptation strategies that strengthen infrastructure, support local eco-systems, and build community awareness and preparedness.

There has been a great deal of work done on the topic of climate change, and this work can be referred to as climate science, for short. There are many resources available to learn more about the subject, from a municipal perspective. FCM (Federation of Canadian Municipalities) is a primary source of material. Part of the climate science work has been the development of complicated climate forecast models, which can be found on the internet. For Canadian modelling, there is

- climateatlas.ca
- climatedata.ca

These websites contain models based on 30-year timeframes, and on different assumptions of climate adaptation scenarios. The scenarios are based on how much effort will be made to make

changes to address climate change. These scenarios are based on RCP levels (Representative Concentration Pathways) for future greenhouse gas (GHG) emissions:

- RCP 2.5, low emissions scenario, presumes much work gets done to limit GHG
- RCP 4.5 and RCP 6.0, moderate emissions scenario, some efforts made
- RCP 8.5, high emissions scenario, no changes made from way things are today

The models then give forecasts, for each scenario, of multiple measures based on different data sets (temperature, precipitation, agriculture data sets). Time periods for measurement are the recent past (1976 to 2005), the near-term (2021 to 2050), and longer term (2051 to 2080). Here is a small sample, taken from climateatlas.ca, for Southgate:

Data Set	Measurement Description	1976 to 2005	2021 to 2050	2051 to 2080	
TEMPERATURE					
	Days where temp goes above 30 C				
	RCP 2.5	4.7 days	15.4 days	24.2 days	
	RCP 8.5	4.7 days	17.0 days	38.6 days	
	Mean temperature for the year				
	RCP 2.5	5.8 C	7.8 C	8.8 C	
	RCP 8.5	5.8 C	8.0 C	10.1 C	
	Nights when temp does not go below 20				
	RCP 2.5	1.4	5.8	10.4	
	RCP 8.5	1.4	7.0	20.1	
	Longest stretch of 30C+ days				
	RCP 2.5	1.3	3.8	5.9	
	RCP 8.5	1.3	4.4	10.5	
PRECIPITATION					
	Wet days, at least some precip.				
	RCP 2.5	178.9	178.8	178.7	
	RCP 8.5	178.9	179.7	178.1	
	Days of heavy precip. At least 10 mm.				
	RCP 2.5	24.4	26.3	27.6	
	RCP 8.5	24.4	27.1	28.2	
AGRICULTURE					
	Frost-free season, in days				
	RCP 2.5	140.9	162.9	172.6	
	RCP 8.5	140.9	167.3	188.7	
	Date of first frost				
	RCP 2.5	Oct 4	Oct 16	Oct 22	
	RCP 8.5	Oct 4	Oct 19	Oct 30	

Three words which best summarize the Climate Projections report are "warmer," "wetter" and "wilder." This is just a small sample of climate forecast measures to be found on these sites. When

going through the modelling online, there are also line graphs provided on-screen, spanning 1976 to 2080, so the models let you drag across the graph, and stop on any single year to see the values for that specific year.

Remember that "all models are wrong, but some are useful!"

3. **RESILIENCY**

Resiliency is the capacity to recover quickly from difficulties. A resilient municipality has the capacity to survive, and adapt, to chronic stresses and acute shocks, such as population growth (or decline), aging populations, influxes of new immigrants, economic swings, or climate change impacts like severe storms, or flooding. Resiliency is the ability to continue to operate, for example, despite the loss of a single road or bridge. It also refers to the physical restraints on repair or replacement of an asset (how quickly can it be returned to service?).

Municipal resiliency can be improved by reducing short-term and long-term risks resulting from climate change. FCM has created a guide on Building Sustainable and Resilient Communities with Asset Management.

Some municipalities are creating Reserves for Climate Impact Recoveries. A portion of net operating surplus, that would normally just go into a Tax Rate Stabilization Reserve, is earmarked instead for use when the municipality needs to perform recovery actions, following a weather event, that caused damage to its corporate assets.

4. **ADAPTATION**

Climate change adaptation refers to taking actions to help communities and their eco-systems cope with changing climate conditions.

FCM states that about 44% of Canada's GHG emissions, that cause climate change, are under the direct or indirect control of municipalities. Although private sector industry, and residential homes, also contribute to GHG emissions, the substantial impact from municipal assets explains why so many municipalities are devoting time and resources to this subject.

Many municipalities have recently been working on Climate Change Action Plans (CCAP), as endorsed by their Councils (County of Grey), identifying some actions that can be taken locally, and setting targets for future local levels of GHG emissions. Others have completed their CCAP (Burlington, Guelph, Clarington) and their CCAPs are available online, and can be reviewed for ideas useful to Southgate. The GHG targets are set based on local actions they have committed to taking in coming years. Like their AMPs, these CCAPs will be monitored and updated every few years.

It is recommended that Southgate staff monitor the CCAPs of other municipalities in the near term, and compile a checklist of specific actions, as listed by those municipalities in their CCAPs, that could also be done locally, and bring forward this checklist to Council for endorsement, and to request funding if needed, for specific actions.

Applying adaptation to Southgate, what steps could Southgate take?

- It is free to join FCM's Partners for Climate Protection (PCP) program. This program allows access to a network of over 350 municipalities currently acting on climate change, along with access to additional support from Regional Climate Advisors.
- Participate with the County of Grey project to complete its CCAP (now underway, an update was provided in Feb. 2021 to local CAO's) and then pursue specific actions recommended by the CCAP
- Research materials currently available from the Municipalities for Climate Innovation (MCIP), including case studies and information on potential funding sources

It is recommended that all these steps be pursued by Southgate.

GREEN INFRASTRUCTURE

Another growing aspect of climate change work, within asset management, involves Green Infrastructure, also referred to as Natural Assets. Municipalities often have not collected very much data on these assets, and they have not assigned values to them. Natural assets do not fall under the core assets required for this AMP, but should be accounted for, moving forward. Natural assets can serve as mitigation tools against many of the hazards of climate change, such as excessive heat waves and soil erosion. Natural assets can be grouped into three categories:

1. Naturally occurring assets
2. Enhanced natural assets
3. Engineered natural assets

Some examples of each category are:

Naturally occurring assets

- Forests, parks and open space, wetlands, fields, lakes, creeks, rivers, soil

Enhanced natural assets

- urban street trees, urban parks/parkettes, rain gardens, stormwater ponds, community gardens on municipal land

Engineered natural assets

- green roofs, green walls, cisterns, permeable pavement, rain barrels

IMPACT ON INSURANCE COSTS

Weather-related insurance claims in Canada averaged $400 million between 1983 and 2008, and they averaged $1.8 billion between 2009 and 2017. The Insurance Bureau of Canada's (IBC) top 10 highest payout years on record include every year since 2016. In 2020, the IBC reported that severe weather caused $2.4 billion in insured damage, while global losses from natural disasters hit $270 billion. In addition to insured losses, there are also uninsured losses incurred by government, business, and individuals. It has been reported that for every $1 of insured losses, there are $3 to $4 of uninsured losses.

Rather than wait for a weather disaster to strike and then respond, a better plan is to reduce the risk before it happens. It has been estimated that the benefits of investing in community adaptation and resilience outweigh the costs by a ratio of 6 to 1.

The insurance cost impact of climate change is already being experienced by municipalities, so many of them are moving forward with concrete actions. Southgate could conduct some research into the actions that others have made so far, and then implement those that make sense for this municipality.

FCM has been mentioned as a good source of climate information, and another is the Local Governments for Sustainability (ICLEI) group. For example, ICLEI and FCM jointly developed a PCP (Partners for Climate Protection) Milestone Tool that helps municipalities quantify, monitor and manage GHG emissions at the local level. The latest upgrades to the Tool include a Scenario Builder, to help model various emission reduction scenarios, as well as alignment with global protocol and reporting standards. The Tool is a web-based resource, with a user-friendly framework, to work through five milestones. Municipalities can create a new account on the pcptool.ca website and follow the process. This would be a good place for Southgate to get started on its GHG reduction journey.

ICLEI is focused on Adaptation and Resilience. Their flagship program is BARC (Building Adaptive and Resilient Communities), a comprehensive way to respond to the impacts of climate change. ICLEI is currently consulting with Grey County on its CCAP, and with the City of Barrie, the District of Muskoka, and the Township of Huron-Kinloss on similar projects. ICLEI completed a CCAP with the City of Peterborough, available on the internet.

ICLEI offers multiple resources for municipal use such as:

- local government strategies on having the climate conversation
- handbook for local elected officials on climate change
- the PCP Milestone Tool
- guidebook for quantifying GHG reductions at the local level
- discussion guide for local government staff on climate adaptation

- local government case studies
- Dec. 2019 webinar on district energy policies and governance models (90 min.)
- introduction and link to the "Get Ready Game"

RECOMMENDATIONS

In future, Southgate should consider the impact of climate change on the estimated useful life of all its assets, and then build these considerations into future editions of its AMP.

- Adjust lifecycle activity strategies for assets that are particularly exposed or vulnerable to the impacts of climate change (adjust maintenance frequency or intensity)

- Develop policies that outline a commitment to consider the impact of climate change on existing infrastructure and future development (*example:* some municipalities are making commitments to installing electric vehicle charging stations, and then phasing-in electric vehicles for their fleet)

- Include climate change considerations into the design and planning phase of future asset additions (*example:* choice of energy systems going into new or renovated township buildings)

- Integrate impacts of climate change into risk management frameworks (see Risk comments in the LOS chapter; one example could be the impact of extreme heat on municipal staff working outdoors, and the action would be setting internal limits on time spent in hot conditions)

- Develop disaster mitigation plans, in the event of infrastructure failure

7. NEXT STEPS

7.1 PLAN REVIEW and ADOPTION

The AMP is intended to be a "living document" that is relevant and integral to Southgate's daily asset management activities. The AMP will need continuous updates and improvements. Maintaining and updating the various tools, plans, policies, and strategies of an AMP is a major part of the ongoing work required to keep an asset management process operational. Implementing improvements to the asset management process, usually as the result of innovation, technological and process advancements, are necessary to ensure optimal planning over time.

To make that happen, the following process of ongoing AMP activities should be undertaken:

1. Review of draft AMP with Council on May 12, make revisions as needed
2. Council to formally adopt the core assets AMP in 2021 (deadline is July 1, 2022)
3. Expand the AMP data to include other asset classes
4. Research and study other municipal AMPs, as they are released. ~~in 2021~~
5. Summer 2022 bring expanded AMP with Building Condition Assessments, in draft, to Council for review
6. Council to formally adopt expanded AMP in mid-2022 (deadline July 1, 2023)
7. Revise and re-issue the AMP every 4 to 5 years, to include changes to work programs, new knowledge gained, new assets acquired, new Levels of Service (LOS) being measured.

7.2 FORMALIZE the ASSET MANAGEMENT PROCESS

Many municipalities update the asset management planning process when external pressures necessitate it (such as applying for a capital grant). Further, there is typically no documentation available, to outline the process to follow, when updating the asset management planning process (including the AM plan). As such, updates to the asset management planning process are typically carried out on a reactionary basis.

As part of step 4 above, as research is undertaken, Southgate should develop a more formalized asset management process to follow. The process for Southgate will include

- Standard Asset Register documents, in a database (MDW or other), to be kept up to date throughout the year

- Potentially changing the technology being used for asset management (better software may come along)
- Maintain communication through meetings of the Asset Mgmt. Group to keep all departments informed about what is happening (being on the same page)

7.3 ONGOING MONITORING of ASSET DATA

The following actions will become the regular process for asset management in future, after adoption of the 2021 core assets AMP:

1. **Report to Council with annual reviews, starting mid-2023, with content including:**
   - **Results from capital projects of the previous calendar year, including variances from budget, schedules, or outputs**
   - **Updated asset listings, including additions and disposals in the past year**
   - **Identifying new LOS, and reporting historical results of established LOS**
   - **Report any measures taken to address climate impacts, including any actions related to County Climate Action Plan commitments**

2. **Maintain staff knowledge and skill-set development, through ongoing training opportunities from FCM, MFOA, CNAM, AMONT**

3. **Include asset management concepts and data into annual township budget process, including asset risk assessments, condition and lifecycle information**

4. **Build upon the MDW Asset Register, a comprehensive source of data on township assets, and gather improved asset data, that is accurate and current**

5. **Consider benchmarking with comparable municipalities, for example on condition data, or financial support of capital costs**

SUMMARY OF RECOMMENDATIONS

- Sect 3 LOS measures, and Risk measures, should be factored-in to annual Southgate capital budget discussions starting with the 2022 budget.
- Sect 3 Southgate begins keeping more specific LOS measures, and document how these measures influence the setting of future budgets.
- Sect 3 Southgate staff research AMP of other municipalities, that are released publicly after July 2021, to discover LOS measures that could be useful for Southgate to measure and maintain.

- Sect 4 the Asset Co-ordinator work with front-line staff to develop a more uniform process for keeping records of asset repair and maintenance.
- Sect 4 the cross-functional Asset Mgmt. Team become more active, with regular meetings and discussions of ways to improve asset data in Southgate.
- Sect 4 Southgate advance the date of the next Roads Needs Study to 2023 (four years after the last one, in 2019).
- Sect 4 a more detailed, risk-based approach be developed to gather more specific data on condition of waterworks, sanitary sewer and storm sewer assets
- Sect 4 Southgate establish a sewer asset condition assessment program and devote a portion of capital funding to this program
- Sect 4 Southgate continue to monitor traffic volumes, and other factors listed, on its gravel roads, to determine if paving would be beneficial

- Sect 5 Southgate stay determined to hold to the draft tax-support for capital projects in its 10-year Capital Plan for the years 2022 to 2030
- Sect 5 continue to pursue external sources of revenue for capital assets, such as grants and subsidies
- Sect 5 as long-term debts are retired, re-direct the funds previously spent on servicing that debt to the capital budget tax-support

- Sect 6 consider ear-marking a portion of any net, year-end Operations Surplus to a Reserve for Climate Impact Recoveries, instead of going into the Tax Rate Stabilization Reserve

- Sect 6 see the series of Recommendations listed on last page of Sect 6

TOWNSHIP OF SOUTHGATE
ASSET MANAGEMENT PLAN 2022

LIST OF APPENDICES

1. **Ontario Regulation 588/17**

2. **Southgate Asset Management Policy 2019**

3. **ROADS LISTING, alphabetical with 2019 PCI values**

4. **ROADS LISTING, alphabetical with Historical Condition Ratings**

5. **STRUCTURES LISTING, with Historical BCI values, by road location**

6. **STRUCTURES LISTING, by I.D. number**

7. **WATERMAIN LISTING (2013)**

8. **STORM SEWER LISTING (2013)**

9. **BUILDING REPLACEMENT COST ANALYSIS (2022)**

TOWNSHIP OF SOUTHGATE

ASSET MANAGEMENT PLAN 2022

TOWNSHIP OF SOUTHGATE

Authored by: Aakash Desai

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1. INTRODUCTION and BACKGROUND

1.1 What is ASSET MANAGEMENT?

The Township of Southgate (referred to in this document as Southgate) owns and manages a diverse portfolio of assets, to provide stakeholders (residents, businesses, and visitors) with safe access to important services, such as transportation, recreation, waste management, economic development and much more. These assets include roads and bridges/ culverts, wastewater and storm sewer systems, and drinking water systems, known as Core Assets. Other asset groups include buildings, vehicle fleet, technology and machinery/ equipment. Asset management is the short title for an integrated business approach, within an organization, to strike a balance between managing the lifecycle costs of owning, operating and maintaining assets, managing an acceptable level of risk, and managing the continuous delivery of established levels of service for current and future customers, and doing all of these tasks in a manner designed to be environmentally and financially sustainable.

There are several key words, within this definition, that will be explained in more detail throughout this document. This document is designed, within Provincial format guidelines, to assist Southgate with the pursuit of asset management of its core assets. The Asset Management Plan will be expanded to eventually include all non-core assets. Buildings were added in 2022. A concise definition of Core Assets would be those assets that deliver the services that residents cannot do without. This 2021 AMP for Southgate deals with core assets.

As a subsidiary of Asset Management, Infrastructure asset management is the combination of management, financial, economic, engineering and other practices applied to physical assets, with the objective of providing the required Level of Service in the most cost-effective manner. It includes the management of the whole life cycle of physical and infrastructure assets:

- Design
- Construction
- Commissioning
- Operating and maintaining
- Repairing and modifying
- Replacing and decommissioning/disposal

1.2 What are the benefits of ASSET MANAGEMENT?

Asset management is an integrated process, which means it touches most of the divisions of Southgate's business activities. This can often lead to some significant overhauls of existing

processes, practices and procedures. Organizational change can be valuable, and it can improve outcomes for all Southgate stakeholders. Key benefits of asset management are:

- Data-driven decision making
- Enhanced sustainability of infrastructure assets
- Good governance and increased accountability
- Improved levels of service and quality of life
- Accurate forecasting of infrastructure replacement and enhancement needs
- Municipal compliance with Federal and Provincial regulations

1.3 What is an ASSET MANAGEMENT PLAN?

A concise definition of an Asset Management Plan (shortened to AMP) is a strategic planning document, identifying key asset data, and the resources and funding required to meet organizational objectives.

Seven essential elements of an AMP are commonly presented as questions. These questions can be answered through the asset management process:

Seven Essential Elements of an AMP	Answers
What does the municipality own?	Asset Inventory
What is it worth?	Valuation of the Inventory
What is its condition?	Condition ratings, remaining life
What needs to be done?	Levels of Service, lifecycle actions
When do you need to do it?	Risk Assessment, Project Prioritization
How much will it cost?	Revenue Requirements, price forecasts
How will you pay for it?	Long Term Financial Plan

Provincial regulations require the AMP to be updated every five years (or less). The reason for this requirement for future updates is to allow Southgate to re-evaluate the state of its infrastructure assets, as well as to review how its financial strategies are progressing. Unexpected events can cause AMP targets to be missed (Covid), and strategies must be altered in response to events.

AMP content includes basics like an asset inventory, condition assessments, and replacement costs. Other required elements of an AMP, per the Provincial regulation, are:

- Asset Management Strategies (risk assessment, lifecycle, prioritization)
- Levels of Service (performance measurement)
- Climate Change impacts
- Financial strategies

1.4 Infrastructure Ownership and O. Reg. 588/17

In Ontario, municipalities own and manage more infrastructure assets than both the Provincial and Federal governments combined. Across Canada, the shares of infrastructure assets are:

- Federal ownership 2%
- Provincial ownership 41%
- Municipal ownership 57%

The Province of Ontario, in 2015, passed the Infrastructure for Jobs and Prosperity Act (IJPA) followed by consultations with municipalities during 2016, to collect feedback on its proposed Regulation. The IJPA update came into force on Jan. 1, 2017 as O. Reg. 588/17, with these selected timelines and requirements for all municipalities in this Province:

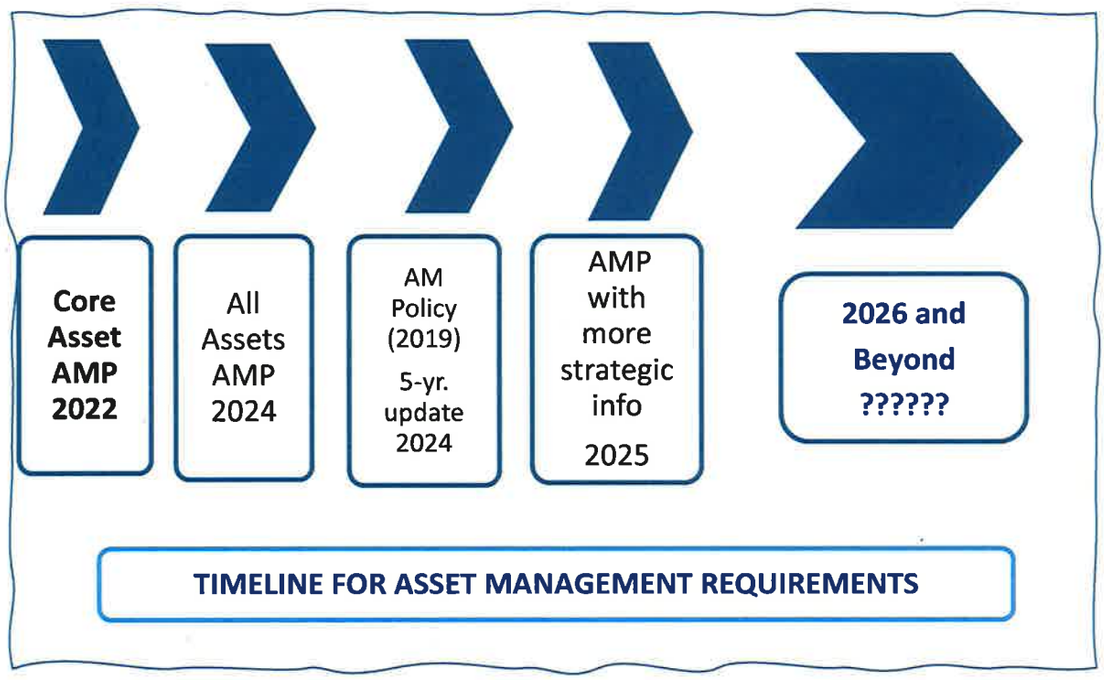
PHASE 1 Core Assets	Due by July 1, 2021	1. Inventory analysis 2. Current levels of service 3. Costs and lifecycle activities required to maintain current levels of service 4. ONLY IF POP.> 25,000 : Population and Employment forecasts, and costs to service growth in next 10 yrs.
PHASE 2 ALL Assets	Due by July 1, 2023	Same requirements as Phase 1 above, but applied to ALL infrastructure assets
PHASE 3	Due by July 1, 2024	1. Proposed Levels of Service for next 10 years 2. Updated Inventory analysis 3. Lifecycle Management Strategy 4. Financial Strategy 5. Addressing Financial Shortfalls 6. ONLY IF POP.> 25,000 : how Growth Assumptions impact Lifecycle Mgmt. and Financial Strategy

A concise definition of Core Assets would be those assets that deliver the services that residents cannot do without. This 2021 AMP for Southgate deals with core assets.

UPDATE

In March 2021, in response to municipal concerns over the impacts from COVID-19, the Province announced a one-year deferral for the three phases above. New required dates are:

1. Core Assets version of the AMP due by July 1, 2022
2. Expanded AMP covering all assets due by July 1, 2024
3. Proposed Levels of Service due by July 1, 2025



For the 2025 AMP, the additional "strategic information" includes:

- **Proposed Levels of Service for next 10 years**
- **Addressing Shortfalls within the Financial Strategy**
- **Lifecycle management strategy**
- **Explain how Growth will impact Lifecycle and Financial Strategies**

1.5 Integration with Other Plans

With respect to integrating the Township's budget process with asset management planning, both require a projection of capital and operating costs of a future period. Both the capital budget and the AMP should contain a ten-year forecast window for capital assets. Situations will change, assets will become damaged or worn-out earlier than expected. The annual budget process can respond to these circumstances because it is more frequent (annual) than the AMP process. The annual Southgate budget-setting process can be like an asset management plan update process.

Both asset management and PSAB 3150 (Public Sector Accounting Board) accounting rules 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. Historical cost values can be misleading when an asset is very old, because the difference between its historical cost and its replacement cost will likely be large.

Further integration into other Township financial/planning documents would assist with

the ongoing accuracy of the AMP, as well as the accuracy of integrated financial/planning documents. This AMP has been developed to allow linkages to documents such as:

- Development Charge Background Study;
- Official Plan;
- Water and Wastewater Rate Study;
- Road Needs Study;
- OSIM Structure studies (every structure updated in a two-year cycle); and
- Insurance valuations and records.

References are made throughout this AMP to asset data that was obtained from these sources.

1.6 Annual Progress Review

The Regulation (section 9) requires *"every municipal Council shall conduct an annual review of its asset management progress on or before July 1 in each year"* and the review must address:

- The progress in implementing the AMP
- Any factors impeding the ability to implement the AMP
- Strategy to address the factors described above

The review may be done through a status update report to Council. A completely re-done AMP is not necessary for this annual review. The requirements for entirely re-done AMPs are spelled out in the table above (Phases Two and Three). After the Phase Three requirements are met, AMPs must be updated (re-done) at least every five years. See section on Next Steps.

2. STATE OF LOCAL INFRASTRUCTURE

In this section, Southgate core assets are itemized, along with information on condition assessments and estimated replacement costs. The annual Southgate audited financial statements are prepared using historical costs. Many assets in the inventory are decades old, so their historical cost bears little resemblance to current values. Historical values can be of little value in terms of asset management practices. Therefore, historical cost data is not referenced in this AMP, except for the first table below, just to show the differences between historical and replacement costs.

Asset data was based on the various sources listed in section 1.5, and not on historical cost financial accounting records. An exception to this is for recently acquired assets. Some of the data sources listed in section 1.5 are dated in 2018 or 2019, and so they are slightly outdated. Assets purchased after those reports were done have been picked up from the accounting records of recent years, for inclusion in this AMP, up to and including 2020 acquisitions.

2.1 Consolidated View of Core Assets

In this table, an overview is provided of all the core assets being reviewed in this AMP.

	Quantity measurement	Replacement Value Estimate	Net Book Value, Historical Cost, end of 2019
Roads – all types	517.812 km	$114,285,190	$ 23,043,478
Structures – all types	118 structures	$ 77,182,770	$ 8,656,469
Waterworks system, mains + other	as listed	$ 20,000,000	$ 3,908,248
Storm sewer mains, catch basins	as listed	$ 6,500,000	$ 525,744
Wastewater system, mains + other	as listed	$ 22,500,000	$ 738,685
Facilities Covered in 2022 BCA	as listed	$ 19,466,836	$ 8,670,669
COMBINED		$ 259,934,796	$ 45,543,293

The following sections will take a closer look at each of these asset groups.

2.2 Roads

Roads are the single most significant asset type in the asset inventory. Roads are classified by surface type. At Dec. 31, 2019, the road inventory was:

Length in km. 2013		Length in km. 2019	Replacement Value Estimate
27.149	Paved roads, urban & semi-urban	26.248	14,436,400
127.319	Paved roads, rural areas	137.388	37,921,950
44.084	Surface-treated roads	53.417	9,615,060
304.127	Gravel roads	291.131	52,311,780
9.628	Earth roads	9.628	No plans to replace
512.307		517.812	$114,285,190

Replacement values used above are: Urban/Semi-Urban Paved Roads $550,000/km., Rural Paved $275,000/km., Rural Surface-Treated $180,000/km., and Rural Gravel $180,000/km. These are the estimated costs to fully reconstruct each type of road, including its base and surface.

Total km. in the system (now 517.8 km. or 1,035 lane-kms.) will increase slightly, as new roads are assumed by Southgate from new subdivisions. Here is some road data taken from AMP's of comparable (mostly rural) or nearby municipalities, to confirm the reasonableness of the road valuation above.

Comparator	Total km	Paved or ST	Gravel	Replac. Value	
Melancthon	248.5	81.2	167.3	$ 112,000,000	
Wellington North	424	230	194	$ 121,798,073	
Minto	286.3	224	62.3	$ 122,200,000	
West Grey	1,000.9	524	476.9	$ 284,170,354	
Springwater (Simcoe County)	440	189.2	250.8	$ 131,070,000	

Roads are classified by the Ministry of Transportation (O. Reg. 612/06) into Road Classes, based on a combination of Average Daily Traffic (ADT) volumes and Speed Limits. There are six classes, Class 1 being the highest volume and speeds over 80 km/hr. and daily traffic volumes 5,000 to 50,000+. An example of Class 1 would be four-lane or six-lane roads, like Dixie Road in Mississauga and Brampton. Southgate roads have low traffic volumes, are mostly two lanes, and are mostly 80 km/hr. in rural areas, with urban streets posted at 40 km/hr.

There are no Southgate roads in MTO Classes 1, 2 or 3. The 517.8 km network of roads in Southgate are analyzed as:

2013 Study		2019 Study	
411.7 km	MTO Class 4	411.4 km	Speeds 40-80km/hr. ADT 500-999
18.2 km	MTO Class 5	16.1 km	Speeds 40-80 km/hr. ADT 200-499
82.4 km	MTO Class 6	90.3 km	Speeds 40-80 km/hr. ADT 0 - 199
512.3 km		517.8 km	

Many Southgate Class 6 roads have an ADT of just 0-49 vehicles, which is the lowest ADT measure there is. The MTO Road Class has relevance for asset management because the lower traffic volumes, and lower speeds, indicate that Southgate roads might reasonably be expected to have longer useful life estimates, because they are subjected to lesser usage. Paved road surfaces are typically assigned lifespans of 15 to 25 years before planned resurfacing is required, whereas Southgate has been using a 50-year paved road lifespan.

Road Asset Condition

Asset condition is a critical factor in decision-making for capital asset management. The 2019 Triton study provides Pavement Condition Index ratings (PCI) for all paved and surface-treated roads. PCI is the standard measure for "hardtop" roads condition. PCI is a combination of Field Condition Rating (FCR) and Ride Comfort Index (RCI), on a scale from 0 to 100. A road that has just been resurfaced would rate a PCI of 100. Roads with a PCI of less than 50 are considered deficient and in need of rehabilitation.

Triton found, in 2019, nearly one-third of Southgate's hardtop roads were in need of rehabilitation. Triton noted that because many Southgate roads were hard-surfaced at the time of amalgamation with thin lift asphalt pavement, many of those roads have now reached the end of their service life.

Microsurfacing of paved roads binds the surface and keeps material in Place. It works best when the road base is still adequate, and the road's paved-surface distresses are mostly cracking, including alligator cracking. Microsurfacing is less costly than resurfacing. However, microsurfacing does not address rutting, or more deep-seated structural road distresses.

The other hardtop road type (after paved roads) is Surface-treated roads, also referred to as Low Class Bituminous (LCB), which are typically rural roads with moderate traffic volumes. The treatment maintains the surface, and provides dust control, but requires re-sealing roughly every seven years, per Triton.

Here is an analysis of PCI values for all hard top roads (both paved and LCB) from the 2019 Triton data, altered slightly for the roads that were paved in 2020 (sections of Road 22 and Wilder Lake Road) and were changed to an Excellent PCI value.

PCI value range	No. of Km.	Segments	
91-100 Excellent	35.001	43	
71-90 Good	35.084	55	
51-70 Fair	83.733	92	
31-50 Poor	59.623	36	
< 30 Critical	3.612	3	← on Rd. 4, Rd. 14
	217.053	229	229 of 428 segments have a PCI

Paved urban + Paved rural + Surface-treated rural = 217.053 km. of hardtop

Note that these are 2019 PCI ratings (with a couple of 2020 updates), and so there could be a small number of roads that have declined from one range to the next range (e.g. from Good to Fair) since 2019. It is noteworthy that there are 35 km. rated excellent, just as many as rated Good. This is an indication of an improvement in the amount of paving work accomplished in recent years. All 43 road segments in the Excellent list were either newly added/built, initially paved (formerly Gravel), or repaved, since 2014.

Gravel roads are appropriate in rural areas, and in low to very low traffic volumes. These roads represent over 50% of Southgate's road network. Triton's report says gravel surfaces are best for roads with poor subgrade conditions, such as topsoil present in the upper portions of the road base, and/or poor drainage conditions. These roads would not support a hard surface, as they would break up prematurely. Southgate maintains a regular gravel road program, along with brushing and ditching for improved drainage. Gravel roads of course do not have a PCI, but they do have an FCR. The Triton 2019 report says the weighted average FCR across the gravel road inventory was 5.7, considered to be good. The report states that "*while gravel roads should be maintained at an average FCR of 7.0, lower traffic-volume gravel roads can have FCR between 5.0 to 7.0 and provide satisfactory performance*".

2.3 Structures (bridges and culverts)

Southgate has a high number of structures, namely 118 structures. In Ontario, structures must undergo inspections every two years. Inspections are performed, on an element-by-element basis on each structure, by external engineers (R. J. Burnside "RJB"). Inspections are made in accordance with the Ministry of Transportation – Ontario Structure Inspection Manual (OSIM). See the section on Structures Asset Condition for details on the findings of the most recent OSIM inspections.

Structures by location:

Southgate Road	# structures	
Road 4	6	
Road 8	7	
Road 10	9	
Road 12	13	
Road 14	13	
Road 22	3	
Road 24	9	
Road 26	12	
Sideroad 7	4	
Sideroad 11	1	
Sideroad 13	3	
Sideroad 15	3	
Sideroad 19	1	
Sideroad 21	3	
Sideroad 41	3	
Sideroad 47	4	
Sideroad 49	9	
Sideroad 55	1	
Sideroad 57	4	
Sideroad 61	2	
Sideroad 71	2	
Sideroad 75 / Ida St.	3	
Eco Pkwy., Feairs Dr., Sligo Rd.	3 (1 each)	
	118	

Structures by most common type (types with under 3 structures are left out):

Cast-in-place concrete rigid frame	62
CSP multi-plate ellipse culvert(s) [might be single or double]	11
Steel I-girder, concrete deck	9
Cast-in-Place concrete box culvert	8

Precast concrete box culvert	6
CSP round culvert(s) [might be single or double]	4
Precast concrete I-girder	4
CSP Arch culvert(s) [might be single or double]	3
All Other	11

The structures Replacement Value of $77.18 million, shown in Section 2.1 above, comes from values found in the OSIM studies of 2019 and 2020, except that only the core asset value was used. RJB cost estimates for roadside protection features (like Guiderails and end treatments), engineering design, environmental assessments, and 10% cost contingencies were all excluded. This is because recent experience shows actual structure projects, completed by Southgate in recent years, have consistently come in well under the OSIM Study replacement cost estimate. Therefore, the OSIM core asset values, taken alone, are likely still on the high side for estimated replacement values.

Structure Asset Condition

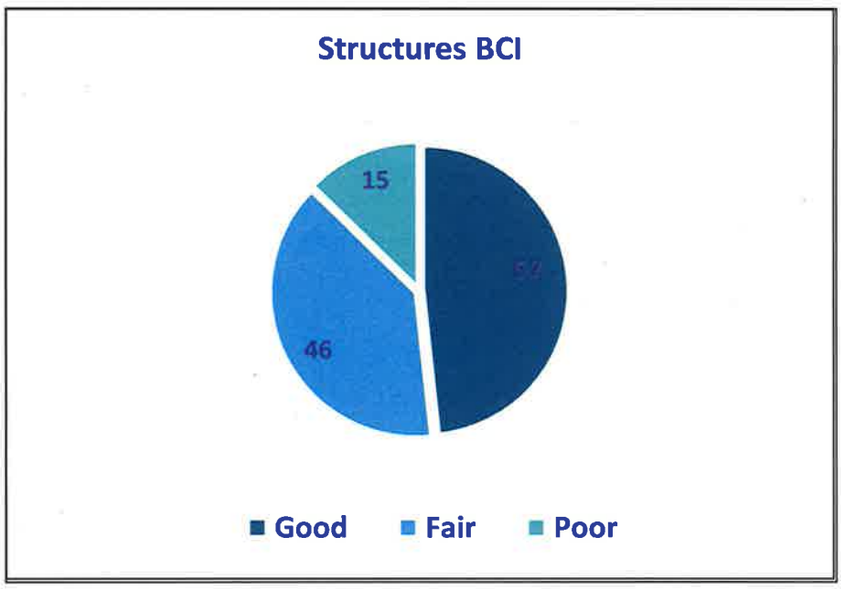
Asset condition is a critical factor in decision-making for capital asset management. Structure asset condition is measured by the Bridge Condition Index, the BCI for short. BCI value ranges are Good = 70 to 100, Fair = 50 to 70, and Poor = <50.

OSIM inspections are done on half of the Southgate structure inventory every year, so that every structure is inspected once in a two-year cycle. This cycle ensures that

- Inspection information is kept very recent (as compared to roads data)
- BCI measurement trends can be analyzed over time by comparing results over several recent cycles

The OSIM study every year includes a "five-year Capital Plan" from RJB, which is helpful to township staff in developing the township's capital plan in the annual budget. In addition to capital cost plans, the annual operational budget provides funding for routine maintenance of structures. Routine maintenance is important, to extend the service life of structures. Routine bridge sweeping, washing of decks, drains, joints, bearing seat areas and girders will improve service life. Removal or trimming of vegetation, as well as addressing minor erosion concerns regularly, will pre-empt more serious issues.

In September 2020, RJB stated 48.3% of Southgate structures were Good (57 of 118), 39.0% were Fair (46 of 118) and 12.7% were Poor (15 of 118). MTO has established a goal for municipalities of keeping 85% of structures in "good" condition. At 48.3% Good, Southgate is underperforming when compared to that MTO 85% goal.



However, since the 2015/2016 inspections cycle, Southgate has accomplished enough maintenance and capital work on its structures to keep its overall average BCI, across all 118 structures, holding steady at 67.3 (see Level of Service table). Recently completed capital work was done on structures S043, S118 and S126 (all in 2019), and S031 in 2020.

Here is a table of all 118 BCI values, by specific ranges:

B C I value range	No. of structures		
75 to 100 Good	32		
70.1 to 74.9 Good	25	close to dropping to Fair	
56 to 70 Fair	41		
50 to 55.9 Fair	5	close to dropping to Poor	
20 to 49.9 Poor	15		
< 20 Critical	none		

This breakdown of BCI ranges was designed to show how many structures are nearing the point of BCI value that would drop them down one category. Finally, although BCI is a good measure of the overall condition of a structure, and its relative construction need, other factors beyond BCI are often considered when prioritizing bridge work. Other decision-making factors include:

- Traffic volume and # trucks that regularly use the road the Structure is on
- Load capacity restrictions
- Geometric restrictions (alignment or width is difficult to alter)
- Pedestrian or cycling requirements
- History of accidents or traffic conflicts

- History of flooding or ice problems
- Nearby area population growth and development

2.4 Waterworks, Sanitary Sewer and Storm Sewer Systems

There are three remaining core asset groups considered in the AMP: Waterworks system assets, Sanitary Sewer (Wastewater) system assets, and Storm Sewer (Stormwater) assets. These asset groups do not have external measurements like a PCI or a BCI, as roads and structures have. Instead, to measure asset condition in these groups, the AMP has used a five-part General Condition Grading System, per the Table below, and asked township staff who are most familiar with these assets to assign the condition rating they believe to be the most accurate.

Grade	Description of Asset Condition
VG Very Good	Typically new or recently rehabilitated asset. Only normal maintenance required
G Good	Minor deterioration only in some elements; some minor maintenance required
F Fair	Significant Maintenance required to return to Accepted Level of Service. General signs of deterioration.
P Poor	Mostly below standard, many elements nearing the end of their service life. Requires Renewal, or significant upgrade.
VP Very Poor	Asset is not serviceable. Widespread signs of advanced deterioration. Components exhibit signs of imminent failure.

2.4-1 Waterworks system

The drinking water system in Dundalk is a ground water source system, consisting of three production wells (D3, D4, D5), three water storage reservoirs, one monitoring well and a distribution system of approx. 19.8 km. of watermains of varying size, with 1067 service connections (per 2020 Annual Report).

The system is monitored by a new SCADA system installed in 2020, which communicates through RF towers and PLC's in the wells, to record data and monitor operations.
Below are tables listing key components of each well:

Well D3 280 Victoria St. W.		Condition Grade
Drilled ground water well, pumphouse structure, 86.9 m deep, 250 mm. diameter steel well casing to bedrock at 28 m. depth		G
Submersible pump that transfers water from wellhead into the reservoir, rated capacity 777 L/min. at 38.1 m TDH		G

One 100 mm. magnetic flow meter		G
Two vertical turbine high lift pumps to pump water from reservoir to distrib. system through 250 mm. diameter watermain		G
One 100 mm. magnetic flow meter on pump discharge header		G
Two fire flow pumps, rated cap. 5,678 L/min 1 Electric-driven		F
1 Diesel driven		F
One backflow preventer on the fire pump system		G
Secondary containment for chemicals and diesel fuel		G
Piping, valves, controls & equip within the pumphouse		G
1,364 cu. m. pre-stressed concrete Reservoir, circular, ground level, with baffle curtains and two mixers		F
Two UV light reactors for disinfection with one UVT monitor		G
Sodium hypochloride dosing pump, storage tank		G
Residual analyzer and downstream dosing pump		G
Turbidity analyzer on raw water piping		G
Metering pump flow switch with alarming and controls		G
Standby Power : 80kW diesel generator		VG

Well D4 550 Main St. E. (built 2004)		Condition Grade
Drilled ground water well, pumphouse structure, 100.6 m deep, 250 mm. diameter steel well casing to bedrock at 32 m. depth		G
Submersible pump that transfers water from wellhead into the reservoir, rated capacity 1,136.5 L/min. at 32.6 m TDH		G
One 100 mm. magnetic flow meter		G
Two vertical turbine high lift pumps to pump water from reservoir to distrib. system through 250 mm. diameter watermain		G
One 100 mm. magnetic flow meter on pump discharge header		G
179 m. of 250 mm. diameter PVC watermain connecting Well D4 to existing distrib. system		G
One turbidity analyzer		G
Piping, valves, controls & equip within the pumphouse		G
One baffled Reservoir approx. volume 187.7 cu. m.		G
Sodium hypochlorite metering pumps (2) with flow switch, auto switch-over, alarm and shutdown features		G
Sodium hypochlorite tank		G
One free chlorine residual analyzer		G
Standby Power : 100kW diesel generator with 284 L fuel tank		G

Well D5 250 Hagan St. (drilled 2017, installation 2019)		Condition Grade
Drilled ground water well, pumphouse structure, 96 m deep, 250 mm. diameter steel well casing to bedrock at 35.35 m. depth		VG
Submersible pump that transfers water from wellhead into the reservoir, rated capacity 1,363.5 L/min. at 35.2 m TDH		VG
One 100 mm. magnetic flow meter		VG
Two vertical turbine high lift pumps rated at 1,363.5 L/min with variable frequency drives		VG
One 100 mm. magnetic flow meter on pump discharge header		VG
179 m. of 250 mm. diameter PVC watermain connecting Well D5 to existing distribution system		VG
One turbidity analyzer		VG
Piping, valves, controls & equip within the pumphouse		VG
One baffled Reservoir, capacity 536 cu. m.		VG
Sodium hypochlorite dosing pumps (2) with flow switch, auto switch-over, alarm and shutdown features		VG
Sodium hypochlorite tank		VG
One free chlorine residual analyzer downstream		VG
Standby Power : 150kW diesel generator with double walled under base fuel tank for 24-hrs run time		VG

SCADA system (replaced in 2020)		Condition Grade
One level sensor in each Well		VG
One Well-pump operation sensor in each well		VG
One Well-pump flowmeter in each well, on raw water inlet to reservoir		VG
Six pump speed sensors, two at each well, with one on each highlight pump		VG
Three VFD failure monitors, one at each well		VG
Three ultra-sonic level sensors, one at each well		VG
Three float type level sensors, one at each well		VG
Eight Chlorine pump operation monitors, including failure alarms, two at Well D3, three at D4 and three at D5		VG
Three Chlorine and turbidity analyzers, one at each well		VG
Three Chlorine analyzers, located on treated water lines, one at each well		VG
Three treated-water flowmeters, located on treated water lines, one at each well		VG

Fuel Oil Systems, Diesel fuel		Condition Grade
One 550 L above ground double walled storage tank, outside the diesel generator, for pump house D3		VG
One 1,138 L above ground double walled storage tank, outside D3 fire system pump		F
One 680 L above ground double walled storage tank, outside the diesel generator, for pump house D4		G
One 1,137 L above ground double walled storage tank, outside the diesel generator, for pump house D5		VG

Watermains total 19,846 m.		Condition Grade
Main St E installation 2019/20 total 1,481 m. of 150, 200, and 250 mm dia. gasketed PVC main, including tracer wire, from Proton St. easterly to Sinclair St.		VG
Other recent installs: Elm St.		VG
Young St.		VG
Rowe's Lane		VG
Mains across remainder of system, 18,365 m. EXCEPT these		
Specific sections requiring attention :		F
Victoria St W		P
Proton St S		P
Gold St W		P
Ida St S		P

Water Meters:		Condition Grade
Approx. 1,200 units, both installed + inventory held		G
Hydrants		
Inventory count = 116 across the Town		G

2.4-2 Stormwater assets: storm sewers and catch-basins

Managing rain water (stormwater) is important for reducing the risk of flooding, and the risk of damage to other infrastructure assets. The stormwater system includes approx. 17.5 km. of stormwater drainage pipe, and approx. 160 catchbasins on various streets in Dundalk, including recent street additions (Doyle, Elm) and one Stormwater Holding Pond, located just south-east of the Sheffield Street cul-de-sac, with a holding capacity of 1,272 cu. m.,

covering 0.23 hectares. There is a partially-submerged inlet from the in-street collection system to the Pond.

2.4-3 Wastewater system

The Dundalk Sewage Treatment Works (STW), at 752051 Ida Street S. consists of a four cell waste stabilization pond facility, flowing into an aeration cell pond. Components of the system are a Pumping Station, Chemical Feed System, the Stabilization Ponds, a Post Aeration Cell, Blower Building, Tertiary Treatment Filter Building, and Discharge to the Foley Drain connected to the Grand River Watershed. In 2014, upgrades were completed on the pumping station, post-aeration cell, blower building, and the tertiary treatment filter building.

The system underwent inspection in May 2019 by the MECP (Ministry of Environment, Conservation and Parks). A sewage lagoons sludge assessment was conducted by Triton Engineering in 2020.

STW Component	Year	Condition Grade
Pumping station building	1972	G
Wet Well Pump #1	2019	VG
Wet Well Pump #2	2017	G
230 mm forcemain to stabiliz. ponds		G
Controls building, houses pump control equipment	2014	VG
50 kW diesel generator, auto transfer switch	2014	VG
2.2 sq. m. Chemical Metering building	2000	F
24.5 cu. m. capacity chemical storage tank (Alum)		G
Chemical metering pump w/ flow recorder+totalizer		VG
OTHER PUMPS:		
Influent Pump 1	2008	G
Influent Pump 2	2020	VG
Influent Pump 3	2016	G
Backwash Pump 4	2018	VG
Backwash Pump 5	2011	G
Backwash Pump 6	2020	VG
Stabiliz. Pond 1 depth 1.8 m. 6.5 hectares	1984	G
Stabiliz. Pond 2 depth 1.8 m. 6.5 hectares	1984	G

Stabiliz. Pond 3 depth 1.8 m. 4.1 hectares	1972	G
Stabiliz. Pond 4 depth 1.8 m. 4.1 hectares	1972	G
Post Aeration cell depth 2.1 m. 4,546 cu. m.	1984	G
Blower building	2014	G
Steel roof	2019	VG
Two Blowers, air main + diffusers	2014	VG
Tertiary Treatment Filter building	2000	G
Three variable frequency drives	2000	G
5,680L capacity chemical storage tank	2000	G
Flocculation tank with mixer+backwash filter	2000	G
50 cu. m. filter effluent tank	2000	G
50 cu. m. backwash waste tank	2000	G
Oxygen monitoring equipment, air piping, fine bubble air diffusers	2014	VG
Discharge system	2000	G
Sanitary sewer mains/pipes, approx. 17,500 m. or 17.5 km.		Condition Varies
Inventory of manholes		Condition Varies

The Sanitary Sewage Lagoons south of Eco Parkway, which treat the sewage from the community, are designed to treat 1,832 m3/day.

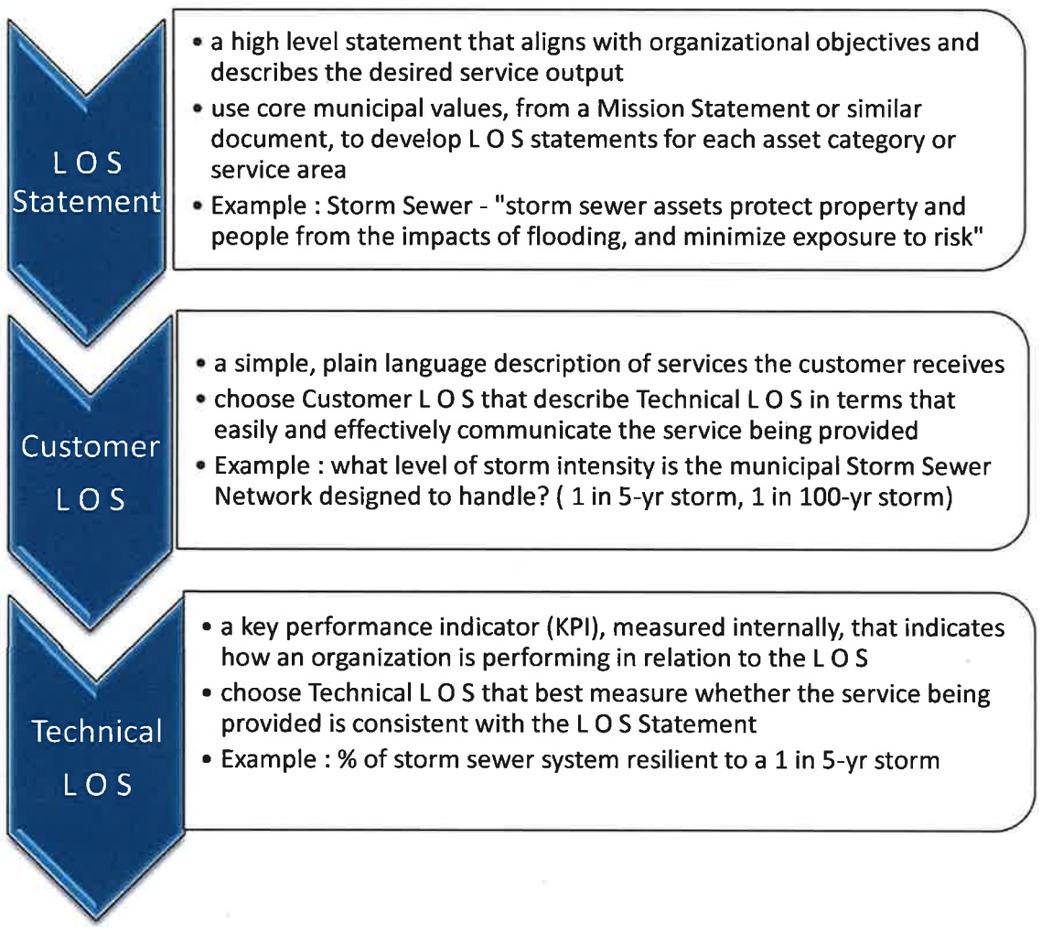
2.4-4 Facilities

Southgate owns and operates several facilities to deliver various services to its residents. While facilities are not considered a core asset under *O.Reg588/17* the importance of facilities can not be understated. Facilities are used in almost every facet of Southgate's operations – including the provision of services through core assets.

Appendix 9 has a list of all the facilities that have been reviewed as part of the Building Condition Assessments along with their replacement cost.

3. LEVELS OF SERVICE

Every AMP needs to balance affordability of municipal services with customer needs and expectations. Levels of Service (LOS) is the standard used for this aspect of Asset Management. LOS are specific parameters that describe the extent and quality of services that the municipality provides to its users.
Here is a basic guide to establishing LOS:



Developing realistic LOS, using meaningful Key Performance Indicators (KPIs), is necessary for managing citizen expectations, identifying areas requiring additional investments, driving organizational performance, and securing the highest value-for-money from public assets. Municipalities face diminishing returns with their LOS and KPI frameworks; in other words, the more LOS and KPI measures are kept, the less and less incremental value they provide. The objective should be to track only LOS measures that are relevant and insightful to Southgate.

The O. Reg. 588/17 prescribes, in tables, a minimum number of LOS measures to be provided, at least initially, set out in section 6 of the regulation.

For core assets, per the diagram above, there are two types of LOS:

1. Customer LOS, sometimes referred to as External Outcomes. A simple, plain language description of what customers expect to receive from Southgate
2. Technical LOS, key performance indicators (KPI's) used to measure performance of assets and performance of services to customers

Reg. 588/17 section 5(2) sub-section (1)(i) sets out the need to include in the AMP some specific basic measures, for core assets, given in Reg. Tables 1 to 5. In future, Southgate should expand upon these basic LOS as more data on performance is collected.

	LOS Statement /Customer LOS	Technical LOS and KPI's
WATER	Provide a safe and reliable supply of drinking water to residents connected to the municipal waterworks system	% of Dundalk properties connected to the water system - 99.0%
		% of Dundalk properties where Fire Flow is available - 100.0%
	Service requests are promptly responded to	Annual number of Boil-water Advisories - 2020 : 0 2019 : 0 2018 : 0
		Number of watermain breaks – 2020 – 2 2019 – 2 2018 – 3
WASTEWATER	Wastewater network is maintained and managed to enable continuous and reliable provision of sewage services Service requests are promptly responded to	Number of emergency sewer repairs per year - 2020 : 0 2019 : 1 2018 : 0
		Number of sanitary sewer backups per year - 2020 : 0 2019 : 0 2018 : 0
		Number of raw sewage bypass events 2020 : 0 2019 : 0 2018 : 0
STORM WATER SYSTEM	Stormwater network is maintained in good condition to enable continuous and reliable provision of services	% of properties resilient to a 100-year storm - 75%
		% of properties resilient to a 5-year storm - 100%
ROADS	Road network is convenient and available to the whole community.	Average Pavement Condition Index (PCI) value for paved roads : 2019 – 68.63

	There are minimal service disruptions. It is safe to use; traffic signs and markings are easy to see and understand. Service requests are promptly responded to. Example : potholes filled	
		Average Condition Rating for Surface Treated roads: 2019 - 5.7 2014 – 6.4
		Average Condition Rating for Paved Asphalt roads : 2019 - 6.1 2014 – 6.6
		Average Condition Rating for Gravel roads : 2019 - 5.7 2014 – 5.7
STRUCTURES	All Bridges and Culverts provide safe vehicular and pedestrian passage. All Structures are fully compliant with regulatory requirements. Traffic that is supported by Structure Network • Heavy trucks • Passenger vehicles • Emergency vehicles • Cyclists • Pedestrians	Average bridge condition index (BCI) : 2015/16 OSIM cycle : 67.2
		2017/18 OSIM cycle : 67.3
		2019/20 OSIM cycle : 67.3
		Do all Structures undergo OSIM inspections per MTO regulations? : YES
		Structures with Loading Restrictions: 9 of 118 = 7.6% They are S033, S070, S079, S080, S081, S085, S107, S113, S119

These LOS are basic and are a starting point for Southgate. The next version of the AMP will bring in more LOS for other types of assets, such as Buildings and Vehicles. Many other LOS measures for core assets could be added to this list, however they would require a commitment to gathering the data required. In some cases, historical data is not available because it was not kept. Therefore, some LOS measures will be kept only for 2021 and beyond.

Taking LOS to the next step will require some group discussion of Target values for Technical LOS. One example would be to say that an overall paved road PCI value of 70.0 is the target. Any targets that are beyond the current actual values in Southgate would, of course, require increased financial and human resources to achieve.

Target values appropriate for Southgate cannot be determined by this AMP. Average BCI through the past three OSIM cycles, per the table, has been kept constant, based on the spending level for structures, as previously approved. Council and staff would need to discuss how much more money

they are comfortable with spending, and whether the capacity even exists to accommodate the amount of work needed to get to a higher Target LOS. Capacity can be limited by not only budgets, but by available contractors and other service providers, and the amount of time that staff can afford to devote to projects, without impairing their existing, mandatory operational duties.

Risk

Another aspect of asset management that is directly linked to LOS is Risk. Risk represents the combination of the chance, or likelihood, of an event occurring, and its potential positive or negative consequences to customers/residents. In asset management, the event we are talking about is the failure of an asset to provide services; it could be caused by a weather-related event.

A Risk Matrix with sliding scales of values for Likelihood and Consequence is often used, such as this one:

CONSEQUENCE	Insignificant = 1	Minor Impact = 2	Moderate = 3	Major Impact = 4	Catastrophic = 5
LIKELIHOOD					
Rare = 1	1*1 = 1	2*1 = 2	3	4	5
Unlikely = 2	2*1 = 2	4	6	8	10
Possible = 3	3	6	9	12	15
Likely = 4	4	8	12	16	20
Almost Certain = 5	5	10	15	20	25

An example might be a severe winter storm event in Texas, an event with a likelihood = Unlikely, but Catastrophic consequences, for a value of 10 (2 times 5) in the matrix. Climate change is just one factor that can alter the likelihood of certain weather-related events, as the frequency of occurrence of weather-related events changes. (see Section 6 on Climate Change)

Assets can be assigned a likelihood of failure, and consequence of failure, such as a bridge closure, with consequences based on where the asset is located, available detour options, and traffic volume. A methodology is needed to identify where the most cost-effective risk reductions are, and what amount of risk can be mitigated, as risk cannot be fully eliminated (in other words, we cannot control the weather).

This will lead to a prioritization of asset needs. Prioritization is a necessary concept for Southgate, because the two Strategy sections of this AMP (Asset Strategy, Section 4 and Financial Strategy, Section 5) will make clear that there are not sufficient resources available to address all asset needs, and so choices must be made, priorities set, and postponements grudgingly accepted, when selecting assets for rehabilitation or replacement. It is unclear whether the assignment of Risk values, to core assets, would result in any significant changes to the timing of core asset projects from how the projects currently appear in the capital plan.

It is recommended that LOS measures, and Risk measures, should be factored-in during Southgate capital budget discussions for 2022 and beyond.

Past practice in Southgate for the selection and timing of capital projects, for the Capital Plan, has been influenced by a combination of:

1. the results received from external consultants in the most recent OSIM inspection report and the Road Needs report (but not simply taking exactly the same timing, or exactly the same sequence, of projects as given by the consultants, at face value)
2. the advice and input of township staff, based on their hands-on knowledge and experience of the state of existing assets, that they use every day

This past practice is very common among municipalities, as the additional work of devoting time and effort into an expansion of detailed LOS measures and Risk evaluation is just beginning to be developed, in 2021, especially in smaller municipalities. It is recommended that Southgate begins going down the road of keeping more specific LOS measures, and documenting how these measures influence the setting of its future budgets.

<u>Selecting LOS</u>

Asset Management Ontario (AMONT) is an organization providing help and advice on asset management to municipalities of all sizes. AMONT offers the following "tips" for developing LOS in the near term:

- keep LOS simple, focus on asset objectives
- minimize the number of LOS, focus on "Why do we need this LOS?" and "What will this LOS tell us about the asset/service?"
- will the data needed for desired LOS be available?
- avoid using specific design criteria that is too detailed, too numerous, too prescriptive

These tips have been followed for the purposes of LOS in this AMP. It is recommended that, as updated versions of AMPs from other comparable municipalities are adopted and publicly released, later in 2021, Southgate staff research these other Plans to discover LOS measures contained in them, that could be useful for Southgate to begin to measure and maintain, keeping in mind the AMONT Tips listed above.

<u>Selecting KPIs</u>

Selecting which KPIs to use, and to set targets for, when establishing Technical LOS is not a science, but there are a few important considerations. These are referred to as the SMART system, developed by the Institute of Public Works Engineering Australasia (IPWEA):

S Specific aspect of service
M be Measurable
A be Achievable (have a clear plan for reaching the KPI target)

R be Relevant to the LOS and to a strategic objective

T be Timebound, have a clear timeframe for achieving KPI target

Proposed Levels of Service (LOS), both Customer LOS and Technical LOS

Part 6 of the Regulation requires future versions of the AMP to include [now required by July 1, 2025] a discussion of Proposed LOS, including:

1. the Proposed LOS measures
2. an explanation why the Proposed LOS are appropriate
3. proposed performance of each asset category, for each of the next ten years
4. a lifecycle management and financial strategy, in each asset category

Although not required for the 2021 AMP, here are some initial considerations about developing Proposed LOS.

Future LOS for Southgate would most likely be built around maintaining the current LOS, at least in the near term. This expectation is based on the economic and practical limitations that a municipality like Southgate must operate within. Maintenance of just the "status quo", on its own, will be a challenge for Southgate, and will require more resources than those being used in 2021, because:

- Southgate is experiencing substantial growth in population and households now, and growth is expected to continue, so to keep current LOS will demand more from existing core assets, even as they age
- Climate Change, and severe weather events, will have negative impacts on specific core assets, putting them under more stress, and likely shortening their service lives. In other words, assets are likely to need more frequent replacement in future.

Climate change is an area of asset management that is taking on more and more significance. Section 6 of this AMP discusses climate change and its potential impacts on the assets that Southgate has in service.

Southgate must have chosen some Proposed LOS (by June 2025), and started to record and track those chosen. Here are some ideas for specific Technical LOS measures (KPIs) that could be tracked in the future:

ROADS and STRUCTURES

- Percentage of Capital investment/spending to asset replacement value
- Historical cost depreciation compared to annual expenditures
- Costs per capita (Operations and Capital)
- Maintenance costs per square metre

- Achieved overall BCI (per OSIM inspections) compared to target overall BCI
- Achieved overall roads PCI compared to target overall PCI
- Percentage of road lane-km. rated as Poor and Critical
- Percentage of customer requests getting a response within 24 hours

WATER AND SEWER

- Cost of borrowing compared to total operating costs
- Percentage of mains where condition is rated Poor or Critical
- Number of wastewater main backups per 100 km. of main
- Number of customer requests received per year
- Percentage of customer requests with a response within 24 hours
- Percentage of network inspected
- Percentage of Replacement Value spent on operations and maintenance

Other non-core asset classes, including buildings, vehicles and machinery, will be added to the next expanded AMP, and these asset classes will have KPIs of their own to add to this list.

But what are the right LOS/KPI's for Southgate? Factors that can influence which LOS and KPI will be selected for tracking in the future include:

1. Strategic Objectives and Corporate Goals
    - Southgate's long-term direction outlined in its adopted corporate Plans
    - this direction will influence the types of services to be delivered, the quantity and quality

2. Community Expectations
    - General public will have insights on what they consider to be a "good Condition" for a road, or where they feel new roads are needed based on travel patterns

3. Economic Trends
    - Interest rates (example: a KPI that relates debt service cost to another metric)
    - Currency exchange rates
    - Fuel and utility prices (example: KPI that measures fuel efficiency, Km per litre)

4. Demographic Changes
    - If Skewing younger = more parks and recreation services
    - If Skewing older = more well-being centers

5. Environmental Change
    - more extreme storm events will require more KPIs related to asset resiliency

Future Reviews

Reg. 588/17 part 9 requires annual reviews of progress of the Southgate AMP. This requirement has been added, by the Province, to encourage municipalities to treat asset management as an ongoing activity, make it part of annual budget preparations, and not something to be set aside for several years. This often has been the case for many municipalities, where their first AMP was completed in 2013 or 2014, but seldom looked at since.

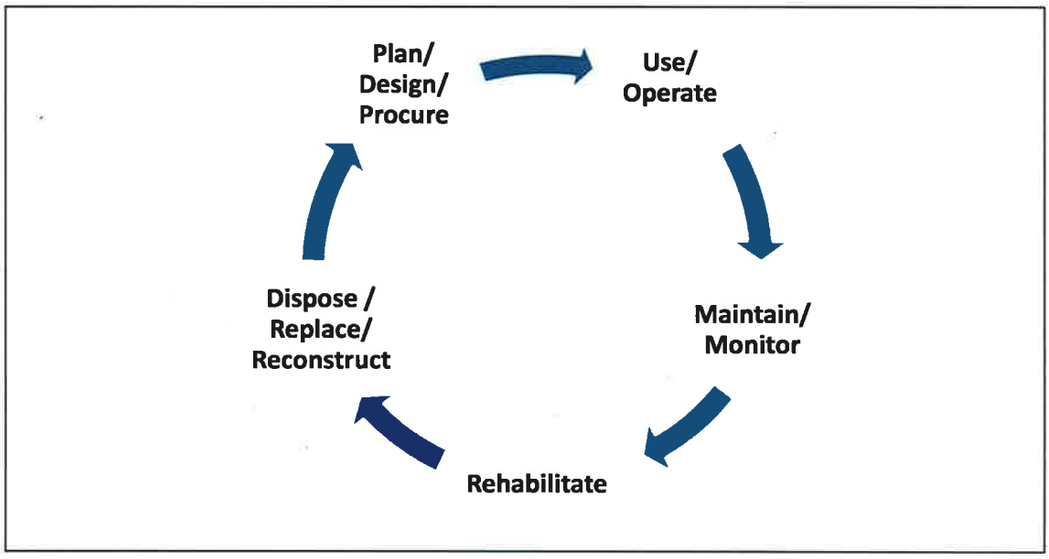
One mandatory piece of these annual reviews should be an historical tracking of Southgate LOS and KPI measures over time, to identify trends, and any new measures that have been added. The number of LOS and KPI measures kept by Southgate will certainly increase beyond this initial 2021 group.

4. ASSET STRATEGY

The purpose of Southgate's Asset Management Strategy (AM Strategy) is to evaluate current practices, and to establish future practices that will be sustainable and cost-effective. This AM Strategy considers asset/infrastructure solutions, and non-infrastructure solutions. There should be a focus on continuous improvement of asset management activities, towards the goal of improved service delivery from township assets.

Non-infrastructure solutions means using tools like external studies, master plans, and public consultations about LOS and asset condition assessment. In Southgate, these studies and plans are included in the budget as "special projects".

Steps needed in the AM Strategy are (a) data collection (including lifecycle data and risk data), (b) asset condition assessment, and (c) the analysis of the data collected.



Asset Lifecycle

(A) DATA COLLECTION

This diagram depicts a typical "cradle to grave" lifecycle of an asset. Township staff already follow this process for the assets they regularly work with, but it would be useful for proper asset management practice to, more formally, document best-estimate timetables of the various stages of key assets, including timing expected for rehabilitation and disposal. This is already in place to a certain degree; it has to be in place, to be able to prepare an annual capital budget and ten-year

capital plan. However, there is room for expansion of lifecycle record-keeping and for formalizing the processes followed. Introducing risk matrix calculations can be part of this expanded record-keeping. It is recommended that the Asset Co-ordinator (AC) work with front-line staff to develop a more uniform record-keeping process.

Gaps in asset data were encountered often during the preparation of this AMP. Confidence in the asset data presented in Section 2 State of the Infrastructure could be significantly improved through the work of a cross-functional team with the leadership of the AC. It is recommended that such an internal group, initially established by staff in 2021, become more active.

An important life-cycle stage is the maintenance and monitoring of assets, after they have been procured and put into operational use. Proper maintenance is essential to maximize the useful life of an asset, and to minimize risk. Maintenance will avoid the need for earlier-than-anticipated replacement, thereby saving financial resources, and maintenance will ensure the performance of the asset is meeting LOS expectations. Monitoring asset condition with written or electronic log books is critical, to avoid duplication of maintenance activities and to find defects early on, before they develop into serious issues. Not only does asset performance benefit from this monitoring, there are health and safety benefits for employees who rely upon proper performance of assets.

Maintenance activities should consider factors such as cost-effectiveness (how long will this repair last? and Is just a "clean-up" enough, or should an entire part be replaced?), time delays (how long will the asset under maintenance be kept out of service?), and co-ordination with utilities (gas company, hydro company) and other municipalities (does a temporary detour need to go through part of a neighbouring municipality? If so, for how long?).

(B) ASSET CONDITION ASSESSMENT

In Section 2 of the AMP, asset condition was used to analyze the State of the Infrastructure. Accurate and comprehensive data on an asset's CURRENT condition are fundamental to a good AM Strategy. Such information mitigates premature asset replacement and/or failure of assets.

For some entire asset classes, Southgate has followed a more cost-effective, but cursory, approach to condition rating, using metrics like the five stages *Very Good, Good, Fair, Poor and Critical.* This approach enables an overview of the assets, and it does indicate which assets are most in need of attention. A better understanding of asset condition leads to more sound management practices and helps to minimize unnecessary expenditures. When combined with risk management frameworks, asset condition assessment will help to identify potential future asset failures, leading to the scheduling of repairs, preventative maintenance and rehabilitation programs that are financially accountable and transparent.

Gravel roads require frequent maintenance, especially after wet periods, and when accommodating heavier traffic. Deterioration involves wheel rutting and water run-off, and eventual road destruction if unchecked. Gravel roads require a cycle of perpetual maintenance, including general re-grading, reshaping of the crown and cross section, gravel spot and section replacement, dust abatement, ditching and brush removal.

For the entire road network, it is recommended that Southgate firmly maintain a regular schedule of comprehensive Road Needs Studies, at least every five years. There is no requirement for the timing of these studies, and so they could be less frequent. However, it is recommended that Southgate does not allow more than five years to elapse between external studies, because of the growth being experienced, leading to new roads being added to the network, and increased traffic volumes that have an impact on road asset condition. Roads can deteriorate quickly, if Southgate experiences one or two winter seasons that happen to involve unusually high numbers of freeze-thaw cycles, as opposed to a "Normal Winter" that gets cold and stays cold for the full season.

It is recommended that, based on factors such as substantial growth in population and vehicles on township roads, that the next Road Study be budgeted for 2023, four years after the most recent (2019) Study.

Structures fall under the Provincial rules of OSIM, and are thereby inspected every two years. There is a regular system of external inspections in place already in Southgate. This system fulfills the need, and does not need to be amended.

Also as required under legislation, water systems, sanitary sewer systems and the lagoon are reported on regularly, as to the water quality found in testing samples, effluent measurements, and so on. The reporting of test sample results is about the functioning of the systems, such as shut-downs or main breaks, but not focused on the condition of the assets in each system. As a result, the cursory approach to condition rating mentioned above (the five stages) was applied in this AMP. It is recommended that a more detailed, risk-based approach be made to gather more specific information on the condition of these assets.

A common method used for storm and sanitary mains is Closed Circuit Television Video (CCTV). The process involves a small robotic crawler vehicle, with a CCTV camera attached, that is lowered down a maintenance hole, into the main. The camera provides a live video feed to a truck on the road above. Deterioration problems that can be seen include open/displaced joints, presence of roots, infiltration and inflow, cracking, fracturing, collapse and deformation of pipe. CCTV is a costly process and it does take significant time to inspect large volumes of pipes.

It is recommended that Southgate establish a sewer condition assessment program and devote a portion of capital funding to this program.

(C) ANALYSIS OF DATA COLLECTED

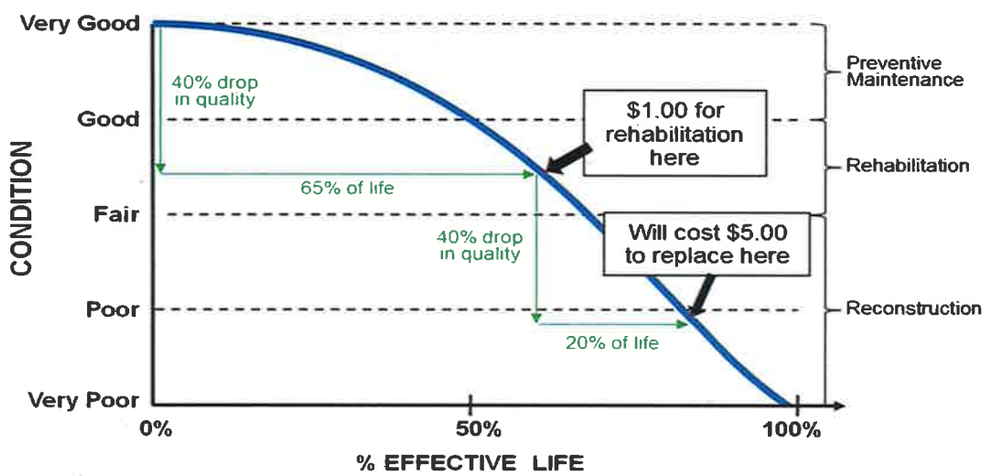
How data on assets is used is critical to asset management. An understanding of what the data tells us, and knowledge of what pitfalls to avoid from misinterpretation of data, is critical.

For road assets, PCI data taken alone could lead to a "worst-first" budget approach, where no lifecycle activities are done, other than simply performing reconstruction at the end of a road's service life. This is the most costly method of managing a road network. Road data collection needs to go beyond only PCI.

Section 4 of the Reg. 588/17 specifies the need for the 2021 AMP to discuss "lifecycle activities" for core assets. Asset useful lives can vary across a wide range of years, depending upon how well the assets are maintained. The lowest cost type of lifecycle activity is regular maintenance of core assets. Southgate has been doing core asset maintenance, as the main lifecycle activity, and will continue to do so. In addition to regular inspections, minor and major repairs are done every year, within budget limits.

Preventative maintenance activities can only be applied to a road at a relatively early point in its lifecycle. At a certain point, despite the efforts to maintain a road's condition, its life cycle stage will dictate more substantial rehabilitation. Activities such as routing and crack-sealing, or tar-and-chip on rural roads, have the lowest associated cost (per sq. m.) to obtain one year (or more) of added life.

Here is a commonly used graphic to illustrate lifecycle stages:



This graphic shows that regular preventive maintenance can see an asset through the first 60-65% of its normal life, at which time some major rehabilitation will keep the asset in service for an extended period. Skipping the major rehabilitation step will lead to an earlier than expected need for full asset reconstruction/replacement, typically when the asset is at about only 80-85% of its normal life. The rehabilitation will delay the need for full replacement until the normal end of the asset's life, or perhaps even a bit beyond that end-point, if the asset has been well maintained, rehabilitated, and not excessively used.

Below is a chart listing road lifecycle activity, making use of PCI (pavement condition) values:

Condition	PCI range	LIFECYCLE ACTIVITY
EXCELLENT	91-100	• Maintenance only
GOOD	71-90	• Crack sealing • Emulsions
FAIR	51-70	• Resurface – mill & pave • Resurface – asphalt overlay • Single & double surface treatment (rural roads)
POOR	31-50	• Reconstruct – pulverize & pave • Reconstruct – full surface & base reconstruction
CRITICAL	0-30	• Assets now beyond their useful life • Same activities as Poor above

A high proportion of gravel roads, as is the case with Southgate, can have a significant impact on the maintenance budget. It is recommended that Southgate study the traffic volumes on its gravel roads closely. Studies have found converting certain roadways to paved roads can be cost beneficial. Considerations for paving should include:

- Functional importance of the road (location, landmarks nearby)
- Traffic volumes AND type of traffic (example near a landfill site or waste drop-off)
- Known safety issues (accident records)
- Frequency of maintenance, recent history of spending

It is recognized that Southgate has been following this recommended practice; for example, in 2020 some gravel portions of Wilder Lake Road were paved.

Also, where it is appropriate, Southgate might decide to return a paved road back to gravel, based on multiple factors mentioned earlier. One recent example of this was the 0.510 km Orchardville Sideroad, at the west boundary near Highway 6 and Road 14.

When it comes to structures, again other factors beyond BCI should be considered. Operations staff perform routine visual inspections of structures. The best approach to minimize lifecycle costs is to perform smaller, low-cost repairs earlier in the lifecycle.

Routine maintenance of structures, like roads, is the lowest cost lifecycle activity for extending the lives of structures, enabling them to continue to meet existing levels of service.

Recurring items that should be completed every year include:

- Cleaning winter sand and salt from bridge decks (sweeping)
- washing of decks, drains, joints, bearing seat areas and girders
- Vegetation removal or trimming
- Routing and sealing cracks, as needed
- Placing rip-rap in washouts on slopes adjacent to bridge wingwalls, with minor erosion concerns

Funding for these tasks is provided in the annual Public Works operating budget. They are in fact performed annually by township staff now.

In the OSIM reports, consultants also recommend additional studies and investigations to evaluate the condition of certain elements beyond a visual inspection. Typical investigations that may be recommended include:

- Deck condition surveys
- Structure evaluations (load capacity)
- Monitoring of deformations, settlements and movements
- Monitoring crack widths

These actions are being done by Public Works staff, to the best of their available human resources. These actions recommended by RJB are for structures currently demonstrating severe material defects or performance deficiencies, which may need an inspector to require more detailed information. In the 2020 OSIM report, page 4, 31 structures had additional investigations recommended.

Sometimes these investigations may not be completed, due to budget constraints. There is provision made in the operations budget, however, for emergency repairs when needed. Structures S114 (2018) and S119 (2020) are examples where emergency repairs were performed.

Taking a step back to a broader look, not at just one asset class, but looking at AM Strategy in general, part of any data analysis should involve considering Future Demands; in particular, this is important for a growing municipality like Southgate. AM strategies must consider future growth, where it will take place, when it will happen (quickly or gradually) and what services are likely to be the most impacted. The Official Plan and other planning documents should be consulted to gather such information. AM Strategy applies to more than just existing asset infrastructure, it also applies to new assets yet to be constructed or acquired.

There are a series of Risks that have the impact of imposing limits on an AM Strategy:

- One risk to AM Strategy, and decision-making, is resiliency to Climate Change. The Province has recognized this, and made it a requirement for AMP's of 2021 and beyond to include separate sections on Climate Change. Please refer to that section in this AMP.
- Affordability versus LOS. The LOS will certainly deteriorate if capital budgets remain "flat". Southgate capital budgets have increased in recent years, but the next section on Financial Strategy will show it is not enough. Like all municipalities of its size, Southgate will have to make a trade-off between capital asset management, LOS, and levels of taxation on its residents.
- Damage claims from accidents caused by substandard condition of assets like roads and structures are another risk to be factored into AM Strategy decisions.
- Adequate staff resources, in terms of manpower and skills training, is another risk factor. As affordability forces capital projects to be delayed in the ten-year plan, beyond the optimal time to do the work, trained staff resources devoted to inspections and regular maintenance become more essential.
- Knowledge retention is related to the staff resources risk. Human resource divisions can provide data on turnover rates and pending retirements. This data can be factored into succession plans, to minimize the loss of corporate knowledge about capital assets.

Reg. 588/17 part 5, section 5, requires an AMP to provide "***A description of assumptions regarding future changes in population or economic activity***" and how these changes will impact asset management for Southgate. Here are population data for Southgate:

	2001 Census	2006 Census	2011 Census	2016 Census	2021 Forecast	2026 Forecast	2031 Forecast
TOTAL SG Population	6,907	7,167	7,190	7,355	8,530	9,810	11,280
% increase		3.76%	0.32%	2.28%	15.98%	15.00%	14.98%
Breakdown							
Male		3,677	3,705	3,815	*t b d*	*t b d*	*t b d*
Female		3,490	3,485	3,540	*t b d*	*t b d*	*t b d*
0 to 24		2,539	2,365	2,450	*t b d*	*t b d*	*t b d*
25 to 49		2,385	2,270	2,045	*t b d*	*t b d*	*t b d*
50 to 74		1,870	2,210	2,480	*t b d*	*t b d*	*t b d*
75 plus		373	345	380	*t b d*	*t b d*	*t b d*
Households		2,564	2,620	2,710	*t b d*	*t b d*	*t b d*
Avg. HH Size		2.79	2.74	2.71	*t b d*	*t b d*	*t b d*
Increase of 90 households or 3.4% over 5 yrs. 2011 to 2016							

Forecasts taken from the Southgate Recreation Master Plan 2021

The 2026 and 2031 forecasts above may be a bit on the high side. The most recent Southgate Development Charges Study (2017) provided population forecasts, based on 10-year and 20-year

time horizons, namely 9,350 by 2027 and 10,790 by 2037, per page 3-3 of the DC Study. The DC Study forecast for Households was 3,513 by mid-2027 and 4,133 by mid-2037, per page 3-5 of the DC Study.

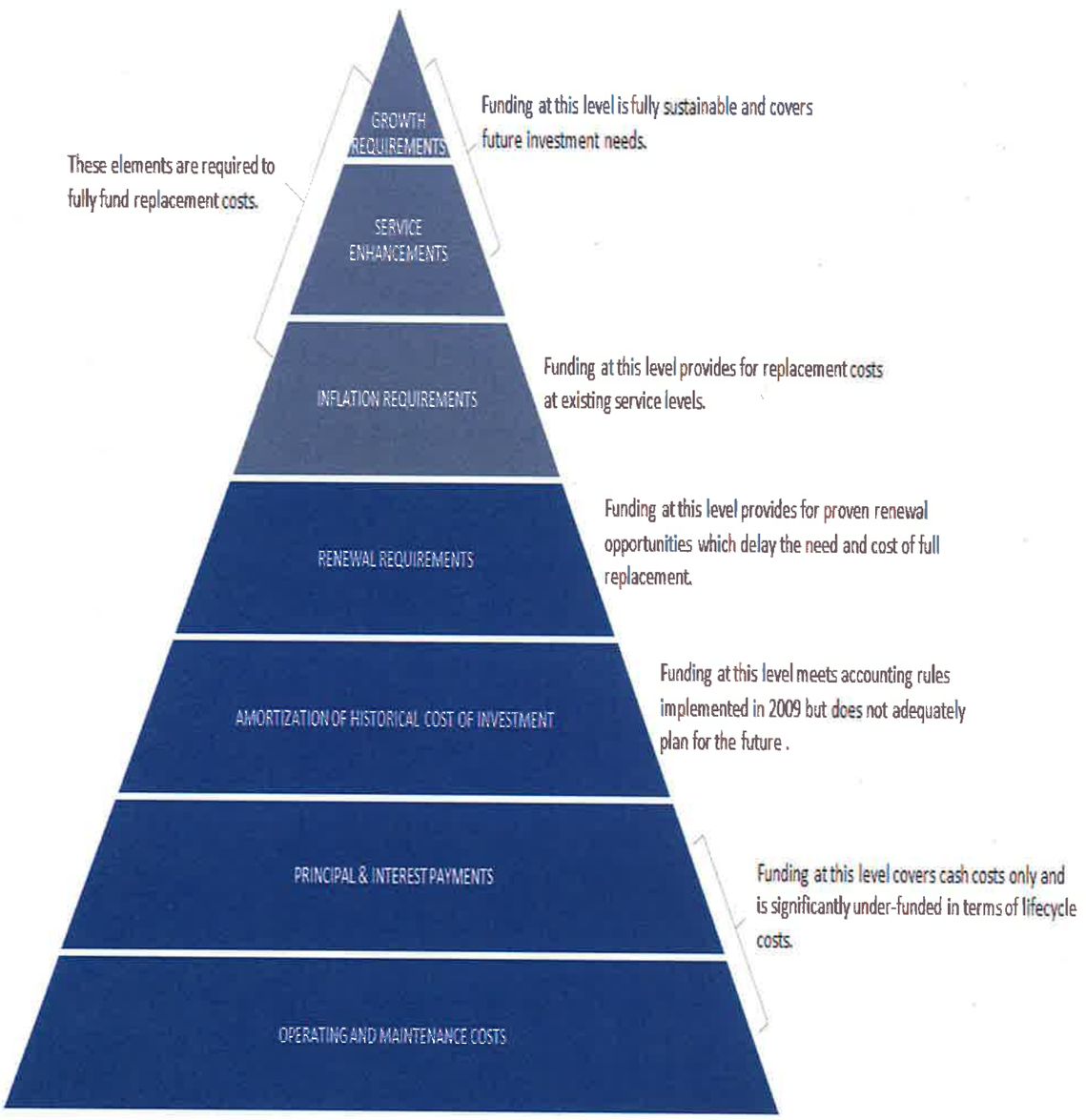
It should be acknowledged that a Grey County Growth Study is currently underway which will include the upper-tier's population forecasts.

What really counts, from the asset management viewpoint, is the impact of this pace of growth. The impact would be an increased demand for township services and in turn, increased demands on township assets needed to deliver those services, at LOS which are at or above 2021 LOS.

When assets are increased in their number, or existing assets get heavier use, there are impacts on the Operating Budget, and that should be considered as part of the Asset Strategy. For example, if the snowplow fleet is expanded by one unit, the Operating Budget for Winter Control should reflect increases in fuel, oil and repairs.

5. FINANCIAL STRATEGY

To make this AMP effective and meaningful, it must be integrated with financial planning and long-term budgeting. Here is a commonly referenced hierarchy of capital asset funding levels, presented in many AMPs, that measures the funding provided for capital needs, by seven levels:



Southgate currently is only slightly above Level Three. However, for many years Southgate was like many other municipalities, including others in Grey County, with its funding below Level Three. It was during those years that large backlogs developed in work to be done, backlogs commonly referred to as the Infrastructure Gap (the I-Gap).

At its current funding level, the I-Gap in Southgate is still growing. Every municipality has an I-Gap today, including the very largest municipalities, with the most human and financial resources at their disposal. The I-Gap is large enough now, in practically every municipality, that realistically it will never be fully resolved.

Stated simply, speaking realistically, there will always be an I-Gap, in every municipality.

What every municipality can do is, to the best of their ability based on resource restraints, firstly prevent their I-Gap from growing any larger, and secondly, do as much as is affordable to reduce their Gap gradually, year-by-year. It should be the AM Strategy of all municipalities to make consistent progress against their I-Gap in every single future year. There should be no "time-outs" taken, progress should be uninterrupted, barring catastrophic events that are unforeseen.

There will be bumps in the road. The economic damage from COVID may set back the progress against the I-Gap in the short term; many municipalities may find it more difficult to increase taxes to reduce their I-Gap while their local economy is suffering. There may also be unanticipated setbacks from weather-related events, that likewise could cause municipal finances to be temporarily re-directed away from the work to be done against the I-Gap. Even in those years, a reasonable compromise would be to make only a minor amount of progress against the I-Gap, less that what had been planned, but at least some improvement is made.

It will always require taxation increases to make any progress on an I-Gap. Taxation is the largest source of infrastructure funding, except when a very large borrowing is done in the year of a large project. Borrowing is appropriate for a major infrastructure project that results in an asset that will last many years, because borrowing spreads out the cost over future years, and over future taxpayers, who benefit from the services that asset will provide. However, borrowing adds to the cost of the asset by adding an interest expense. Borrowing also limits Council's control over its own budget, since debt servicing costs are a fixed cost that Council cannot cut from the budget.

In addition to raising more money, there are other actions to take, as mentioned earlier, such as better asset data gathering, proper asset maintenance and regular repairs, long term planning, and seeking out grant funding. Senior government levels recognized the I-Gap issue years ago, and so in recent times we have seen many actions they have taken:

- Doubling the amount of Federal Gas Tax provided to municipalities, in specific years.

- Expanding the kinds of projects eligible for Gas Tax funding.
- Expanding the range of services eligible to use Development Charges.
- Increasing the frequency and amounts of competition-based, single project-based grant funding programs available.
- Increasing (albeit gradually) the funding for annual non-competitive, per-capita grant programs, such as OCIF
- Uploading of some services by the Province, the direct opposite of the downloading of both services and capital asset responsibilities (specific roads, social housing, for example) onto municipalities, that happened during the same years when the I-Gap was growing.

Here is a review of how Southgate has recently stepped-up against its I-Gap:

Year	Taxes levied for Capital and Special Projects (e.g. studies)	Deprec. Expense on Audited Fin. Statements *(excludes W&S)*
	excludes Water Systems and Sewer Systems which are user-fee funded	
2011	$ 450,200	$ 1,334,243
2013	$ 831,000	$ 1,357,499
2015	$ 1,373,777	$ 1,399,672
2017	$ 1,447,896	$ 1,523,272
2019	$ 1,766,700	$ 1,647,668
2020	$ 2,055,854	$ 1,761,500
2021	$ 2,236,539	Estim. $ 2,000,000

Taxes levied annually, for tax-supported capital assets in Southgate, were inadequate until about 2015. Level Three, namely taxation matching the depreciation expense, is a bare minimum to reach, since depreciation is a flawed number that is based on often extremely outdated asset historical-cost values, and therefore Level Three funding will not come close to the cost of replacing an asset at current prices. This situation is particularly bad in low-growth municipalities, where many municipal assets are quite old, and there are not many newer assets because there has been no pressure coming, from municipal growth, to build new assets to service growth.

Southgate had not reached Level Three until 2015. Growth had picked up at about that time. Like most other municipalities, the I-Gap in Southgate was getting larger every year, until about 2015 when taxation-funding levels for capital assets began to approach what was necessary to stop things from continuously getting worse. However, since the I-Gap problem kept getting worse for roughly a twenty year stretch from 1995 to 2015, it will take many years of gradual progress, around enhanced financing, to resolve the problem.

Southgate's 10-year Capital Plan, as shown in its 2021 budget documents, recognizes the I-Gap problem and does strive to keep up with the need for increased attention to capital assets. Tax levy forecasts for Capital (and Special Projects):

Year	Forecasted TAX LEVY for Capital Budget (and Special Projects)	Increase in $$	Increase % over prior year	Gross Capital project costs for the year, forecasted
2020	$ 2,055,854 Adopted	$299,154	17.03%	
2021	$ 2,236,539 Adopted	$180,685	8.79%	$11,215,797
	Draft amounts from 10-year Capital Plan			
2022	$ 2,555,635	$319,096	14.27%	
2023	$ 2,828,163	$272,528	10.66%	
2024	$ 3,146,084	$317,921	11.24%	
2025	$ 3,508,870	$362,786	10.34%	
2026	$ 3,930,985	$422,115	12.03%	
2027	$ 4,410,125	$479,140	12.19%	
2028	$ 4,927,548	$517,423	11.73%	
2029	$ 5,519,127	$591,579	12.01%	
2030	$ 6,198,637	$679,510	12.31%	
	excludes Water Systems and Sewer (W&S) Systems which are user-fee funded			

Under this plan, taxation for capital projects would increase by 201.5% over 10 years, from 2020 to 2030; in other words, tax support would triple in ten years. This would be a major increase, going by the standards set by Southgate's budgets prior to 2020. On the other hand, for some perspective take note that:

- Sept. 2020 OSIM report from RJB on Structures provides a five-year proposed Capital Plan (Table 8 in the report) costing $5,605,500 (no inflation adjustment)
- The same RJB report shows a forecasted cost for the next ten years of $28,322,400 for Structure "rehabilitation and replacement", NOT INCLUDING associated costs for roadside protection work and additional investigations (another $4.7 million). These costs are not adjusted for inflation (so 2020 costing is used throughout the ten-year period)
- The 2019 Triton Road Needs Study estimated a cost of $20.11 million over ten years for major rehabilitations and new pavements (again no inflation adjustment)

Taking these numbers, at the lowest options, it works out to roughly $2 million per year for roads capital and $1.1 million per year for structures ($5.6 M/ 5 years) for a total of $3.1 million per year of gross capital spending recommended by external consultants, just for roads and structures.

The Southgate Tax Levy for 2021 capital projects, per the Table above, is $2.236 million for all its departments, and all its assets (not just roads and structures), including vehicle fleet, machinery and buildings, but excluding water and sewer (W&S) assets. The net levy for Public Works, for 2021 road and structure projects only, is $761,830 or about one-third of the full 2021 Levy, on gross project costs of $2.7095 million. This does not include fleet replacements, equipment, signs or debt servicing, it just includes road and structure projects. [*Funding of the $2.7095 million of work for 2021 comes from Grants $828K, from Reserves $294.4K, from borrowing $825.3K and from Taxation $761.8K.]* The $2.7 million amount of approved road and structure capital costs for 2021 is getting

reasonably close to the $3.1 million figure from the consultants. Southgate is making some progress against its I-Gap.

It is unusual to see borrowing as a funding source, especially when every infrastructure project in Public Works, across the entire ten-year Plan, are rehabilitations or replacements of existing assets. There are no new assets appearing in the Plan, just replacements or upgrades of assets already in place, but wearing out. In every year in the ten-year Plan, the projects listed are for an existing structure (as proof, the Structure ID # is given) or an existing section of road. In fact, borrowing appears as a financing source not just in 2021, but also in 2022, 2023 and 2024.

This use of debt for financing asset replacement is a signal of financial stress; in many municipalities, it is their adopted policy to only use debt for the construction of new assets, such as a building, where there is no asset currently. In Southgate, certain projects are placed within the capital plan, in specific years, because the work needs to get done, but there are not enough funds available to pay for them, so the shortfall is made up by borrowing some money every year. Late budget changes were made by Council to reduce the amount being borrowed in 2021, while keeping within Council's limits for the overall taxation increase. The debt service costs, created by this planned borrowing, become an annual expense in later years of the Plan, so that by year 2025 there are four infrastructure debt-servicing amounts (principal plus interest) appearing, under Public Works, taking up 2025 taxation revenue room, and leaving less room for new project costs.

The financial stress situation, shown by the need for borrowing for asset replacements, comes from prior years of under-funding capital assets, years when the I-Gap was expanding. It should also be noted that this stress is also reflected, but less noticeably, in the timing of capital projects throughout the ten-year Plan. You can point to multiple cases where Township staff would want to see specific projects scheduled earlier, but projects reluctantly get delayed to the year when they could be "fitted" within the Plan's annual financial limitations.

Another serious source of stress on asset management is capacity issues. It might be great to expand budget dollars, and to make plans to get more work completed each year. What must not be overlooked is the realistic capacity to accomplish the work. Consideration must be given to the human resources available to design, supervise and complete projects. Capital work projections, and capital budgets, that do not consider capacity limits will result in multiple unfinished projects, unspent funding, and high levels of work-in-progress.

One further point to be made about capacity issues is Covid-19's impact. Covid has put many 2020 projects of other municipalities into deferral, province-wide, (but not Southgate, however), leaving a work backlog to be filled by the same number of potential contractors, or perhaps even fewer contractors, when you consider that perhaps some were put out of business by Covid.

Looking at the final year in the Plan, 2030, the taxes levied are forecasted to be $4.920 million for the roads and structures segment of Public Works (79% of the forecasted 2030 capital tax-support Levy of $6.198 million). Within that amount, $450,000 is for debt payments, leaving $4.47 million [4.92 – 0.45] for 2030 project costs. This is about double the overall amount of adopted 2021 taxes levied for capital, in all departments combined, of $2.236 million, and is much improved over the $0.7618 million levied in 2021 tax support for road and structure projects.

Many other municipalities have adopted an "Infrastructure Levy" as part of their annual budget process. Typically, you will see others have approved 1% or 2% annual municipal tax levy increase commitments, for capital assets. Southgate's overall Tax Levy for 2020 was $7,584,704 (capital and operations) so the increase in 2021 taxes levied for capital purposes, namely $180,685 per the table above, was effectively a 2.38% increase over the 2020 levy, so Southgate is making a similar commitment to capital without naming it directly as an "infrastructure Levy". Notice that in the table above, draft tax increases for capital support, planned in 2022 and beyond, are all greater than the 2021 increase.

It is recommended that Southgate stay determined to meet those targets shown in the years 2022 to 2030 in its Capital Plan. Another recommendation is to pursue other revenue sources such as external grants and subsidies, to enable the Township to advance planned capital projects to earlier timeslots, without amending the targets for annual taxation support.

It is also recommended that as debt payments for past projects expire, the "savings" from the debt payments dropping off should be applied to new projects in the capital budget, and not be "returned to the taxpayer" by lowering the taxes levied for capital.

It is often asked "what is the appropriate level of taxes to raise for capital purposes?". There is no standard answer for this question; circumstances are different in every municipality. The size of the I-Gap, resulting from past actions (or lack thereof), is one factor, and municipal growth is another factor.

For example, the County of Grey tax levy for 2021 is 26.75% for capital costs and 73.25% for operations. For comparison, in 2020 Grey County's tax levy was 24.74% for capital costs and 75.26% for operations. Further, in 2015, the Grey County tax levy was 20.77% for capital costs and 79.23% for operations. For Southgate, its tax levy for capital in 2021 was 28% of the total levy; in 2018 it was 27% of the total levy; in 2013 it was 20.57% of the total levy.

A 25% / 75% target ratio is quite typical in larger municipalities. Grey County has 887 km of County roads and 192 structures. This does not mean 75/25 is the right target for Southgate. The taxation

ratio split depends on the kind of services being delivered. Upper-tier municipalities, like the County of Grey, perform many "soft services" such as Child Care, Elder Care and Social Assistance, where the costs are weighted towards personnel and are more operational, as opposed to Public Works where there are a high number of capital assets to maintain. Notice the County levy-share going to capital costs has been increasing; this is what should ideally be happening in municipalities that are actively trying to address their I-Gap. This has also been happening in Southgate.

AMP's often will illustrate the I-Gap on a line-graph, as part of a Financial Strategy designed to close their I-Gap over time, using increased property taxes and other actions. These graphs will often show the tax increases that would be necessary to get the I-Gap all the way down to zero in the future. Where the I-Gap is large, this analysis can result in calculations that give required annual tax increases, needed to "eliminate" the I-Gap in the specified timeframe, that are not reasonable or realistic, and very unlikely to ever be approved by Council.

This approach is not recommended.

In the case of Southgate, it is more realistic to state honestly that the I-Gap will never be zero; instead, we recommend that the municipal leaders be disciplined in their efforts to raise property taxes, for capital project purposes, at a manageable but steady pace, and consistently accomplish as much capital work each year as the municipality has the capacity to complete. Avoid the "over-promise and under-deliver" scenario. The targets for tax support already in the Southgate Capital Plan are a good start.

The evidence of future advances accomplished by Southgate, against the I-Gap, will be clearly measurable, by using the future PCI and BCI results in external consultants' reviews of the state of Southgate's core infrastructure (Roads and Structures), when these reports are completed in future years. Results achieved (or not achieved) will also be reflected through comments and opinions received, from local ratepayers, about the state of township core infrastructure.

User-rate Supported Assets (Water and Sewer system)

Water and sewer systems are required by Ontario legislation to be self-sustaining financially. User Rates must be set at levels needed to fund all operational costs, capital costs and debt-servicing costs. Capital costs can be more than what is needed to finance current-year capital projects, to build capital-project reserves, in anticipation of major capital project costs upcoming.

Even when reserves for water and sewer projects are built in advance of major capital projects, the reserves may not be built up to the full project cost by the time of project construction. This could happen because there was not enough time available to build reserves before a project was

started, or some unusual events happened from an operational standpoint, that resulted in higher operating costs, leaving smaller amounts to go into the reserves than what was planned for.

For very large capital projects, it may be necessary to plan long-term borrowing for those projects. Then user rates would be set such that annual debt-servicing costs can be fully carried from the rate revenues collected. This is like securing a mortgage loan on the purchase of a home. Borrowing is appropriate for the purchase (or major rehabilitation) of a long-lived asset, such as a new sewage treatment plant, so long as the debt payments can be carried by rate revenues.

Southgate operates utilities in Dundalk only. The User Rate system ensures that only the residents in Dundalk are paying for the costs and the debt of the utilities, and not the residents in the remainder of the township. Southgate does in fact have several large capital purchases scheduled in the medium-term for both its water and sewage systems (projects of $1.0 million or more). Capital project data obtained from the 2021-2030 Plan:

YEAR	SANITARY SEWAGE SYSTEM CAPITAL BUDGET	FORECASTED NEW DEBT	DEBT TERM		WATERWORKS SYSTEM CAPITAL BUDGET
2021	60,000	0			233,000
2022	16,316,200	10,993,185	20 yrs.	SWR	
2022		3,225,000	20 yrs.	WTR	3,337,000
2023	0	0			172,000
2024	0	0			47,000
2025	1,500,000 (but no debt)	0			352,000
2026	0	1,684,000	10 yrs.	WTR	1,736,000
2027	1,000,000 (but no debt)	0			242,000
2028	0	4,250,000	20 yrs.	WTR	4,202,000
2029	0	0			2,000
2030	1,000,000 (but no debt)	0			2,000
		20,152,185			
	SANITARY SEWAGE SYSTEM CAPITAL BUDGET	FORECASTED NEW DEBT			WATERWORKS SYSTEM CAPITAL BUDGET

Southgate borrowed $3,731,925 in 2019 in respect of Well D5 waterworks capital project. Plans are in place, per this table, to take on a further $20 million of debt over the next ten years for utilities projects. Future user rates must take the future debt-servicing costs into consideration. Interest rates for municipal borrowing are very favorable at the current time, and they are expected to remain that way for many years ahead.

Major projects in the Capital Plan, reflected in the table above, are:

- 2022 sewage treatment facility upgrade
- 2022 construct new water tower

- 2025 Ida St. S. & Eco Parkway sewage pumping station
- 2026 Main St. W. watermain (oversizing) [Main St. E. mains were done in 2019/20]
- 2027 Glenelg St. sewer
- 2028 construct new Well D6
- 2030 Ida St. N. & Glenelg St. sewer

The Plan expects to have adequate funds in reserve for the pumping station (2025) and the two sewer projects (2027 and 2030) to fully fund those projects from the sewer system reserve, without issuing any new debt. From the seven projects above, four are expected to require incurring new debt.

Debt-servicing costs can also be funded from Development Charges (DC), so long as the projects were DC eligible (in other words, they were growth-related projects, in full or in part, and they were in the current DC Bylaw). At the time of project construction, it is likely there will not be enough DC funds collected to date, to pay the DC-eligible share of project costs in full. Instead, over subsequent years, as more DC are collected each year, they may be applied annually towards debt-servicing costs.

Additional Financial Considerations

One further point to make about financing is for information only, as Southgate is a long way from being in the following position. [This point also appeared in the 2013 Southgate AMP.]

Municipalities with strong levels of financial resources available to them, due to large populations and high property values, may follow the "Sinking Fund Method (SFM)" for financing capital assets. The SFM takes asset management planning to another level. SFM builds large reserve balances for the future replacement of assets. These reserves get started soon after an asset is replaced, contributions are made to the reserves consistently every year, and the outcome is many subsidiary reserves, covering nearly every asset class. These large reserves are invested, to earn investment income that gets added to the reserves, to build the reserves more quickly, and to be put towards the future project costs. The practice of SFM is part of formal Long-Term Financial Plans (LTFP), found more commonly in larger municipalities with "deeper pockets".

For one example, there could be subsidiary reserves in place for the replacement of the HVAC systems and the parking lots of every single building owned by the municipality. The need to replace any one HVAC system or parking lot could be five to ten years away, but some funds are being raised and placed into reserve now, and in every future year, so that when the asset replacement time arrives, the full funding is in place. These capital reserves are often pooled by asset component. For example, a single "HVAC reserve" and a "parking lot" reserve, are recorded, and used for the next HVAC or parking lot project (but not a separate reserve for every lot).

The problem with this approach comes from those who may object to taxing current residents today, for part of the cost of a project that will not be undertaken for at least five years. This approach results in very large reserve balances and very large cash balances in the municipality, which can create the appearance that the municipality is "over-taxing" its residents today, and simply accumulating large sums of money, even though the municipality can always explain specifically what its plans are, for its reserve funds, if asked to do so. This financial position, of large cash balances and large reserve balances, can be found in the financial statements of many larger municipalities.

Rather than being able to implement SFM, the capital project taxation raised by Southgate in any given year is directly applied to projects to be undertaken in that same year. Funds raised in 2021 are not being set aside for future years (see one exception noted below). This is the result of Southgate having a substantial I-Gap, being in the position of playing "catch-up" with its capital asset work. There are more assets in need of attention now than there is funding available to rehabilitate them. Instead of using SFM, Southgate finds itself having to defer capital projects to one or two years further on, within the capital plan, than it would otherwise prefer, because of limited funding. Capital Reserves are not large.

One exception to this situation in Southgate arises if, in any given year, the projects completed for that year, or the assets bought (like vehicles for example), turn out to cost less than the taxes raised (being under-budget). Annual tax contributions beyond the actual capital costs would be transferred to a "capital replacement reserve fund" for future needs. Unspent funds placed into Capital Reserves also protect against the possibility of the opposite situation happening, in another year (project costs turn out to be greater than the taxes raised, or over-budget). This practice for handling variances from budget helps ensure that Southgate does not need to deviate from its (recommended) commitment to gradually, but consistently, increase its tax support for capital work.

Other strategies for financing capital projects include:

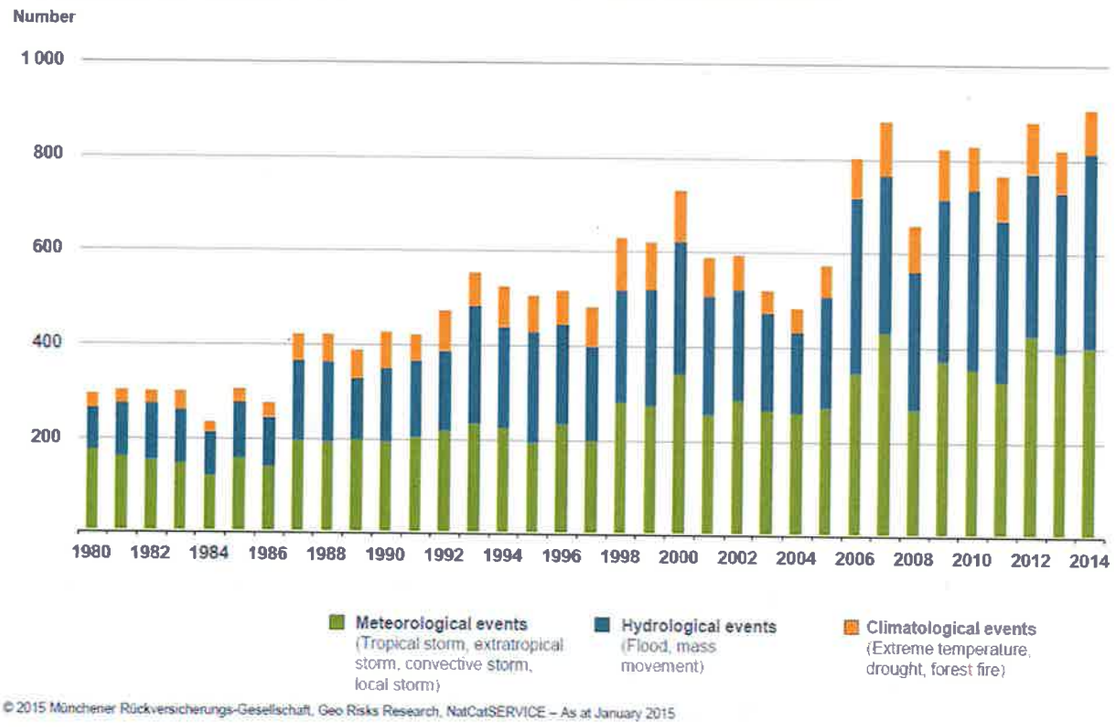
- Actively seeking out and applying for grants and subsidies
- Implementing operating efficiencies, reducing operating costs, to permit directing more funds to capital projects
- Decreasing expected levels of service, to reduce operational costs and make more capital funding available
- Updating the Development Charges Bylaw, to more closely match with the capital plan project list, normally resulting in higher DC rates
- Approaching the development community for funding assistance with respect to growth/expansion related project

6. CLIMATE CHANGE

The impacts of climate change present an increasingly serious challenge to municipal infrastructure. As temperatures and sea levels rise, and extreme weather events occur with greater frequency, it is critical that municipalities attempt to understand the emerging threat of climate change and develop strategies to ensure that vital services and critical infrastructure continue to operate as expected.

This will require consideration of four key factors of climate change (exposure, vulnerability, resiliency and adaptation, see comments below) at every stage of an asset's lifecycle.

Globally, there has been a serious increase in weather-related loss events, resulting in property damage and/or bodily injury (see chart below). Municipal infrastructure is at particular risk to meteorological, hydrological and climatological events, potentially leading to an increasing rate of asset deterioration, failure and service disruption. Here is a graphic depiction of the global increase in frequency of "climate events" from about 300 in 1980 to 900 in 2014.



Moving from a global perspective to just Canada, Canada is warming up twice as fast as the rest of the world, and municipalities across the country are facing the biggest impacts (see Exposure

section). Historical trends can no longer be used to predict future scenarios, and what used to be infrequent extreme weather occurrences are now common.

1. **EXPOSURE**

Exposure refers to the state of being in a place, or situation, where there is no protection from something harmful or unpleasant. Exposure is a combination of the probable range of a climate stressor and the physical characteristics of a geographic location, for example sea-level concerns for a coastal region.

In 2018, the Intergovernmental Panel on Climate Change (IPCC, an international body responsible for assessing the science related to climate change) reported that the world has already warmed by 1 degree C above pre-industrial levels (1850-1900) due to human activities, and is projected to reach 1.5 degrees C by 2030-2052, at the current rate of warming.

Canada is warming at a faster rate with overland temperatures increasing an average of 1.7 degrees C between 1948 and 2016, and about 2.3 degrees C for northern Canada, with the majority of the warming due to human activities. Ontario's Ministry of the Environment and Climate Change (MOECC) reports that the average annual temperature in Ontario has increased by 1.4°C over the last 60 years, and models suggest that by 2050 the average annual temperature in Ontario could increase by another 2.5°C to 3.7°C. Along with this, comes the increased likelihood of extreme weather events such as prolonged heatwaves, wind storms, and flooding.

1. **VULNERABILITY**

Vulnerability refers to a weakness in the ability of a person, structure, or natural system to respond to a negative force, such as a hazard. A municipality's vulnerability to a hazard can be addressed, by developing adaptation strategies that strengthen infrastructure, support local eco-systems, and build community awareness and preparedness.

There has been a great deal of work done on the topic of climate change, and this work can be referred to as climate science, for short. There are many resources available to learn more about the subject, from a municipal perspective. FCM (Federation of Canadian Municipalities) is a primary source of material. Part of the climate science work has been the development of complicated climate forecast models, which can be found on the internet. For Canadian modelling, there is

- climateatlas.ca
- climatedata.ca

These websites contain models based on 30-year timeframes, and on different assumptions of climate adaptation scenarios. The scenarios are based on how much effort will be made to make

changes to address climate change. These scenarios are based on RCP levels (Representative Concentration Pathways) for future greenhouse gas (GHG) emissions:

- RCP 2.5, low emissions scenario, presumes much work gets done to limit GHG
- RCP 4.5 and RCP 6.0, moderate emissions scenario, some efforts made
- RCP 8.5, high emissions scenario, no changes made from way things are today

The models then give forecasts, for each scenario, of multiple measures based on different data sets (temperature, precipitation, agriculture data sets). Time periods for measurement are the recent past (1976 to 2005), the near-term (2021 to 2050), and longer term (2051 to 2080). Here is a small sample, taken from climateatlas.ca, for Southgate:

Data Set	Measurement Description	1976 to 2005	2021 to 2050	2051 to 2080	
TEMPERATURE					
	Days where temp goes above 30 C				
	RCP 2.5	4.7 days	15.4 days	24.2 days	
	RCP 8.5	4.7 days	17.0 days	38.6 days	
	Mean temperature for the year				
	RCP 2.5	5.8 C	7.8 C	8.8 C	
	RCP 8.5	5.8 C	8.0 C	10.1 C	
	Nights when temp does not go below 20				
	RCP 2.5	1.4	5.8	10.4	
	RCP 8.5	1.4	7.0	20.1	
	Longest stretch of 30C+ days				
	RCP 2.5	1.3	3.8	5.9	
	RCP 8.5	1.3	4.4	10.5	
PRECIPITATION					
	Wet days, at least some precip.				
	RCP 2.5	178.9	178.8	178.7	
	RCP 8.5	178.9	179.7	178.1	
	Days of heavy precip. At least 10 mm.				
	RCP 2.5	24.4	26.3	27.6	
	RCP 8.5	24.4	27.1	28.2	
AGRICULTURE					
	Frost-free season, in days				
	RCP 2.5	140.9	162.9	172.6	
	RCP 8.5	140.9	167.3	188.7	
	Date of first frost				
	RCP 2.5	Oct 4	Oct 16	Oct 22	
	RCP 8.5	Oct 4	Oct 19	Oct 30	

Three words which best summarize the Climate Projections report are "warmer," "wetter" and "wilder." This is just a small sample of climate forecast measures to be found on these sites. When

going through the modelling online, there are also line graphs provided on-screen, spanning 1976 to 2080, so the models let you drag across the graph, and stop on any single year to see the values for that specific year.

Remember that "all models are wrong, but some are useful!"

3. **RESILIENCY**

Resiliency is the capacity to recover quickly from difficulties. A resilient municipality has the capacity to survive, and adapt, to chronic stresses and acute shocks, such as population growth (or decline), aging populations, influxes of new immigrants, economic swings, or climate change impacts like severe storms, or flooding. Resiliency is the ability to continue to operate, for example, despite the loss of a single road or bridge. It also refers to the physical restraints on repair or replacement of an asset (how quickly can it be returned to service?).

Municipal resiliency can be improved by reducing short-term and long-term risks resulting from climate change. FCM has created a guide on Building Sustainable and Resilient Communities with Asset Management.

Some municipalities are creating Reserves for Climate Impact Recoveries. A portion of net operating surplus, that would normally just go into a Tax Rate Stabilization Reserve, is earmarked instead for use when the municipality needs to perform recovery actions, following a weather event, that caused damage to its corporate assets.

4. **ADAPTATION**

Climate change adaptation refers to taking actions to help communities and their eco-systems cope with changing climate conditions.

FCM states that about 44% of Canada's GHG emissions, that cause climate change, are under the direct or indirect control of municipalities. Although private sector industry, and residential homes, also contribute to GHG emissions, the substantial impact from municipal assets explains why so many municipalities are devoting time and resources to this subject.

Many municipalities have recently been working on Climate Change Action Plans (CCAP), as endorsed by their Councils (County of Grey), identifying some actions that can be taken locally, and setting targets for future local levels of GHG emissions. Others have completed their CCAP (Burlington, Guelph, Clarington) and their CCAPs are available online, and can be reviewed for ideas useful to Southgate. The GHG targets are set based on local actions they have committed to taking in coming years. Like their AMPs, these CCAPs will be monitored and updated every few years.

It is recommended that Southgate staff monitor the CCAPs of other municipalities in the near term, and compile a checklist of specific actions, as listed by those municipalities in their CCAPs, that could also be done locally, and bring forward this checklist to Council for endorsement, and to request funding if needed, for specific actions.

Applying adaptation to Southgate, what steps could Southgate take?

- It is free to join FCM's Partners for Climate Protection (PCP) program. This program allows access to a network of over 350 municipalities currently acting on climate change, along with access to additional support from Regional Climate Advisors.
- Participate with the County of Grey project to complete its CCAP (now underway, an update was provided in Feb. 2021 to local CAO's) and then pursue specific actions recommended by the CCAP
- Research materials currently available from the Municipalities for Climate Innovation (MCIP), including case studies and information on potential funding sources

It is recommended that all these steps be pursued by Southgate.

GREEN INFRASTRUCTURE

Another growing aspect of climate change work, within asset management, involves Green Infrastructure, also referred to as Natural Assets. Municipalities often have not collected very much data on these assets, and they have not assigned values to them. Natural assets do not fall under the core assets required for this AMP, but should be accounted for, moving forward. Natural assets can serve as mitigation tools against many of the hazards of climate change, such as excessive heat waves and soil erosion. Natural assets can be grouped into three categories:

1. Naturally occurring assets
2. Enhanced natural assets
3. Engineered natural assets

Some examples of each category are:

Naturally occurring assets

- Forests, parks and open space, wetlands, fields, lakes, creeks, rivers, soil

Enhanced natural assets

- urban street trees, urban parks/parkettes, rain gardens, stormwater ponds, community gardens on municipal land

Engineered natural assets

- green roofs, green walls, cisterns, permeable pavement, rain barrels

IMPACT ON INSURANCE COSTS

Weather-related insurance claims in Canada averaged $400 million between 1983 and 2008, and they averaged $1.8 billion between 2009 and 2017. The Insurance Bureau of Canada's (IBC) top 10 highest payout years on record include every year since 2016. In 2020, the IBC reported that severe weather caused $2.4 billion in insured damage, while global losses from natural disasters hit $270 billion. In addition to insured losses, there are also uninsured losses incurred by government, business, and individuals. It has been reported that for every $1 of insured losses, there are $3 to $4 of uninsured losses.

Rather than wait for a weather disaster to strike and then respond, a better plan is to reduce the risk before it happens. It has been estimated that the benefits of investing in community adaptation and resilience outweigh the costs by a ratio of 6 to 1.

The insurance cost impact of climate change is already being experienced by municipalities, so many of them are moving forward with concrete actions. Southgate could conduct some research into the actions that others have made so far, and then implement those that make sense for this municipality.

FCM has been mentioned as a good source of climate information, and another is the Local Governments for Sustainability (ICLEI) group. For example, ICLEI and FCM jointly developed a PCP (Partners for Climate Protection) Milestone Tool that helps municipalities quantify, monitor and manage GHG emissions at the local level. The latest upgrades to the Tool include a Scenario Builder, to help model various emission reduction scenarios, as well as alignment with global protocol and reporting standards. The Tool is a web-based resource, with a user-friendly framework, to work through five milestones. Municipalities can create a new account on the pcptool.ca website and follow the process. This would be a good place for Southgate to get started on its GHG reduction journey.

ICLEI is focused on Adaptation and Resilience. Their flagship program is BARC (Building Adaptive and Resilient Communities), a comprehensive way to respond to the impacts of climate change. ICLEI is currently consulting with Grey County on its CCAP, and with the City of Barrie, the District of Muskoka, and the Township of Huron-Kinloss on similar projects. ICLEI completed a CCAP with the City of Peterborough, available on the internet.

ICLEI offers multiple resources for municipal use such as:

- local government strategies on having the climate conversation
- handbook for local elected officials on climate change
- the PCP Milestone Tool
- guidebook for quantifying GHG reductions at the local level
- discussion guide for local government staff on climate adaptation

- local government case studies
- Dec. 2019 webinar on district energy policies and governance models (90 min.)
- introduction and link to the "Get Ready Game"

RECOMMENDATIONS

In future, Southgate should consider the impact of climate change on the estimated useful life of all its assets, and then build these considerations into future editions of its AMP.

- **Adjust lifecycle activity strategies for assets that are particularly exposed or vulnerable to the impacts of climate change (adjust maintenance frequency or intensity)**

- **Develop policies that outline a commitment to consider the impact of climate change on existing infrastructure and future development (*example:* some municipalities are making commitments to installing electric vehicle charging stations, and then phasing-in electric vehicles for their fleet)**

- **Include climate change considerations into the design and planning phase of future asset additions (*example:* choice of energy systems going into new or renovated township buildings)**

- **Integrate impacts of climate change into risk management frameworks (see Risk comments in the LOS chapter; one example could be the impact of extreme heat on municipal staff working outdoors, and the action would be setting internal limits on time spent in hot conditions)**

- **Develop disaster mitigation plans, in the event of infrastructure failure**

7. NEXT STEPS

7.1 PLAN REVIEW and ADOPTION

The AMP is intended to be a "living document" that is relevant and integral to Southgate's daily asset management activities. The AMP will need continuous updates and improvements. Maintaining and updating the various tools, plans, policies, and strategies of an AMP is a major part of the ongoing work required to keep an asset management process operational. Implementing improvements to the asset management process, usually as the result of innovation, technological and process advancements, are necessary to ensure optimal planning over time.

To make that happen, the following process of ongoing AMP activities should be undertaken:

1. Review of draft AMP with Council on May 12, make revisions as needed
2. Council to formally adopt the core assets AMP in 2021 (deadline is July 1, 2022)
3. Expand the AMP data to include other asset classes
4. Research and study other municipal AMPs, as they are released in 2021
5. Summer 2022 bring expanded AMP, in draft, to Council for review
6. Council to formally adopt expanded AMP in mid-2022 (deadline July 1, 2023)
7. Revise and re-issue the AMP every 4 to 5 years, to include changes to work programs, new knowledge gained, new assets acquired, new Levels of Service (LOS) being measured.

7.2 FORMALIZE the ASSET MANAGEMENT PROCESS

Many municipalities update the asset management planning process when external pressures necessitate it (such as applying for a capital grant). Further, there is typically no documentation available, to outline the process to follow, when updating the asset management planning process (including the AM plan). As such, updates to the asset management planning process are typically carried out on a reactionary basis.

As part of step 4 above, as research is undertaken, Southgate should develop a more formalized asset management process to follow. The process for Southgate will include

- Standard Asset Register documents, in a database (MDW or other), to be kept up to date throughout the year
- Potentially changing the technology being used for asset management (better software may come along)

- Maintain communication through meetings of the Asset Mgmt. Group to keep all departments informed about what is happening (being on the same page)

7.3 ONGOING MONITORING of ASSET DATA

The following actions will become the regular process for asset management in future, after adoption of the 2021 core assets AMP:

1. Report to Council with annual reviews, starting mid-2023, with content including:
    - Results from capital projects of the previous calendar year, including variances from budget, schedules, or outputs
    - Updated asset listings, including additions and disposals in the past year
    - Identifying new LOS, and reporting historical results of established LOS
    - Report any measures taken to address climate impacts, including any actions related to County Climate Action Plan commitments

2. Maintain staff knowledge and skill-set development, through ongoing training opportunities from FCM, MFOA, CNAM, AMONT

3. Include asset management concepts and data into annual township budget process, including asset risk assessments, condition and lifecycle information

4. Build upon the MDW Asset Register, a comprehensive source of data on township assets, and gather improved asset data, that is accurate and current

5. Consider benchmarking with comparable municipalities, for example on condition data, or financial support of capital costs

SUMMARY OF RECOMMENDATIONS

- Sect 3 LOS measures, and Risk measures, should be factored-in to annual Southgate capital budget discussions starting with the 2022 budget.
- Sect 3 Southgate begins keeping more specific LOS measures, and document how these measures influence the setting of future budgets.
- Sect 3 Southgate staff research AMP of other municipalities, that are released publicly after July 2021, to discover LOS measures that could be useful for Southgate to measure and maintain.

- Sect 4 the Asset Co-ordinator work with front-line staff to develop a more uniform process for keeping records of asset repair and maintenance.
- Sect 4 the cross-functional Asset Mgmt. Team become more active, with regular meetings and discussions of ways to improve asset data in Southgate.
- Sect 4 Southgate advance the date of the next Roads Needs Study to 2023 (four years after the last one, in 2019).
- Sect 4 a more detailed, risk-based approach be developed to gather more specific data on condition of waterworks, sanitary sewer and storm sewer assets
- Sect 4 Southgate establish a sewer asset condition assessment program and devote a portion of capital funding to this program
- Sect 4 Southgate continue to monitor traffic volumes, and other factors listed, on its gravel roads, to determine if paving would be beneficial

- Sect 5 Southgate stay determined to hold to the draft tax-support for capital projects in its 10-year Capital Plan for the years 2022 to 2030
- Sect 5 continue to pursue external sources of revenue for capital assets, such as grants and subsidies
- Sect 5 as long-term debts are retired, re-direct the funds previously spent on servicing that debt to the capital budget tax-support

- Sect 6 consider ear-marking a portion of any net, year-end Operations Surplus to a Reserve for Climate Impact Recoveries, instead of going into the Tax Rate Stabilization Reserve
- Sect 6 see the series of Recommendations listed on last page of Sect 6

TOWNSHIP OF SOUTHGATE
ASSET MANAGEMENT PLAN 2022

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2. **Southgate Asset Management Policy 2019**
3. **ROADS LISTING, alphabetical with 2019 PCI values**
4. **ROADS LISTING, alphabetical with Historical Condition Ratings**
5. **STRUCTURES LISTING, with Historical BCI values, by road location**
6. **STRUCTURES LISTING, by I.D. number**
7. **WATERMAIN LISTING (2013)**
8. **STORM SEWER LISTING (2013)**
9. **BUILDING REPLACEMENT COST ANALYSIS (2022)**

Français

ONTARIO REGULATION 588/17

made under the

INFRASTRUCTURE FOR JOBS AND PROSPERITY ACT, 2015

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ASSET MANAGEMENT PLANNING FOR MUNICIPAL INFRASTRUCTURE

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INTERPRETATION AND APPLICATION

Definitions

1. (1) In this Regulation,

"asset category" means a category of municipal infrastructure assets that is,

(a) an aggregate of assets described in each of clauses (a) to (e) of the definition of core municipal infrastructure asset, or

(b) composed of any other aggregate of municipal infrastructure assets that provide the same type of service; ("catégorie de biens")

"core municipal infrastructure asset" means any municipal infrastructure asset that is a,

(a) water asset that relates to the collection, production, treatment, storage, supply or distribution of water,

(b) wastewater asset that relates to the collection, transmission, treatment or disposal of wastewater, including any wastewater asset that from time to time manages stormwater,

(c) stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater,

(d) road, or

(e) bridge or culvert; ("bien d'infrastructure municipale essentiel")

"ecological functions" has the same meaning as in Ontario Regulation 140/02 (Oak Ridges Moraine Conservation Plan) made under the *Oak Ridges Moraine Conservation Act, 2001*; ("fonctions écologiques")

"green infrastructure asset" means an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands,

stormwater management systems, street trees, urban forests, natural channels, permeable surfaces and green roofs; ("bien d'infrastructure verte")

"hydrological functions" has the same meaning as in Ontario Regulation 140/02; ("fonctions hydrologiques")

"joint municipal water board" means a joint board established in accordance with a transfer order made under the *Municipal Water and Sewage Transfer Act, 1997*; ("conseil mixte de gestion municipale des eaux")

"lifecycle activities" means activities undertaken with respect to a municipal infrastructure asset over its service life, including constructing, maintaining, renewing, operating and decommissioning, and all engineering and design work associated with those activities; ("activités relatives au cycle de vie")

"municipal infrastructure asset" means an infrastructure asset, including a green infrastructure asset, directly owned by a municipality or included on the consolidated financial statements of a municipality, but does not include an infrastructure asset that is managed by a joint municipal water board; ("bien d'infrastructure municipale")

"municipality" has the same meaning as in the *Municipal Act, 2001*; ("municipalité")

"operating costs" means the aggregate of costs, including energy costs, of operating a municipal infrastructure asset over its service life; ("frais d'exploitation")

"service life" means the total period during which a municipal infrastructure asset is in use or is available to be used; ("durée de vie")

"significant operating costs" means, where the operating costs with respect to all municipal infrastructure assets within an asset category are in excess of a threshold amount set by the municipality, the total amount of those operating costs. ("frais d'exploitation importants")

(2) In Tables 1 and 2,

"connection-days" means the number of properties connected to a municipal system that are affected by a service issue, multiplied by the number of days on which those properties are affected by the service issue. ("jours-branchements")

(3) In Table 4,

"arterial roads" means Class 1 and Class 2 highways as determined under the Table to section 1 of Ontario Regulation 239/02 (Minimum Maintenance Standards for Municipal Highways) made under the *Municipal Act, 2001*; ("artères")

"collector roads" means Class 3 and Class 4 highways as determined under the Table to section 1 of Ontario Regulation 239/02; ("routes collectrices")

"lane-kilometre" means a kilometre-long segment of roadway that is a single lane in width; ("kilomètre de voie")

"local roads" means Class 5 and Class 6 highways as determined under the Table to section 1 of Ontario Regulation 239/02. ("routes locales")

(4) In Table 5,

"Ontario Structure Inspection Manual" means the Ontario Structure Inspection Manual (OSIM), published by the Ministry of Transportation and dated October 2000 (revised November 2003 and April 2008) and available on a Government of Ontario website; ("manuel d'inspection des structures de l'Ontario")

"structural culvert" has the meaning set out for "culvert (structural)" in the Ontario Structure Inspection Manual. ("ponceau structurel")

Application

2. For the purposes of section 6 of the Act, every municipality is prescribed as a broader public sector entity to which that section applies.

STRATEGIC ASSET MANAGEMENT POLICIES

Strategic asset management policy

3. (1) Every municipality shall prepare a strategic asset management policy that includes the following:

1. Any of the municipality's goals, policies or plans that are supported by its asset management plan.
2. The process by which the asset management plan is to be considered in the development of the municipality's budget or of any long-term financial plans of the municipality that take into account municipal infrastructure assets.
3. The municipality's approach to continuous improvement and adoption of appropriate practices regarding asset management planning.
4. The principles to be followed by the municipality in its asset management planning, which must include the principles set out in section 3 of the Act.

5. The municipality's commitment to consider, as part of its asset management planning,
    i. the actions that may be required to address the vulnerabilities that may be caused by climate change to the municipality's infrastructure assets, in respect of such matters as,
        A. operations, such as increased maintenance schedules,
        B. levels of service, and
        C. lifecycle management,
    ii. the anticipated costs that could arise from the vulnerabilities described in subparagraph i,
    iii. adaptation opportunities that may be undertaken to manage the vulnerabilities described in subparagraph i,
    iv. mitigation approaches to climate change, such as greenhouse gas emission reduction goals and targets, and
    v. disaster planning and contingency funding.
6. A process to ensure that the municipality's asset management planning is aligned with any of the following financial plans:
    i. Financial plans related to the municipality's water assets including any financial plans prepared under the *Safe Drinking Water Act, 2002*.
    ii. Financial plans related to the municipality's wastewater assets.
7. A process to ensure that the municipality's asset management planning is aligned with Ontario's land-use planning framework, including any relevant policy statements issued under subsection 3 (1) of the *Planning Act*, any provincial plans as defined in the *Planning Act* and the municipality's official plan.
8. An explanation of the capitalization thresholds used to determine which assets are to be included in the municipality's asset management plan and how the thresholds compare to those in the municipality's tangible capital asset policy, if it has one.
9. The municipality's commitment to coordinate planning for asset management, where municipal infrastructure assets connect or are interrelated with those of its upper-tier municipality, neighbouring municipalities or jointly-owned municipal bodies.
10. The persons responsible for the municipality's asset management planning, including the executive lead.
11. An explanation of the municipal council's involvement in the municipality's asset management planning.
12. The municipality's commitment to provide opportunities for municipal residents and other interested parties to provide input into the municipality's asset management planning.

(2) For the purposes of this section,

"capitalization threshold" is the value of a municipal infrastructure asset at or above which a municipality will capitalize the value of it and below which it will expense the value of it. ("seuil de capitalisation")

Update of asset management policy

4. Every municipality shall prepare its first strategic asset management policy by July 1, 2019 and shall review and, if necessary, update it at least every five years.

ASSET MANAGEMENT PLANS

Asset management plans, current levels of service

5. (1) Every municipality shall prepare an asset management plan in respect of its core municipal infrastructure assets by July 1, 2021, and in respect of all of its other municipal infrastructure assets by July 1, 2023.

(2) A municipality's asset management plan must include the following:

1. For each asset category, the current levels of service being provided, determined in accordance with the following qualitative descriptions and technical metrics and based on data from at most the two calendar years prior to the year in which all information required under this section is included in the asset management plan:
    i. With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.
    ii. With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.
2. The current performance of each asset category, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency, and based on data from

at most two calendar years prior to the year in which all information required under this section is included in the asset management plan.

3. For each asset category,
   i. a summary of the assets in the category,
   ii. the replacement cost of the assets in the category,
   iii. the average age of the assets in the category, determined by assessing the average age of the components of the assets,
   iv. the information available on the condition of the assets in the category, and
   v. a description of the municipality's approach to assessing the condition of the assets in the category, based on recognized and generally accepted good engineering practices where appropriate.
4. For each asset category, the lifecycle activities that would need to be undertaken to maintain the current levels of service as described in paragraph 1 for each of the 10 years following the year for which the current levels of service under paragraph 1 are determined and the costs of providing those activities based on an assessment of the following:
   i. The full lifecycle of the assets.
   ii. The options for which lifecycle activities could potentially be undertaken to maintain the current levels of service.
   iii. The risks associated with the options referred to in subparagraph ii.
   iv. The lifecycle activities referred to in subparagraph ii that can be undertaken for the lowest cost to maintain the current levels of service.
5. For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, the following:
   i. A description of assumptions regarding future changes in population or economic activity.
   ii. How the assumptions referred to in subparagraph i relate to the information required by paragraph 4.
6. For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census, the following:
   i. With respect to municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are set out in Schedule 3 or 7 to the 2017 Growth Plan, those forecasts.
   ii. With respect to lower-tier municipalities in the Greater Golden Horseshoe growth plan area, if the population and employment forecasts for the municipality are not set out in Schedule 7 to the 2017 Growth Plan, the portion of the forecasts allocated to the lower-tier municipality in the official plan of the upper-tier municipality of which it is a part.
   iii. With respect to upper-tier municipalities or single-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the municipality that are set out in its official plan.
   iv. With respect to lower-tier municipalities outside of the Greater Golden Horseshoe growth plan area, the population and employment forecasts for the lower-tier municipality that are set out in the official plan of the upper-tier municipality of which it is a part.
   v. If, with respect to any municipality referred to in subparagraph iii or iv, the population and employment forecasts for the municipality cannot be determined as set out in those subparagraphs, a description of assumptions regarding future changes in population or economic activity.
   vi. For each of the 10 years following the year for which the current levels of service under paragraph 1 are determined, the estimated capital expenditures and significant operating costs related to the lifecycle activities required to maintain the current levels of service in order to accommodate projected increases in demand caused by growth, including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets.

(3) Every asset management plan must indicate how all background information and reports upon which the information required by paragraph 3 of subsection (2) is based will be made available to the public.

(4) In this section,

"2017 Growth Plan" means the Growth Plan for the Greater Golden Horseshoe, 2017 that was approved under subsection 7 (6) of the *Places to Grow Act, 2005* on May 16, 2017 and came into effect on July 1, 2017; ("Plan de croissance de 2017")

"Greater Golden Horseshoe growth plan area" means the area designated by section 2 of Ontario Regulation 416/05 (Growth Plan Areas) made under the *Places to Grow Act, 2005*. ("zone de croissance planifiée de la région élargie du Golden Horseshoe")

Asset management plans, proposed levels of service

6. (1) Subject to subsection (2), by July 1, 2024, every asset management plan prepared under section 5 must include the following additional information:

1. For each asset category, the levels of service that the municipality proposes to provide for each of the 10 years following the year in which all information required under section 5 and this section is included in the asset management plan, determined in accordance with the following qualitative descriptions and technical metrics:
    i. With respect to core municipal infrastructure assets, the qualitative descriptions set out in Column 2 and the technical metrics set out in Column 3 of Table 1, 2, 3, 4 or 5, as the case may be.
    ii. With respect to all other municipal infrastructure assets, the qualitative descriptions and technical metrics established by the municipality.
2. An explanation of why the proposed levels of service under paragraph 1 are appropriate for the municipality, based on an assessment of the following:
    i. The options for the proposed levels of service and the risks associated with those options to the long term sustainability of the municipality.
    ii. How the proposed levels of service differ from the current levels of service set out under paragraph 1 of subsection 5 (2).
    iii. Whether the proposed levels of service are achievable.
    iv. The municipality's ability to afford the proposed levels of service.
3. The proposed performance of each asset category for each year of the 10-year period referred to in paragraph 1, determined in accordance with the performance measures established by the municipality, such as those that would measure energy usage and operating efficiency.
4. A lifecycle management and financial strategy that sets out the following information with respect to the assets in each asset category for the 10-year period referred to in paragraph 1:
    i. An identification of the lifecycle activities that would need to be undertaken to provide the proposed levels of service described in paragraph 1, based on an assessment of the following:
        A. The full lifecycle of the assets.
        B. The options for which lifecycle activities could potentially be undertaken to achieve the proposed levels of service.
        C. The risks associated with the options referred to in sub-subparagraph B.
        D. The lifecycle activities referred to in sub-subparagraph B that can be undertaken for the lowest cost to achieve the proposed levels of service.
    ii. An estimate of the annual costs for each of the 10 years of undertaking the lifecycle activities identified in subparagraph i, separated into capital expenditures and significant operating costs.
    iii. An identification of the annual funding projected to be available to undertake lifecycle activities and an explanation of the options examined by the municipality to maximize the funding projected to be available.
    iv. If, based on the funding projected to be available, the municipality identifies a funding shortfall for the lifecycle activities identified in subparagraph i,
        A. an identification of the lifecycle activities, whether set out in subparagraph i or otherwise, that the municipality will undertake, and
        B. if applicable, an explanation of how the municipality will manage the risks associated with not undertaking any of the lifecycle activities identified in subparagraph i.
5. For municipalities with a population of less than 25,000, as reported by Statistics Canada in the most recent official census, a discussion of how the assumptions regarding future changes in population and economic activity, set out in subparagraph 5 i of subsection 5 (2), informed the preparation of the lifecycle management and financial strategy referred to in paragraph 4 of this subsection.
6. For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census,

i. the estimated capital expenditures and significant operating costs to achieve the proposed levels of service as described in paragraph 1 in order to accommodate projected increases in demand caused by population and employment growth, as set out in the forecasts or assumptions referred to in paragraph 6 of subsection 5 (2), including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets,

ii. the funding projected to be available, by source, as a result of increased population and economic activity, and

iii. an overview of the risks associated with implementation of the asset management plan and any actions that would be proposed in response to those risks.

7. An explanation of any other key assumptions underlying the plan that have not previously been explained.

(2) With respect to an asset management plan prepared under section 5 on or before July 1, 2021, if the additional information required under this section is not included before July 1, 2023, the municipality shall, before including the additional information, update the current levels of service set out under paragraph 1 of subsection 5 (2) and the current performance measures set out under paragraph 2 of subsection 5 (2) based on data from the two most recent calendar years.

Update of asset management plans

7. (1) Every municipality shall review and update its asset management plan at least five years after the year in which the plan is completed under section 6 and at least every five years thereafter.

(2) The updated asset management plan must comply with the requirements set out under paragraphs 1, 2 and 3 and subparagraphs 5 i and 6 i, ii, iii, iv and v of subsection 5 (2), subsection 5 (3) and paragraphs 1 to 7 of subsection 6 (1).

Endorsement and approval required

8. Every asset management plan prepared under section 5 or 6, or updated under section 7, must be,

(a) endorsed by the executive lead of the municipality; and

(b) approved by a resolution passed by the municipal council.

Annual review of asset management planning progress

9. (1) Every municipal council shall conduct an annual review of its asset management progress on or before July 1 in each year, starting the year after the municipality's asset management plan is completed under section 6.

(2) The annual review must address,

(a) the municipality's progress in implementing its asset management plan;

(b) any factors impeding the municipality's ability to implement its asset management plan; and

(c) a strategy to address the factors described in clause (b).

Public availability

10. Every municipality shall post its current strategic asset management policy and asset management plan on a website that is available to the public, and shall provide a copy of the policy and plan to any person who requests it.

TABLE 1

WATER ASSETS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	1. Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system. 2. Description, which may include maps, of the user groups or areas of the municipality that have fire flow.	1. Percentage of properties connected to the municipal water system. 2. Percentage of properties where fire flow is available.
Reliability	Description of boil water advisories and service interruptions.	1. The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system. 2. The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.

TABLE 2

WASTEWATER ASSETS

Column 1	Column 2	Column 3

Service attribute	Community levels of service (qualitative descriptions)	Technical levels of service (technical metrics)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system.	Percentage of properties connected to the municipal wastewater system.
Reliability	1. Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes. 2. Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches. 3. Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes. 4. Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to avoid events described in paragraph 3. 5. Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system.	1. The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system. 2. The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system. 3. The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system.

TABLE 3

STORMWATER MANAGEMENT ASSETS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.	1. Percentage of properties in municipality resilient to a 100-year storm. 2. Percentage of the municipal stormwater management system resilient to a 5-year storm.

TABLE 4

ROADS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity.	Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality.
Quality	Description or images that illustrate the different levels of road class pavement condition.	1. For paved roads in the municipality, the average pavement condition index value. 2. For unpaved roads in the municipality, the average surface condition (e.g. excellent, good, fair or poor).

TABLE 5

BRIDGES AND CULVERTS

Column 1 Service attribute	Column 2 Community levels of service (qualitative descriptions)	Column 3 Technical levels of service (technical metrics)
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists).	Percentage of bridges in the municipality with loading or dimensional restrictions.
Quality	1. Description or images of the condition of bridges and how this would affect use of the bridges. 2. Description or images of the condition of culverts and how this would affect use of the culverts.	1. For bridges in the municipality, the average bridge condition index value. 2. For structural culverts in the municipality, the average bridge condition index value.

COMMENCEMENT

Commencement

11. This Regulation comes into force on the later of January 1, 2018 and the day it is filed.

Township of Southgate – Asset Management Policy

1. Background

The Corporation of the Township of Southgate is committed to providing services to residents in a fiscally responsible manner that supports its residents, businesses and commerce, in a healthy and vibrant community. With this commitment in mind, assets must be managed in a way that allows the Township to support the community and achieve its goals, plans and policies.

2. Purpose

The purpose of this policy is to establish consistent standards and guidelines for management of the Township's assets applying sound technical, social and economic principles that consider present and future needs of the community, and the service expected from the assets. This means leveraging and managing total lifecycle costs of ownership efficiently, at the least cost with regard to the service levels, to best meet the needs of the community while being cognizant of the risk of failure that is acceptable. The standards and guidelines must adhere to the following areas:

3. Definitions

In this policy the following definitions are used:

a) **"Asset Management Plan"** means a strategic document that states how a group of assets are to be managed over a period of time. The plan describes the characteristics and condition of infrastructure assets, the levels of service expected from them, planned actions to ensure the assets are providing the expected level of service, risk management assessment and financing strategies to implement the planned actions.

b) **"Capitalization Thresholds"** means the Township's Asset Management Policy applies to all assets whose role in service delivery requires deliberate management by the Township. The service focus intent of this policy differentiates its requirements for identifying assets from the capitalization thresholds which are developed for the purposes of financial reporting. For this reason, the capitalization threshold developed for financial reporting will not be the guide in selecting the assets covered by the asset management planning process.

c) **"Infrastructure"** means municipal tangible capital assets primarily for public use or benefit in the Township of Southgate.

d) **"Level of Service"** means a description of approaches for core infrastructure assets including community expectations and technical metrics for life cycle methodologies.

4. Scope and Responsibility

The Public Works Manager together with the other Department Heads will assist in this task through the reporting of the ongoing maintenance work activities and costs to improve the asset lifecycle functioning of all infrastructure, utilization of condition assessment information and service level requirements to update the long and short term asset plan and its requirements.

The Treasurer will assume the lead role and be responsible for the maintenance of the asset plan and reporting on the activity related to the management of Township assets. This information will be reviewed by staff and presented to Council in Committee of the Whole meeting format annually for preparation prior to and consideration during the annual budget deliberations.

5. Statutory Requirements

The Infrastructure for Jobs and Prosperity Act, 2015 sets out principles to guide asset management planning for municipalities in Ontario. The Township of Southgate will strive to incorporate the following principles whenever possible into the day to day operation of the Township:

i. **Looking Forward -** The Township shall take a long-term view while considering demographic and economic trends in the Township.

ii. **Budgeting and Planning** - The Township shall take into account any applicable budgets, capital projections or fiscal plans, released under the Fiscal Transparency and Accountability Act, 2004 and budgets adopted under Part VII of the Municipal Act, 2001.

iii. **Prioritizing -** The Township shall clearly identify infrastructure priorities to drive investment decisions based on assessment reporting of asset conditions and community requirements from the Township's strategic direction spelled out in the Community Action Plan.

iv. **Economic Development -** The Township shall promote economic growth through infrastructure investments, competitiveness, productivity, job creation and training opportunities.

v. **Transparency** - The Township shall be open and transparent during the decision making process. The Township shall make decisions with respect to infrastructure, based on information that is publicly available or can be made available, subject to the appropriate management of municipal assets, investment and risk. Those decisions, that can be, shall be shared with the public and the information provided to seek public input and share the implications on the infrastructure and investment decisions with the community, the Government and the broader public sector entities.

vi. **Consistency -** The Township shall ensure the continued delivery of core public services in a fiscally responsible manner where the service requirements continue to be needed.

vii. **Environmental Conscious -** The Township shall minimize the impact of infrastructure on the environment through implementing best practices and controls in maintenance works, project designs and construction works in advance of any required assessments and studies to maintain ecological and biological diversity. This environmental consciousness strategy for future infrastructure projects will mitigate the effects of climate change and by making use of acceptable recycled materials that provides value of asset investment and will reduce our carbon footprint.

viii. **Health and Safety -** The Township shall ensure that the health and safety of workers involved in the construction and maintenance of infrastructure assets are protected through training, safety meetings and use of best practices.

ix. **Community Focused** - The Township shall promote community improvement through public engagement to ensure and promote social and economic benefits arising from any infrastructure projects that are intended to improve the well-being of a community as an outcome of the project, such as local job creation, improvement of public spaces within the community, and promoting accessibility for persons with disabilities.

x. **Innovation -** The Township shall create opportunities to make use of innovative technologies, services and best practices, particularly where doing so to utilize technology, techniques, and practices developed and working in the Ontario environment. In addition, the Township must adhere to the requirements outlined in the Maintenance Standards and the Provincial Policy Statement currently in force, and any other legislation specific to the Township.

xi. **Existing Plans and Policies -** The Township has developed and adopted a Community Action Plan, an Official Plan, Grey County Growth Management Study, an Emergency Management Plan, an Accessibility Plan, a Community Improvement Plan, Roads Management Study, Bridge Inspection Reports, and an Asset Management Plan. These plans were designed to meet the legislative requirements and work together to achieve the Township's mission of providing innovation and excellence in service delivery. These plans will be reviewed regularly by staff and annual spending requirements in support of the objectives of the plans will be incorporated into the annual budgeting process. The Township's plans rely on the physical assets owned by the Township and the commitment of staff to ensure their strategic use and maintenance through investments. This is accomplished through long term asset maintenance, repair, and replacement planning, and the acquisition of new assets to meet the needs of the Township.

6. Guiding Principles

The policy requires the commitment of key stakeholders within the Township's organization being Council and staff, with appropriate public consultation, to ensure the policy contains a clear plan that can be implemented, reviewed and updated.

Council, on behalf of the citizens, will be entrusted with the responsibility of overseeing the management of the assets. Council will approve the Asset Management Planning documents and required updates every five years. Council will review management's implementation of the Plan as part of the annual budget process. Council will support efforts to improve the Plan and ensure it includes changes necessitated by updates to other Township strategic documents.

Staff Management will oversee the policy implementation and ensure both the Asset Management Plan and the Asset Management Policy are in compliance with Provincial Asset Management regulations. Staff Management will ensure that current year and long range asset requirements are incorporated into the budget presented to Council annually. Staff Management will update the Policy and Plan to reflect changes as needed and present them for Council approval at least every five years. These changes will include those reflected in the updates to the Development Charges Study, Roads Needs Study, Building Structural Assessment Reports, and all other condition assessments commissioned for assets covered by the plan.

7. General Policy Strategies

The asset management plans and progress made on the plans will be considered annually in the development of the Township's capital budgets, operating budgets, and long-term financial plans.

Department Heads will reference the asset management plan for their area in order to look up forecasted spending needs identified in the plan, verify progress made on the plan to identify potential gaps, and prioritize spending needs, across the gap needs identified in the plan and recent developments, for the year to be budgeted for. Finance staff will be involved in the asset management planning process to coordinate the information from the department personnel in the preparation of the budget submission.

Asset management planning will be aligned with the Township's Community Action Plan, Community Improvement Plan and Official Plan. The asset management plans will reflect how the community is projected to change and the related asset impact. The Township will achieve this by consulting with those responsible for managing the services to analyze the future costs and viability of projected changes.

Methods, assumptions, and data used in the selection of projected changes should be documented to support the recommendations in the Asset Management Plan.

Climate change will be considered as part of the Township's risk management approach embedded in local asset management planning methods. This approach will balance the potential cost of vulnerabilities to climate change impact and other risks with the cost of reducing these vulnerabilities. The balance will be struck in the levels of service delivered through operations, maintenance schedules, disaster response plans, contingency funding, and capital investments. The Township will continue to work with the County of Grey in regard to developing climate change mitigation and adaptation best practices and assessments.

The Township recognizes the need for stakeholder input into the planning process of the Southgate Asset Management Plan and financial planning processes. The Township will foster informed community dialogue using the best available information and the use of options such as formal community meetings and online public engagement methods to make the best possible decisions related to the Asset Management Plan and supporting capital investment decisions to manage our municipal assets and infrastructure life cycle performance.

		2019	ALPHABETICAL LIST OF ROAD SEGMENTS			
I.D.	Category	PCI	Description	From	To	
1	Paved	92.30	**Alice Street**	Victoria St E	Victoria St E	
438	Gravel		**Artemesia-Southgate Townline**	Southgate Sideroad 15	Boar Farm Rd	
435	Gravel		**Artemesia-Southgate Townline**	Southgate Sideroad 07	Grey Road 14	
120	Paved	81.57	**Artemesia-Southgate Townline**	Murial St	Highway 10	
86	Gravel		**Artemesia-Southgate Townline**	Boar Farm Rd	Southgate Sideroad 73	
119	Paved	92.30	**Artemesia-Southgate Townline**	Southgate Sideroad 73	Edgar St	
171	Paved	92.30	**Artemesia-Southgate Townline**	Edgar St	Murial St	
284	Gravel		**Artemesia-Southgate Townline**	Grey Road 14	Dead End	
535	Gravel		**Artemesia Street N**	Grey St E	Todd Crescent	
4	Paved	81.57	**Artemesia Street N**	Owen Sound St	Toronto St	
6	Paved	81.57	**Artemesia Street N**	Main St E	Owen Sound St	
42	Paved	92.30	**Artemesia Street N**	Toronto St	Grey St E	
13	Paved	92.30	**Artemesia Street S**	Victoria St E	Main St E	
610	Paved	**100.00**	**Aunt Mary Boulevard**	Southgate Road 6	SG Sideroad 41	
412	Paved	71.91	**Bell Circle**	Hanbury St	Hanbury St	
59	Paved	52.59	**Bradley Street**	Grey St E	Dead End	
409	Paved	62.25	**Bradley Street**	Toronto St	Highpoint St	
46	Paved	92.30	**Bradley Street**	Highpoint St	Grey St E	
52	Paved	71.91	**Braemore Street E**	Dead End	McDowell St	
481	Paved	71.91	**Braemore Street W**	Mill St	Dead End	
68	Paved	64.26	**Cedar Lane**	Dead End	Wilder Lake Rd	
71	Paved	64.26	**Centre Street**	Grey Road 109	Dead End	
593	Paved	81.57	**Christie Street**	Dead End	Grey Road 9	
70	Paved	92.30	**Church Street**	Wellington Street	Grey Rd 109	
62	Paved	**100.00**	**Doyle Street**	Grey Street E	Dead End	
552	Gravel		**Dromore Park Road**	Dead End	Southgate Road 22	
15	Paved	71.91	**Dundalk Street**	Toronto Street	Grey Street W	
27	Paved	71.91	**Dundalk Street**	Holland Street S	Toronto Street	
40	Paved	81.57	**Dundalk Street**	Main Sreet W	Holland Street S	
622	Gravel		**Eco Parkway**	Ida Street	Dead End	
21	Gravel		**Edgar Street**	Elder Street	Artemesia-Southgate TL	
405	Gravel		**Elder Sreet Gravel**	Edgar Street	Murial Street	
512	Gravel		**Elder Sreet Gravel**	Dead End	Edgar Street	
542	Paved		**Elm Street**	Dead End	Victoria Street E	
207	Gravel		**Feairs Drive**	Grey Road 14	Dead End	
66	Paved	71.91	**Glenelg Street**	Ida Street	Grey Street W	
29	Paved	52.59	**Gold Street**	Young Street	Dead End	
35	Paved	81.57	**Gold Street**	Dead End	Young Street	
98	Gravel		**Goodfellow Street**	Grey Road 9	Southgate Sideroad 71	
16	Paved	92.30	**Grey Street E**	Osprey Street N	Bradley Street	
63	Paved	71.91	**Grey Street E**	Doyle Street	Artemesia Street	
65	Paved	82.65	**Grey Street E**	Artemesia Street	Osprey Street N	
64	Paved	63.33	**Grey Street E**	Proton Street	Doyle Street	
533	Paved	71.91	**Grey Street W**	Dead End	Dundalk Street	
83	Paved	71.91	**Grey Street W**	Dundalk Street	Proton Street N	
9	Paved	71.91	**Hagan Street**	Dead End	Young Street	
542	Paved	71.91	**Hagan Street E.**	Dead End	Victoria Street E	
60	Paved	63.33	**Hanbury Street**	Ida Street	Morrow Circle	
411	Paved	71.91	**Hanbury Street**	Morrow Circle	Bell Circle	
619	Paved	**100.00**	**Harris Circle**	SG Sideroad 41	Harris Circle	
620	Paved	**100.00**	**Harris Circle**	Harris Circle	Harris Circle	
55	Paved	64.26	**Highpoint Street**	Bradley Street	Pine Court	
51	Paved	71.91	**Highpoint Street**	Pine Court	Wilson Crescent	
22	Paved	81.57	**Highpoint Street**	Wilson Crescent	Dead End	

		2019	ALPHABETICAL LIST OF ROAD SEGMENTS			
I.D.	Category	PCI	Description	From	To	
58	Paved	81.57	**Highpoint Street**	McGregor Court	Wilson Crescent	
49	Paved	92.30	**Holland Street N**	Proton Street N	Artemesia Street N	
538	Paved	43.69	**Holland Street S**	Dundalk Street	N 0.4km	
537	Paved	55.22	**Holland Street S**	S 0.6km	Proton Street N	
564	Gravel		**Homestead Road**	W 0.2km	Dead End	
563	Earth		**Homestead Road - Earth**	Southgate Road 26	E 0.06km	
621	Paved	48.33	**Ida Street**	Municipality Boundary	Eco Parkway	
466	Paved	48.33	**Ida Street**	Eco Parkway	Hanbury Street	
124	Paved	73.29	**Ida Street**	Glenelg Street	Southgate Road 22	
467	Paved	55.22	**Ida Street**	Hanbury Street	Victoria Street W	
468	Paved	55.22	**Ida Street**	Victoria St W	Main Street W	
125	Paved	81.57	**Ida Street**	Grey Road 9	Glenelg Street	
541	Paved	63.33	**Industrial Road**	Victoria Street W	Dead End	
590	Gravel		**John Irwin Lane**	Dead End	Grey Road 109	
539	Paved	52.59	**Keppel Street**	Main Street W	Dead End	
455	Gravel		**Lake Road**	Dead End	Southgate Road 26	
476	*laneway*		**Lane Street**	Grey Road 109	Dead End	
574	Earth		**London Road**	Highway 89	N 0.27km	
577	Paved	**100.00**	**London Road**	S 0.67km	Wellington Street E	
576	Gravel		**London Road**	S 0.27km	N 0.3km	
578	Gravel		**London Road**	S 0.57km	N 0.1km	
39	Paved	63.33	**McAuley Street**	Victoria Street W	Main Street W	
53	Paved	71.91	**McDowell Street**	Main Street E	Braemore Street E	
24	Paved	71.91	**McDowell Street**	Braemore Street E	Dead End	
503	Paved	97.90	**McFarlin Drive**	Highway 6	Grey Rd 6	
57	Paved	64.26	**McGregor Court**	Highpoint St	Dead End	
480	Paved	64.26	**Mill Street**	Main St E	Braemore Street W	
61	Paved	81.57	**Morrow Circle**	Dead End	Hanbury St	
406	Gravel		**Murial Street Gravel**	Elder Street	Artemesia-Southgate TnLn	
473	Paved	63.33	**Nixon Street**	Dead End	Victoria Street W	
394	Paved	57.63	**Old Rail Road**	Southgate Sideroad 41	Southgate Road 26	
387	Paved	**17.17**	**Orchardville Sideroad**	Highway 6	Southgate Road 14	
			was pulverized and turned back to gravel in 2020			
26	Paved	64.40	**Osprey Street N**	Main St E	Owen Sound St	
32	Paved	64.26	**Osprey Street N**	Owen Sound St	Toronto St	
41	Paved	81.57	**Osprey Street N**	Toronto St	Grey St E	
43	Paved	92.30	**Osprey Street S**	Victoria St E	Main St E	
7	Paved	81.57	**Owen Sound St**	Artemesia Street	Osprey Street N	
48	Paved	81.57	**Owen Sound St**	Osprey Street N	Main St E	
11	Paved	55.22	**Owen Sound St**	Proton St N	Holland Street N	
588	Gravel		**Park Road**	Grey Rd 109	Dead End	
69	Gravel		**Petrie Street**	Grey Rd 109	Dead End	
56	Paved	64.26	**Pine Court**	Highpoint St	Dead End	
2	Paved	71.91	**Proton St N**	Main St E	Holland St N	
5	Paved	71.91	**Proton St N**	Owen Sound St	Toronto St	
17	Paved	71.91	**Proton St N**	Holland Street S	Owen Sound St	
37	Paved	64.26	**Proton St N**	Toronto St	Grey St E	
12	Paved	63.33	**Proton St S**	Victoria St W	Main St W	
28	Paved	63.33	**Rowe's Lane**	Dead End	Victoria St E	
54	Paved	55.22	**Russell Street**	Victoria St E	Main St E	
482	Paved	55.22	**Russell Street**	Dead End	Victoria St E	
604	Paved	99.82	**Sheffield St**	Russell Street	Sinclair St	
605	Paved	99.82	**Sheffield St**	Sinclair St	Dead End	

		2019	ALPHABETICAL LIST OF ROAD SEGMENTS			
I.D.	Category	PCI	Description	From	To	
607	Paved	99.82	**Sinclair St**	Sheffield St	Main St. N.	
596	Paved	64.26	**Sligo Road**	Dead End	Southgate Sd 41	
594	Paved	48.33	**Southgate Rd 04**	Sligo Rd	Southgate Sd 41	
595	Paved	42.43	**Southgate Rd 04**	Southgate Sd 41	Southgate Sd 47	
325	Paved	57.63	**Southgate Rd 04**	Southgate Sd 47	Southgate Sd 47	
326	Paved	57.63	**Southgate Rd 04**	Southgate Sd 47	Southgate Sd 49	
175	Gravel		**Southgate Rd 04 - Gravel**	Southgate Sd 13	Southgate Sd 15	
426	Gravel		**Southgate Rd 04 - Gravel**	Southgate-Melancthon TnLn	Southgate-Melancthon TnLn	
526	Gravel		**Southgate Rd 04 - Gravel**	W 7.03 km	Southgate-Melancthon TnLn	
525	Gravel		**Southgate Rd 04 - Gravel**	Grey Rd 8	E 0.93 km	
136	SurfTrmt	64.26	**Southgate Rd 04**	Southgate Sd 19	Grey Rd 8	
137	SurfTrmt	57.63	**Southgate Rd 04**	Southgate Sd 15	Southgate Sd 19	
229	Gravel		**Southgate Rd 04 - Gravel**	Southgate Sd 55	Southgate Sd 57	
346	Paved	**27.32**	**Southgate Rd 04**	Grey Rd 14	Southgate Sd 07	
344	Paved	**27.32**	**Southgate Rd 04**	Southgate Sd 07	Southgate Sd 11	
203	Gravel		**Southgate Rd 04 - Gravel**	Southgate Sd 11	Southgate Sd 13	
445	Gravel		**Southgate Rd 04 - Gravel**	Southgate Sd 57	Southgate Sd 61	
231	Gravel		**Southgate Rd 04 - Gravel**	Southgate Sd 49	Southgate Sd 55	
447	Gravel		**Southgate Rd 04 - Gravel**	Southgate Sd 61	Grey Rd 14	
261	Paved	57.63	**Southgate Rd 06**	Grey Rd 109	Uncle Tom Circle W	
612	Paved	57.63	**Southgate Rd 06**	Uncle Tom Circle W	Uncle Tom Circle E	
613	Paved	48.33	**Southgate Rd 06**	Uncle Tom Circle E	Southgate Sd 41	
110	Gravel		**Southgate Rd 08**	Grey Rd 8	Southgate-Melancthon TnLn	
114	Gravel		**Southgate Rd 08**	Southgate Sd 19	Grey Rd 8	
258	Gravel		**Southgate Rd 08**	Southgate Sd 47	Southgate Sd 49	
528	Gravel		**Southgate Rd 08**	W 0.42 km	Southgate Sd 19	
236	Gravel		**Southgate Rd 08**	Southgate Sd 55	Southgate Sd 57	
173	SurfTrmt	42.43	**Southgate Rd 08**	Southgate Sd 13	Southgate Sd 15	
259	Gravel		**Southgate Rd 08 Gravel**	Southgate Sd 41	Southgate Sd 47	
349	Paved	42.43	**Southgate Rd 08 Gravel**	Grey Rd 14	Southgate Sd 13	
527	SurfTrmt	48.33	**Southgate Rd 08**	Southgate Sd 15	E 1.6 km	
609	Paved	83.33	**Southgate Rd 08**	Southgate Sd 41	Aunt Mary Boulevard	
267	Gravel		**Southgate Rd 08 Gravel**	Highway 6	Southgate Sd 33	
237	Gravel		**Southgate Rd 08 Gravel**	Southgate Rd 08	Southgate Sd 57	
262	Gravel		**Southgate Rd 08 Gravel**	Grey Rd 109	Southgate Sd 41	
399	Gravel		**Southgate Rd 08 Gravel**	Southgate Sd 49	Southgate Sd 55	
266	Gravel		**Southgate Rd 08 Gravel**	Southgate Sd 33	Grey Rd 109	
232	Gravel		**Southgate Rd 08 Gravel**	Southgate Sd 57	Southgate Sd 61	
206	Gravel		**Southgate Rd 08 Gravel**	Southgate Sd 61	Southgate Sd 03	
177	SurfTrmt	64.26	**Southgate Rd 10**	Southgate Sd 13	Southgate Sd 15	
529	Gravel		**Southgate Rd 10 Gravel**	Grey Rd 14	E 1.6 km	
530	Paved	64.26	**Southgate Rd 10**	W 0.4km	Southgate Sd 13	
264	Gravel		**Southgate Rd 10**	Southgate Sd 33	Grey Rd 109	
427	Gravel		**Southgate Rd 10**	Grey Rd 8	Southgate-Melancthon TnLn	
96	Paved	73.29	**Southgate Rd 10**	Southgate Sd 21	Grey Rd 8	
221	Gravel		**Southgate Rd 10 Gravel**	Southgate Sd 61	Southgate Sd 03	
256	Gravel		**Southgate Rd 10 Gravel**	Southgate Sd 47	Southgate Sd 49	
263	Gravel		**Southgate Rd 10 Gravel**	Grey Rd 109	Southgate Sd 41	
233	Gravel		**Southgate Rd 10 Gravel**	Southgate Sd 57	Southgate Sd 61	
105	Paved	57.63	**Southgate Rd 10**	Southgate Sd 19	Southgate Sd 21	
115	Paved	57.63	**Southgate Rd 10**	Southgate Sd 15	Southgate Sd 19	
255	Gravel		**Southgate Rd 10 Gravel**	Southgate Sd 41	Southgate Sd 47	

		2019	ALPHABETICAL LIST OF ROAD SEGMENTS		
I.D.	Category	PCI	Description	From	To
220	Gravel		**Southgate Rd 10 Gravel**	Southgate Sd 03	Southgate Sd 07
269	Gravel		**Southgate Rd 10 Gravel - Seasonal**	Highway 6	Southgate Sd 33
238	Gravel		**Southgate Rd 10 Gravel**	Southgate Sd 49	Southgate Sd 55
234	Gravel		**Southgate Rd 10 Gravel**	Southgate Sd 55	Southgate Sd 57
209	Gravel		**Southgate Rd 10 Gravel**	Southgate Sd 07	Grey Rd 14
218	Gravel		**Southgate Rd 12 Gravel**	Southgate Sd 61	Southgate Sd 03
428	Gravel		**Southgate Rd 12 Gravel**	Grey Rd 8	Southgate-Melancthon TnLn
271	Gravel		**Southgate Rd 12 Gravel**	Southgate Sd 47	Southgate Sd 49
251	Gravel		**Southgate Rd 12 Gravel**	Southgate Sd 49	Southgate Sd 55
224	Gravel		**Southgate Rd 12 Gravel**	Southgate Sd 57	Southgate Sd 61
239	Gravel		**Southgate Rd 12 Gravel**	Southgate Sd 55	Southgate Sd 57
148	Paved	37.34	**Southgate Rd 12**	Southgate Sd 21	Grey Rd 8
386	Paved	71.91	**Southgate Rd 12**	Hwy 6	Grey Rd 109
72	Paved	57.63	**Southgate Rd 12**	Grey Rd 14	Southgate Sd 13
377	Paved	55.22	**Southgate Rd 12**	Grey Rd 109	Southgate Sd 41
178	Paved	42.43	**Southgate Rd 12**	Southgate Sd 13	Southgate Sd 15
253	Gravel		**Southgate Rd 12 Gravel**	Southgate Sd 41	Southgate Sd 47
103	Gravel		**Southgate Rd 12 Gravel**	Southgate Sd 15	Southgate Sd 19
104	Gravel		**Southgate Rd 12 Gravel**	Southgate Sd 19	Southgate Sd 21
219	Gravel		**Southgate Rd 12 Gravel**	Southgate Sd 03	Southgate Sd 07
211	Gravel		**Southgate Rd 12 Gravel**	Southgate Sd 07	Grey Rd 14
145	Paved	37.34	**Southgate Rd 14**	Southgate Sd 19	Southgate Sd 21
360	SurfTrmt	48.33	**Southgate Rd 14**	Grey Rd 14	Southgate Sd 13
240	Gravel		**Southgate Rd 14 Gravel**	Southgate Sd 57	Southgate Sd 61
216	Paved	37.34	**Southgate Rd 14**	Southgate Sd 03	Southgate Sd 07
144	Paved	92.30	**Southgate Rd 14**	Southgate Sd 15	Southgate Sd 19
146	SurfTrmt	37.34	**Southgate Rd 14**	Southgate Sd 21	Grey Rd 08
213	SurfTrmt	37.34	**Southgate Rd 14**	Southgate Sd 07	Grey Rd 14
302	Gravel		**Southgate Rd 14 Gravel**	Orchardville Sd	Grey Rd 109
100	Gravel		**Southgate Rd 14 Gravel**	Grey Rd 8	Dead End
388	Paved	22.35	**Southgate Rd 14**	Hwy 6	Orchardville Sd
217	Gravel		**Southgate Rd 14 Gravel**	Southgate Sd 61	Southgate Sd 03
242	Gravel		**Southgate Rd 14 Gravel**	Southgate Sd 55	Southgate Sd 57
301	Gravel		**Southgate Rd 14 Gravel**	Grey Rd 109	Southgate Sd 41
272	Gravel		**Southgate Rd 14 Gravel**	Southgate Sd 41	Southgate Sd 47
448	Gravel		**Southgate Rd 14 Gravel**	Southgate Sd 47	Southgate Sd 49
449	Gravel		**Southgate Rd 14 Gravel**	Southgate Sd 49	Southgate Sd 55
179	SurfTrmt	48.33	**Southgate Rd 14**	Southgate Sd 13	Southgate Sd 15
465	Gravel		**Southgate Rd 22 Gravel**	Southgate Rd 61	E 0.99km
166	SurfTrmt	46.48	**Southgate Rd 22**	Southgate Sd 19	Southgate Sd 21
246	Gravel		**Southgate Rd 22 Gravel**	Southgate Sd 57	Southgate Sd 61
164	Paved	50.20	**Southgate Rd 22**	Southgate Sd 21	Southgate Sd 71
76	Paved	48.19	**Southgate Rd 22**	Southgate Sd 07	Grey Rd 14
351	SurfTrmt	64.26	**Southgate Rd 22**	Grey Rd 14	Southgate Sd 13
352	Paved	55.22	**Southgate Rd 22**	Southgate Sd 13	Southgate Sd 15
305	Gravel		**Southgate Rd 22 Gravel**	Hwy 6	Southgate Sd 39
298	Gravel		**Southgate Rd 22 Gravel**	Southgate sd 47	Southgate Sd 49
181	Paved	60.24	**Southgate Rd 22**	Southgate Sd 15	Southgate Sd 19
303	Gravel		**Southgate Rd 22 Gravel**	Southgate Sd 39	Southgate Sd 41
431	Gravel		**Southgate Rd 22 Gravel**	Southgate Sd 41	Southgate Sd 47
551	Gravel		**Southgate Rd 22 Gravel**	E 1.5km	Southgate Sd 57
554	Gravel		**Southgate Rd 22 Gravel**	W 1.13km	Grey Rd 23

		2019	ALPHABETICAL LIST OF ROAD SEGMENTS			
I.D.	Category	PCI	Description	From	To	
555	Gravel		**Southgate Rd 22 Gravel**	Southgate Sd 49	W 0.69km	
556	Gravel		**Southgate Rd 22 Gravel**	W 0.69km	E 0.02 km	
403	Paved	48.19	**Southgate Rd 22**	Southgate Sd 03	Southgate Sd 07	
550	Paved	60.24	**Southgate Rd 22**	Dromore Park Rd	W 0.56km	
602	Paved	60.24	**Southgate Rd 22**	Grey Rd 23	Dromore Park Rd	
88	Gravel		**Southgate Rd 22 Gravel**	400 m. SW of Hwy. 10	Hwy. 10	
89	Gravel		**Southgate Rd 22 Gravel**	Southgate Sd 71	Southgate Sd 75	
90	Gravel		**Southgate Rd 22 Gravel**	Ida Street	Dead End	
531	Gravel		**Southgate Rd 24 Gravel**	Southgate Sd 71	E 1.5km	
278	SurfTrmt	85.87	**Southgate Rd 24**	Southgate Sd 57	Southgate Sd 61	
280	SurfTrmt	85.87	**Southgate Rd 24**	Grey Rd 23	Southgate Sd 57	
180	Paved	**100.00**	**Southgate Rd 24**	Southgate Sd 13	Southgate Sd 19	
165	SurfTrmt	**100.00**	**Southgate Rd 24**	Southgate Sd 19	Southgate Sd 71	
160	Paved	37.34	**Southgate Rd 24**	Southgate Sd 75	Hwy 10	
532	Paved	43.69	**Southgate Rd 24**	E 1.5km	Southgate Sd 75	
566	Gravel		**Southgate Rd 24 Gravel**	Southgate Sd 39	Southgate Sd 41	
404	SurfTrmt	55.22	**Southgate Rd 24**	Southgate Sd 03	Southgate Sd 07	
355	SurfTrmt	48.33	**Southgate Rd 24**	Southgate Sd 07	Grey Rd 14	
567	Gravel		**Southgate Rd 24 Gravel**	Hwy 6	E 2.3km	
294	Gravel		**Southgate Rd 24 Gravel**	Southgate Sd 49	Grey Rd 23	
295	Gravel		**Southgate Rd 24 Gravel**	Southgate Sd 47	Southgate Sd 49	
311	Gravel		**Southgate Rd 24 Gravel**	Southgate Sd 41	Southgate Sd 47	
402	SurfTrmt	75.13	**Southgate Rd 24**	Southgate Sd 61	E 0.89km	
353	Paved	48.33	**Southgate Rd 24**	Grey Rd 14	Southgate Sd 13	
565	Paved	92.30	**Southgate Rd 24**	Southgate Sd 39	E 0.39km	
568	Paved	92.30	**Southgate Rd 24**	W 0.15km	Southgate Sd 39	
456	Paved	73.29	**Southgate Rd 26**	Southgate Rd 26	Southgate Sd 47	
454	Paved	73.29	**Southgate Rd 26**	Southgate Rd 26	Lake Road	
161	Paved	**100.00**	**Southgate Rd 26**	Southgate Sd 73	Southgate Sd 75	
395	SurfTrmt	66.00	**Southgate Sd 26**	Southgate Sd 47	Southgate Sd 49	
460	SurfTrmt	57.63	**Southgate Rd 26**	Watra	Grey Rd 23	
457	SurfTrmt	57.63	**Southgate Rd 26**	Southgate Sd 49	Watra	
453	Gravel		**Southgate Rd 26 Gravel**	Grey Rd 23	Southgate Sd 57	
288	Gravel		**Southgate Rd 26 Gravel**	Southgate Sd 57	Southgate Sd 61	
314	Gravel		**Southgate Rd 26 Gravel**	Wilder Lake Rd	Southgate Rd 26	
439	Paved	81.57	**Southgate Rd 26**	Southgate Rd 71	Southgate Rd 73	
451	Gravel		**Southgate Rd 26 Gravel**	Southgate Rd 61	Southgate Rd 03	
547	SurfTrmt	81.57	**Southgate Rd 26**	W 0.51km	Southgate Sd 07	
546	Gravel		**Southgate Rd 26 Gravel**	Southgate Sd 03	E 2.3km	
281	Gravel		**Southgate Rd 26 Gravel**	Southgate Sd 07	Grey Rd 14	
436	Gravel		**Southgate Rd 26 Gravel**	Southgate Sd 13	Southgate Sd 15	
282	Gravel		**Southgate Rd 26 Gravel**	Grey Rd 14	Southgate Sd 13	
121	Paved	55.22	**Southgate Rd 26**	Southgate Sd 75	Hwy 10	
452	Earth		**Southgate Sd 03 Earth**	Southgate Rd 26	N 1.1km	
337	Paved	57.63	**Southgate Sd 03**	Southgate Rd 14	Grey Rd 9	
338	Paved	57.63	**Southgate Sd 03**	Southgate Rd 12	Southgate Rd 14	
339	Paved	73.29	**Southgate Sd 03**	Southgate Rd 10	Southgate Rd 12	
469	Paved	57.63	**Southgate Sd 03**	Grey Rd 14	Southgate Sd 61	
470	Paved	73.29	**Southgate Sd 03**	Southgate Rd 8	Southgate Rd 10	
204	Earth		**Southgate Sd 07 Earth**	Hwy 89	Southgate Rd 04	
77	Paved	**100.00**	**Southgate Sd 07**	Southgate Rd 24	Southgate Rd 26	

		2019	ALPHABETICAL LIST OF ROAD SEGMENTS		
I.D.	Category	PCI	Description	From	To
212	Gravel		**Southgate Sd 07 Gravel**	Grey Rd 9	Southgate Rd 22
214	Gravel		**Southgate Sd 07 Gravel**	Southgate Rd 10	Grey Rd 9
434	Paved	48.33	**Southgate Sd 07**	Southgate Rd 26	Artemesia-Southgate TnLn
78	Paved	55.22	**Southgate Sd 07**	Southgate Rd 22	Southgate Rd 24
215	Gravel		**Southgate Sd 07 Gravel**	Southgate Rd 08	Southgate Rd 10
205	Gravel		**Southgate Sd 07 Gravel**	Southgate Rd 04	Grey Rd 14
208	Gravel		**Southgate Sd 07 Gravel**	Southgate Rd 12	Southgate Rd 14
345	SurfTrmt	57.63	**Southgate Sd 11 Surface**	Hwy 89	Southgate Sd 04
343	SurfTrmt	48.33	**Southgate Sd 11 Surface**	Southgate Rd 04	Southgate Rd 08
176	Gravel		**Southgate Sd 13 Gravel**	Hwy 89	Southgtae Rd 04
198	Gravel		**Southgate Sd 13 Gravel**	Southgate Rd 10	Grey Rd 9
199	Gravel		**Southgate Sd 13 Gravel**	Southgate Rd 12	Southgate Rd 14
200	Gravel		**Southgate Sd 13 Gravel**	Southgate Rd 10	Southgate Rd 12
201	Gravel		**Southgate Sd 13 Gravel**	Southgate Rd 08	Southgate Rd 10
202	Gravel		**Southgate Sd 13 Gravel**	Southgate Rd 04	Southgate Rd 08
283	Gravel		**Southgate Sd 13 Gravel**	Southgate Rd 24	Southgate Rd 26
290	Gravel		**Southgate Sd 13 Gravel**	Southgate Rd 22	Southgate Rd 24
140	Paved	64.26	**Southgate Sd 15**	Hwy 89	Southgate Rd 04
141	Paved	89.94	**Southgate Sd 15**	Southgate Rd 12	Southgate Rd 14
142	Paved	43.69	**Southgate Sd 15**	Southgate Rd 10	Southgate Rd 12
517	Paved	**100.00**	**Southgate Sd 15**	Southgate Rd 04	N 1.7km
182	Paved	**100.00**	**Southgate Sd 15**	Grey Rd 9	Southgate Rd 22
143	Paved	**100.00**	**Southgate Sd 15**	Southgate Rd 14	Grey Rd 9
138	Paved	57.63	**Southgate Sd 15**	Southgate Rd 08	Southgate Rd 10
518	Paved	66.00	**Southgate Sd 15**	S 0.34km	Southgate Rd 08
437	Gravel		**Southgate Sd 15 Gravel**	Southgate Sd 26	Artemesia-Southgate TnLn
520	Earth		**Southgate Sd 19 Earth**	Southgate Rd 24	Dead End
101	Gravel		**Southgate Sd 19 Gravel**	Southgate Rd 14	Grey Rd 9
102	Gravel		**Southgate Sd 19 Gravel**	Southgate Rd 12	Southgate Rd 14
108	Gravel		**Southgate Sd 19 Gravel**	Southgate Rd 04	Southgate Rd 08
109	Gravel		**Southgate Sd 19 Gravel**	Hwy 89	Southgate Rd 04
106	Gravel		**Southgate Sd 19 Gravel**	Southgate Rd 08	Southgate Rd 10
116	Gravel		**Southgate Sd 19 Gravel**	Grey Rd 9	Southgate Rd 22
117	Gravel		**Southgate Sd 19 Gravel**	Southgate Rd 22	Southgate Rd 24
91	Gravel		**Southgate Sd 21 Gravel**	Southgate Rd 22	Southgate Sd 71
92	Gravel		**Southgate Sd 21 Gravel**	Grey Rd 9	Southgate Rd 22
93	Gravel		**Southgate Sd 21 Gravel**	Southgate Rd 10	Grey Rd 9
94	Gravel		**Southgate Sd 21 Gravel**	Southgate Sd 12	Southgate Sd 14
95	Gravel		**Southgate Sd 21 Gravel**	Southgate Rd 10	Southgate Rd 12
265	Gravel		**Southgate Sd 33 Gravel**	Southgate Rd 08	Southgate Rd 10
371	Paved	57.63	**Southgate Sd 39**	Grey Rd 9	Southgate Rd 22
318	Gravel		**Southgate Sd 39-Gravel**	Wilder Lake Road	Southgate-Glenelg TL
557	SurfTrmt	92.30	**Southgate Sd 39**	Southgate Rd 22	N 0.56km
558	Paved	92.30	**Southgate Sd 39**	N 1.56km	Southgate Sd 24
559	Paved	92.30	**Southgate Sd 39**	Southgate Rd 24	N 0.2km
560	Paved	**100.00**	**Southgate Sd 39 (paved in 2019)**	S 0.2km	Wilder Lake Rd
599	Paved	64.26	**Southgate Sd 41**	Southgate Rd 04	Southgate Rd 06
310	Gravel		**Southgate Sd 41 Gravel**	Southgate Rd 24	Wilder Lake Rd

		2019	ALPHABETICAL LIST OF ROAD SEGMENTS			
I.D.	Category	PCI	Description	From	To	
315	Gravel		**Southgate Sd 41 Gravel**	Wilder Lake Road	Southgate-Glenelg TL	
300	Gravel		**Southgate Sd 41 Gravel**	Southgate Rd 14	Grey Rd 9	
430	Gravel		**Southgate Sd 41 Gravel**	Southgate Rd 22	Southgate Rd 22	
316	Gravel		**Southgate Sd 41 Gravel**	Wilder Lake Rd	Wilder Lake Rd	
299	Gravel		**Southgate Sd 41 Gravel**	Grey Rd 9	Southgate Rd 22	
378	Paved	64.26	**Southgate Sd 41**	Southgate Rd 10	Southgate Rd 12	
379	Paved	64.26	**Southgate Sd 41**	Southgate Rd 08	Southgate Rd 10	
380	Paved	64.26	**Southgate Sd 41**	Southgate Rd 08	Southgate Rd 08	
381	Paved	64.26	**Southgate Sd 41**	Southgate Rd 06	Southgate Rd 08	
382	Paved	64.26	**Southgate Sd 41**	Southgate Rd 10	Southgate Rd 10	
384	Paved	64.26	**Southgate Sd 41**	Southgate Rd 12	Southgate Rd 12	
611	Paved	64.26	**Southgate Sd 41**	Southgate Rd 08	Aunt Mary Boulevard	
618	Paved	64.26	**Southgate Sd 41**	Southgate Rd 06	Harris Circle	
487	Gravel		**Southgate Sd 41 Gravel**	Wellington St E	Southgate Rd 04	
586	Gravel		**Southgate Sd 41 Gravel**	Southgate Rd 12	N 1.5km	
587	Paved	64.26	**Southgate Sd 41**	S 0.18km	Southgate Rd 14	
257	Gravel		**Southgate Sd 47 Gravel**	Southgate Rd 08	Southgate Rd 10	
254	Gravel		**Southgate Sd 47 Gravel**	Southgate Rd 10	Southgate Rd 12	
273	Gravel		**Southgate Sd 47 Gravel**	Southgate Rd 14	Grey Rd 9	
260	Gravel		**Southgate Sd 47 Gravel**	Southgate Rd 04	Southgate Rd 08	
432	Gravel		**Southgate Sd 47 Gravel**	Southgate Rd 26	Southgate-Glenelg TL	
274	Gravel		**Southgate Sd 47 Gravel**	Grey Rd 9	Southgate Rd 22	
297	Gravel		**Southgate Sd 47 Gravel**	Southgate Rd 22	Southgate Rd 24	
252	Gravel		**Southgate Sd 47 Gravel**	Southgate Rd 12	Southgate Rd 14	
296	Gravel		**Southgate Sd 47 Gravel**	Southgate Rd 24	Southgate Rd 26	
500	Gravel		**Southgate Sd 47 Gravel**	Hwy 89	Southgate Rd 04	
496	SurfTrmt	37.34	**Southgate Sd 49**	Hwy 89	Southgate Rd 04	
331	Paved	81.57	**Southgate Sd 49**	Southgate Rd 14	Grey Rd 9	
330	Paved	64.26	**Southgate Sd 49**	Southgate Rd 12	Southgate Rd 14	
329	Paved	64.26	**Southgate Sd 49**	Southgate Rd 10	Southgate Rd 12	
327	SurfTrmt	81.57	**Southgate Sd 49**	Southgate Rd 04	Southgate Rd 08	
328	Paved	64.26	**Southgate Sd 49**	Southgate Rd 08	Southgate Rd 10	
458	Paved	49.21	**Southgate Sd 49**	Southgate Rd 24	Southgate Rd 26	
459	Paved	49.21	**Southgate Sd 49**	Watra	Southgate Rd 26	
367	Paved	49.21	**Southgate Sd 49**	Grey Rd 9	Southgate Rd 22	
368	SurfTrmt	49.21	**Southgate Sd 49**	Southgate Rd 22	Southgate Rd 24	
433	Gravel		**Southgate Sd 49 Gravel**	Southgate Rd 26	Southgate-Glenelg TL	
495	Gravel		**Southgate Sd 55 Gravel**	Hwy 89	Southgate Rd 04	
230	Gravel		**Southgate Sd 55 Gravel**	Southgate Rd 04	Southgate Rd 08	
235	Gravel		**Southgate Sd 55 Gravel**	Southgate Rd 08	Southgate Rd 10	
249	Gravel		**Southgate Sd 55 Gravel**	Southgate Rd 10	Grey Rd 9	
250	Gravel		**Southgate Sd 55 Gravel**	Southgate Rd 12	Southgate Rd 14	
501	Gravel		**Southgate Sd 57 Gravel**	Hwy 89	Southgate Rd 04	
279	Gravel		**Southgate Sd 57 Gravel**	Southgate Rd 24	Southgate Rd 26	
243	Gravel		**Southgate Sd 57 Gravel**	Southgate Rd 10	Grey Rd 9	
289	Gravel		**Southgate Sd 57 Gravel**	Southgate Rd 26	Southgate-Glenelg TL	
247	Gravel		**Southgate Sd 57 Gravel**	Southgate Rd 22	Southgate Rd 24	
248	Gravel		**Southgate Sd 57 Gravel**	Grey Rd 9	Southgate Rd 22	
225	Gravel		**Southgate Sd 57 Gravel**	Southgate Rd 12	Southgate Rd 14	
226	Gravel		**Southgate Sd 57 Gravel**	Southgate Rd 10	Southgate Rd 12	
227	Gravel		**Southgate Sd 57 Gravel**	Southgate Rd 08	Southgate Rd 10	

		2019	ALPHABETICAL LIST OF ROAD SEGMENTS			
I.D.	Category	PCI	Description	From	To	
228	Gravel		**Southgate Sd 57 Gravel**	Southgate Rd 04	Southgate Rd 08	
571	Earth		**Southgate Sd 61 Earth**	Southgate Rd 10	Southgate Rd 12	
245	Gravel		**Southgate Sd 61 Gravel**	Southgate Rd 22	Southgate Rd 24	
287	Gravel		**Southgate Sd 61 Gravel**	Southgate Rd 26	Southgate-Glenelg TL	
277	Gravel		**Southgate Sd 61 Gravel**	Southgate Rd 24	Southgate Rd 26	
241	Gravel		**Southgate Sd 61 Gravel**	Southgate Rd 14	Grey Rd 9	
572	Gravel		**Southgate Sd 61 Gravel**	S 0.2km	Southgate Rd 12	
222	Gravel		**Southgate Sd 61 Gravel**	Southgate Rd 12	Southgate Rd 14	
244	Gravel		**Southgate Sd 61 Gravel**	Grey Rd 9	Southgate Rd 22	
446	Gravel		**Southgate Sd 61 Gravel**	Dead End	Southgate Rd 04	
485	Gravel		**Southgate Sd 61 Gravel**	Southgate Rd 08	Southgate Rd 10	
150	SurfTrmt	37.34	**Southgate Sd 71**	Dead End	4th Line South West	
99	SurfTrmt	37.34	**Southgate Sd 71**	Goodfellow Rd	Grey Rd 9	
152	Paved	48.33	**Southgate Sd 71**	Grey Rd 9	Southgate Rd 22	
440	SurfTrmt	55.77	**Southgate Sd 71**	Southgate Rd 24	Southgate Rd 26	
472	Paved	55.77	**Southgate Sd 71**	Southgate Rd 24	Southgate Rd 24	
162	SurfTrmt	60.24	**Southgate Sd 71**	Southgate Rd 22	Southgate Rd 24	
163	Paved	64.26	**Southgate Sd 71**	Southgate Rd 22	Southgate Rd 22	
87	Paved	48.33	**Southgate Sd 73**	Southgate Rd 26	Artemesia-Southgate TnLn	
122	Paved	64.26	**Southgate Sd 75**	Southgate Rd 24	Southgate Rd 26	
123	Paved	64.26	**Southgate Sd 75**	Southgate Rd 22	Southgate Rd 24	
570	Earth		**Southgate-Glenelg Townline Earth**	W 1.8km	Glenelg Sd 49	
291	Earth		**Southgate-Glenelg Townline Earth**	Dead End	Southgate Sd 57	
443	Gravel		**Southgate-Glenelg Townline Gravel**	Southgate Sd 41	Dead End	
321	Gravel		**Southgate-Glenelg Townline Gravel**	Hwy 6	Southgate Sd 39	
393	Gravel		**Southgate-Glenelg Townline Gravel**	Concession 2	Southgate Sd 41	
392	Gravel		**Southgate-Glenelg Townline Gravel**	Southgate Sd 39	Concession 2	
548	Earth		**Southgate-Glenelg Townline Earth**	Southgate Sd 57	E 1.1km	
549	Gravel		**Southgate-Glenelg Townline Gravel**	W 1.1km	Southgate Sd 61	
569	Gravel		**Southgate-Glenelg Townline Gravel**	Southgate Sd 47	E 0.22km	
522	Gravel		**Southgate-Melancthon Townline**	S 1.3km	Southgate Rd 10	
523	Gravel		**Southgate-Melancthon Townline**	Southgate Rd 08	N 0.46km	
524	Gravel		**Southgate-Melancthon Townline**	S 0.46km	N 0.87km	
111	Gravel		**Southgate-Melancthon Townline**	Southgate Rd 04	Southgate Rd 08	
112	Gravel		**Southgate-Melancthon Townline**	Hwy 89	Southgate Rd 04	
429	Gravel		**Southgate-Melancthon Townline**	Dead End	Southgate Rd 12	
617	Paved	81.57	**Sparrberry Road**	Uncle Tom Circle	Uncle Tom Circle	
474	Paved	52.59	**Toronto Street**	Dead End	Dundalk Street	
3	Paved	92.30	**Toronto Street**	Proton St N	Artemesia St N	
31	Paved	92.30	**Toronto Street**	Artemesia St N	Osprey Street N	
407	Paved	92.30	**Toronto Street**	Osprey Street N	Bradley Street	
614	Paved	81.57	**Uncle Tom Circle**	Southgate Road 6	Sparrberry Road	
615	Paved	81.57	**Uncle Tom Circle**	Sparrberry Road	Sparrberry Road	
616	Paved	81.57	**Uncle Tom Circle**	Sparrberry Road	Southgate Road 6	
545	Paved	73.29	**Victoria St E**	S 1.1km	Russell Street	
544	Paved	92.30	**Victoria St E**	Alice Street	E 0.2km	
14	Paved	81.57	**Victoria St E**	Elm Street	Alice Street	
18	Paved	71.91	**Victoria St E**	Proton St S	Artemesia St S	
30	Paved	63.33	**Victoria St E**	Rowe's Lane	Osprey St S	

		2019	ALPHABETICAL LIST OF ROAD SEGMENTS			
I.D.	Category	PCI	Description	From	To	
45	Paved	81.57	**Victoria St E**	Osprey Street S	Elm St	
38	Paved	92.30	**Victoria St W**	Ida Street	McAuley	
33	Paved	63.33	**Victoria St W**	Nixon Street	Young Street	
410	Paved	52.59	**Victoria St W**	Industrial Rd	Nixon St	
591	Paved	63.33	**Victoria St W**	McAuley St	Industrial Rd	
36	Paved	63.33	**Victoria St W**	Young Street	Proton St S	
461	Paved	57.63	**Watra Road**	Southgate Sd 49	Southgate Sd 26	
462	Paved	92.30	**Wellington Street**	Dead End	Church Street	
486	Paved	73.29	**Wellington Street E**	London Road	Southgate Sd 41	
313	Gravel		**Wilder Lake Road Gravel**	Southgate Sd 41	Southgate Sd 26	
562	**Paved**	**100.00**	**Wilder Lake Road Gravel**	W 1.5km	Southgate Sd 39	
317	**Paved**	**100.00**	**Wilder Lake Road Gravel**	Southgate Sd 39	Southgate Sd 41	
561	Paved	64.26	**Wilder Lake Road**	Cedar Lane	E 0.96km	
391	Paved	64.26	**Wilder Lake Road**	Hwy 6	Cedar Lane	
23	Paved	85.87	**Wilson Crescent**	Highpoint Street	Highpoint Street	
10	Paved	64.26	**Young Street**	Victoria Street W	Main Street W	
8	Paved	99.82	**Young Street**	Hagen Street	Gold Street	
25	Paved	99.82	**Young Street**	Gold Street	Victoria St W	
408	Paved	99.82	**Young Street**	Dead End	Hagen St	

Road Sections with work scheduled in 2021-2030 Capital Plan

	Section	scheduled year
Road 4	344	2022
Road 4	346	2022
Sdrd 49	496	2021
Sdrd 21	93	
Road 12	239	
Road 12	148	
Road 14	213	2022
Road 14	216	2022
Road 24	160	2024
Sdrd 71	99	2022
Sdrd 71	150	2022
Road 4	595	2026
Ida St. S.		2025
Road 22	76	2022
Sdrd 71	152	2024
Road 26	281	
Sdrd 57	243	

	HISTORICAL COMPARISON OF ROAD CONDITION RATINGS			SOUTHGATE				
		2019		CONDITION RATING				
I.D.	Category	PCI	Description	2019	2014	2007	comments	Count
1	Paved	92.30	Alice Street reconstructed 2013	8	10	5		1
438	Gravel		Artemesia-Southgate Townline	5				2
435	Gravel		Artemesia-Southgate Townline	5				3
120	Paved	81.57	Artemesia-Southgate Townline	8				4
86	Gravel		Artemesia-Southgate Townline	6	6	6		5
119	Paved	92.30	Artemesia-Southgate Townline	8	8	9	Grey High.	6
171	Paved	92.30	Artemesia-Southgate Townline	8	8	9	Grey High.	7
284	Gravel		Artemesia-Southgate Townline	6				8
535	Gravel		Artemesia Street N (driveway)	10	6	5		9
4	Paved	81.57	Artemesia Street N	7	8	8		10
6	Paved	81.57	Artemesia Street N	7	5	8		11
42	Paved	92.30	Artemesia Street N	8	8	8		12
13	Paved	92.30	Artemesia Street S	8	4	6		13
610	Paved	100.00	Aunt Mary Boulevard	10	10	5		14
412	Paved	71.91	Bell Circle	6	7	7		15
59	Paved	52.59	Bradley Street	4	4	5		16
409	Paved	62.25	Bradley Street	5	7	6		17
46	Paved	92.30	Bradley Street	8	10	6		18
52	Paved	71.91	Braemore Street E	6	6	7		19
481	Paved	71.91	Braemore Street W	6	6	7		20
68	Paved	64.26	Cedar Lane	6	6	7		21
71	Paved	64.26	Centre Street	6	7	8		22
593	Paved	81.57	Christie Street	7	7	9		23
70	Paved	92.30	Church Street	8	8	8		24
62	Paved	100.00	Doyle Street	10	6	4		25
552	Gravel		Dromore Park Road	5	5	5		26
15	Paved	71.91	Dundalk Street	6	7	9		27
27	Paved	71.91	Dundalk Street	6	7	9		28
40	Paved	81.57	Dundalk Street	7	7	9		29
622	Gravel		Eco Parkway	7	7	5		30
21	Gravel		Edgar Street	6	6	4		31
405	Gravel		Elder Sreet Gravel	6	6	4		32
512	Gravel		Elder Sreet Gravel	6	6	4		33
542	Paved		Elm Street	6	7	7		34
207	Gravel		Feairs Drive	5	5	5	laneway	35
66	Paved	71.91	Glenelg Street	6	6	7		36
29	Paved	52.59	Gold Street	4	5	6		37
35	Paved	81.57	Gold Street	7	7	7		38
98	Gravel		Goodfellow Street	7	7	8		39
16	Paved	92.30	Grey Street E	8	10	6		40
63	Paved	71.91	Grey Street E	6	6	6		41
65	Paved	82.65	Grey Street E	7	10	6		42
64	Paved	63.33	Grey Street E	5	5	6		43
533	Paved	71.91	Grey Street W	6	7	6		44
83	Paved	71.91	Grey Street W	6	6	6		45
9	Paved	71.91	Hagan Street	6	7	5		46
60	Paved	63.33	Hanbury Street	5	7	7		47
411	Paved	71.91	Hanbury Street	6	7	7		48
619	Paved	100.00	Harris Circle	10	10	5		49
620	Paved	100.00	Harris Circle	10	10	5		50

	HISTORICAL COMPARISON OF ROAD CONDITION RATINGS			SOUTHGATE				
		2019		CONDITION RATING				
I.D.	Category	PCI	Description	2019	2014	2007	comments	Count
55	Paved	64.26	Highpoint Street	6	6	5		51
51	Paved	71.91	Highpoint Street	6	5	7		52
22	Paved	81.57	Highpoint Street	7	8	7		53
58	Paved	81.57	Highpoint Street	7	8	7		54
49	Paved	92.30	Holland Street N	8	8	8		55
538	Paved	43.69	Holland Street S	4	4	6		56
537	Paved	55.22	Holland Street S	5	7	8		57
564	Gravel		Homestead Road	7	5	5	seasonal	58
563	Earth		Homestead Road - Earth	5	5	5	seasonal	59
621	Paved	48.33	Ida Street	5	5	5		60
466	Paved	48.33	Ida Street	5	5	5		61
124	Paved	73.29	Ida Street paved in 2008	7	9	7		62
467	Paved	55.22	Ida Street	5	7	8		63
468	Paved	55.22	Ida Street	5	7	8		64
125	Paved	81.57	Ida Street	7	8	7		65
541	Paved	63.33	Industrial Road	5	5	6		66
590	Gravel		John Irwan Lane	5	5	5		67
539	Paved	52.59	Keppel Street	4	6	5		68
455	Gravel		Lake Road	5	5	6	seasonal	69
476	laneway		Lane Street	5	5	4	laneway	70
574	Earth		London Road					71
577	Paved	100.00	London Road	9	on SW border with Mt. Forest			72
576	Gravel		London Road	6	6	5	Well. North	73
578	Gravel		London Road	5	5	8	Well. North	74
39	Paved	63.33	McAuley Street	5	7	7		75
53	Paved	71.91	McDowell Street	6	6	7		76
24	Paved	71.91	McDowell Street	6	6	7		77
503	Paved	97.90	McFarlin Drive	8	9	5	West Grey	78
57	Paved	64.26	McGregor Court	6	8	8		79
480	Paved	64.26	Mill Street	6	6	7		80
61	Paved	81.57	Morrow Circle	7	7	7		81
406	Gravel		Murial Street Gravel	6	6	4		82
473	Paved	63.33	Nixon Street	5	6	7		83
394	Paved	57.63	Old Rail Road	6	6	6		84
387	Paved	17.17	Orchardville Sideroad	3	5	4		85
			was pulverized and turned back to gravel in 2020					
26	Paved	64.40	Osprey Street N	6	7	7		86
32	Paved	64.26	Osprey Street N	6	6	7		87
41	Paved	81.57	Osprey Street N	7	7	7		88
43	Paved	92.30	Osprey Street S	8	8	6		89
7	Paved	81.57	Owen Sound St paved 2012	7	9	5		90
48	Paved	81.57	Owen Sound St paved 2012	7	9	5		91
11	Paved	55.22	Owen Sound St	5	5	6		92
588	Gravel		Park Road	5	5	5		93
69	Gravel		Petrie Street	6	6	4		94
56	Paved	64.26	Pine Court	6	6	5		95
2	Paved	71.91	Proton St N	6	8	8		96
5	Paved	71.91	Proton St N	6	6	8		97
17	Paved	71.91	Proton St N	6	6	8		98
37	Paved	64.26	Proton St N	6	6	8		99
12	Paved	63.33	Proton St S	5	8	8		100

	HISTORICAL COMPARISON OF ROAD CONDITION RATINGS			SOUTHGATE				
		2019		CONDITION RATING				
I.D.	Category	PCI	Description	2019	2014	2007	comments	Count
28	Paved	63.33	**Rowe's Lane**	5	7	7		101
54	Paved	55.22	**Russell Street**	5	6	6		102
482	Paved	55.22	**Russell Street**	5	6	5		103
603	Paved	55.22	**Russell Street**	5	6	5		104
604	Paved	99.82	**Sheffield St**	9	10	10		105
605	Paved	99.82	**Sheffield St**	9	10	10		106
607	Paved	99.82	**Sinclair St**	9	10	10		107
596	Paved	64.26	**Sligo Road**	6	6	7		108
594	Paved	48.33	**Southgate Rd 04**	5	5	8		109
595	Paved	42.43	**Southgate Rd 04**	5	5	8		110
325	Paved	57.63	**Southgate Rd 04**	6	8	8		111
326	Paved	57.63	**Southgate Rd 04**	6	6	8		112
175	Gravel		**Southgate Rd 04 - Gravel**	6	6	7		113
426	Gravel		**Southgate Rd 04 - Gravel**	5	5	4	seasonal	114
526	Gravel		**Southgate Rd 04 - Gravel**	5	5	4	seasonal	115
525	Gravel		**Southgate Rd 04 - Gravel**	7	7	6		116
136	SurfTrmt	64.26	**Southgate Rd 04**	6	7	6		117
137	SurfTrmt	57.63	**Southgate Rd 04**	6	6	7		118
229	Gravel		**Southgate Rd 04 - Gravel**	5	5	6		119
346	Paved	**27.32**	**Southgate Rd 04**	3	6	5		120
344	Paved	**27.32**	**Southgate Rd 04**	3	6	6		121
203	Gravel		**Southgate Rd 04 - Gravel**	6	6	6		122
445	Gravel		**Southgate Rd 04 - Gravel**	5	5	7		123
231	Gravel		**Southgate Rd 04 - Gravel**	7	7	7		124
447	Gravel		**Southgate Rd 04 - Gravel**	7	7	7		125
261	Paved	57.63	**Southgate Rd 06**	6	7	5		126
612	Paved	57.63	**Southgate Rd 06**	6	7	5		127
613	Paved	48.33	**Southgate Rd 06**	5	7	5		128
110	Gravel		**Southgate Rd 08**	6	6	5		129
114	Gravel		**Southgate Rd 08**	6	7	8		130
528	Gravel		**Southgate Rd 08**	6	5	8		131
236	Gravel		**Southgate Rd 08**	6	6	5		132
173	SurfTrmt	42.43	**Southgate Rd 08**	5	6	6		133
258	Gravel		**Southgate Rd 08**	5	5	5		134
259	Gravel		**Southgate Rd 08 Gravel**	4	4	5		135
349	Paved	42.43	**Southgate Rd 08 Gravel**	5	6	6		136
527	SurfTrmt	48.33	**Southgate Rd 08**	5	7	5		137
609	Paved	83.33	**Southgate Rd 08**	4	4	5		138
266	Gravel		**Southgate Rd 08 Gravel**	6	6	7		139
267	Gravel		**Southgate Rd 08 Gravel**	5	5	6		140
237	Gravel		**Southgate Rd 08 Gravel**	5	5	5		141
262	Gravel		**Southgate Rd 08 Gravel**	7	7	7		142
399	Gravel		**Southgate Rd 08 Gravel**	7	7	6		143
232	Gravel		**Southgate Rd 08 Gravel**	7	7	7		144
206	Gravel		**Southgate Rd 08 Gravel**	7	7	7		145
177	SurfTrmt	64.26	**Southgate Rd 10**	6	6	6		146
529	Gravel		**Southgate Rd 10 Gravel**	6	6	7		147
530	Paved	64.26	**Southgate Rd 10**	6	6	5		148
264	Gravel		**Southgate Rd 10**	5	5	4		149
427	Gravel		**Southgate Rd 10**	7	7	8		150

	HISTORICAL COMPARISON OF ROAD CONDITION RATINGS			SOUTHGATE				
		2019		CONDITION RATING				
I.D.	Category	PCI	Description	2019	2014	2007	comments	Count
96	Paved	73.29	Southgate Rd 10	7	5	6		151
221	Gravel		Southgate Rd 10 Gravel	7	7	5		152
255	Gravel		Southgate Rd 10 Gravel	7	5	7		153
256	Gravel		Southgate Rd 10 Gravel	5	5	6		154
263	Gravel		Southgate Rd 10 Gravel	5	5	5		155
233	Gravel		Southgate Rd 10 Gravel	7	7	6		156
234	Gravel		Southgate Rd 10 Gravel	6	6	7		157
105	Paved	57.63	Southgate Rd 10	6	6	6		158
115	Paved	57.63	Southgate Rd 10	6	6	6		159
220	Gravel		Southgate Rd 10 Gravel	7	7	6		160
269	Gravel		Southgate Rd 10 Gravel	3	5	5	seasonal	161
238	Gravel		Southgate Rd 10 Gravel	6	6	7		162
209	Gravel		Southgate Rd 10 Gravel	7	7	8		163
218	Gravel		Southgate Rd 12 Gravel	5	6	4		164
428	Gravel		Southgate Rd 12 Gravel	5	5	7		165
271	Gravel		Southgate Rd 12 Gravel (2019 const)	8	4	5		166
251	Gravel		Southgate Rd 12 Gravel	3	3	5		167
224	Gravel		Southgate Rd 12 Gravel	5	5	6		168
239	Gravel		Southgate Rd 12 Gravel	6	6	5		169
148	Paved	37.34	Southgate Rd 12	4	4	5		170
386	Paved	71.91	Southgate Rd 12	6	6	7		171
72	Paved	57.63	Southgate Rd 12	6	6	6		172
377	Paved	55.22	Southgate Rd 12	5	6	8		173
178	Paved	42.43	Southgate Rd 12	5	7	6		174
253	Gravel		Southgate Rd 12 Gravel	5	5	7		175
103	Gravel		Southgate Rd 12 Gravel	5	5	6		176
104	Gravel		Southgate Rd 12 Gravel	7	7	6		177
219	Gravel		Southgate Rd 12 Gravel	5	7	8		178
211	Gravel		Southgate Rd 12 Gravel	6	6	8		179
144	Paved	92.30	Southgate Rd 14 paved 2013	8	9	6		180
145	Paved	37.34	Southgate Rd 14	4	5	7		181
146	SurfTrmt	37.34	Southgate Rd 14	4	7	6		182
360	SurfTrmt	48.33	Southgate Rd 14	5	5	6		183
240	Gravel		Southgate Rd 14 Gravel	6	6	6		184
216	Paved	37.34	Southgate Rd 14	4	6	6		185
213	SurfTrmt	37.34	Southgate Rd 14	4	6	6		186
301	Gravel		Southgate Rd 14 Gravel	5	5	7		187
302	Gravel		Southgate Rd 14 Gravel	5	5	6		188
100	Gravel		Southgate Rd 14 Gravel	6	6	7		189
388	Paved	22.35	Southgate Rd 14	3	5	7		190
217	Gravel		Southgate Rd 14 Gravel	6	6	5		191
242	Gravel		Southgate Rd 14 Gravel	6	7	7		192
272	Gravel		Southgate Rd 14 Gravel	7	7	7		193
448	Gravel		Southgate Rd 14 Gravel	6	6	7		194
449	Gravel		Southgate Rd 14 Gravel	5	5	5		195
179	SurfTrmt	48.33	Southgate Rd 14	5	5	7		196
465	Gravel		Southgate Rd 22 Gravel (2020 paved)	7	7	6		197
246	Gravel		Southgate Rd 22 Gravel (2020 paved)	6	6	6		198
164	Paved	50.20	Southgate Rd 22	5	6	6		199
166	SurfTrmt	46.48	Southgate Rd 22	5	7	6		200

	HISTORICAL COMPARISON OF ROAD CONDITION RATINGS			SOUTHGATE				
		2019		CONDITION RATING				
I.D.	Category	PCI	Description	2019	2014	2007	comments	Count
76	Paved	48.19	**Southgate Rd 22**	4	5	6		201
351	SurfTrmt	64.26	**Southgate Rd 22**	6	7	6		202
352	Paved	55.22	**Southgate Rd 22**	5	5	7		203
305	Gravel		**Southgate Rd 22 Gravel**	7	7	5		204
298	Gravel		**Southgate Rd 22 Gravel**	5	6	5		205
181	Paved	60.24	**Southgate Rd 22**	5	6	6		206
303	Gravel		**Southgate Rd 22 Gravel**	5	5	6		207
431	Gravel		**Southgate Rd 22 Gravel**	4	4	6		208
551	Gravel		**Southgate Rd 22 Gravel**	7	7	5		209
554	Gravel		**Southgate Rd 22 Gravel**	5	5	6		210
555	Gravel		**Southgate Rd 22 Gravel**	5	5	6		211
556	Gravel		**Southgate Rd 22 Gravel**	6	6	6		212
403	Paved	48.19	**Southgate Rd 22**	4	4	7		213
550	Paved	60.24	**Southgate Rd 22**	6	6	5		214
602	Paved	60.24	**Southgate Rd 22**	6	6	5		215
88	Gravel		**Southgate Rd 22 Gravel**	7	*constr. by resident near Hwy.10*			216
89	Gravel		**Southgate Rd 22 Gravel**	7	7	5		217
90	Gravel		**Southgate Rd 22 Gravel**	6	6	8		218
531	Gravel		**Southgate Rd 24 Gravel**	7	7	5		219
278	SurfTrmt	85.87	**Southgate Rd 24 (trmt. done 2012)**	7	8	7		220
280	SurfTrmt	85.87	**Southgate Rd 24 (trmt. done 2012)**	7	8	7		221
180	Paved	**100.00**	**Southgate Rd 24 paved in 2019**	10	4	7		222
165	SurfTrmt	**100.00**	**Southgate Rd 24 paved in 2019**	10	5	7		223
160	Paved	37.34	**Southgate Rd 24**	4	5	6		224
532	Paved	43.69	**Southgate Rd 24**	4	6	5		225
566	Gravel		**Southgate Rd 24 Gravel**	7	7	5		226
567	Gravel		**Southgate Rd 24 Gravel**	6	6	7		227
404	SurfTrmt	55.22	**Southgate Rd 24**	5	6	7		228
355	SurfTrmt	48.33	**Southgate Rd 24**	5	6	7		229
294	Gravel		**Southgate Rd 24 Gravel**	7	7	6		230
295	Gravel		**Southgate Rd 24 Gravel**	6	6	7		231
311	Gravel		**Southgate Rd 24 Gravel**	6	6	7		232
402	SurfTrmt	75.13	**Southgate Rd 24**	7	8	7		233
353	Paved	48.33	**Southgate Rd 24**	5	6	7		234
565	Paved	92.30	**Southgate Rd 24**	8	7	8		235
568	Paved	92.30	**Southgate Rd 24**	8	8	8		236
161	Paved	**100.00**	**Southgate Rd 26 (paved 2015)**	10	3	7		237
395	SurfTrmt	66.00	**Southgate Sd 26**	7	7	7		238
460	SurfTrmt	57.63	**Southgate Rd 26**	6	6	7		239
451	Gravel		**Southgate Rd 26 Gravel**	5	5	7		240
453	Gravel		**Southgate Rd 26 Gravel**	4	5	6		241
454	Paved	73.29	**Southgate Rd 26**	7	5	6		242
456	Paved	73.29	**Southgate Rd 26**	6	6	5		243
457	SurfTrmt	57.63	**Southgate Rd 26**	6	6	7		244
288	Gravel		**Southgate Rd 26 Gravel**	6	6	6		245
314	Gravel		**Southgate Rd 26 Gravel**	4	6	5		246
439	Paved	81.57	**Southgate Rd 26**	7	7	8		247
547	SurfTrmt	81.57	**Southgate Rd 26**	5	6	7		248
546	Gravel		**Southgate Rd 26 Gravel**	6	6	7		249
281	Gravel		**Southgate Rd 26 Gravel**	6	6	7		250
436	Gravel		**Southgate Rd 26 Gravel**	6	6	6		251
282	Gravel		**Southgate Rd 26 Gravel**	6	6	7		252

	HISTORICAL COMPARISON OF ROAD CONDITION RATINGS			SOUTHGATE				
		2019		CONDITION RATING				
I.D.	Category	PCI	Description	2019	2014	2007	comments	Count
121	Paved	55.22	**Southgate Rd 26**	5	5	7		253
452	Earth		**Southgate Sd 03 Earth, unopened**	5	5	5		254
337	Paved	57.63	**Southgate Sd 03**	6	6	8		255
338	Paved	57.63	**Southgate Sd 03**	6	6	8		256
339	Paved	73.29	**Southgate Sd 03**	7	7	8		257
469	Paved	57.63	**Southgate Sd 03**	6	6	8		258
470	Paved	73.29	**Southgate Sd 03**	7	7	8		259
204	Earth		**Southgate Sd 07 Earth**	5	5	5	seasonal	260
212	Gravel		**Southgate Sd 07 Gravel**	5	5	6	seasonal	261
214	Gravel		**Southgate Sd 07 Gravel**	5	5	4	seasonal	262
215	Gravel		**Southgate Sd 07 Gravel**	5	5	4	seasonal	263
434	Paved	48.33	**Southgate Sd 07**	5	5	7		264
77	Paved	**100.00**	**Southgate Sd 07 paved in 2017**	10	4	7		265
78	Paved	55.22	**Southgate Sd 07**	5	6	7		266
205	Gravel		**Southgate Sd 07 Gravel**	7	7	8		267
208	Gravel		**Southgate Sd 07 Gravel**	6	6	8		268
345	SurfTrmt	57.63	**Southgate Sd 11 Surface**	6	6	5		269
343	SurfTrmt	48.33	**Southgate Sd 11 Surface**	5	5	5		270
176	Gravel		**Southgate Sd 13 Gravel**	7	7	6		271
198	Gravel		**Southgate Sd 13 Gravel**	6	6	8		272
199	Gravel		**Southgate Sd 13 Gravel**	7	7	8		273
200	Gravel		**Southgate Sd 13 Gravel**	6	6	7		274
201	Gravel		**Southgate Sd 13 Gravel**	7	7	8		275
202	Gravel		**Southgate Sd 13 Gravel**	7	7	8		276
283	Gravel		**Southgate Sd 13 Gravel**	6	6	7		277
290	Gravel		**Southgate Sd 13 Gravel**	6	6	7		278
140	Paved	64.26	**Southgate Sd 15**	6	6	5		279
141	Paved	89.94	**Southgate Sd 15 paved 2013**	7	9	6		280
142	Paved	43.69	**Southgate Sd 15**	4	5	5		281
517	Paved	**100.00**	**Southgate Sd 15 paved 2016**	9	4	5		282
182	Paved	**100.00**	**Southgate Sd 15 paved 2017**	10	4	6		283
143	Paved	**100.00**	**Southgate Sd 15 paved 2018**	9	4	6		284
138	Paved	57.63	**Southgate Sd 15**	6	8	8		285
518	Paved	66.00	**Southgate Sd 15**	7	7	8		286
437	Gravel		**Southgate Sd 15 Gravel**	6	6	7		287
520	Earth		**Southgate Sd 19 Earth**	5	5	5		288
101	Gravel		**Southgate Sd 19 Gravel**	7	7	6		289
102	Gravel		**Southgate Sd 19 Gravel**	6	6	5		290
108	Gravel		**Southgate Sd 19 Gravel**	5	5	5	seasonal	291
109	Gravel		**Southgate Sd 19 Gravel**	5	6	5	seasonal	292
106	Gravel		**Southgate Sd 19 Gravel**	5	5	5	seasonal	293
116	Gravel		**Southgate Sd 19 Gravel**	7	7	8		294
117	Gravel		**Southgate Sd 19 Gravel**	6	6	8		295
91	Gravel		**Southgate Sd 21 Gravel**	7	7	6		296
92	Gravel		**Southgate Sd 21 Gravel**	6	6	5		297
93	Gravel		**Southgate Sd 21 Gravel**	5	6	5	seasonal	298
94	Gravel		**Southgate Sd 21 Gravel**	5	6	5	seasonal	299
95	Gravel		**Southgate Sd 21 Gravel**	5	6	5		300

	HISTORICAL COMPARISON OF ROAD CONDITION RATINGS			SOUTHGATE				
		2019		CONDITION RATING				
I.D.	Category	PCI	Description	2019	2014	2007	comments	Count
265	Gravel		Southgate Sd 33 Gravel	5	5	6	agric. Road	301
371	Paved	57.63	Southgate Sd 39	6	6	6		302
318	Gravel		Southgate Sd 39-Gravel	5	6	5		303
557	SurfTrmt	92.30	Southgate Sd 39 (2017 micro-surf)	8	8	7		304
558	Paved	92.30	Southgate Sd 39	8	8	5		305
559	Paved	92.30	Southgate Sd 39	8	7	7		306
560	Paved	100.00	Southgate Sd 39 (paved in 2019)	10	4	6		307
599	Paved	64.26	Southgate Sd 41	6	6	8		308
310	Gravel		Southgate Sd 41 Gravel	5	5	4		309
315	Gravel		Southgate Sd 41 Gravel	7	7	5		310
300	Gravel		Southgate Sd 41 Gravel	5	5	5	seasonal	311
430	Gravel		Southgate Sd 41 Gravel	7	7	6		312
316	Gravel		Southgate Sd 41 Gravel	6	6	5		313
299	Gravel		Southgate Sd 41 Gravel	7	5	6		314
378	Paved	64.26	Southgate Sd 41	6	6	8		315
379	Paved	64.26	Southgate Sd 41	6	6	8		316
380	Paved	64.26	Southgate Sd 41	6	6	5		317
381	Paved	64.26	Southgate Sd 41	6	6	5		318
382	Paved	64.26	Southgate Sd 41	6	6	8		319
384	Paved	64.26	Southgate Sd 41	6	6	8		320
611	Paved	64.26	Southgate Sd 41	6	6	5		321
618	Paved	64.26	Southgate Sd 41	6	6	5		322
487	Gravel		Southgate Sd 41 Gravel	5	5	6		323
586	Gravel		Southgate Sd 41 Gravel	6	4	8		324
587	Paved	64.26	Southgate Sd 41	6	6	8		325
257	Gravel		Southgate Sd 47 Gravel	5	5	5		326
254	Gravel		Southgate Sd 47 Gravel	4	4	4		327
273	Gravel		Southgate Sd 47 Gravel	7	7	5		328
260	Gravel		Southgate Sd 47 Gravel	5	6	5	seasonal	329
432	Gravel		Southgate Sd 47 Gravel	5	5	6		330
274	Gravel		Southgate Sd 47 Gravel	6	6	6		331
296	Gravel		Southgate Sd 47 Gravel	5	5	6		332
297	Gravel		Southgate Sd 47 Gravel	5	5	5		333
252	Gravel		Southgate Sd 47 Gravel	5	5	4	seasonal	334
500	Gravel		Southgate Sd 47 Gravel	5	5	5	seasonal	335
496	SurfTrmt	37.34	Southgate Sd 49	4	6	7		336
331	Paved	81.57	Southgate Sd 49	7	7	8		337
330	Paved	64.26	Southgate Sd 49	6	9	8		338
329	Paved	64.26	Southgate Sd 49	6	8	8		339
328	Paved	64.26	Southgate Sd 49	6	8	8		340
327	SurfTrmt	81.57	Southgate Sd 49	7	6	7		341
458	Paved	49.21	Southgate Sd 49	6	6	6		342
459	Paved	49.21	Southgate Sd 49	6	6	6		343
367	Paved	49.21	Southgate Sd 49	6	4	8		344
368	SurfTrmt	49.21	Southgate Sd 49	6	6	8		345
433	Gravel		Southgate Sd 49 Gravel	5	5	5		346
495	Gravel		Southgate Sd 55 Gravel	5	7	3		347
230	Gravel		Southgate Sd 55 Gravel	4	4	6	low volume	348
235	Gravel		Southgate Sd 55 Gravel	5	5	4	seasonal	349
					consultant recommends closure of s.235			
249	Gravel		Southgate Sd 55 Gravel	5	5	5	seasonal	350

	HISTORICAL COMPARISON OF ROAD CONDITION RATINGS			SOUTHGATE				
		2019		CONDITION RATING				
I.D.	Category	PCI	Description	2019	2014	2007	comments	Count
250	Gravel		Southgate Sd 55 Gravel	7	7	6		351
501	Gravel		Southgate Sd 57 Gravel	7	5	7		352
279	Gravel		Southgate Sd 57 Gravel	5	5	5	seasonal	353
243	Gravel		Southgate Sd 57 Gravel	5	5	5		354
289	Gravel		Southgate Sd 57 Gravel	3	3	5	in Cap Plan	355
247	Gravel		Southgate Sd 57 Gravel	5	5	5	seasonal	356
248	Gravel		Southgate Sd 57 Gravel	5	5	5	seasonal	357
225	Gravel		Southgate Sd 57 Gravel	5	5	5	seasonal	358
226	Gravel		Southgate Sd 57 Gravel	5	6	5		359
227	Gravel		Southgate Sd 57 Gravel	4	4	3		360
228	Gravel		Southgate Sd 57 Gravel	7	7	7		361
571	Earth		Southgate Sd 61 Earth	5	5	5	low volume	362
245	Gravel		Southgate Sd 61 Gravel	5	5	5		363
287	Gravel		Southgate Sd 61 Gravel	5	5	6		364
277	Gravel		Southgate Sd 61 Gravel	5	6	5		365
241	Gravel		Southgate Sd 61 Gravel	5	5	5	seasonal	366
572	Gravel		Southgate Sd 61 Gravel	6	6	6		367
222	Gravel		Southgate Sd 61 Gravel	5	5	5	seasonal	368
244	Gravel		Southgate Sd 61 Gravel	5	6	7		369
446	Gravel		Southgate Sd 61 Gravel	6	6	5		370
485	Gravel		Southgate Sd 61 Gravel	6	6	6	seasonal	371
150	SurfTrmt	37.34	Southgate Sd 71	4	4	5		372
99	SurfTrmt	37.34	Southgate Sd 71	4	4	6		373
152	Paved	48.33	Southgate Sd 71	5	6	7		374
440	SurfTrmt	55.77	Southgate Sd 71	5	8	7		375
472	Paved	55.77	Southgate Sd 71	5	7	7		376
162	SurfTrmt	60.24	Southgate Sd 71	5	7	7		377
163	Paved	64.26	Southgate Sd 71	6	6	7		378
87	Paved	48.33	Southgate Sd 73	5	6	8		379
122	Paved	64.26	Southgate Sd 75	6	6	7		380
123	Paved	64.26	Southgate Sd 75	6	6	8		381
570	Earth		Southgate-Glenelg Townline Earth	unopened	5	5		382
291	Earth		Southgate-Glenelg Townline Earth	5	5	5	seasonal	383
443	Gravel		Southgate-Glenelg Townline Gravel	5	5	5		384
321	Gravel		Southgate-Glenelg Townline Gravel	9	10	7	West Grey	385
393	Gravel		Southgate-Glenelg Townline Gravel	6	5	5		386
392	Gravel		Southgate-Glenelg Townline Gravel	9	10	7	West Grey	387
548	Earth		Southgate-Glenelg Townline Earth	5	5	5	seasonal	388
549	Gravel		Southgate-Glenelg Townline Gravel	6	6	5	West Grey	389
569	Gravel		Southgate-Glenelg Townline Gravel	unopened	5	5		390
522	Gravel		Southgate-Melancthon Townline	6	6	5		391
523	Gravel		Southgate-Melancthon Townline	6	6	5	Melancthon	392
524	Gravel		Southgate-Melancthon Townline	6	6	5	Melancthon	393
111	Gravel		Southgate-Melancthon Townline	5	5	4	Melancthon	394
112	Gravel		Southgate-Melancthon Townline	5	5	4		395
429	Gravel		Southgate-Melancthon Townline	6	6	7		396
617	Paved	81.57	Sparrberry Road	7	7	5		397
474	Paved	52.59	Toronto Street	4	6	6		398

	HISTORICAL COMPARISON OF ROAD CONDITION RATINGS			SOUTHGATE				
		2019		CONDITION RATING				
I.D.	Category	PCI	Description	2019	2014	2007	comments	Count
3	Paved	92.30	Toronto Street	8	8	8		399
31	Paved	92.30	Toronto Street	8	8	8		400
407	Paved	92.30	Toronto Street	8	8	8		401
614	Paved	81.57	Uncle Tom Circle	7	7	5		402
615	Paved	81.57	Uncle Tom Circle	7	7	5		403
616	Paved	81.57	Uncle Tom Circle	7	7	5		404
545	Paved	73.29	Victoria St E	7	9	6		405
544	Paved	92.30	Victoria St E	8	8	7		406
14	Paved	81.57	Victoria St E	7	8	7		407
18	Paved	71.91	Victoria St E	6	8	8		408
30	Paved	63.33	Victoria St E	5	6	8		409
45	Paved	81.57	Victoria St E	7	8	8		410
38	Paved	92.30	Victoria St W	8	9	6		411
33	Paved	63.33	Victoria St W	5	8	6		412
410	Paved	52.59	Victoria St W	4	8	5		413
591	Paved	63.33	Victoria St W	5	5	5		414
36	Paved	63.33	Victoria St W	5	5	7		415
461	Paved	57.63	Watra Road	6	7	7		416
462	Paved	92.30	Wellington Street	8	8	8		417
486	Paved	73.29	Wellington Street E	7				418
313	Gravel		Wilder Lake Road Gravel	4	4	5		419
562	Paved	100.00	Wilder Lake Road paved 2020	4	4	5		420
317	Paved	100.00	Wilder Lake Road paved 2020	5	5	6		421
561	Paved	64.26	Wilder Lake Road	6	7	6		422
391	Paved	64.26	Wilder Lake Road	6	7	6		423
23	Paved	85.87	Wilson Crescent	8	8	7		424
10	Paved	64.26	Young Street reconstruct. 2012	6	10	5		425
8	Paved	99.82	Young Street	9	6	6		426
25	Paved	99.82	Young Street	9	6	6		427
408	Paved	99.82	Young Street	9	7	8		428

Road Sections with work scheduled in 2021-2030 Capital Plan		
	Section	scheduled year
Road 4	344	2021
Road 4	346	2021
Sdrd 49	496	2021
Road 14	213	2022
Road 14	216	2022
Road 24	160	2024
Sdrd 71	99	2022
Sdrd 71	150	2022
Sdrd 71	152	2024
Road 4	595	2026
Ida St. S.	466, 621	2025
Road 22	76	2022
Road 26	281	
Sdrd 57	289	
Sdrd 21	93	

	SOUTHGATE STRUCTURES BY ROAD LOCATION, with Recent Trends in BCI									
B= Bridge		I.D.	B C I measure, by year of OSIM Inspection						Span	Keystone
C= Culvert		No.	2015	2016	2017	2018	2019	2020	Length	I.D.
C	Sligo Road	S105		n/a		69.90		69.90	3.0 m	BR07076
C	Feairs Drive	S128	56.08		47.70		49.40		1.7 m	BR07140
C	Eco Parkway, east of Ida	S129		74.76		74.80		74.80	1.8 m	BR07145
B	Road 4	S017	71.33		69.90		73.40		9.25 m	BR07039
B	Road 4	S114		61.43		61.30		59.90	29.2 m	BR07129
C	Road 4	S115		73.51		73.50		73.30	4.2 m	BR07128
C	Road 4	S117		67.87		68.30		67.60	4.9 m	BR07127
C	Road 4 (replaced in 2019)	S118		26.34		27.40		98.10	2.35, 2.35	BR07156
C	Road 4	S121	68.05		67.40		67.70		3.9 m	BR07037
B	Road 8	S002	74.19		73.20		72.90		3.63 m	BR07014
C	Road 8	S016	58.97		56.80		56.20		3.4 m	BR07040
C	Road 8	S102		74.38		73.90		74.10	3.0 m	BR07125
B	Road 8	S103		72.33		72.40		72.30	7.95 m	BR07103
C	Road 8	S112		56.49		56.50		56.10	4.3 m	BR07102
B	Road 8	S113		65.68		65.50		64.50	22.3 m	BR07101
C	Road 8	S120		75.00		75.00		74.80	6.0 m	BR07123
B	Road 10	S004	71.71		70.50		68.40		3.7 m	BR07016
C	Road 10	S005	75.00		75.00		75.00		3.5 m	BR07149
B	Road 10	S015	73.66		73.50		73.60		18.4 m	BR07018
C	Road 10	S019	72.24		73.00		73.20		6.6, 6.0	BR07033
B	Road 10 (built in 2016)	S020	45.33		100.00		88.90		22.5 m	BR07034
C	Road 10	S100		70.63		68.40		64.60	4.6 m	BR07121
B	Road 10	S106		73.11		72.30		70.10	4.8 m	BR07130
C	Road 10	S122		74.64		71.70		71.70	1.6, 1.6	BR07139
C	Road 10	S124	69.48		68.90		68.70		3.05 m	BR07017
B	Road 12	S007	70.48		69.90		66.20		9.2 m	BR07009
B	Road 12	S008	74.56		74.00		73.90		12.0 m	BR07022
B	Road 12	S009	57.44		53.70		58.30		12.2 m	BR07021
B	Road 12	S012	74.07		74.00		73.60		13.6 m	BR07020
B	Road 12	S013	74.63		74.20		74.10		14.1 m	BR07005
B	Road 12	S022	63.80		62.30		64.50		6.0 m	BR07031
C	Road 12 (replaced in 2015)	S023	99.64		97.60		95.80		4.4 m	BR07146
C	Road 12	S093		73.58		71.80		72.40	6.1 m	BR07107
C	Road 12	S094		74.38		73.60		71.30	3.67 m	BR07108
C	Road 12	S095		74.89		74.20		71.50	3.05 m	BR07109
C	Road 12 (replaced in 2011)	S096		93.66		91.60		90.10	4.0 m	BR07110
C	Road 12	S097		40.52		34.80		23.70	3.6 m	BR07111
C	Road 12	S098		31.25		34.70		20.60	3.6 m	BR07112
C	Road 14	S025	71.67		71.50		71.30		3.6 m	BR07030
C	Road 14	S026	61.17		66.30		66.40		3.3 m	BR07028
C	Road 14 (replaced in 2015)	S027	100.00		97.40		94.90		3.6 m	BR07027

	SOUTHGATE STRUCTURES BY ROAD LOCATION, with Recent Trends in BCI									
B= Bridge		I.D.	B C I measure, by year of OSIM Inspection						Span	Keystone
C= Culvert		No.	2015	2016	2017	2018	2019	2020	Length	I.D.
C	Road 14	S029	50.38		53.50		58.50		3.7 m	BR07026
C	Road 14 (replaced in 2020)	S031	35.65		30.30		29.90		3.5 m	BR07025
C	Road 14	S032	74.96		59.00		59.10		3.6, 3.6	BR07023
C	Road 14	S034	63.76		51.10		46.90		3.7 m	BR07012
B	Road 14	S077		63.72		64.50		60.60	9.1 m	BR07113
B	Road 14	S079		57.97		58.70		52.90	9.7 m	BR07115
B	Road 14	S080		58.81		61.00		56.00	9.9 m	BR07116
B	Road 14	S081		50.38		53.70		48.90	8.9 m	BR07117
B	Road 14	S085		51.68		49.90		46.50	10.6 m	BR07118
C	Road 14	S125	45.03		41.10		39.10		1.8, 1.8	BR07024
C	Road 22	S069		70.89		71.30		67.20	6.7 m	BR07082
C	Road 22	S071		41.22		41.10		43.10	5.5 m	BR07075
C	Road 22	S073		45.27		48.40		49.30	5.0 m	BR07074
C	Road 24	S037	66.46		62.20		62.10		3.7 m	BR07044
C	Road 24 (replaced in 2017)	S038	26.54		100.00		97.50		3.048 m	BR07154
C	Road 24	S048	73.08		72.30		73.50		3.65 m	BR07055
C	Road 24	S049	72.22		72.20		75.70		4.05 m	BR07054
C	Road 24	S054	74.34		74.00		74.00		3.3 m	BR07052
C	Road 24	S055	51.06		50.90		51.00		2.2, 2.2	BR07150
C	Road 24	S056	71.60		69.30		66.70		3.7 m	BR07151
C	Road 24	S068		72.51		71.20		70.40	8.0 m	BR07081
C	Road 24	S127	66.79		66.80		70.50		2.45 m	BR07143
C	Road 26	S041	73.93		71.80		68.40		3.65 m	BR07046
C	Road 26	S042	75.00		75.00		73.90		4.2 m	BR07047
C	Road 26	S051	57.14		49.00		54.10		3.7 m	BR07064
B	Road 26 (built 2009)	S052	91.88		84.40		81.20		21.0 m	BR07065
B	Road 26 (built 2008)	S053	80.46		78.40		84.80		7.0 m	BR07066
C	Road 26	S058	45.62		37.80		42.60		3.6 m	BR07067
B	Road 26	S060	74.63		73.80		72.30		18, 18	BR07068
C	Road 26 (rebuilt 2009)	S061		89.03		86.50		84.30	6.0 m	BR07071
C	Road 26	S062		74.00		73.90		72.70	6.2 m	BR07073
C	Road 26 (rebuilt 2013)	S063		86.02		85.40		85.40	3.6 m	BR07072
C	Road 26	S064		67.77		66.30		61.20	8.0 m	BR07080
C	Road 26	S065		62.71		62.50		63.30	5.65 m	BR07079
B	Sideroad 7	S021	65.97		65.10		71.10		25.9 m	BR07036
C	Sideroad 7	S024	70.51		67.60		66.50		5.5 m	BR07029
C	Sideroad 7 (replaced 2016)	S057		100.00	98.80	97.60	96.50	95.40	4.26 m	BR07062
B	Sideroad 7 (rehabil 2016)	S059	72.58		76.10		75.30		32.9 m	BR07063
C	Sideroad 11	S018	74.77		74.60		74.10		6.6 m	BR07041
B	Sideroad 13 (replaced in 2014)	S014	100.00		91.40		82.70		20.0 m	BR07019
C	Sideroad 13	S028	74.64		74.60		74.60		5.5 m	BR07004
B	Sideroad 13 (rebuilt 2007)	S050	98.36		86.00		83.00		6.0 m	BR07060

	SOUTHGATE STRUCTURES BY ROAD LOCATION, with Recent Trends in BCI									
B= Bridge		I.D.	B C I measure, by year of OSIM Inspection						Span	Keystone
C= Culvert		No.	2015	2016	2017	2018	2019	2020	Length	I.D.
B	Sideroad 15	S010	69.63		68.20		69.40		12.2 m	BR07007
C	Sideroad 15	S011	74.98		74.60		74.50		3.5, 3.5	BR07006
C	Sideroad 15	S030	71.13		71.60		72.00		4.35 m	BR07008
C	Sideroad 19 (rehabil 2015)	S003	99.35		92.40		89.40		2.2 m	BR07141
B	Sideroad 21	S006	67.58		67.60		65.40		4.2 m	BR07010
B	Sideroad 21	S033	41.06		38.60		33.80		6.1 m	BR07011
C	Sideroad 21	S040	73.49		72.20		72.60		3.7 m	BR07050
B	Sideroad 41	S084		57.49		57.50		58.00	8.0 m	BR07136
B	Sideroad 41	S086		74.12		73.80		72.80	15.3 m	BR07134
B	Sideroad 41	S104		71.51		71.30		70.60	9.25 m	BR07132
B	Sideroad 47	S070		74.81		74.80		69.10	7.7 m	BR07085
B	Sideroad 47	S083		69.68		68.40		68.10	13.7 m	BR07086
B	Sideroad 47 (built 1992)	S101		74.82		74.80		74.80	8.1 m	BR07087
B	Sideroad 47	S107		52.83		51.70		51.20	22.4 m	BR07088
C	Sideroad 49	S066		72.09		71.40		67.10	7.95 m	BR07084
C	Sideroad 49	S067		56.73		57.50		60.70	3.7 m	BR07083
B	Sideroad 49	S082		74.87		74.80		74.70	10.0 m	BR07095
C	Sideroad 49	S099		62.49		62.80		61.30	6.1 m	BR07094
C	Sideroad 49	S108		63.13		61.50		58.30	6.1 m	BR07089
B	Sideroad 49	S109		74.91		74.90		74.80	32.0 m	BR07090
C	Sideroad 49	S110		62.89		63.30		54.00	4.9 m	BR07091
C	Sideroad 49	S111		72.23		71.80		66.20	2.75 m	BR07092
C	Sideroad 49	S123		74.58		74.20		74.20	1.5, 1.5	BR07093
B	Sideroad 55	S078		74.98		75.00		74.90	8.0 m	BR07096
C	Sideroad 57	S072		72.73		72.40		69.50	6.1 m	BR07070
C	Sideroad 57	S075		36.67		38.90		39.70	3.1 m	BR07097
C	Sideroad 57	S076		68.48		66.80		38.00	3.3, 3.3	BR07099
C	Sideroad 57	S116		57.00		57.10		56.80	3.65 m	BR07124
C	Sideroad 61	S074		70.59		71.30		69.10	5.0 m	BR07069
B	Sideroad 61	S119		50.19		49.10		48.90	25.0 m	BR07122
C	Sideroad 71	S036	58.61		58.80		61.70		3.7 m	BR07048
C	Sideroad 71	S039	69.45		67.80		67.60		3.0 m	BR07045
C	Sideroad 75	S035	71.19		69.40		68.40		6.15 m	BR07042
C	Sdrd. 75 (replaced in 2019)	S043	56.55		56.10		98.70		2.2, 2.2	BR07144
C	Sdrd. 75 (replaced in 2019)	S126	65.89		62.40		99.10		2.2, 2.2	BR07155

SOUTHGATE STRUCTURES BY ROAD LOCATION, with Recent Trends in BCI									
B= Bridge	I.D.	B C I measure, by year of OSIM Inspection						Span	Keystone
C= Culvert	No.	2015	2016	2017	2018	2019	2020	Length	I.D.
Scheduled for upgrades per the 2021-2030 Capital Plan							*(at time of AMP preparation)*		
	S121		S071	2026					
2021	S108		S058	2025					
2021	S109		S034	2028					
2022	S033		S075	2028					
2023	S097		S076						
	S098		S085						
2027	S125		S114	2029					
			S119	2030					

STRUCTURES by I.D. No. Recent Trends in BCI

Location	I.D. No.	B C I measure, by year of OSIM Inspection						Span Length	Keystone I.D.
		2015	2016	2017	2018	2019	2020		
Road 8	S002	74.19		73.20		72.90		3.63 m	BR07014
Sideroad 19 (rehabil 2015)	S003	99.35		92.40		89.40		2.2 m	BR07141
Road 10	S004	71.71		70.50		68.40		3.7 m	BR07016
Road 10	S005	75.00		75.00		75.00		3.5 m	BR07149
Sideroad 21	S006	67.58		67.60		65.40		4.2 m	BR07010
Road 12	S007	70.48		69.90		66.20		9.2 m	BR07009
Road 12	S008	74.56		74.00		73.90		12.0 m	BR07022
Road 12	S009	57.44		53.70		58.30		12.2 m	BR07021
Sideroad 15	S010	69.63		68.20		69.40		12.2 m	BR07007
Sideroad 15	S011	74.98		74.60		74.50		3.5, 3.5	BR07006
Road 12	S012	74.07		74.00		73.60		13.6 m	BR07020
Road 12	S013	74.63		74.20		74.10		14.1 m	BR07005
Sideroad 13 (replaced in 2014)	S014	100.00		91.40		82.70		20.0 m	BR07019
Road 10	S015	73.66		73.50		73.60		18.4 m	BR07018
Road 8	S016	58.97		56.80		56.20		3.4 m	BR07040
Road 4	S017	71.33		69.90		73.40		9.25 m	BR07039
Sideroad 11	S018	74.77		74.60		74.10		6.6 m	BR07041
Road 10	S019	72.24		73.00		73.20		6.6, 6.0	BR07033
Road 10 (built in 2016)	S020	45.33		100.00		88.90		22.5 m	BR07034
Sideroad 7	S021	65.97		65.10		71.10		25.9 m	BR07036
Road 12	S022	63.80		62.30		64.50		6.0 m	BR07031
Road 12 (replaced in 2015)	S023	99.64		97.60		95.80		4.4 m	BR07146
Sideroad 7	S024	70.51		67.60		66.50		5.5 m	BR07029
Road 14	S025	71.67		71.50		71.30		3.6 m	BR07030
Road 14	S026	61.17		66.30		66.40		3.3 m	BR07028
Road 14 (replaced in 2015)	S027	100.00		97.40		94.90		3.6 m	BR07027
Sideroad 13	S028	74.64		74.60		74.60		5.5 m	BR07004
Road 14	S029	50.38		53.50		58.50		3.7 m	BR07026
Sideroad 15	S030	71.13		71.60		72.00		4.35 m	BR07008
Road 14	S031	35.65		30.30		29.90		3.5 m	BR07025
(replaced in 2020)	S031							new #	BR07149
Road 14	S032	74.96		59.00		59.10		3.6, 3.6	BR07023
Sideroad 21	S033	41.06		38.60		33.80		6.1 m	BR07011
Road 14	S034	63.76		51.10		46.90		3.7 m	BR07012
Sideroad 75	S035	71.19		69.40		68.40		6.15 m	BR07042
Sideroad 71	S036	58.61		58.80		61.70		3.7 m	BR07048
Road 24	S037	66.46		62.20		62.10		3.7 m	BR07044
Road 24 (replaced in 2017)	S038	26.54		100.00		97.50		3.048 m	BR07154
Sideroad 71	S039	69.45		67.80		67.60		3.0 m	BR07045
Sideroad 21	S040	73.49		72.20		72.60		3.7 m	BR07050
Road 26	S041	73.93		71.80		68.40		3.65 m	BR07046
Road 26	S042	75.00		75.00		73.90		4.2 m	BR07047
Sdrd. 75 (rebuilt in 2019)	S043	56.55		56.10		98.70		2.2, 2.2	BR07144

STRUCTURES by I.D. No. Recent Trends in BCI

Location	I.D. No.	B C I measure, by year of OSIM Inspection						Span Length	Keystone I.D.
		2015	2016	2017	2018	2019	2020		
Road 24	S048	73.08		72.30		73.50		3.65 m	BR07055
Road 24	S049	72.22		72.20		75.70		4.05 m	BR07054
Sideroad 13 (rebuilt 2007)	S050	98.36		86.00		83.00		6.0 m	BR07060
Road 26	S051	57.14		49.00		54.10		3.7 m	BR07064
Road 26 (built 2009)	S052	91.88		84.40		81.20		21.0 m	BR07065
Road 26 (built 2008)	S053	80.46		78.40		84.80		7.0 m	BR07066
Road 24	S054	74.34		74.00		74.00		3.3 m	BR07052
Road 24	S055	51.06		50.90		51.00		2.2, 2.2	BR07150
Road 24	S056	71.60		69.30		66.70		3.7 m	BR07151
Sideroad 7 (replaced 2016)	S057		100.00	98.80	97.60	96.50	95.40	4.26 m	BR07062
Road 26	S058	45.62		37.80		42.60		3.6 m	BR07067
Sideroad 7 (rehabil 2016)	S059	72.58		76.10		75.30		32.9 m	BR07063
Road 26	S060	74.63		73.80		72.30		18, 18	BR07068
Road 26 (rebuilt 2009)	S061		89.03		86.50		84.30	6.0 m	BR07071
Road 26	S062		74.00		73.90		72.70	6.2 m	BR07073
Road 26 (rebuilt 2013)	S063		86.02		85.40		85.40	3.6 m	BR07072
Road 26	S064		67.77		66.30		61.20	8.0 m	BR07080
Road 26	S065		62.71		62.50		63.30	5.65 m	BR07079
Sideroad 49	S066		72.09		71.40		67.10	7.95 m	BR07084
Sideroad 49	S067		56.73		57.50		60.70	3.7 m	BR07083
Road 24	S068		72.51		71.20		70.40	8.0 m	BR07081
Road 22	S069		70.89		71.30		67.20	6.7 m	BR07082
Sideroad 47	S070		74.81		74.80		69.10	7.7 m	BR07085
Road 22	S071		41.22		41.10		43.10	5.5 m	BR07075
Sideroad 57	S072		72.73		72.40		69.50	6.1 m	BR07070
Road 22	S073		45.27		48.40		49.30	5.0 m	BR07074
Sideroad 61	S074		70.59		71.30		69.10	5.0 m	BR07069
Sideroad 57	S075		36.67		38.90		39.70	3.1 m	BR07097
Sideroad 57	S076		68.48		66.80		38.00	3.3, 3.3	BR07099
Road 14	S077		63.72		64.50		60.60	9.1 m	BR07113
Sideroad 55	S078		74.98		75.00		74.90	8.0 m	BR07096
Road 14	S079		57.97		58.70		52.90	9.7 m	BR07115
Road 14	S080		58.81		61.00		56.00	9.9 m	BR07116
Road 14	S081		50.38		53.70		48.90	8.9 m	BR07117
Sideroad 49	S082		74.87		74.80		74.70	10.0 m	BR07095
Sideroad 47	S083		69.68		68.40		68.10	13.7 m	BR07086
Sideroad 41	S084		57.49		57.50		58.00	8.0 m	BR07136
Road 14	S085		51.68		49.90		46.50	10.6 m	BR07118
Sideroad 41	S086		74.12		73.80		72.80	15.3 m	BR07134
Road 12	S093		73.58		71.80		72.40	6.1 m	BR07107

STRUCTURES by I.D. No. Recent Trends in BCI

Location	I.D. No.	B C I measure, by year of OSIM Inspection						Span Length	Keystone I.D.
		2015	2016	2017	2018	2019	2020		
Road 12	S094		74.38		73.60		71.30	3.67 m	BR07108
Road 12	S095		74.89		74.20		71.50	3.05 m	BR07109
Road 12 (replaced in 2011)	S096		93.66		91.60		90.10	4.0 m	BR07110
Road 12	S097		40.52		34.80		23.70	3.6 m	BR07111
Road 12	S098		31.25		34.70		20.60	3.6 m	BR07112
Sideroad 49	S099		62.49		62.80		61.30	6.1 m	BR07094
Road 10	S100		70.63		68.40		64.60	4.6 m	BR07121
Sideroad 47 (built 1992)	S101		74.82		74.80		74.80	8.1 m	BR07087
Road 8	S102		74.38		73.90		74.10	3.0 m	BR07125
Road 8	S103		72.33		72.40		72.30	7.95 m	BR07103
Sideroad 41	S104		71.51		71.30		70.60	9.25 m	BR07132
Sligo Road	S105		n/a		69.90		69.90	3.0 m	BR07076
Road 10	S106		73.11		72.30		70.10	4.8 m	BR07130
Sideroad 47	S107		52.83		51.70		51.20	22.4 m	BR07088
Sideroad 49	S108		63.13		61.50		58.30	6.1 m	BR07089
Sideroad 49	S109		74.91		74.90		74.80	32.0 m	BR07090
Sideroad 49	S110		62.89		63.30		54.00	4.9 m	BR07091
Sideroad 49	S111		72.23		71.80		66.20	2.75 m	BR07092
Road 8	S112		56.49		56.50		56.10	4.3 m	BR07102
Road 8	S113		65.68		65.50		64.50	22.3 m	BR07101
Road 4	S114		61.43		61.30		59.90	29.2 m	BR07129
Road 4	S115		73.51		73.50		73.30	4.2 m	BR07128
Sideroad 57	S116		57.00		57.10		56.80	3.65 m	BR07124
Road 4	S117		67.87		68.30		67.60	4.9 m	BR07127
Road 4 (replaced in 2019)	S118		26.34		27.40		98.10	2.35, 2.35	BR07156
Sideroad 61	S119		50.19		49.10		48.90	25.0 m	BR07122
Road 8	S120		75.00		75.00		74.80	6.0 m	BR07123
Road 4	S121	68.05		67.40		67.70		3.9 m	BR07037
Road 10	S122		74.64		71.70		71.70	1.6, 1.6	BR07139
Sideroad 49	S123		74.58		74.20		74.20	1.5, 1.5	BR07093
Road 10	S124	69.48		68.90		68.70		3.05 m	BR07017
Road 14	S125	45.03		41.10		39.10		1.8, 1.8	BR07024
Sdrd. 75 (replaced in 2019)	S126	65.89		62.40		99.10		2.2, 2.2	BR07155
Road 24	S127	66.79		66.80		70.50		2.45 m	BR07143
Feairs Drive	S128	56.08		47.70		49.40		1.7 m	BR07140
Eco Parkway, east of Ida	S129		74.76		74.80		74.80	1.8 m	BR07145

some structures are inspected on odd-numbered years

remaining structures are inspected on even-numbered years

Township of Southgate

REPEATED from 2013 AMP

WATERMAINS

Asset Number	Label	Description	Acquisition Date	Acquisition Year	Diameter (mm)	Length (m)	Acquisition Cost
						13,499.50	$ 1,625,631
WA10000	P-31	Water Main - Alice Street	1/1/1960	1960	150	126.00	$ 5,356
WA10001	P-39	Water Main - Artemesia Street	1/1/1960	1960	100	130.00	$ 5,526
WA10001A	P-59	Water Main - Artemesia Street	1/1/1960	1960	100	157.50	$ 6,695
WA10001B	P-60	Water Main - Artemesia Street	1/1/1990	1990	150	98.00	$ 26,260
WA10001C	P-101	Water Main - Artemesia Street	1/1/1995	1995	150	147.50	$ 40,066
WA10001D	P-100	Water Main - Artemesia Street	1/1/1995	1995	150	70.00	$ 19,014
WA10002	P-102	Water Main - Bradley Street	1/1/1960	1960	150	98.50	$ 4,187
WA10002A	P-71	Water Main - Bradley Street	1/1/1975	1975	150	79.50	$ 8,655
WA10002B	P-82	Water Main - Bradley Street	1/1/1975	1975	150	103.50	$ 11,268
WA10003	P-81	Water Main - Doyle Street	1/1/1960	1960	100	178.00	$ 7,566
WA10004	P-49	Water Main - Dundalk Street	1/1/1960	1960	150	415.00	$ 17,641
WA10005	P-51	Water Main - Glenelg Street	1/1/1960	1960	100	156.50	$ 6,652
WA10005A	P-9	Water Main - Glenelg Street	1/1/1989	1989	150	120.00	$ 31,366
WA10006	P-44	Water Main - Gold Street	1/1/1960	1960	100	98.00	$ 4,166
WA10006A	P-45	Water Main - Gold Street	1/1/1960	1960	100	206.50	$ 8,778
WA10007	P-50	Water Main - Grey Street	1/1/1960	1960	150	146.50	$ 6,227
WA10007A	P-52	Water Main - Grey Street	1/1/1960	1960	150	104.00	$ 4,421
WA10007B	P-53	Water Main - Grey Street	1/1/1960	1960	150	57.00	$ 2,423
WA10007C	P-54	Water Main - Grey Street	1/1/1960	1960	150	51.00	$ 2,168
WA10007D	P-70	Water Main - Grey Street	1/1/1960	1960	150	66.50	$ 2,827
WA10007E	P-64	Water Main - Grey Street	1/1/1970	1970	100	111.50	$ 3,727
WA10008	P-135	Water Main - Hagan Street	1/1/1960	1960	150	206.00	$ 8,757
WA10009	P-83	Water Main - Holland Street	1/1/1960	1960	150	55.50	$ 2,359
WA10010A	P-11	Water Main - Main Street	1/1/1960	1960	150	243.00	$ 10,329
WA10010B	P-12	Water Main - Main Street	1/1/1960	1960	150	196.50	$ 8,353
WA10010C	P-19	Water Main - Main Street	1/1/1960	1960	150	121.50	$ 5,165
WA10010D	P-18	Water Main - Main Street	1/1/1960	1960	150	109.50	$ 4,655
WA10010E	P-10	Water Main - Main Street	1/1/1960	1960	150	333.50	$ 14,176
WA10010F	P-23	Water Main - Main Street	1/1/1960	1960	150	350.00	$ 14,878
WA10010G	P-21	Water Main - Main Street	1/1/1960	1960	150	147.00	$ 6,249
WA10010H	P-22	Water Main - Main Street	1/1/1960	1960	150	15.50	$ 659
WA10010I	P-24	Water Main - Main Street	1/1/1960	1960	150	163.00	$ 6,929
WA10010J	P-26	Water Main - Main Street	1/1/1960	1960	150	344.50	$ 14,644
WA10010K	P-20	Water Main - Main Street	1/1/1960	1960	150	196.50	$ 8,353
WA10010L	P-47	Water Main - Main Street	1/1/1960	1960	150	49.00	$ 2,083
WA10010M	P-48	Water Main - Main Street	1/1/1960	1960	150	107.50	$ 4,570
WA10010N	P-117	Water Main - Main Street	1/1/1960	1960	150	112.00	$ 4,761
WA10010O	P-116	Water Main - Main Street	1/1/1960	1960	150	87.50	$ 3,719
WA10011	P-99	Water Main - Mill Street	1/1/1960	1960	150	251.50	$ 6,440
WA10012	P-35	Water Main - Osprey Street	1/1/1960	1960	150	125.50	$ 5,335
WA10012A	P-66	Water Main - Osprey Street	1/1/1960	1960	150	195.50	$ 8,310
WA10012B	P-65	Water Main - Osprey Street	1/1/1960	1960	150	211.50	$ 8,990
WA10012C	P-69	Water Main - Osprey Street	1/1/1960	1960	150	100.50	$ 4,272
WA10013	P-67	Water Main - Owen Sound Street	1/1/1960	1960	100	66.00	$ 2,806
WA10013A	P-68	Water Main - Owen Sound Street	1/1/1960	1960	150	145.50	$ 6,185
WA10013B	P-107	Water Main - Owen Sound Street	1/1/1960	1960	150	74.00	$ 3,146
WA10013C	P-108	Water Main - Owen Sound Street	1/1/1960	1960	150	56.00	$ 2,380
WA10014	P-41	Water Main - Proton Street	1/1/1960	1960	100	62.50	$ 2,657
WA10014A	P-63	Water Main - Proton Street	1/1/1960	1960	150	116.50	$ 4,952

Township of Southgate

REPEATED from 2013 AMP

WATERMAINS

Asset Number	Label	Description	Acquisition Date	Acquisition Year	Diameter (mm)	Length (m)	Acquisition Cost
WA10014B	P-57	Water Main - Proton Street	1/1/1960	1960	150	28.00	$ 1,190
WA10014C	P-61	Water Main - Proton Street	1/1/1960	1960	150	210.50	$ 8,948
WA10014D	P-62	Water Main - Proton Street	1/1/1960	1960	150	88.00	$ 3,741
WA10015	P-37	Water Main - Rowe's Lane	1/1/1960	1960	100	90.00	$ 3,826
WA10016	P-56	Water Main - Toronto Street	1/1/1960	1960	150	105.00	$ 3,826
WA10017	P-30	Water Main - Victoria Street	1/1/1960	1960	150	351.50	$ 14,941
WA10017A	P-34	Water Main - Victoria Street	1/1/1960	1960	150	137.50	$ 5,845
WA10017B	P-38	Water Main - Victoria Street	1/1/1960	1960	150	15.00	$ 638
WA10017C	P-40	Water Main -Victoria Street	1/1/1960	1960	150	109.00	$ 4,633
WA10017D	P-36	Water Main -Victoria Street	1/1/1960	1960	150	75.00	$ 3,188
WA10017E	P-32	Water Main - Victoria Street	1/1/1960	1960	150	221.00	$ 9,394
WA10017F	P-86	Water Main - Victoria Street	1/1/1960	1960	150	19.50	$ 829
WA10017G	P-87	Water Main - Victoria Street	1/1/1960	1960	150	171.50	$ 7,290
WA10017H	P-104	Water Main - Victoria Street	1/1/1960	1960	150	107.00	$ 4,548
WA10017I	P-105	Water Main - Victoria Street	1/1/1960	1960	150	86.00	$ 3,656
WA10017J	P-91	Water Main - Victoria Street	1/1/1960	1960	150	150.00	$ 6,376
WA10017K	P-125	Water Main - Victoria Street	1/1/1960	1960	150	40.00	$ 1,700
WA10017L	P-126	Water Main - Victoria Street	1/1/1960	1960	150	55.50	$ 2,359
WA10017M	P-16	Water Main - Victoria Street	1/1/1960	1960	150	334.00	$ 5,058
WA10017N	P-125a	Water Main - Victoria Street	1/1/1989	1989			$ 26,923
WA10017O	P-125b	Water Main - Victoria Street	1/1/1989	1989			$ 29,275
WA10019A	P-43	Water Main - Young Street	1/1/1960	1960	150	146.50	$ 6,227
WA10019B	P-134	Water Main - Young Street	1/1/1960	1960	200	72.50	$ 2,827
WA10020	P-97	Water Main - McDowell Street	1/1/1979	1979	150	53.00	$ 6,527
WA10020A	P-114	Water Main - McDowell Street	1/1/1979	1979	150	169.00	$ 20,811
WA10020B	P-113	Water Main - McDowell Street	1/1/1979	1979	150	30.00	$ 3,694
WA10021	P-74	Water Main - Pine Court	1/1/1975	1975	150	114.00	$ 12,411
WA10022	P-133	Water Main - Trim Trends Service	1/1/1975	1975	150	8.00	$ 8,457
WA10023	P-128	Water Main - Well No. 3	1/1/1975	1975	75	36.00	$ 3,919
WA10023A	P-95	Water Main - Well No. 3	1/1/1975	1975	150	60.00	$ 6,532
WA10023B	P-94	Water Main - Well No. 3	1/1/1975	1975	150	13.50	$ 1,470
WA10023C	P-130	Water Main - Well No. 3	1/1/1975	1975	150	126.00	$ 1,089
WA10023D	P-131	Water Main - Well No. 3	1/1/1975	1975	150	10.00	$ 1,361
WA10023E	P-132	Water Main - Well No. 3	1/1/1975	1975	150	12.50	$ 871
WA10023F	P-122	Water Main - Well No. 3	1/1/1975	1975	250	24.50	$ 2,667
WA10023G	P-120	Water Main - Well No. 3	1/1/1975	1975	250	22.00	$ 2,737
WA10023H	P-124	Water Main - Well No. 3	1/1/1975	1975	250	14.50	$ 1,804
WA10023I	P-123	Water Main - Well No. 3	1/1/1975	1975	250	24.00	$ 2,986
WA10023J	P-110	Water Main - Well No. 3	1/1/1975	1975	250	30.00	$ 3,733
WA10025	P-98	Water Main - Braemore Street	1/1/1979	1979	150	125.50	$ 15,455
WA10026	P-33	Water Main - Elm Street	1/1/1979	1979	100	34.00	$ 4,187
WA10027	P-136	Water Main - Keppel Street	1/1/1979	1979	150	179.50	$ 22,104
WA10028	P-4	Water Main - Hanbury Street	1/1/1989	1989	150	152.50	$ 39,862
WA10029	P-5	Water Main - Bell Circle	1/1/1989	1989	150	201.00	$ 52,539
WA10030	P-73	Water Main - Highpoint Street	1/1/1989	1989	150	81.50	$ 21,303
WA10030A	P-75	Water Main - Highpoint Street (Stream Crossing	1/1/1989	1989	150	81.00	$ 21,172
WA10030B	P-78	Water Main - Highpoint Street	1/1/1989	1989	150	36.50	$ 9,541
WA10030C	P-79	Water Main - Highpoint Street	1/1/1989	1989	150	82.00	$ 21,434
WA10031	P-2	Water Main - Ida Street	1/1/1989	1989	150	124.50	$ 32,543
WA10031A	P-3	Water Main - Ida Street	1/1/1989	1989	150	148.50	$ 38,816

Township of Southgate

REPEATED from 2013 AMP

WATERMAINS

Asset Number	Label	Description	Acquisition Date	Acquisition Year	Diameter (mm)	Length (m)	Acquisition Cost
WA10031B	P-7	Water Main - Ida Street	1/1/1989	1989	150	38.50	$ 10,063
WA10031C	P-8	Water Main - Ida Street	1/1/1989	1989	150	583.50	$ 152,519
WA10031D		Water Main - Ida Street South To Eco Parkway	12/31/2008	2008			$ 272,637
WA10032	P-6	Water Main - Morrow Circle	1/1/1989	1989	150	65.00	$ 16,990
WA10033	P-29	Water Main - Russell Lane	1/1/1989	1989	150	125.50	$ 32,804
WA10034	P-76	Water Main - Wilson Crescent	1/1/1989	1989	150	184.50	$ 48,226
WA10034A	P-77	Water Main - Wilson Cresc	1/1/1989	1989	150	106.00	$ 27,707
WA10035	P-106	Water Main - Nixon Street	1/1/1995	1995	150	91.00	$ 24,719
WA10037	P-112	Water Main - Braemore West	1/1/2000	2000	150	104.00	$ 33,027
WA10038		Water Main - Eco Parkway	12/31/2008	2008			$ 44,287
WA10038		Water Main - Eco Parkway	12/31/2009	2009			$ 44,287
	P-27	Water Main - Sinclair Street	1993	1993	150	181.00	
	P-28	Water Main - Sheffield Street	1993	1993	150	450.00	
	P-80	Water Main - McGregor Court	1989	1990			

TOWNSHIP OF SOUTHGATE **STORM SEWER LISTING**

OID	Asset Description	Asset ID	Asset Material	Diameter	Length		
00042ee4-ceb7-43cd-89d5-42beb7dce8aa	Sewerline (Storm)	CO-17	CON	400	93.3		93.3
02e396d4-c94f-4495-b0cf-1146b1110554	Sewerline (Storm)	CO-99	PVC	250	72.5		72.5
08d40412-5f94-4189-b468-9dcefc951ce5	Sewerline (Storm)	CO-79	ASBECEME	200	75		75
08d59e33-347f-4c05-b24a-5852d464b9ee	Sewerline (Storm)	CO-124	ASBECEME	200	76.2		76.2
09196532-3b9d-418e-ade0-2d069b5230bf	Sewerline (Storm)	CO-39	ASBECEME	200	121		121
0ad0aa86-e0f6-450c-bd7e-abccce3368ab	Sewerline (Storm)	CO-55	ASBECEME	200	121.6		121.6
0b8ce3c2-637f-450c-84bf-691ed0d122f1	Sewerline (Storm)	CO-128	ASBECEME	200	31.7		31.7
0ba2ed98-c184-45c5-a00d-dd81d0bfaf45	Sewerline (Storm)	CO-82	ASBECEME	200	134.7		134.7
0bfd1af6-9df7-4b27-98b3-ff4f8ba4ea32	Sewerline (Storm)	CO-130	PVC	200	82		82
0e40e130-fd87-459c-b280-366377423505	Sewerline (Storm)	CO-111	PVC	250	15.8		15.8
0ebffeff-268d-4fc0-9578-1afd12d615f2	Sewerline (Storm)	CO-23	ASBECEME	250	111.9		111.9
0f30c345-9327-41aa-bcd6-40e3e976120e	Sewerline (Storm)	CO-73	ASBECEME	200	110.3		110.3
0fb03a65-d3a0-4a9c-a537-c41bb3edbfd9	Sewerline (Storm)	CO-63	ASBECEME	200	68.9		68.9
10c5de0c-251f-4b69-a986-6fb534acc85a	Sewerline (Storm)	CO-53	ASBECEME	300	97.5		97.5
10ca4a38-f5ff-4dc0-a623-653aa8a7a01e	Sewerline (Storm)	CO-61	ASBECEME	200	149.4		149.4
1313c2da-0c99-4ced-b258-607d9c25d194	Sewerline (Storm)	CO-92	ASBECEME	200	72.2		72.2
14a9683f-fa81-4570-9434-15f9f9f0a589	Sewerline (Storm)	CO-26	ASBECEME	250	121		121
14d1ebf9-a461-4ba3-a677-22edecf3bcab	Sewerline (Storm)	CO-16	CON	600	110.1		110.1
16281923-d73b-4058-9654-4c881140e44a	Sewerline (Storm)	CO-49	ASBECEME	250	91.7		91.7
17a4beb4-9712-4ad5-b94d-268c107de8b5	Sewerline (Storm)	CO-20	CON	350	93		93
1935c953-266d-4435-851e-491360deccf0	Sewerline (Storm)	CO-103	CON	600	13.3		13.3
1b4087fb-3844-4c21-b0a5-0af1e1a4ca9d	Sewerline (Storm)	CO-25	ASBECEME	200	117		117
1dd03b35-e39f-4045-8c12-74af7057f968	Sewerline (Storm)	CO-64	ASBECEME	250	121.6	2,101.70	121.6
1fe152dc-24ce-4608-84e9-b1b6c32eb897	Sewerline (Storm)	CO-70	ASBECEME	250	82.3		82.3
2117a0e4-b86a-4c33-9bd6-4046b715c49c	Sewerline (Storm)	CO-5	CON	600	99.4		99.4
238ca233-3281-4d2f-a1c2-4ed2a30f72b5	Sewerline (Storm)	CO-34	ASBECEME	250	128		128
2494219b-123c-47cf-9b10-1d35b2ec6b9d	Sewerline (Storm)	CO-51	ASBECEME	250	93.6		93.6
25493edd-b89e-4ce4-8466-96cb842db176	Sewerline (Storm)	CO-119	PVC	200	99.2		99.2
283da965-982d-45a7-bb61-b182a8768dc7	Sewerline (Storm)	CO-42	ASBECEME	200	39.9		39.9
29adf036-ddd0-40bf-b5ed-15a91141757d	Sewerline (Storm)	CO-59	ASBECEME	200	114.9		114.9
2db6d7cb-abf3-4728-be22-3c52358af72a	Sewerline (Storm)	CO-68	ASBECEME	200	100		100
308c137f-474c-40bb-8108-fee033f7e7b2	Sewerline (Storm)	CO-78	ASBECEME	200	107.9		107.9
31872cec-c1d8-40f8-9e4c-82bd63785c89	Sewerline (Storm)	CO-141	ASBECEME	250	12.2		12.2
35c4711a-033c-4934-8b5c-d539d6b721fe	Sewerline (Storm)	CO-7	CON	600	102.7		102.7
366afdfc-114b-4d5e-b795-676ce9ce4a81	Sewerline (Storm)	CO-32	ASBECEME	250	107.3		107.3
3c0552b3-8aaa-4404-9919-1fe3d4cbc9f9	Sewerline (Storm)	CO-40	ASBECEME	300	121		121
3c9570a2-6931-43f6-88bc-3cd242dadeea	Sewerline (Storm)	CO-60	ASBECEME	200	111.6		111.6
3da75954-8a40-4460-a206-5417a37a6ada	Sewerline (Storm)	CO-57	ASBECEME	200	93		93
40ac63ef-cea5-478d-93cc-1d8155311ea3	Sewerline (Storm)	CO-134	PVC	200	88.4		88.4
43426dc0-e802-4da0-ad78-0de395453bcc	Sewerline (Storm)	CO-67	ASBECEME	250	113.4		113.4
458e1bc9-b2bd-4931-a794-7f0e54620e16	Sewerline (Storm)	CO-12	CON	500	128		128
48774c77-15a8-4f2f-897d-8658d2203ace	Sewerline (Storm)	CO-114	PVC	200	47.9		47.9
49afda98-a001-4397-8c73-43645316a361	Sewerline (Storm)	CO-18	CON	400	97.5		97.5
49b0753e-5a99-4a28-a214-b75a0402d071	Sewerline (Storm)	CO-21	ASBECEME	300	122.5		122.5
4aa8a063-3f6c-44cc-8345-5da7d4ec68bc	Sewerline (Storm)	CO-52	ASBECEME	300	100		100
4b1c1287-76fb-4859-b856-403550fa512e	Sewerline (Storm)	CO-41	ASBECEME	200	49.1	2,159.80	49.1
52831b8a-c08c-4102-a84b-edeb43cc14d7	Sewerline (Storm)	CO-126	ASBECEME	200	86		86
5292c9e9-eb61-4725-8c49-ca0e98bc5378	Sewerline (Storm)	CO-104	PVC	250	104.2		104.2

TOWNSHIP OF SOUTHGATE **STORM SEWER LISTING**

OID	Asset Description	Asset ID	Asset Material	Diameter	Length		
5303cf2d-2b8c-4fe2-9763-246ec63fc891	Sewerline (Storm)	CO-65	ASBECEME	250	116.7		116.7
54527d55-8e8d-4e87-a16a-3b5babd41c96	Sewerline (Storm)	CO-121	PVC	200	57.1		57.1
54da512e-57f7-4ae5-a6d1-223e57115c76	Sewerline (Storm)	CO-35	ASBECEME	200	86.6		86.6
55262000-4515-45e3-8fc9-3662c8e43e95	Sewerline (Storm)	CO-69	ASBECEME	250	79.2		79.2
571fddd8-3241-442f-8b3c-c4fc8c2c0073	Sewerline (Storm)	CO-144	ASBECEME	250	97.5		97.5
58d5a4d5-ceb1-47cd-927d-05ec94f6c624	Sewerline (Storm)	CO-132	PVC	200	128.3		128.3
5adf3cf5-2714-42f7-8c40-057462a66c24	Sewerline (Storm)	CO-131	PVC	200	98.5		98.5
5b67c725-4bc8-4b33-af94-c440b44bf52d	Sewerline (Storm)	CO-80	ASBECEME	200	68.3		68.3
5c54f9dd-49e6-4755-9178-4432db64d20b	Sewerline (Storm)	CO-36	ASBECEME	200	72.5		72.5
5eee0e72-490c-4d9f-acb4-50aeebe35966	Sewerline (Storm)	CO-142	ASBECEME	250	71.6		71.6
60ff6f65-e596-4fc4-8179-776e76a98786	Sewerline (Storm)	CO-1	CON	600	94.8		94.8
61bf20f3-bf04-4408-8182-1cc2b3da6cf5	Sewerline (Storm)	CO-11	CON	500	120.1		120.1
66be6df2-1cce-4b19-8418-532151fbd543	Sewerline (Storm)	CO-47	ASBECEME	200	103.3		103.3
68168432-f8b8-44ef-ab95-d2794fd3d09f	Sewerline (Storm)	CO-93	ASBECEME	200	148.4		148.4
68c923f7-8b9f-42e2-8361-7a33320edd4d	Sewerline (Storm)	CO-143	ASBECEME	250	85		85
69f013d2-9c22-47ee-837b-9d367eb8f5ba	Sewerline (Storm)	CO-108	PVC	250	89.9		89.9
708d00de-f1ea-4a1b-8be6-3e55f92737d1	Sewerline (Storm)	CO-105	PVC	250	82.3		82.3
724e4a73-784b-4237-923f-2e4ed4fc3b8f	Sewerline (Storm)	CO-62	ASBECEME	200	79.2		79.2
7276730a-5aa2-4e13-b1b2-4ef95d254701	Sewerline (Storm)	CO-10	CON	600	79.9		79.9
7366e1d9-0342-4a2b-803c-4d36a8712ac7	Sewerline (Storm)	CO-115	PVC	200	109.7		109.7
74120d03-7d39-4504-bb3d-31bd72361d1e	Sewerline (Storm)	CO-117	PVC	200	53.5		53.5
84688118-9500-4c89-a6b1-9367c3b7da0f	Sewerline (Storm)	CO-6	CON	600	104.5	2,217.10	104.5
886b975a-45d4-4205-8d4d-672ccdb26939	Sewerline (Storm)	CO-123	PVC	200	94.1		94.1
889e528a-a9f7-4221-805d-c391e617385c	Sewerline (Storm)	CO-85	ASBECEME	250	113.4		113.4
89cba74c-faf2-428b-89ca-c89ee7ede9d7	Sewerline (Storm)	CO-145	ASBECEME	250	97.5		97.5
8a268a4d-149c-49bc-9069-9cb26b306c99	Sewerline (Storm)	CO-13	CON	500	65.5		65.5
8cca4b91-50a0-475a-a9ba-27c590aacc9c	Sewerline (Storm)	CO-83	ASBECEME	200	113.4		113.4
8cd04682-0bc4-4bbf-921b-ee514880230f	Sewerline (Storm)	CO-140	PVC	200	89.3		89.3
8d3ff0f1-927a-40d6-a413-96ce0a06b20c	Sewerline (Storm)	CO-106	PVC	250	82.3		82.3
91eb8853-1ed5-45a2-96e7-59dbf31e017f	Sewerline (Storm)	CO-56	ASBECEME	150	127.1		127.1
964d7b5f-fc96-4c9f-a071-c71ee18ad9e3	Sewerline (Storm)	CO-136	PVC	200	118		118
96d37a2c-26c5-45cd-8a51-674dced94303	Sewerline (Storm)	CO-15	CON	500	73.5		73.5
9b2474b8-823d-4a9f-aac5-9c863fe5feac	Sewerline (Storm)	CO-54	ASBECEME	200	120.1		120.1
9b883c41-6381-4146-85d5-11a784bc2755	Sewerline (Storm)	CO-77	ASBECEME	200	116.4		116.4
9f6d7b4e-997b-4861-8887-abfd1a46432e	Sewerline (Storm)	CO-66	ASBECEME	250	95.4		95.4
9fad733b-dbf4-4468-9f23-630df7731f3c	Sewerline (Storm)	CO-109	PVC	250	8.5		8.5
a28f0d1e-9ef6-4680-ab2c-ac36a2bf14c6	Sewerline (Storm)	CO-4	CON	600	104.5		104.5
a4ba5704-3f7e-4527-b3d7-9aee1d296e19	Sewerline (Storm)	CO-38	ASBECEME	200	122.5		122.5
a5c3ecfc-aadd-43dc-a0e0-3e57a4794855	Sewerline (Storm)	CO-45	ASBECEME	250	111.9		111.9
a6b623a2-fc6c-454f-8c00-711ec8e0097d	Sewerline (Storm)	CO-27	ASBECEME	250	111.9		111.9
a7023488-51ed-423b-97dc-5af2015a4f59	Sewerline (Storm)	CO-24	ASBECEME	200	121		121
a8958b9a-6aac-4df4-a2d0-09093ccae9cf	Sewerline (Storm)	CO-127	ASBECEME	200	76.2		76.2
aabce4e0-c670-4a50-848c-94eaaa4277da	Sewerline (Storm)	CO-135	PVC	200	37.8		37.8
ab1c1984-273a-47cf-b39a-ae125bf1ed98	Sewerline (Storm)	CO-84	ASBECEME	200	69.8		69.8
acb33e03-505a-44b5-bf2f-1685c44cc1d9	Sewerline (Storm)	CO-120	PVC	200	48.4		48.4
aed9378b-12bf-470e-a7c5-5945d9eccccf	Sewerline (Storm)	CO-50	ASBECEME	250	75.6	2,194.10	75.6
aedab027-2e38-4901-9bf3-5183ea9a6e75	Sewerline (Storm)	CO-125	ASBECEME	200	25.6		25.6
afa50cd3-e818-4d3e-82c2-da43109dfe7b	Sewerline (Storm)	CO-94	ASBECEME	250	121		121

TOWNSHIP OF SOUTHGATE **STORM SEWER LISTING**

OID	Asset Description	Asset ID	Asset Material	Diameter	Length		
b00b4488-89f1-4eaa-a6a3-5078c0fc20d2	Sewerline (Storm)	CO-90	ASBECEME	200	167.3		167.3
b274ba1e-7847-4621-b69a-d9b8d597e4a3	Sewerline (Storm)	CO-91	ASBECEME	200	12.8		12.8
b5e35246-c901-4bad-bb8f-d3780aa106b8	Sewerline (Storm)	CO-102	CON	600	95.8		95.8
b7068438-d4c1-4a59-9ca1-3606c09f0bdf	Sewerline (Storm)	CO-100	PVC	250	72.8		72.8
bd225854-4c70-4d02-aab4-00b39dfc91f8	Sewerline (Storm)	CO-133	PVC	200	21		21
be62b309-f14f-4207-98c8-58d3a168aec8	Sewerline (Storm)	CO-113	PVC	200	61		61
c0c73a95-7a7a-46ab-8655-b841fdac2d3b	Sewerline (Storm)	CO-118	PVC	200	61.5		61.5
c32fb111-ae17-4b17-9d98-df75d32685e8	Sewerline (Storm)	CO-101	PVC	250	46.6		46.6
c4266b7b-5341-4262-abdf-c85f64483fc9	Sewerline (Storm)	CO-137	ASBECEME	200	36.3		36.3
c467023c-4b59-46af-b6a7-99dc3b01de1e	Sewerline (Storm)	CO-19	CON	350	107.3		107.3
c4c6dfbf-de1a-406c-8277-c916936c209c	Sewerline (Storm)	CO-107	ASBECEME	200	100.6		100.6
c7db4546-9a19-4676-a56d-721c8306a0b9	Sewerline (Storm)	CO-44	ASBECEME	200	42.7		42.7
c8cbc107-d648-46f2-aaaa-177ce7e16cb9	Sewerline (Storm)	CO-138	ASBECEME	200	86		86
caf476a9-eccf-474a-b8de-aaa23f24afe4	Sewerline (Storm)	CO-28	ASBECEME	250	116.4		116.4
cd88ce42-cc28-4688-be89-06af1a77f2dc	Sewerline (Storm)	CO-71	ASBECEME	200	106.1		106.1
d01fec4a-9186-4b68-879c-f35951a072dd	Sewerline (Storm)	CO-146	ASBECEME	250	118.9		118.9
d0de71e6-8b27-4073-a9e6-b7adc9bfbc0f	Sewerline (Storm)	CO-96	ASBECEME	200	54.9	1,454.60	54.9
d806d7c2-e00d-451c-a541-524bf2e4a1fb	Sewerline (Storm)	CO-110	PVC	250	13.1		13.1
d9692dd9-9d54-49b3-a640-dbc150a7b378	Sewerline (Storm)	CO-81	ASBECEME	200	107.3		107.3
d9c5647c-c678-4504-8005-00ae717e4dcf	Sewerline (Storm)	CO-58	ASBECEME	200	101.5		101.5
db9a69f4-679a-4b88-8b39-2a61e8ce9fff	Sewerline (Storm)	CO-3	CON	600	111.9		111.9
dcae8ac7-d31c-4904-b353-b73b08d5a615	Sewerline (Storm)	CO-74	ASBECEME	200	52.7		52.7
e06e6448-23ae-4b84-8069-d82db9b342f5	Sewerline (Storm)	CO-8	CON	600	92.7		92.7
e0bfd4d4-eeca-4c47-9424-6dfa0a225ec6	Sewerline (Storm)	CO-95	ASBECEME	250	126.2		126.2
e0df44dc-5ca6-40f2-b0d8-8c23a463eb42	Sewerline (Storm)	CO-29	ASBECEME	250	111.9		111.9
e326b8df-01c1-4048-8352-3b63be2c5b8b	Sewerline (Storm)	CO-31	ASBECEME	250	106.7		106.7
e3848433-53b1-4f9b-a8de-6bff0b7f48f7	Sewerline (Storm)	CO-116	PVC	200	14.4		14.4
e4c9eee3-bda8-4c72-b5ec-4a40623f7687	Sewerline (Storm)	CO-72	ASBECEME	200	100.3		100.3
e5f04b17-db6b-49b0-a56f-fba18a09a348	Sewerline (Storm)	CO-129	PVC	200	98.8		98.8
e8c63b7c-5ab5-443b-ba53-b084b76eb77d	Sewerline (Storm)	CO-2	CON	600	110.9		110.9
ebb77b97-7781-4c65-9815-b06e5d2d19dd	Sewerline (Storm)	CO-14	CON	500	75		75
f0e1a708-bf9a-4cb5-a994-62fdcc9432c4	Sewerline (Storm)	CO-75	ASBECEME	200	57.6		57.6
f2bca13c-88c6-4d0a-b347-099e24642980	Sewerline (Storm)	CO-30	ASBECEME	250	56.7		56.7
f32b52e1-57bc-4178-8f8e-164e7c9cfb67	Sewerline (Storm)	CO-22	ASBECEME	300	121.6		121.6
f6c7c01d-df6d-45fa-bdaa-4d14a90c1a1e	Sewerline (Storm)	CO-139	PVC	200	80.2		80.2
f7a4d55b-4ee5-4ffb-af7d-1ccc319ee45b	Sewerline (Storm)	CO-48	ASBECEME	250	80.2		80.2
faf697a2-d6a3-40c9-b915-a65513f5f293	Sewerline (Storm)	CO-33	ASBECEME	250	117		117
fb1e293b-515d-4a00-81b7-b4b84f0e9041	Sewerline (Storm)	CO-76	ASBECEME	200	15.8	1,752.50	15.8
							11,879.80

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Dundalk Arena & Community Centre		**Original Construction Date**	
Facility Address		550 Main St. East, Dundalk		*1974*	
Building Dimensions (feet)	100	x	250	**Asset Life in Years**	
2nd Storey	50	x	100	*75*	
Building Area (sq. ft.)			30,000	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			**$ 400**	*2049*	
Asset Notes: >Ice refrigeration system upgraded 10 years ago.					
> Site of EarlyOn Daycare Centre constructed in 2020				**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**
> Elevator Lift installed in 2020 >Roof upgraded over Auditorium in 2020				*Excellent >75% ALR)*	*Fair*
> Upgrades 2nd floor auditorium for recreation and meeting uses in 2020.				*Good (40% to 74% ALR)*	**Present Building Internal Condition**
Staff Comments or Recommendations:				*Fair (15% to 39% ALR)*	*Good*
> Structural upgrades required to wooden posts.				*Poor (>14% ALR)*	**Roof Condition**
Total Replacement Cost			**$ 12,000,000**		*Good*

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
Calculated Life Remaining Based on Date of Construction and Asset Life				*27*	
Building Exterior		43%	$ 5,160,000	18	2040
Building Interior		25%	$ 3,000,000	6	2028
Mechanical		7%	$ 840,000	5	2027
Plumbing		5%	$ 600,000	-	2022
Roof		10%	$ 1,200,000	25	2047
Electrical		10%	$ 1,200,000	16	2038
Other Building specific features:	Tables & Chairs		$ -	-	2022
Other Building specific features:	Hockey Program Equipment		$ -	-	2022
Other Building specific features:	Olympia Ice-Resurfacer		$ -	3	2022
Total		**100%**	**$ 12,000,000**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022	
Facility Name	WAITING ON DETAILS FROM DOMM TO COMPLETE THIS ASSET.	Dundalk Pool & Change House		**Original Construction Date**
Facility Address		250 Owen Sound St, Dundalk		*1967*
Building Dimensions (feet)	89	x	20	**Asset Life in Years**
				70
Building Area (sq. ft.)			1,780	**Calculated Bldg End of Life**
Replacement Cost per Square Foot			**$ 400**	*2037*
Asset Notes:	> 60 ft of 89 being renovated.		**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**
			Excellent >75% ALR)	*Fair*
			Good (40% to 74% ALR)	**Present Building Internal Condition**
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	
			Poor (>14% ALR)	**Roof Condition**
Total Replacement Cost			**$ 712,000**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*15*	
Building Exterior		43%	$ -		2022
Building Interior		10%	$ -		2022
Mechanical		7%	$ -		2022
Plumbing		20%	$ -		2022
Roof		10%	$ -		2022
Electrical		10%	$ -		2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	$ -		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Frank MacIntyre Building		**Original Construction Date**	
Facility Address		250 Owen Sound St, Dundalk		*2012*	
				Asset Life	
Building Dimensions (feet)	74	x	30	**in Years**	
				70	
Building Area (sq. ft.)			2,220	**Calculated Bldg**	
				End of Life	
Replacement Cost per Square Foot			**$ 225**	*2082*	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Excellent*	
			Good (40% to 74% ALR)	**Present Building**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	**Internal Condition**	
			Poor (>14% ALR)		
				Roof Condition	
Total Replacement Cost			**$ 499,500**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*60*	
Building Exterior		43%	$ -		2022
Building Interior		25%	$ -	19	2041
Mechanical		7%	$ -	8	2030
Plumbing		5%	$ -	25	2047
Roof		10%	$ -	21	2043
Electrical		10%	$ -	30	2052
Other Building specific features:	Tables & Chairs		$ -		2022
Other Building specific features:	Patio Area		$ -		2022
Total		**100%**	$ -		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022	
Facility Name		Lions Pavilion		**Original Construction Date**
Facility Address		250 Owen Sound St, Dundalk		*1977*
Building Dimensions (feet)	40	x	80	**Asset Life in Years**
				70
Building Area (sq. ft.)			3,200	**Calculated Bldg End of Life**
Replacement Cost per Square Foot			**$ 180**	*2047*
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**
			Excellent >75% ALR)	*Fair*
			Good (40% to 74% ALR)	**Present Building Internal Condition**
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	
			Poor (>14% ALR)	**Roof Condition**
Total Replacement Cost			**$ 576,000**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*25*	
Building Exterior		43%	$ 247,680	-	2022
Building Interior		25%	$ 144,000	-	2022
Mechanical		7%	$ 40,320	-	2022
Plumbing		5%	$ 28,800	-	2022
Roof		10%	$ 57,600	-	2022
Electrical		10%	$ 57,600	-	2022
Other Building specific features:	Tables & Chairs (shared with Arena)		$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 576,000**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022	
Facility Name		Olde Town Hall		**Original Construction Date**
Facility Address		80 Main St E, Dundalk		*1905*
Building Dimensions (feet)	40	x	50	**Asset Life in Years**
				70
Building Area (sq. ft.)			6,000	**Calculated Bldg End of Life**
Replacement Cost per Square Foot			**$ 400**	*1975*
Asset Notes: > Sold in 2022			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**
> Township leasing cultural space in 2023			*Excellent >75% ALR)*	*Poor*
			Good (40% to 74% ALR)	**Present Building Internal Condition**
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	
			Poor (>14% ALR)	**Roof Condition**
Total Replacement Cost			$ 2,400,000	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*0*	
Building Exterior		43%	$ 1,032,000	-	2022
Building Interior		25%	$ 600,000	-	2022
Mechanical		7%	$ 168,000	-	2022
Plumbing		5%	$ 120,000	-	2022
Roof		10%	$ 240,000	-	2022
Electrical		10%	$ 240,000	-	2022
Other Building specific features:	Tables & Chairs (shared with Arena)		$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 2,400,000**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Public Library & Community Services Building		**Original Construction Date**	
Facility Address		80 Proton St, Dundalk		*2010*	
Building Dimensions (feet)	106	x	62	**Asset Life in Years**	
Building Area (sq. ft.)			6,572	*70*	
Replacement Cost per Square Foot			**$ 225**	**Calculated Bldg End of Life**	
				2080	
Asset Notes:	> HVAC Upgrade		**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Excellent*	
Staff Comments or Recommendations:			*Good (40% to 74% ALR)*	**Present Building Internal Condition**	
			Fair (15% to 39% ALR)		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 1,478,700**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*58*	
Building Exterior		43%	$ 635,841	25	2047
Building Interior		25%	$ 369,675	25	2047
Roof		10%	$ 147,870	25	2047
Electrical		10%	$ 147,870	25	2047
Plumbing		5%	$ 73,935	25	2047
Mechanical	1 of 2 HVAC Unit replaced 2019	7%	$ 103,509	25	2047
Other Building specific features:	Ground Heat		$ -		2022
Other Building specific features:	Grey Water Sewer		$ -		2022
Total			**$ 1,478,700.00**		

Building Replacement Costs Analysis

Month:	September		**Year:**	2022		
Facility Name		Dundalk Fire Hall			**Original Construction Date**	
Facility Address		85 Dundalk St, Dundalk			*2003*	
Building Dimens	Fire Bays	45	x	109	**Asset Life in Years**	
		45	x	39		
					70	
Building Area (sq. ft.)				8,415	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot				**$ 134**	*2073*	

Asset Notes:	> Front door replaced in 2022, Fire Hall Furnace replaced 2022			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
> In Garage CO Exhaust system replaced 2022				*Excellent >75% ALR)*	*Good*	
> EMS Furnace to be replaced 2023				*Good (40% to 74% ALR)*	**Present Building Internal Condition**	
Staff Comments or Recommendations:				*Fair (15% to 39% ALR)*		
				Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost				**$ 1,130,625.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*51*	
Building Exterior		43%	$ 486,169	13	2035
Building Interior		25%	$ 282,656	16	2038
Mechanical		10%	$ 113,063	6	2028
Plumbing	Original	10%	$ 113,063	16	2038
Roof	Original	5%	$ 56,531	21	2043
Electrical		7%	$ 79,144	21	2043
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 1,130,625.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Dundalk Public Works Garage		**Original Construction Date**	
Facility Address		75 Dundalk St N, Dundalk		*1995*	
Building Dimensions (feet)	81	x	42	**Asset Life in Years**	
Building Area (sq. ft.)			3,402	*70*	
Replacement Cost per Square Foot			***$ 150.00***	**Calculated Bldg End of Life**	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	*2065*	
			Excellent >75% ALR)	**Present Building Structural Condition**	
			Good (40% to 74% ALR)	*Good*	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	**Present Building Internal Condition**	
			Poor (>14% ALR)		
Total Replacement Cost			**$ 510,300.00**	**Roof Condition**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*43*	
Building Exterior		43%	$ -	25	2047
Building Interior		25%	$ -	25	2047
Mechanical		10%	$ -	25	2047
Plumbing		10%	$ -	25	2047
Roof		5%	$ -	25	2047
Electrical		7%	$ -	25	2047
Other Building specific features:			$ -		
Other Building specific features:			$ -		
Total		**100%**	$ -		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Maple Grove Cemetary Mortuary Building		**Original Construction Date**	
Facility Address		180199 Grey Rd 9, Dundalk		*1954*	
Building Dimensions (feet)	20	x	30	**Asset Life in Years**	
				75	
Building Area (sq. ft.)			600	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			**$ 200.00**	*2029*	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Poor*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 120,000.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*7*	
Building Exterior	Brick siding	70%	$ 84,000.00	-	2022
Building Interior	Original	10%	$ 12,000.00	-	2022
Roof	Metal Roof	20%	$ 24,000.00	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 120,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Maple Grove Cemetary Garage Building		**Original Construction Date**	
Facility Address		180199 Grey Rd 9, Dundalk		*1996*	
Building Dimensions (feet)	24	x	30	**Asset Life in Years**	
				75	
Building Area (sq. ft.)			720	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			**$ 50.00**	*2071*	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Good*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 36,000.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*49*	
Building Exterior		70%	$ 25,200.00	25	2047
Building Interior		10%	$ 3,600.00	25	2047
Roof		20%	$ 7,200.00	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 36,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Hopeville Admin Offices		**Original Construction Date**	
Facility Address		185667 Grey Rd 9, Dundalk		*1988*	
Building Dimensions (feet)	35	x	68	**Asset Life in Years**	
				70	
Building Area (sq. ft.)			2,380	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			***$ 265.00***	*2058*	
Asset Notes:	> North roof replaced in 2019		**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
> South roof replaced in 2013	> LED Light Upgrades 2019		*Excellent >75% ALR)*	*Good*	
> Security system 2020			*Good (40% to 74% ALR)*	**Present Building Internal Condition**	
> Attic insulation 2020			*Fair (15% to 39% ALR)*		
Staff Comments or Recommendations:			*Poor (>14% ALR)*		
				Roof Condition	
Total Replacement Cost			**$ 630,700.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*36*	
Building Exterior		43%	$ 271,201.00	32	2054
Building Interior		25%	$ 157,675.00	-	2022
Roof		10%	$ 63,070.00	34	2056
Electrical		10%	$ 63,070.00	22	2044
Plumbing		5%	$ 31,535.00	-	2022
Mechanical		7%	$ 44,149.00	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 630,700.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022	
Facility Name		Hopeville PW Garage		**Original Construction Date**
Facility Address		185667 Grey Rd 9, Dundalk		*1988*
Building Dimensions (feet)	177	x	56	**Asset Life in Years**
				70
Building Area (sq. ft.)			9,912	**Calculated Bldg End of Life**
Replacement Cost per Square Foot			***$ 150.00***	*2058*
Asset Notes: > North roof replaced in 2019			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**
> South roof replaced in 2013	> LED Light Upgrades 2019		*Excellent >75% ALR)*	*Good*
> Security system 2020			*Good (40% to 74% ALR)*	**Present Building Internal Condition**
> Attic insulation 2020			*Fair (15% to 39% ALR)*	
Staff Comments or Recommendations:			*Poor (>14% ALR)*	**Roof Condition**
Total Replacement Cost			**$ 1,486,800.00**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*36*	
Building Exterior		55%	$ 817,740.00	32	2054
Building Interior		20%	$ 297,360.00	-	2022
Roof		10%	$ 148,680.00	34	2056
Electrical	LED 2019	5%	$ 74,340.00	22	2044
Plumbing		5%	$ 74,340.00	-	2022
Mechanical		5%	$ 74,340.00	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 1,486,800.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Hopeville Sand & Salt Dome		**Original Construction Date**	
Facility Address		185667 Grey Rd 9, Dundalk		*2011*	
				Asset Life	
Building Dimensions (feet)	70	x	100	**in Years**	
				70	
Building Area (sq. ft.)			7,000	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			***$ 150.00***	*2081*	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Excellent*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 1,050,000.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*59*	
Building Exterior		75%	$ 787,500.00	59	2081
Roof		20%	$ 210,000.00	-	2022
Electrical		5%	$ 52,500.00	29	2051
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 1,050,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Hopeville Cold Shed		**Original Construction Date**	
Facility Address		185667 Grey Rd 9, Dundalk		*2011*	
Building Dimensions (feet)	70	x	71	**Asset Life in Years**	
				70	
Building Area (sq. ft.)			4,970	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			**$ 150.00**	*2081*	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Excellent*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 745,500.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*59*	
Building Exterior		75%	$ 559,125.00	59	2081
Roof		20%	$ 149,100.00	-	2022
Electrical		5%	$ 37,275.00	29	2051
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 745,500.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022	
Facility Name		Hopeville - Proton Community Park Pavilion		**Original Construction Date**
Facility Address		185450 Grey Rd 9, Dundalk		*1967*
Building Dimensions (feet)	28	x	60	**Asset Life in Years**
				70
Building Area (sq. ft.)			1,680	**Calculated Bldg End of Life**
Replacement Cost per Square Foot			**$ 150.00**	*2037*
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**
			Excellent >75% ALR)	*Fair*
			Good (40% to 74% ALR)	**Present Building Internal Condition**
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	
			Poor (>14% ALR)	**Roof Condition**
Total Replacement Cost			**$ 252,000.00**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*15*	
Building Exterior	Steel Siding - 1985	65%	$ 163,800.00	13	2035
Building Interior		5%	$ 12,600.00	8	2030
Roof	Replaced in 2005 - Shingled	15%	$ 37,800.00	3	2025
Electrical		5%	$ 12,600.00	11	2033
Plumbing		5%	$ 12,600.00	-	2022
Mechanical		5%	$ 12,600.00	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 252,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022	
Facility Name		Hopeville - Proton Community Park Washrooms		**Original Construction Date**
Facility Address		185450 Grey Rd 9, Dundalk		*1967*
Building Dimensions (feet)	15	x	24	**Asset Life in Years**
Building Area (sq. ft.)			360	*70* **Calculated Bldg**
Replacement Cost per Square Foot			***$ 150.00***	**End of Life** *2037*
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**
			Excellent >75% ALR)	*Fair*
			Good (40% to 74% ALR)	**Present Building Internal Condition**
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	
			Poor (>14% ALR)	**Roof Condition**
Total Replacement Cost			**$ 54,000.00**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*15*	
Building Exterior		65%	$ 35,100.00	13	2035
Building Interior		5%	$ 2,700.00	8	2030
Roof		15%	$ 8,100.00	3	2025
Electrical		5%	$ 2,700.00	11	2033
Plumbing		5%	$ 2,700.00	-	2022
Mechanical		5%	$ 2,700.00	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 54,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Swinton Park Hall		**Original Construction Date**	
Facility Address		245308 Southgate Rd 24, Dundalk		*1915*	
				Asset Life	
Building Dimensions (feet)	40	x	30	**in Years**	
Addition	38	x	14		
				70	
Building Area (sq. ft.)			1,713	**Calculated Bldg**	
				End of Life	
Replacement Cost per Square Foot			**$ 225.00**	*1985*	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Poor*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 385,425.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*0*	
Building Exterior		43%	$ -	-	2022
Building Interior		25%	$ -	-	2022
Roof		15%	$ -	-	2022
Electrical		5%	$ -	-	2022
Plumbing		5%	$ -	-	2022
Mechanical		7%	$ -	21	2043
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ -**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Holstein Council Chambers		**Original Construction Date**	
Facility Address		123273 Soutgate Rd 12, Dundalk		*1990*	
Building Dimensions (feet)	42	x	22	**Asset Life in Years**	
	32		27		
				70	
Building Area (sq. ft.)			1,768	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			**$ 225.00**	*2060*	
Asset Notes:	> Shingled roof 2013		**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Good*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 397,702.58**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*38*	
Building Exterior		43%	$ 171,012.11	-	2022
Building Interior	Renovated in 2022	25%	$ 99,425.64	25	2047
Roof		10%	$ 39,770.26	1	2023
Electrical		10%	$ 39,770.26	-	2022
Plumbing		5%	$ 19,885.13	-	2022
Mechanical		7%	$ 27,839.18	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 397,702.58**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Holstein PW Garage		**Original Construction Date**	
Facility Address		123273 Southgate Rd 12, Dundalk		*1973*	
Building Dimensions (feet)	50	x	120	**Asset Life in Years**	
Building Area (sq. ft.)			6,000	*70* **Calculated Bldg**	
Replacement Cost per Square Foot			***$ 150.00***	**End of Life** *2043*	
Asset Notes: > Steel roof replaced 2013			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
> Needs insulation and exterior cladding upgraded			*Excellent >75% ALR)*	*Fair*	
Staff Comments or Recommendations:			*Good (40% to 74% ALR)* *Fair (15% to 39% ALR)* *Poor (>14% ALR)*	**Present Building Internal Condition**	
Total Replacement Cost			**$ 900,000.00**	**Roof Condition**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*21*	
Building Exterior		55%	$ 495,000.00	-	2022
Building Interior		10%	$ 90,000.00	-	2022
Roof		20%	$ 180,000.00	31	2053
Electrical		5%	$ 45,000.00	-	2022
Plumbing		5%	$ 45,000.00	-	2022
Heating/Cooling		5%	$ 45,000.00	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 900,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022	
Facility Name		Holstein Sand & Salt Dome		**Original Construction Date**
Facility Address		123273 Southgate Rd 12, Dundalk		*1978*
Building Dimensions (feet)	45	x	3	**Asset Life in Years**
				70
Building Area (sq. ft.)			6,362	**Calculated Bldg End of Life**
Replacement Cost per Square Foot			**$ 150.00**	*2048*
Asset Notes: > Front half re-shingled 2013			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**
> Garage furnace upgraded 2017			*Excellent >75% ALR)*	*Fair*
			Good (40% to 74% ALR)	**Present Building Internal Condition**
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	
			Poor (>14% ALR)	**Roof Condition**
Total Replacement Cost			**$ 954,258.77**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*26*	
Building Exterior		75%	$ 715,694.08	-	2022
Electrical		5%	$ 47,712.94	-	2022
Roof		20%	$ 190,851.75	6	2028
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 954,258.77**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022	
Facility Name		Holstein Public Works Shed		**Original Construction Date**
Facility Address		123273 Southgate Rd 12, Dundalk		*1990*
Building Dimensions (feet)	36	x	64	**Asset Life in Years**
				75
Building Area (sq. ft.)			2,304	**Calculated Bldg End of Life**
Replacement Cost per Square Foot			**$ 50.00**	*2065*
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**
			Excellent >75% ALR)	*Good*
			Good (40% to 74% ALR)	**Present Building Internal Condition**
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	
			Poor (>14% ALR)	**Roof Condition**
Total Replacement Cost			**$ 115,200.00**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*43*	
Building Exterior		75%	$ 86,400.00	25	2047
Roof		20%	$ 23,040.00	25	2047
Electrical		5%	$ 5,760.00	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 115,200.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Holstein Park Assembly Hall		**Original Construction Date**	
Facility Address		392057 Grey Rd 109, Dundalk		*1967*	
				Asset Life	
Building Dimensions (feet)		x		**in Years**	
				70	
Building Area (sq. ft.)			3,480	**Calculated Bldg**	
				End of Life	
Replacement Cost per Square Foot			**$ 150.00**	*2037*	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Fair*	
			Good (40% to 74% ALR)	**Present Building**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	**Internal Condition**	
			Poor (>14% ALR)		
				Roof Condition	
Total Replacement Cost			**$ 522,000.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*15*	
Building Exterior		43%	$ -	-	2022
Building Interior		25%	$ -	10	2032
Roof		10%	$ -	33	2055
Electrical		10%	$ -	11	2033
Plumbing		5%	$ -	-	2022
Mechanical		7%	$ -	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ -**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Rental Farm Property House		**Original Construction Date**	
Facility Address		225579 Southgate Rd 22, Dundalk		*1880*	
Building Dimensions (feet)	30	x	56	**Asset Life in Years**	
				70	
Building Area (sq. ft.)			1,680	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			**$ 375.00**	*1950*	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Poor*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 630,000.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*0*	
Building Exterior		43%	$ 270,900.00	-	2022
Building Interior		25%	$ 157,500.00	-	2022
Roof		10%	$ 63,000.00	-	2022
Electrical		10%	$ 63,000.00	-	2022
Plumbing		5%	$ 31,500.00	-	2022
Heating/Cooling		7%	$ 44,100.00	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 630,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Road 22 Farm Barn & Shed		**Original Construction Date**	
Facility Address		225579 Southgate Rd 22, Dundalk		*1880*	
Building Dimensions (feet)	60	x	78	**Asset Life in Years**	
Building Area (sq. ft.)			4,680	*70*	
Replacement Cost per Square Foot			***$ 50.00***	**Calculated Bldg End of Life**	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	*1950*	
			Excellent >75% ALR)	**Present Building Structural Condition**	
			Good (40% to 74% ALR)	*Poor*	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	**Present Building Internal Condition**	
			Poor (>14% ALR)		
Total Replacement Cost			**$ 234,000.00**	**Roof Condition**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*0*	
Building Exterior		75%	$ 175,500.00	-	2022
Roof		20%	$ 46,800.00	-	2022
Electrical		5%	$ 11,700.00	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 234,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Road 22 Farm Barn & Shed		**Original Construction Date**	
Facility Address		225579 Southgate Rd 22, Dundalk		*2000*	
Building Dimensions (feet)	32	x	45	**Asset Life in Years**	
Building Area (sq. ft.)			1,440	*70*	
Replacement Cost per Square Foot			***$ 50.00***	**Calculated Bldg End of Life**	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	*2070*	
			Excellent >75% ALR)	**Present Building Structural Condition**	
			Good (40% to 74% ALR)	*Good*	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	**Present Building Internal Condition**	
			Poor (>14% ALR)		
Total Replacement Cost			**$ 72,000.00**	**Roof Condition**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*48*	
Building Exterior		75%	$ 54,000.00	-	2022
Roof		20%	$ 14,400.00	-	2022
Electrical		5%	$ 3,600.00	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 72,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Waste Site Property Werner House		**Original Construction Date**	
Facility Address		413020 Southgate SdRd 41, Dundalk		*1966*	
Building Dimensions (feet)	30	x	65	**Asset Life in Years**	
Building Area (sq. ft.)			1,950	*70*	
				Calculated Bldg End of Life	
Replacement Cost per Square Foot			**$ 375.00**	*2036*	
Asset Notes:	>Demolition of residential building required		**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Fair*	
Staff Comments or Recommendations:			*Good (40% to 74% ALR)*	**Present Building Internal Condition**	
			Fair (15% to 39% ALR)		
			Poor (>14% ALR)		
Total Replacement Cost			**$ 731,250.00**	**Roof Condition**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*14*	
Building Exterior		43%	$ 314,437.50	-	2022
Building Interior		25%	$ 182,812.50	-	2022
Roof		10%	$ 73,125.00	-	2022
Electrical		10%	$ 73,125.00	-	2022
Plumbing		5%	$ 36,562.50	-	2022
Heating/Cooling		7%	$ 51,187.50	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 731,250.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022	
Facility Name		Hunt Club Sheds		**Original Construction Date**
Facility Address		413013 Southgate SdRd 41, Dundalk		*1967*
Building Dimensions (feet)	15	x	27	**Asset Life in Years**
				70
Building Area (sq. ft.)			405	**Calculated Bldg End of Life**
Replacement Cost per Square Foot			**$ 50.00**	*2037*
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**
			Excellent >75% ALR)	*Fair*
			Good (40% to 74% ALR)	**Present Building Internal Condition**
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	
			Poor (>14% ALR)	**Roof Condition**
Total Replacement Cost			**$ 20,250.00**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*15*	
Building Exterior		75%	$ 15,187.50	-	2022
Roof		20%	$ 4,050.00	-	2022
Electrical		5%	$ 1,012.50	-	2022
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 20,250.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Sewage Filter Building		**Original Construction Date**	
Facility Address		752051 Ida St, Dundalk		*1984*	
Building Dimensions (feet)	30	x	76	**Asset Life in Years**	
Building Area (sq. ft.)			2,280	*70*	
Replacement Cost per Square Foot			**$ 225.00**	**Calculated Bldg End of Life**	
Asset Notes:				*2054*	
			Building Condition Options on Asset Life Remaining (ALR)	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Good*	
Staff Comments or Recommendations:			*Good (40% to 74% ALR)*	**Present Building Internal Condition**	
			Fair (15% to 39% ALR)		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 513,000.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*32*	
Building Exterior		60%	$ 307,800.00	25	2047
Building Interior		10%	$ 51,300.00	25	2047
Roof		10%	$ 51,300.00	25	2047
Electrical	LED 2019	10%	$ 51,300.00	25	2047
Plumbing		5%	$ 25,650.00	25	2047
Heating/Cooling		5%	$ 25,650.00	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 513,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Aeration Blower Room		**Original Construction Date**	
Facility Address		752051 Ida St, Dundalk		*2000*	
Building Dimensions (feet)	22	x	21	**Asset Life in Years**	
				70	
Building Area (sq. ft.)			462	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			**$ 50.00**	*2070*	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Good*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 23,100.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
Calculated Life Remaining Based on Date of Construction and Asset Life				*48*	
Building Exterior		70%	$ 16,170.00	25	2047
Roof		20%	$ 4,620.00	25	2047
Electrical		10%	$ 2,310.00	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 23,100.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Influent Station		**Original Construction Date**	
Facility Address		752051 Ida St, Dundalk		*2000*	
Building Dimensions (feet)	8	x	9	**Asset Life in Years**	
Building Area (sq. ft.)			72	*70*	
Replacement Cost per Square Foot			**$ 225.00**	**Calculated Bldg End of Life**	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	*2070*	
			Excellent >75% ALR)	**Present Building Structural Condition**	
Staff Comments or Recommendations:			*Good (40% to 74% ALR)*	*Good*	
			Fair (15% to 39% ALR)	**Present Building Internal Condition**	
			Poor (>14% ALR)		
Total Replacement Cost			**$ 16,200.00**	**Roof Condition**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*48*	
Building Exterior		70%	$ 11,340.00	25	2047
Roof		20%	$ 3,240.00	25	2047
Electrical		10%	$ 1,620.00	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 16,200.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Wet Well Control Building		**Original Construction Date**	
Facility Address		752051 Ida St, Dundalk		*2014*	
Building Dimensions (feet)	7	x	16	**Asset Life in Years**	
Building Area (sq. ft.)			112	*70*	
Replacement Cost per Square Foot			**$ 150.00**	**Calculated Bldg End of Life**	
				2084	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Excellent*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 16,800.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*62*	
Building Exterior		70%	$ 11,760.00	25	2047
Roof		20%	$ 3,360.00	25	2047
Electrical		10%	$ 1,680.00	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 16,800.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Well D3		**Original Construction Date**	
Facility Address		271 Victoria St W, Dundalk		*1978*	
Building Dimensions (feet)	24	x	34	**Asset Life in Years**	
Building Area (sq. ft.)			804	*70*	
Replacement Cost per Square Foot			**$ 400.00**	**Calculated Bldg End of Life**	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	*2048*	
			Excellent >75% ALR)	**Present Building Structural Condition**	
			Good (40% to 74% ALR)	*Fair*	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*	**Present Building Internal Condition**	
			Poor (>14% ALR)		
Total Replacement Cost			**$ 321,600.00**	**Roof Condition**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*26*	
Building Exterior		43%	$ 138,288.00	25	2047
Building Interior		10%	$ 32,160.00	25	2047
Roof		10%	$ 32,160.00	25	2047
Electrical		25%	$ 80,400.00	25	2047
Plumbing		9%	$ 28,944.00	25	2047
Mechanical		3%	$ 9,648.00	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 321,600.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Well D4		**Original Construction Date**	
Facility Address		550 Main St. East, Dundalk		*2000*	
Building Dimensions (feet)	23	x	26	**Asset Life in Years**	
	32	x	23	*70*	
Building Area (sq. ft.)			1,328	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			**$ 400.00**	*2070*	
Asset Notes:	>Includes contact chamber/reservoir		**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Good*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 531,000.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
Calculated Life Remaining Based on Date of Construction and Asset Life				*48*	
Building Exterior		43%	$ 228,330.00	25	2047
Building Interior		10%	$ 53,100.00	25	2047
Roof		10%	$ 53,100.00	25	2047
Electrical		25%	$ 132,750.00	25	2047
Plumbing		9%	$ 47,790.00	25	2047
Heating/Cooling		3%	$ 15,930.00	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total		**100%**	**$ 531,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Well D5		**Original Construction Date**	
Facility Address				*2019*	
				Asset Life	
Building Dimensions (feet)	32	x	79	**in Years**	
				70	
Building Area (sq. ft.)			2,528	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			***$ 400.00***	*2089*	
Asset Notes:	>Includes contact chamber/reservoir		**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Excellent*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)		
Total Replacement Cost			**$ 1,011,200.00**	**Roof Condition**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*67*	
Building Exterior		43%	$ 434,816.00	25	2047
Building Interior		10%	$ 101,120.00	25	2047
Roof		10%	$ 101,120.00	25	2047
Electrical		25%	$ 252,800.00	25	2047
Plumbing		9%	$ 91,008.00	25	2047
Heating/Cooling		3%	$ 30,336.00	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 1,011,200.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022	
Facility Name		Egremont Office/Scalehouse		**Original Construction Date**
Facility Address				*2019*
Building Dimensions (feet)	25	x	33	**Asset Life in Years**
Building Area (sq. ft.)			825	*70*
Replacement Cost per Square Foot			**$ 225.00**	**Calculated Bldg End of Life**
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	*2089*
			Excellent >75% ALR)	**Present Building Structural Condition**
Staff Comments or Recommendations:			*Good (40% to 74% ALR)*	*Excellent*
			Fair (15% to 39% ALR)	**Present Building Internal Condition**
			Poor (>14% ALR)	
Total Replacement Cost			**$ 185,625.00**	**Roof Condition**

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*67*	
Building Exterior		55%	$ 102,093.75	25	2047
Building Interior		10%	$ 18,562.50	25	2047
Roof		20%	$ 37,125.00	25	2047
Electrical		5%	$ 9,281.25	25	2047
Plumbing		5%	$ 9,281.25	25	2047
Heating/Cooling		5%	$ 9,281.25	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 185,625.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022	
Facility Name		Egremont WRDM Garage		**Original Construction Date**
Facility Address				*2019*
Building Dimensions (feet)	60	x	56	**Asset Life in Years**
Building Area (sq. ft.)			3,360	*70*
Replacement Cost per Square Foot			**$ 150.00**	**Calculated Bldg End of Life**
				2089
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**
			Excellent >75% ALR)	*Excellent*
Staff Comments or Recommendations:			*Good (40% to 74% ALR)*	**Present Building Internal Condition**
			Fair (15% to 39% ALR)	
			Poor (>14% ALR)	**Roof Condition**
Total Replacement Cost			**$ 504,000.00**	

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
	Calculated Life Remaining Based on Date of Construction and Asset Life			*67*	
Building Exterior		55%	$ 277,200.00	25	2047
Building Interior		10%	$ 50,400.00	25	2047
Roof		20%	$ 100,800.00	25	2047
Electrical		5%	$ 25,200.00	25	2047
Plumbing		5%	$ 25,200.00	25	2047
Mechanical		5%	$ 25,200.00	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 504,000.00**		

Building Replacement Costs Analysis

Month:	September	**Year:**	2022		
Facility Name		Egremont WRDM Recycling Bldg		**Original Construction Date**	
Facility Address				*2019*	
Building Dimensions (feet)	40	x	40	**Asset Life in Years**	
				70	
Building Area (sq. ft.)			1,600	**Calculated Bldg End of Life**	
Replacement Cost per Square Foot			**$ 100.00**	*2089*	
Asset Notes:			**Building Condition Options on Asset Life Remaining (ALR)**	**Present Building Structural Condition**	
			Excellent >75% ALR)	*Excellent*	
			Good (40% to 74% ALR)	**Present Building Internal Condition**	
Staff Comments or Recommendations:			*Fair (15% to 39% ALR)*		
			Poor (>14% ALR)	**Roof Condition**	
Total Replacement Cost			**$ 160,000.00**		

Building Components	**Descriptions**	**Percent of Building Cost**	**Amount in Dollars**	**Useful Asset Life Remaining in Years**	
		Calculated Life Remaining Based on Date of Construction and Asset Life		*67*	
Building Exterior		55%	$ 88,000.00	25	2047
Building Interior		10%	$ 16,000.00	25	2047
Roof		20%	$ 32,000.00	25	2047
Electrical		5%	$ 8,000.00	25	2047
Plumbing		5%	$ 8,000.00	25	2047
Mechanical		5%	$ 8,000.00	25	2047
Other Building specific features:			$ -		2022
Other Building specific features:			$ -		2022
Total			**$ 160,000.00**		