Asset Management Plan





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Asset Management Plan

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1.0 Executive Summary

The performance of a community's infrastructure provides the foundation for its economic development, competitiveness, prosperity, reputation, and the overall quality of life for its residents. An asset management plan is created to define a strategy to maintain this infrastructure.

The asset management plan documents our current program which is an integrated, lifecycle approach to effective stewardship of infrastructure assets to maximize benefits, manage risk and provide satisfactory levels of service to the public in a sustainable and environmentally responsible manner.

The County previously integrated asset management into the strategic decision making process. The asset management plan officially documents these asset strategies used for asset groups across departments. The asset management plan has been completed based on available information in the County. It describes the framework for decision making related to the management of the County's existing infrastructure. The County is committed to continually improving the asset management plan in the future as additional information is collected and as further understanding of asset management strategies are achieved.

The plan is based on the eight key questions of asset management as outlined within the National Guide for Sustainable Municipal Infrastructure:

- What do we own? (inventory)
- What is it worth? (valuation / replacement cost)
- What are the service levels?
- What condition is it in? (function and performance)
- What needs to be done? (maintain / rehabilitate / replace)
- When do we need to do it? (useful life analysis)
- How much money do we need? (investment requirements)
- How do we reach sustainability? (long-term financial plan)

The asset management plan addresses these questions and the following key areas:

1. State of the Current Infrastructure
2. Asset Management Strategy
3. Financial Strategy

The County's asset management plan identifies the forecasted capital requirements within the next ten years based upon a detailed review of the current asset inventory condition and risk. It is a snapshot of the state of the County currently, however is also a living document that will change based on new information. The County is dedicated to increasing the accuracy of its inventory and the associated management strategies per asset type in order to strengthen the validity of the asset management plan. These activities will be based on a better understanding of the renewal needs of specific asset types and achievable service levels.

The assets identified in the asset management plan have a historical cost of $724 million as of December 31, 2014 and $2.9 billion based on replacement cost. The replacement cost is defined as the actual cost to replace an asset in today's dollars in new condition. The majority of the County's

asset value is held in road infrastructure which makes up 68% of this figure.

Asset Type	Replacement Cost	Historical Cost
Roads	$1,962 M	$448 M
Structures	$395 M	$69 M
Facilities	$498 M	$174 M
Vehicles	$38 M	$33 M
Total	**$2,893 M**	**$724 M**

The County has identified specific service levels for each asset type in the asset management plan. These service levels are an important trigger in the County's asset management strategy for rehabilitative and replacement events.

The County has used a risk rating system to determine which assets are in the greatest need of repair or replacement. The risk ratings are composed of two factors – Asset Condition Index and Service Impact. These two factors are then multiplied together to give each asset an overall risk rating. The risk assessment allows the County to compare different asset types to determine the highest priority assets requiring rehabilitation or replacement. The lower the condition and greater the importance of service impact, the greater the risk and consequence on the service being delivered. Once an asset is rated as having a medium risk rating, it is considered for replacement. Currently, the County's assets are on average in good repair and low risk. The County has projected an annual average requirement per asset type and the associated risk level as shown below:

Asset Type	2016 – 2025 Average Annual Expenses ($ Millions)	Risk Ratings
Roads	$11.3	Low
Structures	$9.5	Low
Facilities	$3.2	Medium-Low
Vehicles	$3.3	Medium-Low
Total Expenses	**$27.4**	

Based on the analysis of each asset group within the plan over a ten year period, the County forecasts a requirement of $270 million for capital expenses related to the rehabilitation and replacement of assets currently owned.

Due to the ability of the County to fund infrastructure expenses from available funding sources including the tax levy, as well the ability to raise debt, the County does not have an infrastructure deficit. If in the future the County finds it cannot fund rehabilitation and replacement of current assets through the tax levy, debt can be used to fund long life asset replacement projects. Overall, the County is in good financial standing to maintain and fund the rehabilitation and replacement of its existing assets. The County plans to review both the service levels and risk assessments on a regular basis to ensure they are reasonable.

2.0 Introduction

The County of Simcoe owns a diverse portfolio of infrastructure assets that provide a number of County services to residents. The County of Simcoe's prosperity, economic development, competitiveness, image, and overall quality of resident life are clearly tied to its quality of infrastructure.

The plan is based on the eight key questions of asset management as outlined within the National Guide for Sustainable Municipal Infrastructure:

- What do we own? (inventory)
- What is it worth? (valuation / replacement cost)
- What are the service levels?
- What condition is it in? (function and performance)
- What needs to be done? (maintain / rehabilitate / replace)
- When do we need to do it? (useful life analysis)
- How much money do we need? (investment requirements)
- How do we reach sustainability? (long-term financial plan)

The asset management plan addresses these questions in the following areas:

- State of the Current Infrastructure
- Asset Management Strategy
- Financial Strategy

2.1 What is Asset Management?

Asset management is the coordinated activity of an organization to realize value from assets. It encompasses a municipality's plan to provide services to residents in a way that meets the municipality's objectives and is financially sustainable in the future. Asset management is used by municipalities to better inform their decisions about which projects should be prioritized. This information is especially helpful when communicating with stakeholders in helping them to understand what decisions are being made and why. Decisions related to asset management often do not have immediate impacts. Rather, the repercussions of these decisions are seen over time and often over several decades.

Assets are defined as the physical infrastructure that is necessary to support the social, economic and environmental services provided to residents. These assets only exist for the purpose of supporting the delivery of a service to the public. Asset management is the way the County manages and maintains these assets in the most cost-effective way to a standard the County feels is acceptable. Management of assets includes the balancing of costs, opportunities and risks against the desired performance of assets, to achieve County wide objectives.

Successful asset management results in:

- Alignment of processes and resources
- Understanding the use of data and information to provide informed and consistent decisions
- Improved planning, alignment and coordination of existing initiatives
- Increased engagement and communication between different departments

- Improved responses to emergencies
- Improved security and safety of citizens

Specifically, the County will use the asset management plan to help define their future infrastructure investment strategy. Asset condition and service impact are identified per asset type and are evaluated to determine cost requirements in the future. These cost requirements require a clear allocation of resources between asset types. Financial strategies have been developed and are reviewed. Strategy decisions regarding reserve management and the request for additional funding if, required, need to be made based on the results of the plan.

The asset management plan will aid in developing common measurement tools to facilitate the evaluation of asset needs across the County's departments and asset groups. Such tools may include common condition and risk ratings which will allow the County to highlight those assets which are in greatest need of replacement or rehabilitation.

2.2 Relationship to Strategic Plan

An asset management plan is an important piece of a municipality's strategic plan. It helps to strengthen the development and operation of municipal infrastructure and the services they provide to the community. It provides insight into required infrastructure investment to provide future services and highlights areas that are in need.

Given the growing economic and political significance of infrastructure, the asset management plan is a key component of the strategic plan and influences other County of Simcoe plans, such as:

- The Official Plan – Land use policy directions for long-term growth and development
- Long Term Financial Plan – Financial decisions
- Transportation Master Plan – Future transportation recommendations

These plans also have a reciprocal relationship with the asset management plan, in that their conclusions affect the asset replacement strategy.

2.3 Objective and Scope

This document identifies and reviews the state of the County's infrastructure and the projected state of the following asset classes:

1. Transportation:
    a. Roads
    b. Structures (bridges and culverts)
2. Facilities: Corporate, Social Housing, Paramedic Stations, Roads Facilities, Landfill and Transfer Station Facilities, Museum and Archives
3. Fleet: Vehicles for Solid Waste Management, Corporate, Cultural, Paramedics and Transportation departments.

The scope of the asset management plan has focused on the core economic infrastructure outlined by the Ministry of Infrastructure. The scope of the plan may expand to other asset types currently owned by the County in future iterations.

The plan focuses on a time frame of the next ten years in regards to future forecasts. As it is difficult to know what type of circumstances will exist past this time frame and that this aligns with the

County's long term financial plan, this timeframe was chosen to be forecasted in this version of the plan.

The County of Simcoe is currently in a state of growth. However, this growth is difficult to predict when determining an asset management strategy. For this reason, the County's asset management plan focuses on the rehabilitation and reconstruction of its existing assets, and not the acquisition of new assets to handle increased levels of residents. This approach is consistent with most municipal asset management plans as reviewed by the County. As assets are purchased or constructed they are added to the County's inventory and included in the asset management plan.

2.4 General Methodology

The County addressed the requirement to produce an asset management plan by evaluating the importance of each asset type. Those asset types considered to be "core infrastructure assets" based on the Ministry of Infrastructure's guidelines were addressed in the plan.

The County has followed five steps in creating its asset management plan:

Step 1 – Compile an Asset Register
Step 2 – Understanding Asset Conditions and Life Cycle Costs
Step 3 – Determine Service Levels for each Asset Type
Step 4 – Evaluate each Asset Type based on a Risk Matrix
Step 5 – Develop a Long-Term Financial Plan

These steps are addressed in detail in each of the key sections of this document.

The County has developed a risk matrix that allows it to compare all asset types across divisions. The risk matrix is based on two factors – Asset Condition Index (ACI) and Service Impact (SI). Each asset is rated based on these two factors which are then multiplied together to get a total and its total risk level is compared to assets across the County. The County has also identified service levels for each asset type it aims to attain. These service levels are taken into consideration when reviewing the asset's condition within the ACI rating. The impact to residents and the County are considered within the SI rating. Overall, the total risk level of all assets is a reasonable representation of the County's assets.

2.5 Roles and Responsibilities

Asset Management Committee

An Asset Management Committee (AMC) was formed to ensure the creation of the asset management plan represented the goals and objectives of all of the County's major infrastructure groups. These groups include roads, structures, social housing, facilities, solid waste management and vehicles and equipment. The AMC is responsible for providing insight and knowledge into their respective departments, bringing forward service levels and historical data for use in the plan. The AMC is to ensure the data provided in the plan and future versions is reliable and complete. It is expected the AMC will meet on an annual basis to discuss additions, updates and improvements to the current asset management plan.

Corporate Departments

It is the responsibility of each department to provide current information regarding the state and needs of their respective infrastructure in terms of maintenance, repair, rehabilitation and

replacement requirements. Each department should recommend an asset management strategy to meet a defined level of service while minimizing life cycle costs. This includes maintaining a long range outlook rather than a short sighted financial plan. Each department is considered to be an expert on the funding sources applicable to their projects.

County Council

The role of County Council is to represent the citizens and make decisions on their behalf. They approve the level of service to be provided to the population and the appropriate allocation of resources. In order to make informed decisions, elected officials must be informed about the financial resource requirements in order to sustain the existing asset base at the predetermined levels of service and determine appropriate long term and strategic plans.

2.6 Asset Management System and Historical Financial Information

The asset management plan will be developed using a database of municipal infrastructure information in the Decision Support software produced by RIVA Modeling Systems. The software will contain the County's asset base, valuation information, life cycle activity predictions, costs for activities, sustainability analysis and prioritization parameters.

Historical information has been presented based on a period from 2009 to 2013. In the year 2009, the County converted to an Enterprise Resource System that allowed for more detailed project costing to be kept on file. When comparative information related to periods prior to 2009 are needed, other sources of information will be utilized.

2.7 Updating the Asset Management Plan

The asset management plan will be reviewed and updated regularly. When changes are made in forecasting methods, service levels, asset management strategies and growth plans, the plan will be updated to reflect these as well as the changes in forecasted expenses. The County currently uses the results of the Asset Management Plan as an input when forecasting both its annual budgets and long term financial plan. It is expected that the County will make use of the risk ratings of assets being replaced or rehabilitated for budgets and the long term financial plan.

3.0 State of Current Infrastructure and Service Levels

3.1 Introduction

The County's tangible capital assets were evaluated in 2009 in order to meet the PSAB 3150 accounting standard. This standard was implemented by the Accounting Standards Board and required municipalities to specifically identify and record municipal assets at their historical cost for greater transparency. Information related to the County's roads, structures and vehicles were then loaded into the RIVA Decision Support software module as they were known to be a complete listing of all owned assets for each class. A building condition assessment was later performed on all social housing buildings and County owned facilities to determine the County's facilities inventory, replacement cost and condition. These were loaded into the RIVA software. Structure data was also loaded based on bi-annual inspections. This database now provides a detailed and summarized inventory of each of these asset classes and is used throughout the asset management plan.

The County recognizes that data collection and data management is a critical aspect of the asset management planning process. Accuracy, completeness, reliability and consistency of the data is extremely important in developing a sound asset management plan.

In order to accurately forecast deterioration of an asset, periodic condition assessment information has been captured. The County relies on straight line or specific deterioration curves to forecast the deterioration of an asset over its useful life. Dependent on the asset class, more detailed asset condition information is available to forecast future costs. Further information on asset deterioration strategies are provided in the asset class sections below.

The County of Simcoe owns $933 million in assets as of December 31, 2014 based on their historical costs. The asset management plan currently covers $724 million of these assets. Roads and structures infrastructure represents 55% of this figure, or $516 million. County owned buildings other than those related to social housing make up 15% of this total respectively. Social housing buildings and County vehicles represent 3% and 4% of the total County assets. Excluded from the plan are assets that are unmanaged such as land and land improvements, as well as managed assets including small equipment, computer software and hardware. Based on this breakdown, it is apparent roadways are the County's largest asset type and require the greatest amount of capital spending to ensure they are well maintained at the targeted service level. This is consistent with the County's historical spending trend identified in Exhibit 1. Refer to Appendix 1 for a detailed description of each of the asset types and respective inventory the County owns.

The County's asset replacement cost is defined as the actual cost to replace an asset in today's dollars in new condition. Replacement cost is used in asset management as it aids in determining when repairing an asset is no longer a cost-efficient practice and replacement is more suitable. Furthermore, historical cost is subject to factors such as timing and purchase discounts which hinder it from being an accurate point of comparison. The County's facilities, roadways, structures and vehicles have an estimated replacement value of $2.9 billion. Roads represent 68% of this figure as shown in Exhibit 1, while structures, facilities and vehicles represent 14%, 17% and 13% respectively.

Exhibit 1: County of Simcoe Replacement and Historical Cost by Asset Type as of December 31, 2014

Asset Type	Replacement Cost	Historical Cost
Roads	$1,962 M	$448 M
Structures	$395 M	$69 M
Facilities	$498 M	$174 M
Vehicles	$38 M	$33 M
Total	**$2,893 M**	**$724 M**

Asset management includes setting levels of service in line with resident's expectations. The higher the level of service provided, the higher the cost associated with maintaining the asset in order to provide the service. Risks also decrease with increased service levels. Therefore, levels of service drive how the County will manage its infrastructure. Determining a sustainable level of service is the key to successful asset management as it allows the County to meet the needs of users in a risk-adverse and cost-efficient manner.

3.2 Service Levels

The desired level of service is defined as the indicator that defines service quality for a given activity. They support the County's strategic goals and are based on legislative requirements, customer expectations, expected asset performance, strategic and corporate master plans and the financial capacity of the County to deliver those levels of service. The following process identifies the method for establishing and maintaining a level of service.

a. Determine the appropriate level of each service
b. Track the level of service
c. Develop a strategy to meet the desired level of service

The basic level of service for the County is established by maintaining infrastructure at an acceptable level while minimizing the risk exposure to the County.

3.3 Transportation – Roads Network

Service Level

The County of Simcoe determines the condition of their roads by using the Pavement Condition Index (PCI).This method rates the condition of the surface of the road network by providing a numerical rating for the condition, where 0 is the worst possible condition and 100 is the best. It is based on the Ontario Good Roads Association recommended method of rating pavement condition.

The County uses Pavement Condition Index to define its service level. The Asset Condition Index categorizes the Pavement Condition Index into ranges to determine the condition rating. This Asset Condition Index rating is then used in the calculation of the assets risk.

PCI measures two conditions:

- Distress Manifestation Index (DMI): the type, extent and severity of pavement surface distresses
- Ride Comfort Rating (RCR): the smoothness and ride comfort of the road

The RCR is determined by a physical inspection of the road segment at the posted speed and assigned a rating based on a predetermined scale. The DMI is determined based on a systematic

method for classifying and assessing the visible consequences of various distress mechanisms. DMI classifies distress manifestations into 14 categories, which are by severity and density. The PCI is determined by the County's roads rehabilitation staff. The higher the PCI value, the greater condition the asset is in.

The PCI is reviewed annually for all road segments. The County strives to maintain an average PCI of 75 or greater for its roadways.

Condition Function & Performance

The County's PCI has been divided up into ranges which are associated with its general condition as shown below in Exhibit 2.

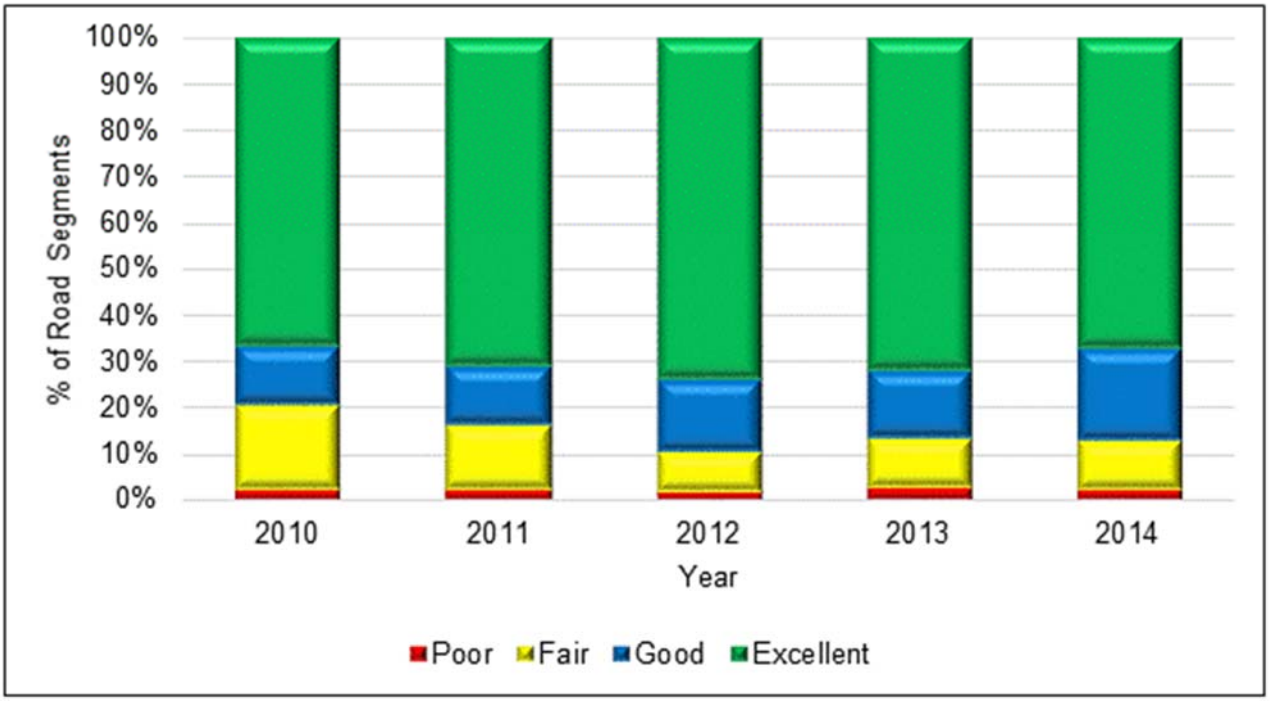
Exhibit 2: Roads – Pavement Condition Index

PCI Level	Condition	Asset Condition Index
80 – 100	Excellent	1
65 – 79.9	Good	2
40 – 64.9	Fair	3
1 – 39.9	Poor	4
0 < 1	Critical	5

As of December 31, 2014, 98% of the County's road network is in fair to excellent condition, and the remaining 2.1% being in poor condition. The average PCI in 2014 was 84.02. On average, the PCI has remained greater than 80 since 2010 as seen in Exhibit 3. This meets the County's current service level of achieving a PCI of 75 and greater. However, on average from 2010 to 2014, 23% of road segments did not meet the current service level as shown in Exhibit 4.

Exhibit 3: Roads – Average Pavement Condition Index and Rehabilitation Costs: 2010 – 2014

Exhibit 4: Roads – Road Segments per Condition Index Level



3.4 Transportation – Structures

Service Level

The County uses the Structure Sufficiency Index (SSI) to determine the condition and the urgency of identified needs for structures. The SSI considers both the condition of the structure identified by the bi-annual structural inspection and the social and economic factors associated with the structure.

Structure Sufficiency Index

The information required to calculate SSI is obtained from the Municipal Structure Inspection Form which is prepared at the time of the bi-annual inspection. In accordance with the provincial regulation, all structures are required to be inspected every two years under the direction of a professional engineer using the Ministry of Transportation Ontario (MTO) Ontario Structure Inspection Manual (OSIM). The County of Simcoe ensures all structures are inspected within the required time frame and the SSI is updated accordingly for each structure in the inventory. The SSI is defined by the below:

$$SSI = SCI - I$$

Where:

Bridges: $SCI = 100\{1 - (35\%C_{deck} + 35\%C_{beams} + 15\%C_{substructure} + 15\%C_{barrier})\}$

Culverts: $SCI = 100\{1 - (70\%C_{barrel} + 15\%C_{barrier} + 15\%C_{stream/embankments})\}$

C_x = % of Element X in Poor Condition (written as a decimal)

$I = I_t + I_e + I_w + I_p$

I_t = Importance Factor for Traffic (Max of 10)

I_e = Importance Factor for Economic Impacts (Max of 5)

I_w = Importance Factor for Structure Width (Max of 5)

I_p = Importance Factor for Structure Profile or Alignment (Max of 5)

Bridges are made up of four major components that include the deck, beams, substructure and barrier. The percentage of these components in poor condition are weighted to determine the Structure Condition Index (SCI). The weightings give more emphasis to the larger components of the structure. The same methodology is used for culverts, however these structures have three major components, which are the barrel, barrier and stream/embankment. Four importance factors (denoted as I) are then subtracted from the SCI rating.

Please refer to Appendix 2 for the tables associated with each importance factor. As noted above, each of these factors are limited to a maximum amount. In total, a structure could have a maximum of 25 points subtracted from its current SCI.

As indicated above SSI considers the general condition of the structure which is represented by SCI and other importance factors such as:

- Economic impact for commercial traffic as it relates to daily truck traffic count and load postings;
- Economic impact for user cost as it relates to the Annual Average Daily Traffic (AADT) and a detour length if the structure was closed;
- Safety factor to identify inadequate lane and shoulder width on the structure; and
- Safety factor to identify inadequate road profile and alignment at the structure

All of these factors give the County a better indication if the structure has a lower or higher urgency of needs rather than SCI (structural condition) alone.

Safety Critical Structure Elements

During the inspection process, safety critical elements are also identified if in need of immediate repair. The County strives to address all safety critical elements soon after they are identified. The County maintains that it will give safety critical issues priority in the following budget cycle.

Condition Function & Performance

This Structure Sufficiency index is a scale from 0 to 100, with condition ranges as shown in Exhibit 5. The higher the SSI, the greater condition the structure is in.

Exhibit 5: Structures – Structure Sufficiency Index

SSI Range	Condition	ACI	# of Structures
85 - 100	Excellent – Work is not usually required within the next ten years	1	106
75 - 84	Good – Work is not usually required within the next five years	2	49
60 - 74	Fair – Work is usually initiated within the next five years. This is the ideal time to schedule major structure repairs from an economic perspective	3	33
50 - 59	Poor – Work is usually initiated within approximately one year	4	4
0 - 49	Critical – Work should be initiated immediately	5	6

The County strives to maintain a SSI of 70 or greater for 85% of its structures. Currently, 171 of 198 structures (86%) of the County's inventory has a SSI rating of 70 or greater and therefore meet the recommended service level. The SSI reflects the rehabilitation and replacement work performed up to 2015 and will be updated on an annual basis.

It is important to note that some structures may have a SSI of less than 60, however are still in service as no safety critical elements require replacement. In consultation with a professional engineering firms along with the County's engineers, the County will schedule the replacement to maximize the structure's useful life with the intent of reconstruction at a later date to be cost efficient.

3.5 Facilities

Service Level

The County has a diverse range of facilities it maintains ranging from solid waste management scale houses to social housing medium rise apartments. Each facility is rated based on the following five factors and then totaled based on a specific weighting to determine its overall condition. These factors and their weightings are:

- Facility Condition Index (50%)
- Life Safety and Accessibility (5%)
- Building Interiors (10%)
- Building Systems (15%)
- Building Structure (20%)

When rating social housing units, multi-residential buildings follow the same weighting as above, however individual homes do not include Facility Condition Index. This has been omitted from the asset condition index as the repair and replacement costs do not reach the Tangible Capital Asset policy limit and therefore do not reflect the condition of the asset accurately. The required repairs to the building are captured within the other factors and are an accurate representation of the condition.

Facility Condition Index

The physical conditions of all County facilities are evaluated based on a Facility Condition Index (FCI). The FCI is an industry standard asset management tool which measures the structure's condition at a specific point in time. The County of Simcoe uses FCI to assist with investment decisions and strategic directions.

FCI is obtained by aggregating the total cost of any needed or outstanding repairs, renewal or upgrade requirements for a building compared to the current replacement value of the building. It is the ratio of the repair needs to replacement value expressed in percentage terms. Land value is not considered when evaluating FCI.

Calculating FCI using the total repair costs forecasted for a building within the next 10 years allows for the future needs of the building to be reflected in the indicator. This provides a broader condition rather than focusing solely on the repair needs of one year. This would be calculated as follows:

$$\text{10 Year FCI} = \frac{\text{Total of Building Repair / Upgrade / Renewal Needs for 10 Years}}{\text{Current Replacement Value of Building}}$$

The building repair needs of a building are calculated by forecasting the replacement of each component within the facility based on its condition and useful life. All facility components are evaluated by the County's maintenance managers on an annual basis to determine their current condition. Based on this condition, the expected year of replacement is forecasted. Each component is then forecasted based on its expected average useful life and associated cost.

As FCI increases, the assets will experience:

- Increased risk of component failure
- Increased facility maintenance and operating costs
- Greater negative impacts to staff and residents

FCI can be reported at all levels in the asset hierarchy; it can be used to express component condition (i.e. a roof), building condition, site condition and portfolio condition, with each higher level being the aggregate of those beneath it in the hierarchy.

As many of the County's facilities have different uses, their service levels also differ. The service levels specific to each facility are noted below.

The lower the value of FCI, the better condition that a building is in. Current industry benchmarks indicate the following subjective condition ratings for facilities with various ranges of FCI as shown in Exhibit 6.

Exhibit 6: Facilities - Facility Condition Index

Common Implications of FCI to Housing Portfolios					
Rating	**FCI Levels**	**Impact to Buildings and Components**	**Examples of Component Issues**	**Resident Complaints and Morale**	**Maintenance Staff Impact**
1	Good (<=5%)	- Facilities will look clean and functional. - Limited and manageable component and equipment failure may occur.	- Repairs and replacement of more of an aesthetic or general nature, such as wall painting, carpet replacement, roof repair, window caulking.	- Resident complaints will be low and manageable. - Resident morale will be positive and evident.	- Facilities staff time will be devoted to regular scheduled maintenance.
2	Fair (>5% to <=10%)	- Facilities are beginning to show signs of wear. - More frequent component and equipment failure will occur.	- Repairs and replacement of specific systems, i.e. boiler, window replacements, interior renovations.	- Resident complaints will occur with higher level of frequency. - Resident morale may be affected.	- Facilities staff time may at times be diverted from regular scheduled maintenance.
3	Poor (>10% to <=30%)	- Facilities will look worn with apparent and increasing deterioration. - Frequent component and equipment failure may occur. Occasional building shut down will occur.	- Replacement of specific major systems required, such as heating and plumbing systems, complete interior renovations, building envelope restoration. - Shut down may affect some units (i.e. roof or pipe leakage).	- Resident complaints will be high with increased level of frequency. - Concern about negative resident morale will be raised and become evident.	- Facilities staff time will likely be diverted from regular scheduled maintenance and forced to "reactive" mode.

Rating	FCI Levels	Impact to Buildings and Components	Examples of Component Issues	Resident Complaints and Morale	Maintenance Staff Impact
4	Very Poor (>30% to <=40%)	- Facilities will look worn with apparent and increasing deterioration. - Frequent component and equipment failure may occur. Occasional building shut down will occur.	- Replacement of specific major systems required, such as heating and plumbing systems, complete interior renovations, building envelope restoration. - Shut down may affect some units (i.e. roof or pipe leakage).	- Resident complaints will be high with increased level of frequency. - Concern about negative resident morale will be raised and become evident.	- Facilities staff time will likely be diverted from regular scheduled maintenance and forced to “reactive” mode.
5	Critical (> 40%)	- Facilities are worn with obvious and rapidly increasing deterioration. - Certain component and equipment failure. Increased building shut down to occur.	- Replacement of major and minor systems required, such as heating and plumbing systems, complete interior renovations, building envelope restoration.	- Resident complaints will be constant.	- Facilities staff time will be spent on repairing and replacing components full time with no time for regular scheduled maintenance.

The above grading system will be used to evaluate the FCI of each County of Simcoe facility to determine its overall general condition.

Life Safety and Accessibility

All facilities owned by the County are required by legislation to have components of the building inspected and be in compliance with all applicable legislation. Each facility has unique components and specific compliance requirements, however most facilities must be in line with the following authorities:

- Technical Standards and Safety Authority - Includes boilers, pressure vessels and elevating devices
- Electrical Safety Authority – Includes all electrical systems
- The National and Ontario Building Code
- Fire Code
- Canadian Standards Association
- Ministry of Labour
- Ministry of Environment
- Accessibility for Ontarians with Disabilities Act

Building Interiors

The interior of a building includes factors such as flooring, paint, general arrangement of work and public use areas, wall coverings and fixtures. In addition, this factor includes the overall age and aesthetics of the interior area of the building.

Building Systems

Each facility has multiple building systems within it to ensure it is available for its intended use. This includes mechanical, electrical and plumbing systems within the facility. Mechanical systems include HVAC (Heating Ventilation Air Conditioning), piping, and mechanical equipment (domestic hot water tanks). Electrical systems includes the switch gear, transformers, disconnects and distribution panels. Plumbing systems include fixtures, risers, drain stacks, recirculation systems and domestic hot water and cold water systems. Theses factor captures the general condition of these systems based on their age, efficiency and effectiveness.

Building Structures

The structure of a facility includes the structural components of the facility, building envelope and site components. The structural components include footings and foundation, sheer walls, structure steel and concrete elements. The building envelope is comprised of the roof, windows, and wall systems. Lastly, the site components include site services, pavement and walkways, and sanitary and storm water systems. These components capture any all-encompassing issues such as age of the structure, over-arching issues that relate to multiple components, efficiency and site requirements.

Social Housing

As a residential housing provider, the County must be in compliance with the Housing Services Act and the Residential Tenant Act. It also must be in compliance with any requirements from the Ministry of Municipal Affairs and Housing dependent on the type of facility owned.

The County's social housing facilities have an average Asset Condition Index of 2.6 Exhibit 7. As with any asset, if no investment is made to maintain the County's facilities they will deteriorate and require significant investment in later years to bring FCI into line with service levels.

Exhibit 7: Facilities – Social Housing Facilities Condition Summary

Facility	Asset Condition Index	Units
Multi-Residential Facilities	2.5	967
Individual Houses	2.6	374
Total Social Housing Facilities	**2.6**	**1,341**

Administration Centre

The Administration Centre is a building which houses over 200 County employees. It is a building that was built in two stages – the original building was built in 1972 and the addition was completed in 2012.

The County is required to be in compliance with all applicable legislation for components specific to the building. In the Administration Centre, these pieces of equipment and systems include emergency generators, electrical system – transformers, septic systems, water systems and kitchen equipment.

Condition is based upon the BCA County reviewed inventory data provided in 2012 for the original administrative building as well information on the new addition prepared in house. This information is reviewed on an annual basis for reasonability and to ensure replacement cost and condition remains accurate. This information is used to determine future expenditures. The administration center has a

FCI of 7% and an Asset Condition Index of 2.0 putting it in fair condition.

Roads Facilities

The County of Simcoe maintains six roads facilities located throughout the County. Operations at these facilities include the storage of maintenance vehicles and equipment, the storage of road maintenance supplies (i.e. salt) and a facility to perform minor vehicular and equipment repairs. The garages are located in Midhurst, Beeton, Moonstone, Creemore, Perkinsfield and Ramara. A new facility at Orr Lake will be replacing the roads facilities in Perkinsfield and Moonstone. The Perkinsfield garage will be used for storage going forward.

Condition is based upon the BCA County reviewed inventory data provided in 2012. This information is reviewed on an annual basis for reasonability and to ensure replacement cost and condition remains accurate.

The roads facilities have an average FCI of 4.8% and an ACI of 2.4 categorizing them in fair condition. However, the Ramara and Perkinsfield garages are specifically in fair and poor condition with an ACI of 2.7 and 3.5 as per Exhibit 8.

Exhibit 8: Facilities – Roads Facilities Condition Summary

Facility	Asset Condition Index
Midhurst	2.2
Creemore	2.1
Ramara	2.7
Beeton	1.3
Moonstone	N/A*
Perkinsfield	3.5
Total Roads Facilities	**2.4**

*Moonstone garage is being replaced with a newly built facility and therefore does not have an FCI

Paramedic Stations

The County of Simcoe is responsible for the maintenance associated with 15 paramedic stations. All but one of these stations are leased and designate the County as being responsible for the maintenance of the building. The Stayner paramedic station was built in 2011, is partially owned by the County and has an asset condition rating of 1.2 as it has little to no maintenance requirements at this time.

Simcoe County Museum

The County of Simcoe took responsibility for the Simcoe County Museum in the 1950s. It has grown significantly and is now composed of a five gallery facility with sixteen outdoor heritage and display buildings. The Museum is a unique building as it must keep the temperatures indoors moderated to accommodate the displays in the galleries. The Museum has an ACI of 2.4 making it in fair condition.

Simcoe County Archives

The Archives were the first established in Ontario in 1966 and continues to be a leader among small and municipal archives. The Simcoe County Archives manages the permanent records of both the County of Simcoe and its constituent municipalities, and documents the collective memory of the County by acquiring and preserving historical records in all recording media. The building is made

up of two areas including a specialized refrigerated space and office space. The Archives has a FCI of 6% and an ACI of 1.5 making it in good condition.

Long Term Care Facilities

The County of Simcoe owns and operates four long term care facilities throughout the County, these include Trillium Manor (Orillia), Sunset Manor and Village (Collingwood), Simcoe Manor and Village (Beeton) and the newly constructed Georgian Village (Penetanguishene). Each facility is unique in design and age, and has a different composition of services offered to residents including assisted living rental apartments (Georgian Village, Simcoe Village), Life Lease apartments (Georgian Village, Sunset Village) and long term care facilities. Most of the homes are brick buildings one to three stories in height.

Based upon each buildings ten year capital requirements, the average FCI of long term care homes is 5% and ACI of 2.5 per Exhibit 9, putting them in fair condition.

Exhibit 9: Facilities – Long Term Care Facilities Condition Summary

Facility	Asset Condition Index
Trillium Manor	3.3
Georgian Village	1.0
Sunset Manor and Village	2.4
Simcoe Manor and Village	3.5
Total Long Term Care	**2.5**

Solid Waste Management Facilities

The County currently operates eight facilities for receipt of waste from its residents and businesses. Four of these sites include active landfills and four sites are strictly transfer stations. Each site has a unique combination of structures and equipment dependent on the type of services being provided to residents at a given location. The facilities located at these sites include standardized scale houses, storage buildings for diversion activities, storage facilities for equipment and supplies and equipment servicing facilities. The County also additionally maintains 31 closed sites. These facilities will be evaluated for FCI and ACI and will be included in a future revision of the plan.

Facilities Condition Summary

Overall, the County's facilities are in good condition with an average FCI of 5.8% and ACI 2.5 or fair condition.as shown in Exhibit 10. The County strives to maintain an average ACI of 3 or lower.

Exhibit 10: Facilities – Condition Summary

Facility	Asset Condition Index
Administration Center	2.0
Museum	2.4
Archives	1.5
Paramedic Stations	1.2
Social Housing	2.6
Long Term Care	2.5
Roads Facilities	2.4
Total Facilities	**2.5**

3.6 Fleet

The County owns 248 vehicles which consists of various configurations of vehicles such as vans, plow trucks, ambulances, emergency vehicles, loaders, graders, gradalls, dozers, excavators, trailers, para-transit buses, roll-off trucks, highway tractors and specialty heavy equipment such as grinders and shredders. Each asset type is reviewed annually based on several factors to determine the condition and service levels for vehicles.

Service Level

Percentage of Useful Life Consumed

Each vehicle type is assigned a useful life which identifies the number of years the vehicle will be in use. It also represents the most cost efficient period of time at which the vehicle should be replaced. The County bases the useful life of each vehicle type on past experience with similar vehicles, usage and the environment the vehicle operates within. If the vehicle is operated past the useful life age this could translate into increased maintenance costs, higher downtime, inferior service and decreased reliability.

There are instances when vehicles are kept past their expected useful life. In these cases the vehicle may still be in good working order, have low usage or may be easily substituted if it becomes inoperable. In these cases the level of service is still being met, although the vehicle age is greater than its useful life. These vehicle life cycles are monitored and adjusted as required to achieve maximum utilization while optimizing efficiencies.

Repair Costs as a Percentage of Historical Replacement Cost

The cumulative value of all maintenance and repairs for a vehicle as a percentage of the historical cost of the vehicle is an indicator of the cost efficiency of the vehicle. The County currently tracks the maintenance and repair costs per vehicle in its ERP system.

Percentage of Expected Usage Consumed

Each type of vehicle has an expected usage in Kms or Hours based upon the County's historical experience. The current usage is tracked in the County's ERP system and is compared to the expected usage life of the vehicle and expressed as a percentage.

Condition Function & Performance

Currently, the County uses the above three factors as well an annual inspection assessment rating to determine the overall asset condition of the vehicle called the Vehicle Condition Index (VCI). Refer to Appendix 3 for a further breakdown of these factors. The factors are weighted 20% each based upon repairs and usage and 30% each based upon age and the inspection assessment. Combined, they make up an asset condition from 1 – 5 as shown in Exhibit 11.

Exhibit 11: Fleet – Vehicle Condition Index (VCI)

ACI	% of Useful Life Consumed (Years)	% of Expected Usage Consumed (Km / Hr)	Repairs as a % of Historical Cost	Inspection Assessment
1	60% or less	60% or less	29% or less	Excellent
2	61 - 70%	61% - 70%	30 – 39%	Very Good
3	71 – 80%	71 – 80%	40 – 49%	Good
4	81 – 90%	81 – 90%	50 – 59%	Fair
5	91% or greater	91% or greater	60% or greater	Poor

Each of the County's vehicle assets have been assessed using the above methodology. The County's vehicle assets currently have an overall asset condition rating of 2.3 as seen in Exhibit 34, making them in very good condition. The majority of the County's vehicles are in the excellent vehicle condition index rating as shown in Exhibit 12.

Exhibit 12: Fleet – Vehicles per Vehicle Condition Index Rating

Vehicle Condition Index	Condition Rating	Number of Vehicles
1	Excellent	139
2	Very Good	47
3	Good	30
4	Fair	23
5	Poor	7

4.0 Asset Management Strategy

The asset management strategy is the set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way while managing risk at the lowest lifecycle costs. The strategy utilizes a risk assessment based on Asset Condition Index and Service Impact in order to prioritize assets across the County. This assessment is described in detail along with its results in the following sections.

4.1 Risk Assessment

The County evaluates each of its assets on both their physical condition as well as their service impact. To perform this evaluation, a risk score is calculated for each asset based on two factors:

Asset Condition Index: A score based on the condition of the asset today and how well it performs its function
Service Impact: A score based on the direct and indirect impact on the County if the asset were to not perform as expected.

Asset Condition Index

Each asset type has its own specific grading scale to evaluate condition. This includes the Pavement Condition Index for Roads, Structure Sufficiency Index for structures, Facility Condition Index for facilities and the Vehicle Condition Index for vehicles. The grading scale allows the County to compare asset types and their conditions across the organization while maintaining different condition ratings and service levels specific to each asset. This is a key component to the asset management plan, as assets are expected to perform differently and at varying levels. Each asset type is assigned a specific grade based on their condition rating. These assignments are identified for each asset type and generally follow the descriptions by grade in Exhibit 13.

Exhibit 13: Asset Condition Index

Estimated Condition	Asset Condition Index
Excellent	1
Good	2
Fair	3
Poor	4
Critical	5

Service Impact

The County has created a risk rating scale on which to grade a degradation in level of service. This depends on factors such as the type of asset, services it provides, exposure to the public and safety critical issues. Exhibit 14 summarizes the approach to determining the service impact rating for each asset. Refer to Asset Type section below for further details.

Exhibit 14: Service Impact

Service Impact Description	Service Impact Rating
Very low measureable effect of any kind	1
Low/marginal change in the function, serviceability, or capacity of the asset and/or effect on public safety and the environment	2
Moderate/regular change in the function, serviceability, or capacity of the asset and/or effect on public safety and the environment	3
Major/regular change in the function, serviceability, or capacity of the asset and/or effect on public safety and the environment	4
Catastrophic loss of infrastructure affecting public safety or having severe environmental consequences	5

Total Risk Assessment

In order to calculate the risk associated with each asset group, the asset condition rating and the service impact ratings are multiplied together for each asset. This results in a risk rating for each asset between 1 and 25. These ratings are categorized into risk levels as seen below in Exhibit 15 and are as follows:

- Risk rating of 5 or less represents a low level of risk to the County
- Risk rating of between 6 and 9 represents a medium-low level of risk to the County
- Risk rating of between 10 and 15 represents a medium level of risk to the County
- Risk rating of between 16 and 20 represents a medium-high level of risk to the County
- Risk rating of 21 and greater represents a high level of risk to the County

Exhibit 15: County of Simcoe Risk Matrix

		Service Impact				
		1	2	3	4	5
Asset Condition Index	1	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25

4.2 Transportation – Roads Network

Asset Condition Index

The Ministry of Transportation - Ontario has a recommended guideline for the PCI decision matrix. The condition of pavement is based on the mentioned Pavement Condition Index and the type of road construction. This matrix, as seen in Exhibit 16, is used as a guideline, along with the personal observations of the road inspectors. The County of Simcoe works to keep their road segment assets at a PCI of 75 or higher.

Exhibit 16: Roads – PCI Decision Matrix

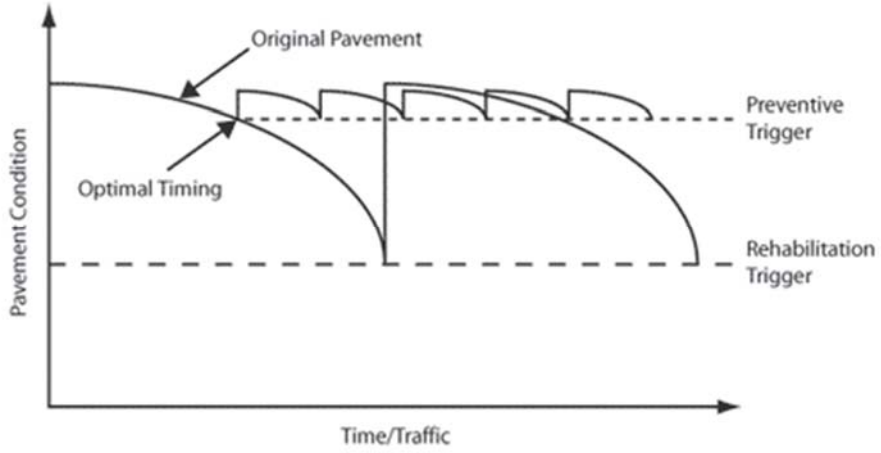
Type of Improvement	Standard Cross-Section	Non- Standard Cross-Section	Cost per lane km ($ Thousands)
Adequate	75	75	-
Micro-surfacing	65 – 75	65 – 75	$18
Pulverizing	N/A	40 - 65	$100
Asphalt Cold-In-Place Recycling	40 - 65	N/A	$100
Asphalt Expanded Recycling	40 - 65	N/A	$150
Reconstruction	< 5.1	< 5.1	$2,151

It should be noted that there are situations in which the PCI is not used to determine which roads require maintenance. These situations occur when a number of road segments on a County road in close proximity require maintenance. Cost efficiencies occur when consecutive road segments have maintenance performed on them at the same time. Therefore, road segments which may have reasonable PCIs are subject to maintenance as adjacent road segments are in poor condition.

All pavement deteriorates over time. Typically, pavement deteriorates at an ever-increasing rate. Microsurfacing and crack sealing are the two principal preventative maintenance treatments used to extend pavement life. These treatments have two main effects, in that they immediately improve the pavement condition and secondly, they affect the future rate of deterioration. In general, microsurfacing and crack sealing can slow the rate of deterioration by correcting small pavement defects before they can worsen and contribute to further defects. Beyond a certain point, however, defects become too large for correction by mere microsurfacing and crack sealing. At this point, rehabilitation treatments can be used to effect a correction of a large number of relatively severe defects, which provides a step increase in pavement condition.

The timing of these preventative maintenance actions can greatly influence their effectiveness and cost. Generally, the sooner a preventative maintenance activity is performed, the more cost-effective it will be. Furthermore, the greater preventative maintenance that is performed on a roadway, the longer the useful life of the road becomes as seen in Exhibit 17. This allows a municipality to delay rehabilitation or full reconstruction of a roadway.

Exhibit 17: Roads – Average Life-cycle of a Roadway



Maintenance of Simcoe County's road network is performed annually in the spring through fall months. Road segments with low or poor PCI ratings are identified in the prior year through annual inspections in the fall months. The results of these inspections are evaluated based on priority levels, County growth and their alignment with the Transportation Master Plan and Development Charges study to determine which projects are eligible for maintenance or reconstruction. The financial impact of a project must also be considered. Projects may be delayed to future years in order to avoid increased spending in a particular year. The effects of "smoothing" costs over multiple years allows for the County to manage the costs more effectively.

The County's rehabilitation and reconstruction projections do not include growth related projects. The cost of rebuilding an existing road in its current capacity has been included in the costs noted below, however the additional cost to rebuild the road with greater capacity (widening) has been omitted. The growth related projects are identified by the County's Transportation Master Plan.

The Transportation Master Plan (TMP) identifies the existing and future travel demands within the County. It provides the County with transportation strategies, policies and tools to support and improve the existing transportation facilities and services in working towards a more balanced and sustainable transportation system for the next 25 years. The TMP is reviewed every five years for changes in any of these factors.

Service Impact

A service impact risk rating has been assigned to each road segment based on the average annual daily traffic (AADT) the segment receives. Each road segment is assessed for traffic count on a three year cycle by the County to determine the highest traffic segments. Each segment is assigned a risk rating based on the levels shown in Exhibit 18. These are similar to traffic levels used in the County's winter maintenance standard.

Exhibit 18: Roads Service Impact – Average Annual Daily Traffic

AADT	# of Lane KM	Service Impact
15,000 or greater	114	5
12,000 – 14,999	771	4
5,000 – 11,999	673	3
1,000 – 4,999	162	2
0 – 999	114	1
Total Roads	**1,833**	

Risk Rating Calculation

Based on the risk ratings outlined above, roads are on average a low risk asset type per Exhibit 19. The County roads with the highest number of lane KM are broken out below.

Exhibit 19: Roads – Risk Rating Calculation

Road	Asset Condition Index	Service Impact	Total Risk	# Lane KM
County Road 27	1.3	3.5	Low	140.1
County Road 10	1.3	3.4	Low	121.6
County Road 22	1.4	3.0	Low	66.4
County Road 17	2.1	1.5	Low	60.0
County Road 53	1.3	2.2	Low	59.8
County Road 124	1.6	2.3	Low	59.8
County Road 93	1.1	3.7	Low	58.8
County Road 54	2.2	3.0	Medium-Low	53.6
County Road 4	1.5	4.5	Medium-Low	50.8
Other	1.4	2.5	Low	1,162
Total Roads	**1.4**	**2.8**	**Low**	**1,833**

Risk Rating Summary

Approximately 21 lane Km are in a medium-high risk level per Exhibit 20, with none being in high risk. These assets will be addressed in the short term to reduce the risk exposure to the County.

Exhibit 20: Roads - Risk Score by Lane Km

Asset	High	Medium - High	Medium	Medium - Low	Low
Roads	-	21	119	423	1,270

4.3 Transportation – Structures

Asset Condition Index

Based on the Structure Sufficiency Index (SSI), structures are prioritized for rehabilitation and replacement. On average, each structure undergoes a minor and major rehabilitation before being fully replaced. Based on theory and the County's experience, these events occur at a specific time in the structures asset life.

Structures undergo constant maintenance work to ensure they remain in sound condition. Maintenance activities include washing, sweeping and localized painting of structural steel, lubrication of bearings, cleaning of debris, sealing joints and asphalt repairs which all contribute to the quality of service a structure provides and also extend the service life.

Minor structure rehabilitation and betterment projects address structures that are in generally good condition but have limited deterioration that create a structurally deficient component. Typically, minor rehabilitation projects repair deterioration allowing a structure to move out of structural deficient status and also pre-emptively address the structural needs to extend the service life and push the need for a major rehabilitation or replacement of the structure, which can be costly, to the future. Work may include concrete deck patching, concrete deck overlay, waterproofing, paving, and traffic barrier upgrades.

Major structure rehabilitation projects address components of a structure which have deteriorated significantly. Major rehabilitation involves replacement of major structure elements such as the concrete deck, complete superstructure including the girders, along with upgrades to meet the current structures codes and sometimes increases to carrying capacity of the structure. Structure replacement is required when deterioration of a structure is so significant that the structure has

reached the end of its useful service life. The decision to replace a structure is chosen when the rehabilitation of individual structure components is determined to be more costly than a complete structure replacement over a typical life cycle of the structure after the work is completed.

The forecasted cost and age when rehabilitation occurs is outlined in Exhibit 21.

Exhibit 21: Structures – Maintenance Strategy

Structure Type	Minor Rehab		Major Rehab		Replacement	
	Age in Years	% of RC*	Age in Years	% of RC*	Age in Years	% of RC*
Arch	30	10%	45	25%	85	120%
CSP Culvert	30	25%	N/A	N/A	60	100%
Parallel Box Beam	30	10%	45	50%	75	100%
Post Tensioned Circular Void	30	10%	45	25%	85	100%
R/C Culvert	30	25%	50	45%	85	100%
Rigid Frame	30	10%	45	25%	85	100%
Slab on I Girders	30	10%	45	45%	75	100%
Slab on T Girders	30	10%	45	45%	75	100%
Solid Slab	30	10%	45	45 / 25%	85	100%
Truss	30	10%	45	45 / 30%	75	120%

*RC = Replacement Cost

An in-depth analysis by an external consultant of the construction requirements needed to perform the reconstruction or rehabilitation of a structure provides a detailed estimate of the cost of the project, which is used in the annual capital budget. However, for the long term plan, without the benefit of an in-depth analysis, replacement costs can only be estimated based on visual inspection data and comparison to the costing data of similar works. As a result, the cost estimates in the long term plan are very high level which will need to be adjusted at the time of in-depth analyses and engineering work.

Service Impact

The impact on service related to structures is encompassed in the SSI calculation through the four importance factors identified above. These factors represent how residents would be negatively affected if the structure were to become inoperable.

In addition to these importance factors, each structure is rated based on a timing factor determined by County staff. This timing factor relates to when the last rehabilitation or replacement work was performed and differs for bridges and culverts as shown Exhibits 22 and 23. For bridges, the timing factor also includes the cost of deferring the work. Deferral cost is the penalty the County will pay for putting off the rehabilitation of a structure as it continues to deteriorate. It is closely related to how quickly a bridge is deteriorating; the faster the rate of deterioration, the higher the deferral cost will be for that structure. Refer to Appendix 4 for a deferral cost example.

Exhibit 22: Structures – Culverts Service Impact Index

Service Impact	Description	# of Culverts
5	In service longer than the useful life and the general condition is poor or has safety critical elements	1
4	In service longer than the useful life but the general condition is fair or better	5
3	In service close to the useful life with no records of rehabilitation*	28
2	In service close to the useful life with records of rehabilitation	12
1	None of the above applies	41
Total		**87**

*Within five years for Corrugated Steel Pipes (CSP) and within 15 years for concrete culverts

Exhibit 23: Structures – Bridges Service Impact Index

Service Impact	Description	# of Bridges
5	Determined to have lapsed on its normal rehabilitation work schedule and the resulting deferral cost is deemed high or the bridge has safety critical elements due to poor condition	22
4	Near (within 2-3 years) of its normal rehabilitation work schedule and the associated deferral cost is deemed high	8
3	Determined to have lapsed on its normal rehabilitation work schedule and the resulting deferral cost is deemed low	12
2	More than three years away from its normal rehabilitation work schedule but structural needs have been identified which may be addressed through structural rehabilitation	18
1	None of the above applies	51
Total		**111**

Risk Rating Calculation

Based on the risk ratings outlined above, structures are on average a low risk asset type per Exhibit 24.

Exhibit 24: Structures – Risk Rating Calculation

Structure Type	Asset Condition Index	Service Impact	Risk Level
Bridges	2	2	Low
Culverts	2	2	Low
Total Structures	**2**	**2**	**Low**

Risk Rating Summary

Although the overall risk rating of structures is low, there are 29 structures at or above the medium risk levels as shown in Exhibit 25.

Exhibit 25: Structures – Risk by Level

Structure Type	High	Medium - High	Medium	Medium - Low	Low	Total
Bridges	-	1	22	19	69	**111**
Culverts	-	1	5	26	55	**87**
Total	**-**	**2**	**27**	**45**	**124**	**198**

4.4 Facilities

Asset Condition Index

A facilities maintenance strategy can embody different methods of maintenance, for example planned, preventive, unplanned or a combination of these methods. Planned maintenance includes changing filters in an HVAC system and shutdown maintenance. Preventive maintenance includes condition-based maintenance, reliability centred maintenance and total productive maintenance. A further category – unplanned maintenance – includes corrective maintenance, breakdown maintenance and emergency maintenance.

A maintenance schedule is followed to ensure each facility is reviewed and inspected on a monthly basis. All work and related expenses are maintained within the County's ERP system, SAP Plant Maintenance. This system produces work orders for the maintenance staff when the appropriate time has elapsed.

Maintenance for facilities occurs in general based on the timelines found in Exhibit 26.

Exhibit 26: Facilities - Maintenance Requirements Timeline

Phase	Lifecycle Activity	Asset Age
Minor Maintenance	Planned activities such as inspections, monitoring, etc.	1st Qtr of Life
Major Maintenance	Maintenance and repair activities, generally unplanned, however, anticipated activities that are included in the annual operating budget.	2nd Qtr of Life
Rehabilitation	Major activities such as the upgrade or replacement of smaller individual facility components (e.g. windows)	3rd Qtr of Life
Replacement	Complete replacement of asset components or a facility itself.	4th Qtr of Life

The asset condition index for each building was provided in Exhibit 6 in Section 3. This rating is used in the risk rating calculation below in Exhibit 27.

Service Impact

Each facility has been assigned a risk rating based upon their function and their impact to the public. For example, the Administration Centre is the County's head office and is visited by both the public and government officials regularly and therefore has a high service impact. Roads facilities however are only used by County employees and are in low traffic areas and therefore have a lower service impact. Exhibit 27 outlines the risk rating scale associated with service impact and each facility type.

Exhibit 27: Facilities – Service Impact

Service Impact	Facilities
5.0	-
4.0	Administration Centre
3.5	Long Term Care homes
3.0	Museum, Archives, Paramedic Stations, Social Housing buildings
2.0	Roads Facilities
1.0	-

Risk Rating Calculation

Within some of the departments noted, there are multiple facilities. These are shown in Exhibits 28 – 30 to identify that specific buildings require more maintenance than others.

Exhibit 28: Facilities – Social Housing Facilities Risk Rating Calculation

Facility	Asset Condition Index	Service Impact	Risk Rating
Multi-Residential Facilities	2.5	3.0	Medium - Low
Individual Houses	2.6	3.0	Medium - Low
Total	**2.6**	**3.0**	**Medium - Low**

Exhibit 29: Facilities – Long Term Care Facilities Risk Rating Calculation

Facility	Asset Condition Index	Service Impact	Risk Rating
Trillium Manor	3.3	3.5	Medium
Georgian Village	1.0	3.5	Low
Sunset Manor and Village	2.4	3.5	Medium - Low
Simcoe Manor and Village	3.5	3.5	Medium
Total	**2.5**	**3.5**	**Medium - Low**

Exhibit 30: Facilities – Roads Maintenance Facilities Risk Rating Calculation

Facility	Asset Condition Index	Service Impact	Total Risk	
			Risk Score	Risk Rating
Midhurst	2.2	2.0	4.2	Low
Creemore	2.1	2.0	4.1	Low
Ramara	2.7	2.0		Low
Beeton	1.3	2.0		Low
Moonstone	N/A*	2.0		Low
Perkinsfield	3.5	2.0		Medium – Low
Total	**2.4**	**2.0**		**Low**

*Moonstone garage is being replaced with a newly built facility and therefore is no longer in use

Based on the risk ratings outlined above, facilities are on average a medium-low risk asset type per Exhibit 31.

Exhibit 31: Facilities – Risk Rating Calculation Summary

Facility	Asset Condition Index	Service Impact	Risk Level
Administration Center	2.0	4.0	Medium – Low
Museum	2.4	3.0	Medium – Low
Archives	1.5	3.0	Low
Paramedic Stations	1.2	3.0	Low
Social Housing	2.6	3.0	Medium - Low
Long Term Care	2.5	3.5	Medium - Low
Roads Garages	2.4	2.0	Low
Total	**2.1**	**3.1**	**Medium - Low**

Risk Rating Summary

The majority of the County's facilities are in the medium-low risk level as shown in Exhibit 32. Overall, the County's facilities are in reasonable risk levels.

Exhibit 32: Facilities – Risk by Level

Facility	High	Medium-High	Medium	Medium-Low	Low	Total
Roads Garages	-	-	-	1	5	**6**
Administration Center	-	-	-	1	-	**1**
Museum	-	-	-	1	-	**1**
Archives	-	-	-	-	1	**1**
Paramedic Stations	-	-	-	-	1	**1**
Social Housing	-	-	1	242	4	**247**
Long Term Care	-	-	2	1	1	**4**
Total	**-**	**-**	**3**	**246**	**12**	**261**

4.5 Fleet

Asset Condition Index

The County assessed each of its vehicles based upon the four criteria described in section 3 of the asset management plan. This includes useful life, usage, maintenance costs and an inspection assessment. Dependent on these criteria, the vehicle will be replaced or left in service for another year. Vehicles may be replaced with new vehicles or used vehicles, depending on the required use.

Service Impact

Each department has been categorized into a service impact risk rating based on the impact to service if the vehicles were to break down or become unusable. Exhibit 33 outlines the service impact risk ratings by department and types of vehicles, as well as their total risk ratings.

Risk Rating Calculation

County vehicles have an average total risk of medium-low as shown in Exhibit 33.

Exhibit 33: Vehicles – Risk Rating Calculation

Department	Asset Condition Index	Service Impact	Total Risk	Number of Units
Emergency Management	1.5	2.0	Low	3
Forestry	2.3	2.0	Low	4
Long Term Care	2.4	3.0	Medium – Low	9
Library	1.9	2.0	Low	1
Municipal Law Enforcement	2.1	3.0	Medium – Low	2
Museum	2.1	2.0	Low	3
Paramedic Services – Ambulances	2.6	3.5	Medium - Low	42
Paramedic Services – Emergency Response Units	3.2	3.5	Medium	9
Paramedic Services - Other	1.9	3.0	Medium - Low	5
Procurement, Fleet & Property	2.1	2.0	Low	2
Simcoe Tourism	1.0	3.0	Low	1
Solid Waste Management – High Cost/Specialized Equipment	2.7	4.0	Medium - Low	7
Solid Waste Management – Heavy Equipment	2.4	3.0	Medium - Low	36
Solid Waste Management – Other Vehicles	2.3	2.0	Low	32
Transportation & Engineering – Winter Maintenance	2.0	3.0	Low	34
Transportation & Engineering – Other Vehicles	2.1	2.5	Low	55
Warden	1.3	3.0	Low	1
Total Vehicles	**2.2**	**2.8**	**Medium - Low**	**246**

Risk Rating Summary

More specifically, Exhibit 34 shows how many vehicles are in each risk category by department.

Exhibit 34: Vehicles – Risk Ratings by Department in Vehicle Units

Department	High	Medium-High	Medium	Medium-Low	Low	Total
Emergency Management	-	-	-	-	3	3
Forestry	-	-	-	-	4	4
Long Term Care	-	-	3	2	4	9
Library	-	-	-	-	1	1
Municipal Law Enforcement	-	-	-	1	1	2
Museum	-	-	-	1	2	3
Paramedic Services – Ambulances	-	7	8	5	22	42
Paramedic Services – Emergency Response Units	-	3	2	1	3	9
Paramedic Services - Other	-	-	1	-	4	5
Procurement, Fleet & Property	-	-	-	1	2	3
Simcoe Tourism	-	-	-	-	1	1
Solid Waste Management – High Cost/Specialized Equipment	-	1	3	2	1	7
Solid Waste Management – Heavy Equipment	-	-	8	11	15	34
Solid Waste Management – Other Vehicles	-	-	1	7	25	33
Transportation & Engineering – Winter Maintenance	-	-	2	11	22	35
Transportation & Engineering – Other Vehicles	-	-	2	14	38	54
Warden	-	-	-	-	1	1
Total Vehicles	**-**	**11**	**30**	**56**	**149**	**246**

4.6 Procurement Policy

The County's Procurement Bylaw defines the procedure for tangible capital asset acquisition. More specifically it requires that a Tangible Capital Asset (TCA) of any value is purchased by a Procurement Professional and includes confirmation of an approved budget, determination and application of the appropriate process, purchase order creation, and the maintenance of records for the procurement process utilized. For further clarification, a purchase under $10,000 that contributes to and is charged to a tangible capital project qualifies as an operational purchase and can therefore be purchased by an authorized purchasing contact and is not subject to the TCA procurement process that follows.

All TCA purchases are procured through a RFQ, RFT, or RFP process. The specific procurement method to be utilized for a TCA is dependent upon a number of factors including cost and the County's ability to precisely define the TCA to be purchased. TCA's that are defined through a specification and are less than $75,000 are procured through a Request for Quotation (RFQ) process, those with a specification that exceed $75,000 are obtained through a formal competitive Request for Tender (RFT). In the event that the required TCA cannot be precisely defined or where the County is seeking a solution, TCA's less than $75,000 are purchased via an evaluated RFQ whereas those that exceed $75,000 are procured through a Request for Proposal (RFP) process. In all cases TCA's that exceed $100,000 are electronically advertised.

In an effort to gain efficiencies and provide procurement support, the County has extended an open invitation to the County's member municipalities to participate in procurement processes where an opportunity exists to leverage purchasing volume or where it may be deemed beneficial.

4.7 Limitations of the Plan

The asset management plan is a tool used by the County in order to highlight those assets in greatest need of investment. As with all tools, there may be the risk that circumstances change and/or additional information is received, therefore changing the priority of projects. The County will use the risk assessment process and forecast in the upcoming budget cycle as well as continually update the plan for new information received, however variations from the plan may occur.

5.0 Financial Strategy

A financial plan is critical when ensuring the success of an asset management plan. A strong financial plan will allow the County to implement the rehabilitation and replacement strategies previously discussed, thus ensuring asset conditions meet service levels identified for each asset type. Furthermore, a financial plan demonstrates the County has integrated asset management planning with financial planning and has made full use of all available infrastructure financing tools.

The financing strategy covers yearly rehabilitation and replacement expenditure forecasts for existing assets for a ten year future period. Certain projects include the rehabilitation or replacement of existing infrastructure with a growth component to accommodate greater capacity. The costs associated with growth are outside of the scope of this plan. Therefore, development charges are not shown as a source of revenue in the County's future forecasts found within the asset management plan.

5.1 Historical Spending

Historical spending information per asset type from 2010 to 2014, as well as the 2015 budget can be found in Exhibit 35 and 36. Historical capital spending related to facilities was not all encompassing prior to January 1, 2014, as building improvements were considered operating in nature. The Tangible Capital Asset Policy was changed in 2014 as it was found large material building repairs were occurring yet not being recorded as assets. The County now capitalizes these assets into specific components and amortizes them over their individually assessed useful lives.

Over the previous five years, the County has spent an average of $15.7 million annually on roadways, $6 million on structures, $3.4 million on vehicles and $3.4 million on facilities as shown in Exhibit 35 and 36. It is expected that the majority of future costs will be incurred by roadways as they are the County's largest asset type. Spending on facilities will also increase due to the change in capitalization of building components as of 2014.

Exhibit 35: Five Year Historical and 2015 Budget Spending by Asset Type - Graph

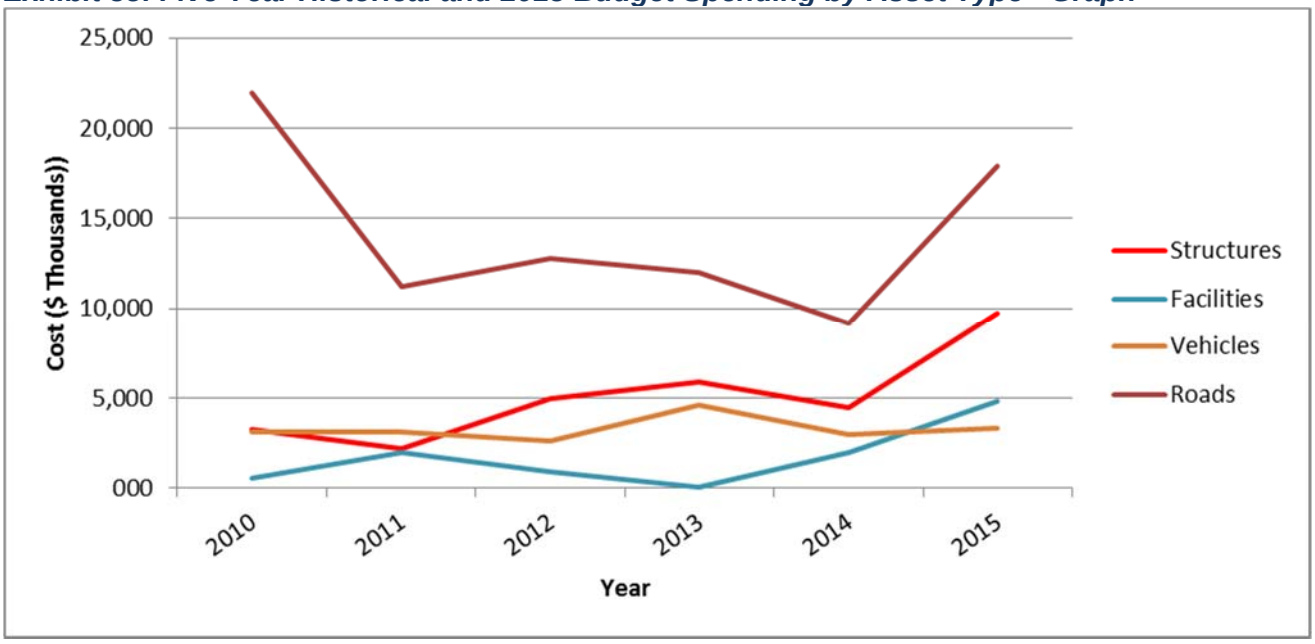


Exhibit 36: Five Year Historical and 2015 Budget Spending by Asset Type – Figures ($ Thousands)

Year	Structures	Roads	Vehicles	Facilities	Total
2010 (Actual)	3,627	22,561	3,336	NA*	29,524
2011 (Actual)	2,362	13,379	3,087	NA*	18,827
2012 (Actual)	6,099	14,029	2,604	NA*	22,732
2013 (Actual)	6,402	13,291	4,804	NA*	24,497
2014 (Actual)	7,779	13,323	3,040	1,973	26,115
2015 (Budget)	9,701	17,875	3,351	4,807	35,734
Total	**35,970**	**94,458**	**20,221**	**6,780**	**157,429**
2010 - 2015 Annual Average	**5,995**	**15,743**	**3,370**	**3,390**	**28,498**

*Due to a change in the Tangible Capital Asset Policy in 2014, years 2010-2013 are not comparative figures

5.2 Financing

Property Taxation

Property taxation is the main source of funding for capital assets by the County of Simcoe. It is a funding source that is able to be used to fund the repair and replacement of all capital projects where required.

Reserves

Under the Municipal Act, Council has the authority to establish reserves as required. Reserves and reserve funds can be formed to meet specific liabilities such as replacement/rehabilitation or acquisition of capital assets.

The County uses reserves in order to mitigate the annual impacts to taxation as a result of significant fluctuations in annual capital needs. Any surpluses that occur during the year are strongly considered for allocation to capital reserves for future projects depending on competing needs. Reserves are of critical importance to the County's ability to maintain and replace both planned and unseen infrastructure requirements. As reserves are funds that have been raised through the tax levy, they have been combined for presentation purposes in this document.

Reserves accounts have been set up for the administration building, long term care homes, social housing facilities, solid waste management, museum facilities and roads and structures construction projects.

Debt Financing

Section 401 of the Municipal Act grants Council the authority to issue debentures, when deemed in the best interest of the taxpayers, to finance its own capital expenditures. Debt can be used as a smoothing tool in order to reduce the tax impact in a specific year.

"Best Interest" for the County of Simcoe will be consistent with the County's Strategic Directions which includes fiscal management that contains both financial principles and policies.

This philosophy is also reflected in the County of Simcoe's capital financing and debt policy as approved by Council in September 2011 where the following key objectives were set out:

- Adhere to statutory requirements
- Ensure long term financial flexibility
- Limit financial risk exposure
- Minimize long term cost of financing
- Match term of financing to the useful life of the related asset

A municipality may only issue new debentures provided that the projected financial charges related to the outstanding debt will be within the annual debt repayment limit prescribed by the Ministry of Municipal Affairs and Housing (MMAH). This limit is set at 25% of a municipality's own source revenues less debt charges and financial commitments. The County as of December 31, 2014 had a debt level of 9% of the limit. In the event that the projected financial charges will exceed the Annual Repayment Limit (ARL), a municipality may still issue new debt provided that authority has been previously received from the Ontario Municipal Board (OMB). To date the County of Simcoe has maintained an "AA" rating from Standard & Poor's credit rating agencies.

Municipal Services Agreement Cost Sharing

The cities of Barrie and Orillia share costs for municipal services provided in the area of Heath and Emergency Services and Social Services. Services included are:

- Simcoe County Housing Corporation
- Non-Profit Social Housing
- Long Term Care
- Paramedic Services
- Ontario Works
- Children and Community Services

The sharing of costs are generally a function of weighted taxable assessments and/or caseloads of the County's services. Under some circumstances, the County may enter into a specific financial agreement with the Cities for a unique or unusually large capital project. The division of costs relate to the current Municipal Services Management agreement established on January 1, 2013. The next agreement will be in place as of January 1, 2018.

Federal Gas Tax Fund

As part of the New Building Canada Plan, the renewed federal Gas Tax Fund (GTF) provides predictable, long-term, stable funding for Canadian municipalities to help them build and revitalize their local public infrastructure. As announced in the Economic Action Plan 2013, the renewed federal GTF is being indexed at two percent per year. Specific GTF allocations to municipalities will be determined through federal-provincial GTF agreements. Allocation for 2019 – 2024 will be based on Census 2016 data.

Currently, the County can use the federal GTF towards the following eligible categories:

- highways
- solid waste management
- local roads and structures
- capacity building
- culture

- tourism
- sport
- recreation
- and others not applicable to the County

Grants

The County applies for grants from senior levels of government on an ongoing basis to aid with its infrastructure replacement needs. There are currently no committed funds. Previously, the County has received funding from the Infrastructure Stimulus Fund, however it is not considered a sustainable revenue source for capital projects.

5.3 Asset Management Financial Assumptions

The analysis completed to determine capital revenue requirements was based on the following assumptions:

1. Replacement costs are based upon the unit costs identified
2. The timing for individual replacements was defined by the replacement year
3. The analysis was run for a 10 year period to ensure an accurate projection
4. Expenses forecasted represent capital costs as defined by the County's Tangible Capital Asset policy and are non-growth related. The exception to this relates to Transportation – Roads Rehabilitation which is an operating cost however total costs are material in nature

5.4 Forecasted Spending per Asset Type

Forecasted annual spending for all of the asset types is expected to be $27.4 million from 2016 to 2025, which is a decrease over the average spending from 2010 to 2015 of $28.5 million as shown in Exhibit 37 and 38. Overall, the County has an average annual expenditure on existing assets of $28 million from 2010 to 2025.

Exhibit 37: Historical and Forecasted Expenses per Asset Type

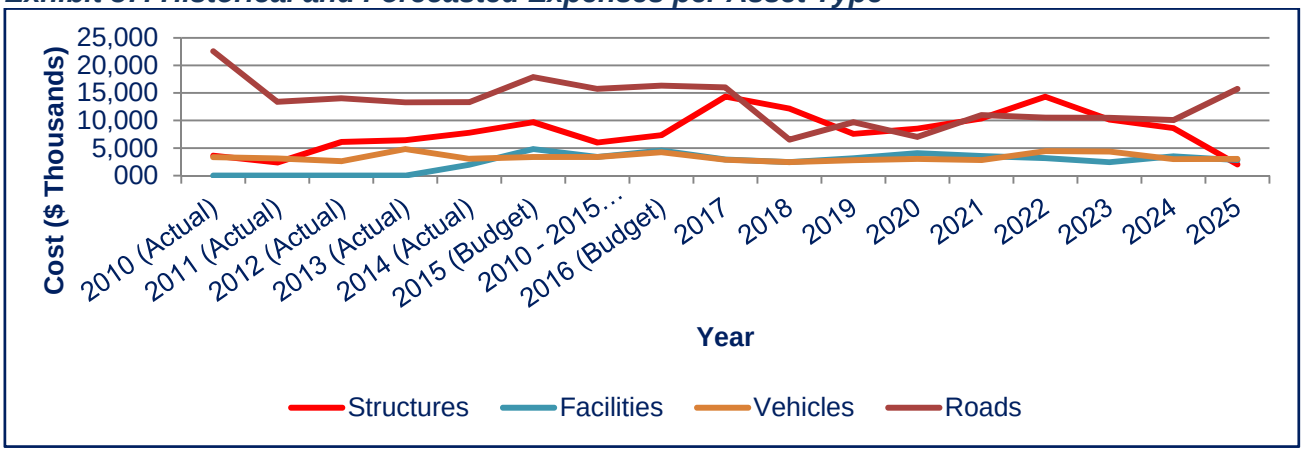


Exhibit 38: Historical and Forecasted Spending per Asset Type

Year	Structures	Roads	Vehicles	Facilities	Total
2010 (Actual)	3,627	22,561	3,336	NA*	29,524
2011 (Actual)	2,362	13,379	3,087	NA*	18,827
2012 (Actual)	6,099	14,029	2,604	NA*	22,732
2013 (Actual)	6,402	13,291	4,804	NA*	24,497
2014 (Actual)	7,779	13,323	3,040	1,973	26,115
2015 (Budget)	9,701	17,875	3,351	4,807	35,734
2010 - 2015 Annual Average	**5,995**	**15,743**	**3,370**	**3,390**	**28,498**
2016 (Budget)	7,342	16,327	4,220	4,541	32,430
2017	14,334	15,985	2,881	2,928	36,128
2018	12,176	6,516	2,442	2,447	23,580
2019	7,564	9,680	2,775	3,165	23,183
2020	8,540	7,036	3,023	4,097	22,696
2021	10,363	10,957	2,822	3,549	27,691
2022	14,314	10,521	4,427	3,163	32,425
2023	10,173	10,469	4,343	2,440	27,425
2024	8,629	10,074	2,985	3,506	25,194
2025	2,015	15,742	3,017	2,804	23,579
2016 - 2025 Annual Average	**9,545**	**11,331**	**3,294**	**3,264**	**27,433**

*Due to a change in the Tangible Capital Asset Policy in 2014, years 2010-2013 are not comparative figures

It is forecasted that structures will incur costs of $9.5 million annually on average from 2016 to 2025 to fund repair and replacement activities. This is an increase from $5.9 million incurred on average annually between 2010 and 2015. Conversely, there will be less spent on average annually on roads, decreasing from $15.7 million from 2010 to 2015 to $11.3 million annually between 2016 and 2025.

Vehicle replacement expenses have remained consistent at approximately $3.3 million average annually over the entire period from 2010 to 2025. Facility spending has remained consistent from 2014 – 2025, however prior to this the Tangible Capital Asset Policy did not include componentization of buildings making annual capital costs inappropriate for comparison purposes. Annual average spending is expected to remain at approximately $3.3 million.

5.5 Funding Sources

Transportation – Roads Network

The majority of roads projects are funded by gas tax and the tax levy. Historically, funding has also been received from government grants and when a shortfall exists, debt. It is expected that future roads projects will be funded equally by gas tax and the tax levy as shown in Exhibit 39.

Exhibit 39: Roads – Historical and Forecasted Revenue Sources

Year	$ Thousands		
	Gas Tax	County Tax Funded	Debt
2010 (Actual)	(7,927)	(13,238)	(1,396)
2011 (Actual)	(6,831)	(6,548)	-
2012 (Actual)	(7,008)	(7,021)	-
2013 (Actual)	(6,594)	(3,748)	(2,948)
2014 (Actual)	(6,341)	(6,982)	-
2015 (Budget)	(6,160)	(11,715)	-
2010 - 2015 Annual Average	**(6,810)**	**(8,209)**	**(724)**
2016 (Budget)	(7,823)	(8,505)	-
2017	(8,000)	(7,985)	-
2018	(2,710)	(3,806)	-
2019	(5,639)	(4,041)	-
2020	(2,570)	(4,466)	-
2021	(5,192)	(5,765)	-
2022	(5,263)	(5,257)	-
2023	(6,613)	(3,856)	-
2024	(7,000)	(3,074)	-
2025	(8,000)	(7,742)	-
2016 - 2025 Annual Average	**(5,881)**	**(5,450)**	**-**

Transportation – Structures

Similar to roads funding, structures are funded by gas tax and the tax levy. Historically, funding has also been received from government grants and when a shortfall exists, debt. It is expected that the majority of future structure projects will be funded by the tax levy, with some funding from gas tax as shown in Exhibit 40.

Exhibit 40: Structures – Historical and Forecasted Revenue Sources

Year	$ Thousands		
	Gas Tax	County Tax Funded	Debt
2010 (Actual)	-	(2,620)	(1,007)
2011 (Actual)	(1,137)	(1,225)	-
2012 (Actual)	(1,052)	(5,047)	-
2013 (Actual)	(1,085)	(4,905)	(412)
2014 (Actual)	(744)	(6,764)	(271)
2015 (Budget)	(2,055)	(7,646)	-
2010 - 2015 Annual Average	**(1,012)**	**(4,701)**	**(282)**
2016 (Budget)	-	(7,342)	-
2017	-	(14,334)	-
2018	(4,604)	(7,572)	-
2019	(220)	(7,344)	-
2020	(1,771)	(6,769)	-
2021	(6,040)	(4,323)	-
2022	(2,815)	(11,500)	-
2023	(1,572)	(8,600)	-
2024	(1,140)	(7,489)	-
2025	(27)	(1,988)	-
2016 - 2025 Annual Average	**(1,819)**	**(7,726)**	-

Facilities

The County has a variety of funding sources as many different departments occupy the County's facilities. Social housing and long term care facilities are partially funded by the Cities of Barrie and Orillia with the remainder being funded by the tax levy. All other facilities are funded solely from the tax levy. As shown in Exhibit 41, the majority of funding between 2016 and 2025 is from the tax levy.

Exhibit 41: Facilities – Historical and Forecasted Revenue Sources

Year	$ Thousands	
	Cities of Barrie and Orillia	**County Tax Funded**
2010 (Actual)	-	(511)
2011 (Actual)	(55)	(1,995)
2012 (Actual)	(16)	(941)
2013 (Actual)	-	(078)
2014 (Actual)	(268)	(1,705)
2015 (Budget)	(462)	(4,344)
2010 - 2015 Annual Average	**(134)**	**(1,596)**
2016 (Budget)	(603)	(3,937)
2017	(494)	(2,434)
2018	(413)	(2,033)
2019	(417)	(2,747)
2020	(529)	(3,567)
2021	(586)	(2,963)
2022	(672)	(2,491)
2023	(702)	(1,738)
2024	(791)	(2,716)
2025	(524)	(2,280)
2016 - 2025 Annual Average	**(573)**	**(2,691)**

Fleet

The majority of County vehicles are funded by the tax levy. Emergency services and long term care vehicles are also funded by the Cities of Barrie and Orillia as shown in Exhibit 42.

Exhibit 42: Fleet – Historical and Forecasted Revenue Sources

Year	$ Thousands	
	Cities of Barrie and Orillia	County Tax Funded
2010 (Actual)	(423)	(2,913)
2011 (Actual)	(304)	(2,783)
2012 (Actual)	(300)	(2,304)
2013 (Actual)	(292)	(4,512)
2014 (Actual)	(374)	(2,666)
2015 (Budget)	(340)	(3,011)
2010 - 2015 Annual Average	**(339)**	**(3,031)**
2016 (Budget)	(404)	(3,816)
2017	(354)	(2,528)
2018	(336)	(2,106)
2019	(343)	(2,432)
2020	(350)	(2,674)
2021	(357)	(2,465)
2022	(364)	(4,063)
2023	(420)	(3,923)
2024	(429)	(2,556)
2025	(437)	(2,580)
2016 - 2025 Annual Average	**(379)**	**(2,914)**

5.6 Summary

In total, the County forecasts to spend an average annual amount of $27.4 million annually on roads, structures, vehicle and facility projects as shown by asset type in Exhibit 43. After applying other sources of revenues, the County's tax levy impact is an average annual amount of $18.3 million. Based upon the forecasted operating surplus over the ten year period, debt will be required in 2016 and 2017 in order to fund the shortfall. The shortfall relates to an increase in costs associated with the acceleration in roads projects. The County does not have an infrastructure deficit associated with the rehabilitation and replacement of its current assets from 2018 through to 2025 as shown in Exhibit 43.

Exhibit 43: Summary of Capital Historical and Forecasted Expenses and Funding Sources 2010 - 2025

Year	$ Thousands				
	Expenses	Funding Sources			
		Cities of Barrie and Orillia	Gas Tax	County Tax Funded	Debt
2010 (Actual)	30,036	(423)	(7,927)	(19,283)	(2,403)
2011 (Actual)	20,927	(359)	(7,968)	(12,600)	-
2012 (Actual)	23,758	(316)	(8,060)	(15,381)	-
2013 (Actual)	24,599	(292)	(7,679)	(13,267)	(3,361)
2014 (Actual)	26,122	(642)	(7,085)	(18,124)	(271)
2015 (Budget)	35,734	(803)	(8,215)	(26,716)	-
2010 - 2015 Annual Average	**26,863**	**(473)**	**(7,822)**	**(17,562)**	**(1,006)**
2016 (Budget)	32,430	(1,007)	(7,823)	(21,063)	(2,537)
2017	36,128	(847)	(8,000)	(24,588)	(2,692)
2018	23,580	(750)	(7,314)	(15,517)	-
2019	23,183	(760)	(5,859)	(16,564)	-
2020	22,696	(879)	(4,341)	(17,476)	-
2021	27,691	(943)	(11,232)	(15,515)	-
2022	32,425	(1,036)	(8,078)	(23,311)	-
2023	27,425	(1,122)	(8,186)	(18,118)	-
2024	25,194	(1,219)	(8,140)	(15,835)	-
2025	23,579	(962)	(8,027)	(14,590)	-
2016 - 2025 Annual Average	**27,433**	**(953)**	**(7,700)**	**(18,258)**	**(523)**

If in the future the County finds it cannot fund rehabilitation and replacement of current assets through the tax levy, debt could be used to fund long life asset replacement projects. This is in line with County's current debt policy.

6.0 Conclusions and Recommendation

The County owns $933 million worth of assets based on historical cost. Of those asset categories addressed in the plan, the County has either met or exceeded the documented service levels allowing for the County's assets to be maintained in good condition.

The County has made great advancements in the areas of identifying, recording and measuring its assets since the inception of the PSAB 3150, which required all assets to be recorded and measured by municipalities for the first time. The County has implemented reliable and sophisticated systems to assist in this area. The financial system (SAP) is fully integrated into the purchasing and recording of assets. Furthermore, the asset management system (RIVA) is tied into the annual budgets and updated regularly with condition results. Both systems are used by County departments and are continually being fine-tuned.

The County produces an annual capital Long Term Plan which is monitored and updated semi-annually, once during the annual Strategic Plan review, and once during the annual budget process. This ensures it is clear how the County's overall capital plans tie into the Official Plan and Transportation Master Plan. This process allows for staff to step back and rationalize financial strategies leveraging debt and reserves.

The County will continue to review service levels to ensure they are consistent in approach across divisions and are acceptable to residents. A review of each asset group will ensure that condition reviews are reasonable and that the deferment of any work forecasted is consistent with approved service levels.

Financing strategies – funding shortfalls, debt financing, grant allocations continue to be allocated in a pattern consistent with historical funding and will be adjusted as we acquire new information. As well reserves are continually monitored to ensure they meet the County's infrastructure needs.

6.1 Conclusions

Based on the analysis of each asset group within the plan, Exhibit 44 summarizes the current funding requirements, condition and risk for each area. Over a ten year period, the County forecasts a requirement of $270 million for capital expenses related to the rehabilitation and replacement of assets currently owned.

Based on the ability of the County to fund infrastructure expenses from available funding sources including the tax levy, as well the ability to raise debt, the County does not have an infrastructure deficit. In 2016 and 2017, debt is required to fund capital projects, however this can be repaid in subsequent years. Overall, the County is in good financial standing to maintain and fund the rehabilitation and replacement of its existing assets.

Exhibit 44: Summary of Asset Group Analysis – 2016 - 2025 Year Analysis ($ Thousands)

Department	Annual Average Expenses	Overall Risk Rating
Roads	$11,331	Low
Structures	$9,545	Low
Facilities	$3,264	Medium-Low
Vehicles	$3,294	Medium-Low
Total Expenses	**$27,434**	

Roads

Based on field condition data, the road network is generally in good condition and have a low risk rating. The County's planned service level for roadways of a Pavement Condition Index (PCI) of 75 has been met as the County had a PCI of 84 as at December 31, 2014. There are replacement and rehabilitation needs required over the next 10 years totaling approximately $113 million to remain at this condition.

Structures

The County strives to maintain a SSI of 70 or greater for 85% of its structures. Based on field condition data, 86% of the County's structure inventory has a SSI rating of 70 or greater and therefore meet the recommended service level. Over the next 10 years rehabilitation and replacement costs required for structural, deck, or other elements total approximately $95 million.

Facilities

Based upon the County's facility condition index factors, facilities are on average in good condition and have a medium-low risk rating. In order to maintain the County's planned service level of a Facility Condition Index of 3 or lower, within the next ten years a number of components will require replacement totaling approximately $31 million.

Vehicles

Based on vehicle specific data, the County's vehicles are in good condition and have a medium-low risk rating. The County's planned service level for vehicles is the Vehicle Condition Index (VCI) of 3 or lower. The service level has been reached as the current VCI is 2.3. Over the next 10 years replacement costs required for vehicles total approximately $33 million.

6.2 Recommendation

The County is committed to increasing the validity and accuracy of its asset management plan for future iterations of the document. The condition assessment data, along with risk management strategies, will be reviewed together to aid in prioritizing overall needs for rehabilitation and replacement.

The asset management plan is now a part of the County's asset management process. The County is committed to reviewing and revising the asset management plan on a regular basis as more information becomes available to establish updated annual investment needs.

7.0 Glossary

Book Value – The value at which an asset is carried on a balance sheet. To calculate, take the original cost of the asset less the accumulated depreciation.

Historical Cost – A measure of value in which the price of an asset on the balance sheet is based on its original acquisition cost when acquired by the company. If the asset was assumed was downloaded or uploaded to the County from the province or a lower tier municipality, the historical cost is estimated to be the replacement cost at the time of the transaction.

Replacement Cost – The actual cost to replace an asset in new condition in current dollars.

Historical Spending – The total costs associated with a specific asset or asset group incurred between a specific range in dates or from the purchase of the asset.

8.0 Significant Assumptions

1. The Asset Management plan considers the replacement and maintenance of existing asset
2. Land associated with any of the asset groups discussed was not included in the asset management plan. This includes the land under roads, structures and facilities.
3. All future costs are inflated by 2% per year.
4. All asset inventories are assumed to be reasonably complete and accurate.

9.0 Appendices

Appendix 1: Asset Inventory Information

Road Network

The County identifies a road as two separate asset components: the land the road lies on within the right of way and the road infrastructure itself. Any road transferred to the County has been upgraded to a high-use roadway and designated under the County's authority. The County maintains these roadways using three methods: reconstruction, rehabilitation and preventative maintenance. Reconstruction is required if the roadway is at traffic capacity, geometrically deficient or the existing lanes have to be increased from two to four lanes. When the roadway is at the end of its useful life and the geometrics are in good standard, a rehabilitation of the roadway is performed. After the reconstruction or rehabilitation is complete, the County initiates a preventative maintenance program, which includes microsurfacing and crack sealing to extend the useful life of the roadway.

Land related to roads has not been included as part of the County's asset management plan as there is no further maintenance strategy associated with land after its initial purchase. However, land acquisitions are performed during the widening process of existing County roads which have been identified for reconstruction.

Service Description & Inventory

The County of Simcoe owns approximately 1,803 lane km of roads with a historical value of $446 million as of December 31, 2015. A lane km is described as a kilometer long road segment length in one direction that is a single lane in width. For example, for a 4 lane wide road, there are 4 lane kilometers in one kilometer of road.

In order to accurately manage these assets, the County has divided each road length into segments. The road segments have varied lengths and vary in composition. The details of each road segment including the segment width, depth of asphalt, length, number of lanes, pavement type, road class, date acquired by or uploaded to the County and average daily traffic count are recorded in the County's asset management program. Each road segment is physically inspected on an annual basis to review the condition. The inspection history of the road condition of each road segment is also recorded and kept on file.

The transfer of roads to and from lower tier municipalities and from the Ministry of Transportation occurs on occasion. These changes are recorded in the asset management plan as they occur.

Bylaws are reviewed by County staff regularly and all existing roads are inspected. The transfer of roads is based on the Transportation Master Plan and is dependent on growth, and therefore has not been taken into consideration in the asset management plan.

The County's road network is composed of paved roads in urban and rural areas. Rural roadways are those that do not have infrastructure associated with them such as catch basins, curbs or storm sewers. Urban roadways have this associated infrastructure and are usually found in residential areas where they receive greater use. This is important as there is a correlation between the annual average daily traffic of a roadway and its deterioration. As the traffic within Simcoe County increases, there will be an increase in the maintenance requirements and eventual reconstruction of the roadways leading to higher costs.

As of December 31, 2015, the County's road network was composed of 90% rural roadways, with the remaining 10% being urban. Depending on the number of roadways transferred to and from the County, this figure may change, however there is an increasing trend of urban roadways within the County. This is due to the increase in population in the southern municipalities over the past several years. This trend is expected to continue.

Valuation & Projected Replacement Cost

The cost to build a 2 lane road, not including the cost of land purchases, amounts to an average of $2.2 million per km. This figure is based on the average current construction costs incurred in the past 5 years by the County. This is an estimate used when forecasting the reconstruction of County roads. There are however many factors that may increase the cost of reconstruction such as land acquisition costs, design changes, requirements from the Ministry of Environment and Ministry of Natural Resources, utility relocations, construction delays and infrastructure installations.

Road rehabilitation is also forecasted based on an average of previous year's costs for each type of treatment. These costs are reviewed on an annual basis to ensure their reasonability. The net book value of the County's roads as at December 31, 2015 was approximately $269 million. The estimated replacement cost of the County's road network in 2015 is approximately $2 billion.

Structures

An engineered structure can be categorized as a bridge or a long span culvert. A bridge is a structure built to span physical obstacles such as a watercourse, valley, railway or road, for the passage of vehicles, pedestrians, or cyclists across an obstruction, gap, or facility. A long span culvert is a structure, with a span greater than or equal to 3 meters, which forms an opening through soil. Culverts of less than 3 meters in span are not considered an engineered structure and are maintained as part of the associated road asset.

There are many different types of engineered structures that all serve unique purposes and apply to different situations. Designs of structures vary depending on the function of the bridge, the nature of the land where the bridge is located, the material used to construct it, and the funds available to build it. A bridge is made up of multiple elements. These elements consist of the substructure (foundation, abutment, bearings and wingwalls), the superstructure (girders, deck slab, traffic barrier and wearing surface), embankments, approaches and signage. All of these elements are capitalized as one asset and are not differentiated in the County's asset management plan. A culvert is also made up of several elements, however is less complex than a bridge. These elements consist of the over burden, barrel, traffic barrier, foundation, watercourse and embankment.

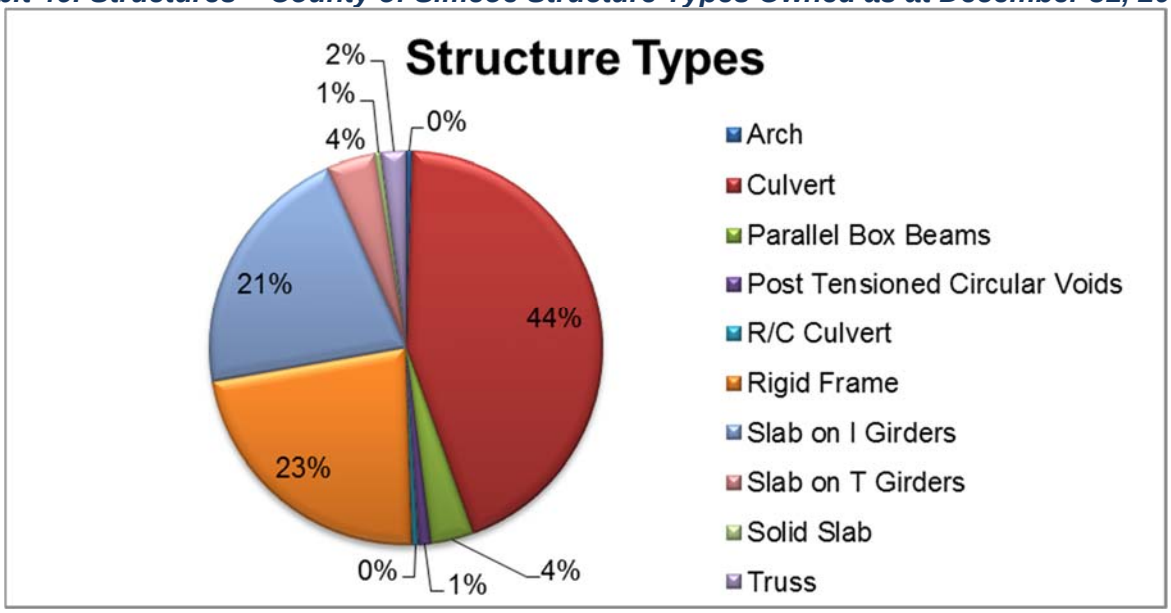
Service Description & Inventory

The County owns and maintains 198 engineered structures with a nominal number of additional structures currently being reviewed for ownership. Of these structures, 57% are bridges and the remaining 43% are long span culverts. All of the bridge structures and long span culverts support vehicular traffic with one long span culvert being for pedestrian use only. The majority (77%) of the structures are located on County owned roads and the remaining 22% of the structures are located on municipally owned roads. Lastly, 8% of the engineered structures are jointly owned with bordering Counties/Regions and the costs associated for inspection, maintenance, and capital works are shared.

In accordance with the Public Transportation and Highway Improvement Act, Ontario Regulation 104/97, all municipal structures must be inspected every two years under the direction of a professional engineer using the Ministry of Ontario's Structure Inspection Manual. The County complies with this mandate by hiring an external consultant to perform the inspections on all of its engineered structures. In the County, good structure management starts with good information on structure conditions. The structure inspection data gathered from the biannual inspections is stored in an asset management system, allowing the County staff to prioritize the maintenance and rehabilitative needs and make sound decisions as to how to best manage the engineered structure inventory. This ensures structures are in good repair to serve the traveling public and the County has a current, complete and detailed inventory listing of all of its bridge and culvert structures.

The County owns multiple types of structures. Each structure type has slightly different components and maintenance requirements. Bridges are more costly to maintain than culverts as they are more complex. Exhibit 46 identifies the types of structures owned and maintained by the County as of December 31, 2015.

Exhibit 46: Structures – County of Simcoe Structure Types Owned as at December 31, 2015



Valuation & Projected Replacement Cost

The net book value of the County's structures as at December 31, 2015 was approximately $48 million. Of this amount, 9% relates to the historical cost of culverts and the remaining 91% relates to bridges.

The replacement cost of the structures is estimated by the external consultant the County uses to inspect its structures. The consultant calculates the cost of replacement based on the specifications of the structure and average costs of each component. These costs have been estimated based on his/her experience in the industry. An additional provision for soft costs and contingency costs have also been added. County staff reviews these figures annually for reasonability.

The estimated replacement value of the County's bridges and culverts, in 2015, is an estimated to be $395 million. The breakdown per structure type can be seen in Exhibit 47.

Exhibit 47: Structures – Structure Replacement Cost by Structure Type as at December 31, 2015

Structure Type	Cost ($Millions)
Arch	$1.2
Culvert	$104.1
Parallel Box Beams	$17.1
Post Tensioned Circular Voids	$11.3
Rigid Frame	$81.5
Slab on I Girders	$149.6
Slab on T Girders	$13.4
Solid Slab	$0.9
Truss	$15.4
Total	**$394.5**

Facilities

The County provides a broad range of services and subsequently has many different types of buildings to maintain. The County's portfolio consists of 37 facilities totaling approximately 1 million square feet and 247 social housing facilities totaling approximately 1 million square feet. A listing of the facilities owned and maintained by the County of Simcoe as of December 31, 2015 and include the following:

- County Administration Center
- Simcoe County Museum
- Simcoe County Archives
- Midhurst Roads Garage including two salt domes and equipment storage facility
- Beeton Roads Garage including one salt facility
- Decommissioned Beeton Roads Garage including one salt dome
- Moonstone Roads Garage including one salt domes
- Creemore Roads Garage including two salt domes
- Perkinsfield Roads Garage including one salt dome
- Ramara Roads Garage including one salt dome
- Clearview and Simcoe Joint Emergency Services Facility
- Georgian Village Long Term Care Campus
- Sunset Manor Long Term Care Facility and Village
- Simcoe Manor Long Term Care Facility and Village
- Trillium Manor Long Term Care Facility
- Collingwood Waste Management Facility (and Landfill Site)
- Mara Waste Management Facility
- Matchedash Waste Management Facility
- Nottawasaga Waste Management Facility (and Landfill Site)
- Oro Waste Management Facility (and Landfill Site)
- Tosorontio Waste Management Facility (and Landfill Site)
- West Gwillimbury Waste Management Facility
- North Simcoe Waste Management Facility
- Hillsdale Truck Shop (leased)
- 247 Social Housing Buildings consisting of 27 apartments, 263 scattered units, six

townhouses and one community building

In addition, the County's facility portfolio also includes fifteen leased paramedic facilities and two posts and seven leased Ontario Works offices totaling approximately 100,404 square feet. The County is responsible for certain capital improvements and day to day maintenance based upon the specific lease for these facilities. These facilities include:

- Collingwood Paramedic Facility
- Elmvale Paramedic Facility
- Beeton Paramedic Post within Simcoe Manor
- Bradford Paramedic Facility
- Wasaga Beach Paramedic Facility
- Midland Paramedic Facility
- Staynor Paramedic Facility
- Craighurst Paramedic Facility
- Washago Paramedic Facility
- Coldwater Paramedic Facility
- Tottenham Paramedic Facility
- Angus Paramedic Facility
- Orillia Paramedic Facility
- Alliston Paramedic Facility
- Barrie North Paramedic Facility
- Barrie Tiffin Paramedic Facility
- Collingwood Ontario Works Office
- Midland Ontario Works Office
- Alliston Ontario Works Office
- Bradford Ontario Works Office
- Angus Ontario Works Office

The sustainability of the Counties facility (buildings & properties) assets requires the estimation of both immediate and extended capital renewal needs, and that capital needs be properly planned and prioritized.

Extending the longevity of the capital assets has become increasingly important. The County of Simcoe needs their facility assets preserved over even greater life spans in the most cost effective manner possible.

Ignoring building maintenance risks the failure of systems and components and incurs needless additional cost, as well as threatening business continuity. Failure to maintain the structure can affect function and presents safety risks in addition to reducing the value of the facility as an asset.

Service Description & Inventory

A facility includes any permanent structure owned and operated by the County of Simcoe. All the components within the building that are not attached to the structure are considered individual assets and are maintained as such. Major building components include site work, the building interior, the building exterior, mechanical systems, electrical systems and specialty systems such as fire safety and elevator systems.

The County is responsible for the maintenance and capital costs associated with all of the facilities it owns. The County also rents facilities. The responsibility of the maintenance and capital costs for these rental properties is dependent on the individual lease for each property.

Between 2010 and 2012, the County performed a Building Condition Assessment (BCA) on each of its facilities, excluding those newly built and facilities with leases expiring in the near future. The BCA allowed for all of the components of each facility to be individually reviewed and recorded. Details of each component such as their replacement cost and expected replacement date were noted by the external consultant. This has provided the County with an initial detailed inventory listing of all the components of its facilities. In order to ensure the completeness and accuracy of these listings, County staff has undertaken the task of reviewing the inventory listing for each facility on at least an annual basis. They will ensure replacement costs are accurate based on the most recent incurred costs, the condition of the asset is recorded, any new assets are added to the listing and disposed assets are removed.

Valuation & Projected Replacement Cost

Replacement cost of each component of the building assessed was estimated by the external consultant that performed the BCA. These costs are based upon the consultant's experience at the time the BCA was conducted. County staff have reviewed these costs for reasonability and made changes where more reliable information was available, such as recent purchase history or quoted prices from vendors. As components of the building are replaced, the most recent cost will be used to forecast future expenses.

Replacement cost of the entire building has also been calculated based on the buildings square footage multiplied by the estimated replacement costs per square foot by building category. The estimated replacement cost by building category is based on an architect's quoted cost per square foot per building type and compared with recently quoted construction costs incurred by the County.

Facility	Cost ($Millions)
Administration Center	$48.7
Archives	$6.6
Museum	$11.9
Paramedic Station	$1.2
Long Term Care Homes	$213.4
Simcoe County Social Housing	$191.7
Roads Facilities	$24.6
Total	**$498.1**

Fleet

The County focuses on the various business processes and activities associated with the operation of a large municipal vehicle fleet with a diverse inventory, operated by 14 departments at 41 sites.

The County vehicle fleet consists of various configurations of vehicles such as vans, plow trucks, ambulances, emergency vehicles, loaders, graders, gradalls, dozers, excavators, trailers, para-transit buses, roll-off trucks, highway tractors and specialty heavy equipment such as grinders and shredders. These vehicles are used in a multitude of service delivery operations, such as the transportation of long term care residences, landfill site activities, road maintenance and reconstruction, by-law enforcement, forestry operations, building maintenance activities, museum

operations, emergency services and emergency preparedness activities. The asset management plan focuses on the cost effective and efficient life cycle management, as to provide functional vehicular platforms to compliment the department's ability to complete their diverse spectrum of operational assignments.

The asset management plan highlights the optimization of lifecycle management of the various vehicles and heavy equipment to ensure proper management responsibilities. Replacing vehicles and equipment at the optimal time, ensuring proper maintenance planning, reducing downtime and unplanned repairs, effectively managing the fueling processes, and ensuring proper fiscal management in a centralized system are paramount to providing effective asset management.

Service Description & Inventory

A vehicle is defined in the County of Simcoe Fleet Operation Policy as vehicles and heavy equipment, trailers and motorized riding lawn mowers with engine capacity of 20 hp or more. This includes all mobile machinery and equipment, trailers and vehicles owned by the County which are categorized into size classes of similar uses and useful lives.

The County owns 246 vehicles in 2014. An inventory listing is maintained by the Fleet and Asset Manager in RIVA and SAP Plant Maintenance (PM), the County's ERP system. The Plant Maintenance module records maintenance performed on each vehicle or piece of equipment allowing the County to review historical maintenance records and costs. Vehicles by department can be seen in Exhibit 42 below. The listing is updated on an ongoing basis when vehicles are purchased or sold by the County. Vehicles are maintained as per the current Fleet Operation Policy through consultation with fleet branch staff. Furthermore, repair and maintenance costs are recorded in the County's ERP system to allow the Fleet and Asset Manager to review the performance of each vehicle.

Valuation & Projected Replacement Cost

Due to the annual purchase of similar types of vehicles, determining the replacement cost of the County's vehicles is based on the most up to date purchase price. The estimated replacement value of the County's vehicles is $37.9 million. Of this figure, 41% relates to Solid Waste Management, 36% relates to Transportation and Engineering and 18% relates to Paramedic Services as seen in Exhibit 48. The remainder is spread out across the various other departments.

Exhibit 48: Vehicles – Units by Department and Replacement Cost

Department	Number of Units	Replacement Cost
Emergency Management	3	$293,311
Forestry	4	$135,039
Long Term Care	9	$780,480
Library	1	$29,737
Municipal Law Enforcement	2	$83,250
Museum	3	$335,107
Paramedic Services	56	$6,658,181
Procurement, Fleet & Property	3	$140,966
Simcoe Tourism	1	$43,928
Solid Waste Management	75	$15,634,117
Transportation & Engineering	88	$13,708,271
Warden	1	$54,254
Total Vehicles	**246**	**$37,896,720**

Appendix 2: Service Impact Values for Structures

Values for I_t

Description	Daily Truck Traffic (AADT x % Truck)			
Level 3* Load Posting	0 to 10	11 to 75	76 to 500	'> 500
1 to 5	4	6	8	10
6 to 15	2	4	6	8
16 to 25	0	2	4	6
No Posting	0	0	0	0

*Single unit truck

Values for I_e

Description	Long Detour*	Moderate Detour*	Short Detour*
Structure has a significant economic importance to the municipality**	5	4	3
Structure has a moderate economic importance to the municipality or is used by a majority of the residence	4	3	2
Structure has a minimal economic importance to the municipality or is used by a moderate amount of residents	3	2	1
Structure has no economic importance to the municipality and is used by few residents	2	1	0

*Relative Detour Length compared to the distances travelled in the area

**Add five points if structure is used as a detour when a provincial highway is closed

Values for I_w:

Description	Values
Single lane structure	5
Narrow lanes	3
Narrow shoulder	2
Need sidewalk to improve pedestrian safety	1

*Cumulative maximum of 5 points

Values for I_p:

Description	Values
Inadequate sight distances (i.e. visibility)	3
Inadequate alignment	2
Inadequate grade, clearance to water (i.e. navigability)	1
Need sidewalk to improve pedestrian safety	1

*Cumulative maximum of 5 points

Appendix 3: Vehicles Asset Condition Index Information

Asset Condition Index Table

Asset Condition Index	% of Useful Life*	% of Expected Usage**	Maintenance Costs as a % of Historical Cost	Inspection Assessment
1	60% or less	60% or less	29% or less	Excellent
2	61 – 70%	61 – 70%	30 – 39%	Very Good
3	71 – 80%	71 – 80%	40 - 49%	Good
4	81- 90%	81- 90%	50 - 59%	Fair
5	91% or greater	91% or greater	60% or greater	Poor

*Useful Life is dependent on each vehicle type and shown in Exhibit 32.

**Expected usage is depending on each vehicle type and is based upon on historical experience. They are as follows:

Class	Vehicle Description	Useful Life (years)
6 Year Life	Van; Paramedic - LSU, RRU, ESU; Ambulance, Pick-up Truck	6
8 Year Life	Director's Vehicle; ATV; Ventrac Lawn Cutter; Service Truck; Cargo Van, 1-Ton Service Truck; Roll-off Truck; Walking Floor Trailer; Horizontal Grinder	8
10 Year Life	Highway Tractor; Lawn Tractor; Front-End Truck; Compactor Refurbishment	10
15 Year Life	ATV Trailer; Generator Trailer; Sign Trailer; Plow Truck; Paramedic Command Post; LTC - Para Transit Bus; Skid Steer; Loader; Backhoe; Fork Lift; Landfill Compactor; Tracked Dozer; Tracked Loader; Screening Plant	15
20 Year Life	Flat Bed Truck; Tilt Trailer; Wood Chipper; Compressor; 50 Ton Float Trailer; Tractor; Grader; Grad-all; Paint Truck.	20

Vehicle Type	Expected Usage
Emergency Vehicles	375,000 Km
Light Vehicles	350,000 Km
Medium Vehicles	350,000 Km
Heavy Trucks – Useful Life 15 Years	375,000 Km
Heavy Trucks – Useful Life 15 Years	550,000 Km
Heavy Trucks – Useful Life 20 Years	375,000 Km
Heavy Equipment - Useful Life 15 Years	12,000 Hours
Heavy Equipment - Useful Life 20 Years	12,000 Hours

Appendix 4: Deferral Cost Description and Example

Deferral cost is the potential penalty the County pays for delaying rehabilitation of an asset as it continues to deteriorate. In some cases, the potential penalty for deferral can be significant, while in others may be minimal. Deferral cost can vary from almost zero to the full replacement cost of an asset. Due to inflation, however, the deferral of a project will always incur costs.

To illustrate the concept of deferral cost, consider two bridges.

1. A 70 year old structure in an advanced state of deterioration. Many elements of the structure exhibit severe corrosion and the substructure requires major rehabilitation from years of joint leakage. The cost of rehabilitating the bridge would far exceed the cost of replacement which is estimated to be $15 million. At this point in time, however, there is no urgency to carry out the replacement as most of the deterioration has minimal impact on the load carrying capacity of the structure.

2. A 20 year old structure which is in excellent condition and has a replacement cost of $5 million. It has no significant deterioration, however has four joints with varying degrees of failure that have allowed leakage onto substructure components. If addressed promptly, these joint seals could be simply replaced along with some minor repairs at a cost of $500,000. If the leakage is allowed to continue unchecked, within ten years the substructure as well as other components will undergo significant deterioration. Estimated repair cost in this case is $3,250,000.

Deferral cost analysis looks at the cost penalty of project deferral. The first bridge has a ten year deferral cost of zero (neglecting inflation). The second structure has a ten year deferral cost of $2,750,000 (i.e. $3,250,000 - $500,000). All else being equal, deferral cost analysis would suggest that the second structure is a much higher priority.

Source: Michael Wallrap, P. Eng., President, Engineered Management Systems Inc

Appendix 5: Roads Risk Calculation

Short Description	Legacy Number	Asset Condition Index	Service Impact	Risk Rating
001000 COUNTY ROAD 27 To 20th SIDEROAD	1000	4	3	12
001024 20th SIDEROAD To 15th SIDEROAD	1024	4	3	12
15th SIDEROAD To E. LIMITS OF BEETON 001054	1054	4	3	12
W. LIMITS OF BEETON To TOTTENHAM ROAD 001095	1095	4	3	12
TOTTENHAM ROAD To TECUMSETH/ADJALA TWP BDY 001115	1115	4	4	16
ROAD LOT 16-17 ADJALA To ROAD LOT 15 -16 ADJALA 001145	1145	4	4	16
TECUMSETH/ADJALA TWP. BDY. To CONCESSION 7 001150	1150	4	4	16
CONCESSION 7 To CATHERINE STREET 001167	1167	4	4	16
CATHERINE STREET To COUNTY ROAD 50 001176	1176	4	4	16
COUNTY ROAD 50 To SIMON DRIVE 001180	1180	4	4	16
SIMON DRIVE To CONCESSION 5 001184	1184	4	4	16
CONCESSION 5 To CONCESSION 4 001194	1194	4	4	16
CONCESSION 4 To CONCESSION 3 001207	1207	4	4	16
CONCESSION 3 To CONCESSION 2 001221	1221	3	4	12
CONCESSION 2 To DRUMMOND STREET 001236	1236	3	4	12
DRUMMOND STREET To SIMCOE/DUFFERIN BDY SOUTH 001251	1251	3	4	12
COUNTY ROAD 39 To FENNELL DRIVE 003000	3000	3	3	9
FENNELL DRIVE To COUNTY ROAD 4 003028	3028	3	3	9
N. LIMITS OF BRADFORD To 9th LINE BWG 004000	4000	3	1	3
9th LINE To 10th LINE BWG 004014	4014	3	1	3
10th LINE To 11th LINE BWG 004028	4028	3	1	3
11th LINE To 12th LINE BWG 004042	4042	3	1	3
12th LINE To 13th LINE BWG 004056	4056	3	1	3
13th LINE To 14th LINE BWG/INNISFIL 004070	4070	3	1	3
14th LINE To GILFORD ROAD INNISFIL 004084	4084	3	1	3
GILFORD ROAD To COUNTY ROAD 3/89 004098	4098	3	1	3
COUNTY ROAD 3/89 To 300 m NORTH -INNISFIL 004101	4101	3	2	6
300 m NORTH To 2nd LINE INNISFIL 004104	4104	3	2	6
2nd LINE To 3rd LINE INNISFIL 004115	4115	3	2	6
3rd LINE To KILLARNEY BEACH ROAD 004128	4128	3	2	6
KILLARNEY BEACH ROAD To MEADOWELAND STREET 004142	4142	3	2	6
MEADOWLAND STREET To 5th LINE INNISFIL 004149	4149	3	2	6
5th LINE To 6TH LINE INNISFIL 004156	4156	3	2	6
6th LINE To 7th LINE INNISFIL 004170	4170	3	2	6
7th LINE To COUNTY ROAD 21 INNISFIL 004183	4183	3	2	6
COUNTY ROAD 21 To 9th Line 004197	4197	3	2	6
9th LINE To S. LIMITS OF STROUD 004211	4211	3	2	6
S. LIMITS OF STROUD To VICTORIA STREET 004217	4217	3	2	6
VICTORIA STREET To N. LIMITS OF STROUD 004224	4224	3	1	3
N. LIMITS OF STROUD To LOCKHART ROAD 004233	4233	3	1	3
COUNTY ROAD 15 To CONCESSION 7 005000	5000	3	3	9
CONCESSION 7 To CONCESSION 6 005014	5014	3	3	9
CONCESSION 6 To DEN BOER ROAD 005028	5028	3	3	9
DEN BOER ROAD To WALES AVENUE 005031	5031	3	3	9
WALES AVENUE To COUNTY ROAD 13 005038	5038	3	3	9
COUNTY ROAD 13 To BLANCHARDS WAY 005041	5041	3	4	12
BLANCHARDS WAY To CONCESSION 4 005047	5047	3	4	12
CONCESSION 4 To CONCESSION 3 005054	5054	3	4	12
CONCESSION 3 To CONCESSION 2 005066	5066	3	4	12
CONCESSION 2 To SIMCOE/DUFFERIN COUNTY BDY. 005080	5080	3	4	12
COUNTY ROAD 27 To TINY/FLOS TWP. BDY. 006000	6000	3	3	9
TINY/FLOS TWP. BDY. To CONCESSION 2 TINY 006014	6014	3	3	9
CONCESSION 2 To CONCESSION 3 006028	6028	3	3	9
CONCESSION 3 To CONCESSION 4 006043	6043	3	3	9
CONCESSION 4 To MCKENZIE STREET 006055	6055	3	3	9
MCKENZIE STREET To PRISCILLA STREET 006069	6069	3	3	9
PRISCILLA STREET To CONCESSION 6 006073	6073	3	3	9
CONCESSION 6 To CONCESSION 8 006083	6083	3	3	9
CONCESSION 8 To CONCESSION 9 006110	6110	3	3	9
CONCESSION 9 To BALM BEACH ROAD 006124	6124	3	3	9
BALM BEACH ROAD To CONCESSION 11 006138	6138	3	3	9
CONCESSION 11 To CONCESSION 12 006152	6152	3	3	9
CONCESSION 12 To CONCESSION 13 006167	6167	3	3	9
CONCESSION 13 To CONCESSION 14 006181	6181	3	4	12

Short Description	Legacy Number	Asset Condition Index	Service Impact	Risk Rating
CONCESSION 14 To CONCESSION 15 006196	6196	3	4	12
CONCESSION 15 To COUNTY ROAD 26 006210	6210	3	4	12
HIGHWAY 26 To 27/28 SIDEROAD NOTT. 007000	7000	3	3	9
27/28 SIDEROAD NOTT. To MORGAN ROAD 007020	7020	3	3	9
MORGAN ROAD To S. LIMITS OF WASAGA BEACH 007036	7036	3	3	9
HIGHWAY 9 To WEBBER ROAD 008000	8000	3	5	15
WEBBER ROAD To RIVER ROAD 008007	8007	3	5	15
RIVER ROAD To HIGHWAY 400 008028	8028	2	5	10
HIGHWAY 400 To DAY STREET 008044	8044	2	4	8
DAY STREET To WANDA STREET 008064	8064	2	4	8
WANDA STREET To TORNADO DRIVE 008068	8068	2	4	8
TORNADO DRIVE To 5th LINE 008072	8072	2	4	8
5th LINE To SIMCOE ROAD 008091	8091	2	4	8
SIMCOE ROAD To BRADFORD LIMITS 008101	8101	2	4	8
COUNTY ROAD 10 To 12/13 S/R S. SUNNIDALE 009000	9000	2	4	8
12/13 S/R S. SUNNIDALE To E. LIMITS OF NEW LOWELL 009012	9012	2	4	8
E. LIMTS OF NEW LOWELL To HOGBACK ROAD 009018	9018	2	4	8
HOGBACK ROAD To W. LIMITS OF NEW LOWELL 009026	9026	2	4	8
W. LIMITS OF NEW LOWELL To CREEMORE AVENUE 009034	9034	2	4	8
CREEMORE AVENUE To ROAD 3-4 S/R SUNNIDALE 009050	9050	2	4	8
ROAD 3-4 S/R SUNNIDALE To CENTERLINE ROAD 009070	9070	2	4	8
CENTERLINE ROAD To COUNTY ROAD 42 009089	9089	2	4	8
COUNTY ROAD 42 To E. LIMITS OF CREEMORE 009117	9117	2	4	8
W. LIMITS OF CREEMORE To RIVERSIDE DRIVE 009138	9138	2	5	10
RIVERSIDE DRIVE To 9/10 S/R NOTTAWASAGA 009157	9157	2	5	10
9/10 S/R NOTT To 6/7 S/R NOTT. 009174	9174	2	5	10
6/7 S/R NOTT. To LAVENDERHILL ROAD 009192	9192	2	5	10
LAVENDERHILL ROAD To CON 9 S NOTT. 009209	9209	2	5	10
CON. 9 S. NOTT. To CON. 10 S. NOTT. 009224	9224	2	5	10
CON. 10 S. NOTT. To COUNTY ROAD 124 009241	9241	2	5	10
010000 HIGHWAY 9 To 2nd LINE	10000	2	3	6
010014 2nd LINE To 3rd LINE	10014	2	3	6
010028 3rd LINE To S. LIMITS OF TOTTENHAM	10028	2	3	6
010054 5th LINE To 6th LINE	10054	2	3	6
010069 6th LINE To 7th LINE	10069	2	3	6
010082 7th LINE To CR 1	10082	2	3	6
010096 CR 1 To 9th LINE	10096	2	2	4
010110 9th LINE To 10th LINE	10110	2	2	4
010124 10th LINE To 11th LINE	10124	2	2	4
010138 11th LINE To 12th LINE	10138	2	2	4
010152 12th LINE To 13 th LINE	10152	2	2	4
010166 13th LINE To 14TH LINE	10166	2	2	4
010180 14TH LINE To HIGHWAY 89 - NEW SECTION	10180	2	2	4
010205 HIGHWAY 89 To 5th SIDEROAD	10205	2	3	6
010236 5th SIDEROAD To 10th SIDEROAD	10236	2	3	6
010267 10th SIDEROAD To COUNTY ROAD 21	10267	2	3	6
010298 COUNTY ROAD 21 To 20th SIDEROAD	10298	2	3	6
010329 20th SIDEROAD To 25th SIDEROAD	10329	2	3	6
010360 25th SIDEROAD To WILLOUGHBY ROAD	10360	2	3	6
010372 WILLOUGHBY ROAD To COUNTY ROAD 90	10372	2	3	6
010405 COUNTY ROAD 90 To COMMENCE ROAD	10405	2	2	4
010407 COMMENCE ROAD To SANDY LANE	10407	2	2	4
010414 SANDY LANE To CECIL STREET	10414	2	2	4
010418 CECIL STREET To SUNNIDALE- TOS TOWNLINE	10418	2	2	4
010428 SUNNIDALE-TOS. TOWNLINE To S.LMTS of BRENTWOOD	10428	2	2	4
010451 S. LIMITS OF BRENTWOOD To CON. 2 SUNNIDALE	10451	2	2	4
CON. 2 SUNNIDALE To CON. 3 SUNNIDALE 010458	10458	2	2	4
CON. 3 SUNNIDALE To COUNTY ROAD 9 010472	10472	2	2	4
COUNTY ROAD 9 To CON. 5 SUNNIDALE 010479	10479	2	3	6
CON. 5 SUNNIDALE To CON. 6 SUNNIDALE 010486	10486	2	3	6
CON. 6 SUNNIDALE To CON. 7 SUNNIDALE 010501	10501	2	3	6
CON. 7 SUNNIDALE To CON. 9 SUNNIDALE 010515	10515	2	3	6
CON. 9 SUNNIDALE To HIGHWAY 26 Section 010545	10545	2	3	6
HIGHWAY 26 To WASAGA BEACH LIMITS 010580	10580	2	3	6
ORO/ORILLIA TWP. BDRY To 14th LINE 011000	11000	2	4	8

Short Description	Legacy Number	Asset Condition Index	Service Impact	Risk Rating
14th LINE To 13th LINE 011016	11016	2	4	8
13th LINE To 12th LINE 011030	11030	2	4	8
12th LINE To 11th LINE 011044	11044	2	4	8
11th LINE To 10th LINE 011059	11059	2	4	8
10th LINE To 9th LINE 011073	11073	2	4	8
9th LINE To 8th LINE 011086	11086	2	4	8
8th LINE To 7th LINE 011102	11102	2	4	8
7th LINE To 6th LINE 011119	11119	2	4	8
6th LINE To 5th LINE 011133	11133	2	4	8
5th LINE To 4th LINE 011149	11149	2	4	8
4th LINE To 3rd LINE 011163	11163	2	4	8
3rd LINE To 2nd LINE 011177	11177	2	4	8
2nd LINE To 1st LINE 011191	11191	2	4	8
1st LINE To COUNTY ROAD 93 011201	11201	2	4	8
COUNTY ROAD 93 To HIGHWAY 400 011222	11222	2	4	8
COUNTY ROAD 13 To N.W. LIMITS OF LISLE Section 012000	12000	2	4	8
N.W. LIMITS OF LISLE To CON 1-2 TOSORONTIO 012009	12009	2	4	8
CON 1-2 TOSORONTIO To COUNTY BDRY. 012025	12025	2	4	8
HIGHWAY 89 To 5TH SIDEROAD 013000	13000	2	4	8
5TH SIDEROAD To DEKKER ROAD 013029	13029	2	4	8
DEKKER ROAD To ROAD 5 013053	13053	2	4	8
COUNTY ROAD 5 To N. LIMITS OF EVERETT 013059	13059	2	4	8
N. LIMITS OF EVERETT To 15 TOSORONTIO S/R 013068	13068	2	4	8
15 TOSORONTIO S/R To 17 TOSORONTIO S/R 013090	13090	2	4	8
17 TOSORONTIO S/R To 20 TOSORONTIO S/R 013105	13105	2	4	8
20 TOSORONTIO S/R To S LIMITS OF LISLE 013124	13124	2	4	8
S.LIMITS OF LISLE To ROAD 13 013148	13148	2	4	8
10th SIDEROAD to COUNTY ROAD 10 NEW TEC 14148	14148	2	4	8
14179 CR 10 To ADJ / NEW TEC BDRY	14179	2	4	8
14209 RD 14 north 500m. Village of Colgan To RD 14 ADJ-TEC TWP BDY.	14209	2	4	8
14214 RD 14 Westerly 300m Village of Colgan To ADJ-TEC TWP. BDY.	14214	2	4	8
14217 CON 8 To CON 7 - A Section - ADJ-TOS TWP	14217	2	4	8
14231 CON. 8 To ROAD 50 - ADJ-TOS TWP	14231	2	4	8
HIGHWAY 89 To N. LIMITS OF ALLISTON 015000	15000	2	2	4
N. LIMITS OF ALLISTON To 5 SIDEROAD TOS 015014	15014	2	3	6
5 SIDEROAD TOS To COUNTY ROAD 5 015025	15025	2	3	6
COUNTY ROAD 5 To COUNTY ROAD 21 015055	15055	2	3	6
COUNTY ROAD 21 To C.F.B. BORDEN 015090	15090	2	4	8
COUNTY ROAD 23 To F.R. NELSON ROAD 016000	16000	2	3	6
F.R. NELSON ROAD To HERON DRIVE 016024	16024	2	3	6
HERON DRIVE To HIGHWAY 400 016042	16042	2	3	6
N. LIMITS OF COLDWATER To ANDERSON LINE 017000	17000	2	4	8
ANDERSON LINE To DUNNS LINE 017006	17006	2	4	8
DUNNS LINE To MATCHADASH/TAY TWP. BDRY. 017021	17021	2	4	8
MT. STEPHEN ROAD To LAUGHLIN FALLS ROAD 017035	17035	2	4	8
LAUGHLIN FALLS ROAD To KINNEAR SIDEROAD 017053	17053	2	4	8
KINNEAR SIDEROAD To LOVERNING LINE 017065	17065	2	4	8
LOVEWRNING LINE To TAYLOR LINE 017083	17083	2	4	8
TAYLOR LINE To SILK LINE 017097	17097	2	4	8
SILK LINE To WHITE PINES ROAD 017111	17111	2	5	10
WHITE PINES ROAD To TAMARACK LANE 017206	17206	2	5	10
TAMARACK LANE To SWEEP ROAD 017224	17224	2	5	10
SWEEP ROAD To PAXTON ROAD 017244	17244	2	5	10
PAXTON ROAD To MARR LANE 017254	17254	2	5	10
MARR LANE To GRAHAM ROAD 017272	17272	2	5	10
GRAHAM ROAD To COUNTY BDRY. 017290	17290	2	5	10
HIGHWAY 12 To HIGHWAY 400 019000	19000	2	4	8
HIGHWAY 400 To OLD COUNTY ROAD 019028	19028	2	4	8
OLD COUNTY ROAD To LINE 8 019038	19038	2	4	8
LINE 8 To LINE 7 019045	19045	2	4	8
LINE 7 To LINE 6 019057	19057	2	4	8
LINE 6 To LINE 5 019072	19072	2	4	8
LINE 5 To LINE 4 019085	19085	2	4	8
LINE 4 To LINE 3 019099	19099	2	4	8
LINE 3 To LINE 2 019113	19113	2	4	8

Short Description	Legacy Number	Asset Condition Index	Service Impact	Risk Rating
LINE 2 To SCARLETT LINE 019128	19128	2	4	8
SCARLETT LINE To HIGHWAY 93 019138	19138	1	4	4
HIGHWAY 93 To OLD PENETANGUISHENE ROAD 019151	19151	1	4	4
OLD PENETANGUISHENE ROAD To WOODS DRIVE 019261	19261	1	4	4
WOODS DRIVE To LITTLE NINTH 019273	19273	1	4	4
LITTLE NINTH To BASELINE ROAD 019279	19279	1	4	4
BASELINE ROAD To E. LIMITS OF ELMVALE 019299	19299	1	4	4
HIGHWAY 11 To RIDGE ROAD/HAWKSTONE 020000	20000	1	4	4
RIDGE ROAD To W. LIMITS OF HAWKSTONE 020008	20008	1	4	4
W. LIMTS OF HAWKSTONE To LINE 10 020013	20013	1	4	4
LINE 10 To LINE 9 020025	20025	1	4	4
LINE 9 To LINE 8 020039	20039	1	4	4
LINE 8 To LINE 7 020054	20054	1	4	4
LINE 7 To LINE 6 020068	20068	1	4	4
LINE 6 To LINE 5 020082	20082	1	4	4
LINE 5 To LINE 4 020097	20097	1	4	4
LINE 4 To LINE 3 020112	20112	1	4	4
LINE 3 - SHANTY BAY To LINE 2 020128	20128	1	4	4
LINE 2 - SHANTY BAY To RANGE ROAD 020142	20142	1	4	4
RANGE ROAD To 5/6 SIDEROAD 020157	20157	1	4	4
5/6 SIDEROAD To LINE 1 S 020167	20167	1	4	4
LINE 1 S To LIMITS OF BARRIE 020188	20188	1	4	4
COUNTY ROAD 39 To COUNTY ROAD 4 021000	21000	1	1	1
COUNTY ROAD 4 To COUNTY ROAD 54 021030	21030	1	2	2
COUNTY ROAD 54 To INNISBROOK STREET 021060	21060	1	1	1
INNISBROOK STREET To INNISFIL HEIGHTS CRES. 021067	21067	1	1	1
INNISFIL HEIGHTS CRES. To HIGHWAY 400 021075	21075	1	1	1
HIGHWAY 400 To 5 SIDEROAD 021080	21080	1	1	1
5 SIDEROAD To E. LIMITS OF THORNTON 021083	21083	1	2	2
E. LIMITS OF THORNTON To COUNTY ROAD 27 021107	21107	1	2	2
COUNTY ROAD 27 To KALLEN BLVD. - THORNTON 021118	21118	1	3	3
KALLEN BLVD. To 11th LINE - THORNTON 021123	21123	1	3	3
11th LINE To 10th LINE 021128	21128	1	3	3
10th LINE To 9th LINE 021142	21142	1	3	3
9th LINE To 8th LINE 021157	21157	1	3	3
8th LINE To COUNTY ROAD 56 021171	21171	1	3	3
COUNTY ROAD 56 To 6th LINE 021184	21184	1	3	3
6th LINE To E. LIMITS OF BAXTER - DENNY DRIVE 021199	21199	1	3	3
E. LIMITS OF BAXTER To W. LIMITS OF BAXTER 021213	21213	1	3	3
W. LIMITS OF BAXTER To COUNTY ROAD 10 021222	21222	1	3	3
COUNTY ROAD 10 To SCOTCH LINE 021227	21227	1	3	3
SCOTCH LINE To COUNTY ROAD 15 021254	21254	1	3	3
HIGHWAY 12 To OLIVE DRIVE 022000	22000	1	3	3
OLIVE DRIVE To 13th LINE 022006	22006	1	3	3
13th LINE To 12th LINE 022014	22014	1	3	3
12th LINE To 11th LINE 022027	22027	1	3	3
11th LINE To 10th LINE 022041	22041	1	3	3
10th LINE To 9th LINE 022055	22055	1	3	3
9th LINE To 8th LINE 022067	22067	1	3	3
8th LINE To 7th LINE 022083	22083	1	3	3
7th LINE To 6th LINE 022097	22097	1	3	3
6th LINE - SOUTH SIDE To 6th LINE NORTH SIDE 022107	22107	1	3	3
6th LINE - NORTH SIDE To 5th LINE 022114	22114	1	3	3
5th LINE To 4th LINE 022124	22124	1	3	3
4th LINE To 3rd LINE 022134	22134	1	3	3
3rd LINE To 1st LINE 022164	22164	1	3	3
1st LINE To COUNTY ROAD 93 022176	22176	1	3	3
COUNTY ROAD 93 To HIGHWAY 400 022198	22198	1	3	3
HIGHWAY 400 To OLD SECOND ROAD 022212	22212	1	3	3
OLD SECOND ROAD To FOX FARM ROAD 022221	22221	1	3	3
FOX FARM ROAD To GILL ROAD 022232	22232	1	3	3
GILL ROAD To COUNTY ROAD 27 022245	22245	1	3	3
COUNTY ROAD 27 To NURSERY ROAD 022260	22260	1	3	3
NURSERY ROAD To WILSON DRIVE 022272	22272	1	3	3
WILSON DRIVE To COUGHLIN ROAD 022286	22286	1	3	3

Short Description	Legacy Number	Asset Condition Index	Service Impact	Risk Rating
COUGHLIN ROAD To GOLF COURSE ROAD 022293	22293	1	3	3
GOLF COURSE ROAD To VESPRA VALLEY ROAD 022301	22301	1	3	3
VESPRA VALLEY ROAD To CROSSLAND ROAD 022314	22314	1	3	3
CROSSLAND ROAD To HIGHWAY 26 022326	22326	1	3	3
HIGHWAY 400 To SANDHILL/GLOUCESTER ROAD 023000	23000	1	4	4
SANDHILL/ GLOUCESTER ROAD To 9th LINE 023005	23005	1	4	4
9th LINE To 8th LINE 023018	23018	1	4	4
8th LINE To GERVAIS ROAD 023033	23033	1	4	4
GERVAIS ROAD To 6th LINE 023045	23045	1	4	4
6th LINE To 5th LINE - Section 023061	23061	1	4	4
5th LINE To 4th LINE - Section 023074	23074	1	4	4
4th LINE To COUNTY ROAD 58 023088	23088	1	4	4
COUNTY ROAD 58 To 2nd LINE 023102	23102	1	4	4
2nd LINE To SCARLETT ROAD 023117	23117	1	4	4
SCARLETT ROAD To E. LIMITS OF WAVERLEY 023128	23128	1	4	4
E. LIMITS OF WAVERLEY To HIGHWAY 93 023148	23148	1	4	4
COUNTY ROAD 93 To SUNDOWNER ROAD 025000	25000	1	3	3
SUNDOWNER ROAD To WILSON / MARSHALL ROAD 025012	25012	1	3	3
WILSON/ MARSHALL ROAD To BASELINE ROAD 025025	25025	1	3	3
BASELINE ROAD To E. LIMITS OF PERKINSFIELD 025035	25035	1	3	3
E. LIMITS OF PERKIINSFIELD To COUNTY ROAD 6 025059	25059	1	3	3
N. LIMITS OF PENETANG To MACAVALLEY ROAD 026000	26000	1	4	4
MACAVALLEY ROAD To CONCESSION 15 026007	26007	1	4	4
CONCESSION 15 To CONCESSION 16 026022	26022	1	4	4
CONCESSION 16 To COUNTY ROAD 6 026040	26040	1	4	4
COUNTY ROAD 6 To E. LIMITS OF LAFOUNTAINE 026072	26072	1	4	4
E. LIMITS OF LAFOUNTAINE To CEDAR POINT ROAD 026092	26092	1	4	4
HIGHWAY 9 To 2ND LINE 027000	27000	1	3	3
2ND LINE To 3RD LINE 027028	27028	1	3	3
3RD LINE To 4TH LINE 027041	27041	1	3	3
4TH LINE To 5TH LINE 027056	27056	1	3	3
5TH LINE To 6TH LINE 027070	27070	1	3	3
6TH LINE To S LIMITS OF COUNTY ROAD 88 027085	27085	1	3	3
COUNTY ROAD 88 To COUNTY ROAD 1 027099	27099	1	3	3
COUNTY ROAD 1 To 9TH LINE 027114	27114	1	3	3
9TH LINE To 10 TH LINE 027128	27128	1	3	3
10TH LINE To 11TH LINE 027142	27142	1	3	3
11TH LINE To 12TH LINE 027156	27156	1	3	3
12TH LINE To 13TH LINE 027170	27170	1	3	3
13TH LINE To 14TH LINE 027184	27184	1	3	3
14TH LINE To S. LIMITS OF COOKSTOWN Section 027194	27194	1	3	3
N. LIMITS OF COOKSTOWN To 2ND LINE Section 027218	27218	1	3	3
2ND LINE To 3RD LINE 027228	27228	1	3	3
3RD LINE To 4TH LINE 027242	27242	1	3	3
4TH LINE To 5TH LINE 027256	27256	1	3	3
5TH LINE To 6TH LINE 027270	27270	1	3	3
6TH LINE To 7TH LINE 027284	27284	1	3	3
7TH LINE To MEADOWLAND BLVD 027298	27298	1	3	3
MEADOWLAND BLVD To COUNTY ROAD 21 027301	27301	1	3	3
COUNTY ROAD 21 To INNISFIL BEACH ROAD 027307	27307	1	2	2
INNISFIL BEACH ROAD To 9TH LINE 027312	27312	1	2	2
9TH LINE To 10TH LINE 027326	27326	1	2	2
10TH LINE To COUNTY ROAD 30 027339	27339	1	2	2
COUNTY ROAD 30 To SALEM ROAD 027343	27343	1	2	2
SALEM ROAD To S. LIMITS OF BARRIE 027354	27354	1	2	2
S. LIMITS OF BARRIE To MAPLEVIEW DRIVE 027361	27361	1	2	2
MAPLEVIEW DRIVE To ARDAGH ROAD 027368	27368	1	2	2
ARDAGH ROAD To COUNTY ROAD 90 027396	27396	1	2	2
HIGHWAY 26 To DORAN ROAD 027411	27411	1	2	2
DORAN ROAD To BEAVER LANE 027419	27419	1	2	2
BEAVER LANE To BERTRAM INDUSTRIAL PARKWAY 027453	27453	1	2	2
BERTRAM INDUSTRIAL PARKWAY To COUNTY ROAD 22 027474	27474	1	2	2
COUNTY ROAD 22 To RAINBOW VALLEY ROAD 027486	27486	1	2	2
RAINBOW VALLEY ROAD To FLOS ROAD 3 027500	27500	1	2	2
FLOS ROAD 3 To FLOS ROAD 4 027514	27514	1	2	2

Short Description	Legacy Number	Asset Condition Index	Service Impact	Risk Rating
FLOS ROAD 4 To FLOS ROAD 5 027528	27528	1	2	2
FLOS ROAD 5 To FLOS ROAD 6 027542	27542	1	2	2
FLOS ROAD 6 To FLOS ROAD 7 027556	27556	1	2	2
FLOS ROAD 7 To FLOS ROAD 8 027570	27570	1	2	2
FLOS ROAD 8 To S. LIMITS OF ELMVALE 027584	27584	1	2	2
N. LIMITS OF ELMVALE To FLOS ROAD 10 027605	27605	1	2	2
FLOS ROAD 10 To COUNTY ROAD 6 027613	27613	1	2	2
COUNTY ROAD 6 To FLOS ROAD 11 027621	27621	1	3	3
FLOS ROAD 11 To TINY FLOS TINE LINE 027628	27628	1	3	3
TINY FLOS TINE LINE To BASELINE ROAD 027635	27635	1	3	3
BASELINE ROAD To OLD SECOND ROAD 027665	27665	1	3	3
OLD SECOND ROAD To HIGHWAY 93 027675	27675	1	3	3
COUNTY ROAD 90 To SUNNIDALE ROAD 028000	28000	1	3	3
SUNNIDALE ROAD To SEADON ROAD 028022	28022	1	3	3
SEADON ROAD To SNOW VALLEY ROAD 028051	28051	1	3	3
SNOWVALLEY ROAD To HINDLE LANE 028063	28063	1	3	3
HINDLE LANE To S. LIMITS OF MINESING 028097	28097	1	3	3
S. LIMITS OF MINESING To MAPLE AVENUE 028104	28104	1	3	3
MAPLE AVENUE To HIGHWAY 26 028109	28109	1	3	3
COUNTY ROAD 22 To RAINBOW VALLEY ROAD 029000	29000	1	3	3
RAINBOW VALLEY ROAD To FLOS ROAD THREE 029013	29013	1	3	3
FLOS ROAD THREE To FLOS ROAD FOUR 029027	29027	1	3	3
FLOS ROAD FOUR To FLOS ROAD FIVE 029041	29041	1	3	3
FLOS ROAD FIVE To FLOS ROAD SIX 029055	29055	1	3	3
FLOS ROAD SIX To FLOS ROAD SEVEN 029069	29069	1	3	3
FLOS ROAD SEVEN To FLOS ROAD EIGHT 029083	29083	1	3	3
FLOS ROAD EIGHT To COUNTY ROAD 92 029097	29097	1	3	3
COUNTY ROAD 92 To FLOS ROAD TEN 029111	29111	1	4	4
FLOS ROAD TEN To FLOS ROAD ELEVEN 029127	29127	1	4	4
FLOS ROAD ELEVEN To FLOS /TINY TWP. BDY. 029142	29142	1	4	4
FLOS/TINY TWP. BDY. To LAWSON ROAD - 029148	29148	1	4	4
LAWSON ROAD To CONCESSION 3 029164	29164	1	4	4
CONCESSION 3 To CONCESSION 4 029178	29178	1	4	4
032000 W. Limits of Collingwood to Simcoe/Grey Bdry.	32000	1	4	4
032028 Sixth Street to Poplar Sideroad	32028	1	4	4
HIGHWAY 26 To HOLLY COURT 034000	34000	1	4	4
HOLLY COURT To COUNTY ROAD 32 034023	34023	1	4	4
COUNTY ROAD 32 To ROAD LOTS 15/16 COLLINGWOOD 034046	34046	1	4	4
COUNTY ROAD 3 To 2nd LINE 039000	39000	1	3	3
2nd LINE To 3rd LINE 039014	39014	1	3	3
3rd LINE To KILLARNEY BEACH ROAD 039028	39028	1	3	3
KILLARNEY BEACH ROAD To 5th LINE 039042	39042	1	3	3
5th LINE To 6thLINE 039056	39056	1	3	3
6th LINE To 7th LINE 039070	39070	1	3	3
7th LINE To COUNTY ROAD 21 039083	39083	1	3	3
LIMITS OF BARRIE To WILSON/FERNDALE DRIVE 040000	40000	1	3	3
WILSON/FERNDALE DRIVE To DOBSON ROAD 040008	40008	1	3	3
DOBSON ROAD To FRIESEN PLACE 040022	40022	1	3	3
FRIESEN PLACE To EDGECOMB TERRACE 040028	40028	1	3	3
EDGECOMB TERRACE To BARRIE HILL ROAD 040032	40032	1	3	3
BARRIE HILL ROAD To COUNTY ROAD 28 040038	40038	1	3	3
COUNTY ROAD 28 To GRENFEL ROAD 040052	40052	1	4	4
GRENFEL ROAD To PINEGROVE ROAD 040067	40067	1	4	4
PINEGROVE ROAD To PARR BVLD 040081	40081	1	4	4
PARR BVLD. To BALDWICK LANE 040091	40091	1	4	4
BALDWICK LANE To COUNTY ROAD 90 040096	40096	1	4	4
COUNTY BDY To 3/4 SIDEROAD NOTT. 042000	42000	1	3	3
3/4 SIDEROAD NOTT. To 6/7 SIDEROAD NOTT. 042019	42019	1	3	3
6/7 SIDEROAD NOTT. To EDWARD STREET 042038	42038	1	3	3
EDWARD STREET To COUNTY ROAD 9 042049	42049	1	3	3
COUNTY ROAD 9 To 12 / 13 SIDEROAD NOTT. 042057	42057	1	3	3
12/13 SIDEROAD NOTT. To 15 / 16 SIDEROAD NOTT. 042076	42076	1	3	3
15 / 16 SIDEROAD To 18/19 SIDEROAD NOTT. 042095	42095	1	3	3
18 / 19 SIDEROAD To 21/22 SIDEROAD NOTT. 042113	42113	1	3	3
21 / 22 SIDEROAD NOTT. To S. LIMITS OF STAYNER 042132	42132	1	3	3

Short Description	Legacy Number	Asset Condition Index	Service Impact	Risk Rating
HIGHWAY 26/27 To ANNE STREET 043000	43000	1	4	4
ANNE STREET To WILSON DRIVE 043014	43014	1	4	4
WILSON DRIVE To SNOW VALLEY ROAD - 043028	43028	1	4	4
SNOW VALLEY ROAD To GEORGE PARKWAY 043031	43031	1	4	4
GEORGE PARKWAY To VESPRA VALLEY ROAD 043046	43046	1	4	4
VESPRA VALLEY ROD To OLD ROAD 43 043060	43060	1	4	4
OLD ROAD 43 To COUNTY ROAD 28 043070	43070	1	4	4
HIGHWAY 12 To CONCESSION ROAD 12 044000	44000	1	1	1
CONCESSION ROAD 12 To MONCK ROAD 044012	44012	1	1	1
MONCK ROAD To FAWN BAY ROAD 044028	44028	1	1	1
FAWN BAY ROAD To HOPKINS BAY ROAD 044044	44044	1	1	1
HOPKINS BAY ROAD To BENSON SIDEROAD 044049	44049	1	1	1
BENSON SIDEROAD To AIRPORT ROAD 044057	44057	1	3	3
AIRPORT ROAD To LONGFORD MILLS RD 044072	44072	1	3	3
LONGFORD MILLS RD To QUARRY POINT ROAD 044086	44086	1	4	4
QUARRY POINT ROAD To SOUTHWOOD BEACH BVLD. 044101	44101	1	4	4
SOUTHWOOD BEACH BVLD. To SWITCH ROAD 044121	44121	1	4	4
SWITCH ROAD To COUNTY ROAD 169 044139	44139	1	4	4
COUNTY BDY. To OLD UDNEY SIDEROAD 045000	45000	1	4	4
OLD UDNEY SIDEROAD To COUNTY ROAD 169 045066	45066	1	4	4
COUNTY ROAD 169 To SMITH SIDEROAD 045092	45092	1	4	4
SMITH SIDEROAD To SIDERADO 20 045114	45114	1	4	4
SIDEROAD 20 To SIDEROAD 25 045132	45132	1	4	4
SIDEROAD 25 To COUNTY ROAD 44 045164	45164	1	4	4
BLACK RIVER To JUNCTION COUNTY ROAD 45 Section 046000	46000	1	4	4
JUNCTION COUNTY ROAD 45 To CONCESSION RD 13 046030	46030	1	4	4
CONCESSION ROAD 13 To CONCESSION 12 046062	46062	1	4	4
CONCESSION ROAD 12 To JUNCTION COUNTY RD 45 046075	46075	1	4	4
JUNCTION COUNTY ROAD 45 To SIDEROAD 5 046089	46089	1	5	5
SIDEROAD 5 To COUNTY ROAD 169 046120	46120	1	5	5
HIGHWAY 12 To CONCESSION 4 047000	47000	1	4	4
CONCESSION 4 To SIDERAD 5 047016	47016	1	4	4
SIDEROAD 5 To COUNTY BDRY. 047037	47037	1	4	4
COUNTY BDRY. To CONCESSION ROAD 5 047068	47068	1	4	4
CONCESSION ROAD 5 To CONCESSION ROAD 6 047081	47081	1	4	4
CONCESSION ROAD 6 To CONCESSION ROAD 7 047096	47096	1	4	4
CONCESSION ROAD 7 To DALRYMPLE LAKE 047109	47109	1	5	5
S. LIMITS OF ORILLIA To HIGHWAY 11 049000	49000	1	2	2
HIGHWAY 9 To 5 SIDEROAD ADJALA 050000	50000	1	3	3
5 SIDEROAD ADJALA To COUNTY ROAD 14 050032	50032	1	3	3
COUNTY ROAD 14 To JOSEPH STREET 050065	50065	1	3	3
JOSEPH STREET To COUNTY ROAD 1 050088	50088	1	3	3
COUNTY ROAD 1 To 20th SIDEROAD ADJALA 050094	50094	1	3	3
20th SIDEROAD ADJALA To 25th SIDEROAD ADJALA 050125	50125	1	3	3
25th SIDEROAD ADJALA To 30th SIDEROAD 050150	50150	1	3	3
30th SIDEROAD ADJALA To HIGHWAY 89 050187	50187	1	3	3
COUNTY BDY. To KINGS RIVER ROAD 052000	52000	1	5	5
KINGS RIVER ROAD To MCCARTHER SIDEROAD 052022	52022	1	5	5
MCCARTHER SIDEROAD To SEVERN RIVER 052042	52042	1	5	5
SEVERN RIVER To MUSKOKA STREET 052075	52075	1	5	5
MUSKOKA STREET/COUNTY RD 52 To HIGHWAY 11 052104	52104	1	4	4
5th LINE to 6th LINE BWG 53000	53000	1	4	4
6th LINE to COUNTY ROAD 88 BWG 53014	53014	1	4	4
COUNTY ROAD 88 to 8th LINE BWG 53028	53028	1	4	4
8th LINE to 9th LINE BWG 53042	53042	1	4	4
9th LINE to 10th LINE BWG 53056	53056	1	4	4
10th LINE to 11th LINE BWG 53070	53070	1	4	4
11th LINE to 12th LINE BWG 53084	53084	1	4	4
12th LINE to 13th LINE BWG 53098	53098	1	4	4
	53112	1	4	4
14th LINE to 15th LINE INNISFIL 53126	53126	1	4	4
15th LINE to COUNTY ROAD 89 INNISFIL 53140	53140	1	4	4
COUNTY ROAD 89 to 2nd LINE INNISFIL 53142	53142	1	4	4
2nd LINE to 3rd LINE INNISFIL 53156	53156	1	4	4
3rd LINE to 4th LINE INNISFIL 53170	53170	1	4	4

Short Description	Legacy Number	Asset Condition Index	Service Impact	Risk Rating
4th LINE to 5th LINE INNISFIL 53184	53184	1	4	4
5th LINE to 6th LINE INNISFIL 53197	53197	1	4	4
6th LINE to 7th LINE INNISFIL 53211	53211	1	4	4
7th LINE to COUNTY ROAD 21 INNISFIL 53225	53225	1	4	4
County Road 21 to 9th Line Innisfil 53239	53239	1	4	4
9th Line Innisfil to Barrie Boundary 53246	53246	1	4	4
BARRIE LIMITS to COUNTY ROAD 40 SPRINGWATER 53380	53380	1	3	3
COUNTY ROAD 40 to SEADON ROAD SPRINGWATER 53384	53384	1	3	3
SEADON ROAD to COUNTY ROAD 43 SPRINGWATER 53405	53405	1	3	3
43 to COUTY ROAD 43 SPRINGWATER 53417	53417	1	3	3
43 to HIGHWAY 26 SPRINGWATER 53420	53420	1	3	3
5th LINE to 6th LINE BWG 54000	54000	1	3	3
6th LINE to COUNTY ROAD 88 BWG 54014	54014	1	3	3
COUNTY ROAD 88 to 8th LINE BWG 54028	54028	1	3	3
8th LINE to 9th LINE BWG 54042	54042	1	3	3
9th LINE to 10th LINE BWG 54056	54056	1	3	3
10th LINE to 11th LINE BWG 54070	54070	1	3	3
11th LINE to 12th LINE BWG 54084	54084	1	3	3
12th LINE to 13th LINE BWG 54098	54098	1	3	3
13th LINE to 14th LINE BWG/INNISFIL 54112	54112	1	3	3
14th LINE to COUNTY ROAD 89 INNISFIL 54126	54126	1	3	3
COUNTY ROAD 89 to 2nd LINE INNISFIL 54143	54143	1	3	3
2nd LINE to 3rd LINE INNISFIL 54157	54157	1	3	3
3rd LINE to 4th LINE INNISFIL 54171	54171	1	3	3
4th LINE to 5th LINE INNISFIL 54185	54185	1	3	3
5th LINE to 6th LINE INNISFIL 54199	54199	1	3	3
6th LINE to 7th LINE INNISFIL 54213	54213	1	3	3
7th LINE to COUNTY ROAD 21 INNISFIL 54227	54227	1	3	3
COUNTY ROAD 21 to 9th LINE INNISFIL 54241	54241	1	3	3
9th LINE to 10th LINE INNISFIL 54254	54254	1	3	3
HIGHWAY 89 To 5th SIDEROAD 056000	56000	1	4	4
5th SIDEROAD To 10th SIDEROAD 056029	56029	1	4	4
10th SIDEROAD To COUNTY ROAD 21 056059	56059	1	4	4
COUNTY ROAD 21 To 20th SIDEROAD 056089	56089	1	4	4
20th SIDEROAD To 25th SIDEROAD 056119	56119	1	4	4
25th SIDEROAD To 30th SIDEROAD 056149	56149	1	4	4
30th SIDEROAD To COUNTY ROAD 90 056180	56180	1	4	4
COUNTY ROAD 23 To ROAD LOTS 5-6 TAY 058000	58000	1	4	4
ROAD LOTS 5-6 TAY To ROAD LOTS 10-11 TAY 058030	58030	1	4	4
ROAD LOTS 10-11 TAY To HIGHWAY 12 058061	58061	1	4	4
HIGHWAY 26 To LANDFILL ENTRANCE 064000	64000	1	5	5
10th SIDEROAD - BRADFORD To HIGHWAY 400 088000	88000	1	1	1
HIGHWAY 400 To 5 SIDEROAD 088024	88024	1	3	3
5 SIDEROAD To EAST LIMITS OF BOND HEAD 088030	88030	1	3	3
EAST LIMITS OF BOND HEAD To COUNTY ROAD 27 088052	88052	1	3	3
COUNTY ROAD 4 To ROAD LOT 10/11 INNISFIL 089000	89000	1	3	3
ROAD LOT 10/11 INNISFIL To HIGHWAY 400 089031	89031	1	2	2
W. LIMITS OF BARRIE To COUNTY ROAD 27 090000	90000	1	1	1
COUNTY ROAD 27 To 11th LINE 090012	90012	1	1	1
11th LINE To COUNTY ROAD 28 090022	90022	1	1	1
COUNTY ROAD 28 To 10th LINE 090030	90030	1	1	1
10th LINE To 9th LINE 090036	90036	1	1	1
9th LINE To 8th LINE 090051	90051	1	1	1
8th LINE To COUNTY ROAD 56 090065	90065	1	1	1
COUNTY ROAD 56 To 6th LINE 090076	90076	1	1	1
6th LINE To 5th LINE 090093	90093	1	1	1
5th LINE To MCKINNON ROAD 090106	90106	1	1	1
MCKINNON ROAD To N. JUNCTION OF COUNTY RD 10 090125	90125	1	1	1
N. JUNCTION of COUNTY RD 10 To SUMMERSET PLACE 090131	90131	1	1	1
SUMMERSET PLACE To TREE TOP STREET 090135	90135	1	1	1
TREE TOP STREET To ROTH STREET 090137	90137	1	1	1
ROTH STREET To RIVER ROAD 090138	90138	1	1	1
RIVER ROAD To PINE RIVER ROAD 090142	90142	1	1	1
PINE RIVER ROAD To MARGARET STREET 090144	90144	1	1	1
MARGARET STREET To COUNTY ROAD 10 S. JUNCTION 090149	90149	1	1	1

Short Description	Legacy Number	Asset Condition Index	Service Impact	Risk Rating
W. LIMITS OF STAYNER To FAIRGROUND ROAD 091000	91000	1	3	3
FAIRGROUND ROAD To CON . 6 SOUTH NOTT. 091014	91014	1	3	3
CON. 6 SOUTH NOTT. To BROWN BLVD. 091042	91042	1	3	3
BROWN BLVD. To COUNTY ROAD 124 091061	91061	1	3	3
COUNTY ROAD 124 To CON. 10 S. NOTT. 091070	91070	1	4	4
CON. 10 S. NOTT. To SIMCOE/GREY BDY. 091096	91096	1	4	4
W. LIMITS OF ELMVALE To USHERS ROAD 092000	92000	1	3	3
USHERS ROAD To COUNTY ROAD 29 092022	92022	1	3	3
COUNTY ROAD 29 To VIGO ROAD 092053	92053	1	2	2
VIGO ROAD To E. LIMITS OF WASAGA BEACH 092085	92085	1	2	2
GEORGIAN DRIVE To HIGHWAY 11 093000	93000	1	3	3
HIGHWAY 11 To SKI TRAILS ROAD 093022	93022	1	3	3
SKI TRAILS ROAD To 20/21 SIDEROAD 093042	93042	1	3	3
20/21 SIDEROAD To COUNTY ROAD 11 093063	93063	1	3	3
COUNTY ROAD 11 To 30/31 SIDEROAD 093084	93084	1	3	3
30/31 SIDEROAD To BIDWELL ROAD 093105	93105	1	3	3
BIDWELL ROAD To COUNTY ROAD 22 093129	93129	1	3	3
COUNTY ROAD 22 To HIGHWAY 400 093146	93146	1	4	4
HIGHWAY 12 To COUNTY ROAD 25 093418	93418	1	1	1
COUNTY ROAD 25 To HUGEL AVENUE 093439	93439	1	1	1
HUGEL AVENUE To HOSPITAL ENTRANCE 093444	93444	1	1	1
HOSPITAL ENTRANCE To GOLF LINK 093450	93450	1	1	1
GOLF LINK ROAD To S. LIMITS OF PENETANGUISHENE 093462	93462	1	1	1
N. OF COUNTY ROAD 91 To 1.1 km 095000	95000	1	4	4
COUNTY ROAD 91 To COUNTY ROAD 124 095011	95011	1	4	4
DUFFERIN COUNTY BDRY. To COUNTY ROAD 9 124000	124000	1	4	4
COUNTY ROAD 9 To 6/7 SIDEROAD NOTT. 124018	124018	1	4	4
6/7 SIDEROAD NOTT. To 12/13 SIDEROAD NOTT. 124036	124036	1	4	4
12/13 SIDEROAD NOTT. To 15/16 SIDEROAD NOTT. 124073	124073	1	4	4
15/16 SIDEROAD NOTT. To SINGHAMPTON 124092	124092	1	3	3
SINGHAMPTON To MILLTOWN ROAD 124111	124111	1	4	4
MILLTOWN ROAD To CON. 10 S. NOTT. 124118	124118	1	4	4
CON. 10 S. NOTT. To CON. 8 S. NOTT. 124138	124138	1	4	4
CON. 8 S. NOTT. To 21/22 SIDEROAD 124164	124164	1	4	4
21/22 SIDEROAD To COUNTY ROAD 91 124182	124182	1	4	4
COUNTY ROAD 91 To 27/28 SIDEROAD NOTT. 124200	124200	1	4	4
27/28 SIDEROAD NOTT. To 30/31 SIDEROAD NOTT. 124218	124218	1	4	4
30/31 SIDEROAD NOTT. To 33/34 SIDEROAD NOTT. 124236	124236	1	4	4
33/34 SIDEROAD NOTT. To MCKEAN BLVD. 124255	124255	1	3	3
MCKEAN BLVD. To 36/37 SIDEROAD NOTT. 124265	124265	1	3	3
36/37 SIDEROAD NOTT. To POPULAR SIDEROAD 124273	124273	1	3	3
HIGHWAY 12 To CONCESSION ROAD 7 169000	169000	1	4	4
CONCESSION ROAD 7 To CONCESSION ROAD 8 169013	169013	1	4	4
CONCESSION ROAD 8 To CONCESSION ROAD 9 169027	169027	1	4	4
CONCESSION ROAD 9 To CONCESSION ROAD 10 169040	169040	1	4	4
CONCESSION ROAD 10 To COUNTY ROAD 46 169054	169054	1	4	4
COUNTY ROAD 46 To CONCESSION ROAD 12 169068	169068	1	4	4
CONCESSION ROAD 12 To CONCESSION ROAD 13 169082	169082	1	4	4
CONCESSION ROAD 13 To COUNTY ROAD 45 - Section 169098	169098	1	4	4
COUNTY ROAD 45 To CONESSION ROAD 2 169117	169117	1	4	4
CONESSION ROAD 2 To CONCESSION ROAD 3 169129	169129	1	4	4
CONESSION ROAD 3 To CONCESSION ROAD D-E 169142	169142	1	4	4
CONESSION ROAD D-E To CONCESSION ROAD 5 169155	169155	1	4	4
CONCESSION ROAD 5 To SWITCH ROAD 169175	169175	1	4	4
SWITCH ROAD To BROOKS SIDEROAD 169195	169195	1	4	4
BROOKS SIDEROAD To FAIRGROUNDS ROAD 169207	169207	1	4	4
FAIRGROUNDS ROAD To RIVERLEIGH DRIVE 169222	169222	1	4	4
RIVERLEIGH DRIVE To COUNTY ROAD 44 169232	169232	1	4	4
COUNTY ROAD 44 To MUSKOKA STREET 169239	169239	1	3	3
MUSKOKA STREET To HIGHWAY 11 169242	169242	1	3	3

Appendix 6: Structures Risk Calculation

Site ID	Structure Type	Structure Name	SSI Rating	Service Impact Rating	Risk Rating
101	Slab_On_I_Girders	Powers	1	1	1
141	Truss	Collingwood Street	1	1	1
142	Parallel_Box_Beams	Caroline Street	1	1	1
191	Slab_On_I_Girders	Over Nottawasga River	1	1	1
195	PostTensioned_Circular_Voids	Nottawasaga	2	5	10
196	Slab_On_T_Girders	Sheldon	4	3	12
201	Mixed	Archie Duckworth	1	5	5
211	Truss	Vigo	4	5	20
212	Rigid_Frame	Kirkpatrick	1	1	1
231	Rigid_Frame	Scott Creek	1	3	3
262	Slab_On_I_Girders	Mulmur-Nottawasga Townline Over Noisey River	1	1	1
291	Slab_On_I_Girders	Flat Rapids	2	1	2
292	Slab_On_I_Girders	Head River	1	1	1
294	Parallel_Box_Beams	Heaveners	1	1	1
295	Solid_Slab	Rama Island	2	2	4
301	Truss	McKinnon Rd	3	5	15
341	Parallel_Box_Beams	Ludlow	1	1	1
342	Rigid_Frame	Concession 1, Lot 12 Tosorontio	1	1	1
344	Rigid_Frame	Mulmur-Tosorontio Twnln Over Lisle Creek	1	1	1
345	Slab_On_T_Girders	Townline over Mud Creek	3	3	9
346	Slab_On_I_Girders	Centre Line Road Over Mad River	2	2	4
1021	Rigid_Frame	Willcox	1	5	5
1045	Culvert	County Road 1	3	3	9
1104	Slab_On_I_Girders	Williams	2	5	10
1117	Culvert	Walmans	2	1	2
1170	Slab_On_I_Girders	County Road 1 Over Bailey Creek	2	5	10
1174	Culvert	County Road 1	1	1	1
1221	Culvert	County Road 1 Over Nottawasaga River Tributary	1	1	1
3013	Culvert	Old Townline, Lot 21	1	1	1
4004	Culvert	Yonge Street	3	2	6
4143	Culvert	Concession 3, Lot 15/16	3	1	3
6025	Slab_On_I_Girders	County Road 6 South Over Wye River	1	1	1
6040	Slab_On_I_Girders	Wye River North	2	5	10
7043	Rigid_Frame	Collins	1	1	1
8134	Slab_On_I_Girders	Canal Road	1	3	3
9077	Rigid_Frame	Baxter	1	1	1
9082	Parallel_Box_Beams	County Rd 9 Over Coates Creek	1	1	1
9105	Culvert	McArthur	3	3	9
9130	Culvert	Concession 4, Lot 9/10	1	1	1
9163	Parallel_Box_Beams	Websterville	1	1	1
9177	Slab_On_I_Girders	Sidey	1	2	2
9211	Parallel_Box_Beams	Dunedin	1	1	1
9218	Culvert	Concession 9, Lot 6	1	1	1
9225	Rigid_Frame	Weatherall	2	4	8
9235	Rigid_Frame	Montgomery	1	1	1
10063	Culvert	McLoaughans	2	1	2
10092	Culvert	Heeughan	1	2	2
10099	Rigid_Frame	Hammils School	1	2	2
10122	Culvert	Thompson	2	3	6
10126	Culvert	County Road 10	1	1	1
10129	Rigid_Frame	Mitchell	3	5	15
10161	Rigid_Frame	Sand Hook	2	1	2
10193	Culvert	County Rd. 10(old) Over Unnamed	1	1	1
10200	Slab_On_I_Girders	County Road 10 Over Boyne River	1	2	2
10230	Culvert	Concession 3/4, Lot 6	2	1	2
10236	Rigid_Frame	Arnold	2	5	10
10394	Slab_On_I_Girders	Kearnan	1	1	1
10448	Rigid_Frame	Comartin	1	1	1
10463	Culvert	County Road 10 Over Unnamed	3	3	9

Site ID	Structure Type	Structure Name	SSI Rating	Service Impact Rating	Risk Rating
10600	Slab_On_I_Girders	Ackerman	3	4	12
12010	Rigid_Frame	Carr	3	2	6
12013	Rigid_Frame	Concession 3, Lot 25/26	1	1	1
12021	Culvert	Concession 2, Lot 25/26	1	1	1
12050	Rigid_Frame	County Road 12 Over Lisle Creek Tributary	1	1	1
13014	Rigid_Frame	Concession 4/5, Lots 3/4	1	2	2
13015	Culvert	Concession 4/5, Lot 4	1	1	1
13028	Culvert	Concession 4/5, Lot 6	3	3	9
13032	Rigid_Frame	Concession 4/5, Lot 6	1	2	2
13034	Rigid_Frame	County Road 13 Over Boyne River Tributary	1	1	1
13039	Rigid_Frame	County Road 13 Over Boyne River	1	2	2
13101	Slab_On_I_Girders	Tioga	4	3	12
13152	Rigid_Frame	Concession 3/4, Lot 25	1	1	1
14010	Culvert	County Road 14 Over Beeton Creek	1	1	1
14075	Rigid_Frame	Adjala Sideroad 10 Over Bailey Creek	1	1	1
14085	Rigid_Frame	Adjala Sideroad 10 Over Bailey Creek Tributary	2	4	8
14161	Culvert	Concession 2/3	2	1	2
15001	Slab_On_I_Girders	King Street North, Alliston Over Boyne River	5	3	15
17043	Rigid_Frame	Upper Big Chute Road Over Bear Creek	2	5	10
17052	Rigid_Frame	Durnford	2	5	10
17058	Rigid_Frame	Lovering	2	5	10
17068	Slab_On_I_Girders	Upper Big Chute Road Over North River	1	1	1
17095	Culvert	Concession 2, Lot 6/7	2	1	2
17121	Culvert	Concession 3, Lot 6/7	3	3	9
17123	Culvert	County Rd. 17; Upper Big Chute Rd.N-S Over Unnamed	3	3	9
17159	Rigid_Frame	Black River - Mordolphin	1	2	2
17305	Rigid_Frame	Tea Lake	1	5	5
18024	Culvert	Burnside Line; County Rd. 18 Over Silver Creek	3	1	3
18051	Rigid_Frame	North River	1	5	5
19012	Culvert	County Rd. 19 Over Coldwater River Tributary	3	3	9
19024	Slab_on_Box_Girders	Moonstone Road East Over Coldwater River	1	1	1
19115	Culvert	Barrs	2	3	6
19217	Culvert	County Road 19	3	2	6
20012	Culvert	Ridge Road # 20 Over Hawkstone Creek	3	1	3
20035	Culvert	concession 10, Lot 23	3	3	9
20052	Culvert	Conceesion 11, Lot 24	3	3	9
20082	Culvert	Concession 7, Lot 25	3	3	9
20086	Culvert	Concession 7, Lot 25	2	3	6
20189	PostTensioned_Circular_Voids	Thunder	3	2	6
21047	Culvert	Innisfil Beach Road 21 Over Lover's Creek	1	1	1
21142	Culvert	Concession 9 Lot 15/16	1	1	1
21235	Slab_On_I_Girders	Baxter	1	1	1
22010	Culvert	Concession 14, Lot 40/41	2	1	2
22081	Culvert	Concession 9, Lot 1	2	1	2
22148	Culvert	County Road 22/Horseshoe Valley Rd W at Ski Resort	1	1	1
22229	Culvert	Concession 3, Lot 1	3	5	15
22307	Slab_On_I_Girders	County Road 22 Over Marl Creek	1	1	1
23048	Slab_On_I_Girders	Sturgeon River	1	5	5
23115	Culvert	Concession 3, Lot 1 (Tay)	1	1	1
26004	Culvert	Copeland	2	1	2
26081	Culvert	Concession 15/16, Lot 15	2	3	6
27015	Culvert	Concession 1, Lot 23	3	1	3
27030	Slab_On_I_Girders	County Road 27 Over Holland River	3	4	12
27103	Culvert	County Road 27 Over Pennville Creek Tributary	2	3	6
27135	Culvert	Concession 10, Lot 1/24	1	1	1
27162	Culvert	County Road 27 Over Pennville Creek Tributary	3	4	12
27180	Parallel_Box_Beams	Draper	1	1	1
27390	Slab_On_I_Girders	Willow Creek	2	4	8
27415	Rigid_Frame	Matheson Creek	2	5	10
27550	Slab_On_I_Girders	Yonge Street - Elmvale	1	2	2

Site ID	Structure Type	Structure Name	SSI Rating	Service Impact Rating	Risk Rating
27574	Slab_On_I_Girders	Wye River South	2	3	6
27576	Rigid_Frame	Wye River Tributary	1	4	4
27596	Slab_On_T_Girders	County Road 27 Over Wye River	1	1	1
28078	Culvert	George Johnston Road Over Willow Creek Tributary	2	2	4
28082	Slab_On_T_Girders	Willow Creek South Channel	1	1	1
28086	Slab_On_T_Girders	George Johnston Road Over Willow Creek	1	1	1
28087	Rigid_Frame	Willow Creek - North Channel	1	1	1
33002	Rigid_Frame	Concession 9, Lot 33/34	2	1	2
33035	Slab_On_I_Girders	Pretty River	1	1	1
34019	Culvert	County Rd. 34(Osler Bluff) Over Silver creek	2	3	6
35002	Rigid_Frame	Copeland Creek	2	3	6
39040	Culvert	Concession 16, Lot 20/21 (Oldwsp)	1	1	1
41000	Slab_On_I_Girders	Over Drainage Canal	5	3	15
42022	Slab_On_I_Girders	Avening - County Road 42 Over Mad River	1	2	2
42063	Culvert	Concession 2/3, Lot 11	1	1	1
44032	Culvert	Concession 13, Lot 28	1	3	3
44165	Parallel_Box_Beams	Hart	1	1	1
47000	Parallel_Box_Beams	Champlain - Ramara Road 47 Over Talbot River	1	1	1
50069	Culvert	Athlone	2	2	4
50094	Culvert	Concession 5/6, Lot 16	1	1	1
50153	Slab_On_I_Girders	Nottawasaga River	2	4	8
50154	Culvert	Concession 5/6, Lot 26	3	3	9
50163	Culvert	Sheldon Creek	1	3	3
50164	Culvert	Sheldon Creek Overflow	1	3	3
50193	Culvert	Conc 5/6 Lot 32	1	1	1
51000	Arch	Ramara Road 51 Over Talbot River	5	3	15
52078	Slab_On_I_Girders	Copper Falls Road Over Severn River	1	1	1
53002	Slab_On_I_Girders	Innisfil 5 Sideroad Over Innisfil Creek	1	1	1
53015	Culvert	Innisfil 5 Sideroad Over Innisfil Creek Tributary	2	3	6
53417	Culvert	Wilson Drive Over Black Creek	3	3	9
54025	Rigid_Frame	10 Sideroad	2	3	6
54054	Culvert	10 Sideroad Over Innisfil Creek Tributary	3	3	9
55003	Culvert	Concession 1, Lot 15/16	2	3	6
55063	Culvert	Concession 5, Lot 15/16	2	3	6
56051	Culvert	County Road 56 Over Nottawasaga River Tributary	2	1	2
56072	Culvert	Concession 6/7, Lot 12	1	2	2
56080	Slab_On_I_Girders	Drysdale	1	1	1
56141	Culvert	Concession 6/7, Lot 24	5	4	20
56170	Slab_On_I_Girders	Bear Creek	3	4	12
57052	Culvert	Concession 3/4, Lot 12	3	4	12
57056	Culvert	Concession 3/4, Lot 20	2	2	4
57063	Culvert	Concession 3/4, Lot 20	2	2	4
57082	Culvert	Concession 3/4, Lot 15	3	2	6
58030	Culvert	Concession 3/4, Lot 5	1	4	4
58086	Slab_On_T_Girders	Old Fort overhead	2	5	10
62035	Rigid_Frame	Concession 8/9, Lot 12	2	3	6
62062	Rigid_Frame	Glen Huron	2	5	10
64012	Rigid_Frame	County Road 64 Over Lamont Creek	1	1	1
88024	Culvert	Conc 6/7 Lot 9	1	1	1
88038	Culvert	Conc 6/7 Lot 8	1	1	1
88075	Culvert	Concession 6/7, Lot 2	1	1	1
90020	Culvert	Bear Creek #4	1	1	1
90030	Culvert	Bear Creek #3	1	1	1
90035	Culvert	Bear Creek Creek #2	2	1	2
90042	Culvert	Bear Creek #1	3	1	3
90076	Slab_On_I_Girders	CPR overhead	1	1	1
90126	Mixed	Mill Street Over Nottawasga River	4	2	8
90142	Slab_On_I_Girders	Mill Street Over Pine River	1	1	1
91004	Rigid_Frame	Stayner	1	5	5
91041	Culvert	County Road 91 Over Batteaux Creek	1	2	2

Site ID	Structure Type	Structure Name	SSI Rating	Service Impact Rating	Risk Rating
91065	Culvert	Lot 24, Concession 8 Clearview	1	2	2
92016	Culvert	Concession 8/9, Lot 8	3	3	9
92060	Slab_On_I_Girders	Brown	1	1	1
92062	Culvert	County Road 92 Over McGinnis Drain	1	1	1
92069	Culvert	Concession 8/9, Lot 17	5	3	15
92072	Culvert	Concession 8/9, Lot 17	5	3	15
93200	Rigid_Frame	Willow Creek	1	2	2
124092	Rigid_Frame	Mad River	1	1	1
124199	Culvert	County Road 124 Over Batteaux Creek	1	4	4
124296	Rigid_Frame	Pretty River	1	1	1
150000	Slab_On_I_Girders	Canal Road Adjacent Lock 38 Over Trent Canal	1	5	5
150012	Rigid_Frame	Morgan - Canal Road Over Talbot River	2	5	10
169177	Slab_On_I_Girders	Black River	2	2	4
169185	Culvert	Black River	1	2	2
169214	Culvert	Concession K, Lot 23	1	1	1
169225	Slab_On_I_Girders	Grigg	1	1	1
169235	Rigid_Frame	Severn River East Branch Overflow	1	2	2
169236	Truss	Severn River E Branch	1	2	2
169242	Culvert	Peace	1	1	1
169243	Rigid_Frame	Severn River	1	1	1

Appendix 7: Facilities Risk Calculation

Facility	Factors					Total	Service Impact	Total Risk	Risk Rating
	Facility Condition Index	Life Safety & Accessibility	Building Interiors	Building Systems	Building Structures				
	50%	5%	10%	15%	20%				
Administration Center	2.0	2.0	1.0	2.3	2.0	2.0	4.0	7.8	Medium-low
Cultural:									
Archives	1.0	2.0	2.0	1.7	2.0	1.5	3.0	4.4	Low
Museum	3.0	2.0	1.0	2.0	2.0	2.4	3.0	7.2	Medium-low
Long Term Care Homes:									
Georgian Village	1.0	1.0	1.0	1.0	1.0	1.0	3.5	3.5	Low
Trillium Manor	3.4	3.0	3.0	3.5	3.0	3.3	3.5	11.5	Medium
Sunset Manor & Village	2.0	3.0	3.0	2.5	3.0	2.4	3.5	8.5	Medium-low
Simcoe Manor & Village	3.0	4.0	4.0	3.7	4.0	3.5	3.5	12.1	Medium
Roads Garages:									
Stayner Paramedic Station	1.0	1.0	1.0	1.0	2.0	1.2	3.0	3.6	Low
Creemore Roads Garage	1.0	1.0	3.0	3.0	4.0	2.1	2.0	4.2	Low
Perkinsfield Roads Garage	3.0	1.0	4.0	3.7	5.0	3.5	2.0	7.0	Medium-low
Beeton Roads Garage	1.0	1.0	1.0	2.7	1.0	1.3	2.0	2.5	Low
Ramara Roads Garage	3.0	1.0	3.0	3.0	2.0	2.7	2.0	5.4	Low
Midhurst Roads Garage	2.0	1.0	3.0	3.0	2.0	2.2	2.0	4.4	Low
SCHC Main Buildings and Multi-Residental Sites:	2.3	2.6	2.7	2.9	2.9	2.5	3.0	7.6	Medium-low
		10%	20%	30%	40%				
SCHC Individual Houses:		1.0	3.0	2.9	3.1	1.4	3.0	4.2	Medium-low

Appendix 8: Vehicles Risk Calculation

Short Description	Asset Condition Index	Service Impact	Risk Rating
Ford Transit Connect Van 007-15	1.0	2.0	2.0
JOHN DEERE 644K loader 01-09	1.6	3.0	4.8
JOHN DEERE 850C trac dozer 01-94	3.9	3.0	11.7
Western Star Hwy Tractor 02-16	1.0	2.0	2.0
JCB 456HT loader 02-55	3.1	2.5	7.8
JCB 02-58	3.1	2.5	7.8
JCB JS200 excavator 02-616	4.2	3.0	12.6
CATERPILLAR 03-02	2.7	3.0	8.1
McCLOSKEY BROS MCB724R trommel screening plant 03-05	2.8	4.0	11.2
NEW HOLLAND 190B LOADER 03-09	3.3	2.5	8.3
PETERSON PACIFIC 5700C horizontal grinder 05-06	2.4	4.0	9.6
JOHN DEERE 644K loader 05-09	2.0	3.0	6.0
TEREX RTFL 05-30	2.5	3.0	7.5
NEW HOLLAND LW190B loader 05-54	2.8	3.0	8.4
NEW HOLLAND LW 190B loader 05-55	3.6	3.0	10.8
MOTV MOBILE EDUCATION UNIT 06-11	1.4	2.0	2.8
CATERPILLAR 826C landfill compactor 06-75	4.4	4.0	17.6
FORD E-450 06-789	1.8	3.0	5.4
FORD E-450 06-790	2.0	3.0	6.0
CHEVROLET 07-002	1.0	3.0	3.0
CHEVROLET 07-06	3.7	3.0	11.1
Dodge Caravan 07-509	2.5	3.0	7.5
STERLING LT9513 07-69	5.0	2.0	10.0
STERLING LT9513 07-70	4.6	2.0	9.2
JOHN DEERE 644J loader 07-89	2.7	3.0	8.1
JOHN DEERE 07-90	2.7	3.0	8.1
JOHN DEERE 644J loader 08-07	2.7	3.0	8.1
CASE 650K trim dozer 08-66	2.0	3.0	6.0
FORD 08-812	1.6	3.0	4.8
FORD 09-681 (TM BUS)	1.6	3.0	4.8
ACURA 100-13	1.3	3.0	3.9
FORD Van 11-001	1.9	2.0	1.3
350 KW Portable Generator 11-09	1.4	2.0	2.8
DODGE CREW CAB 13-11	2.1	2.0	4.2
Freightliner Plow/Dump Truck 132-14	1.3	3.0	3.9
Western Star Plow 140-13	1.3	3.0	3.9
CDE Trailer 14-12	1.5	2.0	3.0
FORD 15 PAX VAN 14-302	1.3	3.0	3.9
INTERNATIONAL(T) wing 153-02	4.6	2.0	9.2
Peterson Pacific Grinder #16-13	1.1	4.0	4.4
STERLING LT9513 (T) wing 166-04	4.3	3.0	12.9
STERLING LT9513 (T) wing 167-04	4.1	3.0	12.3
Freightliner Plow 168-14	1.3	3.0	3.9
STERLING LT9513 (T) wing 169-05	3.3	3.0	9.9
STERLING LT9513 (T) wing 170-06	3.2	3.0	9.6

Short Description	Asset Condition Index	Service Impact	Risk Rating
STERLING LT9513 (T) wing 171-06	2.8	3.0	8.4
STERLING LT9513 (T) wing 172-07	2.5	3.0	7.5
STERLING LT9513 (T) wing 173-07	2.3	3.0	6.9
STERLING LT9513 (T) wing 174-07	2.1	3.0	6.3
Freightliner Plow 175-14	1.3	3.0	3.9
STERLING LT9513 (T) wing 176-08	2.4	3.0	7.2
STERLING LT9513 (T) wing 177-08	2.4	3.0	7.2
STERLING LT9513 (T) wing 178-08	2.0	3.0	6.0
STERLING LT9513 (T) wing 179-08	2.2	3.0	6.6
Freightliner Plow 180-14	1.3	3.0	3.9
STERLING LT9513 (T) wing 181-09	1.8	3.0	5.4
STERLING LT9513 (T) wing 182-09	2.4	3.0	7.2
STERLING LT9513 (T) wing 183-09	1.8	3.0	5.4
Freightliner Plow 184-14	1.3	3.0	3.9
FREIGHTLINER 185-10	1.6	3.0	4.8
FREIGHTLINER 186-10	1.6	3.0	4.8
FREIGHTLINER (T) wing dual spinner 187-11	1.6	3.0	4.8
FREIGHTLINER (T) wing dual spinner 188-11	1.6	3.0	4.8
Freightliner Plow 189-14	1.3	3.0	3.9
International 190-12	1.3	3.0	3.9
International 191-12	1.6	3.0	4.8
International 192-12	1.3	3.0	3.9
International 193-12	1.3	3.0	3.9
Freightliner Plow 194-14	1.3	3.0	3.9
Freightliner Plow/Dump Truck 195-15	1.3	3.0	3.9
JOHN DEERE 20-09	2.9	3.0	8.7
FREIGHTLINER 201-10	1.6	3.0	4.8
FREIGHTLINER 202-11	1.6	3.0	4.8
Western Star 206-13	1.3	2.5	3.3
FRIEGHTLINER(S) metro 206-99	3.4	3.0	10.2
Ventrac KT 4200 Grass Cutter 22-12	1.8	2.0	3.5
MAGNUM 23-09	1.4	2.0	2.8
MAGNUM 24-09	1.4	2.0	2.8
FORD F-150 4x4 PICK UP 25-11	2.3	2.0	4.6
Bobcat 26-12	1.3	3.0	3.9
John Deere Grader 304-12	1.3	2.5	3.3
Ford Taurus 3049-14	1.3	3.0	3.9
CHAMPION 306-93	1.0	2.5	2.5
FORD F150 4x4 Ext Cab 30-701	2.6	2.0	5.2
John Deer Grader 308-13	1.3	2.5	3.3
JOHN DEERE 309-13	1.3	2.5	3.3
VOLVO G940 310-06	1.6	2.5	4.0
VOLVO 730B grader 311-03	1.9	2.5	4.8
CATERPILLAR 950K LOADER 31-14	1.3	3.0	3.9
FORD (demers) 3201-10	3.1	3.5	10.9
FORD (demers) 3202-10	4.5	3.5	15.8

Short Description	Asset Condition Index	Service Impact	Risk Rating
FORD (demers) 3203-08	1.0	2.0	2.0
FORD (demers) 3206-13	1.3	3.5	4.6
FORD (demers) 3209-11	3.8	3.5	13.3
Manac 53' Van Trailer 32-12	1.3	2.0	2.6
Ford (demers) 3212-15	1.0	3.5	3.5
Western Star Hwy Tractor 32-13	1.3	2.0	2.6
Ford (Demers) 3214-12	2.6	3.5	9.1
FORD (demers) 3215-11	4.2	3.5	14.7
FORD (demers) 3217-10	4.7	3.5	16.5
FORD (demers) 3220-11	4.4	3.5	15.4
FORD (demers) 3221-05	4.4	2.0	8.8
Ford (Demers) 3222-12	2.6	3.5	9.1
Ford (Demers) 3223-12	2.2	3.5	7.7
Ford (Demers) 3224-12	1.8	3.5	6.3
FORD (demers) 3225-03	1.0	2.5	2.5
Ford (demers) 3225-15	1.0	3.5	3.5
FORD (demers) 3226-10	3.9	3.5	13.7
Ford (demers) 3227-15	1.0	3.5	3.5
FORD (demers) 3236-09	5.0	3.5	17.5
FORD (demers) 3253-11	3.8	3.5	13.3
Ford (demers) 3258-15	1.0	3.5	3.5
FREIGHTLINER M2101 3310-11	1.3	3.0	3.9
Ford 3311-12	1.8	3.0	5.4
Nissan cargo van 3312-14	1.3	3.0	3.9
FORD 3340-10	3.6	3.0	10.8
FORD EXPEDITION 3341-10	4.8	3.5	16.8
FORD EXPEDITION 3342-10	3.8	3.5	13.3
FORD EXPEDITION 3343-08	1.0	3.5	3.5
FORD EXPEDITION 3345-10	4.6	3.5	16.1
FORD EXPEDITION 3396-07	4.4	2.0	8.8
FORD EXPEDITION 3396-14	1.3	3.5	4.6
Ford Expedition 3397-12	2.6	3.5	9.1
FORD EXPEDITION 3398-08	1.0	3.5	3.5
FORD 3399-10	3.8	3.5	13.3
FORD EXPEDITION 3404-10	5.0	3.5	17.5
FORD (demers) 3501-08	5.0	3.5	17.5
FORD (demers) 3502-08	5.0	3.5	17.5
FORD (demers) 3503-09	5.0	3.5	17.5
Ford (demers) 3504-15	1.0	3.5	3.5
FORD (demers) 3506-10	4.7	3.5	16.5
Ford (demers) 3507-15	1.0	3.5	3.5
FORD (demers) 3508-10	5.0	3.5	17.5
FORD (demers) 3509-11	4.4	3.5	15.4
FORD (demers) 3510-12	2.4	3.5	8.4
FORD (demers) 3511-13	1.3	3.5	4.6
FORD (demers) 3512-13	1.3	3.5	4.6

Short Description	Asset Condition Index	Service Impact	Risk Rating
FORD (demers) 3518-13	1.3	3.5	4.6
FORD (demers) 3521-13	1.3	3.5	4.6
FORD (demers) 3522-13	1.3	3.5	4.6
FORD (demers) 3524-14	1.3	3.5	4.6
FORD (demers) 3525-14	1.3	3.5	4.6
FORD (demers) 3526-14	1.3	3.5	4.6
FORD (demers) 3527-14	1.3	3.5	4.6
FORD (demers) 3528-14	1.3	3.5	4.6
FORD (demers) 3529-14	1.3	3.5	4.6
FORD (demers) 3530-14	1.3	3.5	4.6
FORD (demers) 3531-14	1.3	3.5	4.6
Ford (demers) 3532-15	1.0	3.5	3.5
Ford (demers) 3533-15	1.0	3.5	3.5
CATERPILLAR 950K LOADER 36-14	1.3	3.0	3.9
TEREX TX860SB backhoe 401-05	2.2	2.5	5.5
John Deere loader/backhoe 402-13	1.3	2.5	3.3
John Deere tractor 403-00	2.8	3.0	8.4
New Holland Tractor 403-12	1.3	2.5	3.3
TEREX TX860SB backhoe 404-05	2.6	2.5	6.5
MASSEY FERGUSON 405-08	1.6	2.5	4.0
JCB backhoe 409-06	1.9	2.5	4.8
New Holland Tractor 410-12	1.3	2.5	3.3
CDE Capital 27' Pup Trailer 41-10	1.8	2.0	3.6
MASSEY FERGUSON 411-08	1.6	2.5	4.0
FORD Ext Cab Pickup 41-14	1.3	2.0	2.6
New Holland 4WD Tractor 412-11	1.3	2.5	3.3
NEW HOILLAND agri-tractor 413-07	1.6	2.5	4.0
JOHN DEERE 310SJ backhoe 414-09	1.6	2.5	4.0
JOHN DEERE 310SJ backhoe 415-09	1.6	2.5	4.0
CDE Capital 27' Pup Trailer 42-10	1.6	2.0	3.2
Bobcat 44-12	2.1	3.0	6.3
MASSEY FERGUSON 455-08	1.8	2.5	4.5
Bobcat 47-12	1.3	3.0	3.9
CDE Trailer 48-12	1.3	2.0	2.6
FORD Ext Cab Pickup 50-10	1.4	2.0	2.8
GMC 501-08	1.8	2.5	4.5
Dodge Crew Cab 50-12	1.5	2.0	3.0
FORD Ext Cab Pickup 50-13	2.4	2.0	4.8
Cam Superline Trailer 502-12	1.4	2.5	3.5
WARNER SWASEY 504-98	3.1	2.5	7.8
VERMEER WOOD CHIPPER 506-11	1.8	2.5	4.4
50 Ton Float Trailer 51-12	1.3	2.0	2.6
WESTERN STAR 54-11	2.2	2.0	4.4
Western Star Highway Tractor 55-14	1.3	2.0	2.6
CHEVROLET 55-701	2.5	2.0	5.0
Chevrolet Silverado 57-14	1.3	2.0	2.6

Short Description	Asset Condition Index	Service Impact	Risk Rating
CHEVROLET 58-09	4.6	2.0	9.2
STERLING 60-09	3.5	2.0	7.0
Caterpillar Loader 601-13	1.6	2.5	4.0
John Deere Loader 604-11	1.6	2.5	4.0
Ford 60-701	1.3	2.0	2.6
Chevrolet Silverado 610-13	1.3	2.0	2.6
JOHN DEERE LOADER 210K 666-14	1.3	2.0	2.6
Clark Forklift 67-11	1.9	3.0	5.7
CATERPILLAR 69-11	1.9	3.0	5.7
CATERPILLAR EXCAVATOR 320 EL 69-14	1.3	3.0	3.9
Ford 702-12	2.9	2.5	7.3
Ford 704-12	1.5	2.5	3.8
CHEVROLET 705-09	1.0	2.5	2.5
CHEVROLET 706-09	1.0	2.5	2.5
FORD PICKUP 708-11	2.6	2.5	6.5
FORD 709-08	4.8	2.5	12.0
Ford 710-12	2.1	2.5	5.3
Bobcat 71-12	1.3	3.0	3.9
CHEVROLET 1 TON 712-11	1.6	2.5	4.0
GMC 1 Ton 713-14	1.3	2.5	3.3
FORD 716-08	2.8	2.5	7.0
GMC 1 Ton 717-12	1.6	2.5	4.0
Ford Transit Connect Van 718-15	1.0	2.5	2.5
GMC 1 Ton 719-12	1.3	2.5	3.3
CHEVROLET 1 TON 720-11	1.6	2.5	4.0
FORD 721-08	3.0	2.5	7.5
Chevrolet 723-14	1.3	2.5	3.3
FORD CREWCAB 726-11	2.5	2.5	6.3
Ford 727-12	2.5	2.5	6.3
MAC Walking Floor Trailer 74-13	1.3	2.0	2.6
GMC 748-07	1.0	3.0	3.0
FORD 748-08	3.2	3.0	9.6
CHEVROLET 748-09	1.0	2.5	2.5
MAC Walking Floor Trailer 75-13	1.3	2.0	2.6
FORD F150 CREWCAB 755-11	3.5	2.5	8.8
FORD PICKUP 760-11	2.4	2.5	6.0
MAC Walking Floor Trailer 76-13	1.3	2.0	2.6
VOLVO MODEL A25D OFF-ROAD DUMP TRUCK 77-06	1.6	3.0	4.8
STERLING LT9513 77-09	4.2	2.0	8.4
MACK Front End Collection 77-11	1.6	2.0	3.2
STERLING LT9513 78-09	4.4	2.0	8.8
FORD 79-08	4.1	3.0	12.3
Bobcat 79-12	1.3	3.0	3.9
STERLING LT9513 (TRI) wing 801-03	2.8	2.0	5.6
CHEVROLET 86-701	2.8	2.0	5.6
KOMATSU 89-00 (Was 00-89)	3.9	2.5	9.8

Short Description	Asset Condition Index	Service Impact	Risk Rating
John Deere 644K loader 90-11	1.9	3.0	5.7
CATERPILLAR D6H dozer 91-38	3.9	3.0	11.7
Doppstadt Shredder 93-13	1.6	4.0	6.4
Ford F-150 93-14	1.3	2.0	2.6
John Deere 644K Loader 94-13	1.6	3.0	4.8
JOHN DEERE 94-80	3.6	2.5	9.0
JOHN DEERE 244J compact loader 95-09	2.2	3.0	6.6
CATERPILLAR 95-21	3.5	3.0	10.5
JOHN DEERE 624G LOADER 95-90	4.8	2.5	12.0
CATERPILLAR 95-94	3.3	4.0	13.2
JOHN DEERE 96-41	4.2	3.0	12.6
JOHN DEERE 644K 4CU 4W/LOADER 98-10	1.8	3.0	5.4
John Deere Loader 644K 98-11	1.6	3.0	4.8
JOHN DEERE 644H loader 99-05	3.8	3.0	11.4
CATERPILLAR 816F landfill compactor 99-10	3.6	4.0	14.4
KOMATSU 99-51	3.9	3.0	11.7
FREIGHTLINER 99-65	3.6	2.0	7.2