



THE CORPORATION OF THE TOWNSHIP OF HORTON
TRANSPORTATION & ENVIRONMENTAL SERVICES

September 4th, 2024
8:30 a.m.
Horton Council Chambers
2253 Johnston Rd.

1. Call to Order
2. Declaration of Pecuniary Interest
3. Minutes from Previous Meeting:
 - i. June 5th, 2024 **PG.2**
4. 2024 Sign Inspection Report **PG.4**
5. Compaction and Covering Form of Agreement **PG.30**
6. Ontario Trillium Foundation Application **PG.36**
7. 2025 Departmental Funding Requirements **PG.39**
8. New/Other Business
9. Next Meeting:
 - i. October 2nd, 2024 @ 8:30 a.m.
10. Adjournment

RETURN TO AGENDA

THE CORPORATION OF THE TOWNSHIP OF HORTON

TES Committee MeetingJUNE 5TH, 2024

8:30 a.m.

There was a meeting of the Transportation and Environmental Services Committee held in the Municipal Chambers on Wednesday June 5th, 2024. Present was Chair Doug Humphries, Mayor David Bennett and Councillor Tom Webster, and Public Advisory Member Tyler Anderson. Staff present was Public Works Manager, Adam Knapp, and Executive Assistant Nichole Dubeau— Recording Secretary.

1. CALL TO ORDER

Chair Humphries called the meeting to order at 8:30 a.m.

2. DECLARATION OF PECUNIARY INTEREST

There was no declaration of pecuniary interest.

3. MINUTES FROM PREVIOUS MEETING:

- April 3rd, 2024

Moved by Tyler Anderson

Seconded by Councillor Webster

THAT the Committee approve the April 3rd, 2024 Minutes.

Carried

4. PRIVATE ROAD GRADING/GRANT PROGRAM – VERBAL DISCUSSION

Public Works Manager Adam Knapp reviewed the purpose of the changes. There was Committee discussion regarding holding a public meeting to go over the program with residents.

5. FOOD CYCLER – INFORMATION

The Committee reviewed the information and recommended that a survey be conducted to see the interest from the residents.

6. THOMPSONHILL CEMETERY MAINTENANCE – PER COUNCIL

Councillor Webster stated the Township should contact all of the cemetery boards in the Township to see how they can be helped or if they want any help, to make sure the same thing is offered to all.

7. RE-USE PROGRAM AT LANDFILL

Public Works Manager Adam Knapp reviewed the report.

Moved by Tyler Anderson

Seconded by Councillor Webster

THAT the TES Committee recommend to Council to direct Staff to explore what is required for the Township to implement a donation and re-use program at the Township's Landfill site;

AND THAT if the Ministry of Environment Conservation and Parks will allow the Township to implement this program under the current ECA that the program be implemented as soon as practicable;

FURTHER THAT if the Ministry of Environment Conservation and Parks will not allow the Township to implement this program under the current ECA that the program be implemented included in the revised ECA for the landfill expansion and be implemented as soon as practicable afterward.

Carried

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8. LANDFILL EXPANSION FEASIBILITY UPDATE

Public Works Manager Adam Knapp reviewed the report.

9. NEW/OTHER BUSINESS

Public Works Manager Adam Knapp stated the excavator delivery date is tentatively booked for June 13th. He questioned if the committee wanted to put a reserve bid on the old excavator when it goes for sale. The committee was in agreeance to set a reserve bid of \$50,000.

Moved by Councillor Webster

Seconded by Tyler Anderson

THAT the TES Committee recommend to Council to set a reserve bid of \$50,000 for the sale of the 2004 Volvo EW180B.

Carried

10. NEXT MEETING:

i. July 3rd, 2024 @ 8:30 a.m.

16. ADJOURNMENT

Chair Humphries declared the meeting adjourned at 9:28 a.m.

CHAIR Doug Humphries

PUBLIC WORKS MGR Adam Knapp



Township of Horton COUNCIL / COMMITTEE REPORT

Title: 2024 Sign Inspection Report	Date:	September 4th, 2024
	Council/Committee:	TES
	Author:	Adam Knapp, Public Works Manager
	Department:	Public Works

RECOMMENDATIONS:

THAT the TES Committee receive this report as information.

BACKGROUND:

The Township contracts the services of Advantage Data Collection Ltd. to perform retroreflectivity inspection and inventory of our signage within the Township. This was performed during the month of June 2024 with the following results.

Overall Condition Rating

Of the 421 signs inspected, there are:

- 411 signs that are rated as 'Good' - 97.62%
- 10 signs that are rated as 'Poor' - 2.38%.

A sign is rated as 'Poor' Overall Condition for any one or more of the following deficiencies:

- Sign does not meet the minimum retroreflectivity requirements of the Ontario Traffic Manual. There was a total of 3 Signs that do not meet the minimum retroreflectivity requirements of the Ontario Traffic Manual.
- Sign does not meet the minimum retroreflectivity contrast ratio requirements of the Ontario Traffic Manual. (This only applies to red and white signs, such as, Stop and Yield signs). There was a total of 7 Signs that do not meet the contrast ratio requirements of the Ontario Traffic Manual
- Sign's condition is rated as poor, which means that there is a deficiency that severely and markedly impacts the visibility or readability of the sign. There were 0 signs in Poor Condition.
- Sign's support (post/pole) is rated as poor, which means that there is a deficiency that severely and markedly impacts the visibility or readability of the sign. There were 0 Posts/Supports in Poor Condition
- Sign was missing from its support or location. There were 0 signs missing from their locations.

The breakdown of 10 signs that are rated as Poor is as follows:

- 9 Priority Signs (Section 11 – MMS) rated 'Poor';
- 0 Regulatory Signs (Section 12 – MMS) rated 'Poor'; and

RETURN TO AGENDA

- 1 Warning Signs (Section 12 – MMS) rated ‘Poor’. Retroreflectivity Inspection Results Our teams performed daily calibrations of the retroreflectometer using manufacturer provided calibration plates. Calibrations occurred once at the beginning of the day. This provides assurance

The breakdown of the results for signs inspected for retroreflectivity, are as follows, this does not include signs that were missing:

132 Priority Signs (Section 11 – MMS)

- 128 received a “Pass” rating for retroreflectivity
- 2 received a “Warn” rating for retroreflectivity [meaning that the sign passes retroreflectivity inspection but the retroreflection values (Ra) are approaching the failure threshold]
- 2 received a “Fail” rating for retroreflectivity

178 Regulatory Signs (Section 12 – MMS)

- 174 received a “Pass” rating for retroreflectivity
- 4 received a “Warn” rating for retroreflectivity [meaning that the sign passes retroreflectivity inspection but the retroreflection values (Ra) are approaching the failure threshold]
- 0 received a “Fail” rating for retroreflectivity

111 Warning Signs (Section 12 – MMS)

- 105 received a “Pass” rating for retroreflectivity
- 5 received a “Warn” rating for retroreflectivity [meaning that the sign passes retroreflectivity inspection but the retroreflection values (Ra) are approaching the failure threshold]
- 1 received a “Fail” rating for retroreflectivity

ALTERNATIVES:

N/A

FINANCIAL IMPLICATIONS:

The replacement of signs and other safety devices is accounted for with the yearly operating budget and shall be adjusted accordingly.

ATTACHMENTS:

The full report is available upon request

CONSULTATIONS:

Advantage Data Collection Ltd.

Prepared by: Adam Knapp, Public Works Manager

Reviewed by: Hope Dillabough, CAO/Clerk

RETURN TO AGENDA



Township of Horton

Traffic Sign Retroreflectivity Inspections and Inventory

21/6/2024

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21/6/2024

Mr. Adam Knapp - Public Works Manager
Township of Horton
2253 Johnston Road
Renfrew, ON K7V 3Z8

Dear Mr. Knapp,

I am pleased to present you with the results of our inspection and inventory of regulatory and warning signs within the Township of Horton. In total, your current regulatory and warning sign inventory consists of 446 signs within the boundaries of your township. There was a total of 25 signs located on private roads or trails that were not inspected as they are not assumed by the township.

421 signs were inspected:

- 132 Priority Signs (Section 11 of the MMS)
- 178 Regulatory Signs (Section 12 of the MMS)
- 111 Warning Signs (Section 12 of the MMS)

Overall Condition Rating

Of the 421 signs inspected, there are:

- 411 signs that are rated as 'Good' - 97.62%
- 10 signs that are rated as 'Poor' - 2.38%.

A sign is rated as 'Poor' Overall Condition for any one or more of the following deficiencies:

- Sign does not meet the minimum retroreflectivity requirements of the Ontario Traffic Manual. There was a total of 3 Signs that do not meet the minimum retroreflectivity requirements of the Ontario Traffic Manual.
- Sign does not meet the minimum retroreflectivity contrast ratio requirements of the Ontario Traffic Manual. (This only applies to red and white signs, such as, Stop and Yield signs). There was a total of 7 Signs that do not meet the contrast ratio requirements of the Ontario Traffic Manual
- Sign's condition is rated as poor, which means that there is a deficiency that severely and markedly impacts the visibility or readability of the sign. There were 0 signs in Poor Condition.
- Sign's support (post/pole) is rated as poor, which means that there is a deficiency that severely and markedly impacts the visibility or readability of the sign. There were 0 Posts/Supports in Poor Condition
- Sign was missing from its support or location. There were 0 signs missing from their locations.

The breakdown of 10 signs that are rated as Poor is as follows:

- 9 Priority Signs (Section 11 - MMS) rated 'Poor';
- 0 Regulatory Signs (Section 12 - MMS) rated 'Poor'; and
- 1 Warning Signs (Section 12 - MMS) rated 'Poor'.

Retroreflectivity Inspection Results

Our teams performed daily calibrations of the retroreflectometer using manufacturer provided calibration plates. Calibrations occurred once at the beginning of the day. This provides assurance

that the RoadVista 922 retroreflectometer is in good working order and that the measurements are accurate. The breakdown of the results for signs inspected for retroreflectivity, are as follows, this does not include signs that were missing:

- 132 Priority Signs (Section 11 - MMS)
 - 128 received a “Pass” rating for retroreflectivity
 - 2 received a “Warn” rating for retroreflectivity [meaning that the sign passes retroreflectivity inspection but the retroreflection values (Ra) are approaching the failure threshold]
 - 2 received a “Fail” rating for retroreflectivity
- 178 Regulatory Signs (Section 12 - MMS)
 - 174 received a “Pass” rating for retroreflectivity
 - 4 received a “Warn” rating for retroreflectivity [meaning that the sign passes retroreflectivity inspection but the retroreflection values (Ra) are approaching the failure threshold]
 - 0 received a “Fail” rating for retroreflectivity
- 111 Warning Signs (Section 12 - MMS)
 - 105 received a “Pass” rating for retroreflectivity
 - 5 received a “Warn” rating for retroreflectivity [meaning that the sign passes retroreflectivity inspection but the retroreflection values (Ra) are approaching the failure threshold]
 - 1 received a “Fail” rating for retroreflectivity

Contrast Ratio Inspection Results Summary

Each Stop, and Yield sign was also assessed a pass/fail rating for their contrast ratio per the Ontario Traffic Manual. According to the Ontario Traffic Manual, a minimum 3:1 contrast ratio is required for a “Pass” rating for signs that are “white on red” or signs with a red background and a white legend (i.e., stop, yield and wrong way signs). Of the signs inspected, there were 7 signs that did not meet this minimum contrast ratio.

Sign Condition Rating

We inspect each sign and assign a “Good”, “Fair” or “Poor” rating based on assessment criteria used by all technicians. A “Good” rating means that sign has no defects that affect the visibility or readability of the sign. A “Fair” rating means that a sign has minor defects that slightly affect the visibility or readability of the sign, these signs are generally deemed to be in a state of good repair. A “Poor” rating means that the sign has defects that significantly and markedly affect the visibility and/or readability of a sign and that the sign requires attention. Here is a breakdown of our findings relating to the condition of your signage, this does not include signs that were missing:

- 132 Priority Signs (Section 11 - MMS)
 - 132 received a “Good” rating for sign condition
 - 0 received a “Fair” rating for sign condition
 - 0 received a “Poor” rating for sign condition
- 178 Regulatory Signs (Section 12 - MMS)
 - 178 received a “Good” rating for sign condition

- 0 received a “Fair rating for sign condition
- 0 received a “Poor” rating for sign condition

- 111 Warning Signs (Section 12 - MMS)
 - 111 received a “Good” rating for sign condition
 - 0 received a “Fair rating for sign condition
 - 0 received a “Poor” rating for sign condition

The data can be provided in any format such as .csv, .shp, MESH, just ask!

Should you have any questions relating to any information in this report, please do not hesitate to contact me.

Thank you for allowing us to conduct this work for you.

Sincerely,

Adam Cripps, BSc
Project / Sales Manager
Advantage Data Collection
adam@advantagedata.ca
Tel: (613) 262-3966

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ABOUT US

Advantage Data Collection creates and implements easy-to-use asset management solutions that help municipalities like yours improve their operations. We've been doing it for years and in that time, we've proudly built a reputation as experts in developing and implementing sign management programs that include retroreflectivity inspections and assessments.

OUR COMPANY

Company Name: Advantage Data Collection Ltd.

Established: 2010

Employees: 18

Address: 25 Bay Street East

City/Prov/Postal Code: Brighton, ON K0K 1H0

Telephone: (888) 304-6706

Fax: (613) 475-4815

Web Address: www.advantagedata.ca



OUR EXPERIENCE

Our focus is municipal asset management for organizations like yours. Advantage Data has conducted and implemented sign inspection and management solutions for over 200 municipalities in Ontario and have performed over 1350 sign inspection projects. We are experts at helping municipalities adopt new processes, procedures, and technology to improve operations and become more efficient.

OUR PEOPLE

Advantage Data's staff includes individuals with experience in Government IT/GIS Departments, public works, and transportation departments with a wide range of expertise in areas like geographical information systems, software development, and project management for a wide range of private and public organization. Our staff has decades of combined experience dealing with asset and work-related issues.

Name: Adam Cripps, BSc

Title: VP of Operations and Sales

Experience: 13 years of managing field data collection projects and 12 years of implementing sign management programs

Role: Point of contact for the project, responsible for the management of the project.

Name: Aleksandra Jedruszek, BSc

Title: Lead, Data Analysis

Experience: 13 years of implementing field data collection projects and 10 years of implementing sign management programs

Role: Responsible for the development and implementation of your sign management program and training.

Name: Jamie Lawrence

Title: Project Manager, Data Analyst

Experience: 9 years of performing quality control of field data
Scheduling jobs, performing quality control measures, and providing final report and data at the end of the project

Name: Matt Vanasse

Title: Field Technician

Experience: 3+ years of creating sign inventories and performing inspections.

Role: Conduct inventory and inspection work in the field

BENEFITS OF A TRAFFIC SIGN MANAGEMENT PROGRAM

Having an effective sign maintenance and management program is critical to road user safety, but many municipalities find it challenging to get started or simply overlook its importance. Problems when maintaining and managing assets and infrastructure lie in finding the financial, human and technological resources to get the job done right. That is why many levels of government look to specialized third-party service providers such as Advantage Data Collection to develop and implement a sign management program.

An effective sign management program will:



OUR TURN-KEY TRAFFIC SIGN MANAGEMENT SOLUTION

Our exclusive turn-key sign management solution MESH has proven to be successful across the province. By eliminating all post processing work on your part, saving time and money, our sign management solution covers all the bases so that ongoing management of your signage is simple, easy, and efficient.

A COMPLETE TRAFFIC SIGN INVENTORY WITH RETROREFLECTIVITY INSPECTIONS

Perhaps the most challenging and time-consuming aspect of any sign management program is collecting data for the initial inventory and inspection of signage. We've become experts at this methodical and precise work, having completed over 1000 sign inspection / management projects for municipalities.

By using the latest in field data collection software (MESH) coupled with sensitive GPS equipment and a RoadVista 922 retro-reflectometer (the only objective way to evaluate retroreflectivity) our highly trained and experienced staff inventoried and inspected all regulatory and warning signage in your municipality.

The provided data can be easily imported into any GIS system. We also can provide you with an ESRI Shapefile, KML file, or other file formats as specified for use with existing GIS systems at no additional charge.

To find out more about our sign inventory/ inspection methodology, see pages 10-13 of this report.



EASY-TO-USE TRAFFIC SIGN MANAGEMENT SOFTWARE

We're also happy to be able to offer a free month trial for our exclusive sign management software solution, MESH. MESH was built for municipal governments and the work they do. It allows you to easily manage your sign inventory and track inspections and maintenance. It is the only software solution on the market that communicates with RoadVista retroreflectometers to instantly evaluate retroreflectivity.

Best of all, it's easy-to-use. From director to field staff, MESH will fit seamlessly into your municipality. We're certain you'll love it and its many other applications. You can find out more about MESH on page 15 of this report.

IN-PERSON TRAINING

Advantage Data prides itself on great service and part of that service is customized onsite training. An in-person training session at a location of your choosing is something that can be arranged for an additional fee.

Our training will include the use of Advantage's sign management tools (including our new software, MESH) and the use of any equipment and software required to manage and inspect signage. We also provide training manuals that allow for easy reference and guidance. Our approach is to develop a training program that suits your municipality's needs. Here are some of the agenda items that we can include in our training session.

- Overview of Regulatory Environment and Ontario Traffic Manual Requirements
- Basic Principles of Retro-reflectivity
- Principles of Sign Management
- Principles of Conducting Sign Inspections (i.e., inspection methodology, quality control, ASTM test methods)
- Use of Equipment (tablets, GPS equipment, retroreflectometers, etc.)
- Managing Signage Data and Your Inventory
- Use of MESH Sign Management App

In addition to the above, we also conduct training webinars periodically throughout the year for our municipal clients to attend. They are provided no additional charge.

REPLACEMENT OF TRAFFIC SIGNAGE AS REQUIRED

In Ontario, per the Minimum Maintenance Standard, not only do regulatory and warning signs need to be inspected on an annual basis, but when a traffic sign is found to not meet the minimum retroreflectivity values, it must be replaced "as soon as practicable" or by the timeline set out in the MMS.

To comply with the regulation, many municipalities find value in our sign replacement service - it is very affordable. As a matter of public safety, we take this work seriously. We will prioritize sign replacement work based on criticality to road user safety and make sure that signage is replaced "as soon as practicable" or by the timeline set out in the MMS.

RE-INSPECTION OF TRAFFIC SIGNAGE

More than 80% of our customers hire us back to conduct re-inspections of their signage on an annual basis. Our sign re-inspection service has proven to be cost-effective for most municipalities. If a multi-year inspection agreement is something that interests you, we are happy to provide a discount on our initial inspection and inventory.

SIGN INSPECTION METHODOLOGY

Creating an initial inventory or inspecting all regulatory and warning signs is methodical and precise work. We have developed and followed the following 5-step inventory and inspection methodology.



BARCODING



We began our assessment of signage by inventorying each sign and affixing a heavy-duty self-adhesive barcode with a unique identifier. We used barcodes with Code 128 symbology (or as specified by the municipality) which is a common format. The barcodes have durable, UV, and weather resistant poly-laminate sheeting.

By barcoding a sign with a unique identifier, it is easy to manage a particular sign and find / track the sign in the field. This is especially pertinent when there are multiple signs on the same post. Barcodes can be easily read with data collection devices and retroreflectometers and allow for easy updating of sign inspection data from subsequent inspections in future years.

GEOLOCATION

We acquired the GPS location of signs using a sub-meter GPS receiver in conjunction with a mobile data collection device. This device provides sub-meter accuracy when measuring GPS. The GPS coordinates can be collected in any format or projection required (i.e., Lat/Long, DD, DMS, UTM Zone NAD, etc.).

STANDARD SIGN ATTRIBUTES

We collected the following attributes of your signage. Additional attributes can also be collected in future years such as height, offsets, direction facing, blank type, hardware type, sign shape for which there may be an additional charge.

Attribute	Description
Date & Time	The date and time of the inspection should be specified for documenting the inspection.
Sheeting type	Identification of the sheeting type (i.e., engineering grade, engineering grade prismatic (EGP), high intensity, etc.) will help to ensure that the proper type of sheeting is used and so that retro-reflectivity can be properly evaluated.
Sign code	The sign code as defined by the Ontario Traffic Manual (i.e., Ra-1, Ra-2, etc.)
Sign name	Name of the sign (i.e., Stop, Yield, etc.)
Post type	The type of post that the sign is on (i.e., u-channel, 4"x4" wood post, etc.)
Lighting Environment	Whether street lighting is present. Required for retroreflectivity evaluation.
Location	The street name and intersecting roadway if applicable.
Photo	A photo (.jpeg) will be taken of each sign
Dimension	Dimension of the sign in centimeters.

RETROREFLECTIVITY

Retroreflectivity of signs was be measured using a RoadVista 922 hand-held retroreflectometer and associated with each sign’s affixed barcode number by scanning the barcode with the RoadVista’s integrated barcode reader.

The RoadVista 922 hand-held retroreflectometer meets ASTM, CIE & DIN specifications and takes readings at a dual observation angle of 0.2 and 0.5 degrees with an entrance angle of -4.0 degrees. Measurements are taken of both background and legend sheeting of each sign with a minimum of four (4) readings (which are then averaged) per sheeting colour. Measurements are internally recorded and stored on the RoadVista 922 and are associated with the barcode number that was affixed to the sign and scanned with the RoadVista’s integrated barcode reader. Retro-reflectivity is measured in accordance with the following ASTM standards:



- E1709 - Standard Test Method for Measurement of Retroreflective Signs Using a Portable Retroreflectometer at a 0.2° Observation Angle
- E2540 - Standard Test Method for Measurement of Retroreflective Signs Using a Portable Retroreflectometer at a 0.5° Observation Angle

All inspected signage was evaluated based on the Transportation Association of Canada (MUTCDC) Minimum Maintained Retroreflectivity Levels and a Pass/Warn/Fail rating is assigned each sign. MESH, our sign management software solution automatically evaluated retro reflectivity with a Pass/Warn/Fail rating.

Assessed Value	Description
Pass	Both the background and legend (if applicable) sheeting meet the minimum retroreflectivity levels.
*Warn	Both the legend and background (if applicable) sheeting meet the minimum retroreflectivity levels, however, the retroreflectivity level (Ra Value) of either the legend, the background or both is within 30cd/lx/m2 of not meeting the required minimum retroreflectivity levels.
Fail	Either the legend or background (if applicable) sheeting do not meet the required minimum retroreflectivity levels.

*The “warn” rating was established for signs that pass the retroreflectivity assessment but are approaching the failure threshold. We use this rating for signs so that the municipality can 1) pay closer attention to the signs approaching the failure threshold and 2) allow for budgeting and work planning to replace signs in subsequent years.

CONDITION ASSESSMENTS.

In addition to retroreflectivity, sign condition, support/post condition, and the sign’s sheeting was assessed by conducting a visual inspection of the sign. Other assessments (such as sign placement, height, offsets, etc.) can be conducted in future years for an additional fee.

Sign Condition Assessment – Good/Fair/Poor

Our teams will visually inspect each sign and assigned it a condition rating based on the below assessment rubric. A sign was assessed a good, fair, or poor rating based on the below descriptions:

Assessed Value	Description
Good	No deficiencies that affect the visibility or readability of the sign.

Fair	One or more deficiencies that slightly affect the visibility and/or readability of the sign.
Poor	One or more deficiencies that significantly and/or markedly affect the visibility and/or readability of the sign.

In the event a sign was assessed as fair or poor, the type of deficiency (i.e., bent, chipped, cracked, faded, dented, scratched, peeling, etc.) was also recorded.

Support/Post Condition Assessment – Good/Fair/Poor

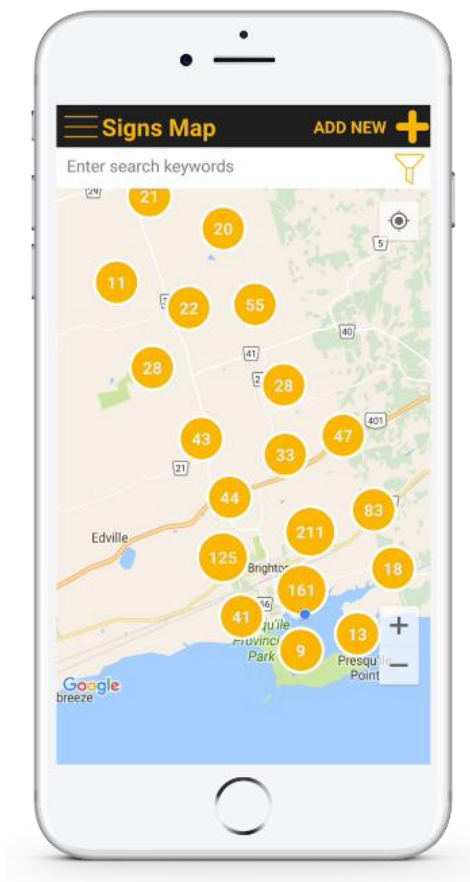
Our teams will visually inspect each sign's support/post and assigned it a condition rating based on the below assessment rubric. A support was assessed a good, fair, or poor rating based on the below descriptions:

Assessed Value	Description
Good	No deficiencies that affect the visibility, readability, or structural integrity of the sign.
Fair	One or more deficiencies that slightly affect the visibility, readability, or structural integrity of the sign.
Poor	One or more deficiencies that significantly or markedly affect the visibility readability or structural integrity of the sign.

In the event a support was assessed as fair or poor, the type of deficiency (i.e., leaning, bent, loose, rusted, rotted, etc.) was also recorded.

Final Data Reporting

Advantage Data Collection uses the MESH Mobile Operations Management Software to perform inspections and create sign inventories. If you already use MESH, great! You will be able to simply manage your signs with the power of smartphone or tablet. If not, it would be our pleasure to offer you a trial of our MESH platform for the sign management module. Please see more information on MESH's sign management module on the following page. If you choose NOT to use MESH, we can provide the data in ANY format you require for your asset management or GIS software.

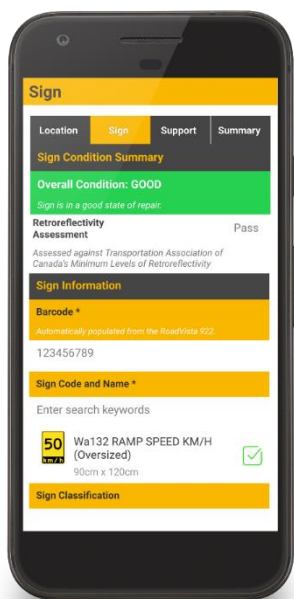


MESH

SIGN MANAGEMENT SOFTWARE

MESH is our exclusive Operations Management software. MESH is a complete municipal operations management solution that allows municipalities to better manage their municipal assets and all the work associated with inspecting and maintaining them. MESH's sign module was developed for use as a complete sign management platform to help municipalities comply with Minimum Maintenance Standards. It is extremely easy-to-use and allows for seamless collection of inventory and inspection data.

FEATURES



CLOUD-BASED DATA to access information, anytime or anywhere, in a web browser or Android, Apple or Windows devices.

ROBUST MAPPING INTERFACE to filter and view the data anyway you want (i.e., see all failing stop signs on Anywhere St).

INTEGRATED OTM & MUTCDC SIGN LIBRARY with images to ensure you are recording the correct information for the right sign.

CONNECTS TO ROADVISTA RETROREFLECTOMETERS via Bluetooth and automatically evaluates Pass/Warn/Fail for retroreflectivity.

AUTOMATICALLY ASSIGNS CONDITION RATINGS so you can plan maintenance activities only for signs that need it and project lifespan.

WELL-DOCUMENTED HISTORY OF INSPECTIONS and maintenance in one place to demonstrate compliance and reduce liability.

WORK-ORDERS AND TASKING to get work done. Assign staff tasks to undertake any type of work. The tasks are sent to their mobile device, and they are notified. Easily manage and track the work your staff do.

In addition to signage, MESH is a complete municipal operations management solution that allows municipalities to better manage their assets and all the work associated with inspecting and maintaining them. MESH can be deployed to manage other municipal infrastructure, such as sidewalks, culverts & catch basins, water and sewer, trees, roads and much more.

TECHNICAL INFORMATION & SECURITY

MESH is a cloud-based software solution which means information is hosted on our servers on an ongoing basis. MESH is accessible using any modern web browser or Android, Apple, or Windows mobile devices.

We employ banking level security (AES 256-bit) and host data on Microsoft's cloud computing platform (Azure) which guarantees 99.9% availability. The application and your data are mirrored on both the east and west coasts of Canada so that if one server fails, it will automatically default to use the other server.

- Private and Confidential -

Not to be Distributed Without Written Permission of Advantage Data Collection Ltd.

RETURN TO AGENDA

APPENDIX A – SIGN INSPECTION REGULATIONS

There has been a lot of information and developments that have caused confusion in the past few years on the retroreflectivity front. We'd like to help you better understand the current environment and how we got here.

U.S. Federal Highway Administration's (FHWA) Manual of Uniform Traffic Control Devices

In January 2008, the United States FHWA revised their MUTCD. It introduced language establishing minimum retroreflectivity levels that must be maintained for traffic signs. By January 2012, all agencies must have implemented a sign assessment and management program.

Minimum Maintenance Standards for Municipal Highways (O.Reg 239/02)

Likely following the footsteps of the United States, in February 2010, Ontario amended Ontario Regulation 239/02 of the Municipal Act (Minimum Maintenance Standards for Municipal Highways) to require all municipalities in the Province of Ontario to check that the retroreflectivity values of regulatory and warning signs meet the retroreflectivity requirements of the Ontario Traffic Manual on an annual basis.

More recently, in January 2013, Ontario amended O.Reg once again giving more specific direction regarding the inspection of the retroreflectivity of traffic and warning signs. Generally speaking, the regulation now states that:

- The minimum standard for the frequency of inspecting signs to check to see that they meet the retro-reflectivity requirements of the Ontario Traffic Manual is once per calendar year, with each inspection taking place not more than 16 months from the previous inspection.
- A sign that has been inspected and deemed to be in a state of repair with respect to the retro-reflectivity requirements of the Ontario Traffic Manual, does not require any attention until the next inspection, provided that the municipality does not acquire actual knowledge that the sign has ceased to meet these requirements.
- If a sign is illegible, improperly oriented, obscured or missing, the minimum standard is to repair or replace the sign within the time set out in the regulation (based on Road Class) to this section after becoming aware of the fact.

Ontario Traffic Manual

The Ministry of Transportation officials have updated Book 4 of the OTM and now include minimum levels of retro-reflectivity which provides a clear direction and finally bridges the disconnect between the MMS and the OTM. The OTM has adopted the Minimum Levels of Sign Retroreflectivity that were previously released by the Transportation Association of Canada's in their revised Manual of Uniform Traffic Control Devices for Canada (MUTCDC).

APPENDIX B – Ontario Traffic Manual - Minimum Retroreflectivity Levels

RA & RB White On Red Signs				
Environment	White		Red	
	Minimum R _A	ASTM Sheeting Type	Minimum R _A	ASTM Sheeting Type
i) Dark roads	35	All	7	All
ii) Roads with streetlights	40	All	8	All
iii) Roads with no street lighting but other roadside lighting present	360	IV or higher	65	IV or higher
All environments	Retroreflectivity of white sheeting must be at least 3 times greater than retroreflectivity of red sheeting (White R _A ≥ 3 x Red R _A)			

RB & RC Black and White Signs		
Environment	White	
	Minimum R _A	ASTM Sheeting Type
i) Dark roads	35	All
ii) Roads with streetlights	40	All
iii) Roads with no street lighting but other roadside lighting present	360	IV or higher

WA, WB, & WC Black on Yellow Signs		
Environment	Yellow	
	Minimum R _A	ASTM Sheeting Type
i) Dark roads	75	II or higher
ii) Roads with streetlights	90	II or higher
iii) Roads with no street lighting but other roadside lighting present	270	IV or higher

RB & RC Black, Green and Red on White						
Environment	White		Red		Green	
	Minimum R _A	ASTM Sheeting Type	Minimum R _A	ASTM Sheeting Type	Minimum R _A	ASTM Sheeting Type
i) Dark roads	50	All	7	All	7	All

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ii) Roads with streetlights	60	All	8	All	8	All
iii) Roads with no street lighting but other roadside lighting present	360	IV or higher	65	IV or higher	50	IV or higher
WB & WC Red and/or White Signs on Yellow						
	Yellow		Red		White	
Environment	Minimum R_A	ASTM Sheeting Type	Minimum R_A	ASTM Sheeting Type	Minimum R_A	ASTM Sheeting Type
i) Dark roads	75	II or higher	7	All	35	All
ii) Roads with streetlights	90	II or higher	8	All	40	All
iii) Roads with no street lighting but other roadside lighting present	270	IV or higher	65	All	360	IV or higher

WB Red and Green on Yellow Signs						
	Yellow		Red		Green	
Environment	Minimum R_A	ASTM Sheeting Type	Minimum R_A	ASTM Sheeting Type	Minimum R_A	ASTM Sheeting Type
i) Dark roads	75	II or higher	7	All	7	All
ii) Roads with streetlights	90	II or higher	8	All	8	All
iii) Roads with no street lighting but other roadside lighting present	270	IV or higher	65	IV or higher	50	IV or higher

IA – Posted White on Green and Blue Signs						
	White		Green		Blue	
Environment	Minimum R_A	ASTM Sheeting Type	Minimum R_A	ASTM Sheeting Type	Minimum R_A	ASTM Sheeting Type
i) Dark roads	120	II or higher	15	All	7	All
ii) Roads with streetlights	150	II or higher	15	All	7	All
iii) Roads with no street lighting but other roadside lighting present	360	IV or higher	50	IV or higher	30	IV or higher

IA – Posted White on Brown Signs				
	White		Brown	
Environment	Minimum R_A	ASTM Sheeting Type	Minimum R_A	ASTM Sheeting Type
i) Dark roads	150	II or higher	5	All
ii) Roads with streetlights	180	II or higher	5	All
iii) Roads with no street lighting but other roadside lighting present	360	IV or higher	18	All

APPENDIX C – What is Retro-reflectivity

Contents

1. How we see things - Diffuse Reflection
2. Retroreflection
3. Retroreflective Optical Systems - Beads and Prisms
4. The “Cone of Retroreflection”
5. Observation Angle
6. Entrance Angle
7. Units of Retroreflectivity Measurement - RA
8. Headlight Illumination

1. How we see things - Diffuse Reflection

Everything we see in our everyday lives is seen by reflected light. The surface of virtually every material (except mirrors) is such that light is reflected from it in all directions (“diffusely”) and therefore, in typical circumstances, the brightness of surfaces seems to us to be about the same no matter from what direction we look at them. We’re also accustomed to having bright light available (the bright sky outdoors by day or lighting fixtures indoors) so that things can be easily seen. With enough light available, our eyes are sufficiently sensitive that diffuse reflection works well to see our way.

When driving at night, however, a motorist usually has only the light from his vehicle’s headlights to enable him to see the road ahead and be guided by its surface and its edges. It’s also the only light he has to see the road markings (centerlines, lane lines, etc.) and the road signs alongside and over the road. The diffuse reflection from the road surface directly ahead (strongly illuminated by his headlights which are intentionally aimed downward) is sufficient to see the road itself for a reasonable distance ahead.

However, road signs and pavement markings need to be seen and read at a much longer distance ahead to be effective. At long distances ahead of the vehicle, objects receive very little light from the headlights (again, the brightest part of that beam is aimed downward) so that when that little light is reflected diffusely in all directions, as by ordinary objects including painted signs - they cannot be seen by the driver. The far field of view is black to the driver. Only when the vehicle and its headlights come very close to a sign can he read it, but probably too late to read and react to it. Similarly, road construction personnel working on roads at night could not be seen until the vehicle may be too close to avoid hitting them and road markings on the road would not give the far-ahead guidance which is their purpose.

2. Retroreflection

To meet the need for these objects to be bright to the nighttime driver, a special material with unique optical properties is used; this material is able to reflect light in a very special way: It reflects almost all of the light striking it from the headlight (or from any source) not diffusely but directly back toward the headlight (reversing the direction from which it came) and contained in only a very, very narrow cone, spreading out just enough to include the driver (almost directly behind the headlights.) That special type of reflection (“back to the source”) is called “retroreflection.”

Returning that light only within an extremely narrow cone (instead of in every direction as does diffuse reflection) is what makes the sign bright to an observer who views it within that narrow cone. Such retroreflective materials are used to make signs visible far away, markings on road personnel bright and markings on the surface of the road seen -

far enough ahead to be useful all using only the very small amount of light available at that far distance from the vehicle's headlights.

Figure 1. Retroreflection Basics

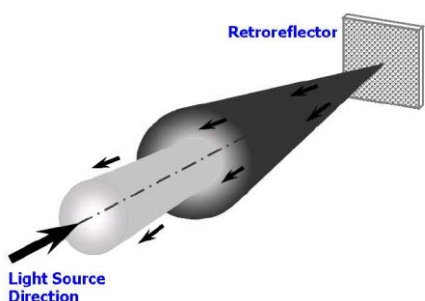


Figure 1 illustrates the example of retroreflection for a road sign. While the actual headlight “beam” (not indicated here) spreads out over a broad area ahead of the vehicle, only that light that directly reaches the sign results in its brightness. Only that part of the light from the headlight is considered in this diagram and it is represented very simply by a line from the headlight to the sign. But carefully note that this line has nothing whatever to do with where the headlight

“beam” is “aimed” (and thus it is not the “headlight-beam axis”). Since every element of retroreflective geometry develops from this imaginary line it will be useful to remember it.

Contrary to the belief of some, retroreflective materials do not actually reflect more light overall than many other surfaces; they appear bright only to a viewer located right behind a light source (including headlights) simply by confining all of the reflected light into that extremely narrow cone. If the viewer isn't near a light source (ahead or behind), many diffuse-reflecting materials will usually be brighter to him than efficiently retroreflective materials.

3. Retroreflective Optical Systems - Beads and Prisms

Retroreflective materials fall into one of two categories: those that derive their retroreflective properties from incorporating spherical glass beads into its surface and those that incorporate the shape of “cube-corner” micro prisms.

Glass beads (large beads - up to a centimeter diameter or more, were called “cats-eyes”) have been used for 80 years in signage legend and markings. Much smaller beads were spread onto the surface of painted signs to produce a degree of retroreflectivity before the first manufactured glass bead sheeting (for signs) was produced in the '50s. Small glass beads also provide retroreflection for pavement markings including both paint (they are spread onto the paint before curing) and in manufactured markings where they become exposed and functional as the material wears away through usage on the roadway.

Reflective prisms (“cube-corner” prisms) have been incorporated into both highway and vehicle markings since the 1920s. Prismatic sheetings, using very tiny “micro-prisms” have been commercially available since about 1990, and typically have a higher efficiency overall than beaded sheetings and thus can be significantly brighter. Most Raised Pavement Markers incorporate prisms (either “large” or microprisms) to provide a bright retroreflective signal.

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4. The “Cone of Retroreflection”

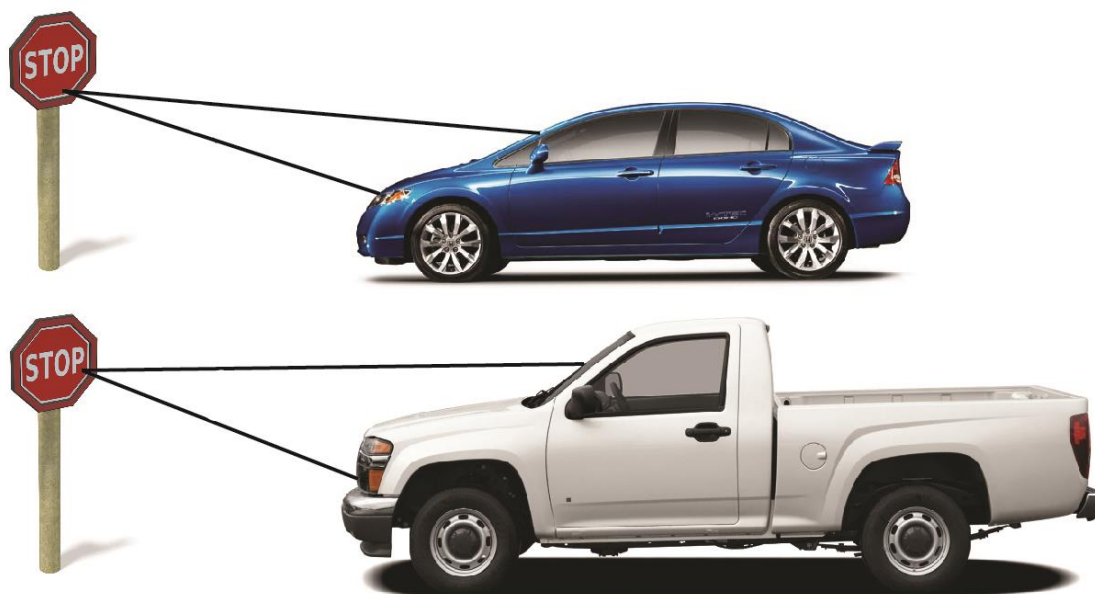
The retroreflected light comes directly back to the headlight, only spreading in a very narrow cone. This cone is centered on that line from the headlight to the sign. In Figure 1, this cone is drawn at roughly about 15° so that it can be seen as a cone in the diagram but on the road the actual effective cone is sometimes as little as 0.2° for a sign read far away. Note: It’s hard to show the exact cone in a diagram since a cone of 0.2° spreads only four-hundredths of an inch in a distance of a foot! ($3\frac{1}{2}$ millimeters in a meter distance).

Even though nearly all the retroreflected light is contained within this very narrow cone, the “cone of retroreflection” doesn’t have a definite limit; there is no “edge” to the cone beyond which there is no reflected light at all. The retroreflected light is brightest near the center of the cone and becomes far less bright at larger cones. Thus, reference can be made to the reflectivity at the “ 1° cone” or the “ 2° cone.” (The angles used here to measure the “Cone of Retroreflection” are “half-angle” values and are for the angle from the cone axis- that line from the headlight to the sign - to a line in the cone).

The angular “size” of the retroreflected cone of light is important because it determines when that material will be “bright” to the driver of an oncoming vehicle. The driver, while quite close to being directly behind his headlight, is separated a short distance from the line from the headlight to the sign and therefore from the center of the cone of retroreflected light.

At longer distances on the road, the driver of a small sports car is only slightly displaced from his headlight and sees signs as bright because he’s close to the center of the cone. The driver of a very large truck sits well above his headlights and therefore is further away from the center of the cone. He sees the same sign as less bright. This is shown by the diagram in Figure Two.

Figure 2. Cone of Retroreflection



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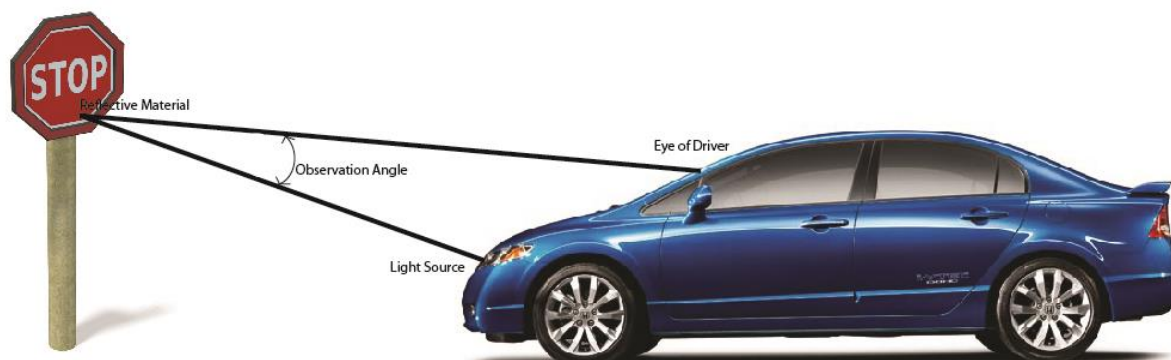
5. Observation Angle

The most important angle in the geometry of Retroreflection is the “Observation Angle”. It’s quite simple to learn and essential to an understanding of how retroreflection works. It can be described in two somewhat different ways that do refer to essentially the same thing.

Consider the Cone of Retroreflection - the retroreflected light coming back to the headlight. The portion of this cone of retroreflection which is seen by an observer at any one time is measured by the angular value of the half-cone. This angle is commonly known as the “Observation Angle.” In terms of the Cone of Retroreflection, the Observation Angle relates to the angle of the cone at which an “observer” (the driver) sees the sign. (It may be useful to note that the light itself is being reflected in this cone whether there is an observer or not).

The more commonly used definition of “Observation Angle” (used in the ASTM specifications, for example) relates it to the geometry of measurement, without any reference to the cone of Retroreflection. (See Figure 3.) This definition of “Observation Angle” says that the line from the headlight to the retroreflective material (sign) forms an angle with a line from the sign to the observer’s eye (or, in a photometer, the detector). This is specific for the laboratory measurement but if you remember the cone of Retroreflection defined by the observation angle you’re more likely to understand how the changes in observation angle affects the reflective efficiency of the retroreflective material and, ultimately, the brightness of the sign.

Figure 3. Simple Observation Angle



The retroreflected light is strongest at the center of the cone (smallest Observation Angles) and continues to drop lower in value at the wider parts of the cone (equal to larger Observation Angles). Thus a “curve” of retroreflectivity values may be created for a given retroreflective sheeting, by laboratory measurements of that sheeting from small to large observation angles; this very useful data is an Observation Angle “curve.”

On the road, the driver is separated from the headlight (i.e., from the “cone axis”) by a relatively “fixed” amount. Therefore, as the vehicle approaches a sign at a long distance the Observation Angle at which the driver views the sign is initially small and then becomes larger and larger at an increasing rate of change when closer to the sign. As previously described,

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the driver of a large truck, sitting well above his headlights will see the sign at correspondingly larger Observation Angles at each distance than drivers of cars.

How retroreflectivity changes with changes in Observation Angle, and thus with changes in approach distance, is critical to understand how retroreflectivity works on the road in a practical sense together with the changing illumination from the headlights to produce sign brightness.

6. Entrance Angle

Another concept important to the understanding of retroreflection in the roadway applications considered here, and a part of the “geometry” of retroreflection is the angle called “Entrance Angle.” This is the angle at which the light from the light source (headlight) enters the surface of the retroreflective material, particularly in the case of a sign. This concept also has nothing to do with where the headlight beam is directed or what portion of the headlight beam strikes the sign; it is simply the angle that the light which comes from the headlight strikes the surface of the sign.

Entrance angle is the angle between that line from the light source to the sign (we’ve referred to this line before) and an imaginary line exactly perpendicular to the sign. If those two lines are superimposed (i.e., the same line) the light is “head-on” to the material, and it is defined as being “0° Entrance Angle”. This is shown in Figure 4.

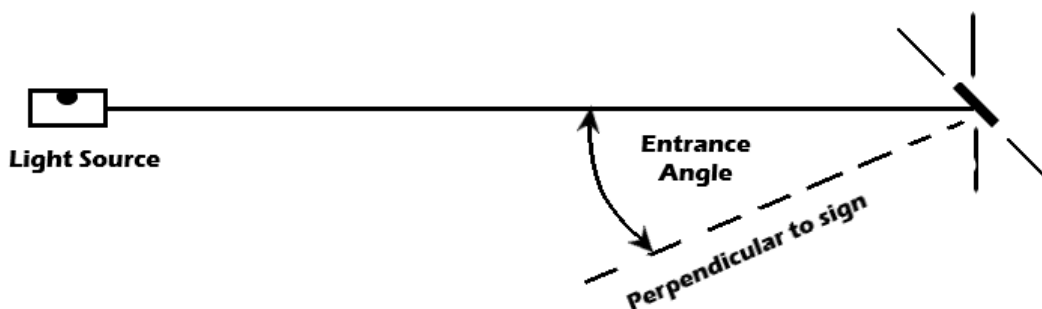


Figure 4. Simple Entrance Angle

Figure 4. Simple Entrance Angle

All retroreflective sheeting materials have substantially lower retroreflectivity at higher entrance angles but at those larger angles some materials retain somewhat higher efficiencies than others; these materials are described as having more “Angularity.”

Typically, signs are viewed at a very small entrance angle which increases only slightly as the vehicle approaches the sign. (See Figure 5.) Almost all properly mounted road signs are read at entrance angles of 10 degrees or less throughout their approach.

Large entrance angles can be created by an accidental twist or tilt of the sign, such as might result from an impact by a vehicle. They can also result when a sign is mounted far off the roadway and the vehicle is quite near, but this circumstance also generally results in the light from the

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headlights missing the sign, which becomes the predominant factor in determining sign brightness.

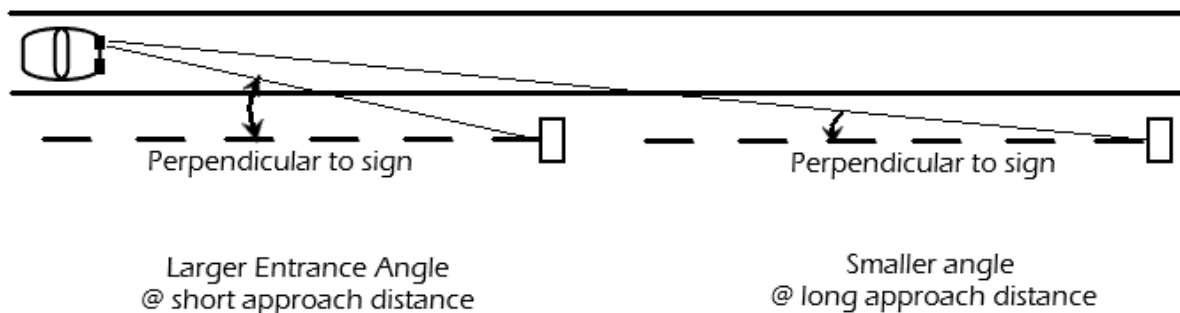


Figure 5. Entrance Angle Change With Distance

Figure 5. Entrance Angle Change with Distance

7. Units of Retroreflectivity Measurement - RA

Performance values for retroreflective sheeting are an expression of the efficiency of that material to retroreflect the light at a particular “geometry”; i.e., at one set of observation and entrance angles. (One “geometry” often used in specifications is: 0.2 degrees Observation angle and 4- or 5-degrees Entrance angle.) The number given tells how much light is retroreflected at that “geometry” for a given unit of light falling on a given area of the material. Technically, it is termed the “Coefficient of Retroreflection,” designated by the symbol RA. (Here we’ll sometimes refer to it as the “retroreflectivity value or simply, “retroreflectivity”).

“RA” essentially expresses the relationship:

$$\frac{\text{Light OUT (Retro)}}{\text{Light IN}} = \text{“Efficiency” or RA}$$

It is not necessary to know the exact technical meaning of the factors comprising that term (but they are: candela per incident lux per square meter, often abbreviated to “cd/lx/m²”); the important concept to understand is that the retroreflectivity value RA is a ratio. It’s similar to “per cent” and does not tell how bright the sheeting will be on a given sign (even at the distance corresponding to the “geometry” for that particular value). It is simply its “efficiency” at returning light to the source at that particular geometry (the set of observation and entrance angles).

[Note: The units and “standard geometry” used in the specifications for the

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retroreflectivity of road markings is slightly different due to the particular way that virtually all road markings are illuminated and viewed, but the principle is the same].

The efficiency of a retroreflective material varies with different observation and entrance angles and the various materials vary in different ways. The practical effect of these differences is what influences the choice among different retroreflective materials for a particular situation, considering headlight illumination, practical viewing requirements and distances, and the viewing needs of the driver.

8. Headlight Illumination

While different reflectivity values are important and, for example on signs, a higher value generally means a brighter sign, the brightness of a sign is much more dependent upon the level of the light reaching it from the headlight. For example, in recent years automobile headlights project far less light upward toward signs - and thus overhead signs in particular, are seen as less-bright by drivers of new and recent vehicles. Also, where signs are displaced far off the roadway or, as on a curve, the headlight beam is aimed far away from the sign, the sign is far less bright. The most efficient retroreflective material cannot be bright if the light level is very low.

Such circumstances also often exist when the sign is far off to the side, far out of the main headlight “beam” and no material properties can compensate for the absence of light. This is also important to consider when selecting locations for signs. An easily understood example is the driver who, at night, pulls up alongside a corner street name sign to read it out his side-window - the sign’s retroreflectivity is useless to him (unless he holds up a flashlight by his eye!)

The effect of headlight illumination upon road markings differs from signs primarily because the geometry of the road marking ahead of the car is essentially a “constant” and therefore, higher retroreflectivity values do directly result in brighter markings as seen by the driver and equally efficient markings will generally be seen as equally bright.



Township of Horton COUNCIL / COMMITTEE REPORT

Title: Compaction and Covering Form of Agreement	Date:	Sept 4 th 2024
	Council/Committee:	TES
	Author:	Adam Knapp, Public Works Manager
	Department:	Environmental Services

RECOMMENDATIONS:

THAT the TES Committee recommend to Council that the attached form of agreement be brought forward by By-Law to be effective January 1st 2025.

BACKGROUND:

The agreement between the Township and Brian Dedo (the Contractor) to perform covering, levelling, and compaction of refuse at the Horton Landfill Site is up for renewal. Staff have negotiated the rates and terms as displayed in Appendix A and B of the attached Form of Agreement with the Contractor. Staff believe these yearly adjustments ranging from a 1.7% increase to a 1.6% increase over the term and a 9% increase in 2025 are fair to the contractor and ensure sustainability in the service delivery over the term of the agreement. The Contractor has not received a rate adjustment since 2020 which is justification for the 9% initial increase which equates to 1.8% yearly increase over the previous term of the agreement.

ALTERNATIVES:

N/A

FINANCIAL IMPLICATIONS:

As displayed in the attached Form of Agreement

ATTACHMENTS:

Form of Agreement Compaction and Covering - Brian Dedo

CONSULTATIONS:

Brian Dedo – Compaction and Covering Operator

Prepared by: Adam Knapp, Public Works Manager

Reviewed by: Hope Dillabough, CAO/Clerk

RETURN TO AGENDA

CORPORATION OF THE TOWNSHIP OF HORTON

BY-LAW NO. ~~2019-59~~

Being a By-Law to authorize the Mayor and CAO/Clerk to execute a contract with Brian Dedo with respect to the covering, levelling, and compaction of refuse at the Horton Landfill Site.

WHEREAS Section 11(3), Chapter 25 of the Municipal Act, S.O. 2001 authorizes Council to contract with any person for the operation and maintenance of the landfill site upon such terms and conditions as may be considered expedient.

NOW THEREFORE the Council of the Corporation of the Township of Horton enacts as follows:

1. That the Corporation of the Township of Horton and Brian Dedo are desirous to enter into a contract generally in the form annexed hereto as Appendix "A" to provide for the covering, levelling and compaction of the Horton Landfill Site at 2082 Eady Road.
2. The Appendix "A" attached hereto forms part of this By-Law.
3. The Appendix "B" attached hereto forms part of this By-Law.
- ~~3.~~ That the Mayor and CAO/Clerk be and are hereby authorized to execute said agreement attached hereto with Brian Dedo on behalf of the Corporation of the Township of Horton and it be effective ~~January 4st, 2020.~~ **January 1st, 2025.**
4. That By-Law ~~2017-62 and 2018-32~~ are hereby repealed.
5. That this By-Law shall come into force and effect immediately upon the passing thereof.

Read a first and second time this ~~5th day of November 2019~~

Read a third and final time this ~~5th day of November 2019~~

Mayor David M. Bennett

CAO/Clerk Hope Dillabough

RETURN TO AGENDA

**APPENDIX "A"
FORM OF AGREEMENT**

AGREEMENT MADE THIS ~~5TH DAY OF NOVEMBER, 2019~~

BETWEEN:

THE CORPORATION OF THE TOWNSHIP OF HORTON
(Hereinafter called the Corporation)

OF THE FIRST PART

AND: **Brian Dedo**
(Hereinafter called the Contractor)

OF THE SECOND PART

WITNESSETH

THAT the Corporation and the Contractor in consideration of the fulfillment of their respective promises and obligations herein set forth covenant and agree with each other as follows:

ARTICLE 1:

- A) A general description of the work is:
- The operation of a bulldozer for the purpose of covering, leveling and compaction work at the landfill site.
- B) The Contractor shall provide at his own expense all labour, machinery, and fuel and things necessary for due execution of all the work set out in this contract.
- C) The Contractor, Brian Dedo is permitted to use cover material located at the landfill site at no cost. ~~The Contractor shall keep records of the amount used.~~ The contractor shall advise the Township's Public Works Manager if sufficient quantities of cover material are not readily available.

ARTICLE 2:

The INFORMATION TO THE CONTRACTOR attached hereto shall form part of this contract and be binding on the Parties.

ARTICLE 3:

The Corporation covenants with the Contractor that the Contractor, having in all respects complied with this contract, will be paid for and in respect of all the works the sum of money equal to the quoted rate as stated in Appendix "B"

ARTICLE 4:

Where any notice, direction or other communication is required to be given or made by one of the parties hereto the other, it shall be deemed sufficiently given or made if mailed or delivered in writing to such party at the following address:

RETURN TO AGENDA

THE CORPORATION:

The Township of Horton
 2253 Johnston Rd
 Renfrew, ON
 K7V 3Z8

THE CONTRACTOR:

Brian Dedo
 3010 Stone Road
 R.R. #2
 Douglas, ON
 K0J IS0

ARTICLE 5:

The contractor declares that in contracting the works and in entering into this contract he/she has investigated for himself the character of the work and all conditions that might affect his contract or his acceptance of the work, or that, not having so investigated, he is willing to assume and does hereby assume all risk of conditions arising or developing or any items thereof more expensive in character, or more onerous to fulfill, that was contemplated or known when the contract was signed. The contractor also declares that he did not and does not rely upon information furnished by any methods whatsoever, by the Corporation or its officers or employees, and being aware that any information from such sources were approximate and speculative only and were not in any manner warranted or guaranteed by the Corporation.

The Contractor further acknowledges the municipality's ownership of any and all structures and materials presently located at the landfill sites.

ARTICLE 6:**SCOPE OF WORK**

1. The Horton Landfill Site shall be compacted and covered on designated days as unless otherwise directed by the Public Works Manager and/ or designate.
2. Should weather conditions prevent work to be done as outlined above, then the work shall be done as soon as conditions are satisfactory.
 - a) The Contractor is required to spread and compact the refuse as specified and as ~~may be~~ directed by the Public Works Manager and/ or designate.
 - b) The Contractor may be required to meet on occasion with the Municipal Engineers and the Public Works Manager and/or designate.
 - c) The Contractor is required to report in writing any problems and/or concerns which may arise from time to time to the Public Works Manager and/or designate.
 - d) The Contractor is required to keep such records and complete forms as requested by the Municipality.

ARTICLE 7:**SUPERVISION**

1. The Contractor will be supervised on occasions by the Public Works Manager and/ or designate.
2. The Contractor will be supplied with keys to the Landfill Site but under no condition is he allowed giving them to anyone else and/or using the dump for personal use when the attendant is off duty.

ARTICLE 8:

This contract shall apply to and be binding on the parties hereto and their successors, administrators, and executors. The Contractor, Brian Dedo agrees to do the above scope of work unless revision is made in writing as a result of negotiations between the Contractor and Council.

ARTICLE 9:**DURATION OF CONTRACT:**

This contract will be effective for a period of five (5) years beginning January 1st, 2025, and will terminate on December 31st, 2029.

Either party may terminate this agreement upon the giving of sixty (60) days notice in writing to the other party. This contract may also be extended by resolution for an additional period upon the agreement of both parties.

Notwithstanding the above, any legislated changes to the work in this contract, which increases or decreases the cost of performing this work, will result in the contract being opened for renegotiations.

ARTICLE 10:**SPECIAL PROVISIONS**

1. The Contractor shall provide the Municipality with a certificate of Liability Insurance for not less than one Million Dollars.
2. The Contractor shall provide the Municipality with a valid Workplace Safety and Insurance Board Certificate

IN WITNESS WHEREOF the parties have hereunto set their hands and seals on the above written, or caused their Corporate Seals to be affixed, attested by the signature of their proper officers, as the case may be.

CONTRACTOR – Brian Dedo

Deputy Mayor Daina Proctor – HORTON TOWNSHIP

CAO/CLERK Hope Dillabough –HORTON TOWNSHIP

“Appendix B”

The following rates apply for covering and for additional cleanup/re-work when required.

Covering Rates:

2025 Rates

Five Hundred & Fifty Dollars (\$600) per covering – once a week *(unless the Ministry of the Environment Compliance Branch changes the weekly cover requirement)*

Additional Cleanup: One Hundred Dollars (\$150) per hour

2026 Rates

Five Hundred & Fifty Dollars (\$610) per covering – once a week (unless the Ministry of the Environment Compliance Branch changes the weekly cover requirement)

Additional Cleanup: One Hundred Dollars (\$160) per hour

2027 Rates

Five Hundred & Fifty Dollars (\$620) per covering – once a week (unless the Ministry of the Environment Compliance Branch changes the weekly cover requirement)

Additional Cleanup: One Hundred Dollars (\$170) per hour

2028 Rates

Five Hundred & Fifty Dollars (\$630) per covering – once a week *(unless the Ministry of the Environment Compliance Branch changes the weekly cover requirement)*

Additional Cleanup: One Hundred Dollars (\$180) per hour

2029 Rates

Five Hundred & Fifty Dollars (\$640) per covering – once a week (unless the Ministry of the Environment Compliance Branch changes the weekly cover requirement)

Additional Cleanup: One Hundred Dollars (\$190) per hour

The Township of Horton shall pay to the Contractor the above amounts monthly. The work will be carried out under the supervision of the Public Works Manager and/ or designate. Payment shall be made within ~~seven (7) days~~ thirty (30) days following receipt of the invoice. A statement from the Contractor, Brian Dedo, shall be presented at the municipal office the first week of every month.



Township of Horton COUNCIL / COMMITTEE REPORT

Title: Ontario Trillium Foundation Capital Grant Stream Application	Date:	Sept 4 th 2024
	Council/Committee:	TES
	Author:	Adam Knapp, Public Works Manager
	Department:	Public Works

RECOMMENDATIONS:

THAT the TES committee receive this report as information.

BACKGROUND:

In early 2024 staff submitted a funding application to the Ontario Trillium Foundation (OTF) Capital grant stream. The proposed project includes a concrete barrier free ramp, stairs, sidewalk and roof snow guards to access the arena and change room area. This portion of the project would improve accessibility to the arena and changerooms especially for Ontarians with Disabilities and ensure the Township continues to offer affordable recreational options. The project shall also include enclosing the walls of the covered arena with either 28-gauge steel walls or a combination of steel and chain link fence, both options are similar in cost and shall improve usability of the rink area. Currently the arena's walls are open and allow birds and other wildlife access into the structure which causes damage to the roofs insulation, lowering the structures life expectancy as well as allows the sun and other elements into the facility which deteriorates the ice surface. The birds and other wildlife also produce bio waste that makes the facility undesirable for summer usage and further deteriorates the structure. Enclosing the walls would drastically improve the life expectancy of the building and make the facility usable year-round, which would in turn increase the activities the Township could offer as well as increase revenue to offset operational expenses.

Staff attended a coaching meeting prior to submission to ensure the application was eligible and that all documents required for success were submitted. A detailed design for the ramp and several estimates to display the accuracy of the funding request and "shovel ready" status of the proposed project were submitted.

On July 31 2024 staff received the attached email stating that "Based on the documentation submitted, we determined that your project does not meet OTF's eligibility requirements and as a result, your application is being declined."

Staff scheduled a follow up "coaching call" with an OTF representative to discuss why our application was rejected. They stated that our application was declined due to requesting engineering costs that were retroactive. OTF does give favor to "shovel ready" projects but does not cover retroactive engineering fees, this was not explained in the application or previous coaching call and engineering fees were allowed to be added into the funding requested. They also stated that in the Champlain district \$8.50 in OTF funding is requested for every \$1 available, the Provincial average is \$6 for every \$1 available making this area very competitive for acquiring funds.

The funding stream will be reopened next year, and staff will reapply with these notes considered. Staff shall also continue to search and submit for funding to accomplish the projects proposed in the Community Center Retrofit detailed design completed in 2023.

ALTERNATIVES:

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N/A

FINANCIAL IMPLICATIONS:

None at this time.

ATTACHMENTS:

News about your OTF grant application Email

CONSULTATIONS:

N/A

Prepared by: Adam Knapp, Public Works Manager

Reviewed by: Hope Dillabough, CAO/Clerk

From: donotreply@otf.ca
To: [Adam Knapp](#)
Subject: News about your OTF grant application
Date: July 31, 2024 11:20:15 AM

Thank you for submitting an application CP133964 to the Ontario Trillium Foundation (OTF) for the Capital grant stream.

Based on the documentation submitted, we determined that your **project** does not meet OTF's eligibility requirements and as a result, your application is being declined.

To learn more about why your **project** did not meet eligibility requirements, we encourage you to:

- Contact the OTF Support Centre at 1 800 263-2887 or otf@otf.ca
- Speak with a Program Manager by [booking a coaching call](#)

For information about upcoming deadlines, application resources and supports visit the [OTF website](#).

We appreciate the time and effort that went into the application and wish you the very best with the important work you do in your community.

Caution: This is an external email and may be malicious. Please take care when clicking links or opening attachments. Do not enter your password into web pages you are not familiar with.



**Township of Horton
COUNCIL / COMMITTEE REPORT**

Title: 2025 Departmental Funding Requirements	Date:	Sept 4 th 2024
	Council/Committee:	TES
	Author:	Adam Knapp, Public Works Manager
	Department:	All Departments

RECOMMENDATIONS:

THAT the TES committee receive this report as information.

BACKGROUND:

The Township utilizes PSD City Wide’s asset management software to assist in attaining compliance with O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure. To date the Township’s Public Works Manager and Field Staff have gathered information on nearly all assets within the Township, excluding the Fire Department where data gaps still remain. The 2025 Departmental Funding Requirements spreadsheet attached to this report displays the current minimum funding required per asset category and department to achieve sustainability and ensure a high level of service is delivered to Horton rate payers.

The minimum funding requirements displayed in the spreadsheet should be used as a guideline for establishing minimum funding and yearly reserve allotments. Although the funding may not be utilized that year, establishing these yearly minimum requirements will ensure that when assets are due for maintenance, rehabilitation ,or replacement adequate funding will be available and the Township is sustainable. Grants, external funding, and growth should not be relied upon in the long term to secure these requirements as they are not guaranteed.

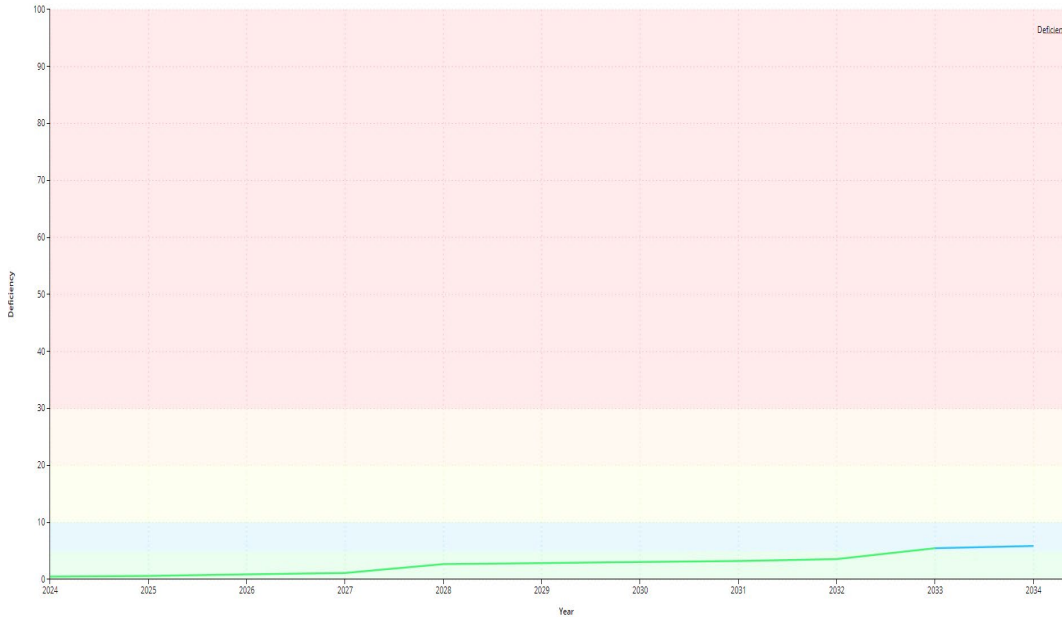
The attached spreadsheet emphasizes the importance of rehabilitation and maintenance in the road network section by displaying that approximately 82% less funding is required when comparing the “Event Cost” which is planned capital rehabilitation and maintenance versus the “Total Replacement Cost” which would be the cost to completely reconstruct a failed network.

Staff shall continue to add maintenance events but may be presented on other spreadsheets due to the way the system works and where they are budgeted. For example assets such as culvert replacement shall be funded through the operating budget if replaced in house and Capital if contracted out through a rehabilitation project, HVAC and Plumbing maintenance will be funded through operating budgets while replacements shall be through Capital.

Horton Townships road network accounts for 55.6% of our annual funding requirements and has an average assessed condition rating of 81%. This places Hortons road network in a position of sustainable maintenance and rehabilitation with opportunity to extend our paved roads network, which will be proposed in the Capital Paved Roads 10 Year plan. While others are reverting roads from hard top to gravel or struggling to maintain failing assets, we are in a position to potentially extend our

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network, improve the level of service delivered to our residents to foster Horton's growth and development.



Our asset management software is capable of projecting a probable deficiency rate of our roads network with our current maintenance and rehabilitation strategies. Displayed above is Horton's road network projected deficiency rate of less than 10% over the next 10 years. This deficiency rate is predicted to slowly increase but can be mitigated through continual assessment, implementation of new cost-effective treatments, and application of effective maintenance and rehabilitation practices. The road networks high assessment value, low projected deficiency rate, and the 82% less funding required to maintain and rehabilitate vs reconstruct indicate that our current strategies are very effective.

ALTERNATIVES:

N/A

FINANCIAL IMPLICATIONS:

As displayed in the attached 2025 Departmental Funding Requirements spreadsheet

ATTACHMENTS:

2025 Departmental Funding Requirements
 2025 Departmental Requirements Pie Chart
 Horton Road Network Data

CONSULTATIONS:

Nathalie Moore – Treasurer

Prepared by: Adam Knapp, Public Works Manager

Reviewed by: Hope Dillabough, CAO/Clerk

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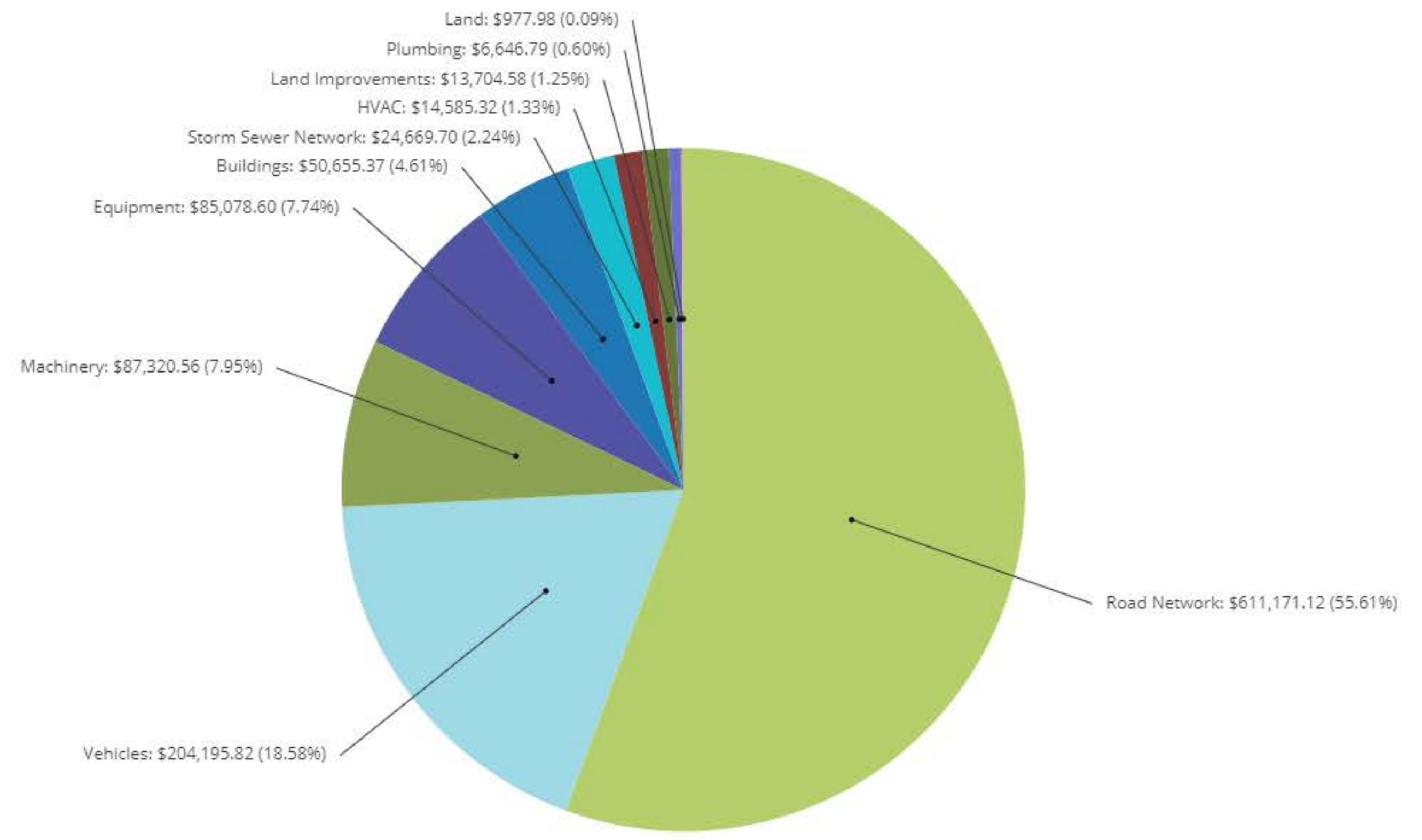
2025 Departmental Funding Requirements

Table 1 of 1

Classification	Replacement Cost	Event Cost	Total Replacement Cost	Annual Requirement (With Events)
Buildings				
Arena	\$686,818.00	\$0.00	\$686,818.00	\$6,868.18
Boat Launch	\$38,648.00	\$0.00	\$38,648.00	\$386.48
Community Center	\$1,380,883.00	\$0.00	\$1,380,883.00	\$13,808.83
Fire Hall	\$1,632,479.00	\$0.00	\$1,632,479.00	\$16,324.79
Landfill	\$87,479.00	\$0.00	\$87,479.00	\$874.79
Roads Garage	\$1,239,230.00	\$0.00	\$1,239,230.00	\$12,392.30
Buildings Total	\$5,065,537.00	\$0.00	\$5,065,537.00	\$50,655.37
Equipment				
Arena	\$9,975.00	\$0.00	\$9,975.00	\$665.00
Community Center	\$176,350.00	\$0.00	\$176,350.00	\$11,756.67
Fire Department	\$447,785.00	\$0.00	\$447,785.00	\$43,763.00
Landfill	\$7,980.00	\$0.00	\$7,980.00	\$532.00
Office Equipment	\$90,788.00	\$0.00	\$90,788.00	\$6,052.53
Roads Department	\$334,641.00	\$0.00	\$334,641.00	\$22,309.40
Equipment Total	\$1,067,519.00	\$0.00	\$1,067,519.00	\$85,078.60
HVAC				
Cook Stoves	\$27,962.00	\$0.00	\$27,962.00	\$1,456.63
Furnaces, Heaters and AC	\$223,106.00	\$0.00	\$223,106.00	\$11,344.37
Refrigerators	\$26,230.00	\$0.00	\$26,230.00	\$1,784.32
HVAC Total	\$277,298.00	\$0.00	\$277,298.00	\$14,585.32
Land				
799 - Millenium Trail	\$70,308.00	\$0.00	\$70,308.00	\$703.08
3246 - Farrell's Landing	\$4,995.00	\$0.00	\$4,995.00	\$49.95
3247 - Boat Launch	\$22,495.00	\$0.00	\$22,495.00	\$224.95
Land Total	\$97,798.00	\$0.00	\$97,798.00	\$977.98
Land Improvements				
Boat Launch	\$67,098.00	\$0.00	\$67,098.00	\$2,789.94
Community Center	\$86,079.00	\$0.00	\$86,079.00	\$1,963.74
Landfill	\$7,651.00	\$0.00	\$7,651.00	\$153.02
Office	\$88,240.00	\$0.00	\$88,240.00	\$3,529.60

Classification	Replacement Cost	Event Cost	Total Replacement Cost	Annual Requirement (With Events)
Roads Yard	\$263,414.00	\$0.00	\$263,414.00	\$5,268.28
Land Improvements Total	\$512,482.00	\$0.00	\$512,482.00	\$13,704.58
Machinery				
Recreation Department	\$113,295.00	\$0.00	\$113,295.00	\$7,553.00
Roads Department	\$1,267,163.00	\$0.00	\$1,267,163.00	\$79,767.56
Machinery Total	\$1,380,458.00	\$0.00	\$1,380,458.00	\$87,320.56
Plumbing				
Septic Systems	\$106,171.00	\$0.00	\$106,171.00	\$2,123.42
Water Tanks, Treatment, Pumps, and Fixtures	\$60,561.00	\$0.00	\$60,561.00	\$4,105.83
Water Wells Domestic	\$41,754.00	\$0.00	\$41,754.00	\$417.54
Plumbing Total	\$208,486.00	\$0.00	\$208,486.00	\$6,646.79
Road Network				
Culverts 1000mm to 1500mm	\$310,230.00	\$0.00	\$310,230.00	\$4,136.40
Culverts 1500mm to 3000mm	\$781,250.00	\$0.00	\$781,250.00	\$10,416.67
Culverts 450mm or less	\$242,400.00	\$0.00	\$242,400.00	\$3,232.00
Culverts 600mm or less	\$434,595.00	\$0.00	\$434,595.00	\$5,794.60
Culverts 600mm to 1000mm	\$349,060.00	\$0.00	\$349,060.00	\$4,654.13
Driveway Culverts	\$814,572.50	\$0.00	\$814,572.50	\$10,860.97
Roads Gravel	\$7,047,820.00	\$1,400,098.50	\$8,447,918.50	\$116,719.26
Roads HCB	\$14,978,730.00	\$2,842,118.00	\$17,820,848.00	\$383,244.04
Roads LCB	\$1,413,350.00	\$775,806.25	\$2,189,156.25	\$59,976.88
Shoulder Sealing all areas	\$18.00	\$42,500.00	\$42,518.00	\$2,834.53
Street Light	\$67,304.00	\$0.00	\$67,304.00	\$3,422.24
Street Signs	\$58,794.00	\$0.00	\$58,794.00	\$5,879.40
Road Network Total	\$26,498,123.50	\$5,060,522.75	\$31,558,646.25	\$611,171.12
Storm Sewer Network				
Catch Basins, Ditch Inlets/Outlets	\$399,878.00	\$136,500.00	\$536,378.00	\$7,143.77
Storm Sewer Main	\$1,101,487.00	\$186,669.00	\$1,288,156.00	\$17,525.93
Storm Sewer Network Total	\$1,501,365.00	\$323,169.00	\$1,824,534.00	\$24,669.70
Vehicles				

Classification	Replacement Cost	Event Cost	Total Replacement Cost	Annual Requirement (With Events)
Fire Department -Heavy Vehicles	\$1,688,590.00	\$0.00	\$1,688,590.00	\$106,784.22
Fire Department -Light Vehicles	\$169,731.00	\$0.00	\$169,731.00	\$11,315.40
Landfill	\$99,750.00	\$0.00	\$99,750.00	\$6,650.00
Roads Department -Heavy Vehicles	\$1,041,854.00	\$0.00	\$1,041,854.00	\$69,456.93
Roads Department -Light Vehicles	\$149,839.00	\$0.00	\$149,839.00	\$9,989.27
Vehicles Total	\$3,149,764.00	\$0.00	\$3,149,764.00	\$204,195.82
Cumulative Total	\$39,758,830.50	\$5,383,691.75	\$45,142,522.25	\$1,099,005.84



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Horton Road Network Data

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Table 1 of 1

Asset ID	Name	Description	Segment	Speed	Road Class	Last Condition Assessment Value	Projected Condition	Projected Service Life Remaining	Projected Replacement Date	Replacement Cost	Annual Requirement
626	Collins Road	Castleford Road to Dead End	Roads LCB	80	6	70	63.99	37 Years 1 Month	2062-02-01	\$71,300.00	\$3,565.00
641	Gerald Street	Leslie Avenue to Cotieville Road	Roads LCB	80	6	97	85.34	27 Years 1 Month	2052-02-01	\$82,800.00	\$4,140.00
644	Goshen Road (South)	Yantha Road to Lochwinnoch Road	Roads LCB	60	5	90	85.74	13 Years 7 Months	2038-08-01	\$676,200.00	\$33,810.00
650	Humphries Road (North)	Castleford Road to Dead End	Roads LCB	80	6	97	74.24	12 Years 4 Months	2037-05-01	\$69,000.00	\$3,450.00
677	Pallen Road	Johnston Road to Dead End	Roads LCB	80	6	70	63.99	37 Years 1 Month	2062-02-01	\$50,600.00	\$2,530.00
809	Cobus Road (LCB)	From Bruce St to 226 Cobus Rd	Roads LCB	60	5	40	24.74	7 Years 1 Month	2032-02-01	\$345,000.00	\$17,250.00
812	Lime Kiln Road (LCB)	Gillan Road to 49 Lime Kiln Road	Roads LCB	60	5	100	96.74	19 Years 7 Months	2044-08-01	\$126,500.00	\$6,325.00
813	Madeleine Street (LCB)	From Sherwood St to Harper Ave	Roads LCB	80	6	90	80.25	17 Years 4 Months	2042-05-01	\$20,700.00	\$1,035.00
627	Cotieville Road	Highway 60 to McBride Road	Roads HCB	60	5	93	87.71	24 Years 3 Months	2049-04-01	\$245,700.00	\$8,190.00
628	Dregas Street	Burnstown Road to Dead End	Roads HCB	80	4	100	95.29	27 Years 8 Months	2052-09-01	\$78,000.00	\$2,600.00
635	Elliott Crescent (South)	Pinnacle Road to Elliot Crescent	Roads HCB	80	6	34	23.92	4 Years 11 Months	2029-12-01	\$66,300.00	\$2,210.00
638	Fraser Road	Burnstown Road to Municipal Boundary Line	Roads HCB	80	3	93	87.71	24 Years 3 Months	2049-04-01	\$522,600.00	\$17,420.00
639	Garden of Eden Road (South)	Bruce Street to Pinnacle Road	Roads HCB	60	5	81	74.69	19 Years 2 Months	2044-03-01	\$1,766,700.00	\$58,890.00
645	Grantham Road	River Road to Dead End	Roads HCB	80	6	77	70.41	17 Years 8 Months	2042-09-01	\$62,400.00	\$2,080.00
647	Harold Avenue	McBride Road to Dead end	Roads HCB	80	4	79	72.58	18 Years 5 Months	2043-06-01	\$140,400.00	\$4,680.00
648	Harper Avenue	McBride Road to Dead End	Roads HCB	80	6	78	71.38	18 Years	2043-01-01	\$120,900.00	\$4,030.00
652	Jamieson Lane	Gillan Road to Dead End	Roads HCB	80	5	65	63.57	15 Years 5 Months	2040-06-01	\$273,000.00	\$9,100.00
653	Jane Street	Dregas Street to Knight Street	Roads HCB	80	6	100	95.29	27 Years 8 Months	2052-09-01	\$50,700.00	\$1,690.00
656	Johnston Road	Castleford Road to Storyland Road	Roads HCB	50	5	90	84.3	22 Years 10 Months	2047-11-01	\$1,782,300.00	\$59,410.00
659	Knight Street	Burnstown Road to Dead End	Roads HCB	80	4	100	95.29	27 Years 8 Months	2052-09-01	\$148,200.00	\$4,940.00

Asset ID	Name	Description	Segment	Speed	Road Class	Last Condition Assessment Value	Projected Condition	Projected Service Life Remaining	Projected Replacement Date	Replacement Cost	Annual Requirement
661	Leslie Avenue	McBride Road to Dead End	Roads HCB	80	6	79	72.58	18 Years 5 Months	2043-06-01	\$144,300.00	\$4,810.00
665	Margaret Street	Knight Street to Dead End	Roads HCB	80	6	100	95.29	27 Years 8 Months	2052-09-01	\$81,900.00	\$2,730.00
667	McBride Road (South)	Cotieville Road to Dead End	Roads HCB	80	6	96	90.96	25 Years 8 Months	2050-09-01	\$405,600.00	\$13,520.00
671	Mullins Rd (West)	Johnston Road to Eady Road	Roads HCB	80	4	100	97.52	28 Years 9 Months	2053-10-01	\$549,900.00	\$18,330.00
673	Nadobny Lane	Pucker Street to Knight Street	Roads HCB	80	4	100	95.29	27 Years 8 Months	2052-09-01	\$241,800.00	\$8,060.00
676	Paddy Street	Knight Street to Dregas Street	Roads HCB	80	6	100	95.29	27 Years 8 Months	2052-09-01	\$50,700.00	\$1,690.00
679	Pinnacle Rd (West)	Highway 60 to Kasaboski Road	Roads HCB	60	5	85	78.98	20 Years 9 Months	2045-10-01	\$744,900.00	\$24,830.00
680	Pinnacle Rd (Middle)	Kasaboskie Road to Price Road	Roads HCB	60	4	70	62.78	15 Years 2 Months	2040-03-01	\$741,000.00	\$24,700.00
681	Pinnacle Rd (East)	Price Road to Highway 17	Roads HCB	60	4	78	71.38	18 Years	2043-01-01	\$1,372,800.00	\$45,760.00
683	Pucker Street	Burnstown Road to Blackburn Road	Roads HCB	60	4	100	95.29	27 Years 8 Months	2052-09-01	\$592,800.00	\$19,760.00
685	Sherwood Street	McBride Road to Madeleine Street	Roads HCB	80	6	85	78.98	20 Years 9 Months	2045-10-01	\$93,600.00	\$3,120.00
687	Thompsonhill Cemetery Street	Margaret Street to Burnstown Road	Roads HCB	80	4	100	95.29	27 Years 8 Months	2052-09-01	\$120,900.00	\$4,030.00
688	Thomson Road	Lochwinnoch Road to River Road	Roads HCB	80	4	94	88.68	24 Years 8 Months	2049-09-01	\$2,316,600.00	\$77,220.00
691	Whitton Road (South)	Gillan Road to Dead End	Roads HCB	50	5	96	90.96	25 Years 8 Months	2050-09-01	\$624,000.00	\$20,800.00
692	Whitton Road (North)	Algonquin Trail to Gillan Road	Roads HCB	60	5	74	67.18	16 Years 7 Months	2041-08-01	\$624,000.00	\$20,800.00
815	Lochwinnoch Road (McNab)	Burnstown Road to Municipal Boundary Line	Roads HCB	80	4	40	33.63	7 Years 2 Months	2032-03-01	\$1,016,730.00	\$33,891.00
623	Bennett Lafont Road	Storyland Road to Dead End	Roads Gravel	80	6	78	69.46	42 Years 4 Months	2067-05-01	\$191,400.00	\$3,828.00
624	Bingham Drive	Storyland Road to Storyland Road	Roads Gravel	80	6	80	71.47	42 Years 11 Months	2067-12-01	\$130,500.00	\$2,610.00
625	Cobus Road	Pinnacle Road to 226 Cobus Road	Roads Gravel	60	5	75	66.67	41 Years 6 Months	2066-07-01	\$514,750.00	\$10,295.00
629	Dugald Road	Castleford Road to Dead End	Roads Gravel	80	6	85	75.93	44 Years 2 Months	2069-03-01	\$171,100.00	\$3,422.00

Asset ID	Name	Description	Segment	Speed	Road Class	Last Condition Assessment Value	Projected Condition	Projected Service Life Remaining	Projected Replacement Date	Replacement Cost	Annual Requirement
630	Eady Road (North)	Storyland Road to Mullins Road	Roads Gravel	80	4	73	65.04	41 Years	2066-01-01	\$449,500.00	\$8,990.00
631	Eady Road (Middle)	Mullins Road to Castleford Road	Roads Gravel	80	4	82	73.23	43 Years 5 Months	2068-06-01	\$420,500.00	\$8,410.00
632	Eady Road (South)	Castleford Road to Dead End	Roads Gravel	80	6	73	65.04	41 Years	2066-01-01	\$65,250.00	\$1,305.00
633	Early Road	Thomson Road to Lochwinnoch Road	Roads Gravel	80	6	88	78.72	44 Years 11 Months	2069-12-01	\$333,500.00	\$6,670.00
634	Elliott Crescent (North)	Pinnacle Road to Elliot Crescent	Roads Gravel	80	4	62	54.96	37 Years 8 Months	2062-09-01	\$24,650.00	\$493.00
636	Farrells Landing Road	River Road to Grandview Lane	Roads Gravel	80	6	80	68.33	42 Years	2067-01-01	\$18,850.00	\$377.00
637	Ferguson Road	Castleford Road to Dead End	Roads Gravel	60	5	80	68.33	42 Years	2067-01-01	\$266,800.00	\$5,336.00
640	Garden of Eden Road (North)	Pinnacle Road to Orin Road	Roads Gravel	40	5	81	72.34	43 Years 2 Months	2068-03-01	\$656,850.00	\$13,137.00
642	Gordie Road	River Road to Dead End	Roads Gravel	80	6	80	68.33	42 Years	2067-01-01	\$29,000.00	\$580.00
643	Goshen Road (North)	Lochwinnoch Road to Dead End	Roads Gravel	80	4	74	65.85	41 Years 3 Months	2066-04-01	\$159,500.00	\$3,190.00
646	Guest Road	Lochwinnoch Road to Pastway Road	Roads Gravel	80	6	90	80.31	45 Years 4 Months	2070-05-01	\$40,600.00	\$812.00
649	Horton School Road	Lochwinnoch Road to Goshen Road	Roads Gravel	80	6	80	68.33	42 Years	2067-01-01	\$31,900.00	\$638.00
651	Humphries Road (South)	Castleford Road to River Road	Roads Gravel	60	6	78	69.46	42 Years 4 Months	2067-05-01	\$768,500.00	\$15,370.00
654	Jim Barr Road (South)	Mullins Road to Dead End	Roads Gravel	80	6	75	66.67	41 Years 6 Months	2066-07-01	\$34,800.00	\$696.00
655	Jim Barr Road (North)	Mullins Road to Dead End	Roads Gravel	80	6	62	54.96	37 Years 8 Months	2062-09-01	\$275,500.00	\$5,510.00
657	Kasaboski Road	Pinnacle Road to Dead End	Roads Gravel	80	6	90	80.31	45 Years 4 Months	2070-05-01	\$60,900.00	\$1,218.00
658	Keith Road	Thomson Road to Dead End	Roads Gravel	80	6	80	71.47	42 Years 11 Months	2067-12-01	\$14,500.00	\$290.00
660	Lavallee Road	Thomson Road to Dead End	Roads Gravel	80	6	80	70.6	42 Years 8 Months	2067-09-01	\$333,500.00	\$6,670.00
662	Lime Kiln Road	Burnstown Road to Gillan Road	Roads Gravel	60	4	78	66.41	42 Years 3 Months	2067-04-01	\$290,000.00	\$5,800.00
663	Macs Lane	River Road to Dead End	Roads Gravel	80	6	80	71.47	42 Years 11 Months	2067-12-01	\$13,050.00	\$261.00
664	Madeleine Street	Sherwood Crescent to Leslie Avenue	Roads Gravel	80	6	78	69.46	42 Years 4 Months	2067-05-01	\$24,650.00	\$493.00
666	McBride Road (North)	Highway 60 to Cotieville Road	Roads Gravel	80	6	93	83.23	46 Years 1 Month	2071-02-01	\$134,850.00	\$2,697.00

Asset ID	Name	Description	Segment	Speed	Road Class	Last Condition Assessment Value	Projected Condition	Projected Service Life Remaining	Projected Replacement Date	Replacement Cost	Annual Requirement
668	McInnes Road	Lochwinnoch Road to Dead End	Roads Gravel	80	6	71	63.18	40 Years 5 Months	2065-06-01	\$130,500.00	\$2,610.00
669	McCreary Lane	River Road to #33	Roads Gravel	80	6	74	65.85	41 Years 3 Months	2066-04-01	\$21,750.00	\$435.00
670	McQuity Road	Garden Of Eden Road to Dead End	Roads Gravel	80	6	80	68.33	42 Years	2067-01-01	\$7,250.00	\$145.00
672	Mullins Rd (East)	Mullins Road from Eady Road to River Road	Roads Gravel	80	4	80	71.47	42 Years 11 Months	2067-12-01	\$304,500.00	\$6,090.00
674	Orin Road (West)	Calvin Road to Haley Station Road	Roads Gravel	80	6	65	57.6	38 Years 7 Months	2063-08-01	\$406,000.00	\$8,120.00
675	Orin Road (East)	Dead End to Garden of Eden Road	Roads Gravel	80	6	80	68.33	42 Years	2067-01-01	\$13,050.00	\$261.00
678	Pastway Road	Thomson Road to Dead End	Roads Gravel	80	6	80	68.33	42 Years	2067-01-01	\$121,800.00	\$2,436.00
682	Price Road	Pinnacle Road to #72	Roads Gravel	80	6	84	75.02	43 Years 11 Months	2068-12-01	\$50,750.00	\$1,015.00
684	Ruttan Road	River Road to Dead End	Roads Gravel	80	6	80	71.47	42 Years 11 Months	2067-12-01	\$91,350.00	\$1,827.00
686	Storie Road	River Road to Dead End	Roads Gravel	80	6	75	66.67	41 Years 6 Months	2066-07-01	\$203,000.00	\$4,060.00
689	Tinswood Road	Eady Road to Dead End	Roads Gravel	80	6	90	80.31	45 Years 4 Months	2070-05-01	\$114,550.00	\$2,291.00
3253	Blackburn Road (North)	From Pucker Street to Dead End	Roads Gravel	80	6	62	58.58	38 Years 11 Months	2063-12-01	\$10,295.00	\$205.90
10519	Lime Kiln GEOTECH STUDY	Burnstown Road to Gillan Road	Roads Gravel	60	4	91	82.25	9 Years 2 Months	2034-03-01	\$100,000.00	\$10,000.00
						81.44	73.61360000000002	31 Years 10 Months		\$23,450,525.00	\$719,989.90