

REPORT

2022 Comprehensive Road Needs Study

2022-EC-001

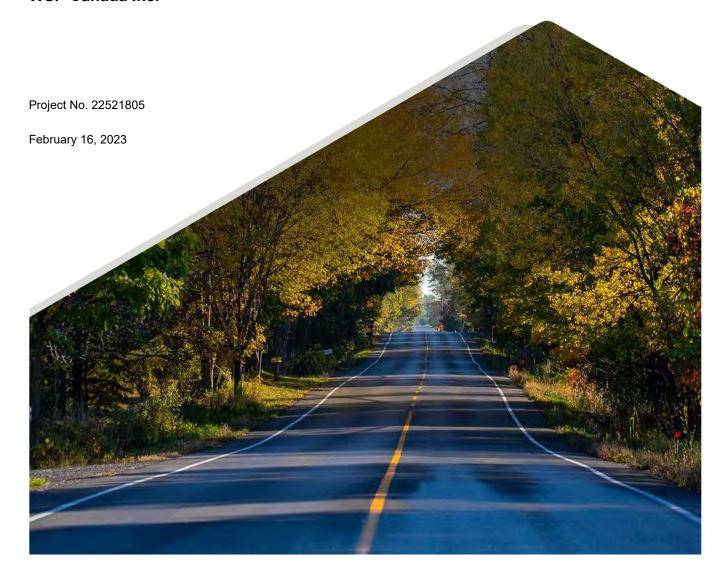
Submitted to:

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EXECUTIVE SUMMARY

This report presents the results of a Comprehensive Road Needs Study (Study) carried out for The Corporation of Tay Valley Township (Township), Ontario, in July 2022. The purpose of the Study was to update the Township's roads asset database to provide the basis for optimal management of its road network. Visual pavement condition surveys were carried out on all the Township's roadways in accordance with current Ministry of Transportation Ontario (MTO) practices. A Pavement Condition Index (PCI) was assigned to each roadway evaluated, and three 10-year capital plans for the paved road network were developed (based on annual budget scenarios provided by the Township) using the DOT™ (Decision Optimization Technology) software. The resulting capital plans include forecasted timelines for preventative maintenance and rehabilitation treatments and provide the recommended preventative maintenance and rehabilitation strategies for each road section.

A total of 263 km of roads were assessed. The breakdown of road surface types is provided in Table 1. The 2022 average Pavement Condition Index (PCI) of the Township's Road network is estimated at 71 out of a possible 100, indicating a rating described as "Good".

Surface Type	Length (km)	Percentage	PCI	PCI Description
Hot Mix Asphalt	36.6	13.9	74	Good
Surface Treated	40.9	15.6	73	Good
Gravel	184.9	70.5	70	Good

Table 1: Summary of Road Network by Surface Type

Paved Road Network

The paved road network consists of 77.5 km with overall condition performance of "Good" (PCI of 73). The three capital plan scenarios have different outcomes for improving the paved road network condition over the analysis period. The first scenario utilized an optimized approach with current available annual budget of \$900K, resulting in a slight increase of the overall condition (PCI of 76) over the analysis period. The second 10-year plan scenario results in maintaining the current overall condition (PCI of 73) with a less annual budget than scenario 1, \$0.46M to \$1.6M over the analysis period. The third scenario with the investment of an average annual expenditure of \$1.31 improves significantly the overall condition of the paved road network to "Excellent" (PCI of 80) by the end of the analysis period.

Gravel Road Network

A gravel roads classification matrix has also been developed for the Township to assist with the prioritization of gravel roads. The matrix is based around 6 main factors, 3 quantitative (AADT, Class/Maintenance Cost, and Current Condition (PCI)) and 3 qualitative (Road Safety/Alignment, Commercial/Heavy Traffic, and Criticality). Each of these factors is weighted based on severity and may be customized further by the Township to suit local conditions as appropriate.

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1.0 INTRODUCTION

The Corporation of Tay Valley Township (Township) retained Golder Associates Ltd., a member of WSP, (WSP GOLDER) to carry out a Comprehensive Roads Needs Study (Study). The purpose of this Study report is to update the Township's Road assets database so as to provide the basis for optimal management of its road network. Visual pavement condition surveys were carried out on all the Township's roadways in accordance with current Ministry of Transportation Ontario (MTO) practices.

A Pavement Condition Index (PCI) was assigned to each roadway segment based on a riding condition index (RCI) and type, severity and extent of distresses. The PCI's along with other road network information, such as road type (i.e., asphalt, surface treated, gravel, etc.), road lengths and widths, classifications (i.e., urban, rural, semi-urban), Minimum Maintenance Standard (MMS), user defined criticalities, etc. are entered into the Decision Optimization Technology (DOT) Roads software to develop optimized rehabilitation treatments. Three optimization scenarios with resulting 10-year capital plans were developed to include forecasted timelines for appropriate preventative maintenance and rehabilitation treatments on the paved road network.

This report should be read in conjunction with "Important Information and Limitations of This Report" included in Appendix A. The reader's attention is specifically drawn to this information, as it is essential for the proper use and interpretation of this report.

1.1 Background Review

The Township provided WSP GOLDER with the following roads database to support the completion of the 2022 Study:

- 2022 Road Inventory in shapefile;
- 2014 Road Needs Study;
- 2021 Road Construction Estimates;
- 2021 Road Preservation Estimates;
- 2022 Budget Final;
- Traffic Count Master List (20-03-04);
- 10 Year Financial Plan 2021; and
- History of Gravel on Roads 2010 2023.

WSP GOLDER communicated with the Township project manager upon reviewing the database to revise the attributes, including new road segments, widths, shared roads, and Annual Average Daily Traffic (AADT) data (where applicable).

2.0 PAVEMENT CONDITION ASSESSMENT

Pavement condition data was collected in July 2022 by WSP GOLDER's engineering staff. A total of 263 km (centreline) of roads were assessed. A summary of the surface types is provided in Figure 1.

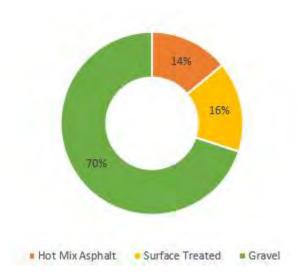


Figure 1: Breakdown of Roadway Surface Types

2.1 Condition Assessment Methodology

The pavement condition assessment, which identified the extent and severity of each specific distress type, was carried out based on MTO methods for the appropriate surface type, as listed in the following references:

- Inventory Manual for Municipal Transportation Networks (Inventory Manual for Municipal Roads, 1991);
- For municipal asphalt pavements Chong, G.J., Phang, W.A., and Wrong, G.A. 1989. Flexible Pavement Condition Rating, Guidelines for Municipalities, SP-022, Downsview, Ontario: Research and Development Branch, Ministry of Transportation of Ontario;
- For surface-treated pavements Chong, G.J., Phang, W.A., and Wrong, G.A. 1989. Manual for Condition Rating of Surface-Treated Pavements, Distress Manifestations, SP-021, Downsview, Ontario: Research and Development Branch, Ministry of Transportation of Ontario; and
- For gravel surface roads Chong, G.J., Phang, W.A., and Wrong, G.A., 1989. Manual for Condition Rating of Gravel Surface Roads, SP-025, Downsview, Ontario: Research and Development Branch, Ministry of Transportation of Ontario.

2.2 Visual Road Condition Assessment

The density and severity of distresses (cracks, potholes, ravelling, wheel path deformation, distortions, etc.) were identified and recorded for each roadway segment. The types of typical surface distresses on asphalt/surface treated, and gravel roadways are recorded as Distress Manifestation Index (DMI) according to the MTO manuals listed in Section 2.1. DMI values for all road segments assessed in this Study are illustrated in Appendix C – 2022 Tay Valley Road Inventory.

A Pavement Condition Index (PCI) was assigned to each roadway segment, based on a Riding Condition Rating (RCR) and the Distress Manifestation Index (DMI) which is based on the types, severities and densities of the distresses observed. The PCI is rated on a scale from 0 to 100, 0 being very poor (completely failed) and 100 being excellent. Table 2 shows a breakdown of PCI values and associated typical pavement descriptions for pavement.

Table 2: PCI Descriptions

PCI*	Description of Pavement Condition Rating
80 to 100	Excellent
60 to <80	Good
40 to <60	Fair
25 to <40	Poor
0 to <25	Very Poor

2.3 Riding Condition Rating (RCR)

The RCR is assigned based on the perceived comfort and safety of the ride, while driving at the posted speed. RCR is rated on a scale from 1 to 10, 1 being very poor and 10 excellent; a breakdown is shown in Table 3, in accordance with the MTO manuals listed in Section 2.1. RCR values for all road segments assessed in this Study are illustrated in Appendix C.

Table 3: Riding Condition Rating Scale

RCR	Description of Riding Condition Rating
0-2	Very Poor – Uncomfortable ride with constant bumps and depressions. Cannot maintain posted speed and must steer clear constantly to avoid bumps and depressions
2-5	Poor – Uncomfortable ride with frequent bumps and depressions
5-7	Fair – Still comfortable ride with intermittent bumps and depressions
7-9	Good – Smooth ride with just a few bumps and depressions
9-10	Excellent – Very smooth ride

2.4 2022 Pavement Condition Index (PCI)

The overall average condition of the Township's road network at the time of the survey in July 2022 was estimated at a PCI of 71 out of a possible 100, which is rated as "Good". The overall average condition of the paved roads was a PCI of 73 described as "Good", while the gravel roads was a PCI of 70 described as "Good". A road network map including the 2022 condition ratings of all road segments assessed in this Study is included in Appendix B. A complete list of the Township's Road sections with 2022 condition ratings are provided in Appendix C. Additional details on network overview are provided in Appendix E.

A breakdown of the conditions and corresponding lengths are presented in Table 4. The overall average condition rating based on surface type is presented in Table 5 and Figures 2.

Table 4: Summary of Pavement Condition Based on Road Network Length

Condition	Length (km)	Percentage
Very Poor	7.7	2.9%
Poor	2.6	1.0%
Fair	35.9	13.7%
Good	152.4	58.1%
Excellent	63.8	24.3%
Total	262.4	100

Table 5: Average PCI by Surface Type

Surface Type	Average PCI	PCI State		
Hot Mix Asphalt	74	Good		
Surface Treated	73	Good		
Gravel	70	Good		

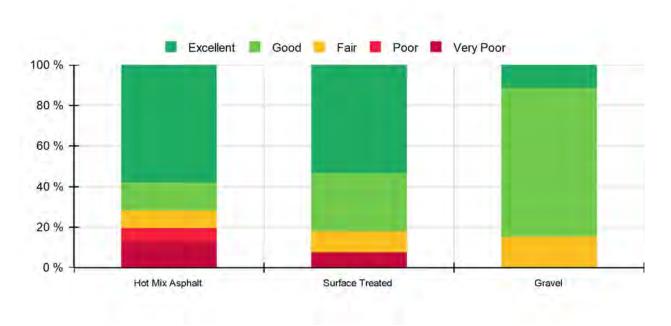


Figure 2: Surface Type Condition Status

3.0 DATA ANALYSIS AND CAPITAL PLAN

The Decision Optimization Technology (DOT) Roads software was used to facilitate preventative maintenance and rehabilitation budgeting by predicting the deterioration of pavement segments based on a wide range of pavement deterioration curves. Additionally, extensive decision trees, performance models, cost models, life cycle gain and condition improvement matrices covering a wide spectrum of road classifications were used. The modeling capability of the DOT Roads program is based on traffic, surface type and roadside environment.

Utilizing a capital planning tool such as DOT Roads with optimization capability can maximize the overall performance of a network in terms of physical condition (or any other criteria) over a multi-year analysis horizon. It can provide the Township with the best possible course of action in terms of timing and selection of different maintenance, rehabilitation, or reconstruction treatments considering all municipal goals and constraints. It also maximizes the value achieved for the money invested.

It should be noted that the DOT software operates at the *network* level, rather than the *project* level. As such, the lists of projects programmed for each year in the capital plans are intended for budgeting purposes only and do not eliminate the need for further detailed project-level investigations and subsequent closer budgeting of the projects at the detailed design stage.

Three optimization scenarios were analysed based on project annual budgets specified by the Township, as follows:

- 1. Impact of Current Budget.
- 2. Maintain Current Condition at PCI 73.
- 3. Target PCI of 80.

Unit costs for preventative maintenance and rehabilitation treatments were proposed by WSP Golder and revised by the Township (listed in Table 6) which were used in the DOT Roads software for the optimization analysis. The unit cost includes labour, material and equipment for each treatment specified below, with the exception of ST-FDR & DST which unit cost includes culvert replacement and drainage work costs as of 2022.

A list of treatment options accompanying more detailed descriptions is included in Appendix D.

Table 6: Proposed Treatment Options with Unit Costs

Treatment Code	Description	
	Hot Mix Asphalt Roads	Cost/m² (\$)
HMA-ST	Single Surface Treatment (Chip Seal)	5.40 \$/m²
HMA-DST	Double Surface Treatment (Chip Seal)	9.25 \$/m²
HMA-EnhSurf	Enhanced Thin Surfacing (Micro-surfacing, Thin HMA Overlay)	5.00 \$/m²
HMA-Enh2Surf	Enhanced Double Thin Surfacing (Cape Seal, Double Micro-surfacing)	8.25 \$/m²
HMA-Ovly	One Lift Overlay / Mill and One Lift Overlay	42.58 \$/m²
HMA-FDR & Ovly	Full Depth Reclamation (FDR) + One Lift Overlay	55.00 \$/m²
	Surface Treated Roads	Cost/m ² (\$)
ST-SST	Single Surface Treatment (Chip Seal)	5.40 \$/m²
ST-DST	Double Surface Treatment (Chip Seal)	9.25 \$/m²

Treatment Code	Description	
ST-EnhSurf	Enhanced Thin Surfacing (Micro-surfacing, Thin HMA Overlay)	5.00 \$/m²
ST-Enh2Surf	Enhanced Double Thin Surfacing (Double Micro-surfacing, Cape Seal)	8.25 \$/m²
ST-FDR & DST*	Full Depth Reclamation (FDR) + Double Surface Treatment	30.00 \$/m²

3.1 Asphalt and Surface Treated Roads

The recommended treatment options to be carried out over the analysis period consist primarily of full depth reclamation and resurfacing. The recommended options for routine maintenance are excluded in this Study as they are being operational costs not capital costs. A 5% annual inflation rate was applied to the above list of treatment options and carried for all three 10-year capital scenarios below.

The following sections present the predicted performance of the Township's paved road network in terms of PCI, over the analysis period of 10 years. The first 10-year plan scenario with a current average annual budget of \approx \$900,000 results in a slight improvement of the overall paved road network condition over the analysis period. The second scenario results in maintaining the current average condition (PCI of 73) over 10 years with average annual budget of \approx \$857,000, while the third scenario with an average annual expenditure of \approx \$1,310,000 improves the overall condition of the paved road network to Excellent (PCI of 80) by the end of the analysis period.

As requested by the Township, the 2023 Rehabilitation and Treatment Plan for a budget of 1.63M was acknowledged into the three scenarios below. Table 7 includes a list of road segments listed for the 2023 capital plan.

Table 7: List of provided road segments included in 2023 capital plan

ID	Road Name	From	То	Budget (\$)	Treatment type
1184	Harper Road	Bathurst 6th Concession	Keays Road	1,099,000	Reconstruction
1325	Keays Road	Old Morris Road	Fallbrook Road	410,000	Reconstruction
770	Powers Road	Narrows Lock Road	Stanleyville Road	120,000	Micro-surfacing – Single lift

3.1.1 Scenario 1 Paved Roads – Impact of Current Budget

The yearly predicted performance results for \$900K annual expenditure are shown in Figure 3 and Table 8. A slight increase in network performance resulted from this scenario delivering a PCI of 76 by year 10 of the analysis. The short-term investment of major rehabilitation to paved roads improves the overall performance to a PCI of 78 at year 2026, resulting in 73% excellent condition roads and 1% very poor. Additional details regarding Scenario 1, as well as the associated capital plans are provided in Appendix F.

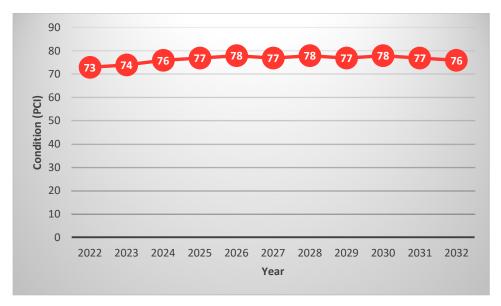


Figure 3: Scenario 1 Paved Roads - Network Performance (PCI) Over 10-Year Analysis Period

Table 8: Network Performance (PCI) - Scenario 1 Paved Roads

Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Performance (PCI)	73	74	76	77	78	77	78	77	78	77	76
Capital Budget (\$M)	-	1.629	0.924	0.948	1.095	0.589	0.790	0.735	1.148	0.587	0.518

3.1.2 Scenario 2 Paved Roads – Maintain Current Condition PCI of 73

To maintain an overall condition at PCI of 73 over a 10-year period, a variable annual expenditure ranging from \$0.46M to \$1.6M over the analysis period is required. However, the total required budget over 10 years in this scenario (\$8.6M) is slightly less than total budget of Scenario 1 (\$9M), and resulting in lower overall performance improvement than Scenario 1. Nearly 4% of the paved roads are anticipated to perform in very poor condition by the end of the short-term period (1-5 years), and it is expected to be 10% by the end of year 2032. The results of this scenario are shown in Figure 4 and Table 9. Additional details regarding Scenario 2, as well as the associated capital plans, are given in Appendix G.

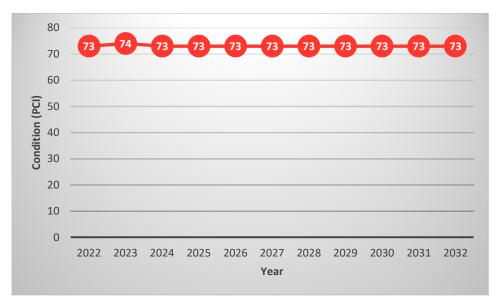


Figure 4: Scenario 2 Paved Roads - Network Performance (PCI) Over 10-Year Analysis Period

Table 9: Network Performance (PCI) - Scenario 2 Paved Roads

Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Performance (PCI)	73	74	73	73	73	73	73	73	73	73	73
Capital Budget (\$M)	-	1.629	0.456	0.653	0.633	0.828	0.569	0.858	0.862	1.146	0.935

3.1.3 Scenario 3 Paved Roads - Target PCI of 80

To improve all the Township's paved roads to Excellent Condition (PCI of 80) by the end of the 10-year period, an annual expenditure ranging from \$0.25M to \$2.71M (total of \$10.3 Million in 10 years) is required. The total spending in 10-years is slightly higher than both scenario 1 and 2, however this investment potentially eliminates all paved roads to fall into a very poor condition state by the end of year 2032. The results of this scenario are shown in Figure 5 and Table 10. Additional details regarding Scenario 3, as well as the associated capital plans, are given in Appendix H.

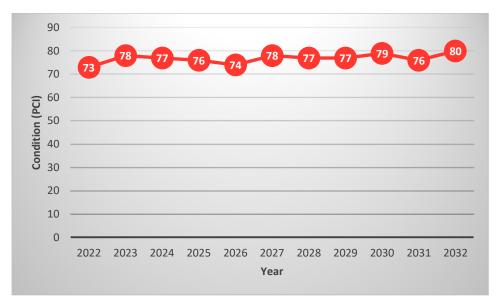


Figure 5: Scenario 3 Paved Roads - Network Performance (PCI) Over 10-Year Analysis Period

Table 10: Network Performance (PCI) - Scenario 3 Paved Roads

Year	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Performance (PCI)	73	78	77	76	74	78	77	77	79	76	80
Capital Budget (\$M)	-	2.714	0.949	0.571	0.347	1.773	0.551	0.664	0.933	0.254	1.554

3.2 DOT Roads Software

The optimization analysis utilizing the DOT Roads software was provided as part of this Road Needs Study. Ongoing use of the DOT software is available to the Township at additional cost and can be facilitated through Infrastructure Solutions Inc. (ISI) directly. It is recommended that the pavement condition surveys be updated every three years.

4.0 TRAFFIC COUNT

As requested by the Township, the traffic volumes of 11 road segments including 10 gravel road segments and 1 paved road segment were collected to estimate annual average daily traffic (AADT). Automatic Traffic Recorders (ATRs) were deployed to obtain traffic volumes. Two-way traffic counts were collected at 15-minute intervals for 24 hours per day over a consecutive 7-day period from Friday, August 26, 2022, to Thursday, September 1, 2022.

The collected raw traffic data was further reviewed to calculate the average daily traffic (ADT) for each road segment, followed by an estimate of the annual average daily traffic (AADT) based on traffic patterns. The ADT for each road segment was calculated by taking the average of the 24-hour counts over the 7-day period. The AADT for each road segment was then calculated by dividing the ADT by selected conversion factors that account for factors such as seasonal variation and traffic pattern. The conversion factors were based on the MTO traffic pattern classifications derived from historical AADTs.

Based on a desktop review, the traffic pattern for each road segment was categorized as either "commuter" or "recreational". Roads that appeared to have no seasonal destination were considered as "commuter", whereas roads that appeared to be in connection with cottages, campgrounds, and/or waterfronts were considered as "recreational". It is to be noted that the traffic count was conducted during the summer months where traffic volumes are expected to be higher for recreational purposes and the corresponding conversion factor that was used to calculate the AADT for "recreational" roads was higher than "commuter" roads as there is more variation in traffic volumes throughout the year. When the conversion factor is applied to estimate the AADT, this ultimately reduces the raw traffic volumes to be more representative of the traffic volumes over an entire year.

The summary of AADT for each road segment is presented in Table 11. Additional details including ADTs, conversion factors, and rationale, as well as the raw traffic data are given in Appendix I.

Table 11: Traffic Count Summary

Segment No.	Segment Description	Trip Purpose	AADT
1	Christie Lake North Shore Road from Christie Lake Road to End of Pavement Civic 636 (Paved)	Recreational	500
2	Allan's Mill Road from County Road 10 to Upper Scotch Line (Unpaved)	Commuter	220
3	Bathurst 5th Concession from Highway 511 to Harper Road (Unpaved)	Commuter	120
4	Black Lake Road from Powers Road to Tom's Rock (Unpaved)	Recreational	230
5	Black Lake Road from Tom's Rock to Black Lake Road Private (Unpaved)	Recreational	140
6	Christie Lake North Shore Road from End of Pavement Civic 636 to Brooke Valley Road (Unpaved)	Recreational	80
7	Doran Road from Highway 7 to McVeigh Road (Unpaved)	Recreational	110
8	Ennis Road from Beach Road to Bennett Lake Road (Unpaved)	Recreational	180
9	McVeigh Road from Doran Road to Arnold T Drive (Unpaved)	Recreational	80
10	McVeigh Road from Arnold T Drive to Dokken Road (Unpaved)	Recreational	60
11	Rutherford Side Road from Bathurst 5th Concession to McVeigh Road (Unpaved)	Recreational	30

The updated AADT for the eleven sections above were used in this Study. It is recommended to update traffic counts for all road segments as the number of residencies/business increases in the Township.

5.0 GRAVEL ROADS

This section discusses the continued rehabilitation and maintenance of gravel roads in comparison with the costs of upgrading to surface treated. It also discusses some general guidelines and recommendations on utilizing best maintenance practices and management concepts for gravel roads. A gravel road classification matrix has also been proposed to help prioritize targeted maintenance and potential upgrade from gravel to surface treated roadways.

5.1 Research Discussion

The lifecycle of gravel roads with AADT > 250 decreases significantly by a rate of about 25 PCI points per year with no maintenance interventions. Case studies have shown that the maintenance costs for gravel roads increase considerably above AADT of about 200. The loss of serviceability also increases faster with increasing truck traffic. In such cases the rate of gravel loss from the surface increases, the surface drainage of the road decreases and more costly maintenance is needed. Figure 6 below shows the findings from a study in Minnesota (Ref: DOT Minnesota, "To Pave or Not to Pave?", Oct. 2006) where county road maintenance costs were monitored for different traffic volumes (ADT). The results showed that above an ADT of 200, the relative costs of gravel road maintenance increased significantly compared to paved road maintenance.

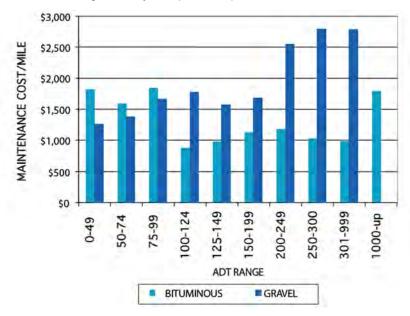


Figure 6: Maintenance Costs/Mile by traffic volume (Mn/DOT)

Other considerations for upgrading gravel to a paved road surface:

- Number of residences or businesses on the road section.
- Cleaner environment with less dust.
- Increased safety and skid resistance.
- Improved level of service.

5.2 Gravel Roads Classification Matrix

The Township of Tay Valley has requested a new gravel roads classification matrix, which will include both physical and operations characteristics to enhance the traditional approach which is heavily weighted towards traffic volume (AADT). The Township objective for the gravel road classification matrix is shown below.

 d) develop a gravel road classification matrix that includes new and expanded physical and operational characteristics and assigns a weighted formula for consideration by the Township for future maintenance and capital expenditures (ie. maintenance demand, roadside environment, alignment, number of full time/seasonal residences, recreational/commercial uses, climate change impact, and emergency access);

As we considered the factors which influence gravel roads selection, we initially assessed the available road data which has been analysed by both Maintenance Class / Standard and AADT in Tables 12 and 13 below.

Table 12: Network and Condition Data by Maintenance Class

Reg. 239/02 Road Class	# Sections	# Sections Total Length (km)		Avg. PCI		
4	20	47.5	5.6	72		
5	3	9.5	6.1	68		
6	72	97.9	5.0	68		
Totals	95	154.9	5.2	69		

Note: 10 sections in the inventory did not have assigned road class.

Table 13: Network and Condition Data by AADT

AADT Ranges	# Sections	Total Length (km)	Avg. Width	Avg. PCI
0-49	69	91.6	5.2	69.9
50-199	30	72.7	5.1	68.6
200+	6	18.8	5.1	65.5
Totals	105	183.1	5.2	69

Results show higher road classes having slightly higher PCI, while there is no correlation to the volumes (however the sample size for 200+ AADT is low). Understanding the reasons for the current classifications will be captured within the gravel roads classification matrix, to ensure the highest priority roads are correctly identified. A review and update of the classifications may also be warranted in the future.

In developing a proposed classification framework, we have considered both quantitative and qualitative factors in a concise way to allow for a practical implementation. As such we have three (3) quantitative measures (based on available data) and three (3) qualitative measures. Each of these factors are weighted using defined high / medium / low criteria to be applied against each of the road sections. The factors and their criteria are shown in Table 14.

Table 14: Factor Definitions for Gravel Roads Classification Matrix

Factors	High (H)	Medium (M)	Low (L)	N/A	
	(Quantitative			
Traffic Volume (AADT)	≥200, high volumes	50-199, moderate volumes	0-49, relatively low volumes.	-	
Class / Maintenance Cost	Class 4	Class 5	Class 6	-	
Current Condition (PCI)	<40	40-55	55-70	>70	
		Qualitative			
Road Safety / Alignment	Very poor geometrics, significant grade changes (>5%), poor sightlines, significant road safety issues, etc.	eometrics, some grade changes, moderate road safety issues, gnificant road some grade changes, moderate road safety issues, poor sightlines,		Good roadway alignment, good sightlines, no known safety issues.	
# Commercial / Heavy (qualitative as actual count data not available)	Significant commercial / heavy traffic (>25 per day).	Some commercial / heavy traffic (10-25 per day).	Minimal commercial / heavy traffic (0-10 per day).	No significant commercial traffic.	
Criticality	Criticality impact rating should factor the following aspects: 1) Network resilience (if the road fails, are there detours available). 2) Does this road provide access to critical infrastructure/services (hospitals, schools, industry, etc.). 3) Is there a significant population (homes/residences) which may be impacted by the road's service level.				

Quantitative measures can be derived from the available dataset, while qualitative measures are to be provided by Township staff with appropriate local knowledge of the roads. High ratings represent the highest impact to the overall weighting and prioritization while N/A represents no impact (where not applicable), with the impact of medium and low ratings in between. It is worth noting that current condition (PCI) has an inverse relationship, whereby a high rating applies to the poorest road condition rating.

Proposed factors and weighting are preliminary and should be validated by the Township's engineering and operations staff. Proposed weighting is provided in Table 15 below.

Table 15: Rating Factors for Gravel Roads Classification Matrix

Factors	Weighting (out of 100)		Rating F	actors			
Rating Factors		High (H)	Medium (M)	Low (L)	NA		
Quantitative							
Traffic Volume (AADT)	15	1.0	0.66	0.33	0		
Class / Maintenance Cost	15	1.0	0.66	0.33	0		
Current Condition (PCI)	10	1.0	0.66	0.33	0		
		Qualitative)				
Road Safety / Alignment	20	1.0	0.66	0.33	0		
# Commercial / Heavy	15	1.0	0.66	0.33	0		
Criticality	25	1.0	0.66	0.33	0		

Vehicle Traffic

Both Traffic Volumes (AADT) and Commercial / Heavy volumes are weighted at 15% each for a total impact of 30%. Higher volumes, especially for heavier vehicles, can degrade the roadway condition significant quicker than low volume roads, which lead to increased maintenance requirements to maintain serviceability.

Class / Maintenance Costs

This correlates directly with vehicle traffic and has been weighted at 15%. Maintenance cost is a key factor in any decision to upgrade to surface treatment and is also the main input should a benefit / cost analysis be undertaken for road upgrade candidates.

Current Condition (PCI)

Gravel road condition ratings, while useful in understanding current condition, can be seasonally variable with gravel roads and therefore should be considered in that context. Our experience has shown that even routine maintenance treatments (such as re-grading) can significantly impact the ratings. Due to the variability, we have proposed a relatively low rating for Current Condition of 10%.

Road Safety / Alignment

Assessing the roadway geometry and safety factors, and associated impact on the road integrity is to be subjectively considered by the township's engineering staff. This is meant to capture roads with significant contours, grade changes, sightline impairments, and safety challenges among other related factors. Initial weighting is proposed at 20%.

Criticality

Criticality is a measure of the roadway's importance and functional requirements for the Township and Township residents. This is to be rated subjectively by Township staff with local knowledge and include key factors such as those listed in Table 14 above. Criticality has been weighted at 25%.

The proposed gravel roads classification matrix is shown in Figure 7 and will be provided as an MS Excel spreadsheet. Quantitative factors have ratings automatically calculated, while qualitative factors will need to be manually inputted by local engineering / operations staff (default value is set to low).

Tay Valley Gravel Roads Classification Matrix

Ratings					
Н	High				
М	Medium				
L	Low				
N/A	Not Applicable				

Inputs
Automated ratings based on current inventory and condition data.
Ratings to be determined by township staff. Refer to factor definitions sheet for details.

Section ID	Road Name	Length (m)	Maint. Class	AADT	PCI Weighting	Quantitative	ភ្នំ Traffic Volume (AADT)	어 Maintenance Cost	Current Condition (PCI)	© Qualitative	Road Safety / Alignment	# Commercial / Heavy	Criticality	Total	Priority Ranking
588	Bathurst 9th Concession	2,919	6	25	72	1070	L	L	N/A	0070	L	L	L	30	65
589	Brooke Valley Road	2,930	6	125	88	-	М	L	N/A	-	L	L	L	35	30
591	Patterson Road	102	6	25	64		L	L	L		L	L	L	33	32
592	North Mac Lane	893	6	25	74		L	L	N/A		L	L	L	30	65
604	Cameron Side Road	358	6	25	61		L	L	L		L	L	L	33	32
605	Trueloves Road	563	6	25	58		L	L	L		L	L	L	33	32
606	McVeigh Road	2,239	4	125	75		М	Н	N/A		L	L	L	45	12
609	Bathurst Upper 4th Concession	2,084	6	25	91		L	L	N/A		L	L	L	30	65
637	McVeigh Road	1,838	4	125	66		М	Н	L		L	L	L	48	1
639	11th Line South Sherbrooke	1,911	6	25	43		L	L	М		L	L	L	37	26
640	Pratt Road	1,061	6	25	57		L	L	L		L	L	L	33	32
646	Old Burke Road	1,704	4	125	71		М	Н	N/A		L	L	L	45	12
647	Perkins Road	1,472	6	25	69		L	L	L		L	L	L	33	32
648	Bathurst 7th Concession	3,994	6	25	81		L	L	N/A		L	L	L	30	65
649	Brooke Valley Road	2,955	6	125	78		М	L	N/A		L	L	L	35	30
653	Kirkham Road	2,468	6	25	57		L	L	L		L	L	L	33	32
664	Doran Road	2,136	6	25	56		L	L	L		L	L	L	33	32
676	Anderson Side Road	490	6	25	70		L	L	L		L	L	L	33	32
716	Armstrong Line	2,388	4	182	85		М	Н	N/A		L	L	L	45	12
718	Maberly Station Road	1,164	6	25	80		L	L	N/A		L	L	L	30	65
727	Township Boundary Road	1,356	6	25	73		L	L	N/A		L	L	L	30	65

Figure 7: Gravel Roads Classification Matrix



It is recommended that the factor weightings and high / medium / low factors are reviewed and adjusted for local conditions by the Township's engineering / operations staff. While this tool is meant to identify gravel road upgrade candidates, we recommend it also be shared with the Township's maintenance staff to help inform maintenance decisions (such as rehabilitation planning and targeted maintenance interventions).

6.0 KEY CONSIDERATIONS FOR GRAVEL ROAD MAINTENANCE

This section discusses some general guidelines and recommendations on utilizing best maintenance practices and management concepts for gravel roads.

In general, routine operational maintenance, comprising of regrading and dust treatment are the primary interventions to maintain gravel roads. However, full-depth rehabilitation and re-graveling with 100 mm of gravel will be required at intervals to maintain ride quality. Ditch clean-outs and repair of localized wash-outs will also be required periodically.

6.1 Building a Proper Cross Section

Building a proper cross section is the primary objective of gravel road maintenance operations. A properly shaped cross section with adequate crown and shoulder cross slope (crossfalls) drain water away from the pavement structure and extends its service life. A typical crossfall for the traveled lanes is between 4 percent and 5 percent. The crossfall deteriorates over time and reaches a point at which it no longer sheds water and deteriorates more quickly. Without adequate crossfall, water accumulates on the road surface and softens the crust and penetrates into the subgrade. A typical gravel road cross fall is shown on Figure 8.

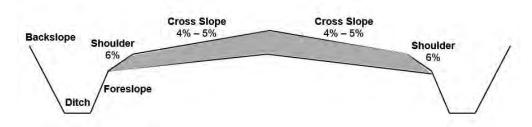


Figure 8: A Typical Gravel Road Cross Section

Inadequate crowns can quickly result in surface distresses such as potholes, rutting, or deformation, especially under heavy traffic loading. Many studies show that poor performance of gravel roads can be attributed mostly to lack of crossfall and inadequate surface drainage, even in semi-arid regions. Excessive crowns (i.e., crossfalls more than 6%) are not recommended either due to safety issues. Excessive crowns can cause loss of control while driving and encourage road users to drive in the middle of the road regardless of the surface width.

A gravel road cross section should also be adjusted at curves to provide adequate superelevation. By raising the outer edge of a curve on a road above the inner edge, a superelevation reduces the effect of centrifugal force on vehicles and provides better control while turning. Lack of superelevation or improper transition from a crown to a superelevation can become a safety hazard and increases the risk of accident. During maintenance operations, the grader operator should build a gradual transition from a crowned surface to a straight superelevated surface.

Typical lane widths for a gravel road are 3.5 m but can vary from 3.0 m to 3.7 m. Shoulders are graded at around 6% to provide adequate drainage by directing water further from the road surface down the foreslope and into the ditch. It is common that gravel roads might not have defined shoulders. Road shoulders should be kept at the same level as the edge of the road surface. Sudden drop-offs can lead to safety hazards while high shoulders prevent water from draining off the road surface into the ditch. High shoulders can result in a secondary ditch along the side of the road that erodes gravel material and subgrade soil resulting in various defects. High shoulders are usually the result of poor maintenance practices.

Ditches are also important to drain water away from the roadway subgrade. Ditches need to extend to below top of subgrade and require periodic cleaning to ensure debris, vegetation, or excess gravel material migrating from the road surface are removed. Similar to ditches, culverts should be maintained periodically to ensure there is no obstruction to prevent the natural flow of water under the road and to ensure that the culverts are not perforated, crushed or distorted. Care should be taken during maintenance and installation of culverts to ensure proper inlet/outlet elevations, and alignment with the flow line of the ditch is achieved to avoid any washout or erosion around the outlets.

6.2 Materials for Use

While many agencies use granular road base materials for surfacing on gravel roads, it is not necessarily the ideal material for use in terms of serviceability and maintenance. Road base granular materials are designed to have high structural capacity as well as good drainage characteristics. While structural capacity is also good for a gravel road, the free draining nature of the surfacing is not necessarily an advantage.

Construction granulars can be pit run, produced from a quarry source (in which case they will be 100 percent crushed) or a partially crushed pit source material (partly crushed). The crushed content of an aggregate improves its structural capacity since the rough crushed faces provide better granular interlock compared to rounded particles. Crushed products are preferred for gravel roads. Irrespective of the percent of crushed particles, the particles themselves must be hard and durable. A good test for this is the MicroDeval test. Road surfacing gravels should have maximum MicroDeval losses on the coarse fraction of less than 25 percent.

Most granular road base materials allow 15 to 20 percent of coarse material larger than 19 mm. In general, gravel road surfacing should be 100 percent finer than 19 mm since it provides a smoother ride quality and is less prone to segregation. It also needs an adequate percentage of sand sizes to fill the voids. Typical granular bases will have 45 to 70 percent passing the 4.75 mm sieve. For gravel road surfacing, the sand sizes should be at the higher end of this range.

There is a lot of practical experience that indicates that surfacing gravels with a higher percentage of fines (material finer than 0.075 mm) perform better. For road base granular materials, the fines are usually restricted to 8 to 10 percent maximum, so as to not impede drainage. However, many agencies prefer fines content up to 15 percent for surfacing gravels. They will also allow the materials to have Plasticity Indices of 4 to 12 percent, while for most road base granular materials the fines are required to be non-plastic. In a road surfacing application, the higher fines content bind the material and allow a crust to form on the surface which can reduce material loss.

Some agencies also allow the addition of Recycled Asphalt Product (RAP) in road surfacing granulars. With increasing use of cold milling for road maintenance, large volumes of RAP are readily available. In general, the addition of RAP should not be greater than 30 percent as above that, the material may no longer be "unbound" and so maintenance activities become more problematic.



6.3 Proper Grading Operation

Several studies have been published on proper grading techniques. This section does not provide a detailed review of proper grading techniques; however, some of the main issues and considerations are discussed. Operating speed should be slow enough to avoid bouncing and creation of cut depressions on the road surface. A speed range of 5 to 10 km per hour is typically recommended; however, factors such as the quality of material, moisture, or subgrade strength can affect the proper operating speed. Operators should maintain a proper blade angle, typically between 35 to 45 degrees, during the grading maintenance to recover material and avoid spilling from the toes of the blade. To achieve proper mix and to avoid material loss, it is also important to use a proper blade pitch. Excessive backward pitch can result in poor mixing action and also high shoulders. Excessive forward pitch, on the other hand, may result in poor mix and lack of enough penetration to remove surface defects and may not create a smooth ride quality. A proper blade pitch and angle result in a good mixing action with enough penetration to fix surface defects with minimum material loss during the grading operation.

6.4 Dust Control

Gravel roads give off dust under traffic action. The amount of dust generation can be affected by factors such as gravel material properties, the percentage of fines, annual precipitation, and the level of daily traffic. Excessive dust from gravel roads can cause health issues, poor air quality to nearby residents, environmental damage, and also increase the risk of accidents. The most common dust suppressants are calcium chloride and magnesium chloride. These are typically applied in liquid form from a tanker with spray bar. Calcium chloride draws moisture from the air resulting in a damped road surface that reduces the amount of dust generation. Proper dust control can also reduce gravel loss and required grading maintenance cycles. For effective dust control operations, gravel roads should have optimum moisture to allow for complete absorption of the dust suppressant.

6.5 Gravel Road Treatments

A practical condition rating scheme for gravel roads was developed by MTO based on evaluating condition under a set of distress modes in conjunction with an evaluation of the ride quality. This produces an estimate of PCI. A distress manifestation index is calculated from the evaluation of the road condition under eight distress modes as listed in Table 16. A range of maintenance treatments can then be assigned based on the PCI and major distress types as shown in Table 17.

Such systematic approach for condition assessment of gravel roads provides consistent and representative condition ratings and identifies the predominant surface defects while performing a network-level analysis. It also allows the identification of any underlying conditions that decrease the effectiveness of routine maintenance.

Distress ModeDistress TypeSurface DefectsLoose Gravel
Dust
Potholes
Break-upSurface DeformationWashboarding
Rutting

Table 16: Gravel Roads Distress Manifestation (MTO 1989)

Distress Mode	Distress Type
	Flat / Reverse Crown
	Distortion

Table 17: Example of Using PCI data to determine proper maintenance treatment actions

PCI Range	Treatment
80-100	Routine maintenance
60-79	Routine maintenance. Dust control may be necessary for residential areas.
40-59	Increased routine maintenance necessary. Addition of gravel and dust control additives become necessary.
20-39	Maintenance with addition of gravel necessary. Dust control a must for residential areas. Some portions may need rehabilitation.
0-19	Rehabilitation necessary.

7.0 PROJECT LEVEL INVESTIGATION

As discussed, in Section 3.0, this network level survey, is sufficient for capital planning purposes, but is not sufficient for detail design. Project level analysis to refine the rehabilitation recommendations produced herein will be required at the appropriate time. Upon approval of the 10-year capital plan, WSP Golder is also available to provide project level support for annual rehabilitation and capital road works programs. Our experienced pavement and geotechnical engineers have provided rehabilitation recommendations to all tiers of government across Canada, with the intention of providing an improved level of service, while meeting the needs of the capital plan and annual budget. Further, at the detailed project level, new pavement materials and construction technologies or technologies not considered during the capital planning analysis can be considered to further optimize the rehabilitation strategies.

8.0 CLOSING

We trust the information provided in this report satisfies your needs. We will be pleased to assist further with respect to developing specific annual maintenance plans based on the results of this study, if required. Please do not hesitate to contact the undersigned if you have further questions.

Signature Page

WSP Canada Inc.

Mohamed S. Maslati, B.Eng., EIT

Materials and Pavement Engineer-in-Training

Kevin Worley, B.A.Sc., P.Eng Senior OMR Consultant, Asset Management

HOWING

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APPENDIX A

Important Information and Limitations of This Report





IMPORTANT INFORMATION AND LIMITATIONS OF THIS REPORT

Standard of Care: Golder Associates Ltd. (Golder) has prepared this report in a manner consistent with that level of care and skill ordinarily exercised by members of the engineering and science professions currently practising under similar conditions in the jurisdiction in which the services are provided, subject to the time limits and physical constraints applicable to this report. No other warranty, expressed or implied is made.

Basis and Use of the Report: This report has been prepared for the specific site, design objective, development and purpose described to Golder by the Client. The factual data, interpretations and recommendations pertain to a specific project as described in this report and are not applicable to any other project or site location. Any change of site conditions, purpose, development plans or if the project is not initiated within eighteen months of the date of the report may alter the validity of the report. Golder cannot be responsible for use of this report, or portions thereof, unless Golder is requested to review and, if necessary, revise the report.

The information, recommendations and opinions expressed in this report are for the sole benefit of the Client. No other party may use or rely on this report or any portion thereof without Golder's express written consent. If the report was prepared to be included for a specific permit application process, then upon the reasonable request of the client, Golder may authorize in writing the use of this report by the regulatory agency as an Approved User for the specific and identified purpose of the applicable permit review process. Any other use of this report by others is prohibited and is without responsibility to Golder. The report, all plans, data, drawings and other documents as well as all electronic media prepared by Golder are considered its professional work product and shall remain the copyright property of Golder, who authorizes only the Client and Approved Users to make copies of the report, but only in such quantities as are reasonably necessary for the use of the report by those parties. The Client and Approved Users may not give, lend, sell, or otherwise make available the report or any portion thereof to any other party without the express written permission of Golder. The Client acknowledges that electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore the Client can not rely upon the electronic media versions of Golder's report or other work products.

The report is of a summary nature and is not intended to stand alone without reference to the instructions given to Golder by the Client, communications between Golder and the Client, and to any other reports prepared by Golder for the Client relative to the specific site described in the report. In order to properly understand the suggestions, recommendations and opinions expressed in this report, reference must be made to the whole of the report. Golder can not be responsible for use of portions of the report without reference to the entire report.

Unless otherwise stated, the suggestions, recommendations and opinions given in this report are intended only for the guidance of the Client in the design of the specific project. The extent and detail of investigations, including the number of test holes, necessary to determine all of the relevant conditions which may affect construction costs would normally be greater than has been carried out for design purposes. Contractors bidding on, or undertaking the work, should rely on their own investigations, as well as their own interpretations of the factual data presented in the report, as to how subsurface conditions may affect their work, including but not limited to proposed construction techniques, schedule, safety and equipment capabilities.

Soil, Rock and Ground Water Conditions: Classification and identification of soils, rocks, and geologic units have been based on commonly accepted methods employed in the practice of geotechnical engineering and related disciplines. Classification and identification of the type and condition of these materials or units involves judgment, and boundaries between different soil, rock or geologic types or units may be transitional rather than abrupt. Accordingly, Golder does not warrant or guarantee the exactness of the descriptions.

Special risks occur whenever engineering or related disciplines are applied to identify subsurface conditions and even a comprehensive investigation, sampling and testing program may fail to detect all or certain subsurface conditions. The environmental, geologic, geotechnical, geochemical and hydrogeologic conditions that Golder interprets to exist between and beyond sampling points may differ from those that actually exist. In addition to soil variability, fill of variable physical and chemical composition can be present over portions of the site or on adjacent properties. The professional services retained for this project include only the geotechnical aspects of the subsurface conditions at the site, unless otherwise specifically stated and identified in the report. The presence or implication(s) of possible surface and/or subsurface contamination resulting from previous activities or uses of the site and/or resulting from the introduction onto the site of materials from off-site sources are outside the terms of reference for this project and have not been investigated or addressed.

Soil and groundwater conditions shown in the factual data and described in the report are the observed conditions at the time of their determination or measurement. Unless otherwise noted, those conditions form the basis of the recommendations in the report. Groundwater conditions may vary between and beyond reported locations and can be affected by annual, seasonal and meteorological conditions. The condition of the soil, rock and groundwater may be significantly altered by construction activities (traffic, excavation, groundwater level lowering, pile driving, blasting, etc.) on the site or on adjacent sites. Excavation may expose the soils to changes due to wetting, drying or frost. Unless otherwise indicated the soil must be protected from these changes during construction.

Sample Disposal: Golder will dispose of all uncontaminated soil and/or rock samples 90 days following issue of this report or, upon written request of the Client, will store uncontaminated samples and materials at the Client's expense. In the event that actual contaminated soils, fills or groundwater are encountered or are inferred to be present, all contaminated samples shall remain the property and responsibility of the Client for proper disposal.

Follow-Up and Construction Services: All details of the design were not known at the time of submission of Golder's report. Golder should be retained to review the final design, project plans and documents prior to construction, to confirm that they are consistent with the intent of Golder's report.

During construction, Golder should be retained to perform sufficient and timely observations of encountered conditions to confirm and document that the subsurface conditions do not materially differ from those interpreted conditions considered in the preparation of Golder's report and to confirm and document that construction activities do not adversely affect the suggestions, recommendations and opinions contained in Golder's report. Adequate field review, observation and testing during construction are necessary for Golder to be able to provide letters of assurance, in accordance with the requirements of many regulatory authorities. In cases where this recommendation is not followed, Golder's responsibility is limited to interpreting accurately the information encountered at the borehole locations, at the time of their initial determination or measurement during the preparation of the Report.



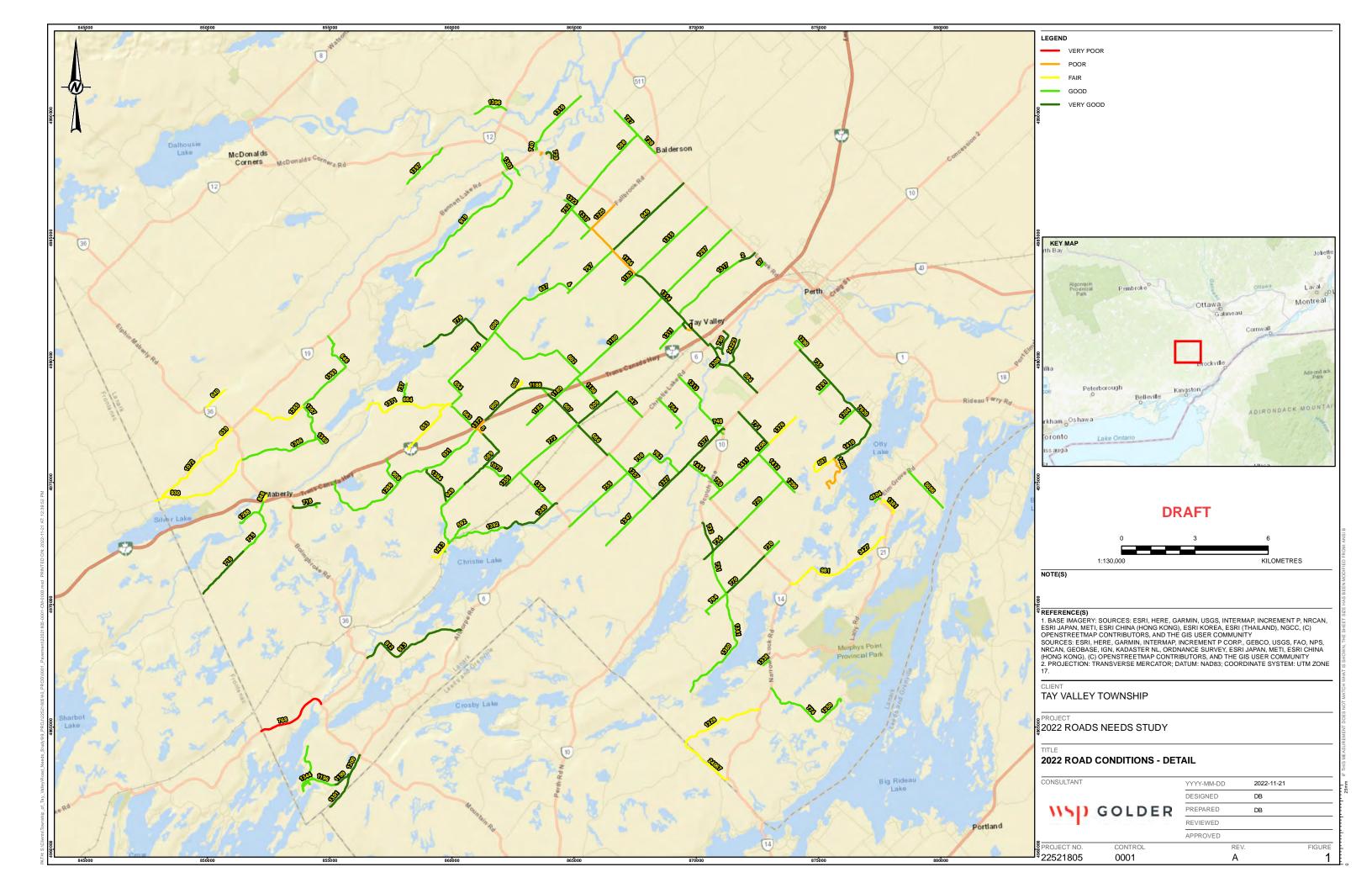
Changed Conditions and Drainage: Where conditions encountered at the site differ significantly from those anticipated in this report, either due to natural variability of subsurface conditions or construction activities, it is a condition of this report that Golder be notified of any changes and be provided with an opportunity to review or revise the recommendations within this report. Recognition of changed soil and rock conditions requires experience and it is recommended that Golder be employed to visit the site with sufficient frequency to detect if conditions have changed significantly.

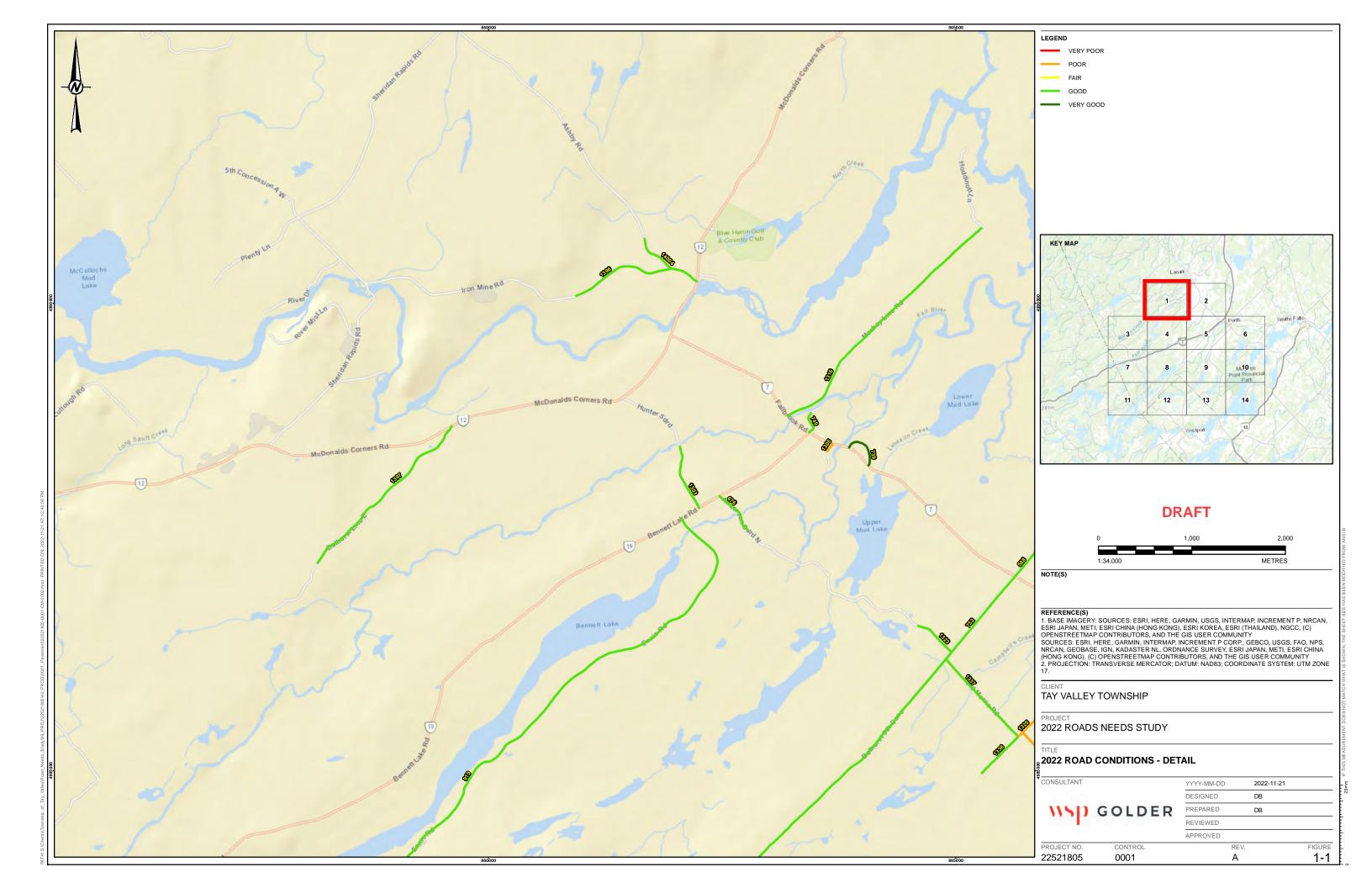
Drainage of subsurface water is commonly required either for temporary or permanent installations for the project. Improper design or construction of drainage or dewatering can have serious consequences. Golder takes no responsibility for the effects of drainage unless specifically involved in the detailed design and construction monitoring of the system.

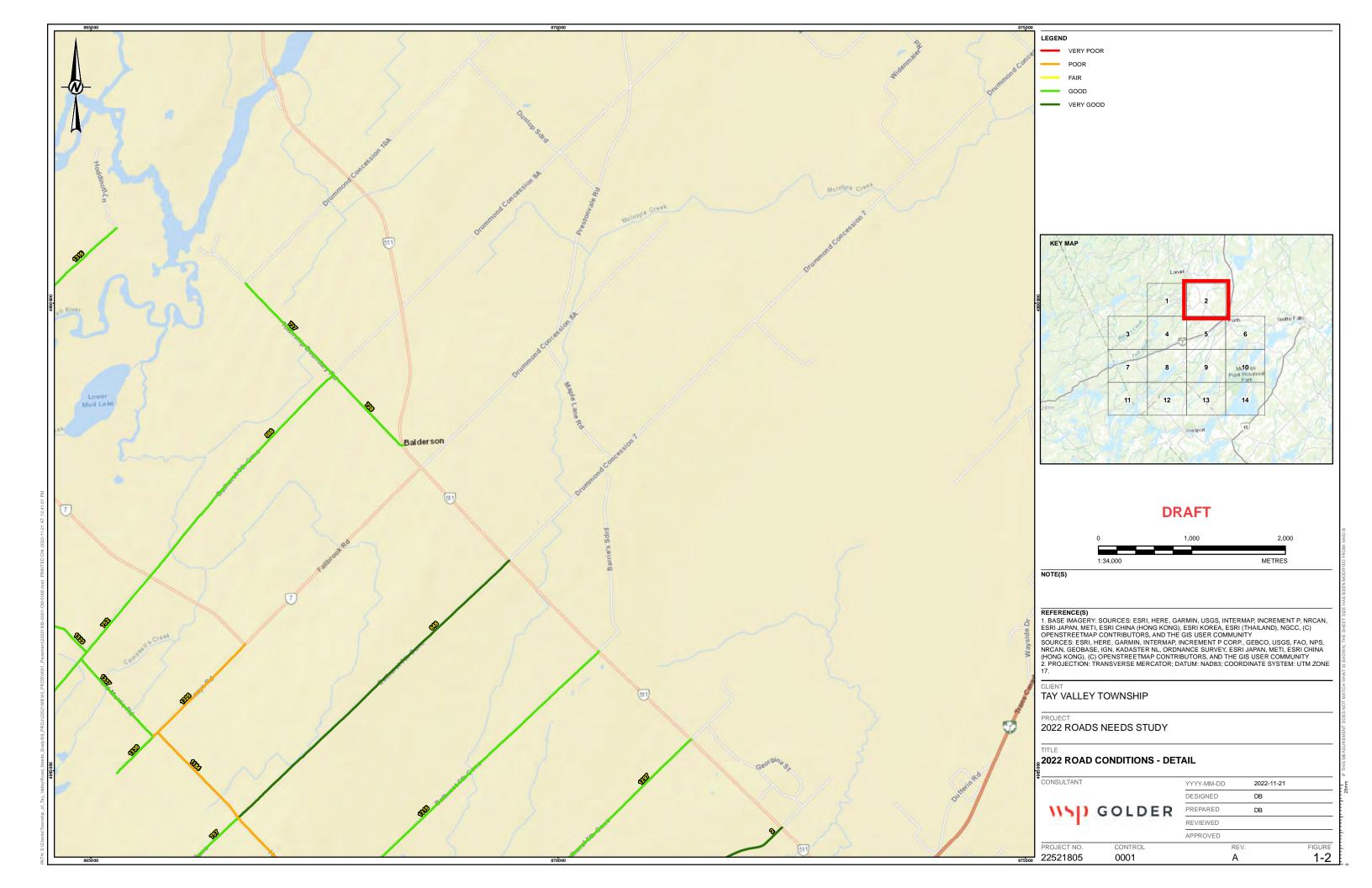


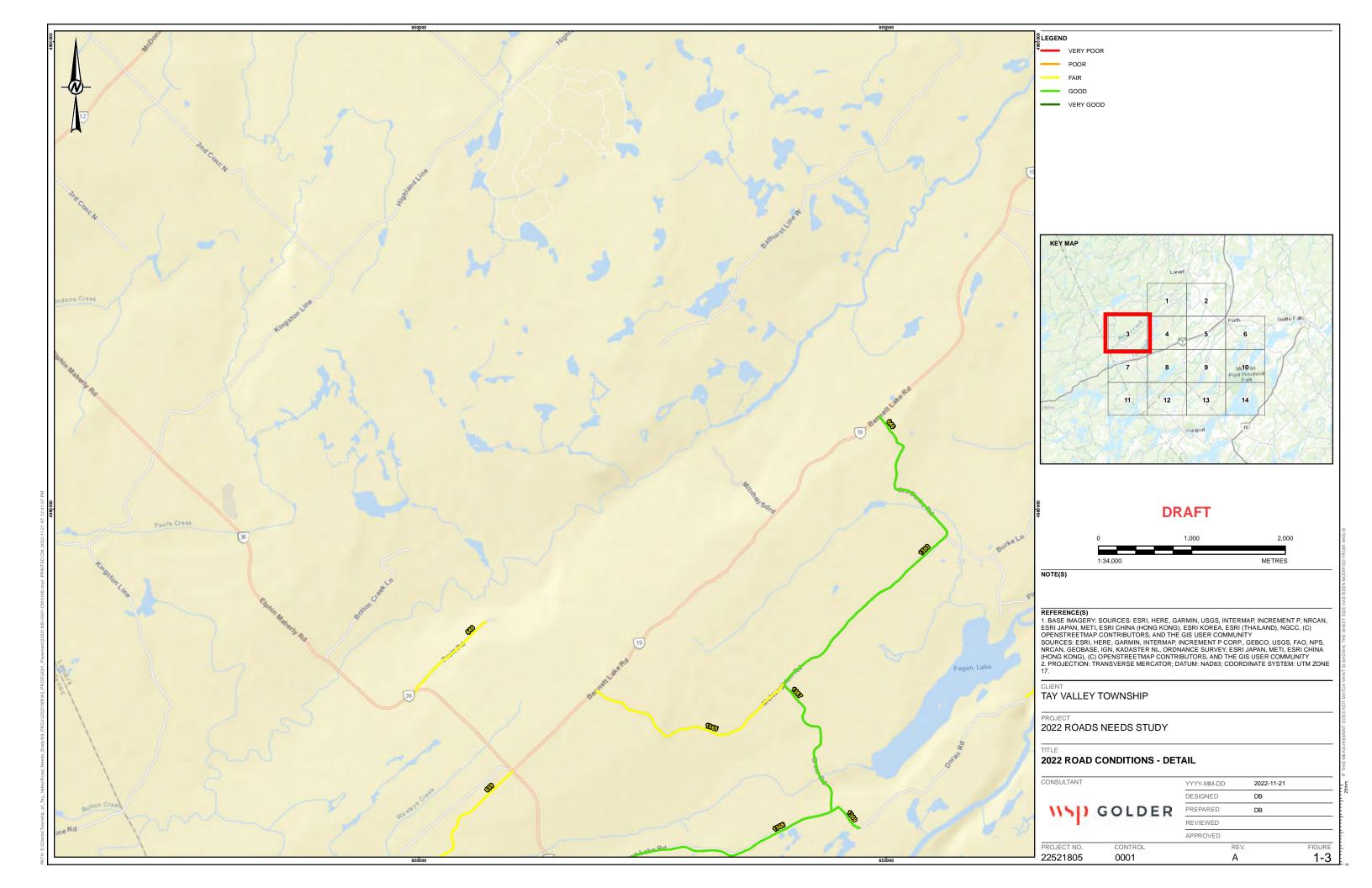
APPENDIX B

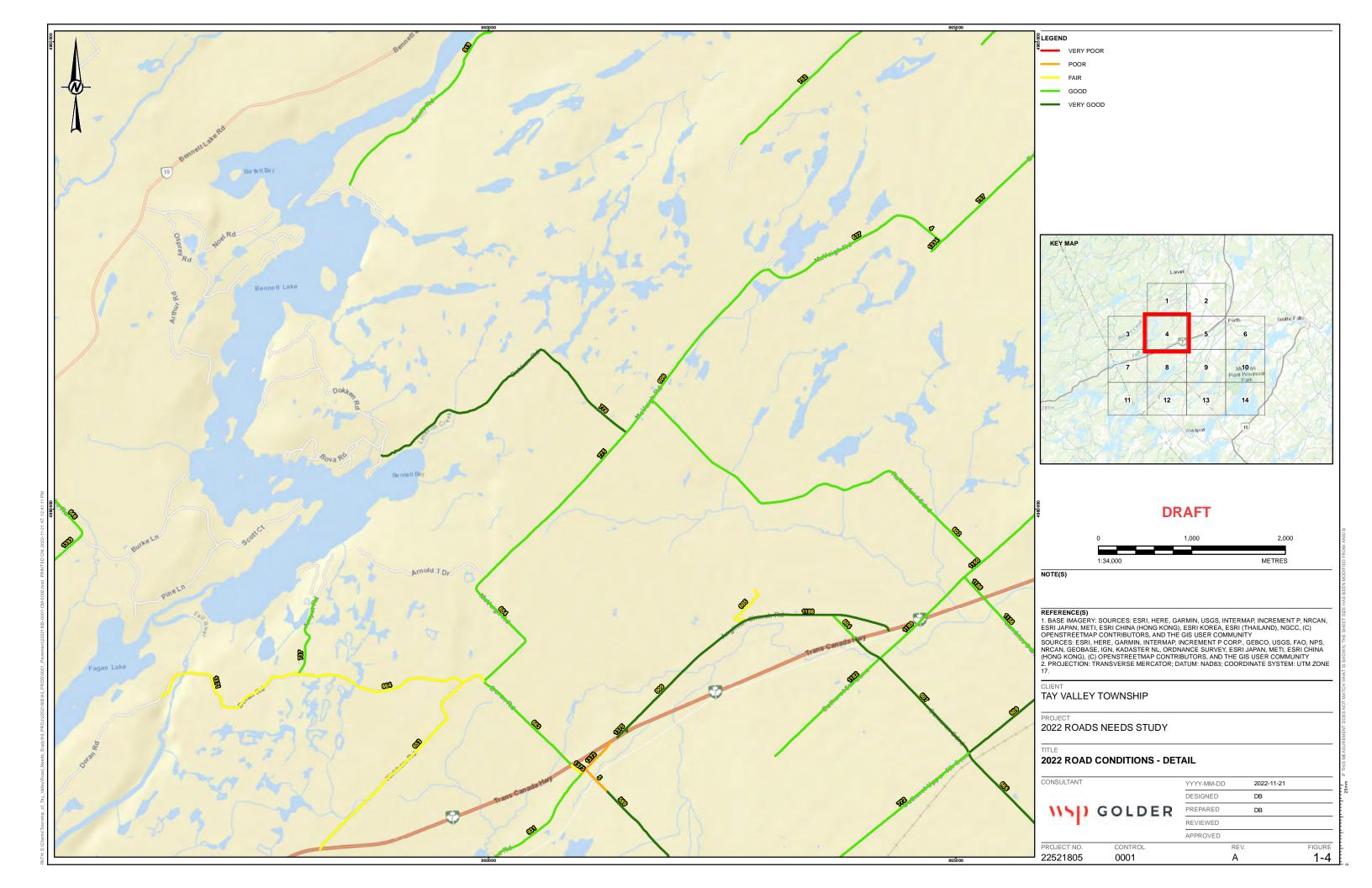
Road Network Maps with 2022 Condition Rating

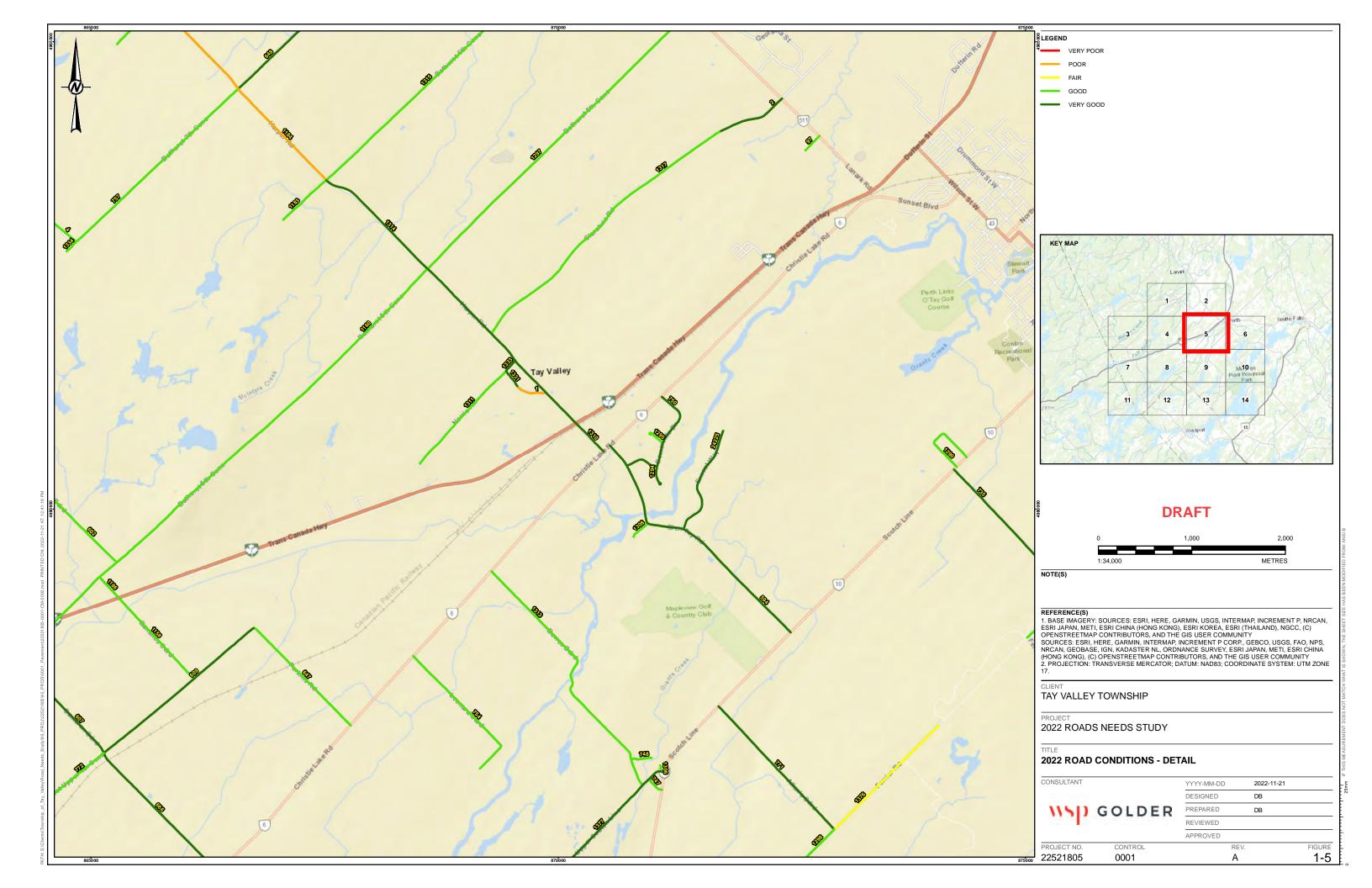


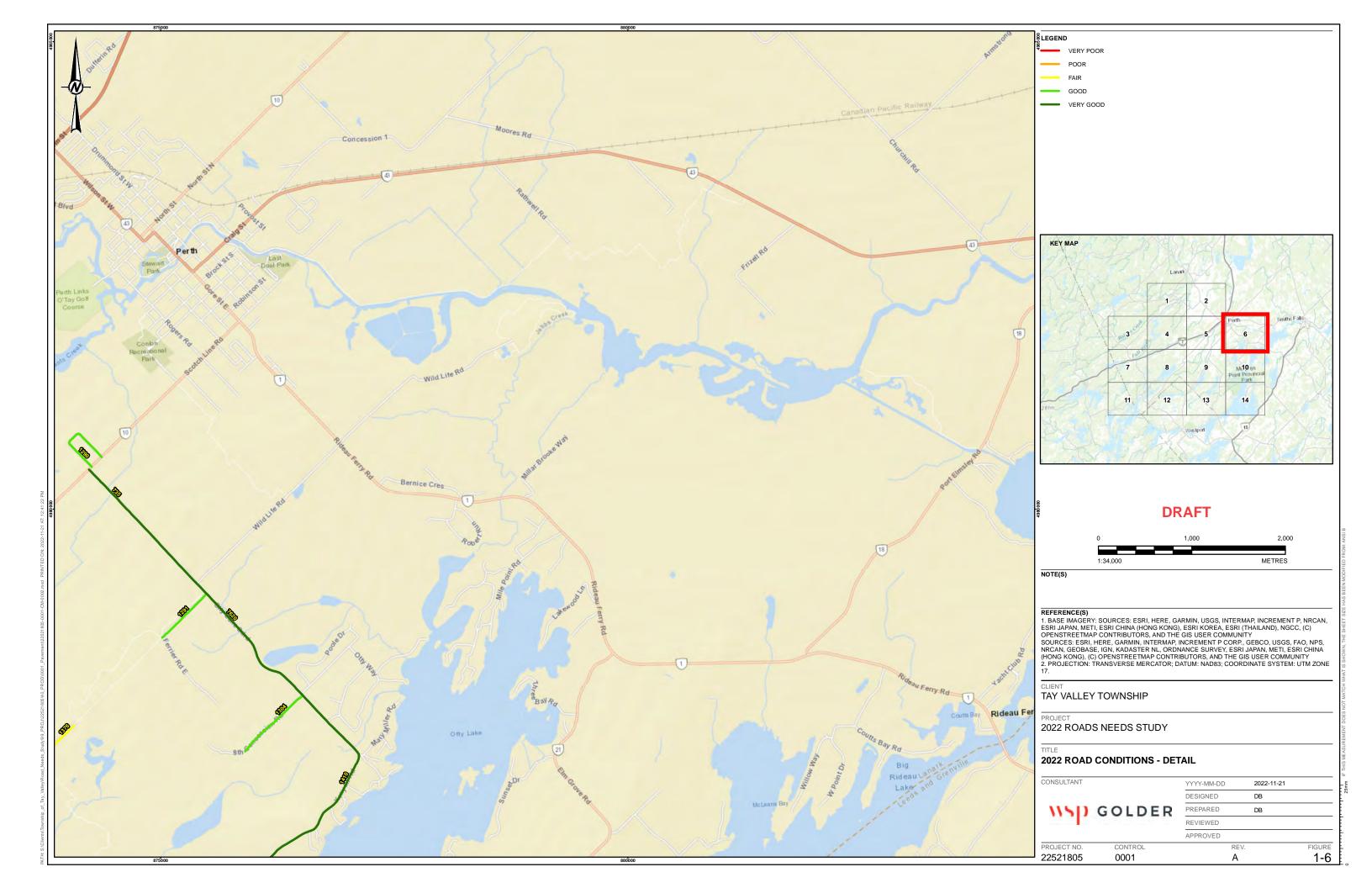


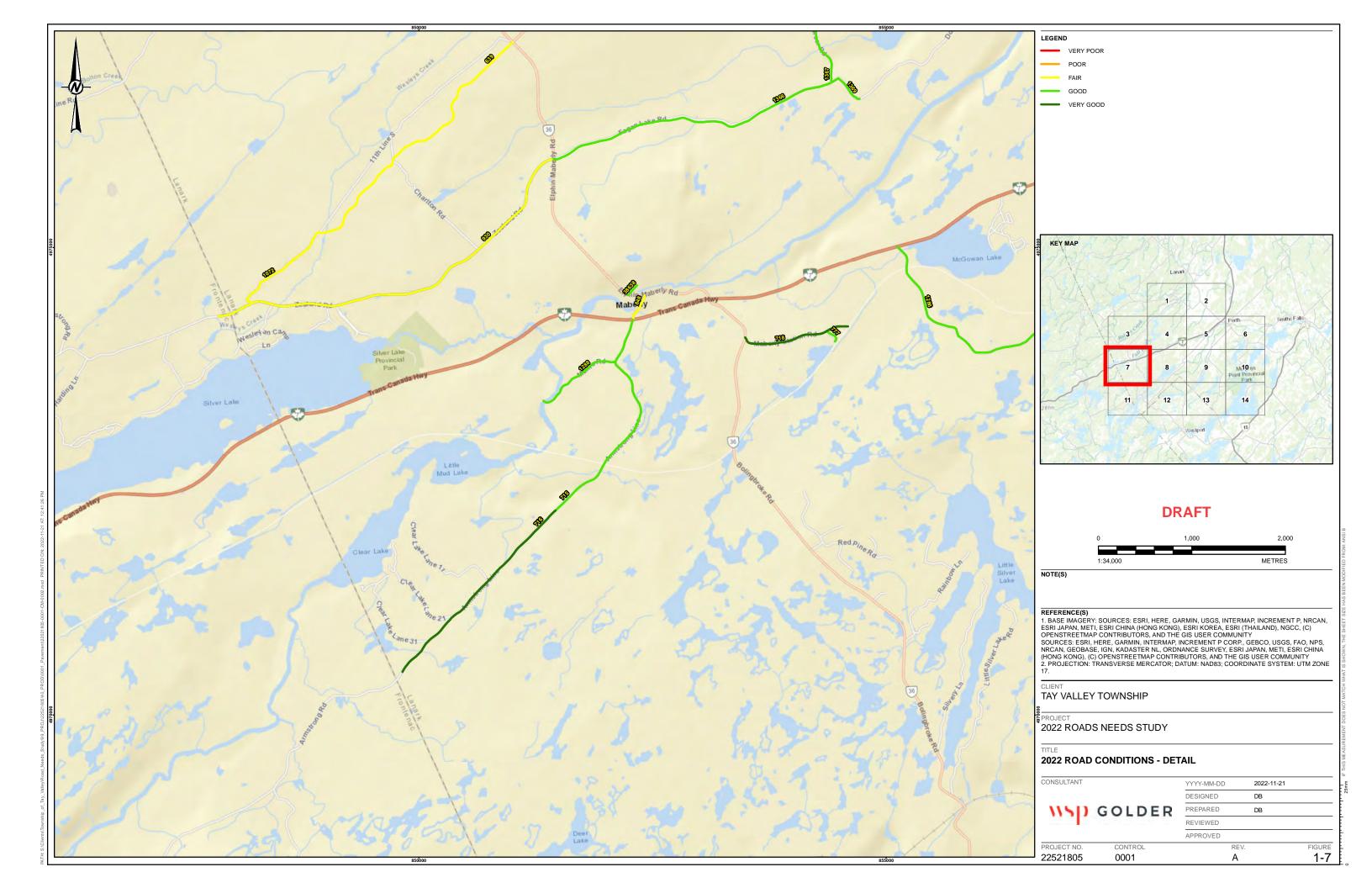


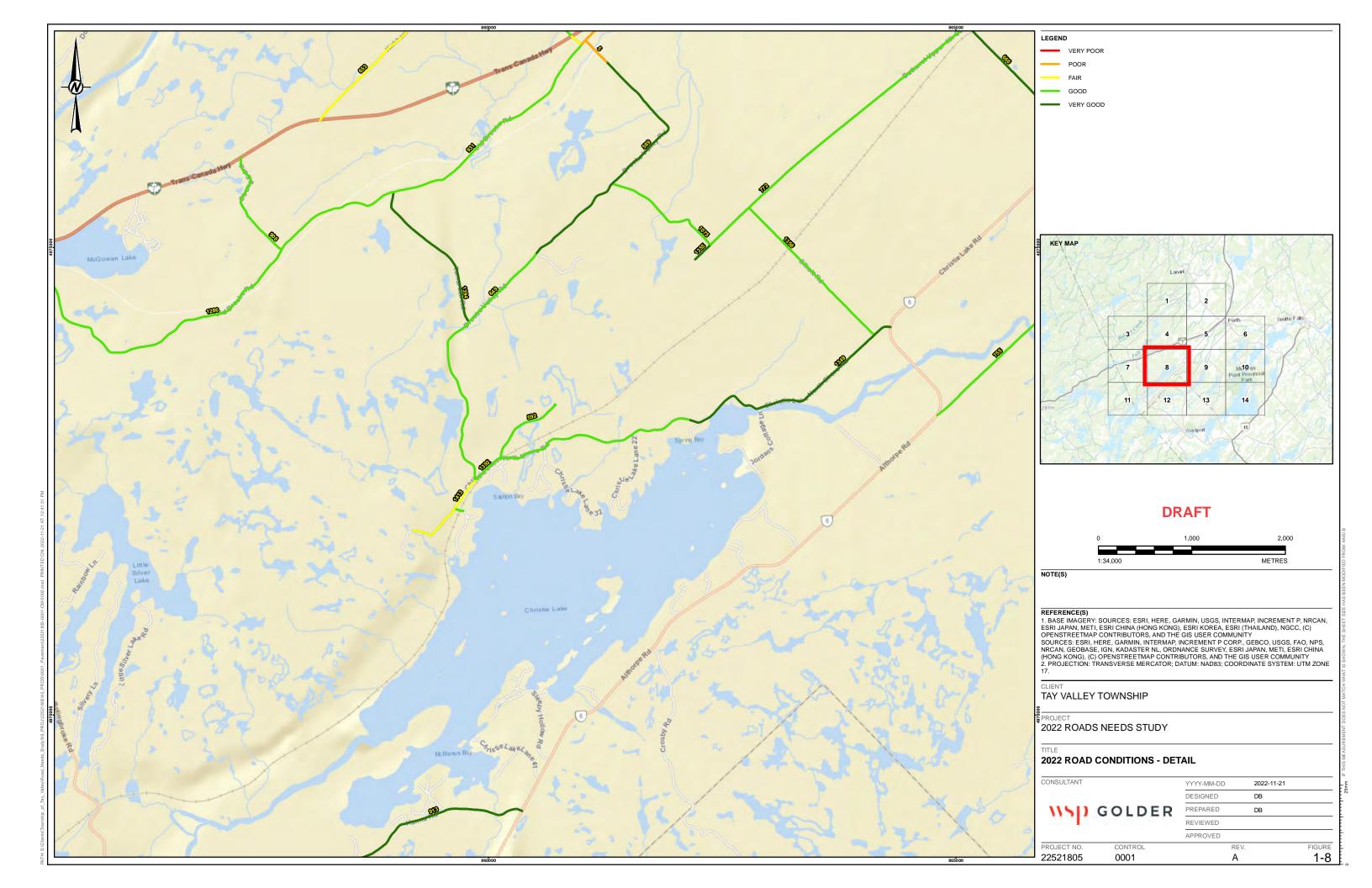


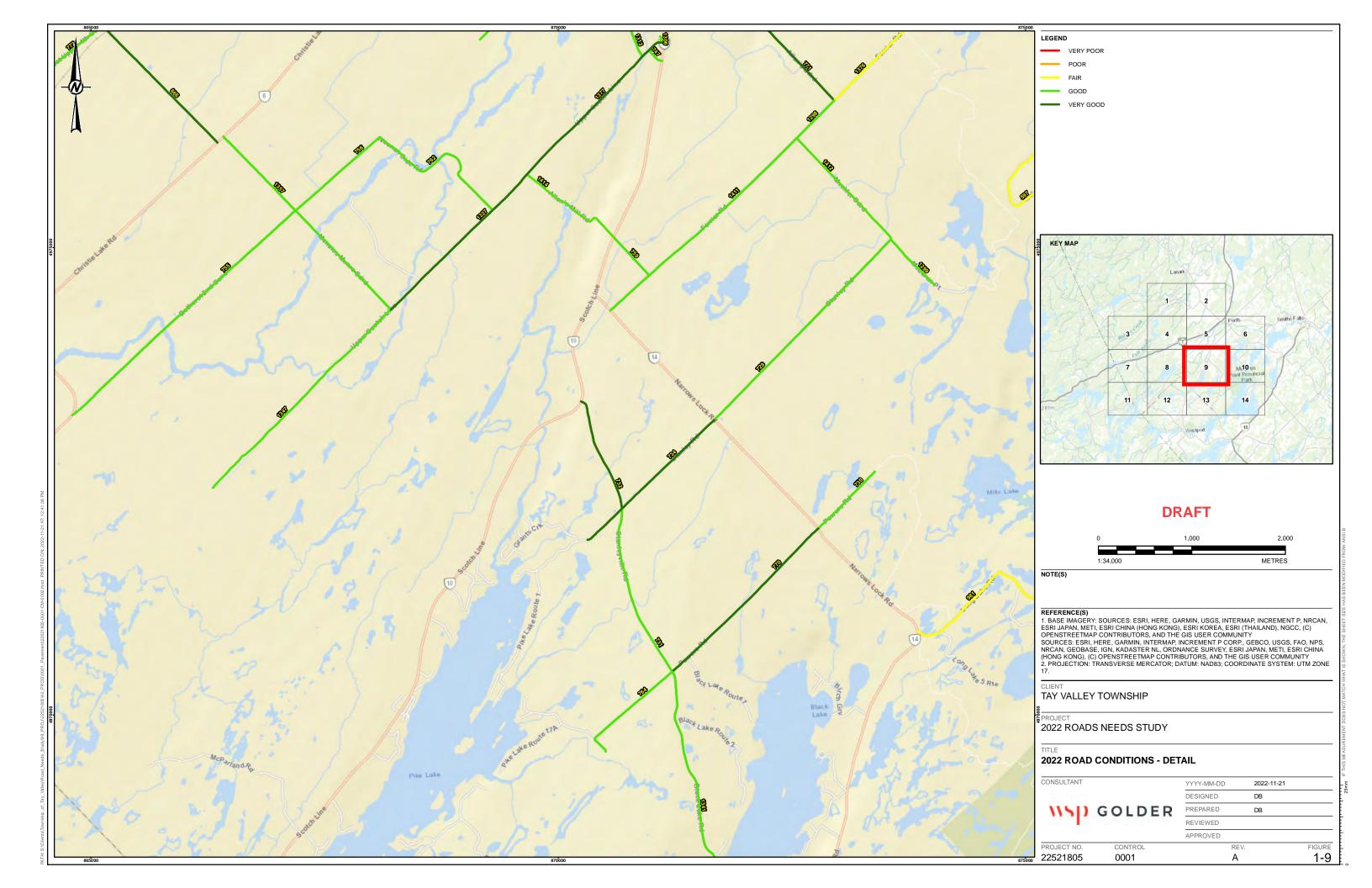


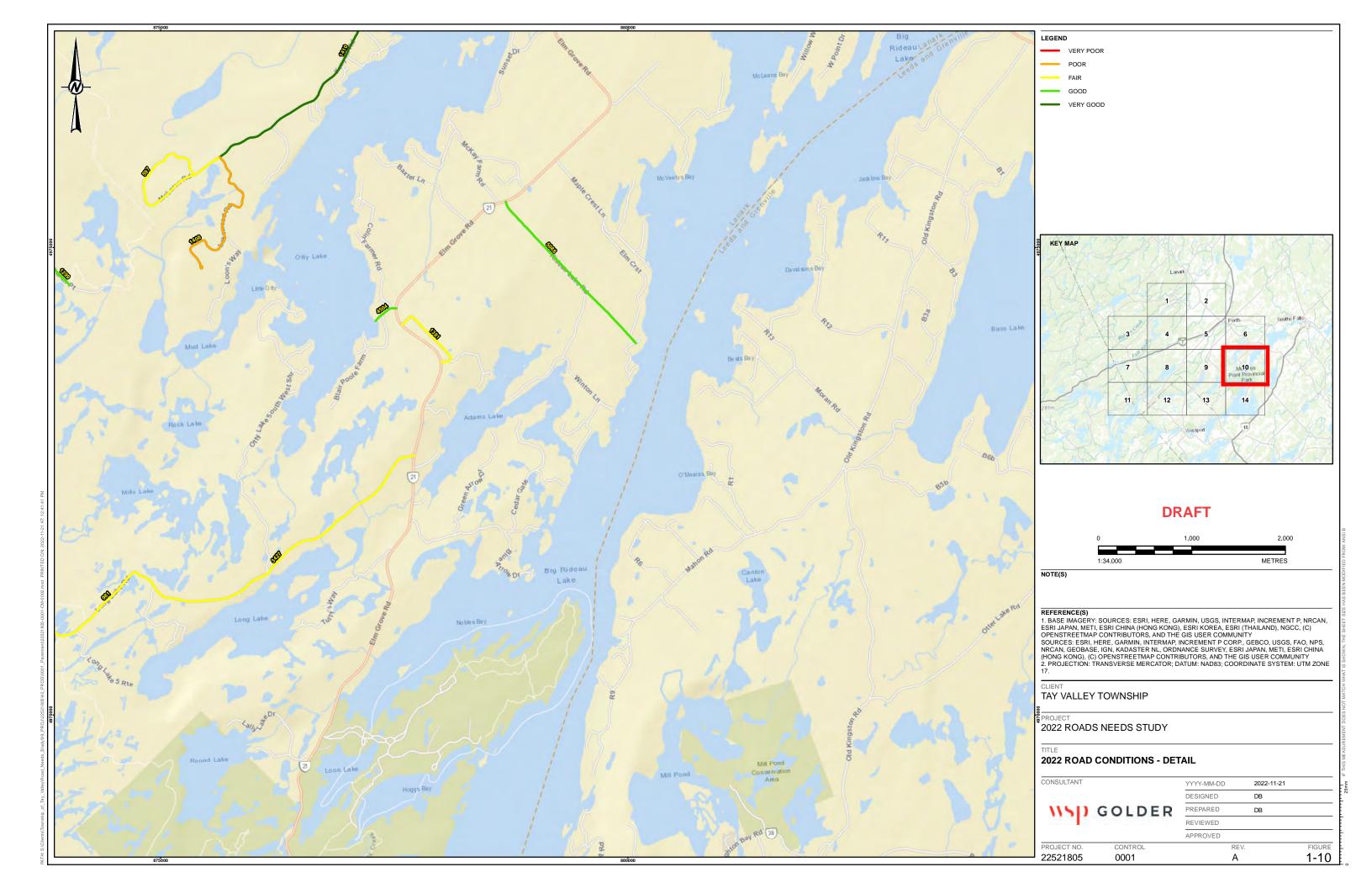


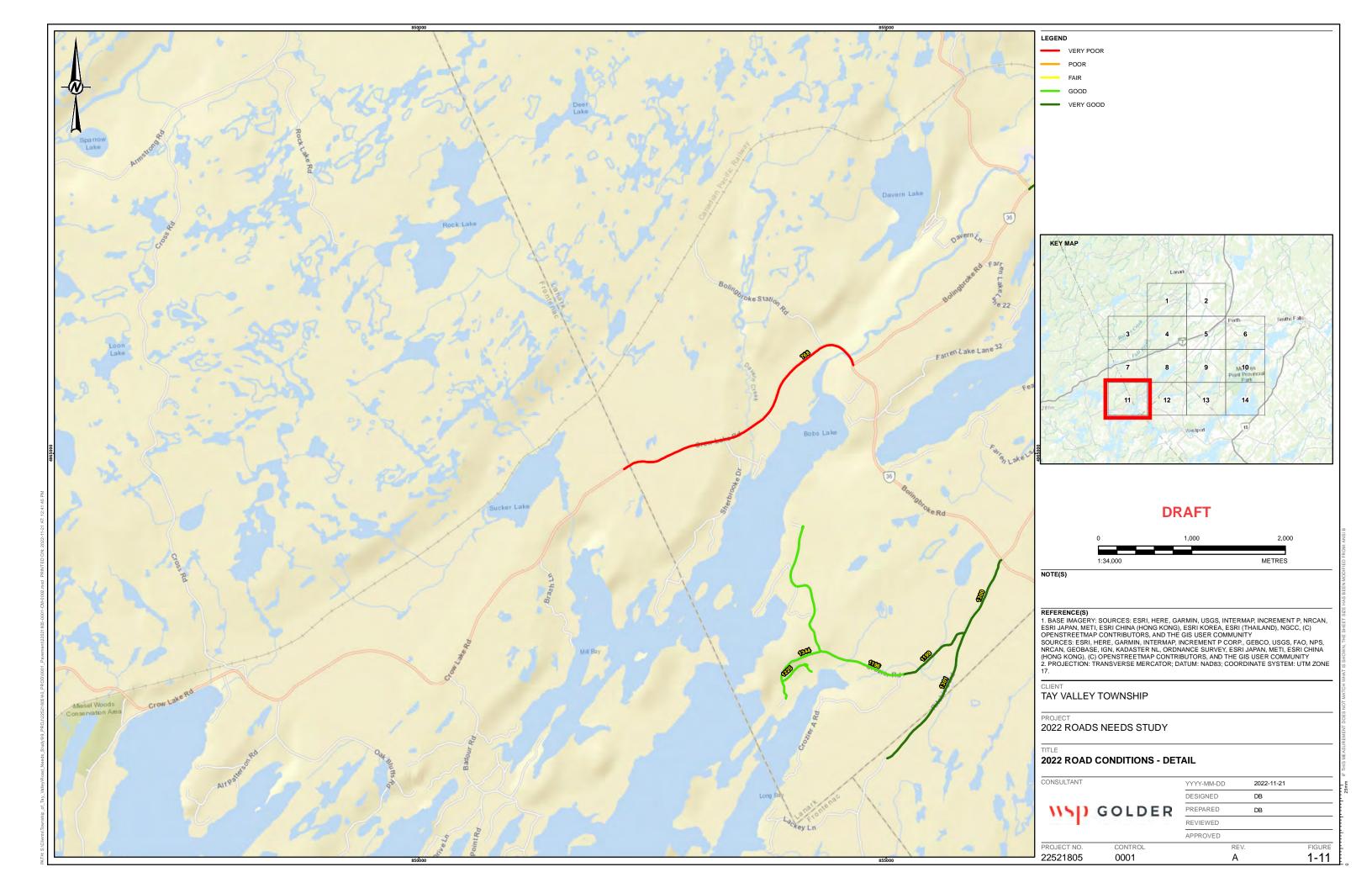


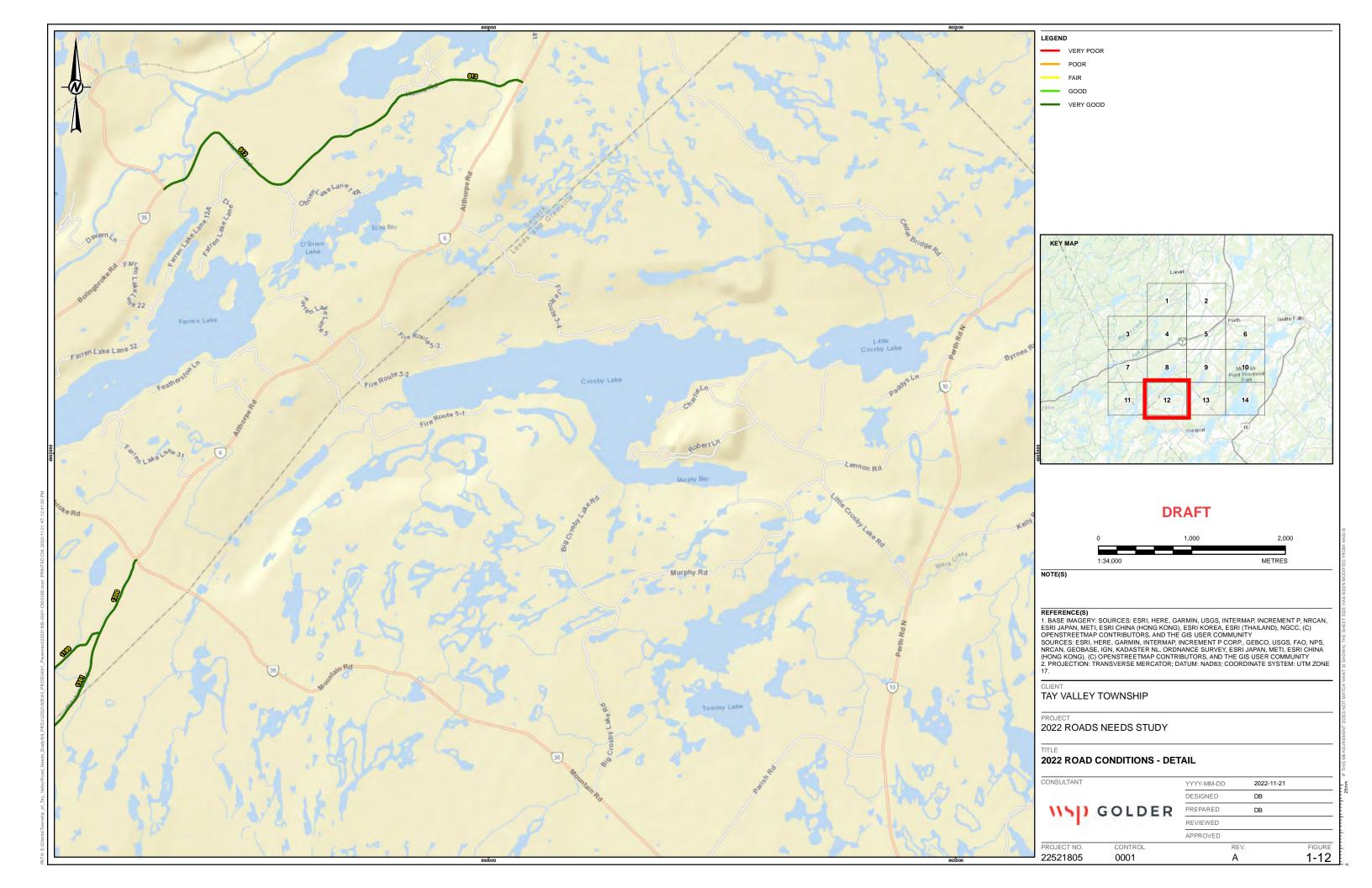


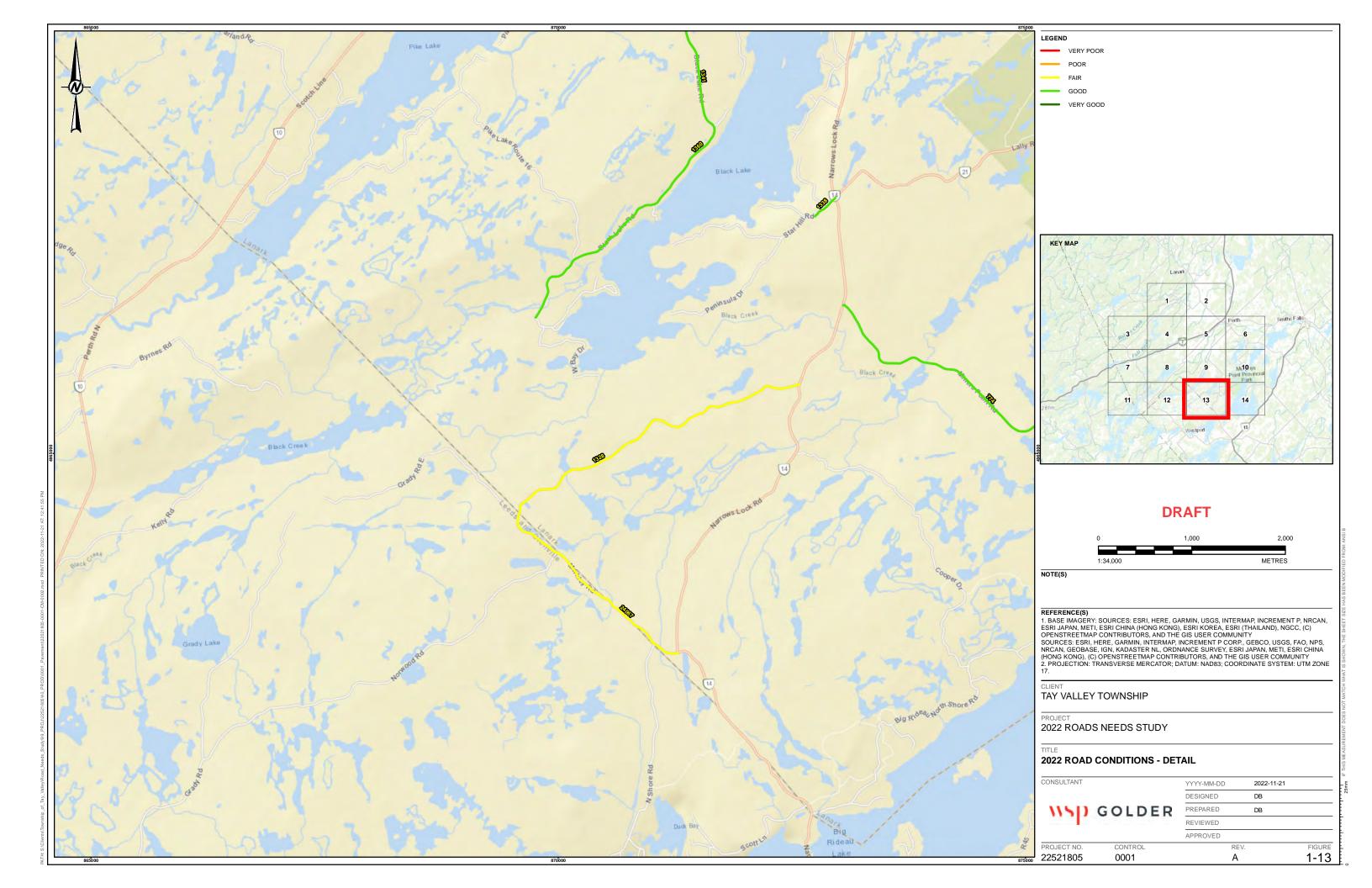


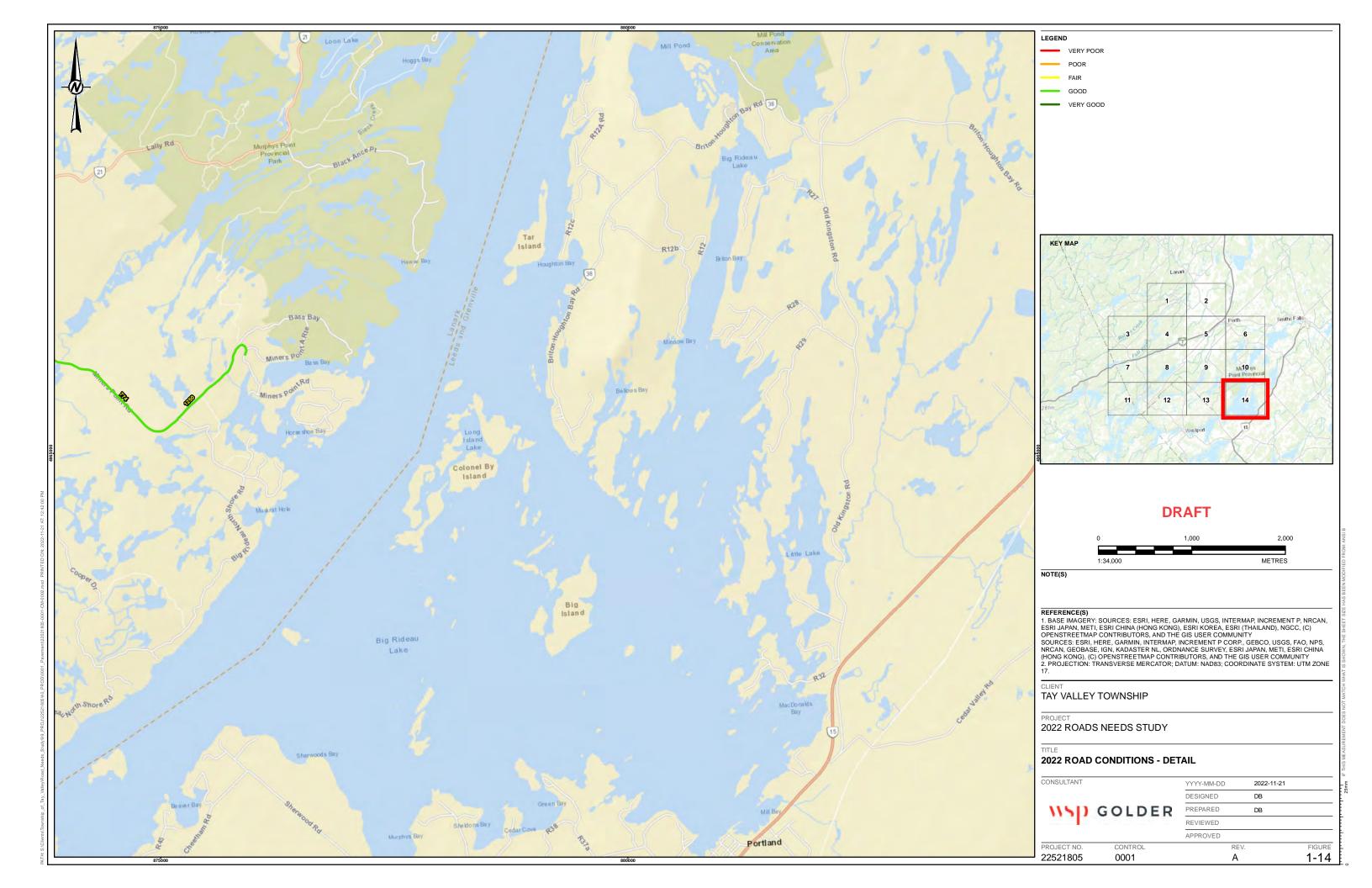












February 16, 2023 Project No. 22521805

APPENDIX C

2022 Tay Valley Township Road Inventory



Section ID	Name	From	То	Section Length (m)	Surface Width (m	Shoulder) Width (m)		Roadside Environment	Road Class	Speed Limit	Reg 239/02 Class	Average Daily Traffic	ADT Year	Shoulder Type	Surface Type	2022 Pavement Condition Index (PCI)	RCR	DMI
639	11th Line South Sherbrooke	County Road 36	Charelton Road	1910.88	5	0	5.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	43	4	50
1072	11th Line South Sherbrooke	County Road 36	Zealand Road	2355.2	4.5	0	4.50	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	46	4	46
1414	Allan's Mill Road	County Road 10	Upper Scotch Line	1202.68	6.2	0	6.20	Rural	Local	80	4	234	2022	-	Gravel	65	6.5	31
771	Allans Side Road	Ferrier Road	Scotch Line Road	1804.97	6	0	6.00	Rural	Local	80	4	160	2020	-	Surface Treated	81	8	8.7
737	Amyot Road	Doran Road	Red Branch Road	881.42	4.6	0	4.60	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	68	6.5	28
676	Anderson Side Road	Anderson Side RoadSeasonal	Bennett Lake Road	490.28	4.5	0	4.50	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	70	7	27
1323	Anderson Side Road	Bathurst 9th Concession	Anderson Side RoadSeasonal	465.74	4.5	0	4.50	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	73	7	23
1188	Anglican Church Road	Highway 7	Truelove Road	1575.29	6	1	8.00	Rural	Local	60	5	199	2021	Gravel	Surface Treated	94	8.5	10
1375	Anglican Church Road	Dead End	Anglican Church Road	151.03	6	0	6.00	Rural	Local	60	6	0-49	Estimated ADT	-	Surface Treated	96	9	10
909	Anglican Church Road	Truelove Road	Highway 7	1758.47	6	1	8.00	Rural	Local	60	5	64	2021	Gravel	Surface Treated	96	9	10
759	Armour Road	Ferrier Road	Scotch Line Road	556.16	4.4	0	4.40	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	75	7	20
715	Armstrong Line	645 Armstrong Road	Highway 7	2542.89	6	0	6.00	Rural	Local	80	4	50-199	Estimated ADT	-	Surface Treated	74	8	7.9
716	Armstrong Line	Tay Valley/Frontenac Boundary	645 Armstrong Road	2387.9	6	0	6.00	Rural	Local	80	4	182	2021	-	Gravel	85	8.5	13.5
14004	Ashby Road	Iron Mine Road	Lanark Highlands Bndy	452.27	6	0	6.00	Rural	Local	80	4	162	2021	-	Surface Treated	70	7.5	7.6
756	Bathurst 2nd Concession	Noonan Side Road	Menzies Munro Side Road	1191.56	5	0.3	5.60	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	61	6	34.5
755	Bathurst 2nd Concession	Menzies Munro Side Road	Althorpe Road	3238.8	6	0.2	6.40	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	74	7	22
1189	Bathurst 5th Concession	Cameron Side Road	Dead End	604.71	6	0	6.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	72	7	24
1297	Bathurst 5th Concession	Highway 511	Harper Road	3947.29	6	0	6.00	Rural	Local	80	4	124	2022	-	Gravel	73	8	27
1160	Bathurst 5th Concession	Harper Road	Highway 7	5464.01	6.2	0	6.20	Rural	Local	60	5	228	2021	-	Gravel	76	7.5	21
1182	Bathurst 5th Concession	Highway 7	Cameron Side Road	1531.29	6	0	6.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	77	8	22
1183	Bathurst 6th Concession	Harper Road	Dead End	627.37	5	0	5.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	70	7	26.5
1315	Bathurst 6th Concession	Highway 511	Harper Road	4010.25	6	0	6.00	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	72	7.5	26
757	Bathurst 7th Concession	Harper Road	McVeigh Road	2381.65	6	0	6.00	Rural	Local	80	4	319	2021	-	Surface Treated	60	6.5	6.9
1334	Bathurst 7th Concession	McVeigh Road	Dead End	146.7	3.8	0	3.80	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	78	7	16
648	Bathurst 7th Concession	Highway 511	Harper Road	3994.46	6	0	6.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	81	9	21
588	Bathurst 9th Concession	Boundary Road	Fallbrooke Road	2918.64	5	0.5	6.00	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	72	8	29
752	Bathurst 9th Concession	Fallbrooke Road	Dead End	4330.54	5	0.5	6.00	Rural	Local	80	4	50-199	Estimated ADT	Gravel	Gravel	75	7	21
1397	Bathurst Line East	McDonalds Corners Road	Dead End	2091.17	6	0.3	6.60	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	75	7	20

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Section ID	Name	From	То	Section Length (m)			Platform Width (m)	Roadside Environment	Road Class	Speed Limit	Reg 239/02 Class	Average Daily Traffic	ADT Year	Shoulder Type	Surface Type	2022 Pavement Condition Index (PCI)	RCR	DMI
772	Bathurst Upper 4th Concession	Cameron Side Road	Tysick	3632.45	6	0	6.00	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	75	7.5	22.5
609	Bathurst Upper 4th Concession	Perkins Road	Cameron Side Road	2084.14	5.8	0	5.80	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	91	8.5	6
1341	Black Lake Road	Powers Road	Tom's Rock	2062.76	5.5	0.5	6.50	Rural	Local	50	5	266	2022	Gravel	Gravel	78	7.5	19
1360	Black Lake Road	Tom's Rock	Black Lake RoadePrivate	2978.01	6	0	6.00	Rural	Local	40	6	165	2022	-	Gravel	78	7.5	18
1313	Bowes Side Road	County Road 6	Upper Scotch Line	2976.32	5.8	0	5.80	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	68	6.5	27
5	Brooke Valley Road	End of Pavement	Old Brooke Road	335.35	6	1	8.00	Rural	Local	50	6	50-199	Estimated ADT	Gravel	Hot Mix Asphalt	39	6	4.7
649	Brooke Valley Road	Chrisite Lake North Shore Road	Seaborn Lane	2955.3	5.5	0	5.50	Rural	Local	50	6	50-199	Estimated ADT	-	Gravel	78	8	21
589	Brooke Valley Road	Seaborn Lane	End of pavement Civic 172	2930.39	6	0	6.00	Rural	Local	50	6	50-199	Estimated ADT	-	Gravel	88	9	12
1344	Bygrove Lane	Crozier Road	Dead End	778.83	6.3	0	6.30	Rural	Local	80	6	0-49	Estimated ADT	-	Hot Mix Asphalt	74	7.5	7.8
604	Cameron Side Road	Anglican Church Road	Highway 7	358.39	5	0	5.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	61	6	35
607	Cameron Side Road	Highway 7	Bathurst Upper 4th Concession	1723.13	7.5	1	9.50	Rural	Local	80	4	299	2020	Gravel	Surface Treated	100	8.5	0
666	Cameron Side Road	Bathurst Upper 4th Concession	Christie Lake Road	1758.29	7.5	0.8	9.10	Rural	Local	80	4	355	2020	Gravel	Surface Treated	100	8.5	6
1413	Christie Lake North Shore Road	Brooke Valley Road	Dead End	978.9	5	0	5.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	57	5.5	38
1349	Christie Lake North Shore Road	Christie Lake Road	End of Pavement Civic 636	2621.09	5.5	0.75	7.00	Rural	Local	30/50	5	572	2022	Paved	Hot Mix Asphalt	94	9	9.6
1392	Christie Lake North Shore Road	End of Pavement Civic 636	Brooke Valley Road	2541.21	5.4	0.2	5.80	Rural	Local	80	4	91	2022	Gravel	Gravel	63	6.5	34
1317	Clarchris Road	Harper Road	End of PavementCivic 237	3285.69	4.8	0.2	5.20	Rural	Local	80	4	50-199	Estimated ADT	Gravel	Gravel	72	7	25
2	Clarchris Road	End of Pavement Civic 237	Highway 511	775.24	6	0.5	7.00	Rural	Local	50	6	280	2020	Gravel	Hot Mix Asphalt	86	8	9
38638	Cohan Way	Dead End	Maberly Elphin Road	138.57	5.8	0	5.80	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	60	5.5	34
1373	Cook's Road	Highway 7	Old Brooke Road	140.11	4	0	4.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	48	5	48
768	Crow Lake Road	Bolingbroke Road	Frontenac Boundary	3064.24	6	1	8.00	Rural	Local	40/80	4	320	2019	Gravel	Surface Treated	15	4	3.6
1196	Crozier Road	Crozier Road A	Loop	2517.38	6	1	8.00	Rural	Local	40	6	50-199	Estimated ADT	Gravel	Hot Mix Asphalt	73	7.5	7.7
1199	Crozier Road	Ritchie Road	Crozier Road A	837.26	6	0.5	7.00	Rural	Local	40	6	50-199	Estimated ADT	Gravel	Surface Treated	83	8	8.9
778	Dokken Road	McVeigh Road	Cyr Point Road	2458.77	6	0	6.00	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	89	9	10
664	Doran Road	McVeigh Road	Amyot Road	2135.64	4.6	0	4.60	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	56	6	41.5
1371	Doran Road	Amyot Road	Start of Seasonal RoadCivic 1294	2009.64	4.6	0	4.60	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	56	5.5	39.5
663	Doran Road	Highway 7	McVeigh Road	1303.39	5.8	0.2	6.20	Rural	Local	80	4	130	2022	Gravel	Gravel	72	8	28.5
1369	Doran Road	End of Seasonal Road	Fagen Lake Road	326.91	4.2	0	4.20	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	68	6	25.5
1356	Elliott Road	Christie Lake North Shore Road	Bathurst Upper 4th Concession	1911.74	5	0.2	5.40	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	75	7.5	23

Section ID	Name	From	То	Section Length (m)	Surface Width (m	Shoulder) Width (m)		Roadside Environment	Road Class	Speed Limit	Reg 239/02 Class	Average Daily Traffic	ADT Year	Shoulder Type	Surface Type	2022 Pavement Condition Index (PCI)	RCR	DMI
919	Ennis Road	Beach Road	175 m South of Bennett Lake Road	6077	5	0	5.00	Rural	Local	80	4	206	2022	-	Gravel	70	-	-
920	Ennis Road	175 m South of Bennett Lake Road	Bennet Lake Road	175	6	0	6.00	Rural	Local	80	4	206	2022	-	Surface Treated	90	-	-
24225	Ernest Way	Glen Tay Road	End of Cul-de-Sac	1218.15	6	1	8.00	Rural	Local	40	6	0-49	Estimated ADT	Gravel	Hot Mix Asphalt	96	8.5	10
1366	Fagan Lake Road	Maberly Elphin Road	Doran Road	3278.68	6	0.5	7.00	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	76	8	23
739	Fall Crescent	County Road 7	County Road 7	438	4.2	0	4.20	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	88	8	8
1376	Ferrier Road	Dead End	Allan's Side Road	1576.42	4.8	0.2	5.20	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	59	6.5	39.5
1298	Ferrier Road	Allan's Side Road	Mackler Side Road	566.47	6	0.02	6.04	Rural	Local	80	4	50-199	Estimated ADT	Gravel	Gravel	60	5.5	34
1411	Ferrier Road	Mackler Side Road	Armour Road	2716.59	5	0.2	5.40	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	68	6.5	28
1291	Ferrier Road East	Armour Road	Dead End	666.61	4.4	0.5	5.40	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	78	7.5	18
1186	Gambles Side Road	Highway 7	Bathurst 5th Concession	306.45	5.8	0	5.80	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	64	6	31
1158	Gambles Side Road	Bathurst Upper 4th Concession	Highway 7	1181.75	5.8	0	5.80	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	73	7.5	25
1381	Glen Drive	Elm Grove Road	Cherie Hill	873.24	6	1	8.00	Rural	Local	40	6	50-199	Estimated ADT	Gravel	Hot Mix Asphalt	40	5	5.6
1310	Glen Tay Rd	Christie Lake Road	Highway 7	424.66	6	1.2	8.40	Rural	Local	50	4	3235	2020	Paved	Hot Mix Asphalt	96	8.5	10
594	Glen Tay Rd	Scotch Line Road	Christie Lake Road	2924.23	6	1	8.00	Rural	Local	40/60/80	3	2374	2018	Paved	Hot Mix Asphalt	98	9.5	10
1367	Greer Road	Fagen Lake Road	McNaughton Road	1662.55	4.6	0	4.60	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	71	6.5	24
912	Hanna Rd	O'Brian Lake Lane 14	Bolingbroke Road	1742.3	6	1	8.00	Rural	Local	60	5	257	2019	Gravel	Surface Treated	89	8.5	9.2
913	Hanna Rd	Arthorpe Road	O'Brian Lake Lane 14	3030.48	6	1	8.00	Rural	Local	60	5	257	2019	Gravel	Surface Treated	89	8.5	9.2
1184	Harper Rd	Bathurst 6th Concession	Keayes Road	2612.95	6	1	8.00	Rural	Local	60/80	4	825	2018	Gravel	Hot Mix Asphalt	23	5	3.7
1314	Harper Rd	Highway 7	Bathurst 6th Concession	3749.03	6	1	8.00	Rural	Local	50	5	805	2020	Gravel	Hot Mix Asphalt	95	8	10
1303	Hunter Side Road	Bennet Lake Road	S. Limit of Bolton Creek Bridge	717.45	4.5	0	4.50	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	62	5.5	31
1396	Iron Mine Rd	McDonalds Corners Road	Lanark Highlands Boundary	1444.98	6.6	0	6.60	Rural	Local	80	4	429	2021	-	Surface Treated	78	7.5	8.5
1294	Jodi Lane	Somerville Drive	Loop	237.98	6	0	6.00	Rural	Local	80	6	0-49	Estimated ADT	-	Hot Mix Asphalt	83	7	9.1
1325	Keays Road	Old Morris Rd	Fallbrook Rd	1394.37	6.5	0.5	7.50	Rural	Local	80	4	595	2018	Gravel	Hot Mix Asphalt	31	5	4.6
1336	Keays Road	Old Morris Rd	Dead End	549.86	3.6	0	3.60	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	63	6	32
747	Kelford Drive	Scotch Line Road	Upper Scotch Line	185.31	5.8	0	5.80	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	68	6	25
748	Kelford Road North	Dead End	Bowes Side Road	221.01	3.5	0	3.50	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	66	6	28
1306	Kelford Road South	Upper Scotch Line	Dead End	71.87	7	0	7.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	64	6	30.5
1410	Kenyon Road	Otty Lake Side Road	Lakewood Road	2131.87	6.2	1	8.20	Rural	Local	80	4	466	2018	Gravel	Hot Mix Asphalt	94	8.5	9.8

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653	Kirkham Road	Doran Road	Highway 7	2467.99	4.5	0	4.50	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	57	5.5	38
1408	Lakewood Road	Lakewood Road	Loop	1980.02	6	0	6.00	Rural	Local	40	6	158	2018	-	Hot Mix Asphalt	24	4	4.8
754	Leonard Side Road	Dead End	Christie Lake Road	1676.25	5.8	0	5.80	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	71	6.5	24
981	Long Lake Road	Narrows Lock Road	Long Lake Route 2	2389.18	6.2	0	6.20	Rural	Local	50	6	171	2021	-	Gravel	56	6	42
3427	Long Lake Road	Long Lake Route 2	Elm Grove Road	2473.4	6.2	0	6.20	Rural	Local	50	6	50-199	Estimated ADT	-	Gravel	58	7	43
848	Maberly Main Street	Highway 7	Maberly-Elphin Road	296.88	6	1	8.00	Rural	Local	40	6	195	2018	Gravel	Hot Mix Asphalt	46	5	6.2
718	Maberly Station Road	Bolingbroke Road	Tay-Havlock Trail	1164.12	5.4	0.2	5.80	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	80	7.5	16
1316	MacKay Line Road	Hoddinott Lane	Fallbrooke Road	2932.77	5.4	0.2	5.80	Rural	Local	40	6	0-49	Estimated ADT	Gravel	Gravel	77	8	22
1412	Mackler Side Road	Stanley Road	Ferrier Road	1482.76	6	0	6.00	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	63	6	32
1299	McLaren Point	McLaren Point RoadPrivate	Stanley Road	671.11	3.8	0	3.80	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	62	6	33
597	Mclaren Road	Kenyon Road	Kenyon Road	1990.91	6	0	6.00	Rural	Local	40	6	50-199	Estimated ADT	=	Hot Mix Asphalt	52	6	6.2
1365	McNaughton Road	Greer Road	Bennett Lake Road	2440.57	4.5	0	4.50	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	47	4	44.5
1393	McNaughton Road	Old Burke Road	Greer Road	2371.75	4.5	0	4.50	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	67	7	31
654	McVeigh Road	Doran Road	Arnold T Drive	1579.69	5.8	0.2	6.20	Rural	Local	80	4	93	2022	Gravel	Gravel	72	7.5	26
637	McVeigh Road	Old Mine Road	End of PavementCivic 159	1838.29	6	0	6.00	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	66	6.5	30
4	McVeigh Road	Bathurst 7th Concession	End of Surface Treatment Civic 1332	401.04	6	0	6.00	Rural	Local	80	4	191	2020	-	Surface Treated	69	6.5	7.9
775	McVeigh Road	Arnold T Drive	Dokken Road	2136.05	6	0	6.00	Rural	Local	80	4	67	2022	-	Gravel	73	7	23
606	McVeigh Road	Dokken Road	Old Mine Road	2239.2	6	0	6.00	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	75	7.5	23
1357	Menzies Munro Side Road	Upper Scotch Line Road	Christie Lake Road	2568.86	6.6	0	6.60	Rural	Local	80	4	326	2020	-	Surface Treated	74	8	7.9
1328	Merkley Road	Grady Road East	Narrows Lock Road	3640.92	5	0	5.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	59	6	37.5
24067	Merkley Road	Narrows Locks Road	Grady Road East	2312.57	4.4	0	4.40	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	59	6	37.5
740	Mill Road	Dead End	Fallbrooke Road	254.3	3.3	0	3.30	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	70	6.5	24.5
4504	Miller Bay Road	Elm Grove Road	Miller Bay RoadPrivate	227.34	4	0.2	4.40	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	71	6	21
4505	Miller Bay Road	Miller Bay Road Private	Boat Launch	47.35	4	0.2	4.40	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	71	6	21
1308	Miller Lane	Glen Tay Road	Dead End	212.36	4.2	0.5	5.20	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	66	6	28
774	Miners Point Road	Narrows Lock Road	Big Rideau North Shore Road	2834.39	6	0.2	6.40	Rural	Local	40/50	5	221	2018	Gravel	Gravel	60	6.5	38
1250	Miners Point Road	Big Rideau North Shore Road	Bass Bay Road	1203.2	6	0.2	6.40	Rural	Local	50	5	200-499	Estimated ADT	Gravel	Gravel	67	7	31
1288	Munro Road	Armstrong Road	Dead End	954.25	4	0	4.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	76	7	18.5

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1	Muttons Road	Harper Road	Glen Tay Waste Site Exit	334.56	6.6	0.8	8.20	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Hot Mix Asphalt	34	4	5.9
1331	Muttons Road	Glen Tay Waste Site Exit	Norris Road	200.87	6.6	0.8	8.20	Rural	Local	80	4	294	2020	Gravel	Hot Mix Asphalt	91	8	9.6
762	Noonan Side Road	Upper Scotch Line	Menzies Munro SR	1761.5	5	0.3	5.60	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	69	7.5	31
1311	Norris Road	Muttons Road	Dead End	1354.03	4.8	0.5	5.80	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	69	6.5	26
1333	Norris Road	Harper Road	Muttons Road	148.57	6.6	0.8	8.20	Rural	Local	80	4	216	2020	Gravel	Hot Mix Asphalt	96	8.5	10
1304	North Burgess 8th Concession	Otty Lake Side Road	Dead End	860.84	4	0.4	4.80	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	72	7	24
592	North Mac Lane	Christie Lake North Shore Road	Dead End	893.45	5.4	0.2	5.80	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	74	7	22
1372	Old Brooke Road	Highway 7	Cooks Road	460.99	6	1	8.00	Rural	Local	50	6	184	2021	Gravel	Hot Mix Asphalt	29	5	4.4
1286	Old Brooke Road	Strong Side Road	Highway 7	3781.13	5	0.2	5.40	Rural	Local	80	4	50-199	Estimated ADT	Gravel	Gravel	67	7.5	33
931	Old Brooke Road	Cooks Road	Strong Side Road	4089.38	5	0.2	5.40	Rural	Local	80	4	50-199	Estimated ADT	Gravel	Gravel	69	7.5	31
646	Old Burke Road	McNaughton Road	Bennett Lake Road	1703.59	6	0	6.00	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	71	7	26
1337	Old Morris Road	Keays Road	Bathurst 9th Concession	1132.36	5	0	5.00	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	77	7	18
1290	Orchard Cresent	Scotch Line Rd	Scotch Line Rd	854.45	6	0	6.00	Rural	Local	80	4	50-199	Estimated ADT	-	Hot Mix Asphalt	77	7	8.4
735	Otty Lake Side Road	Scotch Line Road	Ferrier Road East	1825.54	6.2	1	8.20	Rural	Local	60	4	1093	2020	Gravel	Hot Mix Asphalt	93	8	9.8
7620	Otty Lake Side Road	Kenyon Road	Trillium Drive	2418.25	6.2	1	8.20	Rural	Local	60	4	1174	2020	Gravel	Hot Mix Asphalt	96	8.5	10
1355	Palmer Road	Tysick Road	Dead End	226.22	6	0	6.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	89	8	6
1295	Park Lane Court	Somerville Dr	Dead End	221.91	6	0	6.00	Rural	Local	80	6	0-49	Estimated ADT	-	Hot Mix Asphalt	75	7	8.2
591	Patterson Road	Patterson Road Private	Christie Lake North Shore Road	102.22	5	0	5.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	64	6	30.5
647	Perkins Road	Christie Lake Road	Bathurst Upper 4th Concession	1471.97	5.8	0	5.80	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	69	7.5	30
1225	Posner Lane	Bygrove Ln	Dead End	474.26	6.3	0	6.30	Rural	Local	80	6	0-49	Estimated ADT	-	Hot Mix Asphalt	73	7	7.9
730	Powers Road	Dead End	Narrows Lock Road	859.54	3.6	0	3.60	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	65	7.5	36
764	Powers Road	Stanleyville Road	Dead End	1283.39	6	0	6.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	72	7	24
770	Powers Road	Narrows Lock Road	Stanleyville Road	2185.27	6	0	6.00	Rural	Local	80	4	160	2021	-	Surface Treated	85	8	9.1
640	Pratt Road	Dead End	Maberly Elphin Road	1060.86	4	0	4.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	57	6.5	42
777	Railway Siding Road	Dead End	Maberly Station Road	165.62	3.5	0	3.50	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	79	7	15
5088	Rideau Lake Road	Best Lane	Elm Grove Road	2063.6	6.2	0	6.20	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	74	7	22
1300	Ritchie Side Road	Crozier Road	Bolingbroke Road	885.16	6	0.5	7.00	Rural	Local	50	6	50-199	Estimated ADT	Gravel	Surface Treated	81	8	8.7
1301	Ritchie Side Road	Crozier Road	Frontenac Boundary	1612.91	6	0	6.00	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	87	8	9

Tay Valley Township 2022 Road Inventory

												_	_					
Section ID	Name	From	То	Section Length (m)	Surface Width (m)	Shoulder Width (m)	Platform Width (m	Roadside Environment	Road Class	Speed Limit	Reg 239/02 Class	Average Daily Traffic	ADT Year	Shoulder Type	Surface Type	2022 Pavement Condition Index (PCI)	RCR	DMI
602	Rutherford Side Road	Bathurst 5th Concession	McVeigh Road	4488.41	4.8	0	4.80	Rural	Local	80	6	39	2022	-	Gravel	65	7	34
750	Somerville Drive	Christie Lake Road	Glen Tay Road	1256.09	6	1	8.00	Rural	Local	40	6	50-199	Estimated ADT	Gravel	Hot Mix Asphalt	81	7.5	8.6
97	Sproule Road	Highway 511	Dead End	214.37	6.2	0	6.20	Rural	Local	80	6	0-49	Estimated ADT	-	Hot Mix Asphalt	70	6.5	7.9
729	Stanley Road	Mackler Side Road	Narrows Lock Road	2701.01	6	0	6.00	Rural	Local	80	4	50-199	Estimated ADT	-	Gravel	60	7	41
734	Stanley Road	Narrows Lock Road	Pike Lake Route 1	1868.73	6	0.5	7.00	Rural	Local	40/50	6	121	2021	Gravel	Surface Treated	80	7	8.9
731	Stanleyville Rd	Powers Road	Stanley Road	1879.02	6	1	8.00	Rural	Local	40/80	4	501	2019	Gravel	Surface Treated	72	8	7.6
732	Stanleyville Rd	Stanley Road	Scotch Line Road	1248.9	6	0.5	7.00	Rural	Local	40/80	4	345	2019	Paved	Hot Mix Asphalt	88	8	9.2
338	Star Hill Road	Narrows Locks Road	Star Hill Road Private	297.19	4.8	0.2	5.20	Rural	Local	80	4	50-199	Estimated ADT	Gravel	Gravel	66	7	32
908	Strong Side Road	Old Brooke Road	Highway 7	1217.33	4.6	0.2	5.00	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	64	6	31
1394	Tamarack Road	Brooke Valley Road	Old Brooke Road	1721.77	5.5	0.5	6.50	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	85	8	11
27	Township Boundary Road	Bathurst 9th Concession	Drummond 10th Concession	1355.73	5.2	0	5.20	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	73	7.5	25
728	Township Boundary Road	Highway 511	Bathurst 9th Concession	1074.8	5.8	0	5.80	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	73	7.5	25
605	Trueloves Road	Anglican Church Road	Dead End	563.07	4	0	4.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	58	5	34
075	Tysick Road	Bathurst Upper 4th Concession	Brooke Valley Road	1324.79	6	0	6.00	Rural	Local	80	6	0-49	Estimated ADT	-	Gravel	77	7.5	20
1377	Upper Scotch Line	Scotch Line Road	Allans Mill Road	2059.46	7.5	0	7.50	Rural	Local	80	4	465	2020	-	Surface Treated	84	8	9
1327	Upper Scotch Line	Allans Mill Road	Menzies Munro Side Road	2051.92	4.5	0	4.50	Rural	Local	80	4	356	2020	-	Surface Treated	86	8	9.2
347	Upper Scotch Line Road	Menzies Munro Side Road	Dead End	2699.45	5.2	0.4	6.00	Rural	Local	80	6	0-49	Estimated ADT	Gravel	Gravel	65	7	33.5
305	Walters Ln	Fallbrooke Road	Dead End	98.59	4.5	0	4.50	Rural	Local	80	6	0-49	Estimated ADT	-	Hot Mix Asphalt	31	3	7.1
930	Zealand Rd	Elphin-Maberly Road	11th Line South Sherbrooke	4316.29	6	1	8.00	Rural	Local	60	5	276	2018	Gravel	Surface Treated	42	5	5.8

February 16, 2023 Project No. 22521805

APPENDIX D

Proposed Treatment Options and Description



Treatment Methods				
Treatment	Description	Unit Cost	Inflation Rate	Cost Estimation Year
ST-SST	Single Surface Treatment (Chip Seal)	5.40 \$/m²	5.0%	2022
ST-Enh2Surf	Enhanced Double Thin Surfacings (Double Microsurfacing, Cape Seal)	8.25 \$/m²	5.0%	2022
ST-EnhSurf	Enhanced Thin Surfacings (Microsurfacing, Thin HMA Overlay)	5.00 \$/m²	5.0%	2022
ST-DST	Double Surface Treatment (Chip Seal)	9.25 \$/m²	5.0%	2022
ST-FDR & DST	Full Depth Reclamation (FDR) + Double Surface Treatment	30.00 \$/m²	5.0%	2022
HMA-ST	Single Surface Treatment (Chip Seal)	5.40 \$/m²	5.0%	2022
HMA-DST	Double Surface Treatment (Chip Seal)	9.25 \$/m²	5.0%	2022
HMA-EnhSurf	Enhanced Thin Surfacings (Microsurfacing, Thin HMA Overlay)	5.00 \$/m²	5.0%	2022
HMA-Enh2Surf	Enhanced Double Thin Surfacings (Cape Seal, Double Microsurfacing)	8.25 \$/m²	5.0%	2022
HMA-Ovly	One Lift Overlay / Mill and One Lift Overlay	42.58 \$/m²	5.0%	2022
HMA-FDR & Ovly	Full Depth Reclamation (FDR) + One lift Overlay	55.00 \$/m²	5.0%	2023

HMA (Paved Roads)

HMA-Crack Seal Crack Sealing

Crack Sealing is the process of placing specialized materials into cracks in unique configurations to keep water and other matter out of the crack and the underlying pavement layers.



Crack Sealing

HMA-Slurry Slurry Seal

Slurry Seal is mixture of slow setting emulsified asphalt, well graded fine aggregate, mineral filler and water. This treatment is used to fill cracks and seal areas of old pavement, to restore a uniform surface texture, to seal the surface to prevent moisture and air intrusion into the pavement, and to improve skid resistance.



Slurry Seal

HMA-ST

Single Surface Treatment (Chip Seal)

Single Surface Treatment (Chip Seal) is a common type of pavement surfacing construction which involves an application of asphalt binder material (bitumen emulsion) and mineral aggregate (gravel). The emulsion is applied by a pressure distributor, followed immediately by an application of mineral aggregate, and finished by rolling.



Surface Treatment (Chip Seal)

HMA-DST

Double Surface Treatment (Chip Seal)

The process for Single Surface Treatment (Chip Seal) is repeated for the second application of emulsion and mineral aggregate (gravel). The first application of aggregate is coarser than the aggregate used in the second application and usually determines the pavement thickness.

HMA-DST SAMI

Double Surface Treatment (Chip Seal) + SAMI

In addition to the Double Surface Treatment, the Stress Absorbing Membrane Interlayer (SAMI) is a geo textile mat that is laid between the surface treatments to strengthen the structure of the road.



SAMI

HMA-EnhSurf

Enhanced Thin Surfacings (Microsurfacing, Thin HMA Overlay)

Microsurfacing is an application of a mixture of polymer-modified asphalt emulsion, mineral aggregate, mineral filler, water, and other additives, properly proportioned, mixed, and spread on a paved surface. Unlike slurry seal, Microsurfacing can be used on high volume roadways to correct wheel path rutting and provide a skid resistant pavement surface.

Thin HMA Overlay is a Hot Mix Asphalt (HMA) overlay of 40 millimeters or less, and is sometimes used when Microsurfacing is not available.



Micro-surfacing

HMA-Enh2Surf

Enhanced Double Thin Surfacings (Double Microsurfacing, Cape Seal)

Double Microsurfacing is an application where the process of Microsurfacing is repeated for a second application.

Cape Seal is an application of a Chip Seal followed by the application of Slurry Seal or Microsurfacing at a later date.

HMA-Ovly

Mill and One Lift Overlay

50mm HMA Overlay with or without milling

HMA-2Ovly

Mill and Two Lift Overlay

2 lift of 50mm HMA Overlay with or without milling

HMA-FDR & 20vly

Full Depth Reclamation (FDR) + Two Lift Overlay

Full Depth Reclamation (FDR) is a process where the full pavement section and a pre-determined portion of the underlying materials are uniformly crushed or pulverized. In this treatment this recycled material is then stabilized by mixing it with a recycling agent and other chemical additives. The recycling agent is commonly asphalt-based emulsion or cold-foamed asphalt, or an emulsified engineered recycling agent. The mixture is then spread and compacted to produce a base layer. Two lifts (typically 50mm each) of Hot Mix Asphalt are applied as a surface material, where the second lift is usually a finer grade of Hot Mix.

HMA-FDR & EAS & DST

FDR with Emulsion/Expanded Asphalt Stabilization + Double Surface Treatment

Full Depth Reclamation (FDR) plus a recycle agent and other additives plus a second application of emulsion and mineral aggregate (gravel)

HMA-FDR & EAS & Ovly

FDR with Emulsion/Expanded Asphalt Stabilization + One Lift Overlay

Full Depth Reclamation (FDR) is a process where the full pavement section and a pre-determined portion of the underlying materials are uniformly crushed or pulverized. In this treatment this recycled material is then stabilized by mixing it with a recycling agent and other chemical additives. The recycling agent is commonly asphalt-based emulsion or cold-foamed asphalt, or an emulsified engineered recycling agent. The mixture is then spread and compacted to produce a base layer. A single lift (typically 50mm) of Hot Mix Asphalt is applied as a surface material.

HMA-FDR & EAS & 20vly

FDR with Emulsion/Expanded Asphalt Stabilization + Two Lift Overlay

Full Depth Reclamation (FDR) is a process where the full pavement section and a pre-determined portion of the underlying materials are uniformly crushed or pulverized. In this treatment this recycled material is then stabilized by mixing it with a recycling agent and other chemical additives. The recycling agent is commonly asphalt-based emulsion or cold-foamed asphalt, or an emulsified engineered recycling agent. The mixture is then spread and compacted to produce a base layer. Two lifts (typically 50mm each) of Hot Mix Asphalt are applied as a surface material, where the second lift is usually a finer grade of Hot Mix.



Expanded Asphalt Stabilization

HMA-FDARR & 20vly

Full depth asphalt removal and replacement (Two Lifts HMA)

This treatment is the complete milling and removal of all asphalt material without recycling, and replacing it with two lifts (typically 50mm each) of Hot Mix Asphalt, where the second lift is usually a finer grade of Hot Mix.

HMA-FDARR & 30vly

Full depth asphalt removal and replacement (Three Lifts HMA)

This treatment is the complete milling and removal of all asphalt material without recycling, and replacing it with three lifts (typically 50mm each) of Hot Mix Asphalt, where the final lift is usually a finer grade of Hot Mix.

HMA-Recon 90HMA

Full Depth Reconstruction (350 Gran B, 150 Gran A, 90 HMA)

Full Depth Reconstruction is the excavation and removal of all road materials down to the sub-base or soil, and then reconstructing it with new materials including 350mm of Granular B, 150mm of Granular A and 90mm of Hot Mix Asphalt, typically made up of 2 lifts where the second lift is a finer grade of Hot Mix. This expensive treatment is used as a last resort where a pavement has completely failed and none of the other treatments are determined to provide an adequate solution.

HMA-Recon 140HMA

Full Depth Reconstruction (350 Gran B, 150 Gran A, 140 HMA)

Full Depth Reconstruction is the excavation and removal of all road materials down to the sub-base or soil, and then reconstructing it with new materials including 350mm of Granular B, 150mm of Granular A and 140mm of Hot Mix Asphalt, typically made up of 2 or 3 lifts where the final lift is a finer grade of Hot Mix. This expensive treatment is used as a last resort where a pavement has completely failed and none of the other treatments are determined to provide an adequate solution.

ST (Surface Treated Roads)

ST-Slurry

Slurry Seal

Slurry Seal is mixture of slow setting emulsified asphalt, well graded fine aggregate, mineral filler and water. This treatment is used to fill cracks and seal areas of old pavement, to restore a uniform surface texture, to seal the surface to prevent moisture and air intrusion into the pavement, and to improve skid resistance.

ST-SST

Single Surface Treatment (Chip Seal)

Single Surface Treatment (Chip Seal) is a common type of pavement surfacing construction which involves an application of asphalt binder material (bitumen emulsion) and mineral aggregate (gravel). The emulsion is applied by a pressure distributor, followed immediately by an application of mineral aggregate, and finished by rolling.

ST-DST

Double Surface Treatment (Chip Seal)

The process for Single Surface Treatment (Chip Seal) is repeated for the second application of emulsion and mineral aggregate (gravel). The first application of aggregate is coarser than the aggregate used in the second application and usually determines the pavement thickness.

ST-DST SAMI

Double Surface Treatment (Chip Seal) & SAMI

In addition to the Double Surface Treatment, the Stress Absorbing Membrane Interlayer (SAMI) is a geo textile mat that is laid between the surface treatments to strengthen the structure of the road.

ST-EnhSurf

Enhanced Thin Surfacings (Microsurfacing, Thin HMA Overlay)

Microsurfacing is an application of a mixture of polymer-modified asphalt emulsion, mineral aggregate, mineral filler, water, and other additives, properly proportioned, mixed, and spread on a paved surface. Unlike slurry seal, Microsurfacing can be used on high volume roadways to correct wheel path rutting and provide a skid resistant pavement surface.

ST-Enh2Surf

Enhanced Double Thin Surfacings (Double Microsurfacing, Cape Seal)

Double Microsurfacing is an application where the process of Microsurfacing is repeated for a second application.

Cape Seal is an application of a Chip Seal followed by the application of Slurry Seal or Microsurfacing at a later date.

ST-Ovly

Mill and One Lift Overlay

50mm HMA Overlay with or without milling

ST-FDR & DST

Full Depth Reclamation (FDR) + Double Surface Treatment

Full Depth Reclamation (FDR) plus a recycle agent and other additives plus a second application of emulsion and mineral aggregate (gravel)

ST-FDR & DST & SAMI

Full Depth Reclamation (FDR) + Double Surface Treatment + SAMI

Full Depth Reclamation (FDR) plus a recycle agent and other additives plus a second application of emulsion and mineral aggregate (gravel), and SAMI

ST-FDR & Ovly

Full Depth Reclamation (FDR) + One lift Overlay

Full Depth Reclamation (FDR) is a process where the full pavement section and a pre-determined portion of the underlying materials are uniformly crushed or pulverized. In this treatment this recycled material is then stabilized by mixing it with a recycling agent and other chemical additives. The recycling agent is commonly asphalt-based emulsion or cold-foamed asphalt, or an emulsified engineered recycling agent. The mixture is then spread and compacted to produce a base layer. A single lift (typically 50mm) of Hot Mix Asphalt is applied as a surface material.

ST-FDR & 20vly

Full Depth Reclamation (FDR) + Two Lift Overlay

Full Depth Reclamation (FDR) is a process where the full pavement section and a pre-determined portion of the underlying materials are uniformly crushed or pulverized. In this treatment this recycled material is then stabilized by mixing it with a recycling agent and other chemical additives. The recycling agent is commonly asphalt-based emulsion or cold-foamed asphalt, or an emulsified engineered recycling agent. The mixture is then spread and compacted to produce a base layer. Two lifts (typically 50mm each) of Hot Mix Asphalt are applied as a surface material, where the second lift is usually a finer grade of Hot Mix.

ST-FDR & EAS & DST

FDR with Emulsion/Expanded Asphalt Stabilization + Double Surface Treatment

Full Depth Reclamation (FDR) plus a recycle agent and other additives plus a second application of emulsion and mineral aggregate (gravel)

ST-Recon & Ovly

Full Depth Reconstruction (350 Gran B, 150 Gran A, 90 HMA)

Full Depth Reconstruction is the excavation and removal of all road materials down to the sub-base or soil, and then reconstructing it with new materials including 350mm of Granular B, 150mm of Granular A and 90mm of Hot Mix Asphalt, typically made up of 2 lifts where the second lift is a finer grade of Hot Mix. This expensive treatment is used as a last resort where a pavement has completely failed and none of the other treatments are determined to provide an adequate solution.

ST-Recon &2 Ovly

Full Depth Reconstruction (350 Gran B, 150 Gran A, 140 HMA)

Full Depth Reconstruction is the excavation and removal of all road materials down to the sub-base or soil, and then reconstructing it with new materials including 350mm of Granular B, 150mm of Granular A and 140mm of Hot Mix Asphalt, typically made up of 2 or 3 lifts where the final lift is a finer grade of Hot Mix. This expensive treatment is used as a last resort where a pavement has completely failed and none of the other treatments are determined to provide an adequate solution.

February 16, 2023 Project No. 22521805

APPENDIX E

Road Network Overview



January 31, 2023

Tay Valley Township



Report Type: NetworkOverview

Report Generated by: Amanda Zhang

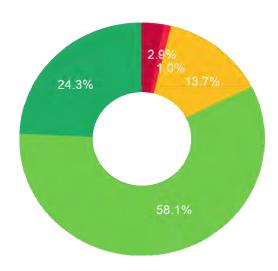
Network Overview

The Tay Valley Township has a total of 263 Km of Roads. The network overall condition based on the latest condition assessment data is estimated at 71, representing an overall "Good" condition. The details of network overview information are as follows.

Title	Condition	Condition State
Hot Mix Network Condition	74	Good
Surface Treated Network Condition	73	Good
Gravel Network Condition	70	Good

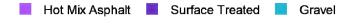
Network Condition Status

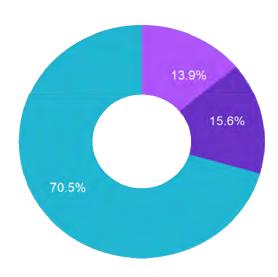




Condition	Length (Km)	Percentage
Very Poor	7.7	2.9%
Poor	2.6	1.0%
Fair	35.9	13.7%
Good	152.4	58.1%
Excellent	63.8	24.3%

Surface Type Breakdown

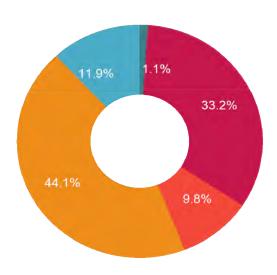




Surface Type	Length (Km)	Percentage
Hot Mix Asphalt	36.6	13.9%
Surface Treated	40.9	15.6%
Gravel	184.9	70.5%

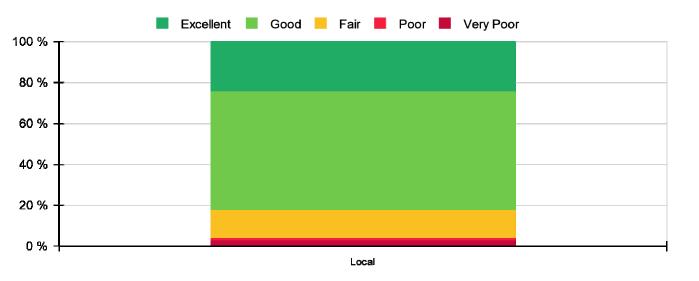
MMS Breakdown





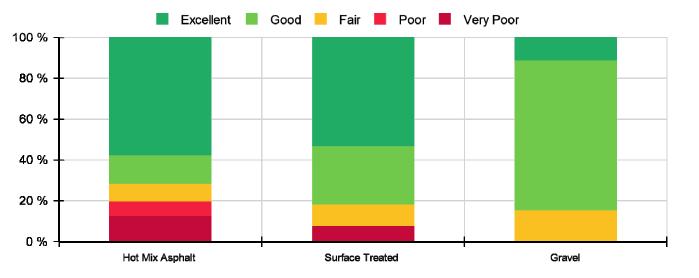
MMS	Length (Km)	Percentage
3	2.9	1.1%
4	87.0	33.2%
5	25.7	9.8%
6	115.7	44.1%
Not Defined	31.1	11.9%

Condition Status by Functional Class



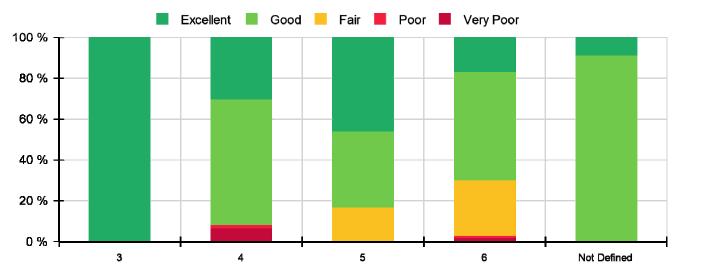
Functional Class	Excellent	Good	Fair	Poor	Very Poor
Local	63.8	152.4	35.9	2.6	7.7

Condition Status by Surface Type



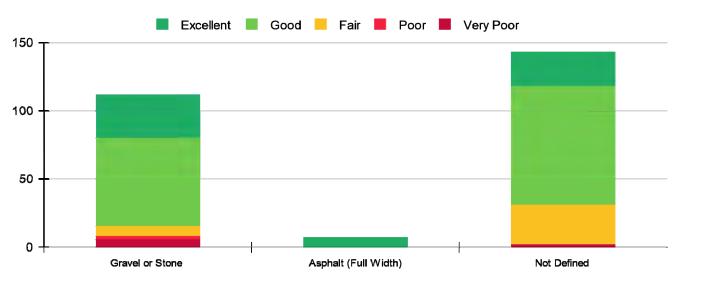
Surface Type	Excellent	Good	Fair	Poor	Very Poor
Hot Mix Asphalt	21.2	5.1	3.2	2.6	4.6
Surface Treated	21.8	11.7	4.3	0.0	3.1
Gravel	20.8	135.7	28.5	0.0	0.0

Condition Status by MMS



MMS	Excellent	Good	Fair	Poor	Very Poor
3	2.9	0.0	0.0	0.0	0.0
4	26.4	53.5	0.0	1.4	5.7
5	11.9	9.5	4.3	0.0	0.0
6	19.8	61.1	31.6	1.2	2.0
Not Defined	2.8	28.3	0.0	0.0	0.0

Condition by Shoulder Type



Shoulder Type	Very Poor	Poor	Fair	Good	Excellent
Gravel or Stone	5.7	2.5	7.1	64.9	31.8
Asphalt (Full Width)	0.0	0.0	0.0	0.0	7.2
Not Defined	2.0	0.1	28.9	87.5	24.8

February 16, 2023 Project No. 22521805

APPENDIX F

Scenario 1 Paved Roads - Impact of Current Budget



Scenario Summary

Scenario

Name:	SC1: Impact of Current Annual Budget
Description:	Impact of Current Annual Budget
Year:	2023

Optimization Settings

Optimization Mode	Standard
Planning Horizon (Years)	10
Include Priorities	Yes
Asset Replacement Value	No
Intervention Coordination	No
Discount Rate	0.00%
Rollover	Yes
Estimate Current Condition	True
Operational Efficiency	No
Condition Variation	
Project Size Limit	

Optimization Objective

Туре	Min/Max	Weight (Sum = 1)	Performance Attribute
Maximize Network			
Performance	Max	1	NA
(Recommended)			

Treatment Methods				
Treatment	Description	Unit Cost	Inflation Rate	Cost Estimation Year
HMA-FDR & Ovly	Full Depth Reclamation (FDR) + One Lift Overlay	55.00 \$/m²	5.0%	2023
ST-SST	Single Surface Treatment (Chip Seal)	5.40 \$/m²	5.0%	2022
ST-DST	Double Surface Treatment (Chip Seal)	9.25 \$/m²	5.0%	2022
ST-EnhSurf	Enhanced Thin Surfacings (Microsurfacing, Thin HMA Overlay)	5.00 \$/m²	5.0%	2022
ST-Enh2Surf	Enhanced Double Thin Surfacings (Double Microsurfacing, Cape Seal)	8.25 \$/m²	5.0%	2022
ST-FDR & DST	Full Depth Reclamation (FDR) + Double Surface Treatment	30.00 \$/m²	5.0%	2022
HMA-ST	Single Surface Treatment (Chip Seal)	5.40 \$/m²	5.0%	2022
HMA-DST	Double Surface Treatment (Chip Seal)	9.25 \$/m²	5.0%	2022
HMA-EnhSurf	Enhanced Thin Surfacings (Microsurfacing, Thin HMA Overlay)	5.00 \$/m²	5.0%	2022
HMA-Enh2Surf	Enhanced Double Thin Surfacings (Cape Seal, Double Microsurfacing)	8.25 \$/m²	5.0%	2022
HMA-Ovly	One Lift Overlay / Mill and One Lift Overlay	42.58 \$/m²	5.0%	2022 Page 1 of 1

age 1 of 1 Date: Jan 31, 2023

Criticality Settings	
Functional Class	0
Collector	35
Freeway	0
Local	5
Major Arterial	100
Minor Arterial	70
Minimum Maintenance Standards	10
1	0
2	0
3	100
4	90
5	40
6	0
Roadside Environment	0
Rural	40
Semi-Urban	50
Urban	60
Service Type	0
Commercial	60
Industrial	100
Residential	30
Surface Type	4
Composite	0
Concrete	0
Earth	0
Gravel	30
Hot Mix Asphalt	100
Surface Treated	60
Brick	0
Paver Interlock	0
AADT	7
less than 50	0
50 - 150	20
150 - 250	40
250 - 500	60
500 - 1000	80
1000 and over	100

Budget Constraints - SC1: Impact of Current Annual Budget				
Name	Budget Type	Equality	Subset	Asset Types
Total Capital	Total Capital	<= (Less than or	NA	
	Rudget	equal to)	INA	

Budget Values - SC1: Impact of Current Annual Budget

Year	Total Capital
•	1,630,000
2023	1,030,000
2024	925,000
2025	950,000
2026	1,100,000
2027	585,000
2028	795,000
2029	765,000
2030	1,115,000
2031	585,000
2032	515,000

Optimization Result

Scenario Summary

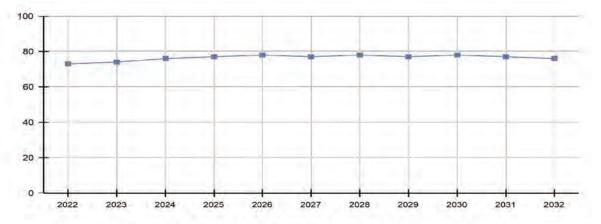
Scenario

Name:	SC1: Impact of Current Annual Budget		
Description:	Impact of Current Annual Budget		
Year:	2023		

Optimization Settings

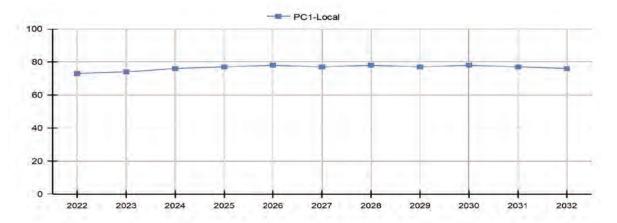
Optimization Settings				
Optimization Mode	Standard			
Planning Horizon (Years)	10			
Include Priorities	Yes			
Asset Replacement Value	No			
Estimate Current Condition	True			
Operational Efficiency	No			

Network Condition



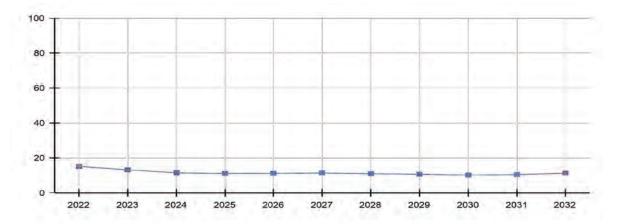
Year	Condition
2022	73
2023	74
2024	76
2025	77
2026	78
2027	77
2028	78
2029	77
2030	78
2031	77
2032	76

Network Condition by Performance Class



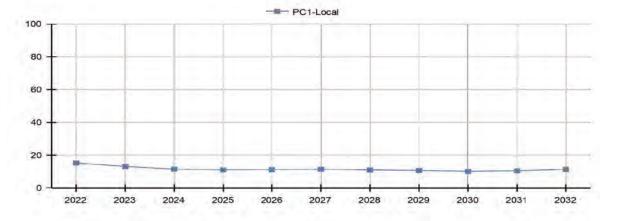
Year	PC1-Local
2022	73
2023	74
2024	76
2025	77
2026	78
2027	77
2028	78
2029	77
2030	78
2031	77
2032	76

Network Risk Index



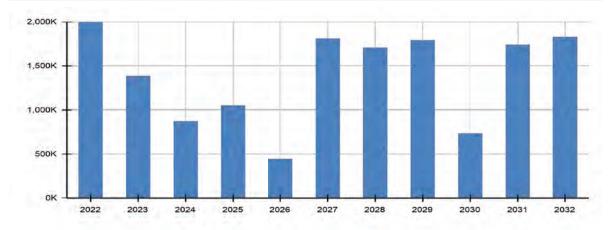
Year	Value
2022	15
2023	13
2024	12
2025	11
2026	11
2027	11
2028	11
2029	11
2030	10
2031	10
2032	11

Network Risk Index by Performance Class



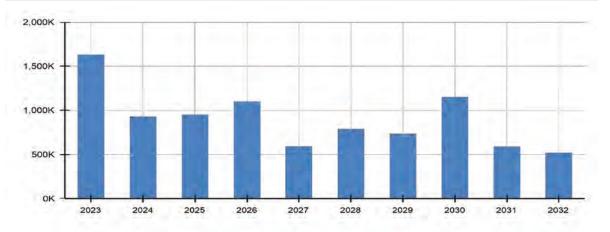
Year	PC1-Local
2022	15
2023	13
2024	12
2025	11
2026	11
2027	11
2028	11
2029	11
2030	10
2031	11
2032	11

Deficit Projection



Year	Value
2022	\$1,995,068
2023	\$1,384,675
2024	\$871,431
2025	\$1,048,897
2026	\$444,803
2027	\$1,808,899
2028	\$1,705,187
2029	\$1,790,447
2030	\$732,086
2031	\$1,739,379
2032	\$1,826,348

Capital Expenditure

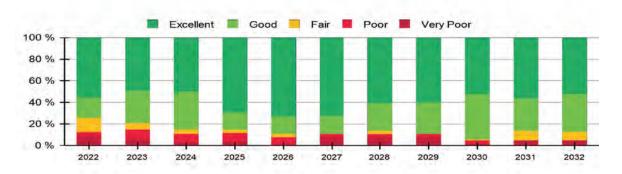


Year	Value
2023	\$1,629,000
2024	\$924,317
2025	\$947,971
2026	\$1,095,330
2027	\$588,895
2028	\$789,708
2029	\$734,443
2030	\$1,147,883
2031	\$586,806
2032	\$517,612

Network Condition Distribution Excellent Good Fair Poor Very Poor 100 % 80 % 60 % 40 % 20 % 0 % 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032

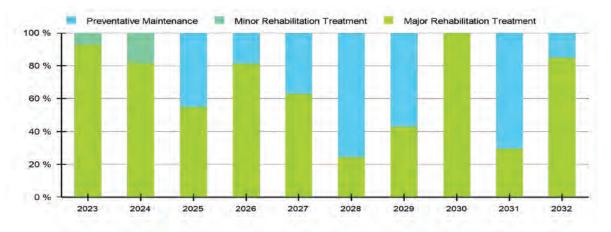
Year	Excellent	Good	Fair	Poor	Very Poor
2022	56%	19%	13%	3%	10%
2023	49%	30%	6%	8%	7%
2024	50%	35%	4%	8%	3%
2025	70%	16%	3%	8%	4%
2026	73%	16%	3%	7%	1%
2027	72%	17%	0%	3%	8%
2028	61%	26%	3%	3%	8%
2029	60%	29%	0%	3%	8%
2030	52%	42%	1%	3%	2%
2031	57%	30%	9%	0%	5%
2032	52%	35%	8%	0%	5%

PC1-Local Condition Distribution



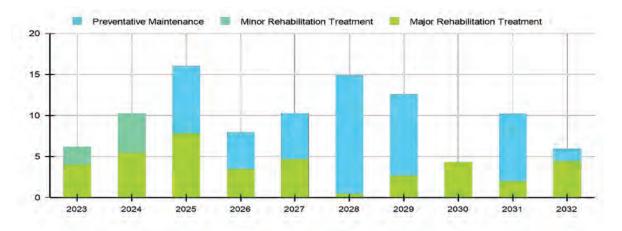
Year	Excellent	Good	Fair	Poor	Very Poor
2022	56%	19%	13%	3%	10%
2023	49%	30%	6%	8%	7%
2024	50%	35%	4%	8%	3%
2025	70%	16%	3%	8%	4%
2026	73%	16%	3%	7%	1%
2027	72%	17%	0%	3%	8%
2028	61%	26%	3%	3%	8%
2029	60%	29%	0%	3%	8%
2030	52%	42%	1%	3%	2%
2031	57%	30%	9%	0%	5%
2032	52%	35%	8%	0%	5%

Capital Expenditure by Treatment Type



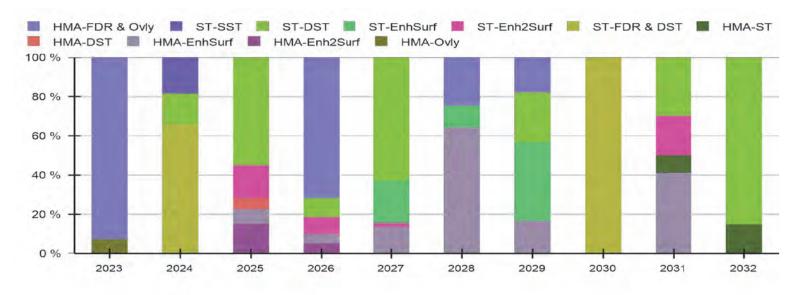
Year	Preventative Maintenance	Minor Rehabilitation Treatment	Major Rehabilitation Treatment	Total
2023	\$0	\$120,000	\$1,509,000	\$1,629,000
2024	\$0	\$170,488	\$753,829	\$924,317
2025	\$427,499	\$0	\$520,472	\$947,971
2026	\$203,455	\$0	\$891,875	\$1,095,330
2027	\$219,387	\$0	\$369,508	\$588,895
2028	\$595,551	\$0	\$194,157	\$789,708
2029	\$417,161	\$0	\$317,282	\$734,443
2030	\$0	\$0	\$1,147,883	\$1,147,883
2031	\$412,021	\$0	\$174,785	\$586,806
2032	\$77,573	\$0	\$440,039	\$517,612
Total	\$2,352,647	\$290,488	\$6,318,830	\$8,961,965

Project Size by Treatment Type (Km)



Year	Preventative Maintenance	Minor Rehabilitation Treatment	Major Rehabilitation Treatment	Total
2023	0.00	2.19	4.01	6.19
2024	0.00	4.77	5.45	10.22
2025	8.16	0.00	7.84	16.00
2026	4.45	0.00	3.52	7.97
2027	5.54	0.00	4.70	10.24
2028	14.44	0.00	0.46	14.90
2029	9.88	0.00	2.68	12.56
2030	0.00	0.00	4.32	4.32
2031	8.16	0.00	2.03	10.19
2032	1.45	0.00	4.47	5.92
Total	52.07	6.96	39.48	98.50

Capital Expenditure by Treatment Method



Treatment	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
HMA-FDR & Ovly	\$1,509,000	\$0	\$0	\$784,647	\$0	\$194,157	\$131,290	\$0	\$0	\$0	\$2,619,094
ST-SST	\$0	\$170,488	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$170,488
ST-DST	\$0	\$145,730	\$520,472	\$107,227	\$369,508	\$0	\$185,993	\$0	\$174,785	\$440,039	\$1,943,754
ST-EnhSurf	\$0	\$0	\$0	\$0	\$127,644	\$86,593	\$293,720	\$0	\$0	\$0	\$507,957
ST-Enh2Surf	\$0	\$0	\$157,805	\$92,594	\$11,056	\$0	\$0	\$0	\$118,176	\$0	\$379,631
ST-FDR & DST	\$0	\$608,098	\$0	\$0	\$0	\$0	\$0	\$1,147,883	\$0	\$0	\$1,755,981
HMA-ST	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$51,862	\$77,573	\$129,435
HMA-DST	\$0	\$0	\$54,897	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$54,897
HMA-EnhSurf	\$0	\$0	\$70,546	\$54,219	\$80,687	\$508,957	\$123,441	\$0	\$241,983	\$0	\$1,079,833
HMA-Enh2Surf	\$0	\$0	\$144,252	\$56,642	\$0	\$0	\$0	\$0	\$0	\$0	\$200,894
HMA-Ovly	\$120,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$120,000
Total	\$1,629,000	\$924,316	\$947,972	\$1,095,329	\$588,895	\$789,707	\$734,444	\$1,147,883	\$586,806	\$517,612	\$8,961,964

Project Size by Treatment Method (Km)



Treatment	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
HMA-FDR & Ovly	4.01	0.00	0.00	2.08	0.00	0.46	0.30	0.00	0.00	0.00	6.84
ST-SST	0.00	4.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.77
ST-DST	0.00	2.38	7.84	1.45	4.70	0.00	2.38	0.00	2.03	4.47	25.25
ST-EnhSurf	0.00	0.00	0.00	0.00	3.33	1.72	6.96	0.00	0.00	0.00	12.02
ST-Enh2Surf	0.00	0.00	2.75	2.05	0.18	0.00	0.00	0.00	2.05	0.00	7.03
ST-FDR & DST	0.00	3.06	0.00	0.00	0.00	0.00	0.00	4.32	0.00	0.00	7.38
HMA-ST	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	1.45	2.48
HMA-DST	0.00	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85
HMA-EnhSurf	0.00	0.00	2.03	1.49	2.03	12.71	2.92	0.00	5.08	0.00	26.26
HMA-Enh2Surf	0.00	0.00	2.52	0.91	0.00	0.00	0.00	0.00	0.00	0.00	3.43
HMA-Ovly	2.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.19
Total	6.19	10.22	16.00	7.97	10.24	14.90	12.56	4.32	10.19	5.92	98.50

Scenario 1 - Impact of Current Annual Budget (2023-2032)

Road ID	Road Name	From	То	Intervention	Condition	Criticality	Risk	Treatment Type	Applied Treatment	Budge	eted Cost
	<u> </u>			Year						-	
	Harper Rd	Bathurst 6th Concession	Keayes Road	2023	20.72	88.6	75.4	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$	1,099,000.00
	Keays Road	Old Morris Rd	Fallbrook Rd	2023	27.61	88.6	71.1	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$	410,000.00
	Powers Road		Stanleyville Road	2023	81.79	67.6	10.2	Minor Rehabilitation Treatment	HMA-Ovly	\$	120,000.00
768	Crow Lake Road	Bolingbroke Road	Frontenac Boundary	2024	10.68	74.3	68.6	Major Rehabilitation Treatment	ST-FDR & DST	\$	608,098.43
757	Bathurst 7th Concession	Harper Road	McVeigh Road	2024	49.57	74.3	37.6	Major Rehabilitation Treatment	ST-DST	\$	145,730.19
912	Hanna Rd	O'Brian Lake Lane 14	Bolingbroke Road	2024	81.79	50.5	7.6	Minor Rehabilitation Treatment	ST-SST	\$	62,236.70
913	Hanna Rd	Arthorpe Road	O'Brian Lake Lane 14	2024	81.79	50.5	7.6	Minor Rehabilitation Treatment	ST-SST	\$	108,251.78
4	McVeigh Road	Bathurst 7th Concession	End of Surface Treatment Civic 1332	2025	53.95	67.6	30.4	Major Rehabilitation Treatment	ST-DST	\$	25,766.09
14004	Ashby Road	Iron Mine Road	Lanark Highlands Bndy	2025	53.95	67.6	30.4	Major Rehabilitation Treatment	ST-DST	\$	29,057.53
731	Stanleyville Rd	Powers Road	Stanley Road	2025	58.43	81	31.9	Major Rehabilitation Treatment	ST-DST	\$	120,723.63
1196	Crozier Road	Crozier Road A	Loop	2025	69.34	25.7	6.6	Preventative Maintenance	HMA-Enh2Surf	\$	144,252.01
715	Armstrong Line	645 Armstrong Road	Highway 7	2025	58.43	61	24	Major Rehabilitation Treatment	ST-DST	\$	163,376.07
1357	Menzies Munro Side Road	Upper Scotch Line Road	Christie Lake Road	2025	58.43	74.3	29.3	Major Rehabilitation Treatment	ST-DST	\$	181,549.10
1290	Orchard Cresent	Scotch Line Rd	Scotch Line Rd	2025	73.35	68.6	15.2	Preventative Maintenance	HMA-DST	\$	54,896.86
734	Stanley Road	Narrows Lock Road	Pike Lake Route 1	2025	67.66	18.1	5	Preventative Maintenance	ST-Enh2Surf	\$	107,082.78
750	Somerville Drive	Christie Lake Road	Glen Tay Road	2025	76.15	25.7	5.1	Preventative Maintenance	HMA-EnhSurf	\$	43,622.44
1300	Ritchie Side Road	Crozier Road	Bolingbroke Road	2025	67.66	18.1	5	Preventative Maintenance	ST-Enh2Surf	\$	50,721.83
2	Clarchris Road	End of Pavement Civic 237	Highway 511	2025	79.39	39	6.7	Preventative Maintenance	HMA-EnhSurf	\$	26,923.12
1408	Lakewood Road	Lakewood Road	Loop	2026	10.77	32.4	29.8	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$	756,399.82
1305	Walters Ln	Fallbrooke Road	Dead End	2026	17.31	19	16.6	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$	28,247.55
97	Sproule Road	Highway 511	Dead End	2026	63.1	19	6.4	Preventative Maintenance	HMA-Enh2Surf	\$	13,328.02
1225	Posner Lane	Bygrove Ln	Dead End	2026	67.92	19	5.2	Preventative Maintenance	HMA-Enh2Surf	\$	29,961.84
1295	Park Lane Court	Somerville Dr	Dead End	2026	69.34	19	4.9	Preventative Maintenance	HMA-Enh2Surf	\$	13,351.78
1396	Iron Mine Rd	McDonalds Corners Road	Lanark Highlands Boundary	2026	58.43	74.3	29.3	Major Rehabilitation Treatment	ST-DST	\$	107,227.16
1294	Jodi Lane	Somerville Drive	Loop	2026	76.15	19	3.7	Preventative Maintenance	HMA-EnhSurf	Ś	8,677.99
	Upper Scotch Line	Allans Mill Road	Menzies Munro Side Road		67.66	74.3	20.7	Preventative Maintenance	ST-Enh2Surf	Ś	92,594.26
	Stanleyville Rd		Scotch Line Road	2026	79.39	81.9	14	Preventative Maintenance	HMA-EnhSurf	Ś	45,541.37
	Allans Side Road		Scotch Line Road	2027	58.43	67.6	26.6	Major Rehabilitation Treatment	ST-DST	¢	127,852.57
	Crozier Road	Ritchie Road	Crozier Road A	2027	58.43	18.1	7.1	Major Rehabilitation Treatment	ST-DST	¢	59,306.16
	Upper Scotch Line	Scotch Line Road	Allans Mill Road	2027	58.43	74.3	29.3	Major Rehabilitation Treatment	ST-DST	\$	182,348.78
	Muttons Road	Glen Tay Waste Site Exit	Norris Road	2027	79.39	81.9	14	Preventative Maintenance	HMA-EnhSurf	¢	8,460.09
	Otty Lake Side Road	Scotch Line Road	Ferrier Road East	2027	79.39	95.2	16.3	Preventative Maintenance	HMA-EnhSurf	ć	72,227.01
	Anglican Church Road	Highway 7		2027	72.36	43.8	10.5	Preventative Maintenance	ST-EnhSurf	÷	60,315.41
			Truelove Road							,	•
	Anglican Church Road	Truelove Road	Highway 7	2027	72.36	37.1	8.5	Preventative Maintenance	ST-EnhSurf	\$	67,329.09
	Ennis Road		Bennet Lake Road		67.66	24.8	6.9	Preventative Maintenance	ST-Enh2Surf	۶	11,055.79
	Old Brooke Road		Cooks Road	2028	7.71	32.4	30.5	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$	194,156.50
	Christie Lake North Shore Road	Christie Lake Road	End of Pavement Civic 636	2028	79.39	45.7	7.8	Preventative Maintenance	HMA-EnhSurf	\$	96,594.09
	Kenyon Road	Otty Lake Side Road	Lakewood Road		79.39	81.9	14	Preventative Maintenance	HMA-EnhSurf	\$	88,564.17
1314	Harper Rd		Bathurst 6th Concession	2028	79.39	64.8	11.1	Preventative Maintenance	HMA-EnhSurf	\$	150,721.76
1310	Glen Tay Rd	Christie Lake Road	Highway 7	2028	79.39	95.2	16.3	Preventative Maintenance	HMA-EnhSurf	\$	17,072.55

Scenario 1 - Impact of Current Annual Budget (2023-2032)

					(2023 2						
Road ID	Road Name	From	То	Intervention Year	Condition	Criticality	Risk	Treatment Type	Applied Treatment	$oxed{oxed}$	Budgeted Cost
1333	Norris Road	Harper Road	Muttons Road	2028	79.39	75.2	12.9	Preventative Maintenance	HMA-EnhSurf	\$	6,570.22
7620	Otty Lake Side Road	Kenyon Road	Trillium Drive	2028	79.39	95.2	16.3	Preventative Maintenance	HMA-EnhSurf	\$	100,461.27
24225	Ernest Way	Glen Tay Road	End of Cul-de-Sac	2028	79.39	19	3.2	Preventative Maintenance	HMA-EnhSurf	\$	48,973.13
607	Cameron Side Road	Highway 7	Bathurst Upper 4th Concession	2028	72.36	74.3	17.1	Preventative Maintenance	ST-EnhSurf	\$	86,593.50
848	Maberly Main Street	Highway 7	Maberly-Elphin Road	2029	24.16	32.4	26.7	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$	131,289.71
757	Bathurst 7th Concession	Harper Road	McVeigh Road	2029	53.95	74.3	33.4	Major Rehabilitation Treatment	ST-DST	\$	185,992.75
770	Powers Road	Narrows Lock Road	Stanleyville Road	2029	72.36	67.6	15.5	Preventative Maintenance	ST-EnhSurf	\$	92,246.83
912	Hanna Rd	O'Brian Lake Lane 14	Bolingbroke Road	2029	72.36	50.5	11.6	Preventative Maintenance	ST-EnhSurf	\$	73,547.73
913	Hanna Rd	Arthorpe Road	O'Brian Lake Lane 14	2029	72.36	50.5	11.6	Preventative Maintenance	ST-EnhSurf	\$	127,925.69
594	Glen Tay Rd	Scotch Line Road	Christie Lake Road	2029	79.39	100	17.1	Preventative Maintenance	HMA-EnhSurf	\$	123,440.56
930	Zealand Rd	Elphin-Maberly Road	11th Line South Sherbrooke	2030	15.1	50.5	45	Major Rehabilitation Treatment	ST-FDR & DST	\$	1,147,882.71
1184	Harper Rd	Bathurst 6th Concession	Keayes Road	2031	77.69	88.6	16.4	Preventative Maintenance	HMA-EnhSurf	\$	121,606.29
1305	Walters Ln	Fallbrooke Road	Dead End	2031	83.45	19	2.6	Preventative Maintenance	HMA-ST	\$	3,716.62
1325	Keays Road	Old Morris Rd	Fallbrook Rd	2031	77.69	88.6	16.4	Preventative Maintenance	HMA-EnhSurf	\$	70,301.62
97	Sproule Road	Highway 511	Dead End	2031	79.39	19	3.2	Preventative Maintenance	HMA-EnhSurf	\$	10,309.27
731	Stanleyville Rd	Powers Road	Stanley Road	2031	58.43	81	31.9	Major Rehabilitation Treatment	ST-DST	\$	161,781.21
1225	Posner Lane	Bygrove Ln	Dead End	2031	81.3	19	2.9	Preventative Maintenance	HMA-ST	\$	25,029.65
1295	Park Lane Court	Somerville Dr	Dead End	2031	81.3	19	2.9	Preventative Maintenance	HMA-ST	\$	11,153.87
1290	Orchard Cresent	Scotch Line Rd	Scotch Line Rd	2031	77.69	68.6	12.7	Preventative Maintenance	HMA-EnhSurf	\$	39,765.97
1294	Jodi Lane	Somerville Drive	Loop	2031	81.3	19	2.9	Preventative Maintenance	HMA-ST	\$	11,961.60
1327	Upper Scotch Line	Allans Mill Road	Menzies Munro Side Road	2031	67.66	74.3	20.7	Preventative Maintenance	ST-Enh2Surf	\$	118,176.35
1375	Anglican Church Road	Dead End	Anglican Church Road	2031	53.95	11.4	5.1	Major Rehabilitation Treatment	ST-DST	\$	13,003.49
14004	Ashby Road	Iron Mine Road	Lanark Highlands Bndy	2032	49.57	67.6	34.2	Major Rehabilitation Treatment	ST-DST	\$	40,886.86
1357	Menzies Munro Side Road	Upper Scotch Line Road	Christie Lake Road	2032	53.95	74.3	33.4	Major Rehabilitation Treatment	ST-DST	\$	255,457.82
1396	Iron Mine Rd	McDonalds Corners Road	Lanark Highlands Boundary	2032	58.43	74.3	29.3	Major Rehabilitation Treatment	ST-DST	\$	143,694.65
732	Stanleyville Rd	Stanley Road	Scotch Line Road	2032	81.3	81.9	12.7	Preventative Maintenance	HMA-ST	\$	65,912.18
1331	Muttons Road	Glen Tay Waste Site Exit	Norris Road	2032	83.45	81.9	11.2	Preventative Maintenance	HMA-ST	\$	11,661.25

February 16, 2023 Project No. 22521805

APPENDIX G

Scenario 2 Paved Roads - Maintain Current Condition (PCI of 73)



Scenario Summary

Scenario	
Name:	SC2: Maintain Current Target PCI 73
Description:	Maintain Current Conditions Scenario
Year:	2023

Optimization Settings	
Optimization Mode	Target Optimization
Planning Horizon (Years)	10
Include Priorities	Yes
Asset Replacement Value	No
Intervention Coordination	No
Discount Rate	0.00%
Rollover	No
Estimate Current Condition	True
Operational Efficiency	No
Condition Variation	
Project Size Limit	
Optimization Objectiv	е

Туре	Min/Max	Weight (Sum = 1)	Performance Attribute
Minimize Cost	Min	1	NA

Treatment Methods				
Treatment	Description	Unit Cost	Inflation Rate	Cost Estimation Year
ST-SST	Single Surface Treatment (Chip Seal)	5.40 \$/m²	5.0%	2022
ST-DST	Double Surface Treatment (Chip Seal)	9.25 \$/m²	5.0%	2022
ST-EnhSurf	Enhanced Thin Surfacings (Microsurfacing, Thin HMA Overlay)	5.00 \$/m²	5.0%	2022
ST-Enh2Surf	Enhanced Double Thin Surfacings (Double Microsurfacing, Cape Seal)	8.25 \$/m²	5.0%	2022
ST-FDR & DST	Full Depth Reclamation (FDR) + Double Surface Treatment	30.00 \$/m²	5.0%	2022
HMA-ST	Single Surface Treatment (Chip Seal)	5.40 \$/m²	5.0%	2022
HMA-DST	Double Surface Treatment (Chip Seal)	9.25 \$/m²	5.0%	2022
HMA-EnhSurf	Enhanced Thin Surfacings (Microsurfacing, Thin HMA Overlay)	5.00 \$/m²	5.0%	2022
HMA-Enh2Surf	Enhanced Double Thin Surfacings (Cape Seal, Double Microsurfacing)	8.25 \$/m²	5.0%	2022
HMA-Ovly	One Lift Overlay / Mill and One Lift Overlay	42.58 \$/m²	5.0%	2022
HMA-FDR & Ovly	Full Depth Reclamation (FDR) + One Lift Overlay	55.00 \$/m²	5.0%	2023

Target Performance					
Name	Perf. Class	Perf. Attribute	Constraint	Violation	Penalty
Target LoS	Network	PCI	0.0% >= 73 by 2023	Hard	NA
Max Percentage at Perfo					
Name	Perf. Class	Perf. Attribute	Constraint	Violation	Penalty
MLOS2	Network	PCI	10.0% <= 25 by 2023	Hard	NA
Criticality Settings					
Functional Class			0		
Collector			35		
Freeway			0		
Local			5		
Major Arterial			100		
Minor Arterial			70		
Minimum Maintenance Standards			10		
1			0		
2			0		
3			100		
4			90		
5			40		
6			0		
Roadside Environment			0		
Rural			40		
Semi-Urban			50		
Jrban			60		
Service Type			0		
Commercial			60		
Industrial			100		
Residential			30		
Surface Type			4	_	_
Composite			0		
Concrete			0		
Earth			0		
Gravel			30		
Hot Mix Asphalt			100		
Surface Treated			60		
Brick			0		
Paver Interlock			0		
AADT			7		-
ess than 50					
50 - 150			0		
150 - 250			20		
			40		
250 - 500			60		
500 - 1000			80		
1000 and over			100		

Optimization Result

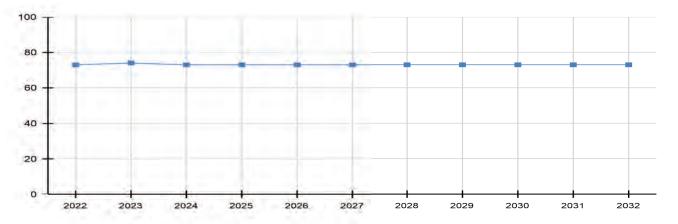
Scenario Summary

Scenario

Name:	SC2.1: Maintain Current Target PCI 73	
Description:	Maintain Current Conditions Scenario	
Year:	2023	

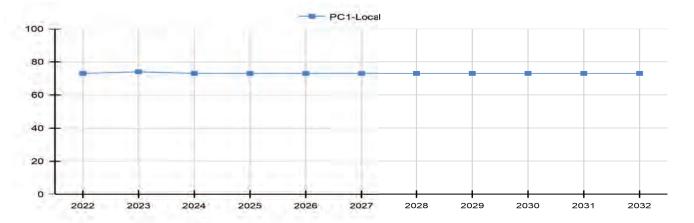
Optimization Settings			
Optimization Mode	Target Optimization		
Planning Horizon (Years)	10		
Include Priorities	Yes		
Asset Replacement Value	No		
Estimate Current Condition	True		
Operational Efficiency	No		

Network Condition



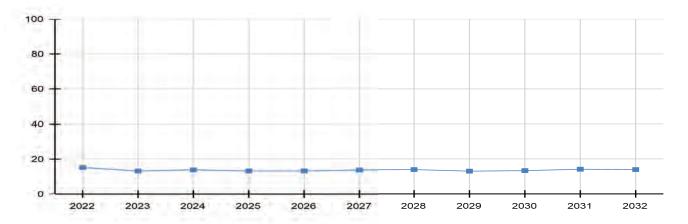
Year	Condition
2022	73
2023	74
2024	73
2025	73
2026	73
2027	73
2028	73
2029	73
2030	73
2031	73
2032	73

Network Condition by Performance Class



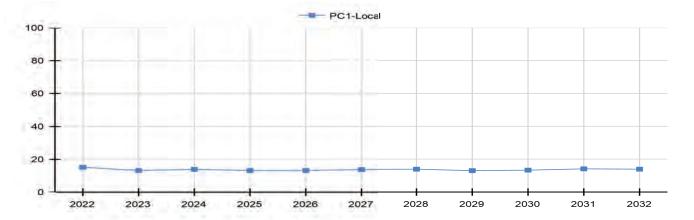
Year	PC1-Local
2022	73
2023	74
2024	73
2025	73
2026	73
2027	73
2028	73
2029	73
2030	73
2031	73
2032	73

Network Risk Index



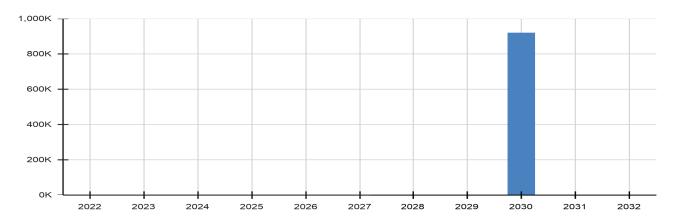
Year	Value
2022	15
2023	13
2024	14
2025	13
2026	13
2027	14
2028	14
2029	13
2030	13
2031	14
2032	14

Network Risk Index by Performance Class



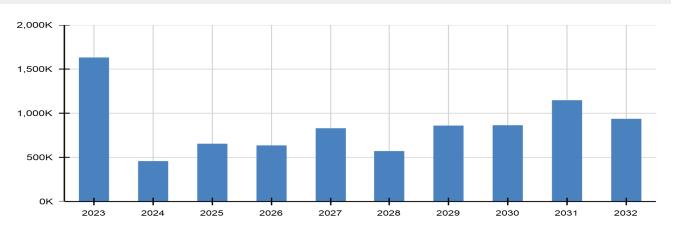
Year	PC1-Local
2022	15
2023	13
2024	14
2025	13
2026	13
2027	14
2028	14
2029	13
2030	13
2031	14
2032	14

Deficit Projection



Year	Value
2022	\$0
2023	\$0
2024	\$0
2025	\$0
2026	\$0
2027	\$0
2028	\$0
2029	\$0
2030	\$919,409
2031	\$0
2032	\$0

Capital Expenditure

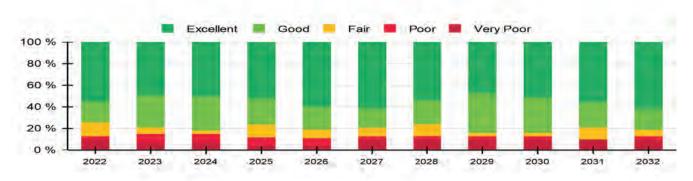


Year	Value
2023	\$1,629,000
2024	\$455,558
2025	\$652,760
2026	\$633,140
2027	\$828,170
2028	\$569,085
2029	\$858,101
2030	\$861,926
2031	\$1,145,455
2032	\$934,667

Network Condition Distribution Excellent Good Fair Poor Very Poor 100 % 80 % 60 % 40 % 20 % 0 % 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032

Year	Excellent	Good	Fair	Poor	Very Poor
2022	56%	19%	13%	3%	10%
2023	49%	30%	6%	8%	7%
2024	50%	32%	3%	8%	7%
2025	53%	24%	12%	8%	4%
2026	60%	21%	8%	7%	4%
2027	62%	18%	8%	3%	10%
2028	54%	22%	11%	3%	10%
2029	48%	37%	3%	3%	10%
2030	52%	33%	3%	3%	10%
2031	56%	23%	11%	0%	10%
2032	63%	19%	6%	3%	10%

PC1-Local Condition Distribution



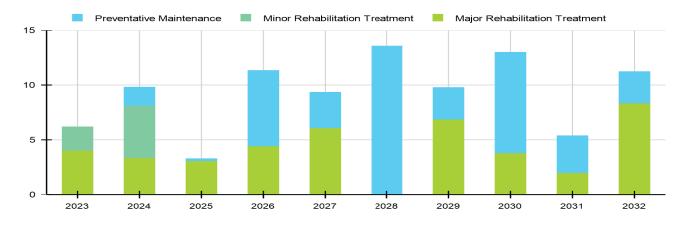
Year	Excellent	Good	Fair	Poor	Very Poor
2022	56%	19%	13%	3%	10%
2023	49%	30%	6%	8%	7%
2024	50%	32%	3%	8%	7%
2025	53%	24%	12%	8%	4%
2026	60%	21%	8%	7%	4%
2027	62%	18%	8%	3%	10%
2028	54%	22%	11%	3%	10%
2029	48%	37%	3%	3%	10%
2030	52%	33%	3%	3%	10%
2031	56%	23%	11%	0%	10%
2032	63%	19%	6%	3%	10%

Capital Expenditure by Treatment Type



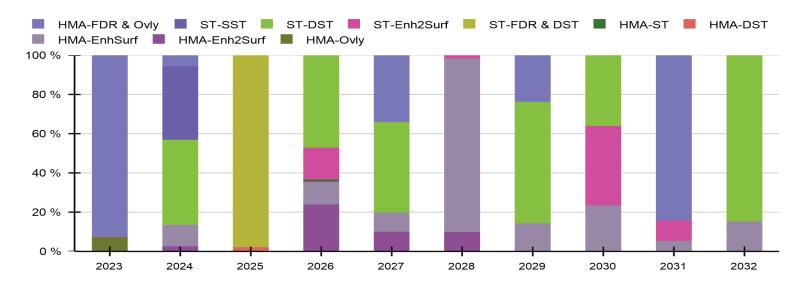
Year	Preventative Maintenance	Minor Rehabilitation Treatment	Major Rehabilitation Treatment	Total
2023	\$0	\$120,000	\$1,509,000	\$1,629,000
2024	\$61,505	\$170,488	\$223,565	\$455,558
2025	\$14,257	\$0	\$638,503	\$652,760
2026	\$334,835	\$0	\$298,305	\$633,140
2027	\$163,811	\$0	\$664,359	\$828,170
2028	\$569,085	\$0	\$0	\$569,085
2029	\$123,441	\$0	\$734,660	\$858,101
2030	\$551,476	\$0	\$310,450	\$861,926
2031	\$180,076	\$0	\$965,379	\$1,145,455
2032	\$142,632	\$0	\$792,035	\$934,667
Total	\$2,141,118	\$290,488	\$6,136,256	\$8,567,862

Project Size by Treatment Type (Km)



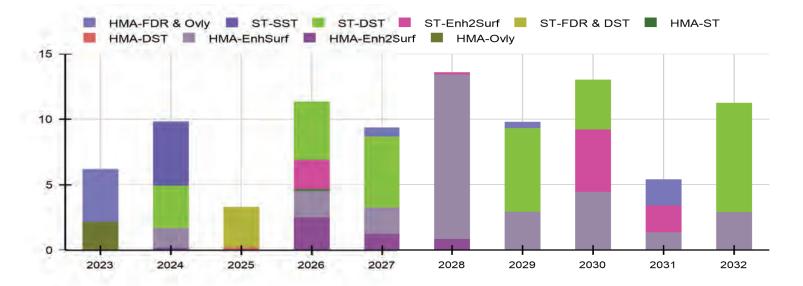
Year	Preventative Maintenance	Minor Rehabilitation Treatment	Major Rehabilitation Treatment	Total
2023	0.00	2.19	4.01	6.19
2024	1.71	4.77	3.33	9.82
2025	0.22	0.00	3.06	3.29
2026	6.92	0.00	4.42	11.34
2027	3.28	0.00	6.07	9.35
2028	13.57	0.00	0.00	13.57
2029	2.92	0.00	6.86	9.78
2030	9.22	0.00	3.79	13.00
2031	3.41	0.00	1.98	5.39
2032	2.90	0.00	8.33	11.23
Total	44.15	6.96	41.85	92.95

Capital Expenditure by Treatment Method



Treatment	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
HMA-FDR & Ovly	\$1,509,000	\$25,621	\$0	\$0	\$282,132	\$0	\$203,864	\$0	\$965,379	\$0	\$2,985,996
ST-SST	\$0	\$170,488	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$170,488
ST-DST	\$0	\$197,943	\$0	\$298,305	\$382,227	\$0	\$530,796	\$310,450	\$0	\$792,035	\$2,511,756
ST-Enh2Surf	\$0	\$0	\$0	\$103,124	\$0	\$10,019	\$0	\$349,053	\$118,176	\$0	\$580,372
ST-FDR & DST	\$0	\$0	\$638,503	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$638,503
HMA-ST	\$0	\$0	\$0	\$6,436	\$0	\$0	\$0	\$0	\$0	\$0	\$6,436
HMA-DST	\$0	\$0	\$14,257	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$14,257
HMA-EnhSurf	\$0	\$49,416	\$0	\$73,811	\$80,687	\$502,387	\$123,441	\$202,424	\$61,900	\$142,632	\$1,236,698
HMA-Enh2Surf	\$0	\$12,089	\$0	\$151,465	\$83,123	\$56,680	\$0	\$0	\$0	\$0	\$303,357
HMA-Ovly	\$120,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$120,000
Total	\$1,629,000	\$455,557	\$652,760	\$633,141	\$828,169	\$569,086	\$858,101	\$861,927	\$1,145,455	\$934,667	\$8,567,863

Project Size by Treatment Method (Km)



Treatment	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
HMA-FDR & Ovly	4.01	0.10	0.00	0.00	0.67	0.00	0.46	0.00	1.98	0.00	7.22
ST-SST	0.00	4.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.77
ST-DST	0.00	3.24	0.00	4.42	5.40	0.00	6.40	3.79	0.00	8.33	31.56
ST-Enh2Surf	0.00	0.00	0.00	2.23	0.00	0.15	0.00	4.77	2.05	0.00	9.20
ST-FDR & DST	0.00	0.00	3.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.06
HMA-ST	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.15
HMA-DST	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
HMA-EnhSurf	0.00	1.49	0.00	2.02	2.03	12.56	2.92	4.44	1.36	2.90	29.73
HMA-Enh2Surf	0.00	0.21	0.00	2.52	1.25	0.85	0.00	0.00	0.00	0.00	4.84
HMA-Ovly	2.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.19
Total	6.19	9.82	3.29	11.34	9.35	13.57	9.78	13.00	5.39	11.23	92.95

Scenario 2 - Maintain Current Condition (PCI 73) (2023-2032)

Road ID Road Name	From	То	Intervention Year	Condition	Criticality	Risk	Treatment Type	Applied Treatment	Budgeted Cost
1184 Harper Rd	Bathurst 6th Concession	Keayes Road	2023	20.72	88.6	75.4	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 1,099,000.00
1325 Keays Road	Old Morris Rd	Fallbrook Rd	2023	27.61	88.6	71.1	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 410,000.00
770 Powers Road	Narrows Lock Road	Stanleyville Road	2023	81.79	67.6	10.2	Minor Rehabilitation Treatment	HMA-Ovly	\$ 120,000.00
1305 Walters Ln	Fallbrooke Road	Dead End	2024	24.16	19	15.7	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 25,621.37
757 Bathurst 7th Concession	Harper Road	McVeigh Road	2024	49.57	74.3	37.6	Major Rehabilitation Treatment	ST-DST	\$ 145,730.19
4 McVeigh Road	Bathurst 7th Concession	End of Surface Treatment Civic 1332	2024	58.43	67.6	26.6	Major Rehabilitation Treatment	ST-DST	\$ 24,539.14
97 Sproule Road	Highway 511	Dead End	2024	66.43	19	5.6	Preventative Maintenance	HMA-Enh2Surf	\$ 12,088.90
14004 Ashby Road	Iron Mine Road	Lanark Highlands Bndy	2024	58.43	67.6	26.6	Major Rehabilitation Treatment	ST-DST	\$ 27,673.84
750 Somerville Drive	Christie Lake Road	Glen Tay Road	2024	77.69	25.7	4.7	Preventative Maintenance	HMA-EnhSurf	\$ 41,545.18
1294 Jodi Lane	Somerville Drive	Loop	2024	79.39	19	3.2	Preventative Maintenance	HMA-EnhSurf	\$ 7,871.19
912 Hanna Rd	O'Brian Lake Lane 14	Bolingbroke Road	2024	81.79	50.5	7.6	Minor Rehabilitation Treatment	ST-SST	\$ 62,236.70
913 Hanna Rd	Arthorpe Road	O'Brian Lake Lane 14	2024	81.79	50.5	7.6	Minor Rehabilitation Treatment	ST-SST	\$ 108,251.78
768 Crow Lake Road	Bolingbroke Road	Frontenac Boundary	2025	8.8	74.3	69.6	Major Rehabilitation Treatment	ST-FDR & DST	\$ 638,503.35
1295 Park Lane Court	Somerville Dr	Dead End	2025	70.7	19	4.6	Preventative Maintenance	HMA-DST	\$ 14,257.32
731 Stanleyville Rd	Powers Road	Stanley Road	2026	53.95	81	36.4	Major Rehabilitation Treatment	ST-DST	\$ 126,759.81
1196 Crozier Road	Crozier Road A	Loop	2026	67.92	25.7	7	Preventative Maintenance		\$ 151,464.61
	645 Armstrong Road	Highway 7	2026	53.95	61	27.4	Major Rehabilitation Treatment		\$ 171,544.88
715 Armstrong Line 2 Clarchris Road	End of Pavement Civic 237	Highway 511	2026	77.69	39	7.2	Preventative Maintenance	HMA-EnhSurf	\$ 28,269.27
	Allans Mill Road		2026	67.66	74.3	20.7			
1327 Upper Scotch Line		Menzies Munro Side Road	2026	79.39	81.9	14	Preventative Maintenance		, , , , , , , , , , , , , , , , , , , ,
732 Stanleyville Rd	Stanley Road	Scotch Line Road	2026	83.45	75.2	10.3	Preventative Maintenance	HMA-EnhSurf	\$ 45,541.37
1333 Norris Road	Harper Road	Muttons Road	2026	72.36	24.8	5.7	Preventative Maintenance	HMA-ST	\$ 6,436.13
920 Ennis Road	175 m South of Bennett Lake Road	Bennet Lake Road	2027	17.31	19	16.6	Preventative Maintenance		\$ 10,529.32
1 Muttons Road	Harper Road	Glen Tay Waste Site Exit	2027	20.72	25.7	21.9	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 147,617.76
5 Brooke Valley Road	End of Pavement	Old Brooke Road	2027	66.43	19	5.6	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 134,514.61
1225 Posner Lane	Bygrove Ln	Dead End	2027	66.43	19	5.6	Preventative Maintenance	HMA-Enh2Surf	\$ 31,459.93
1344 Bygrove Lane	Crozier Road	Dead End	2027	58.43	18.1	7.1	Preventative Maintenance	HMA-Enh2Surf	\$ 51,663.49
734 Stanley Road	Narrows Lock Road	Pike Lake Route 1	2027	58.43	67.6	26.6	Major Rehabilitation Treatment		\$ 132,368.92
771 Allans Side Road	Ferrier Road	Scotch Line Road	2027	58.43	18.1	7.1	Major Rehabilitation Treatment		\$ 127,852.57
1300 Ritchie Side Road	Crozier Road	Bolingbroke Road	2027	58.43	18.1	7.1	Major Rehabilitation Treatment	ST-DST	\$ 62,699.09
1199 Crozier Road	Ritchie Road	Crozier Road A	2027	79.39	81.9	14	Major Rehabilitation Treatment	ST-DST	\$ 59,306.16
1331 Muttons Road	Glen Tay Waste Site Exit	Norris Road	2027	79.39	95.2	16.3	Preventative Maintenance	HMA-EnhSurf	\$ 8,460.09
735 Otty Lake Side Road	Scotch Line Road	Ferrier Road East	2028	69.34	68.6	17.7	Preventative Maintenance	HMA-EnhSurf	\$ 72,227.01
1290 Orchard Cresent	Scotch Line Rd	Scotch Line Rd	2028	79.39	45.7	7.8	Preventative Maintenance	HMA-Enh2Surf	\$ 56,679.71
1349 Christie Lake North Shore Road	Christie Lake Road	End of Pavement Civic 636	2028	79.39	81.9	14	Preventative Maintenance	HMA-EnhSurf	\$ 96,594.09
1410 Kenyon Road	Otty Lake Side Road	Lakewood Road	2028	79.39	64.8	11.1	Preventative Maintenance	HMA-EnhSurf	\$ 88,564.17
1314 Harper Rd	Highway 7	Bathurst 6th Concession	2028	79.39	95.2	16.3	Preventative Maintenance	HMA-EnhSurf	\$ 150,721.76
1310 Glen Tay Rd	Christie Lake Road	Highway 7	2028	67.66	11.4	3.1	Preventative Maintenance	HMA-EnhSurf	\$ 17,072.55
1375 Anglican Church Road	Dead End	Anglican Church Road		79.39	95.2	16.3	Preventative Maintenance	ST-Enh2Surf	\$ 10,018.53
7620 Otty Lake Side Road	Kenyon Road	Trillium Drive	2028				Preventative Maintenance	HMA-EnhSurf	\$ 100,461.27
24225 Ernest Way	Glen Tay Road	End of Cul-de-Sac	2028	79.39	19	3.2	Preventative Maintenance	HMA-EnhSurf	\$ 48,973.13
1372 Old Brooke Road	Highway 7	Cooks Road	2029	4.87	32.4	31.2	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 203,864.33

Scenario 2 - Maintain Current Condition (PCI 73) (2023-2032)

Road ID Road Name	From	То	Intervention Year	Condition	Criticality	Risk	Treatment Type	Applied Treatment	Budgeted Cost
757 Bathurst 7th Concession	Harper Road	McVeigh Road	2029	53.95	74.3	33.4	Major Rehabilitation Treatment	ST-DST	\$ 185,992.75
1357 Menzies Munro Side Road	Upper Scotch Line Road	Christie Lake Road	2029	41.22	74.3	48	Major Rehabilitation Treatment	ST-DST	\$ 220,674.07
1396 Iron Mine Rd	McDonalds Corners Road	Lanark Highlands Boundary	2029	45.32	74.3	42.9	Major Rehabilitation Treatment	ST-DST	\$ 124,128.84
594 Glen Tay Rd	Scotch Line Road	Christie Lake Road	2029	79.39	100	17.1	Preventative Maintenance	HMA-EnhSurf	\$ 123,440.56
1184 Harper Rd	Bathurst 6th Concession	Keayes Road	2030	79.39	88.6	15.2	Preventative Maintenance	HMA-EnhSurf	\$ 115,815.52
1325 Keays Road	Old Morris Rd	Fallbrook Rd	2030	79.39	88.6	15.2	Preventative Maintenance	HMA-EnhSurf	\$ 66,953.92
97 Sproule Road	Highway 511	Dead End	2030	79.39	19	3.2	Preventative Maintenance	HMA-EnhSurf	\$ 9,818.36
14004 Ashby Road	Iron Mine Road	Lanark Highlands Bndy	2030	58.43	67.6	26.6	Major Rehabilitation Treatment	ST-DST	\$ 37,085.59
1295 Park Lane Court	Somerville Dr	Dead End	2030	79.39	19	3.2	Preventative Maintenance	HMA-EnhSurf	\$ 9,835.86
912 Hanna Rd	O'Brian Lake Lane 14	Bolingbroke Road	2030	67.66	50.5	14	Preventative Maintenance	ST-Enh2Surf	\$ 127,421.45
913 Hanna Rd	Arthorpe Road	O'Brian Lake Lane 14	2030	67.66	50.5	14	Preventative Maintenance	ST-Enh2Surf	\$ 221,631.26
1188 Anglican Church Road	Highway 7	Truelove Road	2030	58.43	43.8	17.2	Major Rehabilitation Treatment	ST-DST	\$ 129,171.85
909 Anglican Church Road	Truelove Road	Highway 7	2030	58.43	37.1	14.6	Major Rehabilitation Treatment	ST-DST	\$ 144,192.39
1408 Lakewood Road	Lakewood Road	Loop	2031	0	32.4	32.3	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 965,379.14
1305 Walters Ln	Fallbrooke Road	Dead End	2031	79.39	19	3.2	Preventative Maintenance	HMA-EnhSurf	\$ 3,441.31
750 Somerville Drive	Christie Lake Road	Glen Tay Road	2031	79.39	25.7	4.4	Preventative Maintenance	HMA-EnhSurf	\$ 58,458.24
1327 Upper Scotch Line	Allans Mill Road	Menzies Munro Side Road	2031	67.66	74.3	20.7	Preventative Maintenance	ST-Enh2Surf	\$ 118,176.35
731 Stanleyville Rd	Powers Road	Stanley Road	2032	53.95	81	36.4	Major Rehabilitation Treatment	ST-DST	\$ 169,870.27
1196 Crozier Road	Crozier Road A	Loop	2032	79.39	25.7	4.4	Preventative Maintenance	HMA-EnhSurf	\$ 123,016.40
715 Armstrong Line	645 Armstrong Road	Highway 7	2032	53.95	61	27.4	Major Rehabilitation Treatment	ST-DST	\$ 229,886.54
1294 Jodi Lane	Somerville Drive	Loop	2032	77.69	19	3.5	Preventative Maintenance	HMA-EnhSurf	\$ 11,629.33
770 Powers Road	Narrows Lock Road	Stanleyville Road	2032	58.43	67.6	26.6	Major Rehabilitation Treatment		\$ 197,556.39
1333 Norris Road	Harper Road	Muttons Road	2032	77.69	75.2	13.9	Preventative Maintenance		\$ 7,986.14
607 Cameron Side Road	Highway 7	Bathurst Upper 4th Concession	2032	53.95	74.3	33.4	Major Rehabilitation Treatment	ST-DST	\$ 194,721.63

February 16, 2023 Project No. 22521805

APPENDIX H

Scenario 3 Paved Roads - Target PCI of 75



Scenario Summary

Scenario	
Name:	SC3: Target Overall Condition PCI of 80
Description:	Target Overall Condition PCI of 80
Year:	2023

Optimization Settings	
Optimization Mode	Target Optimization
Planning Horizon (Years)	10
Include Priorities	Yes
Asset Replacement Value	No
Intervention Coordination	No
Discount Rate	0.00%
Rollover	No
Estimate Current Condition	True
Operational Efficiency	No
Condition Variation	
Project Size Limit	

Optimization Objective

Туре	Min/Max	Weight (Sum = 1)	Performance Attribute
Minimize Cost	Min	1	NA

Treatment Methods				
Treatment	Description	Unit Cost	Inflation Rate	Cost Estimation Year
ST-SST	Single Surface Treatment (Chip Seal)	5.40 \$/m²	5.0%	2022
ST-DST	Double Surface Treatment (Chip Seal)	9.25 \$/m²	5.0%	2022
ST-EnhSurf	Enhanced Thin Surfacings (Microsurfacing, Thin HMA Overlay)	5.00 \$/m²	5.0%	2022
ST-Enh2Surf	Enhanced Double Thin Surfacings (Double Microsurfacing, Cape Seal)	8.25 \$/m²	5.0%	2022
ST-FDR & DST	Full Depth Reclamation (FDR) + Double Surface Treatment	30.00 \$/m²	5.0%	2022
HMA-ST	Single Surface Treatment (Chip Seal)	5.40 \$/m²	5.0%	2022
HMA-DST	Double Surface Treatment (Chip Seal)	9.25 \$/m²	5.0%	2022
HMA-EnhSurf	Enhanced Thin Surfacings (Microsurfacing, Thin HMA Overlay)	5.00 \$/m²	5.0%	2022
HMA-Enh2Surf	Enhanced Double Thin Surfacings (Cape Seal, Double Microsurfacing)	8.25 \$/m²	5.0%	2022
HMA-Ovly	One Lift Overlay / Mill and One Lift Overlay	42.58 \$/m²	5.0%	2022
HMA-FDR & Ovly	Full Depth Reclamation (FDR) + One Lift Overlay	55.00 \$/m²	5.0%	2023

LOS Constrain	ts						
Target Performance							
Name	Perf. Class	Perf. Attribute	Constraint	Violation	Penalty		
MLOS1	Network	PCI	0.0% >= 80 by 2032	Hard	NA		
MLOS4	Network	PCI	>= 75 by 2028	Hard	NA		
Max Percentage at Performance Threshold							
Name	Perf. Class	Perf. Attribute	Constraint	Violation	Penalty		
MLOS2	Network	PCI	0.0% <= 25 by 2032	Hard	NA		

5.0% <= 25 by 2027

Hard

NA

PCI

MLOS3

Network

Criticality Settings	
Functional Class	0
Collector	35
Freeway	0
Local	5
Major Arterial	100
Minor Arterial	70
Minimum Maintenance	10
Standards 1	
2	0
	0
3	100
4	90
5	40
6	0
Roadside Environment	0
Rural	40
Semi-Urban	50
Urban	60
Service Type	0
Commercial	60
Industrial	100
Residential	30
Surface Type	4
Composite	0
Concrete	0
Earth	0
Gravel	30
Hot Mix Asphalt	100
Surface Treated	60
Brick	0
Paver Interlock	0
AADT	7
less than 50	0
50 - 150	20
150 - 250	40
250 - 500	60
500 - 1000	80
1000 and over	100

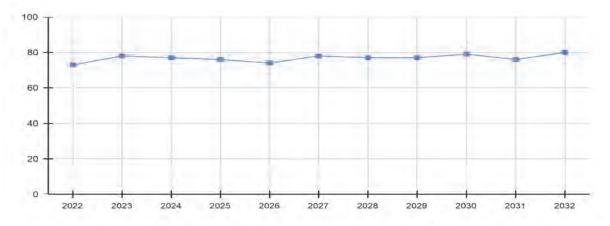
Optimization Result

Scenario Summary

Scenario	
Name:	SC3.2: Target Overall Condition PCI of 80
Description:	Target Overall Condition PCI of 80
Year:	2023

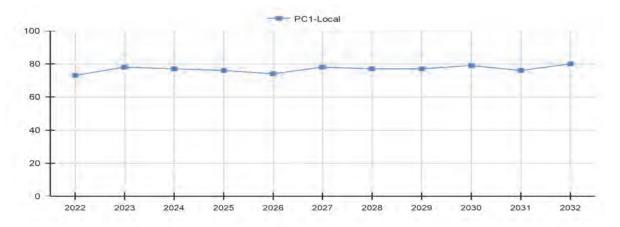
Optimization Sett	ings
Optimization Mode	Target Optimization
Planning Horizon (Years)	10
Include Priorities	Yes
Asset Replacement Value	No
Estimate Current Condition	True
Operational Efficiency	No

Network Condition



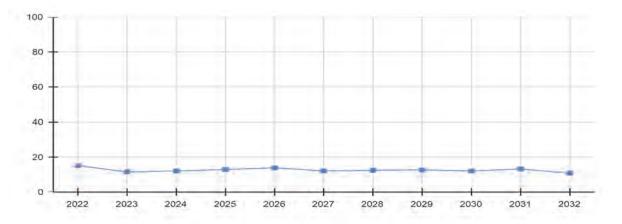
Year	Condition
2022	73
2023	78
2024	77
2025	76
2026	74
2027	78
2028	77
2029	77
2030	79
2031	76
2032	80

Network Condition by Performance Class



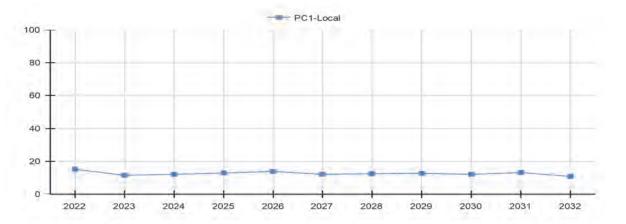
Year	PC1-Local
2022	73
2023	78
2024	77
2025	76
2026	74
2027	78
2028	77
2029	77
2030	79
2031	76
2032	80

Network Risk Index



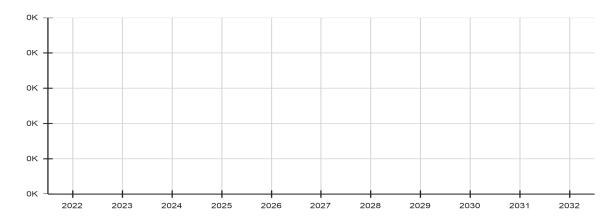
Year	Value
2022	15
2023	12
2024	12
2025	13
2026	14
2027	12
2028	12
2029	13
2030	12
2031	13
2032	11

Network Risk Index by Performance Class



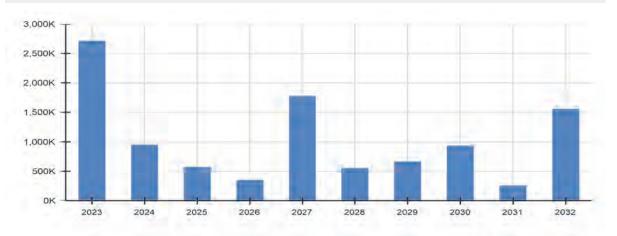
Year	PC1-Local
2022	15
2023	12
2024	12
2025	13
2026	14
2027	12
2028	13
2029	13
2030	12
2031	13
2032	11

Deficit Projection



Year	Value
2022	\$0
2023	\$0
2024	\$0
2025	\$0
2026	\$0
2027	\$0
2028	\$0
2029	\$0
2030	\$0
2031	\$0
2032	\$0

Capital Expenditure

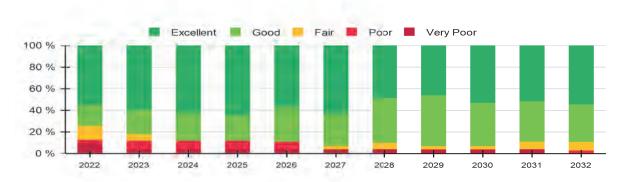


Year	Value
2023	\$2,713,568
2024	\$948,559
2025	\$570,592
2026	\$347,138
2027	\$1,773,460
2028	\$551,296
2029	\$663,882
2030	\$932,500
2031	\$254,270
2032	\$1,554,080

Network Condition Distribution Excellent Good Fair Poor Very Poor 100 % 80 % 60 % 40 % 20 % 0 % 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032

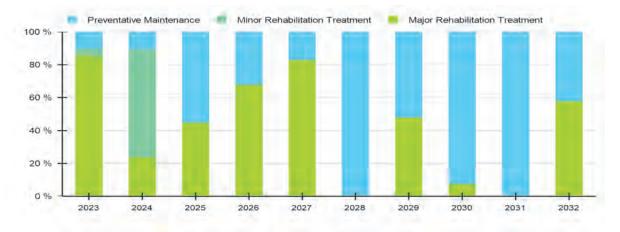
Year	Excellent	Good	Fair	Poor	Very Poor
2022	56%	19%	13%	3%	10%
2023	59%	23%	6%	8%	4%
2024	62%	26%	0%	8%	4%
2025	65%	23%	0%	8%	4%
2026	57%	32%	0%	7%	4%
2027	63%	30%	3%	0%	4%
2028	48%	41%	6%	0%	4%
2029	46%	47%	3%	0%	4%
2030	53%	40%	3%	0%	4%
2031	51%	37%	7%	0%	4%
2032	55%	35%	8%	3%	0%

PC1-Local Condition Distribution



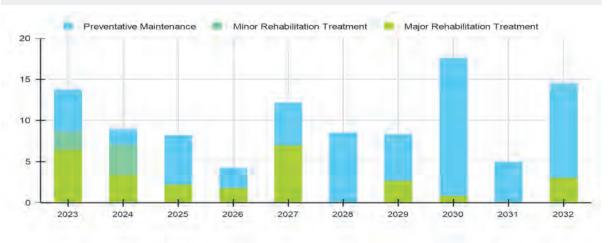
Year	Excellent	Good	Fair	Poor	Very Poor
2022	56%	19%	13%	3%	10%
2023	59%	23%	6%	8%	4%
2024	62%	26%	0%	8%	4%
2025	65%	23%	0%	8%	4%
2026	57%	32%	0%	7%	4%
2027	63%	30%	3%	0%	4%
2028	48%	41%	6%	0%	4%
2029	46%	47%	3%	0%	4%
2030	53%	40%	3%	0%	4%
2031	51%	37%	7%	0%	4%
2032	55%	35%	8%	3%	0%

Capital Expenditure by Treatment Type



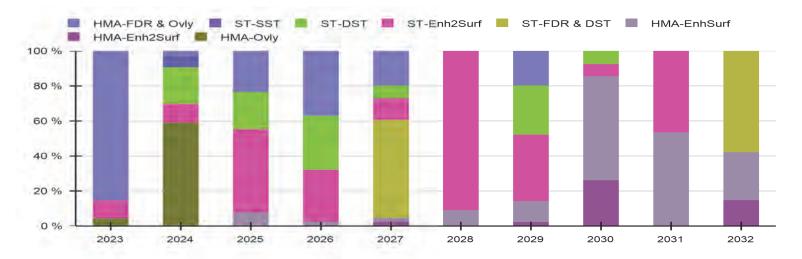
Year	Preventative Maintenance	Minor Rehabilitation Treatment	Major Rehabilitation Treatment	Total
2023	\$279,035	\$120,000	\$2,314,533	\$2,713,568
2024	\$101,984	\$623,010	\$223,565	\$948,559
2025	\$315,975	\$0	\$254,617	\$570,592
2026	\$111,802	\$0	\$235,336	\$347,138
2027	\$303,752	\$0	\$1,469,708	\$1,773,460
2028	\$551,296	\$0	\$0	\$551,296
2029	\$346,600	\$0	\$317,282	\$663,882
2030	\$862,530	\$0	\$69,970	\$932,500
2031	\$254,270	\$0	\$0	\$254,270
2032	\$655,642	\$0	\$898,438	\$1,554,080
Total	\$3,782,886	\$743,010	\$5,783,449	\$10,309,345

Project Size by Treatment Type (Km)



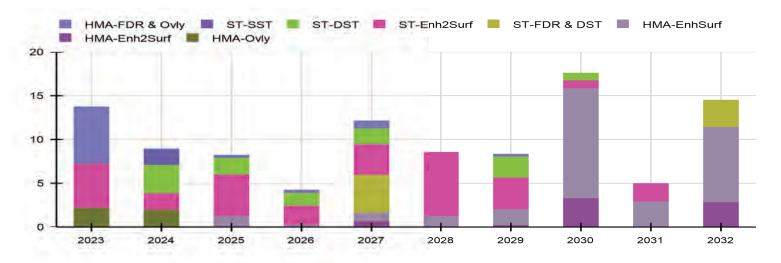
Year	Preventative Maintenance	Minor Rehabilitation Treatment	Major Rehabilitation Treatment	Total
2023	5.11	2.19	6.45	13.75
2024	1.87	3.73	3.33	8.94
2025	6.01	0.00	2.21	8.22
2026	2.47	0.00	1.78	4.25
2027	5.15	0.00	6.99	12.14
2028	8.55	0.00	0.00	8.55
2029	5.66	0.00	2.68	8.34
2030	16.74	0.00	0.85	17.60
2031	4.98	0.00	0.00	4.98
2032	11.44	0.00	3.06	14.50
Total	67.96	5.92	27.37	101.25

Capital Expenditure by Treatment Method



Treatment	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
HMA-FDR & Ovly	\$2,314,533	\$25,621	\$133,894	\$128,109	\$350,271	\$0	\$131,290	\$0	\$0	\$0	\$3,083,718
ST-SST	\$0	\$62,237	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$62,237
ST-DST	\$0	\$197,943	\$120,724	\$107,227	\$127,853	\$0	\$185,993	\$69,970	\$0	\$0	\$809,710
ST-Enh2Surf	\$279,035	\$101,984	\$272,353	\$103,124	\$220,155	\$501,086	\$251,514	\$64,735	\$118,176	\$0	\$1,912,162
ST-FDR & DST	\$0	\$0	\$0	\$0	\$991,584	\$0	\$0	\$0	\$0	\$898,438	\$1,890,022
HMA-EnhSurf	\$0	\$0	\$43,622	\$8,678	\$38,143	\$50,209	\$79,630	\$553,882	\$136,093	\$426,220	\$1,336,477
HMA-Enh2Surf	\$0	\$0	\$0	\$0	\$45,454	\$0	\$15,456	\$243,913	\$0	\$229,422	\$534,245
HMA-Ovly	\$120,000	\$560,773	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$680,773
Total	\$2,713,568	\$948,558	\$570,593	\$347,138	\$1,773,460	\$551,295	\$663,883	\$932,500	\$254,269	\$1,554,080	\$10,309,344

Project Size by Treatment Method (Km)



Treatment	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
HMA-FDR & Ovly	6.45	0.10	0.34	0.34	0.87	0.00	0.30	0.00	0.00	0.00	8.39
ST-SST	0.00	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.74
ST-DST	0.00	3.24	1.88	1.45	1.81	0.00	2.38	0.85	0.00	0.00	11.60
ST-Enh2Surf	5.11	1.87	4.75	2.23	3.49	7.30	3.61	0.89	2.05	0.00	31.29
ST-FDR & DST	0.00	0.00	0.00	0.00	4.32	0.00	0.00	0.00	0.00	3.06	7.38
HMA-EnhSurf	0.00	0.00	1.26	0.24	0.98	1.25	1.83	12.56	2.92	8.59	29.62
HMA-Enh2Surf	0.00	0.00	0.00	0.00	0.69	0.00	0.22	3.30	0.00	2.85	7.05
HMA-Ovly	2.19	1.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.18
Total	13.75	8.94	8.22	4.25	12.14	8.55	8.34	17.60	4.98	14.50	101.25

Scenario 3 - Targeted PCI of 80 (2023-2032)

Road ID	Road Name	From	То	Intervention Year	Condition	Criticality	Risk	Treatment Type	Applied Treatment	Budgeted Cost
1184	Harper Rd	Bathurst 6th Concession	Keayes Road	2023	20.72	88.6	75.4	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 1,099,000.00
1408	Lakewood Road	Lakewood Road	Loop	2023	20.72	32.4	27.5	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 653,406.60
1372	Old Brooke Road	Highway 7	Cooks Road	2023	24.16	32.4	26.7	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 152,126.70
1325	Keays Road	Old Morris Rd	Fallbrook Rd	2023	27.61	88.6	71.1	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 410,000.00
715	Armstrong Line	645 Armstrong Road	Highway 7	2023	67.66	61	17	Preventative Maintenance	ST-Enh2Surf	\$ 132,166.71
1357	Menzies Munro Side Road	Upper Scotch Line Road	Christie Lake Road	2023	67.66	74.3	20.7	Preventative Maintenance	ST-Enh2Surf	\$ 146,868.18
770	Powers Road	Narrows Lock Road	Stanleyville Road	2023	81.79	67.6	10.2	Minor Rehabilitation Treatment	HMA-Ovly	\$ 120,000.00
1305	Walters Ln	Fallbrooke Road	Dead End	2024	24.16	19	15.7	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 25,621.37
597	Mclaren Road	Kenyon Road	Kenyon Road	2024	46.87	25.7	14.1	Minor Rehabilitation Treatment	HMA-Ovly	\$ 560,773.05
757	Bathurst 7th Concession	Harper Road	McVeigh Road	2024	49.57	74.3	37.6	Major Rehabilitation Treatment	ST-DST	\$ 145,730.19
4	McVeigh Road	Bathurst 7th Concession	End of Surface Treatment Civic 1332	2024	58.43	67.6	26.6	Major Rehabilitation Treatment	ST-DST	\$ 24,539.14
14004	Ashby Road	Iron Mine Road	Lanark Highlands Bndy	2024	58.43	67.6	26.6	Major Rehabilitation Treatment	ST-DST	\$ 27,673.84
734	Stanley Road	Narrows Lock Road	Pike Lake Route 1	2024	72.36	18.1	4.1	Preventative Maintenance	ST-Enh2Surf	\$ 101,983.60
912	Hanna Rd	O'Brian Lake Lane 14	Bolingbroke Road	2024	81.79	50.5	7.6	Minor Rehabilitation Treatment	ST-SST	\$ 62,236.70
1	Muttons Road	Harper Road	Glen Tay Waste Site Exit	2025	24.16	19	15.7	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 133,893.66
731	Stanleyville Rd	Powers Road	Stanley Road	2025	58.43	81	31.9	Major Rehabilitation Treatment	ST-DST	\$ 120,723.63
750	Somerville Drive	Christie Lake Road	Glen Tay Road	2025	76.15	25.7	5.1	Preventative Maintenance	HMA-EnhSurf	\$ 43,622.44
1300	Ritchie Side Road	Crozier Road	Bolingbroke Road	2025	67.66	18.1	5	Preventative Maintenance	ST-Enh2Surf	\$ 50,721.83
1199	Crozier Road	Ritchie Road	Crozier Road A	2025	67.66	18.1	5	Preventative Maintenance	ST-Enh2Surf	\$ 47,977.04
913	Hanna Rd	Arthorpe Road	O'Brian Lake Lane 14	2025	77.08	50.5	9.6	Preventative Maintenance	ST-Enh2Surf	\$ 173,653.89
5	Brooke Valley Road	End of Pavement	Old Brooke Road	2026	24.16	25.7	21.2	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 128,109.15
1396	Iron Mine Rd	McDonalds Corners Road	Lanark Highlands Boundary	2026	58.43	74.3	29.3	Major Rehabilitation Treatment	ST-DST	\$ 107,227.16
1294	Jodi Lane	Somerville Drive	Loop	2026	76.15	19	3.7	Preventative Maintenance	HMA-EnhSurf	\$ 8,677.99
1327	Upper Scotch Line	Allans Mill Road	Menzies Munro Side Road	2026	67.66	74.3	20.7	Preventative Maintenance	ST-Enh2Surf	\$ 92,594.26
920	Ennis Road	175 m South of Bennett Lake Road	Bennet Lake Road	2026	72.36	24.8	5.7	Preventative Maintenance	ST-Enh2Surf	\$ 10,529.32
1381	Glen Drive	Elm Grove Road	Cherie Hill	2027	24.16	25.7	21.2	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 350,271.46
930	Zealand Rd	Elphin-Maberly Road	11th Line South Sherbrooke	2027	23.37	50.5	42	Major Rehabilitation Treatment	ST-FDR & DST	\$ 991,584.24
97	Sproule Road	Highway 511	Dead End	2027	61.25	19	6.8	Preventative Maintenance	HMA-Enh2Surf	\$ 13,994.42
1225	Posner Lane	Bygrove Ln	Dead End	2027	66.43	19	5.6	Preventative Maintenance	HMA-Enh2Surf	\$ 31,459.93
771	Allans Side Road	Ferrier Road	Scotch Line Road	2027	58.43	67.6	26.6	Major Rehabilitation Treatment	ST-DST	\$ 127,852.57
2	Clarchris Road	End of Pavement Civic 237	Highway 511	2027	76.15	39	7.7	Preventative Maintenance	HMA-EnhSurf	\$ 29,682.74
1331	Muttons Road	Glen Tay Waste Site Exit	Norris Road	2027	79.39	81.9	14	Preventative Maintenance	HMA-EnhSurf	\$ 8,460.09
1188	Anglican Church Road	Highway 7	Truelove Road	2027	72.36	43.8	10	Preventative Maintenance	ST-Enh2Surf	\$ 99,520.42
909	Anglican Church Road	Truelove Road	Highway 7	2027	72.36	37.1	8.5	Preventative Maintenance	ST-Enh2Surf	\$ 111,092.99
1375	Anglican Church Road	Dead End	Anglican Church Road	2027	72.36	11.4	2.6	Preventative Maintenance	ST-Enh2Surf	\$ 9,541.46
715	Armstrong Line	645 Armstrong Road	Highway 7	2028	67.66	61	17	Preventative Maintenance	ST-Enh2Surf	\$ 168,681.93
1357	Menzies Munro Side Road	Upper Scotch Line Road	Christie Lake Road	2028	67.66	74.3	20.7	Preventative Maintenance	ST-Enh2Surf	\$ 187,445.15
770	Powers Road	Narrows Lock Road	Stanleyville Road	2028	77.08	67.6	12.9	Preventative Maintenance	ST-Enh2Surf	\$ 144,959.30
732	Stanleyville Rd	Stanley Road	Scotch Line Road	2028	76.15	81.9	16.2	Preventative Maintenance	HMA-EnhSurf	\$ 50,209.36
848	Maberly Main Street	Highway 7	Maberly-Elphin Road	2029	24.16	32.4	26.7	Major Rehabilitation Treatment	HMA-FDR & Ovly	\$ 131,289.71

Scenario 3 - Targeted PCI of 80 (2023-2032)

Road ID	Road Name	From	То	Intervention Year	Condition	Criticality	Risk	Treatment Type	Applied Treatment	Budgeted Cost
757	Bathurst 7th Concession	Harper Road	McVeigh Road	2029	53.95	74.3	33.4	Major Rehabilitation Treatment	ST-DST	\$ 185,992.75
1295	Park Lane Court	Somerville Dr	Dead End	2029	64.82	19	5.9	Preventative Maintenance	HMA-Enh2Surf	\$ 15,456.36
734	Stanley Road	Narrows Lock Road	Pike Lake Route 1	2029	67.66	18.1	5	Preventative Maintenance	ST-Enh2Surf	\$ 130,159.79
912	Hanna Rd	O'Brian Lake Lane 14	Bolingbroke Road	2029	72.36	50.5	11.6	Preventative Maintenance	ST-Enh2Surf	\$ 121,353.76
735	Otty Lake Side Road	Scotch Line Road	Ferrier Road East	2029	76.15	95.2	18.9	Preventative Maintenance	HMA-EnhSurf	\$ 79,630.28
4	McVeigh Road	Bathurst 7th Concession	End of Surface Treatment Civic 1332	2030	58.43	67.6	26.6	Major Rehabilitation Treatment	ST-DST	\$ 32,884.79
14004	Ashby Road	Iron Mine Road	Lanark Highlands Bndy	2030	58.43	67.6	26.6	Major Rehabilitation Treatment	ST-DST	\$ 37,085.59
1196	Crozier Road	Crozier Road A	Loop	2030	61.25	25.7	9.2	Preventative Maintenance	HMA-Enh2Surf	\$ 184,106.18
1344	Bygrove Lane	Crozier Road	Dead End	2030	61.25	19	6.8	Preventative Maintenance	HMA-Enh2Surf	\$ 59,806.95
1300	Ritchie Side Road	Crozier Road	Bolingbroke Road	2030	67.66	18.1	5	Preventative Maintenance	ST-Enh2Surf	\$ 64,735.33
1349	Christie Lake North Shore Road	Christie Lake Road	End of Pavement Civic 636	2030	76.15	45.7	9	Preventative Maintenance	HMA-EnhSurf	\$ 106,494.99
1410	Kenyon Road	Otty Lake Side Road	Lakewood Road	2030	76.15	81.9	16.2	Preventative Maintenance	HMA-EnhSurf	\$ 97,642.00
1314	Harper Rd	Highway 7	Bathurst 6th Concession	2030	76.15	64.8	12.8	Preventative Maintenance	HMA-EnhSurf	\$ 166,170.74
1310	Glen Tay Rd	Christie Lake Road	Highway 7	2030	76.15	95.2	18.9	Preventative Maintenance	HMA-EnhSurf	\$ 18,822.49
7620	Otty Lake Side Road	Kenyon Road	Trillium Drive	2030	76.15	95.2	18.9	Preventative Maintenance	HMA-EnhSurf	\$ 110,758.56
24225	Ernest Way	Glen Tay Road	End of Cul-de-Sac	2030	76.15	19	3.7	Preventative Maintenance	HMA-EnhSurf	\$ 53,992.87
1327	Upper Scotch Line	Allans Mill Road	Menzies Munro Side Road	2031	67.66	74.3	20.7	Preventative Maintenance	ST-Enh2Surf	\$ 118,176.35
594	Glen Tay Rd	Scotch Line Road	Christie Lake Road	2031	76.15	100	19.8	Preventative Maintenance	HMA-EnhSurf	\$ 136,093.22
768	Crow Lake Road	Bolingbroke Road	Frontenac Boundary	2032	1.16	74.3	73.6	Major Rehabilitation Treatment	ST-FDR & DST	\$ 898,438.33
1184	Harper Rd	Bathurst 6th Concession	Keayes Road	2032	76.15	88.6	17.6	Preventative Maintenance	HMA-EnhSurf	\$ 127,686.61
1408	Lakewood Road	Lakewood Road	Loop	2032	76.15	32.4	6.4	Preventative Maintenance	HMA-EnhSurf	\$ 96,757.32
1372	Old Brooke Road	Highway 7	Cooks Road	2032	76.15	32.4	6.4	Preventative Maintenance	HMA-EnhSurf	\$ 22,527.12
1305	Walters Ln	Fallbrooke Road	Dead End	2032	77.69	19	3.5	Preventative Maintenance	HMA-EnhSurf	\$ 3,613.38
1325	Keays Road	Old Morris Rd	Fallbrook Rd	2032	76.15	88.6	17.6	Preventative Maintenance	HMA-EnhSurf	\$ 73,816.70
1	Muttons Road	Harper Road	Glen Tay Waste Site Exit	2032	79.39	19	3.2	Preventative Maintenance	HMA-EnhSurf	\$ 17,983.81
597	Mclaren Road	Kenyon Road	Kenyon Road	2032	69.34	25.7	6.6	Preventative Maintenance	HMA-Enh2Surf	\$ 160,527.64
97	Sproule Road	Highway 511	Dead End	2032	79.39	19	3.2	Preventative Maintenance	HMA-EnhSurf	\$ 10,824.74
1290	Orchard Cresent	Scotch Line Rd	Scotch Line Rd	2032	63.1	68.6	23	Preventative Maintenance	HMA-Enh2Surf	\$ 68,894.55
750	Somerville Drive	Christie Lake Road	Glen Tay Road	2032	77.69	25.7	4.7	Preventative Maintenance	HMA-EnhSurf	\$ 61,381.15
1294	Jodi Lane	Somerville Drive	Loop	2032	79.39	19	3.2	Preventative Maintenance	HMA-EnhSurf	\$ 11,629.33

February 16, 2023 Project No. 22521805

APPENDIX I

Traffic Counts



Traffic Count Summary							
Date	24-hour Volume	ADT	AADT	Factor	Rationale	Assumed Traffic Pattern	
Road Segment 1: Christie Lake North	Shore Road from Christi	e Lake Road to E	nd of Pavemer	nt Civic 636 (Pav	ed)		
Friday August 26, 2022	642						
Saturday August 27, 2022	710						
Sunday August 28, 2022	601						
Monday August 29, 2022	527	572	500	1.15	Connection to Christie Lake	Recreational	
Tuesday August 30, 2022	441						
Wednesday August 31, 2022	531						
Thursday September 1, 2022	554						
Road Segment 2: Allan's Mill Road fro	om County Road 10 to U	pper Scotch Line	(Unpaved)	•			
Friday August 26, 2022	250						
Saturday August 27, 2022	228						
Sunday August 28, 2022	198						
Monday August 29, 2022	248	234	220	1.05	No seasonal destination	Commuter	
Tuesday August 30, 2022	221						
Wednesday August 31, 2022	262						
Thursday September 1, 2022	234						
Road Segment 3: Bathurst 5th Conce	ssion from Highway 511	to Harper Road	(Unpaved)				
Friday August 26, 2022	154						
Saturday August 27, 2022	148						
Sunday August 28, 2022	102		120				
Monday August 29, 2022	116	124		1.05	No seasonal destination	Commuter	
Tuesday August 30, 2022	106						
Wednesday August 31, 2022	114						
Thursday September 1, 2022	128						
Road Segment 4: Black Lake Road fro	m Powers Road to Tom'	s Rock (Unpaved	d)				
Friday August 26, 2022	268						
Saturday August 27, 2022	284						
Sunday August 28, 2022	291						
Monday August 29, 2022	246	266	230	1.15	Connection to cottages and waterfront	Recreational	
Tuesday August 30, 2022	274						
Wednesday August 31, 2022	257						
Thursday September 1, 2022	242						
Road Segment 5: Black Lake Road fro	m Tom's Rock to Black L	ake Road Privat	e (Unpaved)				
Friday August 26, 2022	170						
Saturday August 27, 2022	195						
Sunday August 28, 2022	195						
Monday August 29, 2022	147	165	140	1.15	Connection to cottages and waterfront	Recreational	
Tuesday August 30, 2022	136						
Wednesday August 31, 2022	144						
Thursday September 1, 2022	168						

Traffic Count Summary							
Date	24-hour Volume	ADT	AADT	Factor	Rationale	Assumed Traffic Pattern	
Road Segment 6: Christie Lake North	Shore Road from End of	Pavement Civic	636 to Brooke	Valley Road (Ur	npaved)		
Friday August 26, 2022	97						
Saturday August 27, 2022	93						
Sunday August 28, 2022	90						
Monday August 29, 2022	94	91	80	1.15	Connection to cottages and Christie Lake	Recreational	
Tuesday August 30, 2022	81						
Wednesday August 31, 2022	85						
Thursday September 1, 2022	98						
Road Segment 7: Doran Road from Hi	ghway 7 to McVeigh Ro	ad (Unpaved)		•			
Friday August 26, 2022	136						
Saturday August 27, 2022	130						
Sunday August 28, 2022	140						
Monday August 29, 2022	133	130	110	1.15	Only connection to Fagan Lake	Recreational	
Tuesday August 30, 2022	114						
Wednesday August 31, 2022	130						
Thursday September 1, 2022	127						
Road Segment 8: Ennis Road from Bea	ach Road to Bennett Lal	ke Road (Unpave	ed)				
Friday August 26, 2022	221						
Saturday August 27, 2022	191						
Sunday August 28, 2022	204						
Monday August 29, 2022	203	206	180	1.15	Connection to Ennis Cottages	Recreational	
Tuesday August 30, 2022	201						
Wednesday August 31, 2022	214						
Thursday September 1, 2022	205						
Road Segment 9: McVeigh Road from	Doran Road to Arnold	T Drive (Unpave	d)				
Friday August 26, 2022	98						
Saturday August 27, 2022	83						
Sunday August 28, 2022	109						
Monday August 29, 2022	91	93	80	1.15	Connection to cottages and campground	Recreational	
Tuesday August 30, 2022	87						
Wednesday August 31, 2022	98						
Thursday September 1, 2022	87						
Road Segment 10: McVeigh Road from	n Arnold T Drive to Dok	ken Road (Unpa	ved)				
Friday August 26, 2022	89						
Saturday August 27, 2022	68						
Sunday August 28, 2022	82						
Monday August 29, 2022	60	67	60	1.15	Connection to cottages and campground	Recreational	
Tuesday August 30, 2022	58						
Wednesday August 31, 2022	63						
Thursday September 1, 2022	48						

Traffic Count Summary						
Date	24-hour Volume	ADT	AADT	Factor	Rationale	Assumed Traffic Pattern
Road Segment 11: Rutherford Side Ro	oad from Bathurst 5th Co	oncession to Mo	Veigh Road (Un	paved)		
Friday August 26, 2022	42					
Saturday August 27, 2022	54			,		
Sunday August 28, 2022	49				Although parrow potential preferred	
Monday August 29, 2022	32	39	30	1.15	Although narrow, potential preferred shortcut route to riverfront	Recreational
Tuesday August 30, 2022	31			,	Shortcut route to riveriront	
Wednesday August 31, 2022	33			,		
Thursday September 1, 2022	29					

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Jale Start.	20-Aug-22
Date End:	01-Sep-22

Start	Fri	<	Quarter	Hour	>	Hour	
Time	26-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		1	0	0	0	1	
02:00		0	0	0	0	0	
03:00		0	0	1	0	1	
04:00		0	0	1	2	3	
05:00		2	2	2	1	7	
06:00		2	3	2	3	10	
07:00		2	3	5	11	21	
08:00		2	6	5	13	26	
09:00		9	9	12	7	37	
10:00		9	13	13	18	53	
11:00		13	17	10	6	46	
12:00 PM		10	15	13	5	43	
01:00		11	11	22	10	54	
02:00		7	11	13	16	47	
03:00		11	6	11	11	39	
04:00		16	11	11	12	50	
05:00		13	20	13	15	61	
06:00		8	18	10	11	47	
07:00		11	9	11	12	43	
08:00		11	11	4	11	37	
09:00		2	2	0	2	6	
10:00		3	2	1	1	7	
11:00		1	0	0	2	3	
Day Total						642	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Sat	<	Quarter	Hour	>	Hour	
Time	27-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	1	1	0	0	2	
01:00		0	3	0	0	3	
02:00		0	0	1	1	2	
03:00		0	0	0	1	1	
04:00		1	0	0	1	2	
05:00		0	0	0	0	0	
06:00		0	3	4	3	10	
07:00		1	1	4	6	12	
08:00		3	4	4	5	16	
09:00		8	13	17	13	51	
10:00		11	15	19	17	62	
11:00		12	11	20	22	65	
12:00 PM		18	8	14	22	62	
01:00		18	20	16	11	65	
02:00		18	16	21	10	65	
03:00		18	18	13	9	58	
04:00		24	8	16	12	60	
05:00		19	12	7	15	53	
06:00		8	14	9	3	34	
07:00		5	4	10	7	26	
08:00		8	10	7	5	30	
09:00		9	5	3	2	19	
10:00		1	3	2	1	7	
11:00		2	2	0	11	5	
Day Total						710	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Sun	<	-Quarter	Hour	>	Hour	
Time	28-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	1	3	1	0	5	
01:00		0	0	1	0	1	
02:00		0	0	1	0	1	I
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	0	1	
06:00		1	2	3	4	10	
07:00		0	2	2	2	6	
08:00		2	0	5	6	13	
09:00		9	13	10	16	48	
10:00		4	10	17	12	43	
11:00		12	15	17	9	53	
12:00 PM		19	11	17	14	61	
01:00		13	6	16	6	41	
02:00		20	11	13	13	57	
03:00		10	19	27	14	70	
04:00		6	12	13	13	44	
05:00		19	12	6	17	54	
06:00		5	11	5	7	28	
07:00		9	11	5	5	30	
08:00		6	5	3	4	18	
09:00		2	2	2	4	10	
10:00		2	0	2	0	4	
11:00		2	0	0	1_	3	
Day Total						601	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Mon	<	-Quarter	Hour	>	Hour	
Time	29-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	1	0	1	
01:00		0	1	0	0	1	
02:00		0	0	0	0	0	
03:00		0	1	0	0	1	
04:00		0	0	0	1	1	
05:00		2	4	2	0	8	
06:00		1	3	0	5	9	
07:00		3	1	4	3	11	
08:00		8	8	17	13	46	
09:00		7	15	11	10	43	
10:00		21	7	17	7	52	
11:00		18	15	10	10	53	
12:00 PM		10	10	17	11	48	
01:00		5	11	10	9	35	
02:00		10	10	11	12	43	
03:00		5	12	11	12	40	
04:00		14	6	9	9	38	
05:00		6	13	7	5	31	
06:00		11	8	3	5	27	
07:00		2	4	3	0	9	
08:00		7	5	1	3	16	
09:00		2	3	0	1	6	
10:00		0	1	2	1	4	
11:00		3	0	1	0	4	
Day Total						527	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Tue	<	-Quarter	Hour	>	Hour	
Time	30-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	1	0	1	2	
01:00		0	1	0	1	2	
02:00		0	0	0	0	0	
03:00		0	0	2	0	2	
04:00		0	0	0	0	0	
05:00		2	1	5	1	9	
06:00		2	2	2	4	10	
07:00		3	5	3	3	14	
08:00		8	3	4	14	29	
09:00		11	9	8	10	38	
10:00		5	7	13	4	29	
11:00		7	9	7	6	29	
12:00 PM		5	10	7	10	32	
01:00		13	9	7	7	36	
02:00		11	6	5	5	27	
03:00		9	9	9	14	41	
04:00		19	8	9	9	45	
05:00		14	15	10	6	45	
06:00		12	6	3	8	29	
07:00		1	1	3	0	5	
08:00		6	3	1	1	11	
09:00		1	2	0	1	4	
10:00		0	0	1	0	1	
11:00		1	0	0	0	1	
Day Total						441	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Wed	<	-Quarter	Hour	>	Hour	
Time	31-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	1	0	0	1	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		1	1	2	1	5	
06:00		1	1	1	4	7	
07:00		2	2	2	1	7	
08:00		9	8	18	19	54	
09:00		10	18	12	9	49	
10:00		20	11	11	11	53	
11:00		15	11	12	8	46	
12:00 PM		11	10	13	12	46	
01:00		6	9	13	9	37	
02:00		8	10	9	11	38	
03:00		6	13	12	14	45	
04:00		15	12	10	10	47	
05:00		7	11	10	4	32	
06:00		13	7	3	6	29	
07:00		2	4	4	2	12	
08:00		4	7	0	1	12	
09:00		1	2	0	1	4	
10:00		2	0	2	0	4	
11:00		2	0	11	0	3	
Day Total						531	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 1 Station ID: U14 Christie Lake North Shore Rd from Christie Lake Rd to End of Pavement Civi Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Thu	<	-Quarter	Hour	>	Hour	
Time	01-Sep-22	1st	2nd	3rd	4th	Total	
12:00 AM	-	0	0	1	0	1	I
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	1	0	0	1	
04:00		0	0	0	0	0	
05:00		2	0	2	0	4	
06:00		1	1	0	7	9	
07:00		3	2	4	2	11	
08:00		9	9	17	17	52	
09:00		13	18	15	9	55	
10:00		12	9	10	9	40	
11:00		13	11	14	10	48	
12:00 PM		9	9	14	12	44	
01:00		4	13	9	10	36	
02:00		11	10	10	15	46	
03:00		8	11	15	11	45	
04:00		13	10	12	8	43	
05:00		11	9	9	7	36	
06:00		10	11	9	4	34	
07:00		6	2	3	7	18	
08:00		3	4	4	0	11	
09:00		0	3	6	1	10	
10:00		4	2	2	1	9	
11:00		0	1	0	0	1	
Day Total						554	

Grand Total 4006

ADT ADT 429 AADT 429

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Fri	<	-Quarter	Hour	>	Hour	
Time	26-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	0	1	
06:00		0	0	0	6	6	
07:00		1	9	3	5	18	
08:00		3	4	2	4	13	
09:00		3	3	6	5	17	
10:00		3	3	4	10	20	
11:00		5	4	13	4	26	
12:00 PM		6	2	5	2	15	
01:00		9	2	11	4	26	
02:00		6	4	9	8	27	
03:00		7	2	0	2	11	
04:00		3	5	2	3	13	
05:00		6	5	2	4	17	
06:00		3	4	4	2	13	
07:00		4	3	0	1	8	
08:00		5	0	2	3	10	
09:00		3	1	3	1	8	
10:00		0	0	0	0	0	
11:00		0	1	0	0	1	
Day Total	-					250	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Sat	<	Quarter	Hour	>	Hour	
Time	27-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	3	0	0	3	
02:00		0	0	0	1	1	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	2	2	
06:00		0	1	1	0	2	
07:00		0	2	2	0	4	
08:00		2	4	4	2	12	
09:00		3	2	6	5	16	
10:00		5	2	1	3	11	
11:00		3	10	5	3	21	
12:00 PM		4	5	5	1	15	
01:00		11	5	3	0	19	
02:00		1	3	5	8	17	
03:00		3	6	7	4	20	
04:00		7	5	3	4	19	
05:00		4	2	3	8	17	
06:00		1	5	3	4	13	
07:00		5	8	1	1	15	
08:00		2	0	3	4	9	
09:00		0	0	3	1	4	
10:00		2	1	1	2	6	
11:00		0	0	2	0	2	
Day Total						228	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Sun	<	-Quarter	Hour	>	Hour	
Time	28-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	_	0	0	0	0	0	
01:00		0	0	1	0	1	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		2	0	0	0	2	
07:00		0	1	2	3	6	
08:00		2	0	2	0	4	
09:00		1	2	1	2	6	
10:00		0	6	2	13	21	
11:00		8	6	0	8	22	
12:00 PM		8	3	1	9	21	
01:00		3	3	4	8	18	
02:00		3	3	3	6	15	
03:00		7	9	2	1	19	
04:00		7	1	0	8	16	
05:00		1	4	6	4	15	
06:00		2	4	4	4	14	
07:00		3	4	2	1	10	
08:00		3	0	0	1	4	
09:00		0	0	0	2	2	
10:00		1	0	0	0	1	
11:00		1	0	0	0	1	
Day Total						198	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Mon	<	Quarter	Hour	>	Hour	
Time	29-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	1	0	1	2	
06:00		0	3	1	1	5	
07:00		1	4	4	5	14	
08:00		7	2	2	4	15	
09:00		10	4	5	3	22	
10:00		6	3	4	4	17	
11:00		7	5	2	5	19	
12:00 PM		9	9	5	8	31	
01:00		3	4	3	7	17	
02:00		6	3	6	5	20	
03:00		6	6	5	8	25	
04:00		6	8	3	9	26	
05:00		3	3	6	5	17	
06:00		0	1	3	2	6	
07:00		2	1	3	4	10	
08:00		1	1	0	0	2	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						248	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Tue	<	Quarter	Hour	>	Hour	
Time	30-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	_	0	2	1	0	3	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	0	1	
06:00		0	0	1	1	2	
07:00		2	1	4	6	13	
08:00		1	0	6	5	12	
09:00		2	3	5	2	12	
10:00		7	2	5	2	16	
11:00		5	3	5	1	14	
12:00 PM		7	5	7	5	24	
01:00		4	5	4	4	17	
02:00		4	3	4	4	15	
03:00		7	6	8	9	30	
04:00		7	8	3	7	25	
05:00		8	4	3	6	21	
06:00		0	1	1	4	6	
07:00		3	1	2	2	8	
08:00		0	0	1	1	2	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						221	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Wed	<	Quarter	Hour	>	Hour	
Time	31-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	1	1	
06:00		0	3	1	1	5	
07:00		1	3	3	6	13	
08:00		9	2	2	4	17	
09:00		10	4	10	3	27	
10:00		3	2	5	3	13	
11:00		6	8	6	2	22	
12:00 PM		2	6	6	7	21	
01:00		3	3	6	6	18	
02:00		6	2	6	4	18	
03:00		8	6	8	10	32	
04:00		10	9	6	10	35	
05:00		4	4	9	6	23	
06:00		0	1	3	3	7	
07:00		1	1	3	4	9	
08:00		0	0	0	0	0	
09:00		0	0	0	0	0	
10:00		1	0	0	0	1	
11:00		0	0	0	0	0	
Day Total						262	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 2 Station ID: U214 Allan's Mill Rd from County Road 10 to Upper Scotch Line Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Thu	<	Quarter	Hour	>	Hour	
Time	01-Sep-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	1	0	0	1	
06:00		0	2	1	1	4	
07:00		1	4	2	6	13	
08:00		10	4	4	4	22	
09:00		10	6	6	2	24	
10:00		6	2	4	2	14	
11:00		4	7	4	9	24	
12:00 PM		9	2	3	9	23	
01:00		2	4	4	4	14	
02:00		2	2	2	5	11	
03:00		4	5	2	5	16	
04:00		1	5	6	7	19	
05:00		4	3	8	4	19	
06:00		1	2	3	3	9	
07:00		2	3	1	1	7	
08:00		5	3	1	1	10	
09:00		1	0	1	0	2	
10:00		1	0	1	0	2	
11:00		0	0	0	0	0	
Day Total						234	

Grand Total 1641

ADT **ADT 163 AADT 163**

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Fri	<	-Quarter	Hour	>	Hour	
Time	26-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	_	0	0	2	2	4	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	1	0	0	1	
06:00		1	2	0	1	4	
07:00		4	3	1	5	13	
08:00		3	2	4	0	9	
09:00		3	2	2	0	7	
10:00		3	2	3	5	13	
11:00		2	4	5	1	12	
12:00 PM		4	1	0	6	11	
01:00		4	4	4	3	15	
02:00		7	2	2	4	15	
03:00		1	4	4	5	14	
04:00		1	1	1	2	5	
05:00		2	1	2	2	7	
06:00		1	1	0	0	2	
07:00		3	5	1	3	12	
08:00		0	1	1	1	3	
09:00		1	0	0	3	4	
10:00		1	0	1	0	2	
11:00		1	0	0	0	1	
Day Total						154	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Sat	<	Quarter	Hour	>	Hour	
Time	27-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	1	0	1	
01:00		0	0	0	2	2	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	2	1	0	3	
06:00		0	0	1	2	3	
07:00		0	1	1	0	2	
08:00		1	2	3	1	7	
09:00		3	5	2	5	15	
10:00		2	1	3	6	12	
11:00		8	4	3	2	17	
12:00 PM		1	3	5	8	17	
01:00		4	2	2	3	11	
02:00		3	10	1	1	15	
03:00		0	4	5	0	9	
04:00		3	2	1	1	7	
05:00		0	1	1	0	2	
06:00		1	2	5	3	11	
07:00		2	0	3	1	6	
08:00		2	0	2	0	4	
09:00		0	0	1	1	2	
10:00		1	0	0	1	2	
11:00		0	0	0	0	0	
Day Total						148	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Sun	<	-Quarter	Hour	>	Hour	
Time	28-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	_	0	1	0	0	1	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		0	0	0	0	0	
08:00		0	3	0	1	4	
09:00		2	4	3	5	14	
10:00		5	2	1	0	8	
11:00		2	0	1	2	5	
12:00 PM		0	3	4	0	7	
01:00		0	4	3	5	12	
02:00		1	0	4	2	7	
03:00		3	1	1	1	6	
04:00		4	5	3	1	13	
05:00		1	2	4	3	10	
06:00		1	2	2	1	6	
07:00		5	0	0	1	6	
08:00		1	0	0	0	1	
09:00		1	0	0	0	1	
10:00		0	0	1	0	1	
11:00		0	0	0	0	0	
Day Total						102	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Mon	<	Quarter	Hour	>	Hour	
Time	29-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	1	0	0	1	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		2	0	0	1	3	
06:00		1	4	0	1	6	
07:00		1	0	0	3	4	
08:00		2	3	4	1	10	
09:00		1	0	2	0	3	
10:00		4	4	2	4	14	
11:00		3	5	1	1	10	
12:00 PM		4	3	1	5	13	
01:00		3	2	1	3	9	
02:00		0	1	5	0	6	
03:00		3	3	3	0	9	
04:00		3	1	4	1	9	
05:00		4	1	1	1	7	
06:00		0	1	1	1	3	
07:00		0	0	2	1	3	
08:00		1	0	1	0	2	
09:00		0	0	0	1	1	
10:00		2	1	0	0	3	
11:00		0	0	0	0	0	
Day Total						116	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Tue	<	Quarter	Hour	>	Hour	
Time	30-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	2	0	2	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		2	0	0	0	2	
06:00		0	2	0	2	4	
07:00		1	0	1	1	3	
08:00		4	3	0	0	7	
09:00		5	4	4	3	16	
10:00		0	3	3	1	7	
11:00		2	2	1	4	9	
12:00 PM		1	3	1	3	8	
01:00		1	5	3	1	10	
02:00		3	1	3	1	8	
03:00		4	2	3	0	9	
04:00		2	1	4	2	9	
05:00		3	1	1	1	6	
06:00		0	1	1	1	3	
07:00		0	0	0	0	0	
08:00		0	0	1	0	1	
09:00		0	0	0	0	0	
10:00		1	1	0	0	2	
11:00		0	0	0	0	0	
Day Total						106	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Wed	<	Quarter	Hour	>	Hour	
Time	31-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	1	0	0	1	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		1	0	0	1	2	
06:00		0	3	0	1	4	
07:00		2	0	1	2	5	
08:00		4	3	5	1	13	
09:00		2	1	3	1	7	
10:00		2	3	1	4	10	
11:00		2	3	1	2	8	
12:00 PM		2	4	1	3	10	
01:00		1	2	3	2	8	
02:00		0	1	4	2	7	
03:00		6	1	4	0	11	
04:00		2	1	4	1	8	
05:00		5	1	1	2	9	
06:00		0	0	2	1	3	
07:00		0	0	0	2	2	
08:00		1	0	1	0	2	
09:00		0	1	0	1	2	
10:00		1	1	0	0	2	
11:00		0	0	0	0	0	
Day Total						114	

Grand Total

ADT

ADT 95

Ontario Traffic, Inc.

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 3 Station ID: U31 Bathurst 5th Concession from Hwy 511 to Harper Rd Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Thu	<	Quarter	Hour	>	Hour	
Time	01-Sep-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	1	0	0	1	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	1	1	
06:00		1	3	1	1	6	
07:00		0	0	1	3	4	
08:00		6	3	3	1	13	
09:00		0	0	0	0	0	
10:00		2	2	1	4	9	
11:00		1	3	2	2	8	
12:00 PM		4	4	2	4	14	
01:00		1	3	7	2	13	
02:00		2	1	2	1	6	
03:00		1	1	3	2	7	
04:00		7	4	2	2	15	
05:00		3	0	2	1	6	
06:00		1	0	3	4	8	
07:00		0	1	3	3	7	
08:00		0	1	2	0	3	
09:00		1	0	1	1	3	
10:00		0	0	1	0	1	
11:00		0	0	3	0	3	
Day Total						128	

AADT 95

868

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 4 Station ID: U224 Black Lake Rd from Powers Rd to Tom's

Start	Fri	<	Quarter	Hour	>	Hour	
Time	26-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	1	1	
04:00		0	0	0	0	0	
05:00		0	1	0	0	1	
06:00		1	1	1	0	3	
07:00		0	1	2	1	4	
08:00		1	2	3	3	9	
09:00		8	4	5	0	17	
10:00		7	3	4	12	26	
11:00		4	6	3	5	18	
12:00 PM		3	2	3	4	12	
01:00		5	7	5	2	19	
02:00		9	8	9	4	30	
03:00		5	5	2	6	18	
04:00		2	6	4	6	18	
05:00		3	7	12	4	26	
06:00		7	6	13	6	32	
07:00		2	5	0	3	10	
08:00		5	6	0	0	11	
09:00		6	3	2	0	11	
10:00		0	1	0	0	1	
11:00		11	0	0	0	1	
Day Total						268	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 4 Station ID: U224 Black Lake Rd from Powers Rd to Tom's

Start	Sat	<	Quarter	Hour	>	Hour	
Time	27-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		1	0	0	0	1	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	1	1	
07:00		1	3	2	3	9	
08:00		2	3	0	5	10	
09:00		6	5	8	4	23	
10:00		2	8	8	10	28	
11:00		6	8	11	9	34	
12:00 PM		20	9	14	7	50	
01:00		10	7	4	7	28	
02:00		6	7	4	7	24	
03:00		7	5	3	1	16	
04:00		5	3	6	3	17	
05:00		4	4	5	5	18	
06:00		0	0	1	8	9	
07:00		1	1	2	4	8	
08:00		3	0	1	2	6	
09:00		0	0	0	1	1	
10:00		0	1	0	0	1	
11:00		0	0	0	0	0	
Day Total						284	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 4 Station ID: U224 Black Lake Rd from Powers Rd to Tom's

Start	Sun	<	-Quarter	Hour	>	Hour	
Time	28-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		1	0	0	0	1	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		2	0	0	0	2	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		0	1	2	2	5	
08:00		1	2	2	8	13	
09:00		3	3	1	9	16	
10:00		8	9	4	4	25	
11:00		6	11	5	6	28	
12:00 PM		5	8	12	5	30	
01:00		2	6	8	4	20	
02:00		10	2	5	4	21	
03:00		9	5	9	16	39	
04:00		2	5	5	8	20	
05:00		4	4	5	8	21	
06:00		7	0	6	10	23	
07:00		3	1	2	5	11	
08:00		3	2	1	3	9	
09:00		2	1	2	1	6	
10:00		0	1	0	0	1	
11:00		0	0	0	0	0	
Day Total						291	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 4 Station ID: U224 Black Lake Rd from Powers Rd to Tom's

Start	Mon	<	Quarter	Hour	>	Hour	
Time	29-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	1	2	
06:00		1	0	0	1	2	
07:00		2	1	0	5	8	
08:00		6	3	1	2	12	
09:00		7	3	3	3	16	
10:00		4	2	8	5	19	
11:00		3	4	5	6	18	
12:00 PM		10	6	8	5	29	
01:00		4	6	5	5	20	
02:00		7	8	9	12	36	
03:00		4	6	6	5	21	
04:00		2	5	4	11	22	
05:00		6	3	7	1	17	
06:00		1	3	2	0	6	
07:00		4	1	1	4	10	
08:00		1	4	2	0	7	
09:00		1	0	0	0	1	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						246	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 4 Station ID: U224 Black Lake Rd from Powers Rd to Tom's

Start	Tue	<	Quarter	Hour	>	Hour	
Time	30-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	· ·	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	1	0	3	4	
06:00		1	0	0	0	1	
07:00		2	0	4	5	11	
08:00		3	3	6	10	22	
09:00		2	1	5	4	12	
10:00		6	4	9	5	24	
11:00		0	7	6	6	19	
12:00 PM		9	8	2	6	25	
01:00		7	7	1	10	25	
02:00		6	6	8	7	27	
03:00		6	9	9	6	30	
04:00		3	9	6	12	30	
05:00		6	6	5	3	20	
06:00		4	3	2	2	11	
07:00		3	1	1	3	8	
08:00		2	1	2	0	5	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						274	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 4 Station ID: U224 Black Lake Rd from Powers Rd to Tom's

Start	Wed	<	Quarter	Hour	>	Hour	
Time	31-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	1	2	
06:00		1	0	0	1	2	
07:00		2	1	0	7	10	
08:00		2	6	3	3	14	
09:00		6	3	4	4	17	
10:00		7	3	6	2	18	
11:00		3	3	3	5	14	
12:00 PM		7	7	5	5	24	
01:00		6	3	4	4	17	
02:00		8	7	10	8	33	
03:00		8	8	9	7	32	
04:00		4	7	4	10	25	
05:00		11	6	5	1	23	
06:00		1	3	3	0	7	
07:00		3	3	2	3	11	
08:00		2	4	2	0	8	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						257	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 4 Station ID: U224 Black Lake Rd from Powers Rd to Tom's

> Date Start: 26-Aug-22 Date End: 01-Sep-22

Rock

Start	Thu	<	Quarter	Hour	>	Hour	
Time	01-Sep-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	0	1	
06:00		1	1	0	1	3	
07:00		0	1	2	4	7	
08:00		7	3	1	3	14	
09:00		8	2	4	2	16	
10:00		2	3	3	4	12	
11:00		4	5	5	5	19	
12:00 PM		7	5	6	5	23	
01:00		4	5	3	7	19	
02:00		5	13	7	5	30	
03:00		10	8	3	7	28	
04:00		2	3	6	4	15	
05:00		2	3	5	3	13	
06:00		3	5	2	0	10	
07:00		0	3	1	4	8	
08:00		4	1	1	5	11	
09:00		5	7	0	0	12	
10:00		0	0	1	0	1	
11:00		0	0	0	0	0	
Day Total						242	

Grand Total 1862

ADT ADT 200 AADT 200

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 5 Station ID: U137 Black Lake Rd from Tom's Rock to Black Lake Rd Private

Start	Fri	<	Quarter	Hour	>	Hour	
Time	26-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	2	0	0	2	
06:00		1	0	1	0	2	
07:00		0	0	1	0	1	
08:00		2	2	2	2	8	
09:00		4	5	4	0	13	
10:00		1	4	2	8	15	
11:00		1	3	1	3	8	
12:00 PM		2	0	4	4	10	
01:00		1	5	4	1	11	
02:00		7	10	4	2	23	
03:00		4	3	0	3	10	
04:00		2	4	2	4	12	
05:00		3	5	7	3	18	
06:00		2	4	6	5	17	
07:00		4	1	2	2	9	
08:00		1	2	0	0	3	
09:00		2	4	0	1	7	
10:00		0	0	0	0	0	
11:00		1	0	0	0	1	
Day Total						170	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 5 Station ID: U137 Black Lake Rd from Tom's Rock to Black Lake Rd Private

Start	Sat	<	Quarter	Hour	>	Hour	
Time	27-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	1	1	
07:00		1	2	1	3	7	
08:00		3	4	0	6	13	
09:00		6	5	5	4	20	
10:00		2	2	8	8	20	
11:00		4	5	7	7	23	
12:00 PM		14	10	7	7	38	
01:00		6	3	4	4	17	
02:00		3	5	3	5	16	
03:00		4	3	2	2	11	
04:00		1	2	3	1	7	
05:00		2	2	2	1	7	
06:00		2	0	1	0	3	
07:00		4	0	1	3	8	
08:00		1	0	1	0	2	
09:00		0	2	0	0	2	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						195	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 5 Station ID: U137 Black Lake Rd from Tom's Rock to Black Lake Rd Private

Start	Sun	<	Quarter	Hour	>	Hour	
Time	28-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		2	0	0	0	2	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		0	1	1	3	5	
08:00		3	2	1	5	11	
09:00		1	1	0	7	9	
10:00		6	6	3	5	20	
11:00		4	4	7	5	20	
12:00 PM		3	3	4	4	14	
01:00		2	5	5	3	15	
02:00		6	3	4	6	19	
03:00		4	3	7	10	24	
04:00		2	4	0	5	11	
05:00		2	4	3	7	16	
06:00		2	1	3	5	11	
07:00		2	0	2	4	8	
08:00		1	2	1	3	7	
09:00		1	1	0	0	2	
10:00		0	1	0	0	1	
11:00		0	0	0	0	0	
Day Total						195	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 5 Station ID: U137 Black Lake Rd from Tom's Rock to Black Lake Rd Private

Start	Mon	<	Quarter	Hour	>	Hour	
Time	29-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	2	1	0	3	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	0	1	
06:00		1	0	0	1	2	
07:00		1	0	0	1	2	
08:00		6	4	2	1	13	
09:00		3	2	1	0	6	
10:00		1	2	4	3	10	
11:00		0	2	2	7	11	
12:00 PM		3	5	4	2	14	
01:00		2	2	5	2	11	
02:00		4	5	6	3	18	
03:00		3	4	5	4	16	
04:00		2	3	1	6	12	
05:00		2	2	2	1	7	
06:00		1	3	2	0	6	
07:00		1	1	2	1	5	
08:00		3	5	1	0	9	
09:00		1	0	0	0	1	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						147	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 5 Station ID: U137 Black Lake Rd from Tom's Rock to Black Lake Rd Private

Start	Tue	<	-Quarter	Hour	>	Hour	
Time	30-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	1	1	
06:00		1	0	0	0	1	
07:00		2	0	0	0	2	
08:00		1	0	1	6	8	
09:00		3	2	3	1	9	
10:00		1	2	2	3	8	
11:00		1	3	3	4	11	
12:00 PM		3	2	6	3	14	
01:00		2	2	3	2	9	
02:00		1	6	4	2	13	
03:00		2	4	2	7	15	
04:00		4	2	4	7	17	
05:00		3	7	2	1	13	
06:00		1	2	0	1	4	
07:00		0	2	2	1	5	
08:00		1	4	1	0	6	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						136	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 5 Station ID: U137 Black Lake Rd from Tom's Rock to Black Lake Rd Private

Start	Wed	<	Quarter	Hour	>	Hour	
Time	31-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	1	1	0	2	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	0	1	
06:00		1	0	0	1	2	
07:00		1	0	3	4	8	
08:00		3	6	2	3	14	
09:00		4	3	1	2	10	
10:00		1	1	2	2	6	
11:00		1	2	6	3	12	
12:00 PM		1	2	4	2	9	
01:00		1	3	4	1	9	
02:00		5	3	5	2	15	
03:00		3	5	5	5	18	
04:00		3	3	1	8	15	
05:00		2	2	3	1	8	
06:00		1	2	2	1	6	
07:00		1	1	1	0	3	
08:00		1	2	2	0	5	
09:00		1	0	0	0	1	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						144	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 5 Station ID: U137 Black Lake Rd from Tom's Rock to Black Lake Rd Private

Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Thu	<	Quarter	Hour	>	Hour	
Time	01-Sep-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	1	1	0	2	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	0	1	
06:00		1	0	0	1	2	
07:00		0	0	3	0	3	
08:00		6	5	2	1	14	
09:00		2	3	1	1	7	
10:00		0	0	2	1	3	
11:00		0	2	1	3	6	
12:00 PM		2	3	4	1	10	
01:00		4	1	4	2	11	
02:00		6	4	8	9	27	
03:00		2	4	4	5	15	
04:00		6	4	11	4	25	
05:00		5	2	3	1	11	
06:00		2	1	5	0	8	
07:00		0	0	2	0	2	
08:00		2	3	2	0	7	
09:00		3	5	4	1	13	
10:00		0	0	0	1	1	
11:00		0	0	0	0	0	
Day Total						168	
Grand Tot	al					1155	

ADT ADT 127 AADT 127

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Fri	<	Quarter	Hour	>	Hour	
Time	26-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	1	1	
05:00		1	0	0	0	1	
06:00		0	0	0	0	0	
07:00		2	1	0	0	3	
08:00		1	2	0	0	3	
09:00		2	4	2	2	10	
10:00		1	1	0	0	2	
11:00		1	12	1	1	15	
12:00 PM		0	3	1	3	7	
01:00		0	4	1	1	6	
02:00		1	1	1	2	5	
03:00		3	3	1	1	8	
04:00		0	1	2	1	4	
05:00		0	0	4	0	4	
06:00		2	1	2	3	8	
07:00		1	3	3	0	7	
08:00		3	0	2	0	5	
09:00		0	0	0	2	2	
10:00		1	0	2	0	3	
11:00		0	1	1	1	3	
Day Total						97	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Sat	<	Quarter	Hour	>	Hour	
Time	27-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	1	0	1	
01:00		0	0	0	0	0	
02:00		0	0	0	1	1	
03:00		0	0	0	1	1	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		0	0	0	0	0	
08:00		0	0	1	0	1	
09:00		0	0	0	1	1	
10:00		3	0	4	2	9	
11:00		2	2	2	2	8	
12:00 PM		6	2	1	0	9	
01:00		1	2	1	3	7	
02:00		3	1	0	1	5	
03:00		2	2	4	2	10	
04:00		1	3	0	1	5	
05:00		0	2	2	3	7	
06:00		1	6	2	0	9	
07:00		1	2	0	1	4	
08:00		6	4	1	0	11	
09:00		0	0	2	0	2	
10:00		0	0	1	1	2	
11:00		0	0	0	0	0	
Day Total			-	-	-	93	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Sun	<	Quarter	Hour	>	Hour	
Time	28-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	1	0	0	1	
01:00		0	0	0	1	1	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		0	0	0	0	0	
08:00		1	0	0	0	1	
09:00		0	0	0	0	0	
10:00		0	1	3	0	4	
11:00		6	1	3	3	13	
12:00 PM		3	1	0	2	6	
01:00		4	1	1	1	7	
02:00		1	0	1	6	8	
03:00		1	3	5	4	13	
04:00		4	3	3	1	11	
05:00		0	5	2	0	7	
06:00		4	0	2	0	6	
07:00		1	2	0	3	6	
08:00		0	0	2	0	2	
09:00		0	2	0	0	2	
10:00		0	1	0	1	2	
11:00		0	0	0	0	0	
Day Total						90	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Mon	<	Quarter	Hour	>	Hour	
Time	29-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	1	1	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		2	0	0	0	2	
08:00		1	3	1	2	7	
09:00		3	4	2	1	10	
10:00		2	6	0	0	8	
11:00		0	0	1	1	2	
12:00 PM		4	1	2	1	8	
01:00		1	1	3	3	8	
02:00		3	2	2	5	12	
03:00		1	2	3	2	8	
04:00		2	4	1	0	7	
05:00		5	5	1	1	12	
06:00		1	1	0	2	4	
07:00		1	0	0	0	1	
08:00		0	0	0	0	0	
09:00		1	0	0	1	2	
10:00		0	0	0	1	1	
11:00		1	0	0	0	1	
Day Total						94	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Tue	<	Quarter	Hour	>	Hour	
Time	30-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		1	0	1	0	2	
01:00		0	2	0	0	2	
02:00		0	0	0	0	0	
03:00		0	0	0	1	1	
04:00		0	0	0	0	0	
05:00		1	0	0	0	1	
06:00		0	1	0	0	1	
07:00		0	0	3	0	3	
08:00		0	0	1	1	2	
09:00		2	2	3	1	8	
10:00		0	0	0	3	3	
11:00		1	2	1	2	6	
12:00 PM		1	1	2	1	5	
01:00		3	2	1	4	10	
02:00		1	1	3	2	7	
03:00		1	2	1	1	5	
04:00		1	4	0	0	5	
05:00		6	8	1	1	16	
06:00		1	1	0	1	3	
07:00		1	0	0	0	1	
08:00		0	0	0	0	0	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						81	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Wed	<	Quarter	Hour	>	Hour	
Time	31-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	1	1	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		1	0	0	0	1	
08:00		1	2	1	2	6	
09:00		3	4	2	1	10	
10:00		0	2	4	0	6	
11:00		1	0	2	1	4	
12:00 PM		2	1	2	0	5	
01:00		1	1	2	1	5	
02:00		2	3	2	2	9	
03:00		1	3	2	2	8	
04:00		3	6	2	0	11	
05:00		4	4	4	1	13	
06:00		1	1	0	2	4	
07:00		0	0	0	0	0	
08:00		0	0	0	0	0	
09:00		0	0	0	1	1	
10:00		0	0	0	1	1	
11:00		0	0	0	0	0	
Day Total						85	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 6 Station ID: U150 Christie Lake North Shore Rd from End of Pavement Civic 636 to Brooke Valley Rd Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Thu	<	-Quarter	Hour	>	Hour	
Time	01-Sep-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		1	0	0	0	1	
08:00		1	3	1	3	8	
09:00		4	7	2	1	14	
10:00		1	6	0	0	7	
11:00		3	0	0	1	4	
12:00 PM		4	1	1	1	7	
01:00		1	2	2	2	7	
02:00		2	3	3	4	12	
03:00		5	3	3	1	12	
04:00		0	4	0	4	8	
05:00		1	2	0	1	4	
06:00		1	2	1	1	5	
07:00		2	0	0	1	3	
08:00		0	0	0	1	1	
09:00		0	0	0	1	1	
10:00		1	0	1	0	2	
11:00		2	0	0	0	2	
Day Total						98	

638

Grand Total

ADT ADT 67 AADT 67

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 7 Station ID: U279 Doran Rd from Hwy 7 to McVeigh Rd

Start	Fri	<	Quarter	Hour	>	Hour	
Time	26-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	2	0	0	2	
05:00		0	0	0	2	2	
06:00		0	0	0	1	1	
07:00		1	0	1	1	3	
08:00		4	1	1	5	11	
09:00		2	0	3	4	9	
10:00		1	1	4	0	6	
11:00		2	0	1	2	5	
12:00 PM		6	1	2	2	11	
01:00		2	1	5	2	10	
02:00		5	0	2	1	8	
03:00		4	2	2	2	10	
04:00		6	5	4	5	20	
05:00		2	4	2	4	12	
06:00		0	0	1	3	4	
07:00		1	0	4	0	5	
08:00		1	3	2	4	10	
09:00		0	3	0	0	3	
10:00		1	1	0	1	3	
11:00		1	0	0	0	1	
Day Total						136	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 7 Station ID: U279 Doran Rd from Hwy 7 to McVeigh Rd

Start	Sat	<	Quarter	Hour	>	Hour	
Time	27-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	2	0	0	2	
04:00		0	0	0	0	0	
05:00		0	1	0	0	1	
06:00		0	0	0	1	1	
07:00		0	0	2	2	4	
08:00		1	3	6	2	12	
09:00		3	3	1	1	8	
10:00		2	0	1	3	6	
11:00		4	1	5	3	13	
12:00 PM		2	2	1	5	10	
01:00		3	3	2	4	12	
02:00		4	4	1	1	10	
03:00		2	3	1	1	7	
04:00		6	4	0	0	10	
05:00		3	2	2	2	9	
06:00		1	1	3	2	7	
07:00		6	1	1	0	8	
08:00		2	2	1	2	7	
09:00		0	1	0	1	2	
10:00		0	0	0	0	0	
11:00		0	0	0	1	1	
Day Total						130	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 7 Station ID: U279 Doran Rd from Hwy 7 to McVeigh Rd

Start	Sun	<	Quarter	Hour	>	Hour	
Time	28-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	1	0	0	0	1	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	1	1	
06:00		2	0	1	0	3	
07:00		2	0	0	1	3	
08:00		0	0	1	0	1	
09:00		0	2	1	2	5	
10:00		1	2	2	4	9	
11:00		3	8	7	3	21	
12:00 PM		4	5	2	2	13	
01:00		4	4	2	7	17	
02:00		1	0	2	1	4	
03:00		3	5	3	5	16	
04:00		2	1	1	1	5	
05:00		2	5	2	4	13	
06:00		6	3	3	1	13	
07:00		1	3	4	0	8	
08:00		1	1	1	3	6	
09:00		0	0	0	1	1	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						140	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 7 Station ID: U279 Doran Rd from Hwy 7 to McVeigh Rd

Start	Mon	<	Quarter	Hour	>	Hour	
Time	29-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		1	0	0	0	1	
03:00		0	0	0	0	0	
04:00		1	1	0	0	2	
05:00		0	0	1	1	2	
06:00		1	1	1	0	3	
07:00		0	1	1	1	3	
08:00		4	2	3	1	10	
09:00		4	1	6	1	12	
10:00		2	1	1	2	6	
11:00		2	1	5	2	10	
12:00 PM		3	1	6	1	11	
01:00		1	3	1	5	10	
02:00		3	0	6	4	13	
03:00		5	2	3	1	11	
04:00		2	3	4	3	12	
05:00		0	1	1	3	5	
06:00		1	4	3	1	9	
07:00		3	1	3	2	9	
08:00		1	0	1	1	3	
09:00		0	0	0	1	1	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						133	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 7 Station ID: U279 Doran Rd from Hwy 7 to McVeigh Rd

Start	Tue	<	Quarter	Hour	>	Hour	
Time	30-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	1	1	0	2	
05:00		0	0	1	1	2	
06:00		0	1	0	1	2	
07:00		0	0	2	3	5	
08:00		1	1	1	1	4	
09:00		2	0	3	1	6	
10:00		3	2	2	0	7	
11:00		1	1	0	1	3	
12:00 PM		2	2	0	1	5	
01:00		0	3	1	3	7	
02:00		2	0	4	3	9	
03:00		7	2	6	1	16	
04:00		4	2	6	1	13	
05:00		4	1	1	3	9	
06:00		1	6	6	1	14	
07:00		1	0	3	2	6	
08:00		2	0	0	1	3	
09:00		0	0	0	1	1	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						114	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 7 Station ID: U279 Doran Rd from Hwy 7 to McVeigh Rd

Start	Wed	<	Quarter	Hour	>	Hour	
Time	31-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	1	2	
06:00		1	2	1	0	4	
07:00		0	1	1	1	3	
08:00		7	2	4	1	14	
09:00		8	2	4	1	15	
10:00		1	2	1	1	5	
11:00		2	1	3	2	8	
12:00 PM		3	1	2	3	9	
01:00		0	2	1	3	6	
02:00		0	4	4	3	11	
03:00		7	3	2	2	14	
04:00		3	3	6	2	14	
05:00		0	1	3	3	7	
06:00		4	4	3	1	12	
07:00		2	0	1	2	5	
08:00		1	0	0	0	1	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						130	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 7 Station ID: U279 Doran Rd from Hwy 7 to McVeigh Rd

> Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Thu	<	Quarter	Hour	>	Hour	
Time	01-Sep-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		1	1	0	0	2	
05:00		0	0	1	1	2	
06:00		1	1	1	0	3	
07:00		0	1	1	1	3	
08:00		6	2	3	4	15	
09:00		3	1	7	1	12	
10:00		2	1	2	1	6	
11:00		2	1	4	2	9	
12:00 PM		3	0	1	0	4	
01:00		8	1	1	1	11	
02:00		3	2	3	1	9	
03:00		4	6	2	2	14	
04:00		3	1	1	6	11	
05:00		5	2	3	1	11	
06:00		3	1	1	1	6	
07:00		0	1	3	1	5	
08:00		1	1	0	2	4	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						127	

Grand Total 910

ADT ADT 94 AADT 94

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 8 Station ID: U148 Ennis Rd from Beach Rd to Bennett Lake

Start	Fri	<	Quarter	Hour	>	Hour	
Time	26-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		1	0	2	1	4	
07:00		1	6	6	4	17	
08:00		5	2	7	3	17	
09:00		7	3	6	2	18	
10:00		5	1	4	2	12	
11:00		4	3	3	7	17	
12:00 PM		2	6	9	3	20	
01:00		2	3	6	4	15	
02:00		2	1	6	4	13	
03:00		6	7	6	8	27	
04:00		2	5	2	4	13	
05:00		1	4	4	6	15	
06:00		4	4	1	5	14	
07:00		3	1	1	2	7	
08:00		3	0	1	1	5	
09:00		2	1	0	1	4	
10:00		0	1	1	0	2	
11:00		1_	0	0	0	1	
Day Total						221	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 8 Station ID: U148 Ennis Rd from Beach Rd to Bennett Lake

Start	Sat	<	Quarter	Hour	>	Hour	
Time	27-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	1	0	1	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	1	1	
05:00		0	0	0	0	0	
06:00		0	0	1	1	2	
07:00		0	2	5	0	7	
08:00		1	4	2	2	9	
09:00		4	5	4	5	18	
10:00		0	6	3	5	14	
11:00		5	1	5	4	15	
12:00 PM		6	2	7	3	18	
01:00		1	3	7	3	14	
02:00		5	4	8	7	24	
03:00		2	3	2	3	10	
04:00		4	1	6	0	11	
05:00		2	1	3	4	10	
06:00		4	4	4	4	16	
07:00		2	2	3	2	9	
08:00		0	4	0	3	7	
09:00		0	1	0	0	1	
10:00		0	1	0	1	2	
11:00		0	2	0	0	2	
Day Total						191	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 8 Station ID: U148 Ennis Rd from Beach Rd to Bennett Lake

Start	Sun	<	Quarter	Hour	>	Hour	
Time	28-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		1	0	1	0	2	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	1	0	0	1	
06:00		0	0	0	0	0	
07:00		0	0	1	2	3	
08:00		1	5	3	2	11	
09:00		5	4	2	3	14	
10:00		5	5	3	5	18	
11:00		5	3	3	4	15	
12:00 PM		8	7	8	4	27	
01:00		7	5	3	9	24	
02:00		4	2	6	4	16	
03:00		5	4	5	1	15	
04:00		2	6	7	4	19	
05:00		5	2	4	2	13	
06:00		2	0	3	1	6	
07:00		1	2	0	1	4	
08:00		1	4	3	2	10	
09:00		2	3	1	0	6	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						204	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 8 Station ID: U148 Ennis Rd from Beach Rd to Bennett Lake

Start	Mon	<	Quarter	Hour	>	Hour	
Time	29-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	1	1	2	4	
06:00		0	1	2	1	4	
07:00		1	8	0	3	12	
08:00		5	3	3	1	12	
09:00		3	4	6	6	19	
10:00		2	3	4	8	17	
11:00		3	3	5	5	16	
12:00 PM		6	4	5	2	17	
01:00		4	5	5	7	21	
02:00		2	2	3	3	10	
03:00		2	1	6	7	16	
04:00		2	8	3	2	15	
05:00		10	0	5	4	19	
06:00		4	1	0	1	6	
07:00		0	2	1	2	5	
08:00		3	3	0	0	6	
09:00		1	1	0	0	2	
10:00		1	0	1	0	2	
11:00		0	0	0	0	0	
Day Total						203	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 8 Station ID: U148 Ennis Rd from Beach Rd to Bennett Lake

Start	Tue	<	Quarter	Hour	>	Hour	
Time	30-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	1	1	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		1	1	0	0	2	
06:00		1	0	3	1	5	
07:00		0	2	3	5	10	
08:00		2	0	1	6	9	
09:00		0	5	3	4	12	
10:00		3	6	10	2	21	
11:00		6	5	3	5	19	
12:00 PM		3	2	3	5	13	
01:00		5	3	2	2	12	
02:00		1	1	6	2	10	
03:00		2	3	7	10	22	
04:00		3	8	4	9	24	
05:00		8	2	8	5	23	
06:00		5	5	0	1	11	
07:00		0	1	0	2	3	
08:00		1	2	0	0	3	
09:00		0	0	0	0	0	
10:00		1	0	0	0	1	
11:00		0	0	0	0	0	
Day Total						201	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 8 Station ID: U148 Ennis Rd from Beach Rd to Bennett Lake

Start	Wed	<	Quarter	Hour	>	Hour	
Time	31-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	1	1	2	4	
06:00		0	1	2	1	4	
07:00		1	7	4	5	17	
08:00		4	3	5	1	13	
09:00		4	4	8	6	22	
10:00		3	2	3	4	12	
11:00		2	4	3	4	13	
12:00 PM		6	5	4	3	18	
01:00		4	5	4	4	17	
02:00		3	2	2	1	8	
03:00		2	1	8	6	17	
04:00		4	6	5	11	26	
05:00		10	0	5	6	21	
06:00		1	4	4	1	10	
07:00		0	2	1	2	5	
08:00		2	2	0	2	6	
09:00		0	0	0	0	0	
10:00		0	0	1	0	1	
11:00		0	0	0	0	0	
Day Total						214	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 8 Station ID: U148 Ennis Rd from Beach Rd to Bennett Lake

> Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Thu	<	Quarter	Hour	>	Hour	
Time	01-Sep-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	3	4	
06:00		0	1	2	1	4	
07:00		1	7	0	7	15	
08:00		6	4	4	1	15	
09:00		6	4	5	4	19	
10:00		3	2	2	7	14	
11:00		2	3	3	3	11	
12:00 PM		3	3	10	2	18	
01:00		5	5	7	2	19	
02:00		6	1	4	3	14	
03:00		6	9	2	2	19	
04:00		3	12	1	2	18	
05:00		2	3	1	1	7	
06:00		2	3	3	2	10	
07:00		2	3	2	0	7	
08:00		1	4	2	0	7	
09:00		1	0	0	0	1	
10:00		0	0	1	0	1	
11:00		1	0	1	0	2	
Day Total						205	

Grand Total 1439

ADT ADT 148 AADT 148

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 9 Station ID: U82 McVeigh Rd from Doran Rd to Arnold T Dr

Start	Fri	<	Quarter	Hour	>	Hour	
Time	26-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	_	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		2	0	0	1	3	
06:00		0	0	0	1	1	
07:00		0	2	0	0	2	
08:00		3	3	1	1	8	
09:00		2	3	0	3	8	
10:00		1	2	1	1	5	
11:00		2	1	4	2	9	
12:00 PM		3	0	0	2	5	
01:00		4	3	3	1	11	
02:00		1	2	2	3	8	
03:00		2	2	2	2	8	
04:00		3	1	2	4	10	
05:00		1	2	0	0	3	
06:00		1	0	1	1	3	
07:00		1	0	0	2	3	
08:00		2	2	2	0	6	
09:00		0	0	3	1	4	
10:00		0	0	1	0	1	
11:00		0	0	0	0	0	
Day Total						98	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 9 Station ID: U82 McVeigh Rd from Doran Rd to Arnold T Dr

Start	Sat	<	Quarter	Hour	>	Hour	-
Time	27-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	1	1	
05:00		0	0	0	0	0	
06:00		1	0	0	0	1	
07:00		1	2	0	3	6	
08:00		2	1	2	1	6	
09:00		0	2	0	1	3	
10:00		0	1	3	3	7	
11:00		2	2	2	1	7	
12:00 PM		3	2	0	4	9	
01:00		0	4	1	2	7	
02:00		2	1	5	0	8	
03:00		0	3	1	2	6	
04:00		0	2	0	2	4	
05:00		2	1	0	1	4	
06:00		2	5	1	0	8	
07:00		1	0	1	1	3	
08:00		2	1	0	0	3	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						83	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 9 Station ID: U82 McVeigh Rd from Doran Rd to Arnold T Dr

Start	Sun	<	-Quarter	Hour	>	Hour	
Time	28-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		1	2	0	1	4	
06:00		0	0	0	0	0	
07:00		0	0	0	0	0	
08:00		1	0	0	4	5	
09:00		2	1	2	2	7	
10:00		2	2	2	1	7	
11:00		7	5	2	2	16	
12:00 PM		3	2	0	6	11	
01:00		4	1	1	1	7	
02:00		3	3	3	3	12	
03:00		4	5	0	1	10	
04:00		2	0	3	2	7	
05:00		5	3	2	3	13	
06:00		1	0	1	2	4	
07:00		2	0	2	0	4	
08:00		0	1	0	0	1	
09:00		0	1	0	0	1	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						109	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 9 Station ID: U82 McVeigh Rd from Doran Rd to Arnold T Dr

Start	Mon	<	Quarter	Hour	>	Hour	
Time	29-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	- J	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	1	1	
05:00		1	1	0	1	3	
06:00		1	0	0	1	2	
07:00		2	0	2	1	5	
08:00		1	3	1	0	5	
09:00		3	0	1	0	4	
10:00		1	1	0	2	4	
11:00		0	0	4	1	5	
12:00 PM		6	0	0	1	7	
01:00		2	2	1	4	9	
02:00		1	1	7	3	12	
03:00		1	2	2	1	6	
04:00		1	2	1	3	7	
05:00		0	1	3	1	5	
06:00		2	2	3	4	11	
07:00		1	2	0	0	3	
08:00		1	0	0	0	1	
09:00		0	1	0	0	1	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						91	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 9 Station ID: U82 McVeigh Rd from Doran Rd to Arnold T Dr

Start	Tue	<	Quarter	Hour	>	Hour	
Time	30-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	1	1	
05:00		0	1	0	1	2	
06:00		0	0	0	1	1	
07:00		0	2	0	1	3	
08:00		1	1	0	0	2	
09:00		2	1	2	2	7	
10:00		2	3	1	1	7	
11:00		3	0	2	1	6	
12:00 PM		0	1	1	2	4	
01:00		0	1	1	3	5	
02:00		0	2	4	3	9	
03:00		1	2	4	3	10	
04:00		1	2	2	1	6	
05:00		1	3	2	1	7	
06:00		2	2	4	3	11	
07:00		0	2	1	0	3	
08:00		1	0	0	1	2	
09:00		0	0	0	1	1	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						87	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 9 Station ID: U82 McVeigh Rd from Doran Rd to Arnold T Dr

Start	Wed	<	Quarter	Hour	>	Hour	
Time	31-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	1	1	
05:00		1	0	0	1	2	
06:00		1	0	1	1	3	
07:00		0	0	2	3	5	
08:00		1	2	1	0	4	
09:00		1	2	0	1	4	
10:00		0	2	1	2	5	
11:00		1	3	0	1	5	
12:00 PM		2	0	0	1	3	
01:00		2	3	2	1	8	
02:00		3	1	6	3	13	
03:00		1	4	2	3	10	
04:00		2	2	1	2	7	
05:00		1	1	3	2	7	
06:00		4	3	2	4	13	
07:00		1	0	1	2	4	
08:00		1	1	0	0	2	
09:00		0	1	0	0	1	
10:00		1	0	0	0	1	
11:00		0	0	0	0	0	
Day Total						98	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 9 Station ID: U82 McVeigh Rd from Doran Rd to Arnold T Dr

Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Thu	<	Quarter	Hour	>	Hour	
Time	01-Sep-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	1	1	
05:00		1	0	1	1	3	
06:00		1	0	0	1	2	
07:00		2	1	2	1	6	
08:00		3	2	1	2	8	
09:00		4	1	2	1	8	
10:00		1	1	1	0	3	
11:00		1	0	0	1	2	
12:00 PM		2	2	0	0	4	
01:00		0	2	2	0	4	
02:00		2	3	3	2	10	
03:00		1	2	1	5	9	
04:00		5	0	3	1	9	
05:00		3	3	2	0	8	
06:00		1	0	2	1	4	
07:00		1	0	1	2	4	
08:00		0	0	0	0	0	
09:00		0	0	1	0	1	
10:00		0	0	0	0	0	
11:00		0	0	1	0	1	
Day Total						87	

Grand Total 653

ADT ADT 67 AADT 67

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 10 Station ID: U142 McVeigh Rd from Arnold T Dr to Dokken Rd

Start	Fri	<	Quarter	Hour	>	Hour	
Time	26-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		1	1	0	0	2	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	1	0	1	
06:00		1	1	0	0	2	
07:00		0	0	1	0	1	
08:00		3	3	1	2	9	
09:00		0	1	4	2	7	
10:00		0	2	2	1	5	
11:00		0	1	1	2	4	
12:00 PM		0	2	1	1	4	
01:00		0	3	4	2	9	
02:00		0	0	1	2	3	
03:00		2	1	5	5	13	
04:00		1	1	0	3	5	
05:00		2	1	2	1	6	
06:00		0	3	2	1	6	
07:00		0	2	1	0	3	
08:00		1	0	3	0	4	
09:00		2	0	0	1	3	
10:00		1	0	1	0	2	
11:00		0	0	0	0	0	
Day Total						89	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 10 Station ID: U142 McVeigh Rd from Arnold T Dr to Dokken Rd

Start	Sat	<	-Quarter	Hour	>	Hour	
Time	27-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		0	0	0	4	4	
08:00		0	0	1	1	2	
09:00		0	1	1	0	2	
10:00		2	1	0	2	5	
11:00		2	2	2	2	8	
12:00 PM		2	1	0	5	8	
01:00		4	0	4	0	8	
02:00		3	1	1	2	7	
03:00		2	1	0	4	7	
04:00		2	0	0	0	2	
05:00		1	2	0	0	3	
06:00		1	1	0	1	3	
07:00		0	2	0	0	2	
08:00		4	1	0	0	5	
09:00		1	0	0	0	1	
10:00		1	0	0	0	1	
11:00		0	0	0	0	0	
Day Total						68	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 10 Station ID: U142 McVeigh Rd from Arnold T Dr to Dokken Rd

Start	Sun	<	-Quarter	Hour	>	Hour	
Time	28-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		0	0	0	1	1	
08:00		0	1	0	2	3	
09:00		0	1	2	0	3	
10:00		2	3	1	0	6	
11:00		0	4	3	5	12	
12:00 PM		3	1	1	3	8	
01:00		5	3	1	2	11	
02:00		0	1	1	2	4	
03:00		2	3	1	2	8	
04:00		0	5	4	3	12	
05:00		0	3	0	2	5	
06:00		0	1	0	0	1	
07:00		1	2	0	1	4	
08:00		0	0	1	1	2	
09:00		0	0	1	1	2	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						82	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 10 Station ID: U142 McVeigh Rd from Arnold T Dr to Dokken Rd

> Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Mon	<	Quarter	Hour	>	Hour	
Time	29-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	1	1	
06:00		0	0	0	0	0	
07:00		0	0	0	1	1	
08:00		0	2	1	1	4	
09:00		3	0	0	1	4	
10:00		0	2	1	0	3	
11:00		1	0	1	5	7	
12:00 PM		0	3	1	3	7	
01:00		0	0	3	2	5	
02:00		2	4	4	3	13	
03:00		1	1	0	3	5	
04:00		1	1	0	0	2	
05:00		0	1	1	0	2	
06:00		0	0	0	2	2	
07:00		0	1	0	1	2	
08:00		0	0	0	2	2	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						60	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 10 Station ID: U142 McVeigh Rd from Arnold T Dr to Dokken Rd

> Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Tue	<	Quarter	Hour	>	Hour	
Time	30-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	1	0	0	1	
07:00		0	0	0	1	1	
08:00		0	1	1	0	2	
09:00		1	0	0	2	3	
10:00		0	1	2	0	3	
11:00		1	2	1	2	6	
12:00 PM		3	0	0	0	3	
01:00		2	1	2	3	8	
02:00		1	2	4	2	9	
03:00		4	1	1	3	9	
04:00		2	1	2	1	6	
05:00		0	1	0	1	2	
06:00		0	0	0	1	1	
07:00		0	1	0	0	1	
08:00		0	1	0	1	2	
09:00		1	0	0	0	1	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						58	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 10 Station ID: U142 McVeigh Rd from Arnold T Dr to Dokken Rd

> Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Wed	<	-Quarter	Hour	>	Hour	
Time	31-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		1	0	0	1	2	
07:00		0	0	0	2	2	
08:00		0	3	1	1	5	
09:00		2	0	1	1	4	
10:00		0	1	2	1	4	
11:00		3	1	2	3	9	
12:00 PM		1	4	0	2	7	
01:00		1	0	1	2	4	
02:00		1	3	4	3	11	
03:00		1	1	0	2	4	
04:00		1	1	0	1	3	
05:00		0	1	0	1	2	
06:00		0	0	2	3	5	
07:00		0	1	0	0	1	
08:00		0	0	0	0	0	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						63	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 10 Station ID: U142 McVeigh Rd from Arnold T Dr to Dokken Rd

Date Start: 26-Aug-22 Date End: 01-Sep-22

Start	Thu	<	-Quarter	Hour	>	Hour	
Time	01-Sep-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	1	1	
06:00		0	0	0	0	0	
07:00		0	0	0	1	1	
08:00		1	2	1	1	5	
09:00		2	0	0	1	3	
10:00		0	0	0	0	0	
11:00		1	1	2	0	4	
12:00 PM		0	2	0	1	3	
01:00		0	1	1	1	3	
02:00		0	0	1	0	1	
03:00		5	1	1	2	9	
04:00		1	2	0	1	4	
05:00		3	1	0	1	5	
06:00		2	0	0	1	3	
07:00		1	1	0	0	2	
08:00		0	0	0	1	1	
09:00		0	0	1	1	2	
10:00		1	0	0	0	1	
11:00		0	0	0	0	0	
Day Total						48	

Grand Total 468

ADT ADT 51 AADT 51

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Fri	<	-Quarter	Hour	>	Hour	
Time	26-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	1	0	0	1	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		0	0	0	0	0	
08:00		0	1	1	0	2	
09:00		0	1	0	1	2	
10:00		0	0	0	0	0	
11:00		0	0	0	1	1	
12:00 PM		1	0	0	1	2	
01:00		1	1	1	2	5	
02:00		2	0	0	1	3	
03:00		0	2	1	1	4	
04:00		1	0	0	1	2	
05:00		4	1	1	1	7	
06:00		2	2	0	2	6	
07:00		0	0	0	3	3	
08:00		1	0	0	1	2	
09:00		0	0	1	0	1	
10:00		1	0	0	0	1	
11:00		0	0	0	0	0	
Day Total						42	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Sat	<	-Quarter	Hour	>	Hour	
Time	27-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		0	0	0	1	1	
08:00		0	1	0	1	2	
09:00		2	1	0	1	4	
10:00		0	0	0	0	0	
11:00		3	4	3	2	12	
12:00 PM		3	0	0	0	3	
01:00		3	1	2	2	8	
02:00		0	0	1	1	2	
03:00		1	2	3	2	8	
04:00		1	0	1	1	3	
05:00		0	0	2	0	2	
06:00		1	2	1	0	4	
07:00		0	0	2	0	2	
08:00		0	0	1	0	1	
09:00		0	0	0	0	0	
10:00		0	1	0	0	1	
11:00		0	0	1	0	1	
Day Total						54	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Date Start:	26-Aug-22
Date End:	01-Sep-22

Start	Sun	<	-Quarter	Hour	>	Hour	
Time	28-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	0	0	
07:00		0	0	2	0	2	
08:00		0	0	2	2	4	
09:00		4	1	1	1	7	
10:00		1	0	1	1	3	
11:00		3	1	2	3	9	
12:00 PM		1	1	3	1	6	
01:00		1	0	0	0	1	
02:00		1	0	2	2	5	
03:00		1	2	2	1	6	
04:00		1	0	2	1	4	
05:00		0	0	1	0	1	
06:00		0	0	0	0	0	
07:00		0	0	1	0	1	
08:00		0	0	0	0	0	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total			· · ·			49	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Mon	<	-Quarter	Hour	>	Hour	
Time	29-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM	Ţ.	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	1	1	
07:00		1	0	0	0	1	
08:00		1	0	0	0	1	
09:00		0	0	0	1	1	
10:00		0	2	0	1	3	
11:00		0	2	0	1	3	
12:00 PM		0	0	0	0	0	
01:00		2	0	1	1	4	
02:00		0	1	1	1	3	
03:00		1	0	1	3	5	
04:00		0	0	0	1	1	
05:00		2	3	0	1	6	
06:00		0	0	1	0	1	
07:00		1	1	0	0	2	
08:00		0	0	0	0	0	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						32	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Tue	<	Quarter	Hour	>	Hour	
Time	30-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	1	0	1	
07:00		0	0	1	0	1	
08:00		0	0	0	0	0	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		1	0	3	0	4	
12:00 PM		2	1	0	1	4	
01:00		0	2	1	1	4	
02:00		0	1	0	1	2	
03:00		1	0	2	5	8	
04:00		0	0	0	2	2	
05:00		2	2	0	1	5	
06:00		0	0	0	0	0	
07:00		0	0	0	0	0	
08:00		0	0	0	0	0	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						31	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Start	Wed	<	Quarter	Hour	>	Hour	
Time	31-Aug-22	1st	2nd	3rd	4th	Total	
12:00 AM		0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	2	2	
07:00		1	0	0	0	1	
08:00		2	0	0	0	2	
09:00		0	0	0	1	1	
10:00		0	1	0	1	2	
11:00		0	0	0	0	0	
12:00 PM		1	0	0	0	1	
01:00		2	0	0	1	3	
02:00		0	0	0	0	0	
03:00		1	1	3	3	8	
04:00		1	1	0	2	4	
05:00		1	3	1	2	7	
06:00		0	0	1	0	1	
07:00		1	0	0	0	1	
08:00		0	0	0	0	0	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						33	

17705 Leslie St., Unit 6 Newmarket, Ontario L3Y 3E3 Tel: (905) 898-7711 Fax: (905) 898-3664

Site Code: 11 Station ID: U187 Rutherford Side Road from Bathurst 5th Concession to McVeigh Rd Date Start: 26-Aug-22

Date Start. 20-Aug-22
Date End: 01-Sep-22

Start	Thu	<quarter< th=""><th colspan="2">Hour></th><th>Hour</th><th></th></quarter<>		Hour>		Hour	
Time	01-Sep-22	1st	2nd	3rd	4th	Total	
12:00 AM	•	0	0	0	0	0	
01:00		0	0	0	0	0	
02:00		0	0	0	0	0	
03:00		0	0	0	0	0	
04:00		0	0	0	0	0	
05:00		0	0	0	0	0	
06:00		0	0	0	1	1	
07:00		0	0	0	0	0	
08:00		1	0	0	0	1	
09:00		0	0	0	1	1	
10:00		0	2	0	0	2	
11:00		0	0	2	3	5	
12:00 PM		1	0	0	0	1	
01:00		1	0	0	0	1	
02:00		1	0	0	2	3	
03:00		2	1	1	1	5	
04:00		0	2	0	0	2	
05:00		2	1	0	2	5	
06:00		2	0	0	0	2	
07:00		0	0	0	0	0	
08:00		0	0	0	0	0	
09:00		0	0	0	0	0	
10:00		0	0	0	0	0	
11:00		0	0	0	0	0	
Day Total						29	

Grand Total 270

ADT ADT 30 AADT 30



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