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Municipality of Trent Hills
Asset Management-Current Levels of Service
Core Municipal Infrastructure Assets

Report Date: June 28, 2022

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Introduction

The main objective of an Asset Management Plan (AMP) is to use a municipality's best available information to develop a comprehensive long-term plan for capital assets. In addition, the AMP should provide a sufficiently documented framework that will enable continuous improvement and updates of the AMP, to ensure its relevancy over the long term.

History of Asset Management in Ontario

Asset management planning in Ontario has evolved significantly over the past decade.

Before 2009, capital assets were recorded by municipalities as expenditures in the year of acquisition or construction. The long-term issue with this approach was the lack of a capital asset inventory, both in the municipality's accounting system and financial statements. As a result of revisions to section 3150 of the Public Sector Accounting Board (PSAB) handbook, effective for the 2009 fiscal year, municipalities were required to capitalize tangible capital assets, thus creating an inventory of assets.

In 2012, the Province launched the municipal Infrastructure Strategy. As part of that initiative, municipalities and local service boards seeking provincial funding were required to demonstrate how any proposed project fits within a detailed asset management plan. In addition, asset management plans encompassing all municipal assets needed to be prepared by the end of 2016 to meet Federal Gas Tax agreement requirements. To help define the components of an asset management plan, the Province produced a document entitled *Building Together: Guide for Municipal Asset Management Plans*. This guide documented the components, information, and analysis that were required to be included in municipal asset management plans under this initiative.

The Province's *Infrastructure for Jobs and Prosperity Act, 2015* (IIPA) was proclaimed on May 1, 2016. This legislation detailed principles for evidence-based and sustainable long-term infrastructure planning. IIPA also gave the Province the authority to guide municipal asset management planning by way of regulation. In late 2017, the Province introduced O. Reg. 588/17 under IIPA. The intent of O. Reg. 588/17 is to establish standard content for municipal asset management plans. Specifically, the regulations require that asset management plans be developed that define the current and proposed levels of service, identify the lifecycle activities that would be undertaken to achieve these levels of service, and provide a financial strategy to support the levels of service and lifecycle activities.

On March 15, 2021, the Province of Ontario filed O. Reg. 193/21 to extend the timelines under the Asset Management Planning regulation (O. Reg. 588/17), and the amendments are now in effect. The timelines under O. Reg. 588/17 were extended by a year. The table below outlines the dates and requirements:

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Requirements of Ontario Regulation 588/17

Date	Requirements
July 1, 2019	Strategic Asset Management Policy
July 1, 2022	Asset Management Plans-Current Levels of Service <ul style="list-style-type: none"> • Current levels of service • Asset (inventory) analysis • Current performance of assets • Lifecycle activities and costs to maintain current levels of service • Impacts of growth on current levels of service Applies to core assets: roads bridges and culverts, water, wastewater, storm water management.
July 1, 2024	Asset Management Plans-Current Levels of Service <ul style="list-style-type: none"> • Current levels of service • Asset (inventory) analysis • Current performance of assets • Lifecycle activities and costs to maintain current levels of service • Impacts of growth on current levels of service Applies to all municipal infrastructure assets.
July 1, 2025	Asset Management Plans-Proposed Levels of Service <ul style="list-style-type: none"> • Proposed levels of service • Proposed performance of assets • Lifecycle activities and costs to achieve proposed levels of service • Financial strategy • Impacts of growth on proposed levels of service • Risk Assessment

Levels of Service

The Municipality of Trent Hills prepared an Asset Management Plan (AMP) in 2018 to support the long-term plan for capital assets. The 2018 AMP included guiding principles for developing Levels of Service for assets and their impact on the community and the Municipality. In order to comply with O. Reg. 588/17, the Municipality has created specific Levels of Service related to core municipal infrastructure including roads, bridges and culverts, drinking water, wastewater, and storm water management.

O. Reg. 588/17 includes both the qualitative descriptions pertaining to community levels of service and metrics pertaining to technical levels of service for core municipal infrastructure assets. These Levels of Service include the following:

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- Service Attribute Categories identify aspects or characteristics of a service and may include Scope, Quality, Reliability, Capacity, Safety, Affordability/Financial Sustainability.
- Level of service statements describe attributes of the service from a non-technical point of view, in terms that customers understand and typically reflect customer expectations within each Service Attribute Category.
- Performance measures are quantitative measures that support the level-of-service statements.

Transportation Levels of Service

Residents and visitors use the Municipality’s transportation services to travel from properties to local amenities, county and provincial roads. Along with vehicle travel, they use other transportation modes such as walking and cycling. Transportation services also support motorized recreational vehicles such as ATVs and snowmobiles. Furthermore, transportation services help ensure that emergency vehicles have reliable access to all areas of the Municipality.

The Municipality owns and manages a variety of assets to deliver transportation services. The most significant asset in terms of cost is the Municipality’s road network.

Table 1
 Transportation Asset Inventory
 (2019 Roads Needs Study)

Asset Class	Quantity	Units
HCB roads (Asphalt)	51	Kilometres
LCB roads (Surface Treated/Tar & Chip)	239	Kilometres
Gravel roads	242	Kilometres
Bridges	34	Count
Structural culverts	6	Count
Sidewalks	41,964	Metres
Signs	3,141	Count

The overall condition of the roads and bridges is reported using condition indices, the Pavement Condition Index (PCI)* for roads and the Bridge Condition Index (BCI) for bridges and structural culverts. Both indices use a scale from 0 to 100 with 100 being an asset in as-new condition and 0 being an asset at end-of-life. Refer to Table 2 and Table 3 below that outline Range and Condition State.

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Table 2
 Pavement Condition Index (PCI) Range

Pavement Condition Index (PCI) Range*	Condition State
80 < PCI ≤ 100	Excellent
60 < PCI ≤ 80	Good
40 < PCI ≤ 60	Fair
20 < PCI ≤ 40	Poor
0 ≤ PCI ≤ 20	Very Poor

Table 3
 Bridge Condition Index (BCI) Range

Bridge Condition Index (BCI) Range	Condition State
70 < BCI ≤ 100	Good
60 < BCI ≤ 70	Fair
0 < BCI ≤ 60	Poor

Physical condition of the assets is not sufficient to comprehensively track and report on the levels of service provided by the Municipality. To cover aspects of transportation services not directly linked to asset condition, a broader levels of service framework has been developed. The levels of service framework is presented in Table 4.

For each performance measure, the current performance is reported. In the future, targets for each performance measure will be chosen that balance the needs of users of transportation services with the cost of delivering the service.

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Table 4
 Transportation Services Levels of Service Framework

Service Attribute	Level of Service Statement	Performance Measure	2020 Performance	2021 Performance
Scope	Connects properties to local amenities and to regional roads maintained by the County and the Province	Number of lane-kilometres of arterial roads as a proportion of square kilometres of land area of the municipality	.01617 (8.28/511.95)	.01617 (8.28/511.95)
		Number of lane-kilometres of collector roads as a proportion of square kilometres of land area of the municipality	.22307 (114.20/511.95)	.22307 (114.20/511.95)
		Number of lane-kilometres of local roads as a proportion of square kilometres of land area of the municipality	1.77 (908.3/511.95)	1.77 (908.3/511.95)
		Percentage of bridges in the municipality with loading or dimensional restrictions	17.6%	17.6%
Quality	Supports comfortable passage of vehicles and other transportation network users	For paved roads in the municipality, the average pavement condition index value	71.8	71.8
		For unpaved roads in the municipality, the average surface condition	70	70
		Centreline-kilometres of paved roads with a Pavement Condition Rating ≤ 40 is considered poor or very poor	.85	.85
		Centreline-kilometres of unpaved roads with a condition rating of ≤ 40 is considered poor or very poor	0	0
		For bridges in the municipality, the average bridge condition index value	68.6	68.6
		For structural culverts in the municipality, the average bridge condition index value	75.5	75.5

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Service Attribute	Level of Service Statement	Performance Measure	2020 Performance	2021 Performance
Safety	Seeks to minimize risks to users of transportation infrastructure	Number of signs that fail retro-reflectivity test that were replaced	20	27
		Number of sidewalk defects with gap > 3/4 inch (20 mm) that were addressed by grinding, panel replacement or painting	21	31
		Percentage of identified minimum maintenance standard issues that are addressed within the timeframe identified in the regulation (O. Reg. 239/02)	0	0
Affordability / Financial Sustainability	Efficiently uses municipal resources to deliver transportation services, including seeking support from higher levels of government when available	Kilometres of brushing completed	145	132
		Kilometres of ditching completed	60	56
		Annual transportation budget - operating	\$ 5,119,976	\$ 5,352,021
		Annual transportation budget - capital	\$ 4,318,542	\$ 4,331,756
		Annual transportation budget - total	\$ 9,438,518	\$ 9,683,777
		Total transportation capital budget per household	\$ 594	\$ 589
		Annual Funding gap: Difference between estimated annual capital funding required as identified in the asset management plan and current capital funding (roads & bridges)	\$ 3.4M**	\$ 4.08M**
		Current capital funding as a percentage of estimated annual capital funding required as identified in the asset management plan	56.6%***	56.8%***

Notes re Transportation Levels of Service

*The Municipality's Road Needs Study uses Pavement Condition Rating which is synonymous with Pavement Condition Index (PCI).

**Funding gap is under estimated due to current inflationary and other factors at the time of this report. 2020 funding gap inflated by 20% for 2021 for illustrative purposes only.

***Estimated annual capital funding required is \$7.63M for Roads and Bridges. Annual transportation capital budget \$ 4.3M. Current capital funding as a percentage of estimated annual capital funding required is 56% for 2020 and 2021.

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Drinking Water Levels of Service

The Municipality of Trent Hills provides drinking water services to its constituents located in the urban serviced areas of the Municipality. There are three separate systems in Campbellford, Hastings, and Warkworth providing service to approximately 2,800 water customers.

Table 5
 Drinking Water Levels of Service Framework

Service Attribute	Level of Service Statement	Performance Measure	2020 Performance	2021 Performance	Note
Scope	Water services are provided in the communities of Campbellford, Hastings and Warkworth	Percentage of properties connected to the municipal water system	28%	29%	1
		Percentage of households connected to the municipal water system	33%	33%	2
		Percentage of properties where fire flow is available.	26%	27%	3
Reliability	Water services are provided with minimal unplanned service interruptions.	The number of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system.	0	0	4
		The number of connection-days per year due to water main breaks compared to the total number of properties connected to the municipal water system.	.0023	.0031	5

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Service Attribute	Level of Service Statement	Performance Measure	2020 Performance	2021 Performance	Note
Quality	The Municipality ensures a high quality drinking water supply through its Drinking Water Quality Management System and adherence to Provincial regulations.	Number of microbiological water samples taken and % that did not have exceedances relative to SDWA.	Treated Samples 156 @ 100% Distribution Samples 469 @ 100%	Treated Samples 156 @ 100% Distribution Samples 475 @ 99.7%	6
		Number of chemical water samples taken and % that did not have exceedances relative to SDWA.	Schedule 23 & 24 (Lead) 100% no exceedances	Schedule 23 & 24 (Lead) 100% no exceedances	7
		Number of confirmed odour complaints	1	2	8
		Number of confirmed colour complaints	6	9	9
		Number of confirmed pressure complaints	4	3	10
		Number of fire hydrants with adequate fire flow (and % of total fire hydrants).	330 94.3%	352 95.4%	11
Capacity	The Municipality's asset management planning incorporates servicing needs of future population and employment growth	Additional connections that could be accommodated based on existing reserve capacity: Campbellford Hastings Warkworth	3,154 1,095 1,161	3,655 1,116 1,250	12

Notes

- Note 1 Customer Count/Property Count (2021: 2,788 / 9,763).
- Note 2 Active Residential Accounts/Number of Households (2021: 2,443 / 7,352)
- Note 3 Fire flow not available to all customers. Performance measure for percentage of properties connected to the Municipal water system used and reduced by 2% to obtain the measure.
- Note 4 There were no boil water advisories in 2020 or 2021.
- Note 5 Watermain break duration in minutes x number of customers affected /60 = number of connection days. Connection days / number of customers. (2021: 8.7154 / 2,788).
- Note 6 One adverse distribution sample in 2021.
- Note 7 No chemical water sample exceedances in 2020 or 2021.
- Note 8-10 Confirmed complaints means the complaint has been investigated and determined to be an issue that is in the Municipality's control and not on the private side of the service.
- Note 11 Fire flow testing is completed each year.
- Note 12 Average daily flow per connection, calculated and compared to Approved Daily Capacity to estimate the number of additional connections that could be accommodated.

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Wastewater Water Levels of Service

The Municipality of Trent Hills provides wastewater services to its constituents located in the urban serviced areas of the Municipality. There are three separate systems in Campbellford, Hastings, and Warkworth providing service to approximately 2,400 wastewater customers.

Table 6
 Wastewater Levels of Service Framework

Service Attribute	Level of Service Statement	Performance Measure	2020 Performance	2021 Performance	Note
Scope	Wastewater services are provided in the communities of Campbellford, Hastings and Warkworth.	Percentage of properties connected to the municipal wastewater system.	24%	25%	1
		Percentage of households connected to the municipal wastewater system.	28%	28%	2
Reliability	The wastewater service operates reliably.	The number of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system.	0	0	3
		The number of connection-days per year due to wastewater backups compared to the total number of properties connected to the municipal wastewater system.	.0001	.0000	4
		The number of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	0	1	5

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Service Attribute	Level of Service Statement	Performance Measure	2020 Performance	2021 Performance	Note
Reliability	The wastewater service operates reliably.	% of sewers flushed and inspected in past 5 years	83%	83%	6
		% of identified major repair needs completed during reporting period	100%	38%	7
		Number of repair needs identified per km of pipe inspected	5.92	2.14	8
Capacity	The Municipality's asset management planning incorporates servicing needs of future population and employment growth.	Additional connections that could be accommodated within existing reserve capacity. Campbellford Hastings Warkworth	1,373 188 223	1,837 211 160	9
		Number of sump pumps disconnected from municipal sewer system during reporting period.	0	6	10
		\$ invested into sealing and grouting program	\$ 107,648	\$ 75,111	11

Notes

Wastewater Levels of Service

- Note 1 Customer Count/Property Count (2021: 2,399 / 9,763).
- Note 2 Active Residential Accounts/Number of Households (2021: 2,082 / 7,352)
- Note 3 The Municipality strives to have no wastewater by-pass treatment.
- Note 4 Number of connection days duration in minutes x number of customers affected /60 = number of connection days. Connection days / number of customers. (2020: .1804 / 2,399). There was one wastewater backup in 2020 and none in 2021.
- Note 5 The Hastings plant did not meet the E.coli Objective of 150 CFU/100 mL in 1 out of 12 months in 2021.
- Note 6 Sewer flushing on schedule of six years. Moving toward a schedule of five years in 2022/2023.
- Note 7 2020: There were thirty (30) major repair needs identified. All addressed.
2021: There were eight (8) major repair needs identified. Three (3) addressed.
- Note 8 2020: Thirty (30) repair needs identified in 5.07 kms of CCTV pipe.
2021: Eight (8) repair needs identified in 3.736 kms of pipe CCTV.
- Note 9 Average daily flow per connection, calculated and compared to Approved Daily Capacity to estimate the number of additional connections that could be accommodated
- Note 10 Sump pump program began in 2021. Staff have established annual performance targets to commence in 2023.
- Note 11 Seal and grout maintenance program included in annual operating budget.

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Stormwater Water Levels of Service

The Municipality of Trent Hills provides stormwater management assets that relate to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater. These assets enable and support the collection and conveyance of water to watercourses in all parts of the Municipality whether in the urban or rural area. Snow melt and runoff are contained or controlled to protect properties, roads and local waterways from flooding and erosion and also to mitigate water quality impacts to the natural environment.

The Municipality typically assesses the condition of its stormwater collection assets through visual and closed circuit TV inspections.

Reference to stormwater assets in this document relate to urban areas only. Road-side ditches will be included in the next AMP update.

Table 7
Stormwater Asset Inventory

Asset Class	Quantity	Units
Stormwater main	32.1	Kilometres
Maintenance holes	392	Count
Catch basins	817	Count
Oil/Grit Separators	4	Count
Structural culverts	6	Count

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Table 8
 Stormwater Levels of Service Framework

Service Attribute	Level of Service Statement	Performance Measure	2020 Performance	2021 Performance	Note
Scope	The stormwater management system provides for the collection of urban stormwater within the Municipality in order to protect properties from flooding	Percentage of properties in the municipality resilient to a 100-year storm*	50%	50%	1
		Percentage of the municipal stormwater management system resilient to a 5-year storm*	75%	75%	2
Reliability	The Municipality seeks to ensure the reliable operation of its stormwater management system through regular monitoring and maintenance of its stormwater infrastructure.	The number of stormwater facility overflow events.	0	0	3
		Percentage of stormwater facility visually inspected during reporting period.	0	0	4
		Percentage of stormwater facility inspected comprehensively within the past 5 years.	0	0	5
		Percentage of stormwater catch basins visually inspected and cleaned within the past 4 years.	100%	100%	6
		Percentage of oil/grit separators visually inspected and cleaned annually.	100%	100%	7
		Percentage of stormwater mains inspected with CCTV within the past 5 years.	0	0	8

*Required by O.Reg 588/17

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Notes

Stormwater Levels of Service

Note 1	Information estimated from Lower Trent CA flood mapping.
Note 2	Information estimated from Lower Trent CA flood mapping.
Note 3	No recorded overflow events. One stormwater management facility.
Note 4	No inspections performed during reporting period. Staff have established annual performance targets to commence in 2023.
Note 5	No inspections performed in the last five years. Staff have established annual performance targets to commence in 2023.
Note 6	Annual inspections completed by external contractor.
Note 7	Annual inspections completed by external contractor.
Note 8	No stormwater mains inspected with CCTV within the past five years. Staff have established annual performance targets to commence in 2023.

Conclusion

The Municipality has fulfilled the legislative requirements as outlined in O. Reg. 588/17 for Levels of Service.

The Levels of Service included in this report utilize the best information available to the Municipality at this time. Future updates to the AMP will fully incorporate the requirements of O. Reg. 588/17 as well as changes of the community and all municipal assets.

The next steps, as per the Provincial regulation, by 2024, requires Council to adopt the remaining infrastructure Asset Management Plans. Following this, new service levels will be defined, prior to 2025, and will align with the associated financial strategy.

Staff will continue to implement consistent asset management guidelines and principles with an effort placed on continuous improvement that will lead to an optimized balance between asset performance and asset risks that will create real value for the Municipality of Trent Hills and its citizens.

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Definitions-Transportation

Arterial Road-means a high capacity road with the primary function to move traffic from collector roads between urban centres to Freeways.

Bridge-means a structure which provides a roadway or walkway for the passage of vehicles, pedestrians or cyclists across an obstruction, gap or facility and is greater than or equal to 3m in span.

Centreline kilometres-means the measured distance of a street or road as to include all lanes of traffic.

Collector Road-means a low-to-moderate capacity road which serves to move traffic from local streets to arterial roads.

Lane kilometres-means a kilometer long segment of roadway that is a single lane width.

Local Road-means a road or street which gathers traffic within a neighborhood and directs it to a collector or arterial road.

Structural Culvert-means a structure that forms an opening through soil and:

- a) Has a span of 3 metres or more, or
- b) Has the sum of the individual spans of 3 metres or more, for adjacent multiple cell culverts.

Definitions-Stormwater

Catchbasin-is a storm drain that is used to redirect water to prevent flooding and are common on public streets. Catch basins collect rainwater or melted snow and transport it to an outfall reservoir.

Maintenance Hole-is to allow for a human access point at certain intervals of a storm drainage system for inspection and maintenance purposes.

Oil/Grit Separator-is designed to protect waterways from hazardous material spills and stormwater pollution, including suspended sediment, free oils, and other pollutants that attach to particles.

References

O. Reg 588/17

<https://www.ontario.ca/laws/regulation/r17588>

2016 Census Data: Square kilometres of land 511.95

[Census Profile, 2016 Census - Trent Hills, Municipality \[Census subdivision\], Ontario and Ontario \[Province\]](#)