2020 Business Plan & Budget

Transportation Services

Prior Year Accomplishments

Economic Prosperity & Innovation

- 10 Year Capital Program for Roads/Bridges
- 10 Year Equipment Replacement Strategy
- 10 Year Housing Strategy

Sustainable Growth

Administration:
In the area of general administration, the following accomplishments were achieved:

- Issued the following permits within Northumberland County (as of October 1, 2019)
    - 25 Entrance Permits
    - 39 Setback Permits
    - 31 Open Cut Permits
    - 40 Permission to Enter Permits
    - 15 Permission to Bore Permits
    - 132 Wide Load Annual Permits
    - 145 Wide Load Single Permits
    - 17 Special Event Permits
- Continued review and assessment of department operating structure
- Continued management of County issued permits
- Continued implementation of GIS Cooperative strategic plan initiatives
    - Northumberland Digital Elevation Model (NDEM) Version 4 completion
    - Completion of ArcGIS upgrade to Version 10.6
    - On-going data collection, updates and maintenance to County geodatabase
    - Continued GIS support for County departments, including Forestry, Paramedics and Social Services
    - On-going development and maintenance of internal and external GIS Web applications
    - Continued development and maintenance of Cadastral Parcel Fabric project
    - On-going maintenance of road network and Fires Services data for all of Northumberland County

- Implementation and maintenance of asset data contained in Asset Management Software
- Provided year-round GIS services to the public and area municipalities through the permanent GIS Coordinator
- Completion of Northumberland GIS Cooperative Mandate document
- Hosted Esri Enterprise Success Session for municipal staff and Council
- Participated in Northumberland County App-a-thon event

- In-house designs for drainage improvements on various County Roads
- Delivery of 2019 Capital Construction Program – 13.3 km
- Delivery of 2019 Surface Treatment Program – 143 km
- Continued to provide technical support for implementation and roll-out of Cityworks asset management software
- Completed County Asset Management Policy by July 1, 2019, as per O.Reg.588/17
- Continued to seek and apply for any applicable funding for County projects
- Continued to call joint tenders, RFP's/RFQ's for the benefit of County and member municipalities including but not limited to:
  - Annual Culvert Supply
  - Microsurfacing
  - Crack Sealing
  - Pavement Markings
  - Engineering, Environmental and Architectural Roster
- Finalized the Master Drainage Plan in conjunction with Ganaraska Region Conservation Authority, Town of Cobourg and Township of Hamilton for County Road 2

Road Operations and Maintenance

Winter Maintenance:

In the area of winter maintenance, the following accomplishments were achieved:

- Sanding and salting, snow plowing, snow removal, culvert thawing and road patrol – meeting or exceeding compliance with the Minimum Maintenance Standards for major County roads
- Seasonal staff engaged to support our night shift resulting in 24 hour service to major roads
- Snow removal in all towns and villages enhancing safety and sight lines. Removal done a minimum of once and up to three times in the following villages and towns: Castleton, Harwood, Cold Springs, Warkworth, Dartford, Centreton, Plainville, Camborne, Grafton, Roseneath, Gores Landing, and Campbellford
- Annual calibration of all snowplow combination units
- One new snowplow purchased and in-service for the winter season of 2019/2020
- Approximately 5,234 tonnes of salt and 35,262 tonnes of winter sand used

- Cobourg, Morganston, Plainville, Brighton, Roseneath and Seymour domes required refilling during the winter season
- Continued work on joint tenders through shared services initiatives.

Roadside Maintenance:

In the area of roadside maintenance, the following accomplishments were achieved:

- Tree removal, brushing, ditching, mowing, litter pickup
- Ditching and berm removal on shoulders
- All drainage survey and construction layout completed by in house staff
- Annual roadside mowing and weed removal at intersections, around safety devices and signs completed by in-house and contracted staff using new equipment on a trial basis
- Annual roadside litter pickup on all county roads by staff and local groups, including nine (9) non-profit groups that collected litter from approximately 170 km of County roadway

Hardtop Maintenance:

In the area of hardtop maintenance, the following accomplishments were achieved:

- Shoulder grading, catch basin cleaning, cold mix patching, sweeping
- Two (2) oil grit separators flushed and cleaned
- Completed minor road repairs using asphalt and cold mix asphalt
- Staff spent most of May and June sweeping, flushing and picking up winter sand in all towns and villages
- Approximately 20 new driveway entrances installed

Surface Treatment Program:

In the area of surface treatment, the following accomplishments were achieved:

- Surface treated 143 km of Municipal and County roads, including:
    - 135 km for area municipalities
    - 1,776,742 litres of emulsion for area municipalities
    - 8 km of County Roads
    - 114,914 litres of emulsion for County roads
    - Total emulsion used is 1,891,656 litres

Traffic Safety Measures:

In the area of Traffic Safety Measures, the following accomplishments were achieved:

- Repair of damaged post and cable, and steel beam guide rail
- Inspected approximately 3,600 road signs on all County Roads to ensure they meet the Provincial Standard for retro-reflectivity
- Replacement of approximately 50 damaged and non-reflective signs
- Continued maintenance of traffic signals
- Reviewed & continued to monitor portable radar speed sign data and locations
- Installed portable radar speed signs at six (6) locations (As of October 1st in 2019 based on speeding concerns from the public and/or Police Services
- Completed 2019 pavement markings including:

    - 369 Turn Arrows
    - 286 Stop Blocks
    - 8 Slow Aheads
    - 17 School Aheads
    - 11 Stop Aheads
    - 2900 m Cross Walks
    - 91 Bicycle Path Symbols
    - 16 Crosswalks (school, pedestrian)
    - 8 Railway Crossings
    - 12 Railway Stops
    - 2100 m Hatching Areas
    - 501 kms of solid yellow line
    - 50 kms of dashed yellow line
    - 937 kms of solid white line
    - 9 kms of dashed white line

- Completed a performance review of the line painting contractor to confirm adherence to specifications

Culvert and Bridge Maintenance:

In the area of culvert and bridge maintenance, the following accomplishments were achieved:

- Completed washing and flushing of bridges and structures

Capital Housing and Equipment

In the area of capital equipment acquisitions, the following purchases were completed to maintain and upgrade our road maintenance equipment:

- One (1) tandem snowplow
- One (1) Loader
- One (1) ½ ton truck for engineering
- One (1) 15 ton tandem trailer

A full operational review was conducted in 2019 to establish direction for the future. This review is anticipated to be complete in late 2019/early 2020, as such, the base funding in the amount of $300,000 allotted for 2019 for capital housing was moved into the transportation reserves to be used in the future based on the outcome of the operational review. An additional $275,000 will be placed into reserves for the 2020 budget to continue funding the future capital housing.

Capital Works Construction Program

The capital works program is divided into four main areas: Pavement Rehabilitation and Maintenance, Traffic Safety Measures, Bridge Rehabilitation and Maintenance, and Service Expansion.

Pavement Rehabilitation and Maintenance:

The following capital projects were completed as part of our requirements to maintain and improve the road network:

- 2019 Paving Tender (13.3 km)
  - County Road 2 from Colton Street to Union Road – 6.3km
  - County Road 35 from Woodview Road to County Road 30 – 3.0km
  - County Road 30 from Hwy 401 to 360 m south of Guertin Road – 4.0km
  - Various padding locations throughout the County

- 2019 Microsurfacing Tender (9.6 km)
  - County Road 28 from south of 5th Line to north of County Road 9
  - County Road 45 from Baxter Road to 1.0 km north of Concession Road 9 West
  - County Road 50 from 9th Line West to 10th Line West

- Completed approximately 65,000 meters of crack sealing on County Road 15 from County Road 45 to County Road 9 and on County Road 2 from Boes Road to Stoney Point Road

Traffic Safety Measures:

- Traffic Signals
  - Installation of Audible Pedestrian Signals (APS) at Bridge Street and Doxsee Avenue in Campbellford in conjunction with the Municipality of Trent Hills

- Installation of APS at the intersection of County Road 20 (Elgin Street) and Division Street
- Installation of six (6) new UPS battery back-up systems at County Road 28 and Telephone Road, County Road 18 and County Road 74, County Road 20 (Elgin Street) and Division Street, Bridge Street and Doxsee Avenue, Bridge Street and Front Street and Bridge Street and County Road 38 (Grand Road) to allow signal operations up to 6 hours in a power failure situation
- Implemented new 3-phase signal timing at County Road 20 (Elgin Street) and Ontario Street based on a study to address the high collision rate as identified in the TMP
- Updated signal timing at County Road 2 and New Amherst Boulevard
- Installed new heads, LED lights and backboards at various traffic signal locations throughout the County

- Completed design and installation of approximately 2,700 metres of steel beam guiderail on County Roads (3-Cable Guide rail will no longer be installed on County Roads as a result of changes to OPS and MTO standards, with the exception of minor repairs to existing post and cable)
- Continued to review and implement safety improvements identified in the TMP (i.e., Hamlet Entry Treatments, high collision intersections, etc.)
- Intersection Improvements:
  - Completion of County Road 45 Corridor study between Highway 401 and north of Baltimore and subsequent modifications to County Road 45/Van Luven Road intersection drawings based on the study
  - Completion of operational and safety review including conceptual design drawings for improvements on County Road 18 at the intersections of Danforth Road and Telephone Road in Hamilton Township
- Completion of Jocelyn Street Bridge safety improvements in conjunction with the Municipality of Port Hope
- Reviewed and continue monitoring radar speed sign data and locations
- Completed traffic safety/speed review studies at the following locations:
  - County Road 10/2/74 in the village of Welcome (update of previous study based on Brisk Synergies near miss data)
  - County Road 2A in the village of Hastings
  - County Road 45 through Alderville First Nations and Roseneath
- Implemented additional measures in Cold Springs as part of the Hamlet Traffic Calming pilot project (flexible bollards)
- Completion of Preliminary design and submission of funding application to Transport Canada for Prince Edward Street (County Road 64) at-grade crossing safety improvements

Bridge Rehabilitation and Maintenance:

- Completed Municipal Class Schedule 'B' EA for the rehabilitation of Thompson Bridge in coordination with the Municipality of Trent Hills.
- Completed the Schedule 'B' EA and preliminary design for the Hastings Bridge (Bridge Street in Hastings), Dartford Bridge (County Road 24) and County Road 65 Culvert (Osaca)
- Completed maintenance/repair of three culverts (Smithfield Creek Culvert on County Road 2, Lot 20 Con A1 Haldimand Culvert on County Road 2, and Breakaway Creek Culvert on County Road 30) as per recommendations in the 2015/2016 OSIMs.
- Completed biennial bridge inspections (OSIM's) – 54 Major Structures, and 6 retaining walls in 2019 (60 total).

Service Expansion:

- County Road 2 EA Implementation
    - County Road 2 – phase II implementation between Rogers Rd and New Amherst Boulevard was anticipated to commence in 2019 pending approvals and coordination with the developer, however, the development is currently on-hold. Planning and design for the remainder of Phase II and for the Waterfront Trail in Phases III through V was initiated at the end of 2019 and will continue into 2020.
- Cycling Master Plan (CMP) Implementation
    - Continue with long term implementation goals
    - Partnered with the Town of Cobourg to construct a section of Multi-use trail on Elgin Street from Strathy Road (where the MUT trail installed in 2018 ends) to just east of Ontario Street. Preliminary design was completed for entire length and completed construction of MUT from Strathy to Burnham/William Street.
    - Initiated discussions on development and future implementation of promotional material and information to residents on the County's cycling network in partnership with the Communications and Economic Development and Tourism Departments.

- Trent River Crossing (Campbellford Bridge) Implementation
    - Retained a consultant and initiated detailed design for the new crossing as per the approved EA. Completed some initial field work, initiated public and agency consultation and preliminary design work for both the road and bridge in 2019. The detailed design and tender preparation will be on-going through 2020 and 2021.

- Transportation Master Plan (TMP) Implementation

- Initiated the economic impact study and business case for the extension of GO services to Northumberland County. The Study is anticipated to be complete in 2020
- The County, Municipality of Brighton and Cramahe Township submitted a joint funding application to Investing in Canada Infrastructure Program (ICIP) for the relocation of the EDR route in Cramahe and Brighton, however, were not successful in 2019. The County proceeded with initiating a feasibility/conceptual design study for the relocation of the EDR in Cramahe and Brighton and is anticipated to be complete in 2020
- Initiate intersection safety study/review of County Road 18/Telephone Road and County Road 18/Danforth Road, as per the recommendations in the TMP as two of the high collision intersections in the County.
- Commence policy review and development of policies identified in recommendations with a focus on the Entrance and Set-back policy in 2019.

Thriving & Inclusive Communities

- Continued to consult public on various transportation related projects in 2019
- Received and responded to public inquiries and complaints related to transportation
- Continued to maintain and develop working relationships with member municipalities, Alderville First Nation, neighbouring municipalities and other organizations such as MTO, MOECP, Conservation Authorities, OPP, Cobourg and Port Hope Police Services, etc.
- Representation on various committees and working groups such as Inter-Municipal Public Works Committee, Agricultural Advisory Committee, Waterfront Trail Committee, Safe Communities, etc.

Leadership in Change

- Completed staff training in the following areas for one or more staff members:
    - Training:
        - OGRA Guelph Road School, TJ Mahoney Course
        - IPWEA Professional Certificate in Asset Management Planning
        - Loyalist College Managing and Leading in a Municipal Environment
        - Patrol Training
        - Compliance training of staff involved in winter maintenance operations
        - Health and Safety Training
        - LEAN White/Yellow Belt Training
        - Participated in Emergency Exercise between County and Alnwick/Haldimand and the County and Municipality of Brighton
        - Emergency and Standard First Aid

- Workshops/Seminars:
    - Intro to ArcGIS Hub Sites workshop
    - Asset Management Intro for Organization/Municipal Staff
    - Effectively managing your e-permitting process with ArcGIS and Cityworks PLL
- Conferences:
    - OGRA Conference
    - Annual ROW Management Conference
    - Transportation Association of Canada (TAC) Conference
- Continued with departmental succession planning

2020 Service Objectives & Initiatives

Economic Prosperity & Innovation

- 10 Year Capital Program for Roads/Bridges
- 10 Year Equipment Replacement Strategy
- Operational Review and development of a 10 Year Housing Strategy

Sustainable Growth

Transportation Services Division Objective:

To provide a safe and sustainable transportation network which meets or exceeds the needs of the travelling public and to support the movement of goods and services within the County of Northumberland.

Administration:

- Continue to review and assess the new department operating structure
- Continue management of County issued permits
- Continue implementation of GIS Cooperative strategic plan initiatives
    - On-going data collection, updates and maintenance to County geodatabase
    - Continued GIS support for County departments, including Forestry, Social Services and Paramedics
    - On-going development and maintenance of internal and external GIS Web applications for the County and member municipalities
    - Continue development and maintenance of Cadastral Parcel Fabric project
    - On-going maintenance of road network and Fire Services data for all of Northumberland County
    - Implementation and maintenance of asset data contained in Asset Management Software

- Provide year-round GIS services to the public and area municipalities through the permanent GIS Coordinator
- Creation of Open Data Hub as per the County's Digital Strategy

- In-house designs for drainage improvements on various County Roads
- Delivery of 2020 Capital Construction Program
- Delivery of 2020 Surface Treatment Program
- Continue to provide technical support for implementation and roll-out of Cityworks asset management software
- Continue to gather data and develop the County Asset Management Plan by July 1, 2021, as per O.Reg.588/17
- Continue to seek and apply for any applicable funding for County projects
- Continue to call joint tenders, RFP's/RFQ's for the benefit of County and member municipalities including but not limited to:
  - Annual Culvert Supply
  - Roadside Safety Devices
  - Biennial Bridge Inspections (OSIMs)
  - Microsurfacing
  - Crack Sealing
  - Pavement Markings
  - Engineering, Environmental and Architectural Roster

Road Operations and Maintenance

To ensure the consistent delivery of the Winter Control and Roadside Maintenance Program in accordance with the County Winter Control Policy and Province of Ontario Minimum Maintenance Standards O. Reg. 239/02.

Winter Maintenance:

- In consideration of the extreme weather conditions that may be experienced during the winter season, the Transportation, Waste and Facilities Department will strive to achieve the objectives of the winter control program as approved by County Council to deliver an efficient and effective winter maintenance program
- Meet or exceed all winter maintenance requirements specified in the Provincial *Minimum Maintenance Standards*
- Provide a timely response to winter storms and hazardous road condition situations by proactive road patrols augmented with web based weather reports and radar
- Stockpile necessary winter sand and salt
- Utilize County fleet with units to provide center bare pavement on a timely and efficient basis
- Maintain drainage system during spring thaw with the timely removal of ice and snow

- Annual update of the Salt Management Plan to maintain environmental awareness and compliance

Roadside and Hardtop Maintenance:

- Meet or exceed all road patrol requirements specified in the *Minimum Maintenance Standards*
- Monitor and make necessary removal of trees and brush
- Sweep all intersections, bridges, towns and villages, patch all roads and grade all shoulders
- Mow grass at all intersections, road sides, and safety devices
- Annual catch basin and OGS cleaning, and litter pick up
- Continue our ditching and drainage issues and upgrades
- Installation of new driveways for approved entrance permits

Surface Treatment Program:

To provide a cost efficient and cost effective surface treatment program for the benefit of the local municipal and county road networks.

- Anticipated surface treatment of over 120 km of Municipal and County roads

Traffic Safety Measures:

- Meet or exceed all road patrol requirements specified in the *Minimum Maintenance Standards*
- Maintain center line, edge line, stop blocks, turn arrows, school ahead, bicycle path symbols and slow ahead pavement markings
- Meet or exceed all regulatory sign reflectivity requirements specified in the *Minimum Maintenance Standards*
- Service all signal systems and upgrade and replace defective signs
- Work with the Inter-Municipal Public Works Committee on sign standards

Culvert and Bridge Maintenance:

- Washing and flushing of bridges and structures

Capital Housing and Equipment

- The total replacement value of the roads equipment is over $5 million. A ten-year capital equipment replacement and housing plan has been developed. This ten-year program identifies the following capital equipment purchases in 2020:
    - One (1) tandem snowplow

- One (1) Etnyre Chip Spreader
- One (1) Equipment and Vehicle Diagnostic Scanner

- The County has been completing routine maintenance and capital repairs to roads housing over the past 10 years, in accordance with the 10 year capital housing plan. Over the past several years, there have been a number of changes from legislative changes, to operational procedures and methodologies, to public expectations. Given these changes, and in the interest of finding the most effective and efficient way to deliver transportation services, a full operational review will be conducted in 2019/2020 to establish direction for the future. This review is anticipated to be complete by the end of 2019/early 2020, as such, it is proposed to transfer the base funding in the amount of $275,000 allotted for 2020 capital housing to the transportation reserves to be used in the future based on the outcome of the operational review.

Capital Works Construction Program

The annual updating of the 10-year construction program for the County road system has been prepared. This plan is compiled on the basis of biennial pavement condition index (PCI) inspections, OSIM inspections, traffic volumes, identified safety concerns, previous studies and Master Plans, input from County maintenance and operations staff, as well as our constituent municipalities. The plan covers four main areas in Transportation: Pavement Rehabilitation and Maintenance, Traffic Safety Measures, Bridge Rehabilitation and Maintenance and Service Expansion. In 2020, the Transportation division will continue to look for efficiencies and strive for competitiveness and transparency in the procurement of contracted services for the major construction contracts for Roads and Bridges.

Pavement Rehabilitation and Maintenance:

- 2020 Proposed Paving Tender

	Proposed Location	Length (km)	Estimated Cost
1	County Road 20 – Division Street to D'Arcy Street	0.8	$750,000
2	County Road 30 – Codrington to 200 m south of County Road 29	5.0	$2,500,000
3	County Road 10 – Dodd's Road to 4th Line	2.0	$700,000
4	County Road 18 – 1.0 km west of County Road 15 to County Road 15	2.0	$1,300,000
5	County Road 45 – North of McCarty Drive to County Road 74	0.7	$350,000
	TOTAL (non-provisional)	**9.5**	**$4.7M**

- Miscellaneous padding locations

- 2020 Microsurfacing Tender (pavement preservation) for approximately 25 km of County Roads
- Tender for Completion of approximately 80,000 metres of crack sealing

Traffic Safety Measures:

- Design and tender for installation of up to 3,000 metres of steel beam guiderail
- Traffic Signal improvements including upgrades to three traffic signals in Campbellford, APS installation and UPS Battery Back-up at various signal locations
- Continue to review and implement safety improvements identified in the TMP (i.e., Hamlet Entry Treatments, high collision intersections, etc.)
- Intersection Improvements:
  - Initiate preliminary and detailed design for intersection improvements in Welcome at County Road 10/2/74 intersection based on safety study recommendations
  - Continue to monitor Hamlet traffic calming pilot projects based on modifications in 2019
- Review and continue monitoring radar speed sign data and locations

Bridge Rehabilitation and Maintenance:

- Completion of Hastings Trent River Bridge rehabilitation
- Slope remediation and guiderail repair at County Road 65 Culvert in Osaca
- Complete Municipal Class Schedule 'B' EA and detailed design and tender preparation for the rehabilitation of County Road 2 culvert (102381)
- Completion of design, tender and repairs/rehab to various bridges/culverts/retaining walls identified through OSIMs
- RFP to complete detailed bridge inspections (2020 OSIMs) and review of overall structure needs over next 10 years

Service Expansion:

- County Road 2 EA Implementation
  - County Road 2 – Planning and design for the remainder of Phase II and for the Waterfront Trail in Phases III through V was initiated at the end of 2019 and will continue into 2020.
- Cycling Master Plan (CMP) Implementation
  - Continue with long term implementation goals
  - Partner with the Town of Cobourg and apply for any available funding to continue with construction of Multi-use trail on Elgin Street from William/Burnham Street to east of Ontario Street

- Continue with development and implementation of promotional material and information to residents on the County's cycling network in partnership with the Communications and Economic Development and Tourism Departments.
- Review recommendations in the TMP with respect to new standards and update the CMP, if necessary.

- Trent River Crossing (Campbellford Bridge) Implementation
  - Continue with detailed design for the new crossing as per the approved EA including the first Public Information Centre (PIC) being held in 2020.

- Transportation Master Plan (TMP) Implementation
  - Finalize the economic impact study for the extension of GO services to Northumberland County and review findings for next steps
  - Finalize the feasibility study for the relocation of the EDR in Cramahe and Brighton and review findings for next steps including application for any available funding
  - Complete detailed design for County Road 18/Telephone Road and County Road 18/Danforth Road based on study completed in 2019, as per the recommendations in the TMP as two of the high collision intersections in the County.
  - Finalize the Entrance and Setback policy initiated in 2019 and continue to review and develop other policies identified in the TMP recommendations.

Thriving & Inclusive Communities

- Continue to consult public on various transportation related projects in 2020
- Receive and respond to public inquiries and complaints related to transportation
- Continue to maintain and develop working relationships with member municipalities, Alderville First Nation, neighbouring municipalities and other organizations such as MTO, MOECP, Conservation Authorities, OPP, Cobourg and Port Hope Police Services, etc.
- Representation on various committees and working groups such as Inter-Municipal Public Works Committee, Agricultural Advisory Committee, Waterfront Trail Committee, Safe Communities, etc.

Leadership in Change

- Complete staff training in various areas for staff members
- Continue with departmental succession planning

Long Term Plan & Strategic Objectives

Economic Prosperity & Innovation

- 10 Year Capital Program for Roads/Bridges
- 10 Year Equipment Replacement Strategy
- Conduct a complete Review of Road Operations / 10 Year Housing Strategy

Sustainable Growth

Overall Budget

- Development of Master Drainage Plan for County Road 2 using $75,000 funding received from Clean Water and Wastewater Funding Program
- Anticipate funding for the 2020 construction program through the ODSP savings, OCIF formula funding and gas tax funding
- Investigate and apply for any other funding opportunities that arise in 2020 and beyond
- Continue to request levy increase of $500,000 for the overall base capital construction program as the rate of deterioration of infrastructure will increase without stable base funding
- With the recent and anticipated retirement of several senior level Transportation Services Division staff, there is a crucial need to continue with the implementation of succession planning and to maintain a consistent level of dedicated and professional staff

10 Year Construction Plan

In 2018, County of Northumberland Staff completed the biennial update of the pavement condition index (PCI) survey of the County road system using the evaluation system developed by the Ontario Good Roads Association. The system provides a series of standardized factors used to develop a “snapshot” of the physical condition of the entire road network.

The PCI survey is the foundation for the development of the 10-year road construction program, along with traffic count updates and collision data. According to the MTO procedures and documentation, the PCI should be used to determine the need and timing for a road to be rehabilitated. The results of the 2018 PCI evaluation are summarized in the table below, which includes data from prior years for comparison purposes.

The County enjoyed the significant benefit of receiving Building Canada Funds in 2009 for the Alternate 401 Detour Route, which included 15 km of road rehabilitation and this is reflected in

the percentage of system adequacy at 63%. Several County and Regional governments have an objective to maintain 65-70% of their road system as 'adequate'.

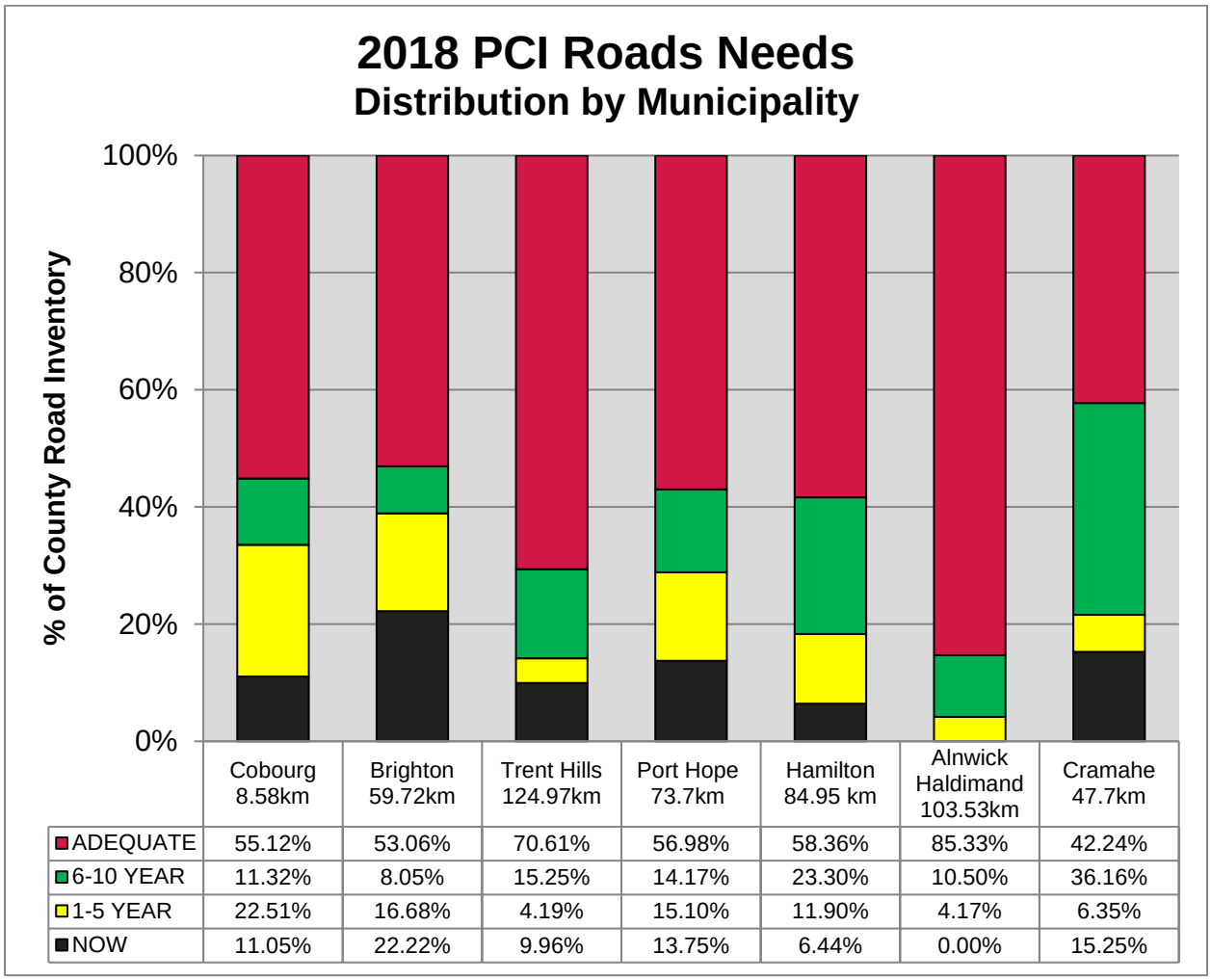
The desirable target for system adequacy is 70% and it is presently at 63% as a result of the increasing investment made by Northumberland County in the road infrastructure. It is important to note that in 2003, only 24% of the County road system was deemed as 'adequate'. While significant progress has been made to reach and the budget is approaching the targeted amount for road rehabilitation and maintenance, the needs in the other areas for safety improvements, bridge rehabilitation and service expansion have grown as a result of completed and approved Environmental Assessments and the County's first Transportation Master Plan. These needs are outlined in further detail in the Transportation Funding Issue paper, with the intention to focus on these areas in the next ten years.

See the summary Chart 1 of 2018 PCI Road Needs – System Adequacy, and Chart 2 for 2018 PCI Road Needs – Distribution by Municipality.

2018 PCI Roads Needs - System Adequacy

	PCI Rating	2003 KM	%	2006 KM	%	2008 KM	%	2010 KM	%	2012 KM	%	2014 KM	%	2016 KM	%	2018 KM	%
Adequate	> 85	121.9	24%	245.2	49%	255.4	51%	280.0	56%	287.6	57%	272.1	54%	305.2	62%	316.7	63%
6 to 10 Years	76 to 85	152.3	30%	86.1	17%	67.5	13%	76.8	15%	74.7	15%	79.9	16%	83.6	17%	84.1	17%
1 to 5 Years	56 to 75	209.3	42%	119.9	24%	132.6	26%	113.8	23%	85.4	17%	64.6	13%	29.3	6%	44.8	9%
NOW - Rehabilitate	1 to 55	19.5	4%	51.5	10%	47.7	9%	32.8	7%	55.5	11%	86.5	17%	75.7	15%	49.0	10%

Chart 2 – 2018 PCI Road Needs – Distribution by Municipality

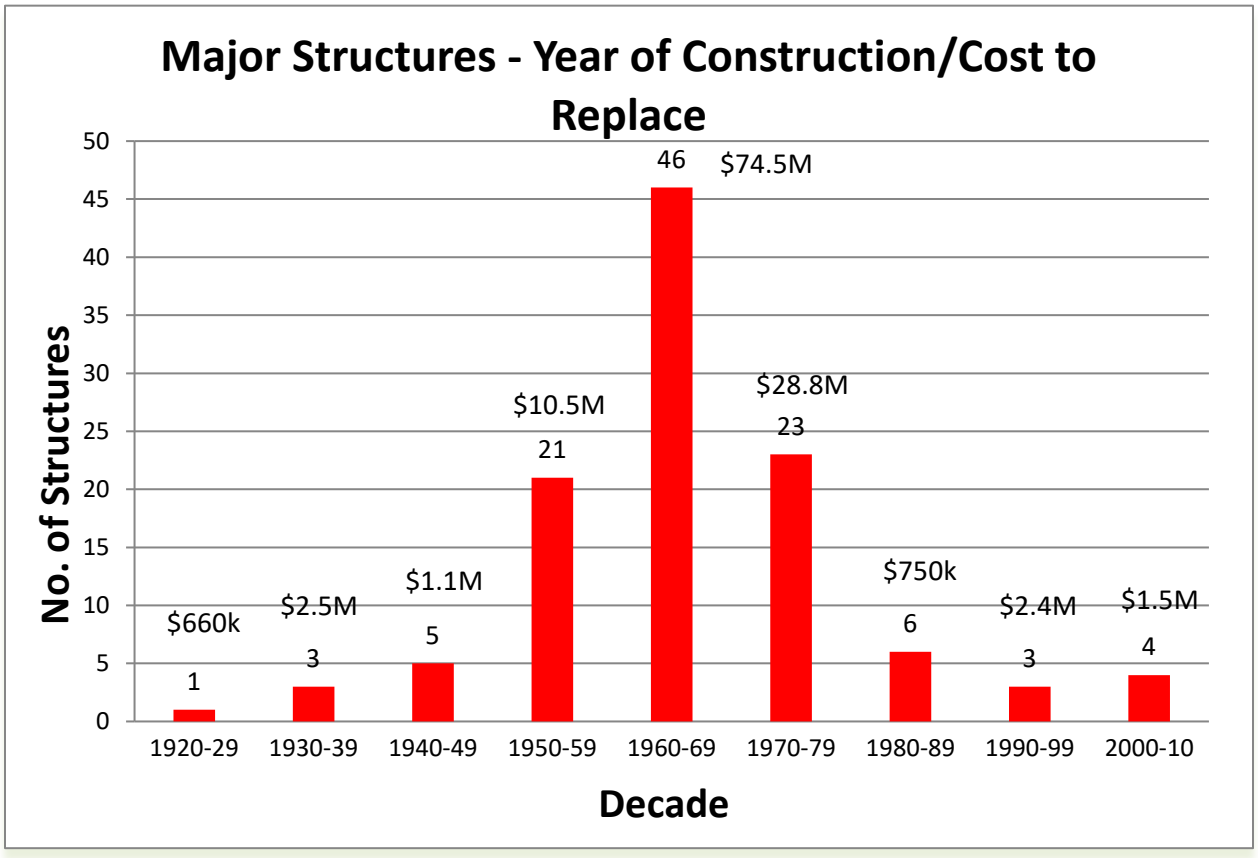


	Cobourg 8.58km	Brighton 59.72km	Trent Hills 124.97km	Port Hope 73.7km	Hamilton 84.95 km	Alnwick Haldimand 103.53km	Cramahe 47.7km
ADEQUATE	55.12%	53.06%	70.61%	56.98%	58.36%	85.33%	42.24%
6-10 YEAR	11.32%	8.05%	15.25%	14.17%	23.30%	10.50%	36.16%
1-5 YEAR	22.51%	16.68%	4.19%	15.10%	11.90%	4.17%	6.35%
NOW	11.05%	22.22%	9.96%	13.75%	6.44%	0.00%	15.25%

The County of Northumberland has an inventory of 112 bridges on 503.5 kilometers of arterial roadways; 48 major structures, 64 culverts of span greater than 3.0 meters and 19 retaining walls.

Generally, the expected lifespan of a structure can range from 50 to 75 years. The age of the County's bridges range from 10 to 98 years old (built between 1922 and 2010), with 94% of the bridges aged 35 years or older as of 2020.

The age of major bridges and the cost to replace them are displayed in the chart on the following page.



There is and will continue to be a significant need in the near future to ensure that the continuity and integrity of these structures remain sound due to the continued aging of the infrastructure.

Thriving & Inclusive Communities

- Continue to develop and provide public consultation and communication on projects and initiatives
- Receive and respond to public inquiries and complaints related to transportation in an effective and efficient manner
- Continue to maintain and develop working relationships with member municipalities, Alderville First Nation, neighboring municipalities and other organizations such as MTO, MOECP, Conservation Authorities, OPP, Cobourg and Port Hope Police Services, etc.

- Representation on various committees and working groups such as Inter-Municipal Public Works Committee, Agricultural Advisory Committee, Waterfront Trail Committee, Safe Communities, etc.

Leadership in Change

- Complete staff training in various areas for staff members
- Continue with departmental succession planning

2020 Capital Plan

Type of Project	Location	Municipality	Length (km)	Estimated Cost
1. Pavement Rehabilitation and Maintenance				
	County Road 20 - Division Street to D'Arcy Street (Grind and pave)	Cobourg	0.8	$750,000
	County Road 30 - Codrington to 200 m south of County Road 29 (CIP + 100 mm AMEC)	Brighton	5.0	$2,500,000
	County Rd 10 - Dodd's Road to 4th Line (pulverize + 100 mm, storm sewer, curb and gutter)	Port Hope	2.0	$700,000
	County Road 18 - 1.0 km west of County Road 15 to County Road 15 (pulverize + 100mm)	Hamilton	1.00	$400,000
	County Road 45 - North of McCarty Drive to County Road 74 (coordinated with 45/Van Luven expansion)	Hamilton	0.7	$350,000
			9.50	
	Miscellaneous Padding			$200,000
	Crack Sealing			$100,000
	Design/Geotech/Material Testing/Professional Services			$100,000
	Pavement Preservation			
	Annual Allowance			$1,250,000
	Cty Rd 9 (Woodvale Road to Boundary) and Cty Rd 2 (boundary to Cty Rd 10)			
				$6,350,000
2. Traffic Safety Measures	Traffic Control Signals and Street Lights (APS, signal upgrades, UPS Battery Back up, etc.)			$200,000
	Guiderail Replacement/Safety Improvements			$400,000
	Road/Intersection Safety Improvement Program			$50,000
	County Road 64 (Prince Edward Street) Grade Crossing Improvements			$200,000
				$850,000

*Chart continues on the following page

2020 Capital Plan

Type of Project	Location			Municipality	Length (km)	Estimated Cost
3. Bridge Rehabilitation and Maintenance	Bridge Rehabilitation - Tender					
		Hastings Trent River Bridge (45418) - rehabilitation	$ 1,300,000.00			
		County Road 2 culvert (102381) - design and tender	$ 75,000.00			
		County Road 65 Culvert - slope remediation	$125,000.00			
		Retaining Walls	$ 300,000.00			
			$ 1,800,000.00			$1,800,000.00
	Bridge Reserve (future new bridges or major rehabilitation)					$100,000
	Trent River Crossing & Arterial Road Network - Design/rehabilitation/construction					$50,000
	Bridge Inspection (biennial inspection of large structures/load limit postings)					$100,000
	Bridge Maintenance					$200,000
	Bridge - Time & Material Repairs					$20,000
						$2,270,000
4. Service Expansion	GIS					$40,000
	Cycling Master Plan- Implementation					$40,000
	Transportation Service Improvement needs indentified by Transportation Master Plan or other EA Processes					$100,000
	Trent River Bridge Crossing (Campbellford) - detailed design, additional studies, property acquisition, etc.					$500,000
	On1Call					$50,000
	County Road 2 EA - additional studies (Waterfront Trail EA, detailed design, etc.)					$40,000
	Elgin and Brook Road widening (pending future developments)					$0
	County Road 45 and Van Luven Road intersection					$1,400,000
						$2,170,000

TOTAL ESTIMATE FOR 2020	**$11,640,000**

*Chart continues on the following page

2020 Capital Plan

Type of Project	Location	Municipality	Length (km)	Estimated Cost

Notes:
1. Class 3 estimates; subject to final tender results
2. Subject to Council budget approval

TOTAL FUNDS SAVED for Trent River Bridge Crossing in 2020	$550,000
TOTAL FUNDS FOR TMP Improvements in 2020	$150,000

AVAILABLE FUNDING

Base	**$7,710,095**
Gas Tax	**$3,081,705**
Transfer From Winter Operations	**$100,000**
OCIF (Formula)	**$751,217**
Long Term Capital Plan Increase	**$0**
Total	**$11,643,017**

2021 Capital Plan

Type of Project	Location		Municipality	Length (km)	Estimated Cost
1. Pavement Rehabilitation and Maintenance	County Road 8- Catchmore Road to Wingfield Road (pulverize + 100mm)		Trent Hills	6.7	$2,500,000
	County Rd 10 - 4th Line to Cty Rd 2/74 (pulverize + 100 mm, grind and pave in Welcome, storm sewer)		Port Hope	2.00	$2,000,000
	County Road 30 - County Road 26 to 401 (grind + 100 mm,)		Brighton	3.00	$1,200,000
				11.70	
	Miscellaneous Padding				$100,000
	Crack Sealing				$150,000
	Design/Geotech/Material Testing/Professional Services				$100,000
	Pavement Preservation				
	Annual Allowance				$700,000
					$6,750,000
2. Traffic Safety Measures	Traffic Control Signals and Streetlights				$150,000
	Guiderail Replacement/Safety Improvements				$300,000
	Intersection Improvement Program				$75,000
	County Road 64 (Prince Edward Street Grade Crossing Improvements)				$300,000
					$825,000

*Chart Continues on following page

2021 Capital Plan

Type of Project	Location		Road Section	Municipality	Length (km)	Estimated Cost
3. Bridge Rehabilitation and Maintenance	Bridge Rehabilitation - Tender					
	Hickerson Culvert (45075)- replace	$1,375,000.00				
	County Road 2 culvert (102381) - rehabilitation	$750,000.00				
	Retaining walls	$100,000.00				
		$2,425,000.00				$2,225,000
	Bridge Reserve (future new bridges or major rehabilitation)					$60,000
	Trent River Crossing & Arterial Road Network - Design/rehabilitation/construction					$100,000
	Bridge Inspection (biennial inspection of large structures/load limit postings)					$40,000
	Bridge Maintenance					$100,000
	Bridge - Time & Material Repairs					$20,000
						$2,545,000
4. Service Expansion	GIS					$75,000
	Cycling Master Plan- Implementation					$50,000
	Transportation Service Improvement needs identified by Transportation Master Plan or other EA Processes					$150,000
	Trent River Bridge Crossing (Campbellford) - detailed design, additional studies, property acquisition, etc.					$500,000
	On1Call					$50,000
	County Road 2 EA - additional studies (Waterfront Trail EA, detailed design, etc.)					$60,000
	Elgin and Brook Road widening (pending future developments)					$0
						$885,000

2021 Capital Plan

Type of Project	Location	Municipality	Length (km)	Estimated Cost

Total Estimate for 2021 **$11,005,000**

Notes:

1. Class 3 estimates; subject to final tender results

2. Subject to Council budget approval

AVAILABLE FUNDING

Base	**$7,710,095**
Gas Tax	**$2,699,055**
Transfer From Winter Operations	**$100,000**
Long Term Capital Plan Increase	**$500,000**

TOTAL FUNDS SAVED for Trent River Bridge Crossing in 2021 $600,000

			Total	**$11,009,150**

*Chart Continues on next page

2022 Capital Plan

Type of Project	Location				Municipality	Length (km)	Estimated Cost
1. Pavement Rehabilitation and Maintenance	County Road 25 - County Road 29 to County Road 24				Trent Hills	4.50	$1,800,000
	County Road 2 - CNR Bridge to Carruthers Road (pulverize + 100 mm AMEC)				Hamilton	4.0	$1,600,000
	County Road 64 - Main street to Stoney Point Road				Brighton	4.00	$1,600,000
	County Road 42 - County Road 30 to Seymour/Asphodel Bdry. (pulverize + 100mm)				Trent Hills	3.07	$950,000
						15.57	
	Miscellaneous Padding						$100,000
	Crack Sealing						$64,000
	Design/Geotech/Material Testing/Professional Services						$50,000
	Pavement Preservation						
	Annual Allowance						$500,000
							$6,664,000
2. Traffic Safety Measures	Traffic Control Signals and streetlights						$100,000
	Guiderail Replacement/Safety Improvements						$300,000
	Intersection Improvement Program						$100,000
							$500,000
3. Bridge Rehabilitation and Maintenance	Bridge Rehabilitation - Tender						
		Allan Mills Bridge (99007)- design and tender	$	75,000.00			
		Braithwaite Bridge (24018) - design and tender	$	75,000.00			
		Dartford Bridge (24120)- rehabilitation	$	1,000,000.00			
			$	1,150,000.00			$1,150,000

2022 Capital Plan

Type of Project	Location		Municipality	Length (km)	Estimated Cost
	Bridge Reserve (future new bridges or major rehabilitation)				$100,000
	Trent River Crossing & Arterial Road Network - Design/rehabilitation/construction				$600,000
	Bridge Inspection (biennial inspection of large structures/load limit postings)				$50,000
	Bridge Maintenance				$100,000
	Bridge - Time & Material Repairs				$20,000
					$2,020,000
4. Service Expansion	GIS				$75,000
	Cycling Master Plan- Implementation				$50,000
	Transportation Service Improvement needs identified by Transportation Master Plan or other EA Processes				$100,000
	Trent River Bridge Crossing (Campbellford) - detailed design, additional studies, property acquisition, etc.				$500,000
	On1Call				$50,000
	County Road 2 EA - additional studies (Waterfront Trail EA, detailed design, etc.)				$50,000
	County Road 18 - Telephone Road and Danforth Road Improvements (turning lanes)				$1,500,000
	Elgin and Brook Road widening (pending future developments)				$0
					$2,325,000
		TOTAL ESTIMATE FOR 2022			**$11,509,000**

*Chart Continued on next page

2022 Capital Plan

Type of Project	Location	Municipality	Length (km)	Estimated Cost
Notes: 1. Class 3 estimates; subject to final tender results 2.. Subject to Council budget approval				
TOTAL FUNDS SAVED for Trent River Bridge Crossing in 2022	$1,100,000			
			Total	**$11,509,150**

AVAILABLE FUNDING

Base	**$8,210,095**
Gas Tax	**$2,699,055**
Transfer From Winter Operations	**$100,000**
Long Term Capital Plan Increase	**$500,000**

*Chart Continues on next page

2023 Capital Plan

Type of Project	Location			Municipality	Length (km)	Estimated Cost
1. Pavement Rehabilitation and Maintenance	County Road 25 - Cemetery north entrance to Tobacco Road			Cramahe	6.2	$2,480,000
	County Road 30 - County Road 35 to 9th line			Trent Hills	2.50	$1,000,000
	County Road 74- County Road 2/10 (Welcome) to County Road 28			Port Hope	4.1	$1,800,000
	County Road 31 - bridge east of Townline Road to boundary (storm sewer, pulverize + 60 mm)			Cramahe/AH	1.0	$1,300,000
					13.80	
	Miscellaneous Padding					$150,000
	Crack Sealing					$100,000
	Design/Geotech/Material Testing/Professional Services					$100,000
	Pavement Preservation					
	Annual Allowance					$600,000
						$7,530,000
2. Traffic Safety Measures	Traffic Control Signals and Streetlights					$100,000
	Guiderail Replacement/Safety Improvements					$300,000
	Intersection Improvement Program					$100,000
						$500,000
3. Bridge Rehabilitation and Maintenance	Bridge Rehabilitation - Tender					
	Braithwaite Bridge (24018) - Rehabilitation		$ 1,000,000.00			

	$ 1,000,000.00				$1,000,000

2023 Capital Plan

Type of Project	Location		Municipality	Length (km)	Estimated Cost
	Bridge Reserve (future new bridges or major rehabilitation)				$50,000
	Trent River Crossing & Arterial Road Network - Design/rehabilitation/construction				$250,000
	Bridge Inspection (biennial inspection of large structures/load limit postings)				$50,000
	Bridge Maintenance				$100,000
	Bridge - Time & Material Repairs				$20,000
					$1,470,000
4. Service Expansion	GIS				$75,000
	Cycling Master Plan- Implementation				$50,000
	Transportation Service Improvement needs indentified by Transportation Master Plan or other EA Processes				$100,000
	Trent River Bridge Crossing (Campbellford) - detailed design, additional studies, property acquisition, etc.				$500,000
	On1Call				$50,000
	County Road 2 EA - additional studies (Waterfront Trail EA, detailed design, etc.)				$50,000
	County Road 2 EA - Phase II-b - Rogers Road to Lovshin/New Amherst Widening				$1,800,000
	Elgin and Brook Road widening (pending future developments)				$0
					$2,625,000
				TOTAL ESTIMATE FOR 2023	**$12,125,000**

*Chart continued on next page

2023 Capital Plan

Type of Project	Location	Municipality	Length (km)	Estimated Cost
Notes: 1. Class 3 estimates; subject to final tender results 2. Subject to Council budget approval				
TOTAL FUNDS SAVED for Trent River Bridge Crossing in 2023	$750,000			
			Total	**$12,126,500**

AVAILABLE FUNDING

Base	**$8,710,095**
Gas Tax	**$2,816,405**
Transfer From Winter Operations	**$100,000**
Long Term Capital Plan Increase	**$500,000**

*Chart Continues on next page

2024 Capital Plan

Type of Project	Location		Municipality	Length (km)	Estimated Cost
1. Pavement Rehabilitation and Maintenance					
	County Road 28 - 6th Line (Vimy Ridge) to County Road 9		Port Hope	4.1	$1,845,000
	County Road 9 - County Road 65 to County Road 10		Port Hope	6	$2,700,000
	County Road 2A - Hastings Village West limit to Bridge St. N		Trent Hills	1	$1,000,000
	County Road 50 - 14th line to Trent River Road		Trent Hills	1.30	$500,000
	County Road 50 - Nelson Street (Town North limit) to Lock No. 13		Trent Hills	1.00	$400,000
	County Road 2 - County Road 10 to Hwy 401 Overpass		Port Hope	1.50	$600,000
				14.90	
	Miscellaneous Padding				$100,000
	Crack Sealing				$100,000
	Design/Geotech/Material Testing/Professional Services				$100,000
	Pavement Preservation				
	Annual Allowance				$800,000
					$8,145,000
2. Traffic Safety Measures					
	Traffic Control Signals and Streetlights				$200,000
	Guiderail Replacement/Safety Improvements				$300,000
	Intersection Improvement Program				$100,000
					$600,000

2024 Capital Plan

Type of Project	Location			Municipality	Length (km)	Estimated Cost
3. Bridge Rehabilitation and Maintenance	Bridge Rehabilitation - Tender					
		Black's Bridge (29080) - design and tender	$75,000.00			
		Burnley Bridge (29080) - design and tender	$75,000.00			
		Garden Hill Bridge (9083)- design and tender	$75,000.00			
		Allan Mills Bridge (99007)- rehabilitation	$1,200,000.00			
			$1,425,000.00			$1,425,000
	Bridge Reserve (future new bridges or major rehabilitation)					$50,000
	Trent River Crossing & Arterial Road Network - Design/rehabilitation/construction					$750,000
	Bridge Inspection (biennial inspection of large structures/load limit postings)					$50,000
	Bridge Maintenance					$200,000
	Bridge - Time & Material Repairs					$20,000
						$2,495,000
4. Service Expansion	GIS					$75,000
	Cycling Master Plan- Implementation					$50,000
	Transportation Service Improvement needs indentified by Transportation Master Plan or other EA Processes					$200,000
	Trent River Bridge Crossing (Campbellford) - detailed design, additional studies, property acquisition, etc.					$500,000
	On1Call					$50,000
	County Road 2 EA - additional studies (Waterfront Trail EA, detailed design, etc.)					$50,000
	Elgin and Brook Road widening (pending future developments)					$0

					- $925,000

Type of Project	Location	**2024 Capital Plan**	Municipality	Length (km)	Estimated Cost

Total Estimate for 2024 **$12,165,000**

Notes:

1. Class 3 estimates; subject to final tender results

2. Subject to Council budget approval

AVAILABLE FUNDING

Base	**$9,210,095**
Gas Tax	**$2,364,412**
Transfer From Winter Operations	**$100,000**
Long Term Capital Plan Increase	**$500,000**

TOTAL FUNDS SAVED for Trent River Bridge Crossing in 2024 $1,250,000

			Total	**$12,174,507**


Northumberland
county

2020 Issue Paper

Equipment Replacement Strategy

Purpose

The County's Transportation Services Division has developed a sustainable equipment replacement strategy which allows for timely replacement of the equipment necessary to complete winter and summer maintenance on County roads.

The proposed expenditure for capital equipment in 2020 is $660,000.

Background

The County of Northumberland has a fleet of 53 vehicles for road maintenance and construction, including snow plows, graders, loaders, backhoes, one tons, ¾ tons and ½ tons. The Roads department operates out of two maintenance yards equipped with sand domes, salt sheds, garages, equipment and material storage. The total roads fleet of vehicles has a replacement value of over $5 million.

The County currently has a fleet of twenty two (22) combination snow plow units, two (2) anti-icing units and one (1) Emulsion distributor and spreader for surface treating operations. The County's Fleet Maintenance and Operations Manual states that "the County will strive to maintain a ten year replacement schedule for heavy trucks and a five year replacement for light trucks." An aging fleet is prone to high maintenance costs and more frequent breakdowns, thereby affecting winter snow removal response times, motorist safety and the safety of County Snow plow operators.

In 2002, half of the County's fleet of heavy vehicles was older than ten years. County Council adopted a plan to ensure timely replacement of our equipment in order to have a reasonable fleet life. The plan that was adopted allowed for a base budget of $550,000 each year for capital equipment. This base budget allows us to ensure timely replacement of our fleet without causing fluctuations in the annual budget. Currently 41 % of our heavy vehicles are still older than 10 years.

Consultation/Options

The draft 2020 Roads Budget has identified the replacement and investment of three (3) pieces of equipment.

- One (1) – 2006 Sterling Combination Snow Plow $310,000
- One (1) – Etnyre Chip Spreader $335,000
- One (1) – Equipment & Vehicle Diagnostic Scanner $15,000

Justification for one (1) 2006 Sterling Combination Snow Plow

The replacement of the 2006 combination snow plow is in keeping with the County fleet replacement policy that "we shall attempt to maintain a ten year replacement schedule for heavy trucks." The truck is 13 years old and has over 363,306 kms on all equipment including the plow and wing combination sander dump box. This unit is yet to fulfill the Winter 2019/2020 season.

With the purchase of a new unit, the 2006 Sterling plow would be moved into becoming a spare unit. To keep this 2006 Sterling unit in regular operation it would require major expenditures to remain reliable and in good working order.

Staff are recommending this unit to be replaced as it runs on County Rd #9, 24 hours a day throughout the peak winter months.

Justification for one (1) 2007 Etnyre Chip Spreader

The 2007 Etnyre Chip spreader is currently older than ten years. The replacement of the spreader is to enable the continuation of efficient and timely surface treatment over the next ten years.

The current spreader will continue to require excessive costly repairs in order to remain operational. With the unit being older than 10 years, there is a lack of availability for parts to complete continuous repairs.

With the purchase of a new spreader, Northumberland County would able to continue its shared services with other member municipalities.

Justification for one (1) Equipment & Vehicle Diagnostic Scanner

Currently, staff use several different programs on an older lap top that was provided by the County I.T. Department. Staff use this lap top to scan vehicles for motor and/or transmission

problems. The current lap top has a number of critical issues including poor battery life that requires a continuous power source, as well as unexpected errors resulting in a restart of the computer.

County staff have found that this type of device is not durable enough for the environment that it is used in. Due to dirt and dust in the garage or in the field on service calls, the current laptop is prone to malfunctions. These types of issues greatly hinder the work efficiency of staff and pose an increase in costs to the County.

Currently, when the lap top and scanning system is not operational, the vehicle/equipment is sent out for scanning at an independent repair garage where the cost can range from $72.00 to $177.00 for the scan alone. Significant staff time is required to coordinate this. There may also be additional costs for towing or floating vehicles/equipment depending on the location, type of vehicle or inability for staff to complete the necessary scans in the field.

In addition, it is important to note that the current scanning software used can only scan small/large vehicles and not off road equipment (i.e. Loaders / Graders). The recommended scanning software is capable of scanning all off road equipment as well as the vehicles we have in our fleet to help identify issues for repair. The device used to access this software will be durable enough for the environment it will be used.

The scanning system we would like to purchase would reduce the cost of annual subscriptions and give staff the ability to complete field service calls more effectively. At this time, the annual renewal cost for existing software is $3,300 in addition to updates required for braking and transmissions systems. Purchasing scanning software that is web based would include all the required software programs with an annual renewal cost of approximately $1,000.

Financial Impact

The table below outlines the ten-year Transportation Vehicle and Equipment Purchase and Replacement Plan.

In 2020, the Transportation Services Division is proposing that $660,000 be spent on the replacement of a 2006 Combination Snow Plow, a 2007 Etnyre Chip Spreader and an Equipment & Vehicle Diagnostic Scanner.

The proposed 2020 budget for equipment purchases / replacements, and major repairs allows for the following:

- Replacement of a year 2006 Combination Snow Plow ($310,000)

- Replacement of a year 2007 Etnyre Chip Spreader ($335,000)
- Purchase of an Equipment & Vehicle Diagnostic Scanner ($15,000)

Equipment Replacement (net trade in)												
	Vehicle / Unit #	**Home Location**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
Heavy Trucks - Tandem												
2003 International Anti-icing	(V028)	Morganston										
2004 Sterling Anti-icing	(V032)	Cobourg										
2005 Sterling Spare	(V035)	Morganston										
2006 Sterling Cobourg	(V042)	Cobourg	**$310**									
2007 Sterling Morganston	(V047)	Morganston		**$310**								
2007 Sterling & Distributor	(V046)	Cobourg		**$ 170**	**$310**							
2008 Sterling Cobourg	(V053)	Cobourg				**$310**						
2009 Sterling Morganston	(V062)	Morganston					**$310**					
2008 Sterling Morganston	(V068)	Morganston						**$310**				
2010 International Cobourg	(V072)	Cobourg							**$310**			
2011 Freightliner Morganston	(VO80)	Morganston								**$310**		
2012 International Cobourg	(VO86)	Cobourg									**$310**	
2014 International Morganston	(VO89)	Morganston										**$310**
2015 International Cobourg	(VO92)	Cobourg										
2016 International Morganston	(VO98)	Morganston										
2016 International Morganston	(VO99)	Morganston										
2017 Freightliner Morganston	(VO03)	Morganston										
2017 Freightliner Cobourg	(VO04)	Cobourg										
2018 Freightliner Cobourg	(VO06)	Cobourg										
2018 Freightliner Morganston	(VO07)	Morganston										
2019 International Morganston	(VO14)	Morganston										
2020 International Cobourg	(VO17)	Cobourg										

Miscellaneous Vehicles			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Morganston Depot												
2010 Dodge 3/4 ton Quad Cab (V074)	(V074)	Morganston			**$ 50**							
2011 Dodge 3/4 ton Crew Cab	(V082)	Morganston		**$ 50**								
2011 Ford 1 ton Crew Cab	(V073)	Morganston				**$ 55**						
2017 Ford 1 ton Crew Cab	(V005)	Morganston						**$ 55**				
Cobourg Depot												
2012 Ford F550 Mechanics	(V083)	Cob. Shop							**$ 140**			
2013 Dodge 1/2 ton Crew Cab	(V090)	Cob. Shop									**$ 50**	
2016 Chevy 1 ton Crew Cab	(V001)	Patrol 1				**$ 55**						
2016 GMC 1 ton Crew Cab	(V002)	Patrol 1				**$ 55**						
Night Patrol												
2012 Dodge 1/2 ton Crew Cab	(V087)	Cobourg										
2014 Dodge 1/2 ton Crew Cab	(V094)	MD.			**$ 50**							
Les Holzmann												
2014 Dodge 1/2 ton Crew Cab	(V093)	Patrol 3 MD		**$ 50**								
Steve McConnell												
2015 Chevy 1/2 ton Crew Cab	(V097)	Patrol 2 MD			**$ 50**							
Robert Fugaccia												
2018 Dodge 1/2 ton Crew Cab	(V010)	Office								**$ 45**		
Kenny Wood												
2018 Dodge 1/2 ton Crew Cab	(V011)	Patrol 1 Cobourg						**$ 45**				
Administration Survey												
2020 Dodge 1/2 ton Crew Cab	(VO16)	Office									**$ 50**	

Subtotal			$ 310	$ 580	$ 460	$ 475	$ 310	$ 410	$ 450	$ 355	$ 410	$ 310

Graders			**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**
2000 Champion 720	(G015)	MD					**$ 300**					
2012 John Deere 770G	(G016)	Cobourg										
Loaders and Tractors												
1999 Case 480 Tractor + broom	(T014)											
1999 Case 570 Tractor + broom	(T015)											**$ 120**
2001 John Deere 624H Loader	(L005)											**$ 120**
2004 John Deere Backhoe	(B006)											
2006 John Deere Loader	(L006)					**$ 170**						
2006 Volvo Excavator CW. Brush	(EX-01)							**$ 220**				
2007 Etnyre Distributor	(DS02)									**$ 300**		
2007 Etnyre Spreader	(CS02)				**$ 200**							
2008 John Deere Tractor CW. Mower (	(T016)		**$ 335**									
2009 John Deere Loader	(L007)											
2010 Case Tractor Backhoe	(B007)											
2012 John Deere Loader	(L008)								**$ 170**			
2017 John Deere Loader	(L009)											
2012 Case Tractor	(T017)											
2016 Telescopic Boom Excavator												

Miscellaneous Equipment			2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2010 Thompson Steamer (ST04-10)	(ST04-10)											
2010 Thompson Steamer (ST05-10)	(ST05-10											
2011 Thompson Steamer (ST06-11)	(ST06-11)											
2008 30 ton trailer (TR10)	(TR10)			$ 50								
2008 15 ton trailer (TR11)	(TR11)										$ 50	
2011 7 ton trailer (TR12)	(TR12)											$ 30
Hydraulic Post Hole Auger X 2												
Asphalt Hot Box											$ 50	
Large Truck Hoist												
Bandit Wood Chipper												
Bandit Wood Chipper												
New Sign Trailer												
Scanning Unit (Mechanics)		Cobourg	$ 15									
Subtotal			$ 350	$ 50	$ 200	$ 170	$ 300	$ 220	$ 170	$ 300	$ 100	$ 270
Grand Total			$ 660	$ 630	$ 660	$ 645	$ 610	$ 630	$ 620	$ 655	$ 510	$ 580

Risk Considerations

We risk the high cost of repairs of these pieces of equipment without any guarantee of a longer life expectancy. The risk may impact our ability to meet our Minimum Maintenance Standards as required by provincial legislation.

Impacts to Member Municipalities/Partners

N/A

Included in 2019 Long Term Plan: YES/NO

Yes, these items were included in the 2019 Long Term Plan.

2020 Issue Paper

FTE GIS Coordinator

Purpose

To request that a full-time GIS Coordinator position be approved to provide dedicated, on-going Geographic Information System (GIS) support to member municipalities through GIS Shared Services Agreements.

Background

GIS is a complex computer based mapping program that integrates mapping capabilities with database programs for the creation of intelligent mapping of the County. The system captures and stores information based on geographically referenced data. A robust GIS can effectively meet the demands for central data repositories to assist with decision making and business process efficiency.

In December 2008, the Northumberland GIS Cooperative Committee was formed to permit area municipalities and the County to provide a forum for sharing data, knowledge and experience, as well as, to enable the growth of individual and shared GIS network. Since this time, numerous County-wide and member specific projects have been successfully completed under this initiative following the cost-recovery model.

County GIS

In 2014, County Council approved the conversion of a contract GIS position to a full time permanent position given the accomplishments and ever increasing need for GIS. The duties of the existing GIS Coordinator include data collection, data maintenance and updates, receiving and responding to internal and external GIS data and mapping requests, development and implementation of internal and external web mapping applications and completing numerous projects for various County departments. The position also Chairs the GIS Cooperative and, through the cooperative, has provided project specific GIS support for member municipalities generally including data collection, map creation, and training; initiating cost sharing initiatives (i.e., SCOOP project – 2013 aerial photos and upcoming 2018 aerial photos), as well as hosting a number of GIS events (GIS Guided Discussion for GIS Professionals, GIS Day Open House, Councilor Orientations, etc.).

Since the GIS Coordinator position was approved, a substantial amount of work has been completed to date including:

- On-going expansion of our base municipal GIS model
- Completion of Version 4 of the Northumberland Digital Elevation Model (NDEM) at 1m resolution, which incorporates SCOOP data, and on-going maintenance.
- Continued development and maintenance of three (3) GIS web applications – one internal and two external (My Municipal Services and Social Services Resources) and on-going development and maintenance of these Web applications
- Continue to provide year-round GIS services to public and municipalities through permanent GIS Coordinator position
- Continue to prepare a 10-Year Capital Program and place funds aside to meet the growing service expansion needs
- Annually produces approximately 300 maps for County staff and provides various datasets to the public and consultants upon request
- Provided mapping support for Northumberland County Official Plan
- Cadastral Parcel Fabric Project including the creation of over 1000 parcels in Hamilton Township, Alnwick / Haldimand Township and Cramahe Township Development and the continued development and maintenance of Cadastral Parcel Fabric for remainder of County
- Creation of address ranges on all roads in the County for the implementation of a central Fire Dispatch for all fire services in Northumberland County
- On-going maintenance of fire dispatch data, including address ranges and response areas for all fire services in Northumberland County
- On-going data collection, updates and maintenance to County geodatabase
- Zoning By-law map update for Hamilton Township
- Continued development of framework for Maintenance Procedures Document
- Development of Data Portal for GIS Cooperative members

Through the 2018 budget process, County Council approved a GIS/Asset Management Specialist position. The duties of this position are primarily focused on meeting the new Asset Management Legislation that was introduced in 2018, including development of an Asset Management Policy, which was approved by County Council in April 2019, and preparation of an Asset Management Plan for core assets by July 1, 2021 and all assets by July 1, 2023. The GIS role of the position focuses on management of the County's geodatabase as well as development and implementation of Cityworks, the County's Asset Management software, in coordination with the Finance department. This position also provides training and support for Cityworks to all departments in the County that are currently using it and that will be in the future.

The position has also been able to assist with the some of the GIS projects identified above and some additional support to member municipalities, including addressing, fire dispatch and zoning by-law updates and map or data requests, which would have otherwise taken longer to complete with only one position in GIS.

Member Municipalities GIS

Over the past few years, extensive licensing costs, limited staff resources and/or expertise and the one-off project support through the Cooperative have presented challenges for some member municipalities, resulting in outdated data and underutilization of the GIS.

Some of the disadvantages of not having a viable GIS system include, but are not limited to:

- Limited mapping capabilities (i.e. not as detailed or inadequate maps for tenders, projects etc.)
- Multiple databases containing some of the same and/or different information (GIS will store it all in one place and can be linked to Asset Management Program)
- Limited access to information as it is not as readily available (i.e. would have to search through files; hardcopy maps; paper and electronic documents, spreadsheets or PDF files)
- Analysis of any information would be more labour intensive, and therefore very limited
- Difficult to create own view of information interested in seeing
- Greater potential for inaccurate information/data
- Lack of support for decision-making and management
- No visual representation of assets/features
- Mapping needs for Emergency Operating Committee – mapping of various infrastructure can be critical in natural disasters and large scale response initiatives

A shared services approach to meet these needs and provide ongoing GIS support can help maintain or improve service levels and infrastructure in a cost effective manner. GIS services available by County staff include, but are not limited to:

- Data collection and/or creation, updates and analysis
- Application development and maintenance
- Staff training
- Asset management support
- Zoning and official plan updates

Consultation/Options

Interest in additional GIS services has been expressed by members of the Northumberland GIS Co-operative and County staff recognizes the benefits associated with a shared services approach to meet these increasing needs. Leveraging existing resources to collect, update, analyze, and

store GIS data through shared services is an efficient and cost effective solution to meet the needs of member municipalities while providing dedicated, ongoing support.

Based on the requests for dedicated County GIS Services from some of the Member Municipalities, a staff report was taken to County Council in July 2019 to seek Council's support to engage with all Member Municipalities to identify interest/need for dedicated, on-going GIS support, which was approved. Subsequently, County staff met with each of the member municipalities to discuss this shared services approach to GIS and identify their individual GIS needs moving forward. Through these discussions, it was determined that approximately 75% of staff time would be dedicated to ongoing GIS data support, maintenance and projects identified by member municipalities in 2020. It is expected that this will increase in future years as their GIS develops further.

Over the past 5 years, a number of new projects and initiatives above and beyond what was originally anticipated to be completed through the GIS Coordinator to benefit the County and member municipalities were identified including the collection and maintenance of County wide address range data and associated mapping for a County wide Fire Dispatch system; development and maintenance of a County wide parcel fabric update using legal surveys (currently use parcel fabric provided by Land Information Ontario (LIO), which the accuracy cannot be fully relied upon), as well as the development of various web applications. Internal and external map and data requests have also increased by 35% since 2014. And with the addition of the GIS/Asset Management Specialist position, these projects have been managed.

However, there has also been a significant increase in the quantity and complexity of GIS initiatives and projects for various County departments. These include, but are not limited to:

- Northumberland Paramedics monthly and quarterly data analysis and web application development/maintenance
- Forestry and Natural Heritage data collection apps, data maintenance and web application(s) development/maintenance
- Social Services mapping support and web application(s) development/maintenance
- Open Data Hub development and maintenance

In summary, the current GIS Coordinator position and the one to two days of the GIS/Asset Management Specialist that is dedicated to GIS would not be able to meet the day-to-day internal mapping needs, advance projects for various County departments and provide quality ongoing GIS support to our member municipalities.

Financial Impact

The annual salary for a GIS Coordinator, inclusive of benefits is approximately $89,602. It is anticipated that 93% of salary costs will be shared by municipalities through GIS shared services agreements, which provides a small remaining percentage of time for additional support to County Departments or for additional municipalities to come on board or to increase the number of service hours to committed municipalities.

Therefore, for the 2020 budget, the net cost of a full-time GIS Coordinator is anticipated to be approximately $6,300, inclusive of benefits.

Risk Considerations

N/A

Impacts to Member Municipalities/Partners

County staff have discussed the possibility of GIS Shared Services with each of our member municipalities and identified the needs of those interested. A service agreement will be in place between the County and each member municipality, identifying the number of dedicated staff hours to meet their GIS needs. Associated fees for this service will be based on the cost-recovery model for hours and mileage.

It is anticipated that cost savings and tangible, positive benefits and efficiencies can be achieved through this shared services approach to GIS.

Included in 2019 Long Term Plan: YES/NO

No. Several member municipalities expressed their need and interest for ongoing GIS support throughout 2019. Although some GIS services from the County are available through the Northumberland GIS Cooperative, the level of service requested cannot be met through the current GIS Coordinator position.

2020 Issue Paper

Roads Winter Operations Funding Strategy

Purpose

To propose the extension of Winter Operations Staff until April 30th of each winter season to abide by the Minimum Maintenance Standards that is legislated in O.Reg 239/02.
Also to request the increase of the Winter Operations budget to accurately reflect material usage and material cost increase.

Background

The County of Northumberland is currently responsible for the Snow and Ice Patrol of 503 Kilometers of roadway within Northumberland County. In the winter, there are three areas for winter control. The West end operates from the Cobourg depot, and the north and south areas operate from the Morganston Depot.

The County of Northumberland is legislated by provincial regulation 'Minimum Maintenance Standards O.Reg. 239/02'which dictates the services required for winter maintenance. Northumberland County Winter Operations have been created to provide a service level that abides by this regulation.

Seasonal Winter Operations Staff

Currently the County of Northumberland contracts nine (9) seasonal staff members to conduct the Winter Operations, in which the County is responsible for monitoring weather conditions, sanding, salting, plowing, ensuring adequate lane width, snow removal and culvert thawing.

The Winter Operation staff strives to go above and beyond the Minimum Maintenance Standards required by the province of Ontario. They support multiple shifts in which 24 hour service is possible to all major roads and ETR routes.

Currently, the Winter Operations staff is only contracted from November 1st through March 31st of each year.

Increase of Winter Operations budget

The Roads department currently fills six (6) domes located in Cobourg, Morganston, Plainville, Brighton, Roseneath and Seymour with sand and salt material. The material that is currently used for Snow & Ice control is a mixture of 90% sand and 10% salt.

The last three years have shown that the expenditure for Sand/Salt material is going over by $200,000 each winter season. Keeping the domes stocked with material throughout the winter season is an essential part of Northumberland County winter preparedness.

Consultation/Options

- Extension of nine (9) Seasonal Winter Operations Staff until April 30th - ($50,400)
- Increase Winter Operations Budget for increased usage and pricing of Salt & Sand material – ($300,000)

Justification for Extension of Seasonal Winter Operations Staff

The Province of Ontario legislates through the 'Minimum Maintenance Standards O.Reg. 239/02' that winter weather monitoring and maintenance must occur from November 1st through April 30th of each year.

Currently, the Winter Operations staff is only contracted from November 1st through March 31st of each season. Each year during the period of April 1st – April 30th, for each and every weather event, the County is left at risk attempting to call back the operators to continue to provide winter maintenance. Extending the contract of the Winter Operations Staff will guarantee that we have the staff available to ensure that we are providing the legislated level of winter maintenance.

Justification for Increase of Winter Operations Budget

The past three years have shown that the sand/salt materials needed to provide complete winter operation have gone above the budgeted amount by $200,000. The past three winter seasons have demonstrated an increase in winter events, as well as an extension of when these winter events occur. It often occurs that operators are spreading materials well into the month of April due to fluctuating temperatures causing melting snow to freeze on roadways.

Increasing the material operation portion of the budget by $200,000 would accurately reflect the expenditures of sand/salt materials used based on the previous overages.

Along with the increased usage of Sand/Salt materials, the pricing of sand has substantially increased, with salt moderately increasing each year by approximately 2%. The most recent Tender for sand material closed on Thursday September 19th, 2019 has shown this increase in material pricing of up to 50% for some areas.

Due to the substantial increase in price for sand material, which constitutes 90% of our ice control mixture, we anticipate the material expenditures to be over by an additional $100,000 for the 2019-2020 Winter season. Therefore, we are requesting to have the Winter Operations budget increased by an additional $100,000, for a total increase of $300,000.

The following table demonstrates the substantial increase in sand and salt material pricing for the current 2019-2020 winter season.

Northumberland County Sand & Salt Material Pricing						
Expenditure	**2017-2018 Winter**		**2018-2019 Winter**		**2019-2020 Winter**	
Sand (Tonne)	Seymour	10.77/MT	Seymour	11.09/MT	Seymour	12.54/MT
	Roseneath	8.80/MT	Roseneath	9.06/MT	Roseneath	14.25/MT
	Morganston	9.54/MT	Morganston	9.82/MT	Morganston	13.30/MT
	Plainville	7.20/MT	Plainville	7.46/MT	Plainville	15.67/MT
	Cobourg	8.42/MT	Cobourg	8.67/MT	Cobourg	16.75/MT
	Brighton	7.16/MT	Brighton	7.37/MT	Brighton	15.05/MT
Salt (Tonne)	$95.35/MT		$109.50/MT		$111.69/MT	

The alternative to the increase of the Winter Operations budget would be to use funds from the reserves to cover the cost.

Financial Impact

Extension of Seasonal Winter Operations Staff – The financial impact of the extension of the Winter Operations staff from March 31st through April 30th will cost $50,400.

Increase of Winter Operations Budget – the last three (3) years have demonstrated that we are using $200,000 more sand/salt material than budgeted for. With the recent increase in pricing for these materials, we expect that this overage will increase by another $100,000. Therefore, we are asking to increase the budget by a total of $300,000 to accurately reflect the expenditures of sand/salt materials.

The alternative option would be to use money from the reserves to cover this cost. However, by continuing to deplete the reserves each year, the security of the reserves would be lost.

Risk Considerations

Extension of Seasonal Winter Operations Staff - The risk considerations in extending the Winter Operations staff is that after the contracts of the staff conclude on March 31st, we risk the possibility of not having staff available for weather events any time after the contract completion date (April 1st-April 30th). In turn, this creates a risk to our ability to perform our legislated duty to provide the minimum winter maintenance as required in Ontario Reg. 239/02.

Increase of Winter Operations Budget - The budget for sand & salt materials will continue to see overages this 2019-2020 winter season, as well as future winter seasons. The increase in price of sand and salt materials has inflated the issue.
Altering the composition sand and salt materials or the application rates leave Northumberland County at the risk of not adhering to the Minimum Maintenance standards, and providing service to residents that is necessary for winter operations.

Impacts to Member Municipalities/Partners

Included in 2019 Long Term Plan: YES/NO

These items were not included in the 2019 Long term plan. The substantial increase of sand and salt material cost is something that has not occurred to this degree in previous years.

These requested items have been brought forward to ensure our ability to abide by the Minimum Maintenance Standards set out by the province.

2020 Issue Paper

Transportation Funding Strategy

Purpose

The County of Northumberland needs to establish and maintain a sustainable levy-supported capital and operating budget to maintain the existing and to further develop the County roads system infrastructure. In 2002, County Council approved a ten-year plan to incrementally increase the roads budget to its proper level. As the budget was increasing and nearing the target set in 2002, the overall roads strategy was reviewed in further detail in 2015, taking into consideration the current state of infrastructure at that time and new infrastructure that had been identified through Environmental Assessments (EA's) or other processes since 2002 as well as the increasing costs of construction and inflation, resulting in an increase to the overall need. Since 2015, the overall needs are reviewed and revised based on the previous years' studies, EA's, construction cost estimates, inflation, funding cuts, etc.. For example, in 2018, the recommendations and high level needs from the County's Transportation Master Plan (TMP) that was approved by County Council in 2017 were incorporated into this assessment. Based on the review completed for the 2020 budget cycle, the revised desired budget level to sustain the transportation infrastructure is $18.7 million (annually), and the current proposed roads budget for 2020 is $11.64 million, which is $7.1 million below the desired budget level. As such, it is imperative that the County continue with the strategy to increase the levy each and every year until the desired budget is reached.

Due to additional Gas Tax Funding received in 2019 and budgetary pressures felt in 2020, the County is proposing no increase to the levy in 2020 for road infrastructure (pavement rehabilitation and maintenance, traffic safety measures, bridge rehabilitation and maintenance and service expansion), instead utilizing the additional Gas Tax funds to cover the $500,000 in additional Construction planned for 2020. Previously, two separate issue papers had been prepared for roads and bridges, for $400,000 and $100,000, respectively; however, one is being requested for transportation as a whole to provide flexibility and ensure suitable funding for the various types of infrastructure each year.

Background

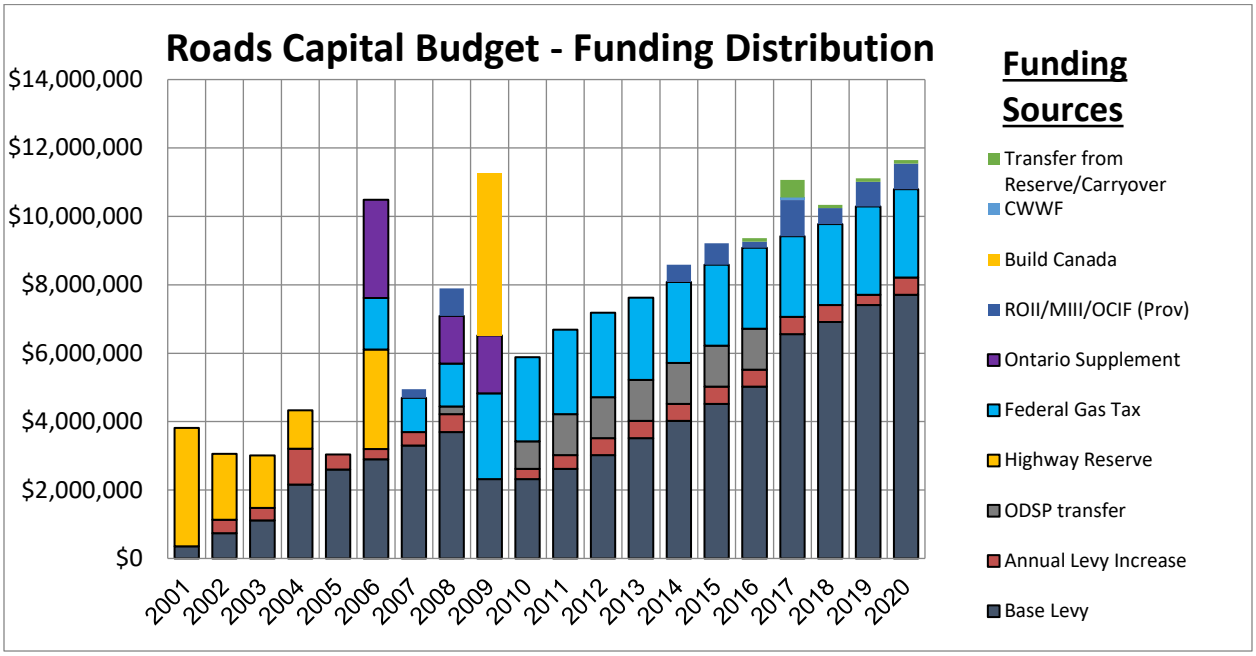
In 2001, the base budget for roads construction was only $358,000. This would allow the County to resurface each section of the County road system every **250 years** (2001 costs). The 2020 base budget for roads construction at $8.1 million would allow for each section of road to be resurfaced every **29 years** (2019 costs). County roads carry higher traffic volumes and a greater percentage of truck traffic than local roads and on average need to be resurfaced every 18-20 years. In addition, they require pavement preservation such as crack sealing and microsurfacing within that 20 year timeline to ensure the road can be resurfaced in 20 years and has not deteriorated to the point of a full reconstruction and costs associated with these treatments are not included in the estimate above.

Further, the limited base budget does not address the other roads related needs, such as traffic safety measures, bridges, or service expansion.

During the 2002 budget process, a multi-year strategy was adopted in order to gradually ramp up the County tax levy funding over a 10+ year period to a level which will maintain the existing County road system at an acceptable level. A program was adopted by County Council to increase the capital roads levy by $400,000 each year.

Since 2006, the capital roads budget also utilized other available funding sources to supplement the capital roads program, such as the highway reserve, the federal gas tax rebate, the one-time Move Ontario funding, the one-time Build Canada Fund, the Municipal Infrastructure Initiative (MII), and most recently the Ontario Community Infrastructure Fund (OCIF). The funding breakdown is shown in Table 1, below and as illustrated, the most significant funding sources were the one time Move Ontario Funding in 2006 and the Build Canada Funding in 2009, resulting in over $10 million for the capital roads program in these years, which was needed to help address the continued deterioration of the County road system.

Table 1: Chart of Past, Present and Future Funding Distribution



The County of Northumberland has an inventory of 112 bridges on 503 kilometers of arterial roadways; there are 48 major structures and 64 culverts of span greater than 3.0 meters and 19 retaining walls. Generally, the expected lifespan of a structure can range from 50 to 75 years. The age of the County's bridges range from 10 to 98 years old (built between 1922 and 2010), with 94% of the bridges aged 35 years or older as of 2020.

There is a significant need to ensure the integrity of these structures due to the continued aging of the infrastructure and the growing number of structures that require repairs. Every two years the 48 major structures and 64 culverts are inspected by a team of engineering consultants and County staff in accordance with the Ontario Standard Inspection Manual (OSIM). In 2017, the inspections were performed on the major structures by HP Engineering; and in 2018, the inspections were performed on culverts and retaining walls by Jewell Engineering. OSIM inspections are most effective at providing a visual inspection and identifying immediate or near future maintenance needs, code compliant required upgrades, and rehabilitation. However, these inspections do not yield the high level of detail necessary to accurately estimate the type of rehabilitation (minor or major) and the associated costs of these improvements.

Since 2002, the roads capital program has generally grown through an annual levy increase of $400,000. Beginning in 2008, the bridge maintenance levy was further increased by $100,000 annually.

Consultation/Options

Proposed Strategy

The roads construction project budget addresses ongoing management of four main components of the County Roads System:

1. Pavement Rehabilitation and Maintenance
2. Traffic Safety Measures (traffic signals and street lights, guiderails, road/intersection safety improvements)
3. Bridge Rehabilitation and Maintenance
4. System Expansions (road widening, turning lanes, bike paths, new structures, etc.)

Based on standard asset management principles, the annual budget required to keep these components of the road infrastructure in good repair are outlined as follows.

Pavement Rehabilitation and Maintenance

Research and statistical evidence supports a lifecycle analysis approach to pavement maintenance and rehabilitation to ensure a timely and cost effective pavement management program. The life cycle of a hot mix asphalt (HMA) road is dependent on many factors including the overall structure of the road (thickness and material of base, sub-base and asphalt), road drainage, traffic volumes, traffic speed, percentage of truck traffic, etc.. The County roadways are considered Arterial Roadways in accordance with Transportation Association of Canada (TAC) Guidelines, meaning they are for the main purpose of moving goods and services and allow for local and collector roads to feed into them and have limited direct access from properties. They are generally higher volume and speed roadways and feed into highways (i.e., Highway 401, Highway 115, etc.).

The lifecycle approach is also consistent with asset management principles and the types of timing of treatments throughout the lifecycle of a road can vary depending on the required Level of Service (LOS) (i.e., expected condition, function, use, safety, etc.). As the County develops its Asset Management Plan (AMP) for core assets by July 1, 2021 in accordance with the new Asset Management Legislation (Ontario Regulation 588/17), the lifecycle and treatments will be reviewed in detail and refined as appropriate. However, the following lifecycles for urban and rural County arterial roads have been developed to determine overall needs for budgetary purposes. Table 1 and 2 provide the lifecycle for 1 km of roadways assuming a 45 year useful life, estimates based on 2017-2019 construction unit prices and do not include costs associated with safety devices and regular routine maintenance activities.

Table 1: Urban Roadway Lifecycle

URBAN ROADWAY		
Year 1	8-10 Years	16-18 Years
Full Reconstruct	Micro	Crack Seal
$ 1,600,000.00	$ 50,000.00	$4,000
23-25 Years	33-35 Years	41-43 Years
Resurface	Micro	Crack Seal
$ 400,000.00	$ 50,000.00	$ 4,000.00

*Reconstruct at 45 Years

Table 2: Rural Roadway Lifecycle

RURAL ROADWAY		
Year 1	8-10 Years	16-18 Years
Full Reconstruct	Micro	Crack Seal
$ 800,000.00	$ 50,000.00	$4,000
23-25 Years	33-35 Years	41-43 Years
Resurface	Micro	Crack Seal
$ 400,000.00	$ 50,000.00	$ 4,000.00

*Reconstruct at 45 Years

Based on the estimate above, the lifecycle cost of 1 km of urban roadway is $2.1 Million and for 1 km of rural roadway is $1.3 Million.

In addition to urban and rural HMA roads there are 107 km of surface treated County Roads. The County's current policy for surface treatment is to allow on roads with AADT of 1,000 or less. Based on the updated 2018 Average Annual Daily Traffic (AADT), more than 50% of the existing surface treated roads have an AADT >1,000. Therefore, there should be consideration to change the surface treated roads to HMA in the future. For the purposes of determining overall need, surface treated roads are assumed to remain as surface treated until a strategy is developed in the future. The lifecycle of a surface treated roadway is approximately 5 years, therefore, to meet this need, 21.4 km would need to surface treated annually, resulting in an annual need of $321,000.

With this information in mind, we can determine an annual road rehabilitation budget, outlined in Table 3 below.

Table 3 – Recommended Road Rehabilitation Budget

Type of Road	Total Kms	Lifecyle Cost	Total Cost	Annual Cost
Surface treated	107	$15,000/km every 5 years		$321,000
Paved (rural)	369	$1.3 Million	$479.7 Million	$10.8 Million
Paved (urban)	28	$2.1 Million	$58.8 Million	$1.3 Million
Recommended Annual Road Rehabilitation Budget				**$12.4 Million**

The proposed 2020 budget includes the following road rehabilitation:

- Approximately 15 km of surface treated roads;
- 8 km of paved rural roads;
- 1.5 km of paved urban roads;
- Approximately 25 km of pavement preservation; and
- Approximately 85,000 m of crack sealing.

The cost to complete the proposed 2020 road rehabilitation program is estimated at **$6.35 million.**

Traffic Safety Measures

Traffic safety measures include upgrades and maintenance on our roadside safety devices, traffic controllers, signals, and signage. There is also an increasing requirement to integrate safety upgrades into pavement rehabilitation projects. Most recently, traffic safety reviews and intersection upgrades have been completed.

Guiderail:

Based on an updated review of the guiderail inventory completed in 2015, it was determined there was $1.4 million in deficiencies which included existing locations that need to be replaced and new locations where guiderail is required, assuming replacement based on the Roadside Safety Manual (mostly post and cable and some steel beam guiderail where a hazard exists within 3 metres from the back of guiderail). In 2015, it was established that the proposed 2015 budget of $180,000 per year would have completed these deficiencies within 10 years.

In 2016, OPS and MTO withdrew OPSD 1503 and specified that 3 cable guiderail will no longer be used on Ontario roadways. The rationale for eliminating the standard is based on the fact that post and cable deflects vehicles; is sensitive to height and tension; is not recommended for use on horizontal curves or adjacent to slopes steeper than 2:1, or on high speed roads and must have at least 3 m of deflection behind that is free of hazards. As a result, post and cable requires continuous monitoring and more repairs. The average lifecycle of post and cable is 15 years. On the other hand, steel beam guiderail restrains and redirects vehicles and has a lower deflection, therefore, it can be placed closer to hazards; is more durable; and requires less monitoring and maintenance. The average lifecycle of steel beam guiderail is 30 years.

Upfront costs for steel beam are generally higher (approximately 50 to 60%), however, given the longer lifecycle and reduced time and costs associated with maintenance, as well as increased safety, steel beam is recommended.

Going forward, to comply with the new standards, all post and cable will be replaced with steel beam guiderail. The change was implemented as part of the 2017 program and the bids received in the 2017 safety device tender for steel beam were much lower than typical estimated costs, which may be a reflection in the change of the standards, however, the cost in 2018 and 2019 was significantly higher with an average estimate of $210/m including removal of existing post and cable and anchor blocks, installation of new steel beam including end treatments, granular sealing and traffic control. Using this estimate, the total cost to replace the existing 3-cable guiderail with steel beam is $11,332,765.00. To replace the guiderail over a 20 year period would result in replacement of approximately 3 km per year at a cost of $630,000.

The costs will continue to be monitored moving forward and adjusted based on unit rates and guiderail replacement will continue to be prioritized and coordinated with paving projects; however, moving forward a higher portion of the traffic safety budget may be allotted to guiderails to accommodate this change in standards in the 10 year plan.

Traffic Signals:

The County owns traffic signals at eighteen intersections throughout the County and there is an ongoing requirement for upgrades and maintenance on this infrastructure. A traffic signal cabinet is comprised of various components, including the controller, conflict monitor and electrical board. Additional appurtenances including detection, traffic heads, pedestrian heads, push buttons and electrical conduits are also critical to the overall traffic signal system. The majority of the County's inventory is aged and requires upgrades or replacement in accordance with provincial regulations and design standards.

In addition, upgrades to comply with the Accessibility for Ontarians with Disabilities Act (AODA) are required. As traffic signal systems are replaced the County is required to include the installation of Audible Pedestrian Signals (APS) and tactile walking plates at intersections with pedestrian crossings. The County has completed the APS upgrades in Cobourg at Elgin Street and Strathy Road (2017) and Elgin Street and Division Street (2019) and in Campbellford at Bridge Street & Doxsee Avenue (2019), however, there are 10 remaining locations to be completed.

Other upgrades required include installation of UPS battery backup at twelve locations, loop replacements/auto detection, traffic head and pedestrian head upgrades at various locations. In 2019, the County completed installation of UPS battery backup in Cobourg at Elgin Street and Division Street and in Hamilton Township at County Road 18 and County Road 74 and in the Municipality of Port Hope at County Road 28 and Telephone Road. Furthermore, the Transportation Master Plan identified intersections to monitor that may require intersection improvements and/or may meet warrants for signalization in the future.

The overall need over the next 10 years to address the signal deficiencies, AODA requirements and potential new signalized intersections is $200,000.00 per year.
Other Traffic Safety Related Items:

Other Safety Initiatives:

There is an increasing requirement to integrate safety upgrades into pavement rehabilitation projects. Most recently, numerous traffic safety reviews and intersection upgrades have been completed. In 2014, upgrades were completed at the intersection of County Road 45 and County Road 33 (Merrill Road), and a safety assessment was completed at the intersection of County Road 45/Lonsberry Road/Roseneath Landing Road and County Road 30/29. Operational and maintenance improvements were completed at 45/Lonsberry Road/Roseneath Landing Road in 2015 and upgrades to County Road 29/30 were completed in 2016. In 2016, a safety assessment was undertaken at the intersection of County Road 30 and Old Wooler Road, and the County received and reviewed requests for Accessible Pedestrian Signals (APS) at four signalized intersections. Safety related upgrades at County Road 30/Old Wooler Road and APS installation on County Road 2 (Elgin Street) at Strathy Road in Cobourg, were completed in 2017 in conjunction with pavement rehabilitation projects. The County was also successful in receiving $725,000 in Ontario Community Infrastructure Fund (OCIF) “Top-up” funding to cover a portion of the intersection improvement costs at County Road 30/Old Wooler Road. Savings from the budget, allowed for the additional safety improvements to be completed on County Road 2 (Elgin Street), as well as other Transportation projects. In 2018, a safety assessment was completed for the County Road 45 Corridor through Alderville and Roseneath as well as County Road 2/10/74 in the hamlet of Welcome, of which findings and recommendations are being

reviewed and there are plans for implementation in the future. In 2019, a safety study was completed for County Road 18 at Telephone Road and Danforth Road (two of the high collision intersections identified in the TMP) and for the County Road 45 corridor from Highway 401 through Baltimore. Results from these studies are pending at the time of preparation of this issue paper.

Depending on the required improvements, the cost of implementing safety upgrades can vary widely from very minimal for brushing, pavement markings, signage, lighting, etc., to hundreds of thousands of dollars for geometric changes such as adding turning lanes, modifying grades, expanding radii, paving, etc. Where possible, these larger design and construction improvements can be incorporated into the current year's paving tender, and depending on the scale and scope of the project, may be included under service expansion (i.e., widening for turning lanes, etc.). To complete the requisite studies, planning, design, consultation, etc. for these improvements as well as to address any other safety issues that arise throughout the year, an annual budget of approximately $100,000 is required.

Based on the improvements outlined above, a realistic annual base budget to address traffic safety measures is **$930,000.** As indicated above, this does not include the full cost of implementation of all safety improvements; however, implementation will be coordinated with other areas of the capital program wherever possible for efficiencies.

The proposed 2020 Traffic Safety Measures program includes $200,000 for Traffic Control Signals and Street Lights upgrades, $400,000 for guiderail replacement, $50,000 for Road/Intersection Safety Improvement Program and $200,000 for County Road 64 (Prince Edward Street) Grade Crossing Improvements (first year of a two year project pending funding approval from Transport Canada).

Bridge Rehabilitation/Replacement and Maintenance

The County has 112 bridges and major culverts and 19 retaining walls that require ongoing repairs, maintenance, and occasional replacement. Prior to 2003, there was not a base budget to address bridge rehabilitation and maintenance. As part of the 2004 budget process, County Council established a base budget of $450,000 per year for bridgework. Based on the Ontario Structures Inspection Manual (OSIMs) inspections for the County's structures completed in 2017 and 2018, the urgent, 1-5 year, and 6-10 year bridge needs have been identified and the total estimated work is **$24 million**, and a more reasonable annual base budget for bridge rehabilitation is **$2,400,000**.

The 10-year capital plan for required structure improvements is prepared based on the OSIMs and other available information. Each year, the needs for required improvements are compounded since each year the County's budget is insufficient in covering the costs of

immediate needs and the increasing cost of inflation which creates a backlog of structures in need of improvements. This means the needs of some structures are carried over to the next year, and at the same time, a new set of immediate needs are identified for a new group of structures.

Figure 1 shows the required budget to implement all the OSIM recommendations, including all maintenance, required code compliant upgrades, major rehabilitations and bridge replacements within the next 10 years. The funding that would be necessary to implement these works is estimated at $24,000,000. This estimate includes structures for which works are planned within the 10 year budget and those structures for which works are not planned but would have reached the end of their useful life within this 10 year timeframe. Included in these estimates are costs for detailed engineering design, contract administration and construction. It is important to note that cost estimates at this stage are considered rough order of magnitude (ROM) estimates. This type of estimate represents an informed idea of the magnitude of the work required without having professional structural engineers prepare the detailed design and cost estimates. The variance attributed to ROM estimates can be +/- 50%. Cost estimates will be refined further during the detailed design and tender stages.

Figure 1:

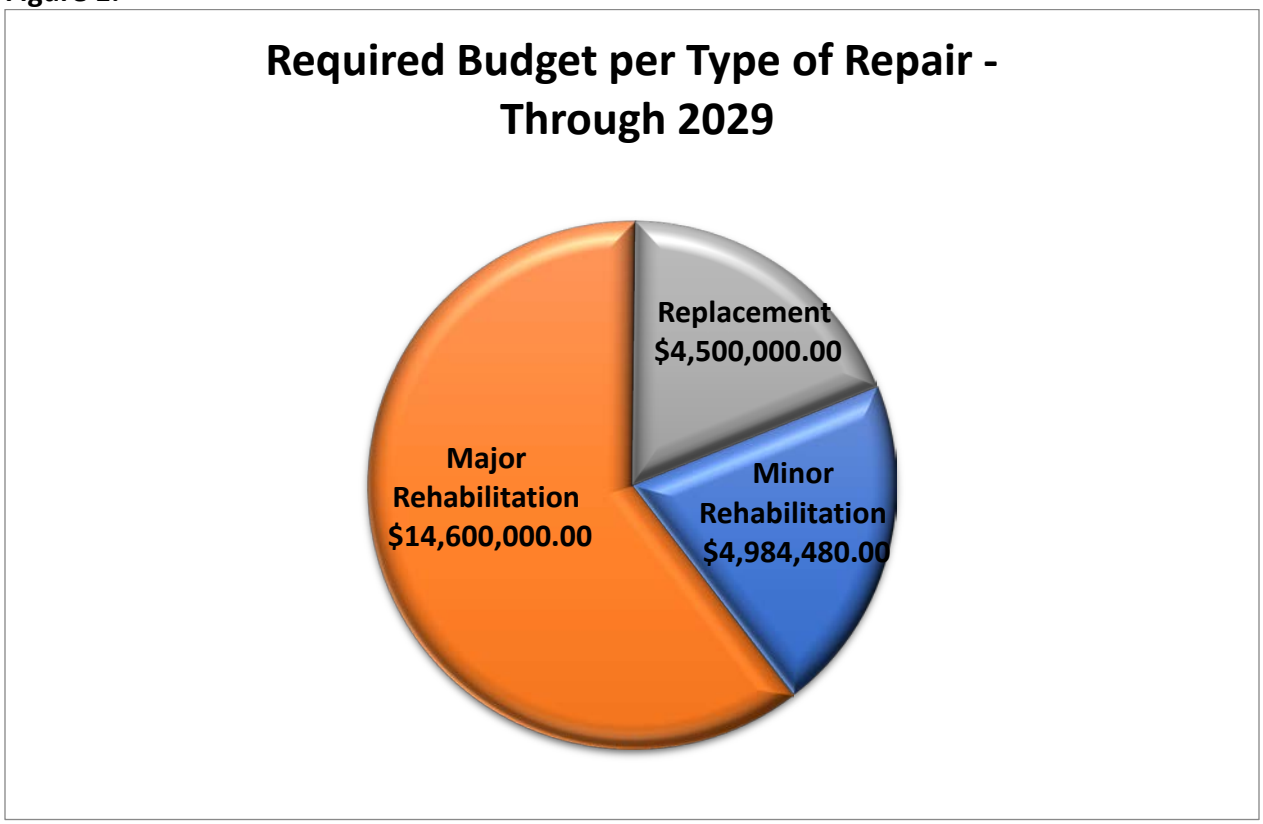


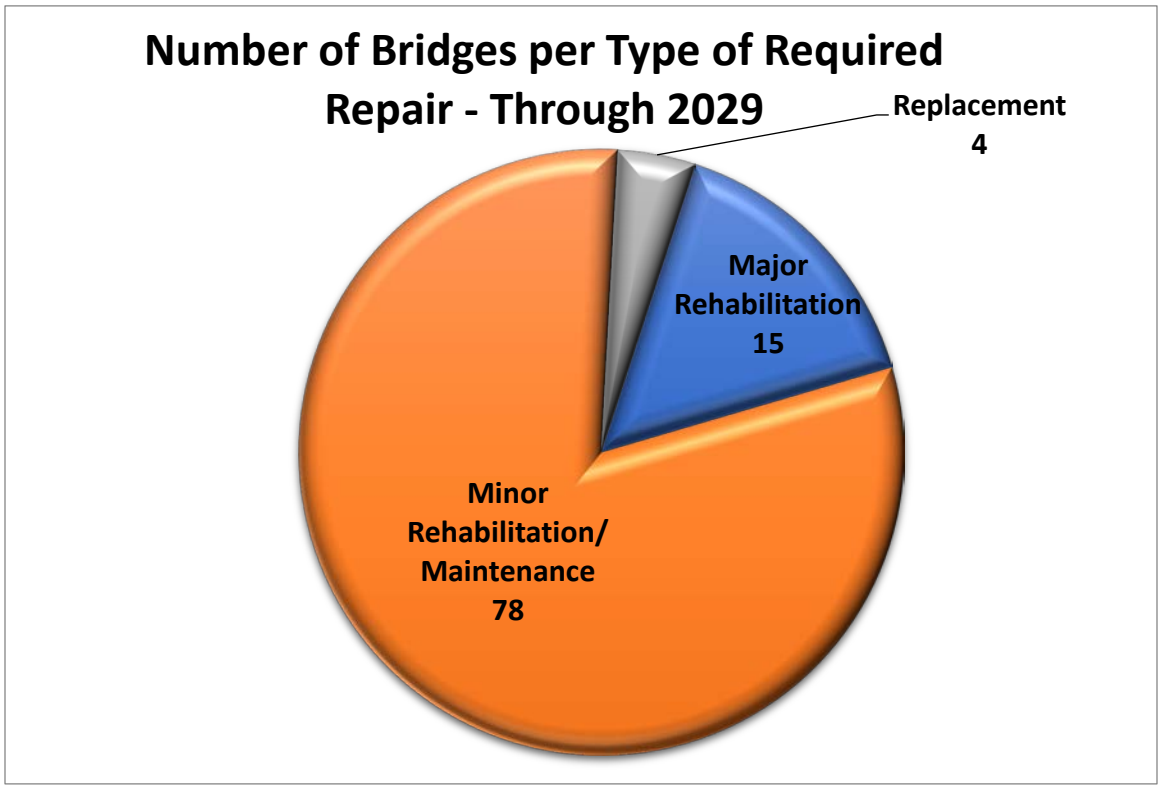
Table 4 shows the actual required budget for all types of repairs broken down by timeline.

Table 4 – Actual Required Budget for Bridge Replacement, Major Rehabilitation and Maintenance (M=$1,000,000)

Timeline	As of 2019
< 1 year	$0.52M
1-5 years	$4.6M
6-10 years	$19.4M
Total	$24.1M

Figure 2 shows the number of structures that fall within each category of required repair. As can be seen from this figure, the majority is in need of maintenance and required code compliant upgrades. Maintenance is fundamental to the preservation of the integrity of the structures, to lengthen the structures' useful life, and to ensure that the number of structures that require major rehabilitation remains low. It follows that maintenance is imperative to ensuring that costs for major works remain feasible.

Figure 2:



The proposed 2020 budget allows for **$2,270,000** for detailed bridge condition studies, engineering design, rehabilitation, and repairs and inspections. This includes $75,000 for the County Road 2 Culvert design and Tender, $1,300,000 for the Hastings Bridge rehabilitation, $125,000 for slope remediation at the County Road 65 culvert, $300,000 for retaining wall design, tender and rehabilitation, $50,000 for the Campbellford Trent River Bridge Crossing, $100,000 for the bridge reserve, $100,000 for biennial bridge inspections, $200,000 for bridge maintenance and $20,000 for minor bridge repairs.

System Expansion

In 2013, the County approved an area-specific development charge for the Cobourg East community (By-law 26-13) to address future expansion of the County infrastructure related to this specific development including road widening, urbanization and intersection improvements on County Road 20 (Elgin Street and Brook Road North), as well as a grade separation at the CNR/CPR tracks on Brook Road North. Prior to the passing of By-law 26-13, the County did not collect any development charges and currently continues not to collect for the remainder of the County, therefore, any system expansions, such as traffic signals, turning lanes, road widening, new structures, etc. need to be funded through the County levy. Because many of these improvements are triggered by growth in the area, it is difficult to project a base budget that is realistic to address ongoing system expansions.

In accordance with the Development Charges Act (DCA), 2017, development charge by-laws are to be updated every five years. As such, the County undertook a review and public process to update the Cobourg East Community development charge study and by-law in 2018 (new By-law 2018-23) which came into effect June 21, 2018. Overall, there were only minor changes to the study including some updated unit costs for infrastructure.

In 2019, the County initiated a County Wide Development Charge study in accordance with the DCA, 2017, and is planned for completion at the end of 2019 or early 2020. The DC Study and associated By-law when passed will be incorporated into the service expansion budget where applicable.

Previously, an annual base budget of $650,000 was proposed as reasonable to address the system expansions that we anticipate over the next ten years, however, this figure did not include any allocation for the County's share of the Brighton Grade Separation or a potential new bridge in Campbellford, or any of the transportation service improvement needs identified by other EA processes or studies. Two of the County's major Environmental Assessments were recently completed and approved by the Ministry of Environment and Climate Change; the Trent River Crossing and Arterial Road Network EA (2017) and the County Road 2 EA (2016). The County has also completed its first Transportation Master Plan (TMP), which was endorsed by County Council in 2017; hence estimates and timelines for the proposed preferred

alternative designs are available and are outlined below. Based on these, a more reasonable annual budget of **$3.0 million** is proposed.

Trent River Bridge and Arterial Road Network EA:
The preferred Alternative Design for the Trent River Bridge and Arterial Road Network EA includes a new bridge at Second and Alma Street, and replacement of the current bridge crossing. Estimated costs and timing are provided below based on the phasing and implementation schedule in the Environmental Study Report.

Based on the estimates and the implementation plan for the bridge and assuming engineering, property acquisition, contingency, etc. would be on the order of 20% of the total construction costs, a total of $19.9 million is required for Phase 1 in the next 10 years, equivalent to $2.0 million per year, assuming the full cost is funded through the County levy. However, the intention is to proceed with the new bridge when provincial and federal funding is available. Under this scenario, assuming 60% funding from other levels of government and 40% from the County, a total of $8 million is required for Phase 1 from the County levy, equivalent to **$800,000 per year**. The target transportation budget is based on this assumption. If Council decides to proceed with construction of the new bridge within 10 years without provincial and/or federal funding, $19.9 million will be required though a combination of capital funding reserves, and/or debenture between approximately 2024 and 2027.

In prior years the County had planned to rehabilitate the Trent River Bridge on County 45 in Hastings during 2017. However, given the recent disruption to traffic and local community resulting from Parks Canada's rehabilitation of the Hastings Swing Bridge in 2016 the planned rehabilitation has been deferred to 2020. Budget savings from the deferral of this project will allow the County to allocate $780,000 towards designing Phase 1 or property acquisition of the Trent River Bridge and Arterial Road Network improvements in Campbellford. Completing additional design for Phase 1 will better position the County to obtain federal/provincial funding when it becomes available. Ongoing reallocation of Rehabilitation, Replacement and Maintenance funding towards Phase 1 of Trent River Bridge service expansion project is not feasible as it will erode the County's ability to maintain its existing bridge infrastructure over the long-term.

Since Phase 2 involves replacement of existing infrastructure, this cost will be included in the Bridge Rehabilitation, Replacement and Maintenance section, and the current need is within 6 to 10 years (shown in 2029 in the long term plan).

County Road 2 EA – Burnham/William Street to Hamilton Road:
The preferred Alternative Design for the County Road 2 EA includes widening on County Road 2 to four lanes in the urban section of Cobourg, widening to three lanes in the rural section

through Hamilton Township and the Municipality of Port Hope and construction of a multi-use trail along County Road 2 or along the shoreline, and a roundabout at Theatre Road. Based on the estimates, phasing and implementation schedule in the Environmental Study Report, and assuming engineering, property acquisition, contingency, etc. would be on the order of 20% of the total construction costs, a total of $2.32 million is required for expansion on County Road 2 in the next 10 years, equivalent to **$232,000 per year.**

Transportation Master Plan:
The County also completed its first Transportation Master Plan (TMP) and it was adopted by County Council in 2017. There are a number of recommendations included in the plan related to infrastructure/safety improvements, policy recommendations, and active transportation. As part of the TMP assignment, high level cost estimates and potential funding options were reviewed and proposed. Where possible, recommended improvements over the next 10 years (2019-2028) will be incorporated into the existing capital budget, however, some additional funding or deferral of some projects beyond 10 years will be required. The associated costs are summarized below:

<u>Infrastructure/Safety Improvements:</u>
Infrastructure improvements include: top 10 collision intersections, intersection signalization, revised speed limit changes, Hamlet Entry Treatments, Corridor studies for 2031 improvement locations, Environmental Assessments for 2031 improvement locations, EDR relocation feasibility study and construction, GO Rail extension business case study, and a number of other smaller data collection and information gathering studies (AADT, speed data, funding options, etc.) as outlined in the TMP.

The overall high level cost for all of these improvements and studies between 2019 and 2028 is between $2.2 million and $4.2 million. This estimate does not include the cost for implementation of the major studies/projects and based on discussions throughout the TMP process as well as at TWF Departmental meetings, the intention is to move forward with the implementation of two of these major project within the next 10 years including relocation of the EDR in Cramahe/Brighton, as well as extension of GO service to Northumberland County. A high level estimate to complete upgrades to one of the potential new EDR roads is approximately $10 million (would involve road widening, structure widening/rehab/replacements, drainage improvements, cut/fill to address grade changes, road resurfacing, etc.). Extension of the GO service is estimated to be approximately $250,000 per year or $2.5 million over 10 years assuming a pilot project that provides a bus between Cobourg/Port Hope to Durham Region twice a day. Further details and more accurate cost estimates will be developed throughout the study phase for each of these projects.

Therefore, the overall cost estimate is $14.7 to $16.7 million over the next 10 years or $1.46 to $1.67 million per year.

In 2017, the County proceeded with one of the recommendations in the TMP for Hamlet Entry Treatments in Cold Springs and Welcome. These two locations were chosen as pilot projects and have been monitored and modified over 2018 and 2019, and monitoring is on-going until an effective approach is developed and implemented in an on-going program for the remaining Hamlets in future years.

Policy Recommendations:

A number of policies were reviewed as part of the TMP study and resulted in major and minor recommendation changes to twelve (12) policies and the creation of nine (9) new policies or guidelines. It is anticipated that the majority of policy changes and creation of new policies will be completed in-house by County staff.

Active Transportation:

The TMP reviewed the County's Cycling Master Plan (CMP), which was completed in 2012 and updated in 2014. Since the approval and implementation of the County's CMP, new Ontario Traffic Manual (OTM) guidelines for Active Transportation (Book 18) were developed, as such, the TMP provides a number of recommendations on potential updates to the CMP to be consistent with OTM Book 18. It is anticipated that the majority of CMP review and updating will be completed by in-house County staff.

Overall, it is estimated that approximately that $1.5 million to **$1.7 million** would be required per year over the next 10 years for implementation of the County's TMP.

Summary:
Including the cost estimates for expansion in the next 10 years from the projects above, as well as other more minor expansion project (i.e., turning lanes, traffic signals, etc.), a realistic annual base budget of **$3.0 million** is required to address system expansion. This will increase in future years based on detailed cost estimates and programs resulting from studies completed as part of the Transportation Master Plan (i.e., corridor studies that recommend future widening, etc.) and any other EAs or studies that may be completed, including the Brighton Grade Separation.

The proposed 2020 budget allows for **$2,170,000** of system expansion projects. This includes $1,400,000 for the County Road 45 and Van Luven Road intersection upgrades (additional $240,000 carried over from 2018 budget and $245,000 contribution from developer), $500,000 for the Trent River Bridge and Arterial Road Network improvements in Campbellford, $100,000

for TMP/EA improvements, $40,000 for CMP improvements, $40,000 for County Road 2 EA improvements, $50,000 for On1Call, and $40,000 for GIS/Asset Management.

Financial Impact

Total Budget Requirements

Based on the information above, we can determine that the base construction budget to properly manage our County Road assets should be in the order of **$18.7 million** while the estimated value of the 2020 construction program is **$11.64 million**. While great strides have been made in the past ten years, a number of major bridge structures are approaching and/or reaching their lifespan, and additional major expansion projects have been identified during that time (i.e., second crossing of the Trent River Bridge, County Road 2 widening, Grade Crossings, EDR relocation, GO, etc.), which increases the required base budget for roads capital. In addition, the estimates have been updated to better reflect the current construction costs.

The current base budget is approximately $7.1 million short of the new target amount, therefore, an annual increase in the roads budget continues to be necessary in order to meet the $18.7 million target and it is imperative that the County continue with this strategy each and every year until it has been reached.

Federal Gas Tax

Part of the 2005 Federal Budget included the Federal Government's New Deal for Cities and Communities. This New Deal included federal gas tax money being distributed to municipalities for investment in a range of infrastructure projects. We have received the federal gas tax in previous years:

Year 4 (2008): $1,253,244
Year 5 (2009): $2,506,488
Year 6 (2010): $2,474,857
Year 7 (2011): $2,474,857
Year 8 (2012): $2,468,018
Year 9 (2013): $2,406,317
Year 10 (2014): $2,364,412
2015 through 2018: $2,364,412
2019: $5,211,849*
2020: $2,581,705
2021: $2,699,055

2022: $2,699,055
2023: $2,816,405

*Includes one-time doubling of gas tax funds and surplus funding

The Federal Gas Tax Fund (which represents 22% of the road construction program revenue in 2020) was made permanent in 2015 through a federal legislation and the County can expect to receive the amounts noted above over the next five years ($2,581,705 to $2,816,405 or 14% of the targeted $18.7 million budget).

OCIF Funding

In 2020 the County will be receiving $751,217 in funding from the OCIF formula based funding that will be used towards road rehabilitation projects.

The joint application with the Township of Cramahe, Municipality of Brighton and the County was also submitted for the Investing in Capital Infrastructure Program (ICIP) in 2019 for the EDR relocation; however, the application was not successful. The County will continue to seek out and apply for other infrastructure funding opportunities for future projects.

Risk Considerations

It is imperative that Council continues to support future levy increases to protect the integrity of the County's road infrastructure for road rehabilitation, bridge rehabilitation, traffic safety and service expansion. In light of the additional Federal Gas Tax Funds received in 2019 and other budgetary levy pressures, for 2020 it is proposed that the $500,000 incremental increase will be financed solely by gas tax funds. This does impact on financial capacity in future years as the base levy financing going forward will not include the levy increase that otherwise would have been realized in 2020. Without a sustainable road and bridge budget, roads and bridges will continue to deteriorate at a rate faster than they can be rehabilitated, leading to potential bridge load restrictions or even closures and higher costs for complete reconstruction when they eventually do get done.

Impacts to Member Municipalities/Partners

The County Road network intertwines with the member municipality roads, directly impacting movement of traffic within each municipality as well as movement of people, goods and services between municipalities. Therefore, the integrity of the County road system is integral

for the member municipalities, not only from a transportation perspective, but for economic development and tourism.

In addition, through shared services, the County and member municipalities have been issuing a number of joint tenders/RFPs/RFQs in efforts to be more efficient and hopefully realize savings through magnitude of work.

Included in 2019 Long Term Plan: YES/NO

Yes.