



2023 Business Plan & Budget

Engineering Group - Infrastructure, GIS/Asset Management (AM) and Major Capital Projects (MCP)

Prior Year Accomplishments

Economic Prosperity & Innovation

Major Capital Projects

- Major Capital Projects (MCP) updated a 10-year plan of potential projects for the MCP division
- Construction on-going for the Golden Plough Lodge and Northumberland County Archives & Museum Redevelopment Project (GPLNCAM). Construction is anticipated to be completed in 2024
- Construction began for the Elgin Park Affordable Housing. The anticipated completion is in late 2024
- The capital cost summary for the 473 Ontario Street Affordable Housing was completed, the Design Operating Committee has been established, and the Construction Manager at Risk and Architectural and Engineering consultant is anticipated to be retained in early 2023 to begin design
- Reviewed technical investigations and completed site evaluation for several potential sites for future housing and major building projects
- Started the Joint Operations Base Feasibility Study to determine the need for a facility to accommodate projected staffing needs and equipment storage for Public Works, Plumbing and Inspection Services, Health and Safety and Emergency Management, Natural Heritage, and Community Paramedics

Infrastructure

- 10 Year Capital Program for Roads/Bridges



- Review and approval of planning and development applications

GIS/Asset Management

- Completion of Asset Management (AM) Plan for core assets and approval in accordance with O.Reg.588/17
- GIS services provided to member municipalities through the execution of four (4) GIS Managed Service Agreements and the Northumberland GIS Cooperative
- Reviewed technical investigations and completed site evaluation for several potential sites for future housing and major building projects

Sustainable Growth

Major Capital Projects:

Golden Plough Lodge Redevelopment Project:

- Construction continued through 2022 with anticipated completion in 2024
- Below grade structure and structural steel and load bearing masonry up to level 3 completed
- On-going planning and coordination for the procurement of furniture, fixtures and equipment as well as planning the logistics of moving residents in once completed

Elgin Park Redevelopment:

- 5 out of 9 existing duplexes on Elgin Street East in Cobourg were abated and demolished in January/February 2022
- Site Servicing for Phase 1 completed
- Building 1 and 2 foundations completed and framing for building 2 anticipated to be complete by December 2023
- Construction for Phase 1 to continue until Summer 2024 and 20 new affordable housing units will be ready for move-in
- Construction for Phase 2 is anticipated to start in Summer 2024

Joint Operations Base Feasibility Study

- The Joint Operations Base Feasibility Study was initiated to determine the need for a new or expanded facility to accommodate Public Works, Plumbing and Inspection Services, Health and Safety and Emergency Management, Natural Heritage, and Community Paramedics
- Managers and Directors from each department collaborated with the consultant through a series of workshops



- A draft feasibility study anticipated to be complete by end of 2022 and finalized in 2023

473 Ontario Street Affordable Housing

- Net Zero Feasibility study was finalized to determine the Net Zero Energy Build and Zero Carbon Build feasibility
- Cost estimate peer review, Phase 1 & 2 Environmental Site Assessment and preliminary tree assessment completed
- Initiated development of the Architecture and Engineering (A&E) and Construction Manager at Risk (CMAR) request for proposals (RFPs) and anticipate tendering in late 2022 or early 2023
- Established a Design Operating Committee with Stakeholders for the duration of the project

Infrastructure:

- Continued management of County issued permits
- Issued the following permits within Northumberland County (as of September 12, 2022)
 - 25 Entrance Permits
 - 69 Setback Permits
 - 35 Permission to Open Cut Permits
 - 44 Permission to Enter Permits
 - 20 Permission to Bore Permits
 - 112 Wide Load Annual Permits
 - 70 Wide Load Single Permits
 - 7 Special Event Permit
- Completed the review of 76 utility municipal consents (MC's)
- Completed the review of over 35 planning inquiries / pre-consultation requests, over 48 Consent / Minor Variance / Zoning Bylaw Application Reviews, and 55 planning and development applications (Site Plan, Subdivision, and Residential Developments)
- Attendance at various pre-consultation and planning meetings for member municipalities (Town of Cobourg 3-4 per month, Municipality of Port Hope typically 1-2 per month, and other member municipalities as developments arise)
- In-house designs for drainage improvements on various County Roads
- Delivery of 2022 Capital Construction Program for paving – 13.57 km
- 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
- Biennial Bridge Inspections (OSIMs)
- Coordination and collaboration with local developers to begin implementation of the Master Drainage Plan for County Road 2
- The Vegetation Management Committee successfully fulfilled mandate to review current practices for removing vegetation around guiderails on County Roads and developed recommendations for moving forward with mechanical means as the primary method for vegetation management

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:

- 2022 Paving Tender 13.57 km
 - County Road 2 - Normar Road to Carruthers Road (3.70 km)
 - County Road 25 - County Road 29 to County Road 24 (4.40 km)
 - County Road 18 - County Road 9 to Gores Landing (2.20 km)
 - County Road 20 – Paved shoulders from 300m north of King Street to 500m north of King Street (0.20 km)
 - County Road 42 - County Road 30 to Seymour/Asphodel Boundary (3.07 km)
- 2022 Microsurfacing Tender (10.5 km)
 - County Road 23 - Edwardson Road to Massey Road
 - County Road 25 - 300m south of County Road 21 to 100m north of Highway 401
 - County Road 9 - 150m east of Woodvale School Road to Cavan Road
- 2022 Crack Sealing Tender (26.0 km) Completed approximately 84,575 meters of crack sealing on the following roads:
 - County Road 9 from Northumberland boundary to Woodvale School Road (12.5 km)
 - County Road 2 from Northumberland boundary to County Road 10 (9.2 km)
 - County Road 2 from 200m east of Hamilton Road to Lovshin Road (4.3km)



- Initiated EA and detailed design for County Road 64 road reconstruction project jointly with the Municipality of Brighton

Traffic Safety Measures:

- Traffic Signals
 - Upgrades to the intersection of County Road 20 (Elgin Street) and Ontario Street, Cobourg, including:
 - All new cable pulled (12 conductor, 7 conductor, Belden, controller power cables)
 - New TS1 controller cabinet c/w timer, conflict monitor, and new concrete base poured; conduits installed with new power supply
 - New UPS cabinet c/w transfer switch, UPS inverter, batteries
 - APS installed and new traffic heads all directions on Versa brackets
 - New pushbutton post NWC including new conduit installed
 - Relocate ped pole SEC and new conduit installed
 - New power supply installed
 - Pedestrian heads relocated where required
 - Replacement of traffic heads and LED lights at various traffic signals throughout the County
 - Completion of Spring and Fall maintenance on all traffic signals and flashing beacons throughout the County.
- Completed design and installation of approximately 2,575 metres of steel beam guiderail on County Roads (3-Cable Guide rail will no longer be installed on County Roads because of changes to OPS and MTO standards, except for 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:
 - Completed first stage of implementation and construction of modifications to County Road 18 at the intersections of Danforth Road and Telephone Road in Hamilton Township, with the remainder to be completed in Spring 2023
 - Continued feasibility study for improvements to the County Road 2/10/74 intersection in Welcome based on the recommendations from the Intersection Safety Review completed in 2019 including an online public information centre held in April, 2022 to present options and gather feedback
- Reviewed and continued monitoring radar speed sign data from nine (9) permanent locations and four (4) portable units



- Continued with implementation of a County Wide Speeding Awareness Campaign jointly with member municipalities and Police Services. The campaign slogan was 'Slow Your Roll Northumberland' and included the following strategies:
 - Radio and Print ads
 - Roadside Signage
 - Website and Social Media
 - Digital pledge from residents to 'Slow their roll' and receive a window cling to install on their vehicle
- Prince Edward Street (County Road 64) at-grade crossing safety improvements
 - Successful in receiving funding from Transport Canada to complete detailed design and implement the at-grade crossing safety improvements (application submitted in summer 2019 in partnership with CNR, CPR and the Municipality of Brighton)
 - Completed a funding application to Transport Canada for communication and promotion of the at-grade crossing safety improvements and was successful in receiving funding
 - Completed detailed design for the at-grade crossing safety improvements and implemented improvements in coordination with CNR and CPR in late 2021
 - Implemented communication and promotion plan for the at-grade crossing safety improvements and general railway safety in coordination with Operation Lifesaver
 - Construction anticipated to be completed in late 2022 (CNR currently scheduled to complete signal work in late November and final commissioning thereafter)

Structure Rehabilitation and Maintenance:

- Completed the Dartford Bridge rehabilitation on County Road 24
- Completed detailed design, tender preparation, and approvals for the Hickerson Culvert Replacement on County Road 45 in Baltimore
- Completed the Municipal Class Schedule 'A' EA and detailed design for the rehabilitation of Braithwaite Bridge on County Road 24
- Initiated feasibility study and subsequent detailed design and tender preparation for the County Road 45 retaining wall in Baltimore
- Completed minor culvert rehabilitation on three large culverts
- Completed various minor repairs to various structures

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. Discussions with the developer were reinitiated in 2022 and the



County was working with the developer on updating the design, issuing approvals, and coordinating the timing of construction.

- Cycling Master Plan (CMP) Implementation
 - Continue with long term implementation goals
 - Continue to partner with the Town of Cobourg to find and apply to any available funding to continue the Multi-use trail on Elgin Street from William/Burnham Street to east of Ontario Street
 - Provide on-going support to Communications and Economic Development and Tourism Departments to promote cycling routes within the County
 - Partnered with the Town of Cobourg to design and install paved shoulders/bike lanes on Brook Road from King Street to Kerr Street Path
- Trent River Crossing (Campbellford Bridge) Implementation
 - Continued with detailed design for the new crossing as per the approved EA
 - Continued to review and respond to feedback received through the first Public Information Centre held in July 2020
 - On-going public and agency consultation
 - On-going completion of studies including Natural and Cultural Heritage Reports and Archeological Studies
 - Completion of 60% detailed design with anticipation to present to the public at second Public Information Centre in 2023
- Transportation Master Plan (TMP) Implementation
 - The economic impact study and business case for the extension of GO services to Northumberland County was completed in late 2021 and submitted to Metrolinx
 - In September 2022, the County launched a pilot regional bus transportation service connecting the communities of Northumberland through a partnership with Metrolinx, with GO transit services in Oshawa
 - Continued with feasibility/conceptual design study for the relocation of the EDR in Cramahe and Brighton anticipated to be complete in 2023
 - Initiated review and development of a Rural Intersection Street Light Policy with anticipated completion in 2023
 - On-going review and development of various policies including Sign Policy and ATV Policy

GIS/Asset Management:

- Continued implementation of GIS Cooperative strategic plan initiatives
 - On-going data collection, updates, and maintenance to County geodatabase



- Continued GIS support for County departments, including Public Works, 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, Cityworks
- Execution of and support for Esri Multi-jurisdictional Enterprise License Agreement, including the County and six (6) member municipalities.
- Provided year-round GIS services to the public and consultants
- Implemented GIS Municipal Services Agreements with four (4) local municipalities and provided ad-hoc services to remaining member municipalities, including integration with Asset Management software solutions
- Completed database upgrades to support hosting member municipalities data
- Developed Data Collection Story Map for circulation to municipal staff and Councils
- Continued to provide technical support to staff for the implementation and roll-out of Cityworks asset management software, including custom report development
- Approval of County Asset Management Plan for core assets on June 15, 2022, in accordance with O.Reg.588/17
- Continued asset data collection to improve asset register
- Completed review of the GIS/Asset Management Group including the managed service agreements with member municipalities through the Modernization Funding Program

Thriving & Inclusive Communities

All Divisions:

- Continued to consult public on various transportation related projects in 2022
- Continued to inform the public of upcoming construction dates, road closures, changes to area speed limits, etc. through the mobilization of the County's four (4) electronic message board signs
- Received and responded to public inquiries and complaints
- Continued to develop and foster relationships with member municipalities, Alderville First Nation, neighbouring municipalities and other organizations such as MTO, MECP, 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, Vegetation Management Advisory Committee, Northumberland GIS Cooperative etc.



- MCP participated in several shared services projects, in which both the County and member municipalities benefited

Leadership in Change

All Divisions:

- Completed staff training in the following areas for one or more staff members:
- Training:
 - OGRA Guelph Road School, TJ Mahoney Course
 - Health and Safety Training
 - LEAN White/Yellow Belt Training
 - Accessible Word & Powerpoint Document Training
 - eSCRIBE Training
 - Public Works Leadership Development (PWLD) Program Training
 - C.S. Anderson Road School, Municipal Road Design & Construction
 - Traffic Protection
 - Mental Health First Aid
 - Integrating Asset Management and Governance
 - Managing and Leading in a Municipal Environment
- Workshops/Seminars:
 - Municipal Class Environmental Assessment (MCEA) Amendments Update
 - NAMS+ Lifecycle Modelling and AM Maturity Assessments
 - AMCTO Asset Management Workshop
- Conferences:
 - Annual ROW Management Conference
 - Esri Virtual User Conference
- Implementation of the new Public Works Organizational Structure introduced in October 2021 and continued with departmental succession planning
- MCP Department continued to provide planning and design management, as well as construction and financial management for various projects involving numerous stakeholders benefiting numerous communities throughout the County
- MCP took a leadership role in sustainable buildings by seeking LEED Silver Certification in the Campbellford Emergency Services Base, Elgin Park Affordable Housing Redevelopment project, and the GPLNCAM redevelopment



2023 Service Objectives & Initiatives

Economic Prosperity & Innovation

Major Capital Projects:

- Continue to update the 10-year plan for MCP
- Continue to progress in the construction of the new GPL/NCAM.
- Continue construction of the Elgin Park Affordable Housing Redevelopment
- Continue the planning/design and preconstruction readiness of the 473 Ontario Street Affordable Housing Development
- Continue to analyze the feasibility of purchasing land for Housing or other corporate projects

Infrastructure:

- 10 Year Capital Program for Roads/Bridges
- Continue to review and provide permits and approvals for planning and development applications and municipal consents for utilities

GIS/Asset Management:

- Continue Asset Management (AM) Plan development to include all other assets before July 1, 2024 in accordance with O.Reg.588/17
- Continue to provide GIS services through both managed and non-managed service agreements to member municipalities

Sustainable Growth

Engineering Group 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. Furthermore, provide support through the planning, designing, developing and administration of large-scale construction projects and manage the County's GIS database and Asset Management software to assist with asset management planning and development for Northumberland County.

Major Capital Projects:

- Continue to progress in the construction of the new GPL/NCAM redevelopment
- Continue construction of the Elgin Park Affordable Housing Redevelopment



- Complete the design phase for the 473 Ontario Street Affordable Housing Development Project.
 - Application for building permit to be submitted to the Town of Cobourg to begin construction in early 2024
 - Completion of minor variance to add 2 additional units
 - Complete development application with Canadian Pacific Railway
- Continue to support all necessary due diligence studies for all potential affordable housing and building projects.

Infrastructure:

- Continue management of County issued permits
- Continue to review and approve utility municipal consents (MCs), permits and all planning and development applications as they relate to the County right-of-way (ROW)
- Continue to attend various pre-consultation and planning meetings with member municipalities and provide comments / feedback.
- In-house designs for drainage improvements on various County Roads
- Delivery of 2023 Capital Construction Program
- Continue to seek and apply for any applicable funding for County projects
- Continue to call joint tenders, RFP's/RFP'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

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 based on 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 member municipalities. The plan covers four main areas in Transportation: Pavement Rehabilitation and Maintenance, Traffic Safety Measures, Structure Rehabilitation and Maintenance and Service Expansion. In 2022, the Infrastructure 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:

- 2023 Proposed Paving Tender

Proposed Location	Length (Km)	Estimated (Cost)
County Road 25 - Cemetery North Entrance to Tobacco Road	6.10	\$2,850,000
County Rd 10 - 4th Line to Welcome North Limit	1.80	\$805,000
County Road 50 - 11th Line to Trent River Road	5.90	\$2,615,000
TOTAL (non-provisional)	13.8	\$6.27M

- Miscellaneous padding locations
- Continuing with EA and Detailed Design for the County Road 64 Integrated Renewal Project jointly with the Municipality of Brighton
- Detailed Design for the Welcome Intersection (County Road 2/10/74)
- Detailed Design for County Road 31 from Front Street to Jurisdictional Boundary with A/H
- 2023 Microsurfacing Tender (pavement preservation) for approximately 6 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 installation of UPS Battery Back-up and Audible Pedestrian Signals (APS) 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:
 - Continue with detailed design, tender preparation, and approvals for intersection improvements in Welcome at County Road 10/2/74 intersection based on the feasibility study recommendations
 - Continue to investigate and implement measures for Hamlet traffic calming
- Review and continue monitoring radar speed sign data and locations

Structure Rehabilitation and Maintenance:

- Replacement of Hickerson Culvert (45075) located on County Road 45 north of Baltimore
- Rehabilitation of Braithwaite Bridge (24018) located on County Road 24 in Alnwick/Halifax



- Rehabilitation or replacement of Baltimore Retaining Wall (000053) on County Road 45 in Baltimore
- Replacement of Thompson Bridge (99004) located on Skinkle Road in Trent Hills
- Completion of Municipal Class EA, detailed design and tender preparation for:
 - County Road 45 Retaining Wall in Roseneath (000051)
 - 428 Elgin Street Retaining Wall (000042) in Cobourg
 - Burnley Creek Bridge (025261) located on County Road 25 in Trent Hills
- Completion of design, tender and minor repairs/rehab to various bridges/culverts/retaining walls identified through OSIMs

Service Expansion:

- County Road 2 EA Implementation
 - County Road 2 – Continue to work with developer on Phase II from Rogers to Wilkins Gate and continue with planning and design for the remainder of Phase II from Wilkins Gate to New Amherst Boulevard.
- 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 on-going support to Communications and Economic Development and Tourism Departments to promote cycling routes within the County
 - 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 second Public Information Centre (PIC) to be held in 2023.
- Transportation Master Plan (TMP) Implementation
 - Continue with implementation of pilot regional bus transportation service connecting the communities of Northumberland through a partnership with Metrolinx, with GO transit services in Oshawa and monitor and analyze data to determine future of the service
 - Finalize the feasibility study for relocation of the EDR in Cramahe and Brighton
 - Complete final stage of construction of improvements to County Road 18/Telephone Road and County Road 18/Danforth Road intersections, as per the recommendations in the TMP as two of the high collision intersections in the County.
 - Finalize the Sign and ATV policies initiated in 2020 and continue to review and develop other policies identified in the TMP recommendations.



GIS/Asset Management:

- 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, Planning, 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, consultants and area municipalities through the permanent GIS Coordinator positions
 - On-going administration of the Esri Multi-jurisdictional Enterprise License Agreement, including the County and six (6) member municipalities.
 - On-going implementation of GIS Municipal Services Agreements with four (4) local municipalities and provide ad-hoc services to remaining member municipalities, including integration with Asset Management software solutions
 - Creation of Open Data Hub as per the County's Digital Strategy
- Continue to provide technical support for implementation and roll-out of Cityworks asset management software
- Continue development of the County Asset Management Plan to include all additional assets by July 1, 2024, as per O.Reg.588/17

Thriving & Inclusive Communities

All Divisions:

- Continue to consult public on various engineering related projects in 2023
- Receive and respond to public inquiries and complaints related to engineering services
- Continue to maintain and develop working relationships with member municipalities, Alderville First Nation, neighbouring municipalities, and other organizations such as MTO, MECP, 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, Northumberland GIS Cooperative etc.
- MCP will continue to work closely with the County's Social Services department and our stakeholders in the design phase of the 473 Ontario Street Affordable Housing



Development, the construction of the Elgin Park Affordable Housing Redevelopment, and all other potential affordable housing or other corporate projects

- Continue to have open communication with the GPL community, neighbours, staff, residents, and residents' families as the project progresses through webpages, newsletters and social media regarding the construction progress of the GPLNCAM redevelopment
- Continue to work with Ontario Aboriginal Housing Services, Habitat for Humanity Northumberland, Northumberland County Housing Corporation for Affordable Housing developments

Leadership in Change

All Divisions:

- Complete staff training in various areas for staff members
- Continue with implementation of new Public Works Organization Structure and departmental succession planning
- On-going research and staff training on sustainable building processes including the anticipated first Net Zero Energy and Zero Carbon Building at the 473 Ontario Street Affordable Housing Development Project

Long Term Plan & Strategic Objectives

Economic Prosperity & Innovation

Major Capital Projects:

- MCP will continue to update the 10-year plan to plan and forecast required resources to complete the projects

Infrastructure:

- 10 Year Capital Program for Roads/Bridges
- Review and approvals for planning and development applications and utilities within the County ROW

GIS/Asset Management:



- Asset Management (AM) Policy and Plan development and review in accordance with O.Reg.588/17
- Continue to provide GIS services to member municipalities through both managed and non-managed service agreements

Sustainable Growth

Major Capital Projects:

- Work with Community and Social Services, NCHC, and Facilities on a plan to increase County Housing Stock to required levels
- Work with Northumberland Paramedics on plans for new bases
- Continue to work on the GPLNCAM redevelopment project, anticipating completion of Phase 1 (resident move-in) in Summer 2024, followed by Phase 2 (demolition of existing GPL) and Phase 3 (Site works and development of GPLNCAM campus) anticipated to be completed at the end of 2024
- Complete Phase 1 of the Elgin Park Affordable Housing Redevelopment construction
- Complete the Design phase on the 473 Ontario Street Affordable Housing Development Project

Infrastructure:

- On-going budgetary pressures to meet needs identified in the County's Asset Management Plan
- Anticipate funding for the 2023 construction program through gas tax funding
- Use a portion of the 2019 and 2021 one time top up gas tax funding to advance future year projects in the Capital budget to 2022 and 2023
- Use of development charges applicable to roads, structures and storm sewer
- Investigate and apply for any other funding opportunities that arise in 2023 and beyond
- Use 2023 OCIF formula-based funding to fund the 2023 base levy increase of \$500,000 for the overall base capital construction program with the remaining OCIF funding to be allocated to the Campbellford Bridge Reserve
- In 2023, staff will develop a financial strategy tied to the Asset Management Plan for annual increases for capital and operating and maintenance of County assets as the rate of deterioration of infrastructure will increase without stable base funding
- With the recent and anticipated retirement of several senior level Public Works staff, and on-going challenges in recruitment and retention of 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 2020, 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 2020 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 as well as various other provincial funding sources such as the Ontario Community Infrastructure Fund (OCIF) through both formula and application-based funding from 2014 to present and this has contributed to improving the percentage of system adequacy over the years. 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 54% which is a decrease from the 2018 adequacy of 63%. However, this percentage reflects a shift in some of the adequate roads to fair (6-10 year) roads and aligns with the increase in pavement preservation to target road in the 6-10 year range and increase the life expectancy. There has also been a substantial reduction in ‘Now rehabilitate’ roads from 17% in 2014 to 5% in 2020 as these road sections have been priority in the capital plan over the past 5 years, which reduces high maintenance and operations costs and puts this category close to what should be targeted to reduce maintenance costs while still achieving full life expectancy.

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, the overall budget does not meet the needs for road, bridge and storm sewer rehabilitation, operations and maintenance, nor the needs in other areas for safety improvements and service expansion as a result of growth and approved Environmental Assessments and the County’s first Transportation Master Plan. The County’s approved Asset Management (AM) Plan for core assets (roads, structures and storm sewer) identifies the necessary funding required to provide services is \$29M on average per year over the 10-year planning period. The anticipated planned budget for core assets leaves a shortfall of \$9.2M on average per year. These needs are outlined in further detail in the AM Plan and the Transportation Funding Issue paper, with the intention to focus on these areas in the next ten years.



See the summary Chart 1 of 2020 PCI Road Needs – System Adequacy



2020 PCI Road's Needs – System Adequacy

	PCI Rating	2003 KM	%	2006 KM	%	2008 KM	%	2010 KM	%	2012 KM	%	2014 KM	%	2016 KM	%	2018 KM	%	2020 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%	266.7	54%
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%	127.2	26%
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%	76.3	15%
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%	24.9	5%



GIS/Asset Management:

- Continue implementation of GIS Cooperative strategic plan initiatives
- Continue to collect additional data, enhance and expand the County's geodatabase and web applications, to improve overall quality and quantity of data
- Continue to provide technical support for implementation and roll-out of Cityworks asset management software expansion to other areas within the County
- Continue development of the County Asset Management Plan to include all additional assets by July 1, 2024, as per O.Reg.588/17 and working on the improvements identified in the improvement plan section of the report

Thriving & Inclusive Communities

All Divisions:

- Continue to develop and provide public consultation and communication on projects and initiatives using various methods including Join In Northumberland
- Receive and respond to public inquiries and complaints related to engineering, MCP, and GIS/AM 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, MECP, 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, etc.
- Continue to develop projects with our member municipalities through shared services, and to work with various County departments on long term building plans. i.e. Social Housing, Transportation, Paramedics and Forestry

Leadership in Change

All Divisions:

- Complete staff training in various areas for staff members
- Continue with implementation of new Public Works Organizational structure and departmental succession planning
- MCP to continue to research and consider new sustainable building methods such as LEED, Passive House, Zero Carbon Building, Construction management at risk and other project delivery methods for current and future projects



- Continue planning and development of new infrastructure projects for the County, as well as shared services with member municipalities and internal and external stakeholder groups

Type of Project	Location	2023 Capital Plan		Road Section	Municipality	Length (km)	Estimated Cost
1. Pavement Rehabilitation & Maintenance	County Road 25 - Cemetery North Entrance to Tobacco Road (Pulv. + 100mm Asph., Cross Culvs. in Section 3)	025119/025139/025162			Cramahe	6.10	\$ 2,850,000
	County Rd 10 - 4th Line to Welcome North Limit (Pulv + 100mm Asph.)		10000/074000		Port Hope	1.80	\$ 805,000
	County Road 50 - 11th Line to Trent River Road (Pulv. + 100mm Asph., Cross Culvs. in Section 3)	050077/050097/			Trent Hills	5.90	\$ 2,615,000
						13.80	
	County Road 64 - Main Street to Stoney Point Road (Design and Future Construction)	064000/064017/064043			Brighton	7.00	\$ 1,200,000
	Welcome Intersection (Detailed Design)				Port Hope		\$ 100,000
	County Road 31 Detailed Design - Front Street to Jurisdictional Boundary with A/H (Detailed Design)				Cramahe & A/H	1.00	\$ 90,000
	Miscellaneous Padding						\$ 100,000
	Crack Sealing						\$ 100,000
	Design/Geotech/Material Testing/Professional Services						\$ 100,000
	Pavement Preservation						
	Annual Allowance						\$ 500,000
							\$ 8,460,000
2. Traffic Safety Measures	Traffic Control Signals and Streetlights						\$ 100,000
	Guiderail Replacement/Safety Improvements						\$ 200,000
	Intersection Improvement Program						\$ 100,000
							\$ 400,000
3. Structures	Bridge Rehabilitation - Tender						
Rehabilitation & Maint. For	Braithwaite Bridge (24018) - Rehabilitation	\$ 1,200,000					
Bridges, Culverts & Retaining Walls	Hickerson Culvert (45075) - Replacement	\$ 140,000					
	Burnley Creek Bridge (25261) - Design	\$ 75,000					
	County Road 25 Cross Culvert Replacements/Repairs	\$ 160,000					
	County Road 50 Minor Cross Culvert Replacements/Repairs	\$ 90,000					
	Baltimore Retaining Wall (000053) - Replacement w/ Sheet	\$ 860,000					
	County Road 45 Roseneath Retaining Wall (000051) - Design	\$ 20,000					
	428 Elgin Street Retaining Wall (000042) - Design	\$ 40,000					
	Thompson Bridge Replacement	\$ 2,380,000					
		\$ 4,965,000.00					\$ 4,965,000
	Bridge Reserve (future new bridges or major rehabilitation)						\$ 50,000
	Trent River Crossing & Arterial Road Network - Design/rehabilitation/construction						\$ 100,000
	Bridge Inspections (OSIM), structural evaluations, detailed deck conditions surveys						\$ 55,000
	Bridge/Culvert Maintenance						\$ 100,000
	Bridge - Time & Material Repairs						\$ 20,000
							\$ 5,290,000

*Chart continues on the following page.



Type of Project	Location	2023 Capital Plan		Road Section	Municipality	Length (km)	Estimated Cost
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
	Regional Transit/Joint with Metrolinx						\$ 250,000
	Trent River Bridge Crossing (Campbellford) - detailed design, additional studies, property acquisition, etc.						\$ 902,707
	Locates (On1Call, Promark)						\$ 30,000
	Development Charge Supported						
	County Road 2 EA - Additional Studies (Waterfront Trail EA, Detailed Design, etc.)	DC #4					\$ 50,000
	County Road 2 EA - Phase II-b - Rogers Road to Lovshin/New Amherst Widening - Storm	DC #5					\$ 200,000
	Elgin Street Widening - D'Arcy Street to Brook Road North (MCEA and Prelim Design)	DC #7					\$ 123,000
	Elgin Street Widening - D'Arcy Street to Brook Road North (Cobourg Trails Phase 1 Works)	DC #7					\$ 350,000
	Elgin Street & D'Arcy Street Intersection Improvements (MCEA and Prelim Design)	DC #10					\$ 5,000
	Elgin Street & Brook Road Intersection Improvements (MCEA and Prelim Design)	DC #11					\$ 5,000
	Brook Road Widening - South of Brook Road (MCEA and Prelim Design)	DC #8 (North Portion)					\$ 50,000
							\$ 2,190,707
						TOTAL ESTIMATE FOR 2023	\$ 16,340,707
							AVAILABLE FUNDING
Notes:						Base	\$ 8,360,095
1. Class 3 estimates; subject to final tender results						Gas Tax	\$ 2,816,405
2. Subject to Council budget approval						Gas Tax (2021 top-up)	\$ 2,594,678
3. 2023 Base levy increase funded through 2023 OCIF funding and remaining OCIF funding allocated to Campbellford Bridge Reserve						Remaining 2022 OCIF	\$ 498,848
						Transfer From Winter Operations	\$ 100,000
						Development Charge Funding	\$ 672,452
						2023 OCIF Formula Funding (assumed)	\$ 1,302,707
						Long Term Capital Plan Increase	\$ -
TOTAL FUNDS SAVED for Trent River Bridge Crossing in 2023			\$1,002,707				
						Total	\$ 16,345,185

Type of Project	Location	2024 Capital Plan		Road Section	Municipality	Length (km)	Estimated Cost
1. Pavement Rehabilitation and Maintenance	County Road 64 - Harbour Street to Stoney Point Road (Phase 1 Rural Construction)		064000/064017/064043		Brighton	4.90	\$ 2,020,000
	Welcome Intersection Improvements				Port Hope	0.95	\$ 2,870,000
	County Road 2 - Hwy 401 Overpass to Limit of Intersection Works		102096		Port Hope	1.10	\$ 495,000
						6.95	
	County Road 31 - Front Street to Jurisdictional Boundary with A/H (Utility Relocation and Future Construction)				Cramahe & A/H	1.00	\$ 492,000
	County Road 64 - Harbour Street to Stoney Point Road (Phase 2 Utility Relocation and Future Construction)				Brighton	1.80	\$ 1,500,000
	Miscellaneous Padding						\$ 100,000
	Crack Sealing						\$ 100,000
	Design/Geotech/Material Testing/Professional Services						\$ 100,000
	Pavement Preservation						
	Annual Allowance						\$ 800,000
							\$ 8,477,000
2. Traffic Safety Measures	Traffic Control Signals and Streetlights						\$ 100,000
	Guardrail Replacement/Safety Improvements						\$ 200,000
	Intersection Improvement Program						\$ 100,000
							\$ 400,000
3. Structures	Bridge Rehabilitation - Tender						
	Rehabilitation & Maint. For	Burnley Creek Bridge (25261) - Rehabilitation	\$ 800,000.00				
	Bridges, Culverts &	County Road 45 Roseneath Retaining Wall (000051) - replace	\$ 100,000.00				
	& Retaining Walls	428 Elgin Street Retaining Wall (000042) - rehabilitation	\$ 150,000.00				
		Burnley Bridge (29080) - Design and Tender	\$ 75,000.00				
		45111 Culvert (45111) - Design and Tender	\$ 50,000.00				
		Lot 16 Concession 9 Culvert (25213) - Replacement	\$ 700,000.00				
			\$ 1,875,000.00				\$ 1,875,000
	Bridge Reserve (future new bridges or major rehabilitation)						\$ 50,000
	Trent River Crossing & Arterial Road Network - Design/rehabilitation/construction						\$ 200,000
	Bridge Inspections (OSIM), structural evaluations, detailed deck conditions surveys						\$ 70,000
	Bridge/Culvert Maintenance						\$ 180,000
	Bridge - Time & Material Repairs						\$ 20,000
							\$ 2,395,000

*Chart continues on the following page.



Type of Project	Location	2024 Capital Plan		Road Section	Municipality	Length (km)	Estimated Cost
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.						\$ 807,301
	Locates (On1Call, Promark)						\$ 30,000
	Development Charge Supported						
	County Road 2 EA - Additional Studies (Waterfront Trail EA, Detailed Design, etc.)	DC #4					\$ 50,000
	County Road 2 EA - Phase II-b - Rogers Road to Lovshin/New Amherst Widening - Year 1	DC #5					\$ 1,300,000
	Elgin Street Widening - D'Arcy Street to Brook Road North (Detailed Design)	DC #7					\$ 205,375
	Elgin Street & D'Arcy Street Intersection Improvements (Detailed Design)	DC #10					\$ 30,000
	Elgin Street & Brook Road Intersection Improvements (Detailed Design)	DC #11					\$ 30,000
	Brook Road Widening - South of Brook Road (Detailed Design)	DC#8 (North Portion)					\$ -
							\$ 2,677,676
						TOTAL ESTIMATE FOR 2024	\$ 13,949,676
							AVAILABLE FUNDING
Notes:						Base	\$ 8,360,095
1. Class 3 estimates; subject to final tender results						Gas Tax	\$ 2,364,412
2. Subject to Council budget approval						Development Charge Funding	\$ 1,528,692
3. 2023 Base levy increase funded through 2023 OCIF funding and remaining OCIF funding allocated to Campbellford Bridge Reserve						Transfer From Winter Operations	\$ 100,000
						2024 OCIF Formula Funding (assumed)	\$ 1,107,301
						Long Term Capital Plan Increase	\$ 500,000
TOTAL FUNDS SAVED for Trent River Bridge Crossing in 2024		\$1,007,301					
						Total	\$ 13,960,500
Total Funds for County Road 2 EA in 2024						Variance	\$10,824

Type of Project	Location	2025 Capital Plan		Road Section	Municipality	Length (km)	Estimated Cost	
1. Pavement Rehabilitation and Maintenance	County Road 64 (Prince Edward Street) - Main Street to Harbour Street (Phase 2 Urban Construction)				Brighton	1.80	\$ 5,630,000.00	
	County Road 31 - Front Street to Jurisdictional Boundary with A/H (Construction - Road Urbanization & Storm Sewer)				Cramahe & A/H	1.00	\$ 1,144,900.00	
						2.80		
	County Road 23 and County Road 2 - In Grafton Urban Area (Design)						\$ 70,000.00	
	County Road 2A - Hastings Village West Limit to Bridge Street North in Hasting Urban Area (Design)						\$ 60,000.00	
	Miscellaneous Padding						\$ 100,000.00	
	Crack Sealing						\$ 100,000.00	
	Design/Geotech/Material Testing/Professional Services						\$ 100,000.00	
	Pavement Preservation							
	Annual Allowance						\$ 850,000.00	
							\$ 8,054,900.00	
2. Traffic Safety Measures	Traffic Control Signals and Streetlights						\$ 200,000.00	
	Guiderail Replacement/Safety Improvements						\$ 200,000.00	
	Intersection Improvement Program						\$ 100,000.00	
							\$ 500,000.00	
3. Structures	Bridge Rehabilitation - Tender							
	Rehabilitation & Maint. For Bridges, Culverts & Retaining Walls	Burnley Bridge (29080) - Replacement		\$ 1,400,000.00				
		45111 Culvert (45111) - Replacement		\$ 800,000.00				
		25168 Culvert (25168) - Design and Tender		\$ 75,000.00				
		Killoran Creek Culvert (25391) - Design and Tender		\$ 75,000.00				
		Ganaraska Culvert (009076) - Design and Tender		\$ 50,000.00				
				\$ 2,400,000.00				\$ 2,400,000.00
	Bridge Reserve (future new bridges or major rehabilitation)						\$ 100,000.00	
	Trent River Crossing & Arterial Road Network - Design/rehabilitation/construction - Year 1 construction						\$ 200,000.00	
	Bridge Inspections (OSIM), structural evaluations, detailed deck conditions surveys						\$ 45,000.00	
	Bridge/Culvert Maintenance						\$ 100,000.00	
	Bridge - Time & Material Repairs						\$ 50,000.00	
								\$ 2,895,000.00

*Chart continues on the following page.



Type of Project	Location	2025 Capital Plan		Road Section	Municipality	Length (km)	Estimated Cost
4. Service Expansion	GIS						\$ 75,000.00
	Cycling Master Plan- Implementation						\$ 50,000.00
	Transportation Service Improvement needs indentified by Transportation Master Plan or other EA Processes						\$ 100,000.00
	Trent River Bridge Crossing (Campbellford) - detailed design, additional studies, property acquisition, etc.						\$ 641,206.13
	Locates (On1Call, Promark)						\$ 30,000.00
	Elgin and Brook Road widening (pending future developments)						\$ -
	Development Charge Supported						
	County Road 2 EA - Additional Studies (Waterfront Trail EA, Detailed Design, etc.)	DC #4					\$ 100,000.00
	County Road 2 EA - Phase II-b - Rogers Road to Lovshin/New Amherst Widening - Year 2	DC #5					\$ 1,800,000.00
	Elgin Street Widening - D'Arcy Street to Brook Road North (Utility Relocation)	DC #7					\$ 432,400.00
	Elgin Street & D'Arcy Street Intersection Improvements (Construction)	DC #10					\$ 565,000.00
	Elgin Street & Brook Road Intersection Improvements (Detailed Design)	DC #11					\$ 30,000.00
	Brook Road Widening - South of Brook Road (Detailed Design)	DC #8 (North Portion)					\$ -
							\$3,823,606
						TOTAL ESTIMATE FOR 2025	\$15,273,506
Notes:							AVAILABLE FUNDING
1. Class 3 estimates; subject to final tender results						Base	\$ 8,860,095
2. Subject to Council budget approval						Gas Tax	\$ 2,364,412
3. 2023 Base levy increase funded through 2023 OCIF funding and remaining OCIF funding allocated to Campbellford Bridge Reserve						Development Charge Funding	\$ 2,517,085
						Transfer From Winter Operations	\$ 100,000
						2025 OCIF Formula Funding (assumed)	\$ 941,206
						Long Term Capital Plan Increase	\$ 500,000
TOTAL FUNDS SAVED for Trent River Bridge Crossing in 2025		\$841,206					
Notes:						Total	\$ 15,282,799
1. Class 3 estimates; subject to final tender results						Variance	\$9,292

2026 Capital Plan				Road Section	Municipality	Length (km)	Estimated Cost
1. Pavement Rehabilitation and Maintenance	County Road 23 and County Road 2 - In Grafton Urban Area			023000/102378	Inwick/Haldimand	0.70	\$ 1,850,000
	County Road 2A - Hastings Village West Limit to Bridge Street North in Hasting Urban Area			002000/002005	Trent Hills	0.50	\$ 1,540,000
	County Road 25 - Structure 025104 to Cemetery North Entrance (Urban, grind and pave) and County Road 22 from FF18			025106/022136	Cramahe	1.70	\$ 1,020,000
	County Road 41 - County Road 30 to County Road 26 (Pulverize and Pave 100mm)			041000/041017	Brighton	4.00	\$ 1,800,000
	County Road 30 - FF6378 to County Road 35			30332	Trent Hills	1.30	\$650,000
						8.20	
	Misc Padding						\$ 100,000
	Crack Sealing						\$ 75,000
	Design/Geotech/Material Testing/Professional Services for 2026/2027 Program						\$ 75,000
	Pavement Preservation						
	Annual Allowance						\$ 900,000
							\$ 8,010,000
2. Traffic Safety Measures	Traffic Control Signals and Streetlights						\$ 100,000
	Guardrail Replacement/Safety Improvements						\$ 200,000
	Intersection Improvement Program						\$ 100,000
							\$ 400,000
3. Structures	Bridge Rehabilitation - Tender						
	Rehabilitation & Maint. For Bridges, Culverts & Retaining Walls	Ganaraska Culvert (009076) - Replacement	\$ 1,000,000.00				
		25168 Culvert (25168) - replacement	\$ 600,000.00				
		Killoran Creek Culvert (25391) - replacement	\$ 1,100,000.00				
		Pratt's Mill Bridge (20008) - design and tender	\$ 75,000.00				
		Lot 16 Con 7/8 culvert (009106) - design and tender	\$ 50,000.00				
		Canton Retaining Wall (000033) - design and tender	\$ 30,000.00				
			\$ 2,855,000.00				\$ 2,855,000
	Bridge Reserve (future new bridges or major rehabilitation)						\$ 100,000
	Trent River Crossing & Arterial Road Network - Design/rehabilitation/construction - Year 2 Construction						\$ 200,000
	Bridge Inspections (OSIM), structural evaluations, detailed deck conditions surveys						\$ 65,000
	Bridge/Culvert Maintenance						\$ 200,000
	Bridge - Time & Material Repairs						\$ 50,000
							\$ 3,470,000

*Chart continues on the following page.



Type of Project	Location	2026 Capital Plan		Road Section	Municipality	Length (km)	Estimated Cost
4. Service Expansion	GIS						\$ 75,000
	Cycling Master Plan- Implementation						\$ 55,000
	Transportation Service Improvement needs indentified by Transportation Master Plan or other EA Processes						\$ 50,000
	Trent River Bridge Crossing (Campbellford) - detailed design, additional studies, property acquisition, etc.						\$ 500,025
	Locates (On1Call, Promark)						\$ 30,000
	Development Charge Supported						
	County Road 2 EA - Additional Studies (Waterfront Trail EA, Detailed Design, etc.)	DC #4					\$ 50,000
	County Road 2 EA - Phase II-b - Rogers Road to Lovshin/New Amherst Widening - Year 2	DC #5					\$ -
	Elgin Street Widening - D'Arcy Street to Brook Road North (4-Lane Widening)	DC #7					\$ 3,346,500
	Elgin Street & D'Arcy Street Intersection Improvements (Construction)	DC #10					\$ -
	Elgin Street & Brook Road Intersection Improvements (Construction)	DC #11					\$ 565,000
	Brook Road Widening - Future Kerr Street to Elgin Street (MCEA & Prelim Design)	DC #8					\$ 226,750
							\$ 4,898,275
						TOTAL ESTIMATE FOR 2026	\$16,778,275
							AVAILABLE FUNDING
						Base	\$ 9,360,095
						Gas Tax	\$ 2,364,412
						Develoment Charge Funding	\$ 3,658,022
						Transfer From Winter Operations	\$ 100,000
						2026 OCIF Formula Funding (assumed)	\$ 800,025
						Long Term Capital Plan Increase	\$ 500,000
TOTAL FUNDS SAVED for Trent River Bridge Crossing in 2026			\$700,025				
						Total	\$ 16,782,554
Total Funds for County Road 2 EA in 2026						Variance	\$4,279

Type of Project	Location	2027 Capital Plan		Road Section	Municipality	Length (km)	Estimated Cost
1. Pavement Rehabilitation and Maintenance	County Road 20 - County Road 18/Burnham Street to Ontario Street			020000	Cobourg	0.73	\$ 1,400,000
	County Road 26 - County Road 30 to Telephone Road			260000	Brighton	2.30	\$ 950,000
	County Road 18 - County Road 15 to Corkery Road			18225	Hamilton	1.80	\$ 750,000
	County Road 50 - Bridge Street to Trent Severn Lock No. 13			50000	Trent Hills	1.80	\$ 750,000
	County Road 28 - County Road 9 to County North Boundary		128119/128140/128161		Hamilton/Port Hope	5.50	\$ 2,750,000
	County Road 23 - Pete's Road to County Road 22			023091/023108	Inwick/Haldimand	2.00	\$ 1,000,000
	County Road 30 - FF 527 to Taylor Lane (Urban, grind and pave)			030295	Trent Hills	1.00	\$ 700,000
						15.13	
	Misc Padding						\$ 200,000
	Crack Sealing						\$ 200,000
	Design/Geotech/Material Testing/Professional Services for 2026/2027 Program						\$ 100,000
	<u>Pavement Preservation</u>						
	Annual Allowance						\$ 830,000
							\$ 9,630,000
2. Traffic Safety Measures	Traffic Control Signals and Streetlights						\$ 200,000
	Guardrail Replacement/Safety Improvements						\$ 300,000
	Intersection Improvement Program						\$ 300,000
							\$ 800,000
3. Structures	Bridge Rehabilitation - Tender						
	Rehabilitation & Maint. For	Lot 16 Con 7/8 culvert (009106) - replacement	\$ 900,000				
	Bridges, Culverts &	Canton Retaining Wall (000033) - rehabilitation	\$ 300,000				
	& Retaining Walls	Baltimore Bridge (074118) - design and tender	\$ 100,000				
		Cold Creek Bridge (130118) - design and tender	\$ 100,000				
		Black's Bridge (10114) - design and tender	\$ 100,000				
			\$ 1,500,000				\$ 1,500,000
	Bridge Reserve (future new bridges or major rehabilitation)						\$ 200,000
	Trent River Crossing & Arterial Road Network - Design/rehabilitation/construction - Year 3 Construction						\$ 700,000
	Bridge Inspections (OSIM), structural evaluations, detailed deck conditions surveys						\$ 50,000
	Bridge/Culvert Maintenance						\$ 300,000
	Bridge - Time & Material Repairs						\$ 50,000
							\$ 2,800,000

*Chart continues on the following page.



Type of Project	Location	2027 Capital Plan		Road Section	Municipality	Length (km)	Estimated Cost
4. Service Expansion	GIS						\$ 75,000
	Cycling Master Plan- Implementation						\$ 40,000
	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.						\$ 380,021
	Locates (On1Call, Promark)						\$ 30,000
	Development Charge Supported						
	County Road 2 EA - Additional Studies (Waterfront Trail EA, Detailed Design, etc.)	DC #4					\$ 500,000
	Brook Road Widening - Future Kerr Street to Elgin Street (Detailed Design)	DC #8					\$ 461,250
							\$ 725,021
TOTAL ESTIMATE FOR 2027							\$ 13,955,021
							AVAILABLE FUNDING
							Base \$ 9,860,095
							Gas Tax \$ 2,364,412
							Development Charge Funding \$ 456,517
							Transfer From Winter Operations \$ 100,000
							2027 OCIF Formula Funding (assumed) \$ 680,021
							Long Term Capital Plan Increase \$ 500,000
TOTAL FUNDS SAVED for Trent River Bridge Crossing in 2027				\$1,080,021			
							Total \$ 13,961,045
Total Funds for County Road 2 EA in 2027							Variance \$6,024

2023 Issue Paper

Transportation Infrastructure 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. Since 2002, County Council has approved incremental annual increases to the Capital roads budget to narrow the gap between the existing funding and the sustainable target level. Over the years, the target has been updated taking into consideration the current state of infrastructure, recommendations from completed Environmental Assessments (EA's) and Master Plans, as well as the increasing costs of construction and inflation, resulting in an increase to the overall need. Most recently, the need has been updated based on the County's updated Asset Management Plan for core assets (roads, bridges, culverts over 3 metre span and storm sewer). Based on this update, the revised desired budget level to sustain the transportation infrastructure is \$26.6 million (annually). The current proposed roads budget for 2023 is \$12.6 million (excluding carry-over funding for 2021 gas tax top-up and 2022 OCIF Formula Funding, and development charge funding), which is \$14 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.

This issue paper typically represents a \$500,000 increase to the 2023 base budget (levy) for road infrastructure (road rehabilitation and maintenance, structure rehabilitation and maintenance, storm sewer rehabilitation and maintenance, traffic safety measures, and service expansion). However, with the recently announced 2023 OCIF formula funding in the amount of approximately \$1.3 million, the increase will be funded using OCIF for 2023. With the adoption of the new Asset Management Plan for core assets in 2022, it is proposed to develop a funding strategy in collaboration with the Finance Department for future infrastructure funding to be brought forward to Council in 2023.

Background

The County of Northumberland has an inventory of 133 structures (45 major bridges, 68 culverts of span greater than 3.0 meters, and 20 retaining walls) on 498 kilometers of arterial roadways. In addition, there are 1184 storm structures and 32.5 km of storm main and numerous traffic safety devices (traffic signals, streetlights, signage, guiderails, etc.)



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). With the current budget, resurfacing of each section can be completed every 29 years and minimal preservation activities are completed (i.e., microsurfacing, cracking sealing). County roads carry higher traffic volumes and a greater percentage of truck traffic than local roads and over an approximate 45 year life cycle, require resurfacing, multiple applications of microsurfacing and crack sealing to reach the end of its lifecycle when the road is reconstructed.

Further, the limited base budget did not address the other roads related needs, such as structure rehabilitation and maintenance, storm sewer rehabilitation and maintenance, traffic safety measures, or service expansion.

Generally, the expected lifespan of a structure (bridge/culvert) can range from 50 to 75 years. The age of the County's bridges range from 12 to 99 years old (built between 1922 and 2010), with 92% of the bridges aged 35 years or older as of 2021. 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. Prior to 2003, there was not a base budget for structure rehabilitation and maintenance and these activities remain generally underfunded. Rehabilitation or replacement of 1-2 structures should be taking place annually to ensure completion in a timely and cost effective manner and meet the desired Level of Service (LOS).

During the 2002 budget process, a multi-year strategy was adopted 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. A base budget for structure rehabilitation and maintenance was established in 2004 and beginning in 2008, the bridge maintenance levy was further increased by \$100,000 annually.

Consultation/Options

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

- Road Rehabilitation and Maintenance
- Structure Rehabilitation and Maintenance
- Storm Sewer Rehabilitation and Maintenance
- Traffic Safety Measures (traffic signals and street lights, guiderails, road/intersection safety improvements)



- Service Expansion (road widening, turning lanes, bike paths, new structures, etc.)

Based on the approved Asset Management (AM) Plan for core assets (roads, structures and storm sewer) and standard asset management principles, the annual budget required to keep these components of the road infrastructure in good repair are outlined as follows.

Road Rehabilitation and Maintenance

Research and statistical evidence support 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 maintains 498km of roadways that 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 outlined in the County's approved Asset Management (AM) Plan, our current lifecycle approach and Level of Service (LOS) target for County roads with a HMA surface is based on a 45-year lifecycle which includes resurfacing at approximately year 23 and full reconstruction at year 45. In addition, several maintenance activities should take place throughout this lifecycle, including microsurfacing at approximately year 10 and 33 and crack sealing at approximately year 6, 16, 29 and 39. Current funding levels do not meet this LOS and resurfacing is taking place at a rate of every 29 years with minimal maintenance activities to preserve the lifespan (i.e. microsurfacing and crack sealing).

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 it 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. The annual need in the AM Plan does not include the conversion of 50% of surface treated roads to HMA to meet this LOS. The associated cost of this will be examined and addressed in future revisions of the AM Plan.

The County should be investing **\$15.1M** annually into roads rehabilitation and maintenance activities in order to meet the desired lifecycle approach as per the County's AMP.



The proposed 2023 budget includes the following road rehabilitation:

- Approximately 20 km of surface treated roads;
- 13.8 km of paved rural roads (and funding for Phase 1 of the 7.0 km County Road 64 reconstruction project which is proposed over 3 years from 2022 to 2024);
- Approximately 15 km of pavement preservation; and
- Approximately 100,000 m of crack sealing.

The cost to complete the proposed 2023 road rehabilitation program is estimated at **\$8.46** million.

Structure Rehabilitation and Maintenance

The County has 113 bridges and major culverts and 20 retaining walls that require ongoing repairs, maintenance, rehabilitation, and occasional replacement. Inspections on the County's structures are completed biennially in accordance with the Ontario Structures Inspection Manual (OSIM), identifying the urgent, 1-5 year, and 6–10-year structure needs.

Prior to 2003, there was not a base budget to address structure rehabilitation and maintenance. As part of the 2004 budget process, County Council established a base budget of \$450,000 per year for structure work. However, annual maintenance, repairs and rehabilitation remain generally underfunded in the current budget.

Based on the needs identified through the OSIM inspections and the LOS outlined in the AM Plan, approximately **\$3.3M** should be invested in structure maintenance and rehabilitation annually. This would allow for all identified minor repair work, required code compliant upgrades and major rehabilitation and replacements to take place. Each year, the needs for required improvements are compounded since each year the County's budget is insufficient in covering the costs of these immediate needs and increasing cost of inflation which created a backlog of structures in need of improvements.

The proposed 2023 budget allows for **\$5.29M** for detailed bridge condition studies, engineering design, rehabilitation and repairs and inspections. This includes the following works:

- Braithwaite bridge rehabilitation
- Thompson Bridge and Hickerson culvert replacement
- Cross culvert replacement/repairs
- Baltimore retaining wall replacement

Storm Sewer Rehabilitation and Maintenance



The County owns and maintains a network of storm sewer that consists of 1184 storm structures (catch basins, inlets/outlets and manholes) and 32.5km of pipe. Historically, the storm sewer network has been inspected on an as required basis and during the design phase of road rehabilitation projects. Similarly, minor repairs and rehabilitation have been completed in a reactive manner based on complaints, road patrol inspections and/or as part of road rehabilitation projects. Through the development of the AM Plan, it was determined that **\$1.1M** should be allocated to storm sewer maintenance and rehabilitation works to meet the desired LOS and meet the required needs to extend services lives and reduce lifecycle costs.

The proposed 2023 budget does not have any budget allocation for storm sewer works.

Overall, the County should be investing **\$19.5M** in maintenance and rehabilitation works for roads, structures, and storm sewer network to meet the expected LOS as outlined in the AM Plan and effectively sustain infrastructure through their lifecycle. The proposed 2023 budget represents a shortfall of **\$5.75M**.

Traffic Safety Measures

Traffic safety measures include upgrades and maintenance on our roadside safety devices, traffic 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. These assets will be further evaluated and included in the next update of the County's AMP by July 1, 2024.

Guiderail

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.



To comply with the new standards, all post and cable will be replaced with steel beam guiderail. The total estimated cost to replace the existing 3-cable guiderail (50km +/-) with steel beam is \$12,750,000.00. To replace the guiderail over a 20 year period would result in replacement of approximately 3 km per year at a cost of \$765,000.

Additionally, there are several known locations that require an extension of the guiderail or guiderail to be installed where there hasn't been one previously, to further protect the residents and visitors of Northumberland. It is estimated that approximately 30% of existing guiderails need to be extended and the total number of locations with guiderail would increase by 25%, representing an additional cost of \$421,000 per year.

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 at several locations however, there are eight (8) remaining locations left to be upgraded.

Similarly, the County has completed UPS battery backup installation at nine (9) signaled intersections and there are six (6) remaining locations.

Other required upgrades/repairs and replacements include loop replacements/conversion to auto detection, traffic head and pedestrian head upgrades, cabinet replacements, etc. at various locations. 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



There is an increasing requirement to integrate safety upgrades into pavement rehabilitation projects. Traffic safety reviews/assessments, intersection and other road upgrades are completed each year.

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 **\$1.5M**. 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 2023 Traffic Safety Measures program includes \$100,000 for Traffic Control Signals and Street Lights upgrades, \$200,000 for guiderail replacement, and \$100,000 for Road/Intersection Safety Improvement Program.

Service Expansion

Service expansion, including the construction of new assets or upgrading of existing assets, is often driven by a number of factors influencing future demand and are identified through community requests, proposal identified by strategic plans, Environmental Assessment Studies (EA's) or partnerships with others.

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. This by-law was updated in 2018 to meet requirements under the Development Charges Act (DCA) and minor adjustments were made to cost estimates. While the DC by-law allowed for monies to be collected for growth in this area, it did not account for growth County-wide and the expansion of infrastructure and services. As a result, in 2019, the County initiated a County Wide Development Charge study and the new DC



Study and by-law was approved by Council in late 2020 (2020-36), which repealed by-law 2018-23.

There are number of service expansion projects identified over the next ten years to meet increasing demands and provide effective service delivery to the residents of Northumberland. As discussed in the AM Plan, approximately **\$5.6M** should be budgeted annually to fund anticipated expansion needs. This includes **\$2.9M** for road widening, lane additions, and intersection improvements (i.e. County Road 2 EA, Transportation Master Plan improvements), **\$1.8M** for new structures (i.e. Trent River Bridge), and **\$800,000** for new and/or upgrade storm sewer network.

The 2023 proposed budget includes **\$2.2M** for system expansion projects (approximately \$672,500 of this year's budget is development charge recoverable), representing a **\$3.4M** shortfall. This includes \$902,707 for the Trent River Bridge and Arterial Road Network improvements in Campbellford (increased using 2023 OCIF funding), \$100,000 for TMP/EA improvements, \$50,000 for CMP improvements, \$250,000 for County Road 2 EA improvements, \$30,000 for On1Call, \$75,000 for GIS/Asset Management, and \$533,000 for County Road 20 (Elgin Street and Brook Road) widening and intersection improvements. This also includes \$250,000 for regional transit/GO expansion, which is being budgeted using federal gas tax funding (2021 top up).

Financial Impact

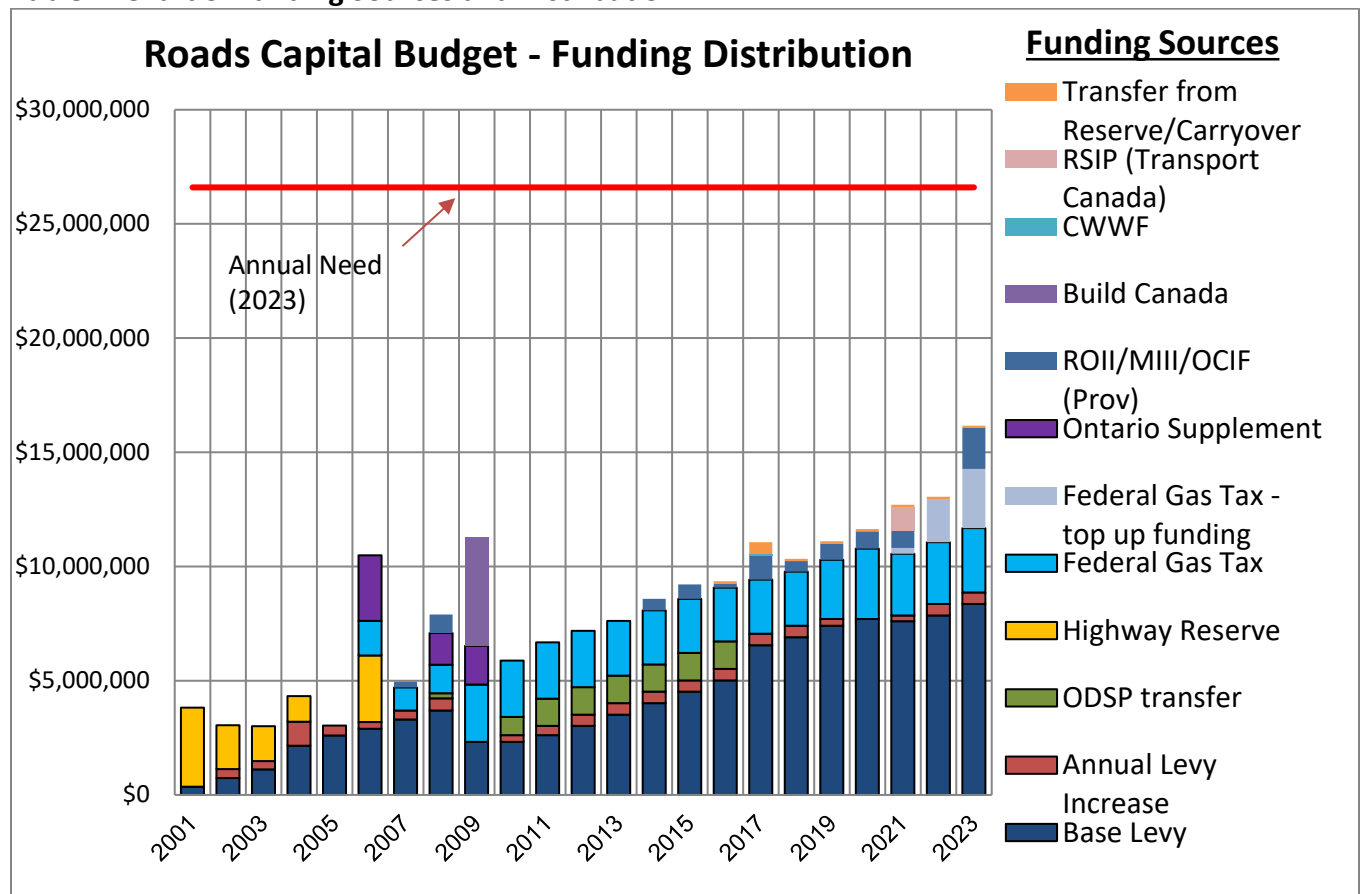
Based on the information above, we can determine that the base construction budget to properly manage our County Road assets should be in the order of **\$26.6 million** while the estimated value of the 2023 construction program is \$12.6 million (excluding carry-over funding for 2021 gas tax top-up and 2022 OCIF Formula Funding, and development charge funding). While great strides have been made in the past ten years, several major 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 \$14 million short of the new target amount, therefore, an annual increase in the roads budget continues to be necessary in order to meet the \$26.6 million target and it is imperative that the County continue to implement a strategy to increase funding annually until the target has been reached.

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 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.

A summary of funding sources and distribution since 2003 is shown in Table 1 below.

Table 1: Chart of Funding Sources and Distribution



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 following 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: \$5,293,733*
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 18% of the road construction program revenue in 2023) was made permanent in 2015 through a federal legislation and the County can expect to receive similar amounts in future years.

The County received Federal Gas top-up funding in 2019 and 2021, to be used for various projects and services. The 2019 funding in the amount of \$1.9M was used in 2022 and the 2021 funding in the amount of \$2.6M is being used in 2023 to move forward projects in the 10 year plan.

OCIF Formula Funding

From 2015 until 2022, the County has received OCIF formula funding ranging between \$300,000 and \$750,000 annually. Funding for 2022 was announced in the Spring of 2022 which was a one-time doubling of the previous years' amount, so only a portion was used and the remainder in the amount of \$498,848 will be carried forward for use in the 2023 budget. The County was advised in October 2022 that the County will receive OCIF formula funding in 2023 in the amount of approximately \$1.3 million and it is anticipated that the funding will continue in the future. With this announcement, it is proposed to use a portion of the OCIF funding to



fund the \$500,000 base budget increase in 2023 and the remainder will be allocated to the Campbellford Bridge reserve.

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, structure rehabilitation, storm sewer rehabilitation, traffic safety and service expansion. Without annual increases to the base budget, the financial capacity in future years is impacted and further delays critical infrastructure projects. Without a sustainable infrastructure budget, the transportation infrastructure will continue to deteriorate at a rate faster than they can be rehabilitated, leading to potential bridge load restrictions or even closures, deteriorated roads and storm sewer and higher costs for complete reconstruction when they eventually do get done. With the recent adoption of the County's Asset Management Plan for core assets and the increased need for infrastructure, staff will develop a financial strategy to bring forward to Council for approval in 2023 for infrastructure funding.

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 2022 Long Term Plan: YES/NO

Yes.

2023 Business Plan & Budget

Public Works Operations – Facilities, Roads, Waste

Prior Year Accomplishments

Economic Prosperity & Innovation

Facilities Division:

- Update 10 Year Capital Plans for 555 Courthouse Road Cobourg, 860 William Street Cobourg, 600 William Street Cobourg, 423 Croft Street Port Hope, 232 Purdy Road Colborne Emergency Services Base and all County Housing properties.
- Develop budget plans for Roseneath Emergency Services Base, Trent Hills Emergency Services Base and Agri-Food Centre building.
- Implementation of the County's 5-year Energy Conservation Plan.

Road Operations Division:

- 10 Year Equipment Replacement Strategy
- 10 Year Housing Strategy

Waste Services Division:

- 10 year Capital Program for Waste Services
- 10 year Equipment Replacement Strategy

Sustainable Growth

Facilities Division:

Corporate Projects Completed

- 600 William Street- Interior lighting upgrades to LED
- 860 William Street- Installation of Accessible Ramp
- 555 Courthouse Road- West entrance walkway improvements

NCHC - Annual Capital Work



- Installed new High Efficiency gas furnaces at 41 Wellington Street and 7 Scriven Blvd Port Hope
- Installed new exterior storage doors at 2 Francis Street Brighton, 41 Wellington Street and 7 Scriven Blvd Port Hope
- Completed lift improvement design and construction at 330 King Street Cobourg,
- Completed walkway and patio improvements at 111 Front Street Campbellford and 6 Percy Street Colborne
- Completed LED lighting upgrades to common areas at 2 Francis Street Brighton and 43 Wellington Street Port Hope.
- Completed hot water tank design at 43 Wellington Street
- Completed bathroom, kitchen, and flooring renovations to 30 units
- Commenced work on renovations to 152 Cockburn Street facility

Roads

- Installed air conditioning unit at Veronica Depot

Road Operations Division:

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 was done a minimum of one time 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
- Approximately 4,735 tonnes of treated salt, 2,051 tonnes of rock salt, 18,825 tonnes of winter sand and 325,500 litres of salt brine was applied
- 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
- Annual roadside mowing and weed removal at intersections, around safety devices and signs completed by in-house and contracted staff



- Annual roadside litter cleanup program was implemented again this year after a two (2) year hiatus, due to the Covid -19 pandemic.

Hardtop Maintenance

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

- Shoulder grading, catch basin cleaning, cold mix patching, and sweeping
- Four (4) oil grit separators flushed and cleaned
- Completed minor road repairs using asphalt and cold mix asphalt
- Staff spent most of May and June sweeping, picking up winter sand, and flushing storm sewers in all towns and villages
- Approximately 25 new driveway entrances installed and/or upgraded

Surface Treatment Program

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

- Surface treated 96.4 km of Municipal and County roads, including:
 - 80 km for area municipalities (Trent Hills, Alnwick/Haldimand, Hamilton, and Port Hope)
 - 960,988 litres of emulsion for area municipalities
 - 16.4 km of County Roads
 - 256,027 litres of emulsion for County roads
 - Total emulsion used is 1,217,015 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 and updated County's inventory of approximately 5,360 regulatory and warning road signs on all County Roads to ensure they meet the Provincial Standard for retro-reflectivity
- Installation of approximately 95 new signs due to damage, non-reflective surface or new requirements as of September 9, 2022.
- Continued routine maintenance of traffic signals
- Reviewed and continued to monitor portable radar speed sign data and locations
- Installed portable radar speed signs at ten (10) locations and the Black Cat Radar device at twelve (12) locations, (As of September 1st in 2022) based on speeding concerns from the public and/or Police Services

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 throughout the County
- Removed and replaced two (2) major road cross culverts
 - County Road 30, north of the 13th Line



- County Road 9, west of Woodvale School Road

Capital Housing and Equipment

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

- Two (2) – Tandem Combination Snowplow Units (Tender awarded in early 2022; however, trucks will not be received until mid-way through 2023)
- One (1) – Hotbox

A feasibility study/needs assessment for a Joint Operations Facility was ongoing through 2022, to review existing operational facilities and determine requirements for expanded and/or new facilities to accommodate operations to meet growth rates to 2051. As such, the base funding in the amount of \$275,000 allotted for 2022 for capital housing was moved into the transportation reserves to be used in the future, based on the outcome of these studies.

Waste Operations Division:

Material Recovery Facility

- Continued to implement new Standard Operating Procedures to enable safe operation of the facility during the COVID 19 Pandemic
- Maintained equipment and building structure
- Through the transition from single stream processing to dual stream processing were able to reduce the overall residual rate to 10%. Prior to the transition the residual rate was 29%

Community Recycling Centres

- Continued to safely and efficiently operate the County's 3 CRCs in the midst of the COVID 19 pandemic.
- Undertook the decommissioning of the Leachate Pumping Station and the construction of alterations to the Leachate Collection System at the Eagleson Landfill

Curbside Collection

- Continued to see growth in the usage of the new Green Bin Program, with more than 2,900 tonnes collected and diverted from landfill.



- Saw continued improvement in the quality of recyclables set out for collection through the new two stream collection program. Residual rate at the MRF fell to 10%, from a high of 29% in the former single stream collection program

Thriving & Inclusive Communities

Facilities Division:

- Updated the Fire Plans for 555 Courthouse Road Cobourg, 860 William Street Cobourg, 600 William Street Cobourg, and all County Housing properties.
- Conducted fire drills for 555 Courthouse Road Cobourg, 860 William Street Cobourg, 600 William Street Cobourg, Agri-Food Centre and all County Housing properties.
- Continued to work with Community and Social Services staff to develop new Social Housing policies and procedures to address concerns of tenants and County staff.

Road Operations Division:

- Continued to consult public on various transportation related projects in 2022.
- Continued to inform the public of upcoming construction dates, road closures, changes to area speed limits, etc. through the mobilization of the County's four (4) electronic message board signs
- 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, MECP, 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, Vegetation Management Advisory Committee, etc.

Waste Services Division:

- Through newspaper, radio, and social media, continued to promote the County's new waste diversion programs (two stream recycling, green bin, year-round HHW & E-waste, and Styrofoam)
- Created and distributed the 2023 Waste and Recycling Collection Calendar to all residents of the County
- Continued to promote the use of the County's "what goes where" on-line tool which assists residents in determining how to properly dispose of various common waste items



- Conducted a “Likes for Lids” promotional campaign, where residents who told us something they liked about their neighbours, received a free set of blue and grey box lids for themselves and their neighbour. We received nearly 250 responses to this campaign.

Leadership in Change

Facilities Division:

- Completed staff training in the following areas for one or more staff members:
 - Working at Heights Training
 - Health and Safety Training
 - Accessibility Training seminars
 - Management Development courses
 - Mental Health Training
- Continued with departmental succession planning

Road Operations Division:

- Completed staff training in the following areas for one or more staff members:
 - OGRA Guelph Road School, TJ Mahoney Course
 - Compliance training of staff involved in winter maintenance operations
 - Health and Safety Training
 - LEAN White/Yellow/Green Belt Training
 - Accessible Word & PowerPoint Document Training
 - eSCRIBE Training
 - Public Works Leadership Development (PWLD) Program Training
 - C.S. Anderson Road School, Municipal Road Design & Construction
 - Traffic Protection
 - Grader Training
 - CVOR/Hours of Work Training
 - Chainsaw Training
 - Snowplow Training
 - Municipal Class Environmental Assessment (MCEA) Amendments Update
 - NAMS+ Lifecycle Modelling and AM Maturity Assessments
- Continued with departmental succession planning

Waste Services Division:

- Completed staff training in the following areas for one or more staff members
 - Health and Safety Training



- Emergency and Standard First Aid
- Transportation of Dangerous Goods
- Continued with departmental succession planning

2023 Service Objectives & Initiatives

Economic Prosperity & Innovation

Facilities Division:

- Update 10 Year Plans for Northumberland County Housing Corporation (NCHC), Public Works, Corporate Services and Paramedic Base buildings.
- Compile Capital and Repairs & Maintenance budgets for NCHC, Public Works, Corporate Services and Paramedic Base buildings.
- Continue to implement the Cityworks work order system to track all incoming work orders and staffing hours.
- Continue to adopt the asset management program inputting all relevant data.

Road Operations Division:

- 10 Year Equipment Replacement Strategy
- Operational Review and development of a 10 Year Housing Strategy

Waste Operations Division:

- 10 year Capital Program for Waste Services
- 10 year Equipment Replacement Strategy

Sustainable Growth

Facilities Division:

- Continue to develop a more efficient NCHC maintenance scheduling program for staff.
- Continue to develop the preventive maintenance plan for all County Buildings.
- Complete NCHC, Northumberland Paramedics, Public Works, and Corporate capital projects on time and on budget.
- Continue to manage the repairs and maintenance budgets for the buildings in NCHC, Public Works, Corporate Services, and the 6 Northumberland Paramedic bases.
- Complete projects in the next stage of the Energy Conservation Plan, while updating the 5-year plan.



Road Operations Division:

Winter Maintenance

- In consideration of the extreme weather conditions that may be experienced during the winter season, the Public Works 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, along roadsides, and around safety devices.
- Annual catch basin and oil-grit separator cleaning, and litter pick up.
- Continue maintenance and enhancements to our ditching and drainage systems
- Installation of new driveways for approved entrance permits.

Surface Treatment Program

- 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 approximately 120 km of Municipal and County roads

Traffic Safety Measures

- Meet or exceed all road patrol 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



Culvert and Bridge Maintenance

- Washing and flushing of bridges and structures throughout the County
- Monitor the condition of road cross culverts and replace as necessary

Capital Housing and Equipment

- The total replacement value of the Roads Division's equipment is over \$13 million. A ten-year capital equipment replacement and housing plan has been developed. This ten-year program identifies the following capital equipment purchases in 2023:
 - One (1) Rubber Tired Excavator - \$450,000
 - One (1) Combination Snowplow - \$360,000
 - One (1) Pick-up Truck - \$65,000
- 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 legislative changes, to operational procedures and methodologies, in order to meet or exceed public expectations. Given these changes, and in the interest of finding the most effective and efficient way to deliver transportation services, an operational review was initiated in 2019 to establish direction for the future. In addition, a feasibility study/needs assessment for a Joint Operations Facility was ongoing in 2022 to review existing operational facilities and determine requirements for expanded and/or new facilities to accommodate operations to meet growth rates to 2051. As such, it is proposed to transfer the base funding in the amount of \$275,000 allotted for 2023 capital housing to the transportation reserves to be used in the future based on the outcome of these studies.

Waste Services Division:

Material Recovery Facility (MRF)

- Maximize diversion rates at the MRF through continuous improvement of processes, improve the employee working environment while operating in a cost-effective manner
- Maintain processing rates of materials and reduce residual levels, through continued education of residential and IC&I establishments
- Maintain equipment and building structure
- Implement a strategy for divestiture of the MRF, to align with the transition of County's residential recycling program to Producers in 2024

Community Recycling Centres

- Ensure the continued environmentally sensitive and economical operation of the Brighton Landfill.



- Continue to review and update the management and monitoring strategies for the County's closed landfills.
- Continue to offer year-round access to Household Hazardous Waste (HHW) at the Brighton and Bewdley CRCs
- Implement a mattress and box spring diversion program
- Investigate the feasibility of implementing additional diversion programs for materials such as asphalt shingles, dimensional lumber, etc.

Curbside Collection

- Continue to work with our Collection Contractor to improve service levels, and strive for a continual reduction in resident complaints relating to collection services

Education

- Continue to offer tours of our MRF to schools, service clubs and the general public.
- Continue to offer "guest speaker" services to service clubs and the general public, in an effort to further promote the County's waste diversion programs

Long Term Waste Management Master Plan (LTWMMP)

- Commence an internal review of the current LTWMMP and look to complete a draft revised LTWMMP for review / approval by Council
- Initiate work on the Residual Waste Disposal Environmental Assessment process—Cost \$1,500,000 over 5 years

Thriving & Inclusive Communities

Facilities Division:

- Continue to work with Social Services staff to develop new Social Housing policies and procedures.
- Continue to update Fire Safety Plans for Corporate Services, Paramedic Bases, Waste Services Division, Agri-Food Venture Centre and NCHC buildings.

Road Operations Division:

- Continue to consult public on various transportation related projects in 2023
- 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, MECP, 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.

**Waste Services Division:**

- Initiate work on the residual waste disposal Environmental Assessment (EA) which, through extensive consultation with the public, will ultimately determine the County's long-term solution for managing our non-divertible waste
- Continue to implement the recommendations of the Long-Term Waste Management Master Plan, in an effort to reach the goal of 75% waste diversion from landfill

Leadership in Change**Facilities Division:**

- Continue to promote the Health and Safety Management programs with the Facilities team and all County employees
- Continue with departmental succession planning

Road Operations Division:

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

Waste Services Division:

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

Long Term Plan & Strategic Objectives**Economic Prosperity & Innovation****Facilities Division:**

- Continue to further develop the NCHC, Public Works, Corporate and Paramedic buildings repair and maintenance and Capital Budget
- Continue to work with Finance develop and implement an Asset Management plan for our Facilities in order to be compliant with O. Reg 588/17

Road Operations Division:

- 10 Year Equipment Replacement Strategy
- Conduct a complete review of road operations and 10 Year Housing Strategy

Waste Services Division:

- 10 year Capital Program for Waste Services
- 10 year Equipment Replacement Strategy



Sustainable Growth

Facilities Division:

- Provide a plan to increase County Housing to required levels
- Work with Northumberland Paramedics on plans for new stations
- Ensure Roads & Waste facilities are improved according to 10-year plans

Road Operations Division:

- Investigate and apply for any other funding opportunities that arise in 2024 and beyond
- With the recent and anticipated retirement of several senior level Road Operations 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

Waste Services Division:

Overall Budget

- Develop sustainable and realistic budgets

Material Recovery Facility (MRF)

- Maximize diversion rates at the MRF through continuous improvement of processes, improve the employee working environment while operating in a cost-effective manner
- Continue to increase diversion rates and reduce residual levels through enhancing the education of residents and IC&I establishments
- Continue to maintain equipment and building structure through a proactive maintenance program
- Continue planning for the transition of residential recycling to Full Producer Responsibility in 2024

Community Recycling Centres

- Ensure the continued environmentally sensitive and economical operation of the Brighton Landfill
- Look to implement additional diversion programs for materials such as asphalt shingles, dimensional lumber, etc.
- Initiate the development of a remediation plan for the Highland Drive Landfill to mitigate the effects the residential component of the waste at this site is having, or could have, on the environment. This plan will need to be implemented in conjunction with or immediately following the remedial activities that will be undertaken by the Federal Government to remove Low Level Radioactive Waste from the Highland Drive Landfill.



Education

- Develop and enhance the County's education and communication techniques and strategies
- Continue to provide accurate, informative and educational communications to all users of the County's waste management system
- Educate residents about the transition of Blue Box recyclables from municipal responsibility to full producer responsibility and how this transition may affect them

Long Term Waste Management Plan

- Implementation of goals / objectives of revised Long-Term Waste Management Master Plan (if / when approved by Council)
- Continue work on the Residual Waste Disposal Environmental Assessment

Thriving & Inclusive Communities

Facilities Division:

- Provide safe affordable housing for the County
- Continue to keep up to date with all new Fire Safety and Accessibility Standards
- Continue to develop projects with our member municipalities under the guise of shared services, and to work with various County departments on long term building plans. i.e. Social Housing, Public Works, Paramedics and Forestry

Road Operations Division:

- 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, MECP, 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.

Waste Services Division:

- Continue work on the residual waste disposal Environmental Assessment (EA) which, through extensive consultation with the public, will ultimately determine the County's long-term solution for managing our non-divertible waste
- Continue to implement the recommendations of the Long-Term Waste Management Master Plan, in an effort to reach the goal of 75% waste diversion from landfill



Leadership in Change

Facilities Division:

- Continue to encourage employees to enroll in continued education to assist in their Facilities role and Health and Safety Management Courses
- Continue with departmental succession planning

Road Operations Division:

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

Waste Services Division:

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

2023 Issue Paper

Equipment Replacement Strategy - Roads

Purpose

The County's Transportation Services Division has developed a sustainable fleet asset replacement strategy and is requesting the development of a reserve account as part of its equipment replacement strategy to allow for the timely and affordable replacement of assets necessary to deliver winter and summer maintenance services on County roads. This strategy will help future budgets by better balancing the annual expenses and providing stability and continuity.

The proposed expenditures for 2023 are \$875,000 for capital fleet assets.

Background

The County of Northumberland has a total of 72 fleet assets dedicated to Transportation Services, including snowplows, graders, loaders, backhoes, light and medium duty trucks, and several pieces of specialized equipment for road maintenance and construction. The Roads Division operates out of two maintenance yards equipped with sand domes, salt sheds, garages, equipment, and material storage. The total replacement value for the Roads Division fleet assets is over \$13 million.

The County's Fleet Maintenance and Operations Manual states that "the County will strive to maintain a ten-year replacement schedule for heavy trucks, a five-year replacement for light trucks and a twenty-year replacement for heavy equipment". The future fleet asset management plan will provide more in-depth details on all fleet asset lifecycles. In addition to the challenges of maintaining the County's legislative responsibilities for fleet assets as it relates to the commercial vehicle operator's registration (CVOR) and the Highway Traffic Act, extending fleet asset lifecycles is prone to higher maintenance costs, more frequent breakdowns, and increased risk to operator safety. These risk factors can impact winter snow removal, motorist safety and the many services the Roads Division delivers to the County of Northumberland, its visitors and residents.

Currently 50% of our heavy vehicles are 10 years old or older, and 40% of the light and medium duty trucks are over 7 years old.

With ever-increasing costs and uncertainty in today's operating environment, we are recommending \$875,000 be put into a reserve account each year, to be drawn upon, based on that current years' needs.

Consultation/Options

As the required budget has been increasing and exceeding the target set by Council, the overall Roads Transportation Services Division strategy has been reviewed in further detail in 2022, taking into consideration the current state of the fleet assets and the cost of new equipment. Based on this review, the following vehicles have been identified as needing to be replaced in 2023:

- One (1) - 2006 Rubber Tired Excavator (EX-01) - \$ 450,000
- One (1) - 2010 Combination Snowplow (VO72) - \$360,000
- One (1) - 2014 Pickup Truck (VO94) - \$65,000.

Justification for one (1) Rubber Tire Excavator - \$450,000

Fleet Services recommends replacing the 2006 Rubber Tired Excavator (EX-01) before the current 18-20 year replacement strategy based on its assessed condition, the increasing budget impact for both planned and unplanned maintenance and the increasing risk of key service delivery interruptions within the Roads Division.

The excavator is seventeen (17) years old and is showing signs of wear. The original engine was replaced 10 years ago. Fleet Services expects maintenance costs will likely increase with time on this machine. Expenditures will likely fluctuate year to year, but industry standards for heavy equipment used at this capacity typically requires machine refurbishing or replacement at the end of year twelve (12) or 12,000 hrs. The current usage hours on the excavator are approximately 13,600 hrs.

Staff is recommending replacing the excavator with a similar eighteen-ton (18-ton) wheeled machine. The asset (EX-01) will be identified as “Repurposed” and moved into a secondary supportive role. The maintenance budget will be closely monitored to ensure the budget impact does not exceed a seasonal rental expenditure of ~\$43,500. This approach will provide the County’s Roads Division with additional resources to deliver its ditching rehabilitation and culvert replacement programs without the need to rent a second excavator during planned and unplanned maintenance. Once the “Repurposed” excavator meets its final lifecycle, it will be decommissioned and sold at government auction.

Justification for one (1) Combination Snowplow - \$360,000

Fleet Services is recommending the replacement of 2010 combination snowplow (VO72) in keeping with the County fleet replacement strategy. The truck is 12 years old and currently has ~260,000 km on all equipment including the plow, wing, and sander dump box. The past two-year operating budget impact for maintenance and repairs is ~\$27,800 including labor. This unit will be used during the winter season of 2022/2023, and possibly into the winter season of 2023/2024, so the mileage will be even higher by the time it is replaced.

Following the purchase of a replacement combination snowplow, the 2010 combination snowplow (VO72) will receive a condition assessment to determine if it can be moved into a spare truck role. Current Roads Division practice is to maintain three (3) spare combination snowplows, one at the Cobourg depot and two at the Morganston depot. This practice minimizes risk of not meeting the legislative winter roads minimum maintenance standards and possible service interruptions caused by unforeseen asset breakdowns. Results of the condition assessment will determine which three (3) spare combination snowplows remain in service, and which asset will be decommissioned and sold at government auction.

Industry news and current trends have indicated estimated delivery times of fourteen to eighteen (14-18) months for this type of asset. Delaying this acquisition may impact service delivery for winter maintenance on County Roads 2, 74, and 20.

Justification for one (1) Pickup Truck - \$65,000

Fleet Services is recommending the replacement of the 2014 pickup truck (VO94) in keeping with the County fleet replacement strategy. The pickup truck is eight (8) years old and currently has 310,990 km. The annual budget impact for maintenance is ~\$6,500. The Roads Division relies heavily on this fleet asset for the transportation of staff, tools, and materials to various job sites for roads maintenance service delivery. Like all fleet assets, VO94 will receive a condition assessment upon arrival of the new asset. If it is determined VO94 is in favorable condition compared to other fleet asset spares, VO94 will be identified as “Repurposed” and moved into a secondary role until it surpasses an acceptable budget for maintenance and repair, at which time it will be decommissioned and sold at government auction.

Financial Impact

In 2023, the Transportation Services Division is proposing that **\$875,000** be spent on fleet asset replacements.

The attached tables outline an updated fleet asset replacement strategy and includes Heavy Duty Trucks 10 -year plan, Light and Medium Duty Truck 5–9 year plan, Heavy Equipment 12–20 year plan, and Trailers 15 year plan.

Starting in 2023, and on a go forward basis, it is recommended that \$875,000 be placed into a dedicated Transportation Services Division reserve account annually, to account for fluctuations in future years equipment replacement needs for the Division. With a reserve account in place, we would have the stability of knowing our yearly budgeted amount and would be able to utilize funds not required in one year, in order to off-set a greater expense in a future year.

Risk Considerations

In addition to Roads Division service delivery interruptions, there is also the risk of high repair costs for these pieces of equipment, without any guarantee of a longer life expectancy, if the regular replacement schedule is not followed. This may impact the County's ability to meet legislative requirements including: "Minimum Maintenance Standards"; "Commercial Vehicle Operating Registration (CVOR)"; and the "Highway Traffic Act".

Impacts to Member Municipalities/Partners

Spare combination snowplows can be available for neighboring Municipalities on a "as required" basis.

Included in 2022 Long Term Plan: YES/NO

Yes.

Transportation Services Division Fleet Asset Replacement Strategy – Heavy Trucks

[illegible]

Transportation Services Division Fleet Asset Replacement Strategy – Trucks

Light + Medium duty Trucks 5-9 Year Lifecycle												
Description	Year	Asset I. D	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
1/2 Ton Pickup	2018	VO 10				\$65						
½ Ton Pickup	2020	VO 16							\$65			
Service Truck	2012	VO 83						\$190				
1/2 Ton Pickup	2013	VO 90		\$65								
1/2 Ton Pickup	2014	VO 94	\$65									
1 Ton Truck	2016	VO 01		\$75								
3/4 Ton Pickup	2016	VO 02		\$70								
1 Ton Truck	2017	VO 05					\$75					
1/2 Ton Pickup	2018	VO 11							\$65			
1/2 Ton Pickup	2021	VO 21									\$65	
1/2 Ton Pickup	2021	VO 20								\$65		
1/2 Ton Pickup	2021	VO 19								\$65		
3/4 Ton Pickup	2021	VO 24										\$70
3/4 Ton Pickup	2021	VO 23										\$70
		Sub total	\$65	\$210	\$0	\$65	\$75	\$190	\$130	\$130	\$65	\$140

Transportation Services Division Fleet Asset Replacement Strategy – Heavy Equipment

Heavy Equipment 12-20 Year Lifecycle												
Description	Year	Asset I. D	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Loader tractor with broom	1999	TO-15								\$175		
Loader tractor with broom	1999	TO-14						\$175				
Grader	2000	GO-15			\$300							
Grader	2012	GO-16										
Loader	2001	LO05										
Loader back-hoe	2003	B006		\$250								
Loader	2005	LO06					\$350					
Rubber tired excavator	2006	EX- 01	\$450									
Distributor	2021	DS-03										
Spreader	2021	CS-03										
Tractor Mower	2008	TO-16				\$250						
Loader	2009	LO07							\$350			
Loader back-hoe	2010	B007				\$250						
Loader tractor with Forks	2012	TO-17										
Loader	2012	LO08										
Loader	2017	LO09										
Street Sweeper	2018	SW01										
Gradall	2016	GA-01										
		Sub total	\$450	\$250	\$300	\$500	\$350	\$175	\$350	\$175	\$0	\$0

Transportation Services Division Fleet Asset Replacement Strategy – Trailers

Trailers 15 Year Lifecycle												
Description	Year	Asset I. D	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Trailer	2003	TR-9										
Trailer	2008	TR-11						\$60				
Trailer	2008	TR-10			\$60							
Trailer	2011	TR-12										
		Sub total			\$60			\$60				
			2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
	Annual Strategy Totals		\$875	\$820	\$720	\$925	\$785	\$785	\$840	\$665	\$785	\$860

2023 Issue Paper

Mattress Diversion Program

Purpose

To receive Council authorization to implement mattress and box spring diversion programs at the County's three (3) Community Recycling Centres (CRCs).

Background

With the understanding that the Brighton Landfill (the County's last remaining active landfill), has only a finite amount of capacity remaining until it is full, County Council adopted a Long-Term Waste Management Master Plan (LTWMMP) in 2014. The primary goal of this Plan is to increase the amount of waste we divert from landfill to over 75%.

When the LTWMMP was adopted, the County's waste diversion rate was 39%. At the end of 2021, the waste diversion rate had improved to 52%.

At the end of 2021, it was estimated that the Brighton Landfill had approximately 342,000 cubic meters (m³) of capacity remaining. Annually, approximately 32,000 m³ of landfill capacity are currently being consumed. Based on these numbers, staff estimate that the Brighton Landfill will have 9.5 years of remaining capacity at the end of 2022.

In order to maximize on this remaining capacity, we employ a Landfill Compactor and Bulldozer to break-up, compress and bury any waste materials for which we do not presently have diversion programs.

Due to their size and construction, mattresses and box springs do not break down or compact very well and tend to "float" up to the surface of the landfill, resulting in more cover material being used to properly bury them. On average, we can only achieve a landfilled density of 100 kg/m³ for mattresses and box springs, versus 700 kg/m³ for conventional garbage.

Each year, approximately 8,000 mattresses and box springs are disposed of in the Brighton Landfill, consuming roughly 2,400 m³ of landfill space. The weight of these 8,000 or so mattresses and box springs totals approximately 240 tonnes. By comparison, roughly 1,680 tonnes of conventional garbage could be disposed of in that same 2,400 m³ of landfill space.

The tipping fee charged to dispose of garbage at the Brighton Landfill is \$130 per tonne. Currently we generate approximately \$31,200 annually in tipping fees from these 8,000 or so mattresses and box springs. By comparison, we could generate \$218,400 in

tipping fee revenue, if that same volume of landfill capacity was filled with conventional garbage.

In addition to consuming a disproportionately high volume of landfill capacity, mattresses and box springs pose some unique operational challenges at the landfill. The sprung steel inside the mattresses and box springs tends to coil up around the wheels and tracks of our Landfill Compactor and Bulldozer, which causes increased downtime and equipment maintenance costs. The annual cost of the increased repairs and maintenance is estimated at over \$10,000.

We have also found evidence that mattresses and box springs have been the cause or ignition source in recent landfill fires at the Brighton Landfill.

Consultation/Options

Staff are recommending that mattress and box spring diversion programs be made available to patrons of each of our three (3) CRCs.

Mattresses and box springs brought into our CRCs by patrons would be stacked by County CRC Attendants and then loaded onto enclosed highway trailers that would be parked at each of the sites.

To facilitate these operations, each CRC would require one (1) outdoor forklift and one (1) portable ramp to enable the forklifts to access the enclosed highway trailers. The cost of a suitable outdoor forklift is estimated at \$85,000, and the cost of a suitable portable ramp is estimated at \$20,000.

It is anticipated that additional staffing resources would be required to operate these new diversion programs (stacking items, loading tractor trailers and coordinating shipments of trailers). On an annual basis, this added staffing cost is estimated to be approximately \$22,750.

Presently, some municipally and privately operated waste management facilities neighbouring Northumberland County charge unit rates for each mattress and box spring disposed of. The tipping fee charged per unit varies between \$15 and \$22 per item. At the County's present tipping fee for garbage, our patrons pay approximately \$4 to dispose of a mattress or box spring, by weight.

Staff are recommending that a tipping fee of \$20 per mattress or box spring be instituted if Council approves implementing mattress and box spring diversion programs at our CRCs. Doing so would reduce the risk that individuals living outside of Northumberland County would attempt to bring their mattresses and / or box springs to a County operated CRC, in an effort to dispose of it at a lower cost than they would incur if they disposed of it within their own municipal jurisdiction.

Diverting mattresses and box springs from the Brighton Landfill would extend the life of the landfill by an additional 8 months.

At the present tipping fee rate for garbage, the saved capacity, if filled with conventional garbage, would enable the County to generate an additional \$3.9 million in revenue.

Extending the lifespan of the Brighton Landfill will defer the future capital and / or operating costs that will be associated with implementing a long-term solution to manage the portion of our waste that cannot be diverted from landfill. Each year that the landfill capacity is extended is another year these future costs are also deferred.

Financial Impact

The initial capital cost to implement mattress and box spring diversion programs at our three (3) CRCs would be \$315,000, as outlined below:

- Three (3) outdoor forklifts x \$85,000 per forklift = \$255,000
- Three (3) portable trailer ramps x \$20,000 per ramp = \$60,000

It's being proposed that the capital costs to purchase the forklifts and portable ramps be funded through the Waste Services Division's reserves.

The net annual operating cost of a mattress and box spring diversion program at our three (3) CRCs would be \$19,950, as outlined in the below table:

Summary Table of Annual Costs

Savings / Additional Revenue	
New Tipping Fee Rate (\$20/item)	\$160,000
Savings in Repairs & Maintenance	\$10,000
Net Savings	\$170,000
Costs / Lost Revenue	
Lost Tipping Fees	\$31,200
Additional Staffing Resources	\$22,750
Transportation & Recycling (\$17/item)	\$136,000
Net Costs	\$189,950
Total Annual Net Cost	\$19,950

It is being proposed that the annual cost to operate mattress and box spring diversion programs at our three (3) CRCs be funded through the Waste Services Division's Annual Operating Budgets.

Risk Considerations

If a mattress and box spring diversion program is not implemented in the near future, it will be extremely challenging for the County to meet its LTWMMP goal of 75% waste diversion from landfill.

The lack of mattress and box spring diversion programs will also result in the Brighton Landfill reaching its lifespan sooner than necessary. This would then lead to the County incurring increased capital and / or operating costs associated with implementing a long-term solution for residual waste disposal, sooner than necessary as well.

Without unit rate tipping fees for mattresses and box springs that are comparable to neighbouring jurisdictions, there is also a risk that the remaining capacity at the Brighton Landfill could be consumed faster than it should be, due to mattresses and box springs being brought in for disposal by residents from neighbouring jurisdictions.

Impacts to Member Municipalities/Partners

N/A.

Included in 2022 Long Term Plan: YES/NO

Implementing mattress and box spring diversion programs at our CRCs was recommended in the County's Long-Term Waste Management Master Plan; however, capital expense for the purchase of necessary equipment to implement such a program have not been included in the Ten-Year Equipment Replacement Strategy for the Waste Services Division.

2023 Issue Paper

Equipment Replacement Strategy - Waste

Purpose

The County's Waste Services Division has developed a sustainable equipment replacement strategy, which includes the annual contribution of \$400,000 to a reserve account. This reserve allows for timely and affordable replacement of the equipment and facilities necessary to operate its landfill, transfer stations, and Material Recovery Facility (MRF).

Background

Northumberland County uses a fleet of approximately 30 pieces of mobile equipment for the operation of the Brighton, Bewdley and Seymour Community Recycling Centres (CRCs), and the MRF, ranging from a ½ ton truck for the collection of illegally dumped waste on municipal roadsides, to heavy equipment for work in the landfill, and transfer areas of the CRCs, and our MRF. There is also a significant amount of processing equipment at the MRF. Combined, the replacement value of this equipment is approximately \$8 million.

The one (1) item recommended for purchase / replacement, or repair in 2023, as part of the Waste Services Division's 10 Year Equipment Purchase and Replacement Strategy is a:

- Year 2012 Pick-up Truck

Consultation/Options

Justification for the replacement of a year 2013 Pick-up Truck

The Waste Services Division employs five (5) pickup trucks in the performance of the multitude of tasks and responsibilities undertaken by the Division.

In 2023, the Waste Services Division is proposing to replace a year 2013 pickup truck. The year 2013 pickup truck is currently being used by our Supervisor of Waste Operations and has over 225,000 kilometers on it. If the replacement is approved by Council, the Supervisor of Waste Operations would be provided with the replacement truck, and the year 2013 pickup truck would then be transferred to the Brighton Landfill to replace a year 2009 pickup truck that is currently used as a site



vehicle by staff to fuel off-road machinery and to transport staff to and from the site office to the various locations at the landfill.

Financial Impact

In 2023, the Waste Services Division is proposing that \$65,000 be spent on the replacement of one (1) year 2013 Pickup Truck.

It is recommended that \$65,000 from the Waste Services Division's Capital Reserves be allocated to replace this pickup truck.

The following table outlines the ten-year Equipment Purchase and Replacement Plan for major waste management vehicles and equipment.



Risk Considerations

Not applicable.

Impacts to Member Municipalities/Partners

Not applicable.

Included in 2022 Long Term Plan: YES/NO

Yes.



2023 Issue Paper

Corporate Buildings

Purpose

The Facilities Services Division has developed a 10-year capital plan for each of the County buildings to ensure that the buildings are maintained on a year-to-year basis, so the County is not hit with massive, unexpected building maintenance costs in one season. The following issue paper is a result of those ten-year plans.

Background

Northumberland County owns and operates three corporate buildings located in Cobourg:

- The Provincial Courthouse at 860 William Street;
- The Northumberland Paramedics/Tourism & Economic Development/Food 4 All/Facilities building at 600 William Street; and
- The County Headquarters at 555 Courthouse Road.

The Facilities Services Division is responsible for the ongoing maintenance of these properties. A 10-year capital plan has been developed and maintained for each building. From those capital plans, the following items are highlighted to be addressed this year. In addition to these facilities, we also have 10-year plans for the 216 Purdy Road (OAFVC), 232 Purdy Road (Colborne ESB), 280 Edwardson Road (Material Recovery Facility- MRF), 423 Croft Street (Port Hope Paramedic Base) and 50 Doxsee Ave (Trent Hills ESB).

600 William Street Cobourg: Lower Roof Replacement - \$200,000

The lower flat roof section including the small section above the Paramedic entrance is at end of functional life and needs to be replaced. The roof is approximately 15,021 ft². The existing membrane is showing signs of deterioration while numerous repairs have been done in the past. There are many redundant roof penetrations which can be eliminated to decrease the chance of future roof leaks. The existing 4-ply roof complete with tar and gravel will be removed, with a new 60 ga. fully adhered EPDM rubber membrane.



860 William Street Cobourg: Structural Repairs and Window Replacement - \$200,000

In 2020 the south windows were put out to tender, however COVID delayed this project until safe to complete the work. Since 2020, staff have been investigating window leaks, and disformed lintels above the windows and doors on the south end of the building. Many different inspections were completed with staff and contractors having limited understanding of the underlying issues. Recently with new staff in the facilities department we were better able to understand the structural nature of the issue, and the direction needed to do the proper repairs. Staff are now working with a structural engineer and design team to get direction and specifications for the proper structural repairs.

The plan to replace and stabilize the steel lintels above each south end window and door by removing the necessary bricks. This process will involve removing the window or door, doing the lintel repairs, doing the masonry repairs needed and finally installing a new specified window or door. This process will be done on all windows and doors in the area to create a structurally sound, watertight structure.

Consultation/Options

600 William Street Cobourg: Lower Roof Replacement

Solid Seal Group completed a roof audit on the lower roof at 600 William Street on April 20, 2022. Recommendations were to do a full roof replacement due the fact the roof has reached its life expectancy which reflects the long-term plan for this roof.

860 William Street Cobourg: Structural Repairs and Window Replacement

After staff recommendations an investigation will be conducted to find the source of the issues with the steel lintels on the south end of the building. This investigation will show the extent of the issue and will be discussed with a structural engineer. Specifications will be created to resolve the structural issues, and window specifications will be created to be included in the project RFQ. The most cost-effective way to proceed, will be completing the structural repairs and replacing the windows and doors at the same time.

Financial Impact

600 William Street Cobourg: Lower roof replacement



The estimated cost of the project will be \$200,000, based on inflationary factors and previous roof replacement projects.

860 William Street Cobourg: Structural Repairs and Window Replacement

As part of the 2020 budget, \$60,000 was approved for the window and door replacement, which was placed in reserve when the project was deferred. With inflationary pressures, and the expanded scope with the structural and masonry repairs, it is estimated that an additional \$200,000 will be required for the construction. The expanded scope will also mean the project will require the successful vendor to act as a general contractor (GC) with multiple skilled trades involved in the process.

Risk Considerations

600 William Street Cobourg: Lower Roof Replacement

Small leaks are now being realized around vents and roof penetrations. These leaks will continue to grow, causing additional damages to the building below. This has potential to interrupt building occupants including Paramedics, Food-4-All, Economic Development, Facilities, Major Capital Projects, Inspections, Communications, The Factory, and external building tenants. On-going leaks will continue to cost the County to repair in the future if the roof is not replaced.

860 William Street Cobourg: Structural Repairs and Window Replacement

Window leaks are being realized now in this area, but the larger risk consideration is the structural stability of the brick, windows, and doors. At this point the doors are being pressured with the sagging steel lintels making the operation of them difficult at times. Complete failure could cause bricks to deteriorate, fire doors to become inoperable and glass to break. Safety of all staff and occupants is a consideration with this project.

Impacts to Member Municipalities/Partners

600 William Street Cobourg: Lower Roof Replacement

This will be low impact to member municipalities, but the services provided by the occupants could be interrupted. This includes Paramedic services, Major Capital, Planning and Inspections, Facilities, Economic Development, Food-4-All, Tourism, Communications and Contact North who leases some office space. The boardroom in this area also acts as an



alternative Emergency Operating Centre in the event of a large-scale emergency, therefore keeping the building in a good state of repair is essential for the community.

860 William Street Cobourg: Structural Repairs and Window Replacement

The south end of the 860 William Street houses staff integral to the operation of the Courts at 860 William Street. Any interruption to services in this area could affect residents of the County in a negative way, as well as the tenant leasing the space.

Included in 2022 Long Term Plan: YES/NO

600 William Street Cobourg: Lower Roof Replacement

Yes

860 William Street Cobourg: Structural Repairs and Window Replacement

Yes, the window replacement project was previously identified in the long-term plan but delayed during the pandemic. No, structural component of this project was identified this year by staff and consultants. It was not previously identified in the long-term plan.

2023 Issue Paper

Equipment Replacement and Reserve Strategy

Purpose

The County's Facilities Services Division has developed a sustainable equipment replacement strategy which allows for timely replacement of the equipment. Facilities is requesting the development of a reserve account for the timely and affordable replacement of the equipment needed to operate the County facilities. This strategy will help future budgets by better balancing the annual expenses and providing stability and continuity.

The proposed expenditure for 2023 is \$65,000 to replace an existing year 2013 pick-up truck.

Background

The pick-up truck that is proposed to be replaced is currently 10 years old and has over 230,000 km on it. This vehicle is starting to experience mechanical issues, including recent breakdowns.

Consultation/Options

This vehicle is not ideal for the existing technician, as it can be difficult to remove needed tools and equipment. We plan to purchase a new vehicle ideally suited to the work the current technician is completing. This technician typically uses key cutting equipment which can be difficult to move in a higher truck bed. A smaller tailgate or truck bed in a work van would be ideal for this type of equipment. The van would also work well for transporting office furniture and appliances as required.

Financial Impact

New vehicle replacement at the cost of \$65,000. This cost includes the safety decals, lights and equipment needed. The 10-year facilities division equipment replacement plan shows a large number of vehicles will need to be purchased in 2032, by implementing the reserve the annual expenses could remain stable.



Starting in 2023, and on a go forward basis, it is recommended that \$65,000 be placed into a dedicated Facilities Services Division reserve account annually, to account for fluctuations in future years equipment replacement needs for the Division. With a reserve account in place, we would have the stability of knowing our yearly budgeted amount and would be able to utilize funds not required in one year, in order to off-set a greater expense in a future year.

10-Year Facilities Division Equipment Replacement

Capital Housing	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
2015 Chevrolet Pick-up Truck VO95 (HVAC Technician Truck)			\$65							
2013 Dodge Pick-Up Truck VO91 (Security and Locksmith)	\$65									
2018 Dodge Pick-Up Truck (Painters Truck)						\$65				
2019 Chevrolet ½ Ton Pick-up Truck VO70 (Senior Technician)							\$65			
2022 Ford high-top cargo van VO29										\$65
2022 Dodge ½ Ton Truck VO22										\$65
2022 Dodge ½ Ton Truck VO25										\$65
2022 Dodge ½ Ton Truck VO26										\$65
Total	\$65	-	\$65	-	-	\$ 65	\$65	-	-	\$260

Risk Considerations

Replacing Facilities vehicles at 10 years of service life will help to ensure the vehicles are in good working order and are reliable for the Maintenance Technician during afterhours calls and winter weather.

Impacts to Member Municipalities/Partners

Not applicable

Included in 2022 Long Term Plan: YES/NO

Yes, the replacement of this truck was in the long-term plan.



2023 Issue Paper

Corporate Buildings

Purpose

The Facilities Services Division has developed a 10-year capital plan for each of the County buildings to ensure that the buildings are maintained on a year-to-year basis, so the County is not hit with massive, unexpected building maintenance costs in one season. The following issue paper is a result of those ten-year plans.

Background

Northumberland County owns and operates three corporate buildings located in Cobourg:

- The Provincial Courthouse at 860 William Street;
- The Northumberland Paramedics/Tourism & Economic Development/Food 4 All/Facilities building at 600 William Street; and
- The County Headquarters at 555 Courthouse Road.

The Facilities Services Division is responsible for the ongoing maintenance of these properties. A 10-year capital plan has been developed and maintained for each building. From those capital plans, the following items are highlighted to be addressed this year. In addition to these facilities, we also have 10-year plans for the 216 Purdy Road (OAFVC), 232 Purdy Road (Colborne ESB), 280 Edwardson Road (Material Recovery Facility- MRF), 423 Croft Street (Port Hope Paramedic Base) and 50 Doxsee Ave (Trent Hills ESB).

600 William Street Cobourg: Lower Roof Replacement - \$200,000

The lower flat roof section including the small section above the Paramedic entrance is at end of functional life and needs to be replaced. The roof is approximately 15,021 ft². The existing membrane is showing signs of deterioration while numerous repairs have been done in the past. There are many redundant roof penetrations which can be eliminated to decrease the chance of future roof leaks. The existing 4-ply roof complete with tar and gravel will be removed, with a new 60 ga. fully adhered EPDM rubber membrane.



860 William Street Cobourg: Structural Repairs and Window Replacement - \$200,000

In 2020 the south windows were put out to tender, however COVID delayed this project until safe to complete the work. Since 2020, staff have been investigating window leaks, and disformed lintels above the windows and doors on the south end of the building. Many different inspections were completed with staff and contractors having limited understanding of the underlying issues. Recently with new staff in the facilities department we were better able to understand the structural nature of the issue, and the direction needed to do the proper repairs. Staff are now working with a structural engineer and design team to get direction and specifications for the proper structural repairs.

The plan to replace and stabilize the steel lintels above each south end window and door by removing the necessary bricks. This process will involve removing the window or door, doing the lintel repairs, doing the masonry repairs needed and finally installing a new specified window or door. This process will be done on all windows and doors in the area to create a structurally sound, watertight structure.

Consultation/Options

600 William Street Cobourg: Lower Roof Replacement

Solid Seal Group completed a roof audit on the lower roof at 600 William Street on April 20, 2022. Recommendations were to do a full roof replacement due the fact the roof has reached its life expectancy which reflects the long-term plan for this roof.

860 William Street Cobourg: Structural Repairs and Window Replacement

After staff recommendations an investigation will be conducted to find the source of the issues with the steel lintels on the south end of the building. This investigation will show the extent of the issue and will be discussed with a structural engineer. Specifications will be created to resolve the structural issues, and window specifications will be created to be included in the project RFQ. The most cost-effective way to proceed, will be completing the structural repairs and replacing the windows and doors at the same time.

Financial Impact

600 William Street Cobourg: Lower roof replacement



The estimated cost of the project will be \$200,000, based on inflationary factors and previous roof replacement projects.

860 William Street Cobourg: Structural Repairs and Window Replacement

As part of the 2020 budget, \$60,000 was approved for the window and door replacement, which was placed in reserve when the project was deferred. With inflationary pressures, and the expanded scope with the structural and masonry repairs, it is estimated that an additional \$200,000 will be required for the construction. The expanded scope will also mean the project will require the successful vendor to act as a general contractor (GC) with multiple skilled trades involved in the process.

Risk Considerations

600 William Street Cobourg: Lower Roof Replacement

Small leaks are now being realized around vents and roof penetrations. These leaks will continue to grow, causing additional damages to the building below. This has potential to interrupt building occupants including Paramedics, Food-4-All, Economic Development, Facilities, Major Capital Projects, Inspections, Communications, The Factory, and external building tenants. On-going leaks will continue to cost the County to repair in the future if the roof is not replaced.

860 William Street Cobourg: Structural Repairs and Window Replacement

Window leaks are being realized now in this area, but the larger risk consideration is the structural stability of the brick, windows, and doors. At this point the doors are being pressured with the sagging steel lintels making the operation of them difficult at times. Complete failure could cause bricks to deteriorate, fire doors to become inoperable and glass to break. Safety of all staff and occupants is a consideration with this project.

Impacts to Member Municipalities/Partners

600 William Street Cobourg: Lower Roof Replacement

This will be low impact to member municipalities, but the services provided by the occupants could be interrupted. This includes Paramedic services, Major Capital, Planning and Inspections, Facilities, Economic Development, Food-4-All, Tourism, Communications and Contact North who leases some office space. The boardroom in this area also acts as an



alternative Emergency Operating Centre in the event of a large-scale emergency, therefore keeping the building in a good state of repair is essential for the community.

860 William Street Cobourg: Structural Repairs and Window Replacement

The south end of the 860 William Street houses staff integral to the operation of the Courts at 860 William Street. Any interruption to services in this area could affect residents of the County in a negative way, as well as the tenant leasing the space.

Included in 2022 Long Term Plan: YES/NO

600 William Street Cobourg: Lower Roof Replacement

Yes

860 William Street Cobourg: Structural Repairs and Window Replacement

Yes, the window replacement project was previously identified in the long-term plan but delayed during the pandemic. No, structural component of this project was identified this year by staff and consultants. It was not previously identified in the long-term plan.



2023 Issue Paper

FTE GIS Coordinator, FTE AM Specialist

Purpose

To request that a FTE GIS Coordinator be approved to address the increasing demand for Geographic Information System (GIS) support at the County and to member municipalities through GIS Managed Service Agreements (MSA) and a FTE Asset Management (AM) Specialist be approved to assist with the implementation and further development of the County's Asset Management (AM) Plan and Cityworks Asset Management Software.

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 with a forum for sharing data, knowledge and experience, as well as, to enable the growth of individual and shared GIS network. Since that 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 this GIS Coordinator position 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 participates in 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 and 2018 aerial photos and upcoming 2023



photos), as well as hosting several 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
- 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 all County departments
- 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
- Continued development and maintenance of Cadastral Parcel Fabric for the Municipality of Port Hope, Hamilton Township, Township of Alnwick/Haldimand and Township of Cramahe.
- Implementation and on-going maintenance of Fire Dispatch data for all fire services in Northumberland County
- On-going data collection, updates, and maintenance to County geodatabase
- Continued development of framework for Maintenance Procedures Document
- Participation in NG 9-1-1 project

Member Municipalities GIS

Over the 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.)
- Insufficient asset repository and 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 business processes
- No visual representation of assets/features
- Lack of mapping needs for Emergency Operating Committee – mapping of various infrastructure can be critical in natural disasters and large-scale response initiatives

As a result, the need for a shared services approach to meet these needs and provide ongoing GIS support to help maintain and/or improve service levels and infrastructure in a cost-effective manner was identified. In 2020, GIS Managed Service Agreements (MSA) were put in place with four (4) of seven (7) member municipalities, including the Township of Alnwick Haldimand (14hrs/month), Township of Cramahe (14hrs/month), Hamilton Township (64hrs/month) and the Municipality of Port Hope (28hrs/month), and a GIS Coordinator FTE was approved to provide this service.

This GIS Coordinator position provides GIS services to six (6) of the seven (7) member municipalities through both managed and non-managed services agreements. Services provided to service partners include:

- Asset management services, fabric updates and fixing parcels attached to CAD files
- Web application and mobile app development and maintenance
- Data hosting services, and service provision to outside agencies
- Planning and zoning updates
- Mapping/cartographic deliverables including GIS infrastructure/asset mapping and ad hoc mapping requests

Since 2020, demand for GIS has been increasing significantly at both the County level and at our member municipalities which outpaces current GIS department capacity for services.

Asset Management

Asset management planning has been a focus for the province since 2012 when the Municipal Infrastructure Strategy and Building Together: Guide for Municipal Asset Management Plans was introduced. Building on this, the Government of Ontario approved Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure under the Infrastructure for Jobs and Prosperity Act, 2015 on Dec 13, 2017. This new regulation requires municipalities to formalize their commitment to asset management planning through a strategic asset management policy and to develop a corporate asset management plan for core assets by July 1, 2022. All other municipal infrastructure assets are required to be included by July 1, 2024.



The County of Northumberland has a diverse inventory of assets that must be in good working order to provide the quality services the County's citizens have come to expect and, in 2016, County Council approved the purchase of the Enterprise Asset Management Software, Cityworks. Cityworks is sold and supported by ESRI in Canada. ESRI Canada is the product that the County uses for its GIS system and Cityworks is designed to work in conjunction with the ESRI GIS database to provide a geocentric approach to asset management. The Cityworks system requires dedicated effort to ensure that it is implemented, maintained and staff are trained for its use at the County. The current GIS/AM Specialist was hired in 2018 to focus on the implementation of Cityworks and begin the AM planning process to meet the legislative requirements.

Cityworks was implemented in 2019 and now has over 100 users across 5 County departments, 31 asset categories incorporated, and 15 custom reports to assist with business processes and decision making. This system is key to understanding the costs of maintaining and operating our assets and will continue to be vital in the asset management planning process as lifecycle modelling is developed using the data inputted.

Northumberland County Council approved the Strategic Asset Management Policy in 2019 and the Asset Management (AM) Plan for core assets (road network, bridges, culvert over 3m, retaining walls and storm sewer network) on June 15, 2022. As part of the approved AM Plan, 16 items were identified in the improvement plan to ensure effective asset management and informed decision making, all of which will require staff time to address. Looking forward, all additional assets will begin to be examined and added into the AM Plan in order to meet the July 1, 2024 deadline. The AM Policy and AM Plan are then required to be reviewed and updated at least every 5 years.

Consultation/Options

Over the past 5 years, GIS has grown exponentially at both the County and member municipalities and a number of new projects and initiatives above and beyond what was originally anticipated to have been completed. These include 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 and mobile applications. Internal and external map and data requests have also increased by 35% since 2014.

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 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
- NG 9-1-1 update/changes
- Cityworks implementation and maintenance

Demands for GIS support from member municipalities has been steadily increasing since the MSA's were put in place in 2020. In 2021, some hours were taken from the next month to ensure time sensitive and/or urgent project requests were completed, in addition to an extra 212 hours requested, above and beyond those in the MSA's. Through discussions with representatives at our member municipalities, it is anticipated that there will continue to be requests for additional hours as asset management expands, and more projects arise.

Furthermore, demands associated with asset management planning is currently consuming a significant amount of time from the GIS/AM Specialist position. This is taking away from current GIS capacity and the database updates that are required. The GIS/AM Specialist originally dedicated 1-2 days a week on Cityworks which included staff training, developing reports, regular maintenance and configuration and GIS updates. However, during the development of the AM Plan for core assets, this time dedicated to GIS tasks was significantly reduced. Future requirements for adding in all other assets including, but not limited to, fleet, facilities, traffic signals, signs, cross culverts and natural resources (Northumberland County Forest) and completing lifecycle modelling for assets and addressing identified improvements in the current plan will continue to expend current staff resources.

In 2020, Strategy Corp was retained to complete a Service Delivery Review, which included a staffing level review and external service review for the GIS and AM team. As a follow up to this, Strategy Corp also completed a Managed Services Review in 2022. A 0.5 FTE resource gap for the GIS Managed Service Agreements was identified and it was recommended through these reviews that one (1) FTE GIS Coordinator is hired to address current unmet service demands and supplement the existing, full-time resources involved in GIS managed service delivery and County GIS projects. Similarly, the initial service delivery review in 2020 recommended the addition of asset management staff to meet the growing need as asset management becomes a strategic priority for the County. There is a known resource gap for asset management planning with the current GIS/Asset Management Specialist position as AM Plan development and GIS administration are consuming staff time. Additional resources are required to ensure the continued development and maintenance of Cityworks and advance AM



planning across the organization through lifecycle modelling and plan development/improvements.

In summary, it is evident that current GIS and AM resource levels are unable to meet the day-to-day internal GIS needs, advance projects for various County departments and further develop asset management planning while providing quality, ongoing GIS support to our member municipalities at the desired service level.

Financial Impact

For the 2023 budget, the net cost of a full-time GIS Coordinator and full-time AM Specialist, inclusive of benefits, is shown below.

- 2023 (3/4 year) Total: \$153, 720, with anticipated levy impact of \$118,125
 - GIS Coordinator - \$71,250 (\$35,625 new levy)
 - It is anticipated that 50% of salary cost for this position will be shared with member municipalities in 2023.
 - AM Specialist - \$82,500 – new levy
- 2024 and Beyond Total: \$205,000, with anticipated levy impact of \$157,500
 - GIS Coordinator - \$95,000 (\$47,500 new levy)
 - It is anticipated that 50%-75% of salary cost for this position will be shared with member municipalities in 2024 and beyond.
 - AM Specialist - \$110,000

Risk Considerations

A substantial amount of work has been completed to date in developing and maintaining the County GIS, in addition to advancing member municipalities GIS. Numerous projects have been completed that provide a valuable resource and improve efficiencies and decision-making processes for County staff, but also impact other member municipalities and the public through initiatives like the County wide Fire Dispatch, public web mapping applications and various mobile applications. New and emerging service requests have continued to rise which has only increased workload pressures and the gap that already exists. Given existing resources, several identified projects are unable to be completed and any additional hours and/or projects requested by member municipalities outside of the existing MSA's are extremely difficult to accommodate. Due to these existing resource constraints, some projects may need to be deferred to consultants which can be much more costly than when they are completed internally.



GIS is a critical and necessary resource for asset management. As a result of provincial legislation, municipalities are required to develop, analyze, and update Asset Management Plans for all their assets. To meet these requirements for asset management, County Council approved the purchase of Asset Management Software, Cityworks, in 2016. Several member municipalities have also implemented similar software solutions, with the assistance of our GIS Coordinators to integrate their GIS data. These types of software solutions, and the GIS data that feeds into them, plays a vital role in asset management planning and is a driving force behind the increasing demand.

Ultimately, if the County is unable to prepare and update the required AM Policy, Plan and associated annual reports, they will not be in compliance with provincial regulations and will not be eligible to apply for any available funding from the Province, which is critical for the on-going health of the County's assets.

In addition to above, there are overall savings to completing AM planning in house and having an external consultant would be significantly more costly to the County, while still requiring staff time to oversee the process. There is also a lack of knowledge and investment in the process when completed by external staff, as we experienced with the 2014 AM Plan.

Impacts to Member Municipalities/Partners

County staff have discussed future needs and upcoming GIS projects with each of our member municipalities and identified desired service levels. Requests for additional hours and/or projects through MSA's may be accommodated with additional staff resources. Cost savings and tangible, positive benefits and efficiencies will continue to be achieved through Municipal Service Agreements (MSA) for GIS.

Included in 2022 Long Term Plan: YES/NO

No. The demand for GIS and AM services at the County and through the Managed Service Agreements has increased significantly and cannot be met through the current GIS Coordinator and GIS/AM Specialist positions.



2023 Issue Paper

Development & Infrastructure Initiatives Engineer Position

Purpose

To outline the need for an additional staff resource in the Public Works Department. The additional staff resource would join the Infrastructure Division and focus on activities related to growth and infrastructure expansion including:

- **Development Review:** reviewing major development applications to ensure that the proposed new infrastructure supports the County's long-term transportation objectives and meets the County's standards and that development impacts are mitigated with respect to traffic operations, traffic safety, and drainage along the County's Road network.
- **Development Related Capital Projects:** Beyond the regular transportation capital program of approximately \$15M/year, the County's 2020 Development Charge Background Study includes over \$20M of additional capital projects such as road widenings, intersection improvements and grade separations that are required to support urban growth and development.
- **Infrastructure Initiatives:** reviewing submissions for and coordinating the County's involvement in large infrastructure externally driven initiatives such as private fiber optic network installation along the County's Road network and the installation of major municipal infrastructure (trunk sewers and watermains) along County Roads

Background

Engineering staff currently work with County and member municipality planning teams along with developers, utility companies and residents to review development submission packages for projects that range from residential additions through to large residential subdivisions. Among other responsibilities, the Traffic and ROW Management Supervisor and Corridor Management Coordinator are typically responsible for handling routine submissions such as:

- permits for residential entrances,
- setback permits for additions or new single-family homes
- routine municipal consents



More complex submissions such as residential subdivisions and commercial site plans are typically reviewed by senior members of the Infrastructure team. To provide timely and effective review of complex development submissions Public Works staff are increasingly drawn away from other core job functions to review external development and infrastructure proposals. The following are key factors that are contributing to the increased development review pressure within the Public Works Department:

1. **Housing Demand:** Increased demand for housing and rising local real estate values have led to an increase in the number of residential subdivision proposals under review along County roads. The Infrastructure team is currently involved in the review of 23 residential subdivision proposals (11 urban and 12 rural) at various stages ranging from pre-consultation through to detailed design. Many of these locations are time consuming to review as they are sites that were historically challenging to develop due to various constraints. However, rising real estate prices have made it attractive for developers to invest in moving such projects forward.
2. **Cobourg East Community:** Development in the Cobourg East Community secondary plan area will ultimately accommodate 6,500 residential units with a population in excess of 16,000 people. Through the early 2000's much of the residential growth in Cobourg has occurred in the western and northern portions of the Town. In 2021/2022 several active development proposals representing over 3000 residential units in the Cobourg East Community have been brought forward. These proposals will impact both County Road 20 (Brook Road North and Elgin Street East) and require the County to actively advance a number of projects from the current Development Charge Background Study including road urbanization/widening, intersection improvements and eventually railway grade separations.
3. **Rural Internet Projects:** Private utilities companies such as Xplornet, Bell, Nexicom, Cogeco and Hydro One Networks are undertaking projects to improve rural internet and upgrade rural cellular towers. These projects involve the installation of fiber optic telecommunication lines along significant portions of the County Road network. In 2022 the Infrastructure team has been involved in the review of proposed fiber optic lines along over 150 km of the road network.

Consultation/Options

In general, there are two options that can be considered:



1. Add the new Development & Infrastructure Initiatives Engineer position to the Infrastructure team to provide a dedicated resource to focus on externally driven projects. This option will help to mitigate the risk considerations outlined below.
2. Continue to have Manager or Director level staff from the Public Works Department address complex development and utility submissions while balancing with other objectives and priorities.

It is noted that the County has limited to no control with regarding to the timing, frequency and total number of development and utility submissions that are received therefor it is difficult to proactively plan for the integration of reviews with other competing tasks for other staff. As such this option will generally increase exposure to the risk considerations described below.

Financial Impact

For the 2023 budget, assuming the position would be filled in the second quarter, the net cost of a full-time Development & Infrastructure Initiatives Engineer position would be approximately \$94,000, inclusive of benefits.

For the 2024 budget year and beyond, the next cost is anticipated to be approximately \$125,000.

Risk Considerations

In the current climate, resourcing related to the County's ability to review development proposals brought forward by external parties gives rise to a number of potential risk considerations:

- **Mitigating Impacts:** From a Public Works perspective, a key focus of the County's development review process is ensuring that development proposals will not negatively impact the County's infrastructure, residents and road users. It is important for the County to be well positioned to complete comprehensive reviews
 - Ensuring that traffic impacts are accurately quantified and so that roadway improvements such as turning lanes are identified and completed by developers as a condition of development approval. This reduces the potential for the County to have to directly fund improvements at a later date to address operational and safety issues caused by development.
 - New development often modifies drainage patterns and requires new stormwater management facilities. It is important for the County to review the design of these modifications and facilities to ensure that the County's



downstream infrastructure (storm sewers, ditches and culverts) are not impacted in a way that may adversely effect traffic operations or other properties that rely on the County's drainage infrastructure.

- New development or utility infrastructure proposals are often focused on meeting immediate needs of the organization bringing forward the proposal. It thus falls to the County to ensure that wherever possible those proposals are aligned with the County's long-term needs. For example: the County must ensure that the location of fiber optic cables won't restrict future road widening.
- **Growth Outpacing Infrastructure:** Advancing the growth-related infrastructure projects included in the County's Development Charge Study/By-law is critical to ensuring that the growth does not adversely impact the existing community. To mitigate emerging safety issues increasing traffic congestion it is important to ensure that projects such a road widening and intersection improvements along arterial roadways under the County's jurisdiction are aligned with the development that the projects will support. To achieve this type of alignment the County needs sufficient resources to undertake the multi-year consultation, environmental assessment and design processes that are required to advance projects to a point where they can be implemented. Delays in completing these processes could lead to situations where growth could outpace infrastructure.
- **Legislated Timelines and Penalties:** Many Planning processes associated with development activities have legislated timeframes within which municipalities must provide feedback and responses. Based on current resourcing it is not always possible for the County to provide fulsome comments within the established timeframe given that there are often many competing priorities from developments across Northumberland.

Furthermore, New legislation including Ontario's Building Broad Band Faster Act place additional requirements on municipalities to review and approve broad band infrastructure proposals within 10 – 15 days of receipt with failure to do so potential exposing the County to financial penalties.

Impacts to Member Municipalities/Partners

Adding a development-focused team member to the County's Engineering team will:

- Improve ability to review and respond to the infrastructure related aspects of development proposals/submissions circulated to the County Public Works Department by member municipality planning departments.



- Support increased coordination and collaboration with member municipalities focused specifically around planning, designing and approving infrastructure projects related to growth and development.

Included in 2022 Long Term Plan: YES/NO

No.