



2019–2022 Business Plan & 2019 Budget

Foreword

Our Vision for the Future

Mississauga will inspire the world as a dynamic and beautiful global city for creativity and innovation, with vibrant, safe and connected communities; where we celebrate the rich diversity of our cultures, historic villages, Lake Ontario and the Credit River Valley. A place where people choose to be.

Mississauga City Council approved **Our Future Mississauga**; a Strategic Plan to achieve this vision over a forty year timeframe. The City engaged over 100,000 people to develop this Vision Statement. To achieve this vision the City has identified five Strategic Pillars for Change: move, belong, connect, prosper and green. Each year the City proposes various initiatives that are aligned with the Strategic Pillars and are intended to bring us closer to fulfilling our vision for the future. The City has over 300 lines of business which are consolidated into the 17 Services Areas (including the Stormwater Program) that are outlined in this Plan. The 2019-2022 Business Plan and 2019 Budget detail how and where the City plans to allocate resources to deliver programs and services.

The City is committed to providing programs and services cost-effectively. In this Plan we have outlined measures that will help us assess the quality, efficiency and customer satisfaction that our services achieve. The results help inform decisions on resource allocation and direct program offerings, and improve service delivery to ensure our vision is efficiently realized.



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Executive Summary of Roads

Mission: To plan, develop, construct and maintain a multi-modal transportation system which efficiently and safely moves people and goods, respects the environment, supports the development of Mississauga as a 21st century city and serves the municipality's social, economic and physical needs.

Services we provide:

The Roads Service Area is within the Transportation and Works (T&W) department. The services of this area are delivered by the following three divisions: Transportation and Infrastructure Planning (TIP), Engineering and Construction (E&C), and Works Operations and Maintenance (WOM). These areas are responsible for the planning, design, construction, operation, maintenance and overall management of Mississauga's roadways, bridges, sidewalks and related infrastructure. Additional infrastructure that is managed as part of this service area includes traffic signals, street lighting, municipal parking, noise walls, the cycling network and the City's fleet of vehicles (with the exception of transit and fire vehicles).

With a continued focus on urban mobility, asset management, service delivery, and our people and culture, the Roads Service Area is poised to continue to provide responsible road-related infrastructure services.

Interesting facts about this service:

At a replacement value of \$4.4 billion (2018), our road and bridge infrastructure is the largest asset owned and operated by the City. The City has 5,660 lane kilometres of road network.

The City's cycling network includes approximately 500 kilometres of multi-use trails, park paths, bicycle lanes and signed bike routes. The 2018 update of Mississauga's Cycling Master Plan is recommending refreshed goals and objectives for cycling in the city, along with strategies to achieve them. The cycling network laid out in the Cycling Master Plan will result in 897 kilometres of infrastructure to be built over 27 years.

Highlights of the Business Plan include:

- Capital investment in a new combined Works and Parks & Forestry facility
- Capital investments in major road rehabilitation such as the Creditview Road widening, and the Goreway Grade Separation
- A comprehensive review of the Roadway Rehabilitation Program is to be undertaken to ensure that our roads are kept in a state of good repair
- Funding of corridor enhancements and other provisions needed to support the Hurontario Light Rail Transit (HuLRT) Project
- Operating investments to help maintain service levels, and improved customer service through the completed Lean initiatives
- Initiating Transit Project Assessment Processes (TPAPs) for key transit projects – Dundas Bus Rapid Transit (BRT), Lakeshore Higher Order Transit Corridor and the Downtown Mississauga Terminal and Transitway Connection
- Developing a robust, comprehensive and integrated Asset Management Plan for all road-related infrastructure

Net Investment (\$000's)	2019	2020	2021	2022
Operating	64,024	68,157	68,619	69,717
Capital	73,427	104,356	87,147	93,933
Full Time Fauitelente	462.9	462.0	462.0	477.0
Full Time Equivalents	462.8	463.0	462.0	477.0

Core Services

Vision, Mission, Goals of Service and Service Delivery Model

Vision

To deliver a world-class transportation network while upholding community standards and enhancing quality of life.

Mission

To plan, develop, construct and maintain a multi-modal transportation system which efficiently and safely moves people and goods, respects the environment, supports the development of Mississauga as a 21st century city and serves the municipality's social, economic and physical needs.

Goals of Service

- **Maintain** our infrastructure in a state of good repair, with focus on a safe and efficient urban mobility system
- **Plan, design, and construct** an adaptable transportation network for all users and modes of transport
- Deliver quality and timely departmental services
- **Apply** progressive asset management practices to achieve cost containment and value for money
- Recognize and develop employees and create an empowered employee culture to meet current and future challenges

Service Delivery Model

Roads

Infrastructure Planning & Programming

Infrastructure Maintenance & Operations

Infrastructure Design & Construction

Cycling & Pedestrian Programs

Parking

Fleet Maintenance

Traffic Management

Enviromental Management of City-Owned Properties

Current Service Levels and Trends

The management of infrastructure assets is accomplished through a number of operational activities; the existing service levels for these activities are summarized below.

Infrastructure Programming: Develop an appropriate 10-year Capital Budget in accordance with lifecycle asset management practices and meet budget preparation and construction timelines.

Long-range Planning and Policy Development: Develop and implement appropriate plans and strategies to guide decision making.

Traffic Control Signals: Repair and replace all traffic control signals within the times specified in the Minimum Maintenance Standards.

Pavement Marking Maintenance: Re-application of all white pavement lines on streets twice per year and all yellow pavement lines on streets once per year.

Roadway Sign Maintenance: Replace all stop signs that are broken, damaged, illegible, improperly oriented or missing within three hours of being notified.

Active Transportation: Plan annual sidewalk and cycling network programs in accordance with the Cycling Master Plan and transit accessibility priorities. Develop and implement transportation demand management initiatives to encourage and foster sustainable transportation.

Winter Maintenance: Clear all major arterial and collector roads within 12 hours, residential roads within 24 hours, and priority sidewalks and bus stops within 24 hours of an average storm.

Customer Service: Respond to all emergency-related service requests as soon as practical, and investigate all non-emergency service requests within three days and respond within 10 days.

Bridges and Culverts: Inspect all bridges and culverts every two years (by a qualified engineer) and maintain in a safe condition.

Average Road Network Condition: Assess/monitor roadway pavement conditions every four to five years in accordance with provincial and industry standards and maintain in a safe condition.

Minimum Maintenance Standards: Meet Provincial Minimum Maintenance Standards for road infrastructure.

Traffic Management: Manage traffic operations in accordance with provincial regulations and design standards.

Street Lighting: Maintain and operate the street light network in accordance with established service response times. Respond to malfunctioning lamps within the range of 24 hours to 10 business days based on the location and quantity.

Capital Construction: Adhere to all provincial standards and codes for construction and safety.

Municipal Parking: The city is currently undergoing the development of its first Parking Master Plan and Implementation Strategy (PMPIS) entitled Parking Matters. As Mississauga grows through intensification, the Parking Master Plan will provide the City with the framework for developing, maintaining, and managing municipal parking infrastructure in the future. Recommendations that will be considered include right-sizing the public and private parking supply, leveraging technology to make parking in the City easier, and considering the management and enforcement of on-street parking.

Fleet Services: Ensure that vehicles and equipment are ready when required. Maintain an excellent compliance rating with our Ministry of Transportation fleet inspections and Commercial Vehicle Operator's Registration.

Service Level Trends

Mississauga continues to mature as a city. Aging infrastructure and the need to balance service levels with affordability pose significant pressures and challenges for this service area. In 2017, the Roads Service Area completed a pavement condition survey. The data revealed that the condition of our roads is continuing to deteriorate and that additional funding will be required to keep the roads in good to fair condition.

Traffic congestion, as well as public safety, remains high on the public agenda. Growth within our City and surrounding municipalities, along with increased demand for the delivery of goods, continues to put additional pressure on Mississauga's road infrastructure.

Implementation of an Advanced Transportation Management System (ATMS) continues, as well as the development and implementation of strategies to encourage the use of transit, walking and cycling as alternate modes of transportation.



Traffic Management Centre

The City is working on a comprehensive Transportation Master Plan (TMP) to address all aspects of transportation in the City of Mississauga over the next 25 years. The TMP aims to develop a consolidated vision for the future of mobility in Mississauga, as well as establish an overarching policy framework and action plan to guide investment in stewardship of transportation infrastructure and services. As more people travel to, from, around and through Mississauga without driving their own cars, the City looks for new ways to enhance our existing infrastructure, so that past investments continue to serve present needs well into the future.

There is a growing need for the City to provide municipal parking to meet increasing demand and as a tool in city building. To assist with this, the City is in the process of completing the PMPIS, which includes a review of the needs and opportunities for parking.

As a result of increasing public demand for accessible infrastructure, coupled with legislative requirements, Mississauga is becoming a more accessible City. There is pressure on the Roads Service Area to design, operate and maintain accessible road-related infrastructure. Meeting and exceeding these accessibility standards, and providing mobility options for everyone, is an evolving practice for this service area. Overarching themes for this service area continue to be public safety, responsible delivery, and maintenance of infrastructure in in a state of good repair.

Road Safety remains a high priority and can been seen in City Council's recent decision to adopt Vision Zero, a framework which focuses on preventing and ultimately eliminating all pedestrian, cyclist and motorist fatalities and injuries on city streets. In a Vision Zero city, safety is prioritized over factors which traditionally influence transportation decision making, such as cost, vehicle speed and delay, and vehicular level of service. The City is developing a work plan which will lay out how it will achieve Vision Zero through new initiatives, programs, or practice/policy changes.

Looking internally, with changing trends in workforce demographics, it is critical for the City to proactively implement talent management and succession planning strategies. There are several initiatives underway to attract, develop and retain staff within the Roads Service Area. These include internship programs, in-house training opportunities, and divisional support resources.

Performance Measures and Results

The City of Mississauga is committed to delivering services economically and efficiently. The City's performance measures are used to help assess how well we are doing at achieving our goals and where we need to improve operations. The results also inform decision making and strengthen accountability.

Balanced Scorecard

A Balanced Scorecard groups measures in four key areas of an organization's performance: Financial, Customer, Employee, and Business Process. By paying attention to all four areas, an organization can retain balance in its performance and ensure that it is moving toward the attainment of its goals.

Below are descriptions of the measures this service area's Balanced Scorecard takes into account. The Balanced Scorecard that follows shows trends since 2015 and expected outcomes up to 2022.

Financial Measures

Average road and bridge/culvert maintenance cost per m^2 of surface area is a measure of the City's ability to manage cost pressures associated with aging infrastructure, while providing consistent services levels.

Average winter maintenance operating cost per lane km is a measure of the City's ability to balance winter maintenance operating costs with defined service levels.

Annual gross parking revenue is a measure that describes the revenue the City realizes from fees charged for parking. Any surplus parking revenues are transferred to the parking reserves and funds from the reserves are used for parking improvements, initiatives and capital projects.

Customer Measures

Citizen satisfaction with road services indicates how satisfied residents are with road safety, street lighting, pedestrian-friendly roads, snow removal and cyclist-friendly roads.

Citizen satisfaction with road safety indicates how satisfied residents are with their perceived level of safety while using the roads for various modes of transportation and leisure.

Employee Measures

Overall job engagement indicates the extent to which employees feel engaged in decision making at the City.

Employee satisfaction measures the extent to which employees value, enjoy, and believe in what they do.

Internal Business Process Measures

Percentage of roads in good condition or better measures the City's ability to manage lifecycle asset management programs for roads. Pavement condition surveys are conducted every four to five years, whereby a condition rating based on Ontario Ministry of Transportation standards is applied to every Cityowned road in Mississauga. For this measure, there is a minimum service level target of 70 per cent.

Percentage of bridges in good condition or better is a measure that indicates the City's ability to manage lifecycle asset management programs for bridges and culverts. Mandatory bridge and culvert condition surveys are performed every two years whereby a condition rating is applied to every City-owned bridge and culvert in Mississauga. For this measure, there is a minimum service level target of 85 per cent.

Percentage of City-owned intersections that function at or below planned capacity is a measure of the efficiency with which traffic moves through intersections within the City.

Percentage of time that winter maintenance response times are met measures the frequency with which the City meets its service level objectives for winter operations.

Balanced Scorecard

Measures for Roads	2015 (Actual)	2016 (Actual)	2017 (Actual)	2018 (Plan)	2019 (Plan)	2020 (Plan)	2021 (Plan)	2022 (Plan)			
Financial:											
Average road operating cost per lane km ¹	\$2,212	\$2,170	\$1,527	\$1,940	\$2,037	\$2,139	\$2,246	\$2,358			
Average bridge/culvert maintenance cost per m ² of surface area ¹	\$4.73	\$5.20	\$4.38	\$5.00	\$5.78	\$6.06	\$6.37	\$6.69			
Average winter maintenance operating cost per lane km ¹	\$3,672	\$4,189	\$3,595	\$4,800	\$5,040	\$5,292	\$5,557	\$5,835			
Annual gross parking revenue (\$000's)	\$1,716	\$1,929	\$2,449	\$1,735	\$1,900	\$2,000	\$2,100	\$2,200			
Customer:					•						
Citizen satisfaction with road services ²	64%	N/A	70%	N/A	72%	N/A	74%	N/A			
Citizen satisfaction with road safety	73%	N/A	79%	N/A	85%	N/A	88%	N/A			
Employee:											
Overall job engagement ³	72%	N/A	N/A	74%	N/A	N/A	76%	N/A			
Employee satisfaction ³	75%	N/A	N/A	77%	N/A	N/A	79%	N/A			
Internal Business Process:											
Percentage of roads in good condition or better ¹	77%	77%	62%	61%	52%	49%	46%	44%			
Percentage of bridges in good condition or better	89%	90%	83%	85%	85%	85%	85%	85%			
Percentage of City-owned intersections that function at or below planned capacity	86%	87%	87%	85%	85%	85%	85%	85%			
Percentage of time that winter maintenance response times are met	100%	100%	100%	100%	100%	100%	100%	100%			

¹ Municipal Performance Measurement Program (MPMP) definitions are used.
 ² The Mississauga Citizen Satisfaction Survey is completed once every two years (2017, 2019, and 2021).
 ³ The Employee Engagement Survey is completed once every three years (2018, 2021, and 2024).

Awards and Achievements

Awards

All four works yards were awarded the *Safe and Sustainable Snowfighting Award* in 2017 from the Salt Institute, for excellence in environmental consciousness and effective management in the storage of winter road salt.



Salt storage dome at the Mavis Works Yard

The City of Mississauga's 2017 National Public Works Week was selected as the winner of the Ontario Public Works Association's Bruce Bunton Award. The award recognizes a municipality of more than 150,000 for its efforts to promote excellence in programs and events to create awareness of the public works profession during National Public Works Week.

Achievements

Completed the update of the City's **Cycling Master Plan** and the City's first **Transportation Demand Management (TDM) Strategy and Implementation Plan**.

Launched the very successful **Mississauga Bike Challenge**, where residents were rewarded for cycling 150 kilometres with

the planting of a tree in recognition of Canada's 150th Birthday. This resulted in the planting of 1,360 trees.

Implemented **on-street paid parking**, as well as **off-street paid parking** in Municipal Parking Lot #9 in Streetsville.

The Advanced Transportation Management System (ATMS)

Project achieved two major milestones. The upgrading of Traffic Signal Communications, involving the leveraging of the City's fibre network with wireless and cellular connectivity, was completed at the end of July 2018. The transitioning to a new Traffic Control System, including the replacement of traffic signal controllers at all 777 signalized intersections within Mississauga, was completed at the end of July 2018.

Processed over 11,300 storm sewer locate requests in 2017.

Processed **over 1,500 permit applications** resulting in work at over 8,300 locations in the city in 2017.

Provided material testing services for City clients which included **over 1,000 concrete tests and over 1,300 asphalt tests** in 2017.

Updating our **Salt Management Plan** ensuring our winter maintenance practices are aligned with providing safe transportation for our residents keeping environmental effects in mind.

Emergency and Unplanned Projects:

Involved in many **Significant Weather Events** this past year including April ice/snow event, May wind storm, Meadowvale Village Flooding event and flooding along the Lake Ontario shoreline.

The 2019-2022 Business Plan Outlook

Planning for the Future

Urban Mobility

The City landscape is changing. Future transit and infrastructure demands on the Roads Service Area require planning, development and implementation of forward-thinking Master Plans (for example, the Transportation, Lakeshore, Cycling and Pedestrian Master Plans) to position ourselves as a progressive service area and municipality. Regional transit planning with a focus on multi-modal transportation is a key focus in our Master Plans. The City is proposing to initiate Transit Project Assessment Processes (TPAPs) for the Dundas BRT, the Lakeshore Higher-Order Transit Corridor and the Downtown Mississauga Terminal and Transitway Connection in 2019.

Phased implementation of the Cycling Master Plan will allow the City to continually improve our multi-modal transportation system and resources available to residents. Implementation strategies and funding for initiatives such as the Transportation Demand Management Strategy and the Tour de Mississauga will encourage the use of more sustainable transportation options – including cycling, walking, using transit and carpooling.



Tour De Mississauga

With the implementation of the Hurontario Light Rail Transit (HuLRT) Project, there will be additional long-term operations and maintenance costs associated with the enhanced streetscape and "Complete Street" requirements of the project that will have to be accommodated within future operating budgets. Additional operations and maintenance costs will arise from wider sidewalks, boulevard cycling facilities, decorative paving treatments, and enhanced cross-walk paving treatments; street furniture including benches, bike racks, and waste receptacles; and bollards, retaining walls and noise walls. Additional snow removal will also be required within the boulevard areas to address the cycling facilities, wider sidewalks and general lack of snow storage opportunities with the enhanced streetscape elements.



Rendering of the HuLRT Robert Speck Parkway stop

People and Culture

The Roads Service Area is actively preparing for the coming changes in our workplace demographics. With a significant portion of our workforce being eligible to retire in the next five years, effective succession planning and talent management strategies are essential. These strategies will also be an integral part of fostering a culture of employee innovation and satisfaction going forward. In 2017, the WOM Division implemented the Supervisory development program, which ensures that we continue to develop staff to be ready to take on more responsible roles. Building on the success of the Engineering Internship Program, a Technologist Internship Program is proposed for 2019. The program will allow us to develop trained and knowledgeable technologists that will be qualified to take on permanent vacant positions that become available due to retirements.

Service Delivery

The City has grown substantially over the last 20 years and development continues to intensify. In order for the Roads Service Area to meet maintenance and operational service levels in the coming years, investment in an additional works yard is required.

Given the more urban and congested environment of the City, the review of development applications and the transportationrelated components have become more complex in nature. Investment in an additional Traffic Planning Technologist is planned for 2019 in order to meet service levels for the review of these applications and the associated Transportation Impact Studies.

Asset Management

In 2017, the Province of Ontario introduced and enacted the *Asset Management Planning for Municipal Infrastructure Regulation.* The Regulation requires all municipalities to prepare and publish a Strategic Asset Management Policy by July 1, 2019, and to develop enhanced Asset Management Plans for

core infrastructure – which includes roads, bridges and culverts – by July 1, 2021. The recently acquired Road Pavement Management System and the Bridge Management System will assist the City in developing the required Asset Management Plans by maintaining a complete inventory of road and bridge assets and the condition of these assets. The systems, inventories and plans will help ensure that cost-effective treatments to maximize the life expectancy of our roads and bridges are selected while minimizing risk to users throughout the infrastructure's lifecycle.

The Roads Service Area completed a pavement condition survey. The data revealed that the condition of our roads is continuing to deteriorate and that additional funding will be required to keep the roads in good to fair condition. This will be an ongoing pressure within the Roads Capital Program. A comprehensive review of the Roadway Rehabilitation Program is to be undertaken to ensure that our roads are kept in a state of good repair.



Confederation Parkway bridge over Centre View Drive

Finding Efficiencies

Lean Program

The City's Lean Program focuses on strengthening the organization's culture of continuous improvement and instills Lean concepts and principles as a way of work in every Service Area. The program focuses on maximizing customer value and minimizing waste along with empowering staff at all levels to problem-solve on a daily basis.

Since becoming permanent in 2016, the Lean program has delivered significant results. Over 390 Roads staff have received introductory White Belt Training; four staff have received intermediate Yellow Belt Training, and five staff have received advanced Green Belt Training. Seven projects and 114 small improvements have produced such enhancements as improved customer experience, faster processing times, higher quality and lower costs. Some highlights of the many projects and small improvements completed include:

- WOM Infor (asset management application) Access Review

 reduced the time to provide access to the application to
 new staff by 95 percent by establishing defined roles within
 Infor
- Customer Inquiry Process for Municipal Parking freed up 264 hours of staff time and reduced redirects to and from Municipal Parking by 100 per cent
- Municipal Service Protection Deposit (MSPD) Securities Inspections and Deposits – Eliminated the duplication of two staff visiting one site, saved manpower, and realized a cost avoidance of \$50,500
- Roadway Asset Management Through process improvements and reporting, time required to update roadways was reduced by 89 per cent (from 44 minutes to five minutes). Staff time required for 2017 updates was reduced from 31.5 to six days

Lean Program Results

Con	npleted Init	iatives	Total Benefits					
Improvement Type	2014- 2016	2017	September 2018	Total	Total			
Small Improvement	55	21	41	117	Cost Savings and Avoidance	\$898,660		
Rapid Improvement	0	1	5	6	Customer Service Improvements	59		
Project	1	4	2	7	Safety Improvements	23		
Total	56	26	48	130	Environmental Improvements	33		
In-Progress Initiative				Goa	als of the Initiative			
Maintenance Contract Inspections		y Mainten	ance Contract		act Inspection process, from the initial service ent sign-off following completion, and reduce			
Public Utilities Coordinating Committee (PUCC)		• •		•	30%, and establish a standard, consistent me for all stakeholders	ethod to		
Signs and Pavement Marking Intake	Reduce th	e touch tir		pervisors	to assess service requests by 30% and reduc	ce the re-work		
Works Operations Payroll	Develop Standard Operating Procedures for Time and Labour process since all the yards perform similar activities. Goals:							
	Reduce time and effort spent on Time and Labour reporting							
			• • •		to support this process in the future			

Advancing the City's Strategic Plan

move - developing a transit oriented city

- Actively developing and supporting master plans, programs and projects that encourage transit usage, including the TMP, the Transportation Demand Management Strategy, Lakeshore Connecting Communities and various Metrolinx initiatives
- Initiating Transit Project Assessment Processes (TPAPs) for the Dundas BRT, Lakeshore Higher-Order Transit and the Downtown Mississauga Terminal and Transitway Connection
- The ATMS will allow us to better respond to changing traffic conditions, and adjust traffic signals at busier times to keep the City moving
- Municipal Parking is currently completing the development of a City-wide PMPIS, to provide recommendations for future parking policy and operations that will support the City's Strategic Plan

belong - ensuring youth, older adults and new immigrants thrive

• Continuing to meet and exceed *Accessibility for Ontarians with Disabilities Act* requirements through the installation of tactile warning strips and audible pedestrian signals

connect - completing our neighbourhoods

- Environmental assessments are underway to complete our road network
- Proactive implementation of Accessible Pedestrian crossings will keep our residents connected in an environment made safer for everyone

 The 2018 Cycling Master Plan provides a framework for increasing the amount of safe, connected, convenient and comfortable cycling infrastructure that will contribute to safer cycling in our city and ultimately achieve our vision of increasing the number of residents who choose to ride a bicycle in Mississauga

prosper - cultivating creative and innovative businesses

 Providing a road, transit, and pedestrian network that supports our corporate centres to ensure fast and efficient access to these employment nodes

green - living green

- Cycling and walking are embedded in our Strategic Plan; cycling and pedestrian facilities translate into a healthier, more environmentally friendly, multi-modal city
- The phased implementation of the Cycling Master Plan and the development of Pedestrian and Transportation Demand Management Strategies ensure more green infrastructure and transportation options to come
- Implementation of a robust marketing and education strategy around cycling will help build a culture of cycling in Mississauga
- The Fleet Maintenance Specialist will be responsible for developing a strategy to reduce GHG emissions by reducing fuel consumption, primarily by reducing idling and evaluating and introducing clean technology
- The updated Salt Management Plan ensures our winter maintenance practices provide safe passage for all of our road users while minimizing impacts on the environment



Transforming our Business with Technology

The five strategic directions below, derived from the IT Road Map, are guiding the Roads Service Area through the coming years in a progressive and efficient manner.

1	Modernize Mobile Work Force
2	Real-Time GIS Mapping Tools
3	Automation & Asset Management
4	Customer Self-Service
5	Business Intelligence (BI) for Ease of Use

Recent Highlights

The Advanced Transportation Management System (ATMS) has reached two major milestones as the upgrading of Traffic Signal Communications and the transitioning to a new Traffic Control System have been completed.

A **mobile technology solution for field operations** is being planned and implemented, to provide field staff within Works and Technical Services with tablets to modernize field operations and improve workflows.

Future Plans

Implementation of the **ATMS** continues with a demonstration pilot of **Intelligent Transportation System (ITS)** initiatives along the Dundas Street corridor between Ninth Line and Mississauga Road. The pilot will enable adaptive/responsive traffic controls to automatically adjust traffic signal timings and provide motorists with prevailing travel times. The ongoing development of a proactive ATMS will allow the City to actively monitor travel conditions, influence the operation of traffic signals, disseminate information and interact with other transportation modes and agencies, with an overall view to lessening congestion and its effects on the road network. This system will position Mississauga to be a leader in transportation management.

The **PMPIS** is currently being developed to provide direction on the purpose and intent of parking policy and operations. This plan will include a technology component, which will consider the technological impacts of and opportunities relating to smart parking, mobile payment, demand responsive pricing, peer-topeer parking and future autonomous vehicle parking.

Maintaining Our Infrastructure

To ensure our infrastructure is responsibly maintained, we must define a reasonable state of good repair and set priorities to maintain this state of good repair. This involves addressing growth concerns and developing an economic lens for infrastructure.

There are a number of initiatives planned in order to both maintain and support Mississauga's infrastructure needs. Some of these initiatives include the following planned and proposed Budget Requests.

Loreland Works Yard Development: In order to meet future operational service levels, and given that the existing four yards are operating at capacity, planning is underway for a new works yard in the southeast quadrant of the City.

Cycling Master Plan: In June 2018, Council endorsed the updated Mississauga Cycling Master Plan and the request to include a \$5.2 million annual funding request in the 2019-2028 Capital Program. This level of funding will allow for the proposed cycling network to be fully built out in 27 years. The Cycling Master Plan illustrates the critical steps that the City must take in order to increase the number of residents who will choose to ride a bicycle. The vision of the plan is that Mississauga can be a place where cycling is a way of life for all. Only by providing a safe, connected, convenient and comfortable network of cycling infrastructure, with consistent annual funding and a commitment to grow and improve that network, will the City move towards achieving the vision and goals of the Master Plan, being a City where people choose to cycle for recreation, fitness and daily transportation needs.

Leveraging Mobile Technology to Inventory & Inspect Assets: The recently acquired Road Pavement Management System will enable the City to monitor the asset's performance and select timely, cost-effective treatments to maximize the life expectancy of our roads while minimizing risk to users throughout the pavement's lifecycle.

Project Engineer: Over the next three years, there are 31 rehabilitation projects identified in the Capital Plan for arterial and collector roads. The complexity of these projects is increasing as the City wants to ensure that it is building complete streets that are in line with the City's various visions and master plans. As a result an additional Project Engineer is required to lead the planning and design phases of these complex road projects.

What have we done?

The following infrastructure improvements and accomplishments have been achieved over the past year in order to maintain our infrastructure in a state of good repair:

- Rehabilitated 52 streets (24 kilometres), eight bridge structures and replaced one culvert
- Completed two intersection improvements
- Completed three Environmental Assessments
- Installed 665 metres of new noise barriers
- Installed six new traffic signals
- Installed tactile surface walking indicators at 225 intersections
- Installed concrete bus landing pads at 36 bus stop locations
- Development Construction serviced over 1,700 active building permit files and 92 servicing/municipal works/development/condominium agreements
- Implemented on-street paid parking, as well as off-street paid parking in Municipal Parking Lot #9 in Streetsville
- Installed one kilometre of new sidewalks, and 10 kilometres
 of multi-use trail facilities

Managing Our Human Resources

Workforce Analytics

The Roads Service Area faces similar challenges to those experienced by other large operational environments when it comes to competing for, attracting and retaining skilled talent to address growth needs and manage impending retirements. One hundred forty- one staff, or 31 per cent, are eligible to retire in the period 2019-2022, and the Roads Service Area has introduced talent management and succession planning programs targeted at addressing the anticipated significant turnover of staff in key areas.

Our Structure

The Roads Service Area is made up of three divisions, which in tandem provide effective and efficient planning, design, construction, operation, maintenance and overall governance of Mississauga's roadways, bridges, sidewalks and related infrastructure.

- Transportation and Infrastructure Planning (TIP)
- Engineering and Construction (E&C)
- Works, Operations and Maintenance (WOM)



Our Talent

The Roads Service Area is made up of a mix of highly skilled technical staff with various professional backgrounds, complemented by highly dedicated front-line service delivery staff. The following is being done to foster a culture of motivated career development and employee engagement and innovation:

- Roads Service Area staff are trained on continuous improvement and project management best practices (i.e., Lean, Project Management)
- WOM has introduced the Supervisory development program, which ensures that we continue to develop staff to be ready to take on more responsible roles
- Divisional support is provided to staff to gain and maintain relevant accreditation, i.e., Professional Engineer (P. Eng.), Project Management Professional (PMP)

Critical Roles/Functions to Achieve Business Goals

Engineers and Technologists play a critical role in delivering the services within the Roads Service Area. The roles that they fulfill include: Capital Project Managers, who are responsible for the design, construction and rehabilitation of roads, bridges, culverts and active transportation infrastructure; Transportation Project Engineers, who carry out Environmental Assessment Studies for modifications to our road network and coordinate major road projects; and Traffic Planning Technologists, who review traffic operations impacts of development applications. Additional key roles with the Service Area include Geotechnical and Contract Compliance Coordinators, as well as Surveyors and Inspectors that provide services to Capital Works, Maintenance Contracts, Development Construction and other key clients.

Talent Needs

As workforce demographics continue to change, the Roads Service Area has introduced initiatives to address turnover and obtain the best candidates for future positions. The following initiatives have been put in place to manage the future changes to our workforce:

- Talent management and succession planning programs targeted at addressing the anticipated significant turnover of staff in key areas
- Leveraging of co-op student opportunities and relationshipbuilding with local technical school communities
- Engineer-in-Training Internship Program has been introduced to attract and retain civil engineering skill sets across the Roads Service Area
- The Technologist Internship Program, requested for 2019, aims to produce trained, experienced and certified Technologists that are qualified to take on permanent positions that become available due to retirements

In addition to fostering excellence in our current dynamic workforce, there are coming needs to expand our workforce. With a growing and intensifying City, it is essential to expand the workforce accordingly so we can continue to provide the services necessary to design, construct, operate and maintain the City's road-related assets. Within the four-year budget cycle, the following requests for new full-time staff positions are included:

 One new Traffic Planning Technologist in 2019 in order to meet service level expectations in addressing the increased complexity and effort associated with processing development applications

- Fourteen new full-time staff positions in 2022 for the Loreland Works Yard to carry out the day-to-day operations of the new yard, as well as one full-time security officer
- One new staff member in 2019 for the Active Transportation Office, in order to deliver on the goals and objectives of Mississauga's Cycling Master Plan, including those related to bike parking, bike share and improved data collection
- Three Technologist Interns on a three-year rotating term starting in 2019 are requested in order to fulfill the succession planning goals of the Technologist Internship Program
- One new Fleet Maintenance Specialist is needed to leverage existing technologies such as the Telematics (TMX) system to increase operational efficiencies, increase safety, reduce greenhouse gas emissions (GHG) and reduce operational cost
- One new Assistant Supervisor, Surveys and Inspections is needed to provide support to the Supervisor, which will result in more effective management of the unit, including management of staff in the field. This model also aligns with the current management structure at each of the four Works yards
- One new Project Engineer, Planning and Design for Integrated Road Infrastructure Projects is required to lead the planning and design phases of road rehabilitation projects so that all road elements – active transportation, transit priority, stormwater management and other needs – can be incorporated

Program	2018	2019	2020	2021	2022
Corporate Fleet Maintenance	27.7	28.5	28.5	28.5	28.5
Crossing Guards	77.1	82.7	82.7	82.7	82.7
Engineering and Construction	28.2	28.8	25.8	25.8	25.8
Maintenance Control *	138.1	138.9	140.9	140.9	155.9
Municipal Parking	7.0	7.0	7.0	7.0	7.0
Streetlighing	2.0	2.0	2.0	2.0	2.0
Survey and Inspection	59.5	59.8	61.0	61.0	61.0
Traffic Management	65.3	66.6	66.6	66.6	66.6
Transportation and Infrastructure Planning	43.0	48.6	48.6	47.6	47.6
Total Service Distribution	448.0	462.8	463.0	462.0	477.0

Proposed Full Time Equivalent (FTE) Staffing Distribution by Program

Note: Numbers may not balance due to rounding.

* Cleaning & Litter Pick-Up and Winter Maintenance Programs are included within Maintenance Control.

Proposed Operating Budget

This part of the Business Plan sets out the financial resources required to deliver the proposed 2019-2022 Business Plan. Information is provided by major expenditure and revenue category as well as by program. The costs to maintain existing service levels and operationalize prior decisions are identified separately from proposed changes. The Roads budget for 2018 was \$62.9 million and the proposed budget for 2019 is \$64 million.

Total Changes to Maintain Current Service Levels

The impact of maintaining current service levels for Roads Services is a net increase of \$1,077,000. Highlights are as follows:

- Increase of \$753,000 reflecting labour adjustments and other fringe benefit increases
- Increase of \$150,000 for utility maintenance for third party damages to traffic utilities, offset by an equivalent increase in recovery revenue
- Increase of \$180,000 in Contractor cost for Traffic Management regional work to reflect actual billing. This increase is offset by an equivalent increase in recovery of \$180,000 from the Region of Peel to reflect chargebacks associated with Traffic Signal Services Agreement
- Increase of \$305,000 to transfer to Parking Reserve Fund, as actual net revenues have exceeded expectations. Parking revenues has also been increased by \$305,000
- Increase of \$324,000 in Utilities (Water, Electricity and Gas)

Efficiencies and Cost Savings

The Roads Service Area is expected to see efficiencies and cost savings of \$235,000.

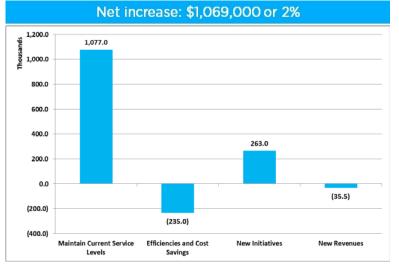
Highlights are as follows:

- Contractor cost savings of \$150,000 have been identified within the Winter Maintenance Program
- Savings of \$65,000 were identified in Traffic Management for communications service provider migration
- \$20,000 in other budget reductions were identified by staff

New Initiatives

Seven of nine new initiatives, with net costs of \$228,000, impact the 2019 operating budget. Details on the initiatives impacting the 2019- 2022 operating budgets can be found later on in this business plan.

Proposed Changes to 2019 Net Operating Budget by Category (\$000's)



Operating Budget Details

The following table identifies the budgeted and forecasted operating expenditures and revenues for 2019-2022, as well as the 2018 Budget and 2017 Actuals by major program within the Service Area.

Proposed Budget by Program

Description	2017 Actuals (\$000's)	2018 Budget (\$000's)	2019 Proposed Budget (\$000's)	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Expenditures to Deliver Current Services						
Bridges & Watercourses	256	307	307	307	307	307
Cleaning and Litter Pick-up	3,579	3,670	3,685	3,692	3,699	3,706
Corporate Fleet Maintenance ¹	1,735	(0)	87	138	189	242
Crossing Guards	2,976	3,231	3,323	3,377	3,431	3,487
Engineering and Construction ²	3,259	554	501	559	619	680
Maintenance Control	8,526	7,899	8,381	8,378	8,384	8,395
Municipal Parking	2,354	1,688	2,026	2,039	2,052	2,065
Road Sidewalk Maintenance	11,164	9,550	9,500	9,500	9,500	9,500
Streetlighting	5,445	5,598	6,018	6,088	6,208	6,325
Survey & Inspection	1,380	2,641	2,800	2,972	3,082	3,182
Traffic Management	12,592	12,312	12,589	12,718	12,830	12,944
Transportation & Infrastructure Planning	4,823	5,145	5,246	5,260	5,308	5,396
Winter Maintenance	20,583	23,013	22,747	22,749	22,752	22,755
Total Expenditures	78,672	75,606	77,209	77,776	78,361	78,984
Revenues	(15,624)	(12,501)	(13,263)	(13,264)	(13,264)	(13,265)
Transfers From Reserves and Reserve Funds	(150)	(150)	(150)	(150)	(150)	(150)
New Initiatives and New Revenues			228	3,794	3,672	4,147
Proposed Net Budget Including New Initiatives	62,898	62,955	64,024	68,157	68,619	69,717
& New Revenues						
Expenditures Budget - Changes by Year			2%	1%	1%	1%
Proposed Net Budget - Changes by Year			2%			

Note: Numbers may not balance due to rounding

Note 1: Corporate Fleet – an increase in the internal recoveries budget for vehicles in 2018 of around \$1.7 million

Note 2: Engineering & Construction decrease in operating budget is due to the transfer of the Geomatics Section to Coporate IT

Summary of Proposed Budget

The following table shows the proposed budget changes by description and category. Costs (labour; operational costs; and facility, IT and support) and revenues are shown by category with the approved 2018 budget for comparison. The three columns to the far right of the table show the totals proposed for 2019 and their dollar and percentage changes over 2018.

Description	2018 Approved Budget (\$000's)	Maintain Current Service Levels	Efficiencies and Cost Savings	Annual ized Prior Years Budge	ating Impa ct of	•	Levies	2019 Proposed Budget (\$000's)	\$ Change Over 2018	% Change Over 2018
Labour and Benefits	30,793	752	0	1	0	532	0	32,078	1,284	4%
Operational Costs	44,627	1,063	(235)	0	0	(111)	0	45,344	717	2%
Facility, IT and Support	186	23	0	0	0	0	0	209	23	12%
Total Gross	75,606	1,838	(235)	1	0	421	0	77,630	2,024	3%
Total Revenues	(12,651)	(762)	0	0	0	(193)	0	(13,607)	(955)	8%
Total Net Expenditure	62,955	1,076	(235)	1	0	228	0	64,024	1,069	2%

Summary of Proposed 2019 Budget

Note: Numbers may not balance due to rounding.

Summary of Proposed 2019 Budget and 2020-2022 Forecast

Description	2017 Actuals (\$000's)	2018 Approved Budget (\$000's)	2019 Proposed Budget (\$000's)	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Labour and Benefits	32,578	30,793	32,078	33,176	33,892	35,048
Operational Costs	45,938	44,627	45,344	48,410	48,161	48,107
Facility, IT and Support	157	186	209	209	209	209
Total Gross	78,672	75,606	77,630	81,795	82,262	83,364
Total Revenues	(15,774)	(12,651)	(13,607)	(13,638)	(13,643)	(13,648)
Total Net Expenditure	62,898	62,955	64,024	68,157	68,619	69,717

Note: Numbers may not balance due to rounding.

Proposed Cost Increase Required to Maintain Current Service Levels

The following table provides detailed highlights of budget changes by major cost and revenue category. It identifies the net changes to maintain existing service levels, taking into account efficiencies, cost savings, and cost increases arising from prior year decisions.

Description	2018 Budget (\$000's)	2019 Proposed Budget (\$000's)	Change (\$000's)	Details (\$000's)
Labour and Benefits	30,793	31,546	753	Increase Reflects Labour Adjustments and Other Fringe Benefit Changes
Administration and Support Costs	186	209	23	Increase in allocation for cleaning staff due to minimum wage increase
Advertising & Promotions	124	139	15	Increase due to Transportation Demand Management Strategy
Communication Costs	905	820	(85)	(\$65) - Efficiencies realized in Traffic Management for communication migration (\$20) - Decrease to reflect actual three-year trend
Contractor & Professional Services	30,552	30,547	(5)	(\$150) - Efficiencies realized in Winter Maintenance contract \$145 - Increase in Contractor Costs for Traffic Management Regional work, which is directly correlated/offset with increase in Recoveries from the Region
Equipment Costs & Maintenance Agreements	571	586	15	Increase to reflect actual thee-year trend, offset fully by Revenues.
Finance Other	38	65	27	Increase to reflect actual thee-year trend
Materials, Supplies & Other Services	9,305	9,186	(119)	Decrease to reflect actual three-year trend, offset by increases in various other operating expenses
Occupancy & City Costs	6,546	7,054	508	 \$150 - Increase in Utility Maintenance for third party damages to Traffic Utilities, offset by recovery revenue below \$324 - Net Increase in utilities (Water, Hydro and Gas) for various facilities \$34 - Increase to reflect three-year trend, offset by decreases in various other operating expenses
Staff Development	166	156	(10)	
Transfers To Reserves and Reserve Funds	495	800	305	Increase to transfer to Parking Reserve fund, as actual net revenues have exceeded expectations. As well, a corresponding increase to Parking Revenues has been reflected.
Transportation Costs	(4,076)	(3,899)	177	 \$187 - Increase to reflect actual three-year trend, offset by decreases in various other operating expenses (\$10) - Efficiencies realized due to less mileage reimbursement for vehicle use
Subtotal - Other Operating	44,813	45,664	851	
Total Revenues	(12,501)	(13,263)	(762)	(\$305) - Increase in Parking Revenue to reflect actual, offset by a corresponding transfer to Parking Reserve above. (\$150) - Increase in recoveries for third party damages to Traffic Utilities, offset by Occupancy costs above (\$180) - Increase in Regional Recoveries, partially offset by contractor costs above (\$127) - Increase in various recoverable work to cover operating expenses
Transfers From Reserves and Reserve Funds	(150)	(150)	0	
Subtotal - Revenues	(12,651)	(13,413)	(762)	
Total	62,955	63,797	842	

Note: Numbers may not balance due to rounding.

Proposed New Initiatives and New Revenues

This table presents the costs by Budget Request (BR) for proposed new initiatives. Each BR is numbered. Detailed descriptions of each Request can be found in the pages following the table.

Description	BR #	2019 FTE Impact	2019 Proposed Budget (\$000's)	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)	2019 to 2022 FTE Impact	2019 to 2022 Capital (\$000's)
New Initiative								
Loreland Yard	5362	0.0	0	0	0	461	15.0	24,700
Cycling Master Plan Phased Implementation	5363	1.0	73	102	104	106	1.0	275
Technologist Internship Program	5364	3.0	125	219	223	227	3.0	0
Traffic Planning Technologist	5365	1.0	0	0	0	0	1.0	0
Fleet Maintenance Specialist	5382	1.0	-77	-240	-285	-283	1.0	0
Maintenance Standards	5384	0.0	0	3,544	3,460	3,465	2.6	0
Project Engineer - Planning and Design for Integrated Road Infrastructure Projects	5389	1.0	91	125	127	129	1.0	0
Tour De Mississauga	5428	0.0	50	50	50	50	0.0	0
Total New Initiative		7.0	263	3,801	3,680	4,155	24.6	24,975
New Revenues								
Assistant Supervisor, Surveys and Inspections	5383	1.0	-35	-7	-7	-8	1.0	0
Total New Revenues		1.0	-35	-7	-7	-8	1.0	0
Total New Initiatives and New Revenues		8.0	228	3,794	3,672	4,147	25.6	24,975

Proposed Initiative	Department	Service Area
Loreland Yard	Transportation & Works Department	Roads

Description of Budget Request

Both Works Operations and Maintenance, and Parks & Forestry are seeing increased growth in road infrastructure and parkland within the southeast area of the City and a combined operations yard is required to meet service levels. In 1983 the City had 1,000 lane km of roads to maintain and four Works yards, and as of 2018, the City now has over 5,600 lane km of roads to maintain.

Required Annual Operating Investment

Impacts (\$000s)	2019	2020	2021	2022
Gross Expenditures	0.0	0.0	0.0	461.5
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	0.0	0.0	0.0	0.0
Tax Levy Requirements	0.0	0.0	0.0	461.5
* Net Change in \$		0.0	0.0	461.5
FTEs	0.0	0.0	0.0	15.0

*In each year, all values are cumulative, not incremental.

Required Capital Investment

Total Capital (\$000s)	2018 & Prior	2019	2020	2021	2022 & Beyond
Expenditures	1,500.0	0.0	7,950.0	6,750.0	10,000.0

Why Staff Recommend this Initiative

The City has grown over the last 20 years. This new yard is required to meet operational service levels. The yard will include material and equipment storage, administrative space and snow storage capacity.

Details of Service Change

The Loreland Yard has been identified and previously approved as a cash-flowed project in the capital budget. The boundaries of the areas served by the existing yards will be re-established to continue to meet and improve service levels and also disperse equipment and staff for optimum efficiency and customer service.

For 2022, 15 additional full-time staff positions are required to support the operations of the yard; four non-union and 11 union positions. This includes one Area Supervisor, one Assistant Area Supervisor, one Security Officer and one Administrative Assistant. One Loader Operator (WPII), one Driver-DZ (WPIII), two Drivers (WPIV), and four Labourers to carry out the day-to-day operations of the yard.

This yard will include a mechanic's bay with three mechanics - one lead hand (Service Centre) and two mechanics (Service Centre).

New equipment will be required for day-to-day operations. This will include two five-tonne trucks, two crew cabs, one loader, one backhoe, one belt loader (stacker) and two half-ton pickups or Sport Utility Vehicles (SUVs).

Service Impact

The new Loreland Operations Yard is required to maintain service levels for maintenance and operations for both Works Operations and Maintenance (WOM) and Parks & Forestry. For WOM, it is especially needed for our winter operations and to alleviate congestion pressures in the existing four yards due to the winter equipment and lack of storage. The realignment of the boundaries of the areas served by each yard will also have a positive impact on customer service, including our ability to address maintenance issues in a timely manner.

With the increased assets requiring maintenance in the southeast district for Parks & Forestry, having the Loreland Operations Yard will allow them to meet and improve service levels in this area.

The other pressure driving the need to establish the Loreland Yard is the proposed change upcoming in provincial Minimum Maintenance Standards (BR #5384). With the addition of more infrastructure to be maintained in all seasons but particularly winter (namely sidewalks, bike trails and multi-use trails), the Loreland Yard is required to meet service levels.

Proposed Initiative	Department	Service Area
Cycling Master Plan Phased Implementation	Transportation & Works Department	Roads

Description of Budget Request

This Budget Request is seeking an Active Transportation Coordinator position (one FTE) at the Grade E level in the Active Transportation unit in the Transportation Infrastructure Management section, starting in April 2019, to deliver on the goals and objectives of Mississauga's Cycling Master Plan, including those related to bike parking, bike share and improved data collection. The capital costs to undertake a bike parking feasibility study and to implement bike parking are also included.

Required Annual Operating Investment

Impacts (\$000s)	2019	2020	2021	2022
Gross Expenditures	73.5	102.3	104.0	105.7
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	0.0	0.0	0.0	0.0
Tax Levy Requirements	73.5	102.3	104.0	105.7
* Net Change in \$		28.8	1.7	1.7
FTEs	1.0	1.0	1.0	1.0

*In each year, all values are cumulative, not incremental.

Required Capital Investment

Total Capital (\$000s)	2018 & Prior	2019	2020	2021	2022 & Beyond
Expenditures	0.0	0.0	175.0	50.0	350.0

Why Staff Recommend this Initiative

Specific action items are identified in the Cycling Master Plan update that will contribute to increasing cycling and the cycling culture in the City, but which require additional staff resources to execute properly. Significant capital dollars from senior levels of government are becoming more frequently available for cycling infrastructure and programming. Adequate staffing levels are required to effectively leverage funding opportunities into fully implemented projects.

Details of Service Change

Specific action items are identified in the Cycling Master Plan update that will contribute to increasing cycling and the cycling culture in the City, but which require additional staff resources to execute properly. Three of these action items can be addressed with an investment in additional staff and capital dollars: developing and coordinating a comprehensive bicycle parking program, coordinating a holistic data collection and evaluation program, and investigating the feasibility of a bike share system for Mississauga.

The additional staff resource represents an operating budget requirement of approximately \$73,500 starting in April, 2019. The capital budget requirement to undertake the bike share feasibility study is \$125,000 in 2020, while the bike parking program will require an annual capital budget of \$50,000 starting in 2020 and beyond. Ongoing data collection costs can be accommodated by existing budgets.

Service Impact

The financial impact of an additional staff position and capital investment is offset by the more significant benefits that will accrue to the City over time. Adequate amounts of bike parking are prerequisite to increasing cycling mode share; adequate data will inform better planning decisions in the future, and bike share presents a functional first/last mile transportation option in major urban centres worldwide. These three programs should be considered foundational to achieving the goals of the Cycling Master Plan Update, and require human resources to properly execute.

Proposed Initiative	Department	Service Area
Technologist Internship Program	Transportation & Works Department	Roads

Description of Budget Request

This Budget Request is seeking the approval to establish a Technologist Internship Program. This involves the approval of three fulltime contract positions, Technologist Intern, at a proposed grade level of D.

The Technologist Internship Program will allow the Transportation & Works Department to implement a succession planning strategy that will position the Department well to respond to anticipated upcoming retirements and the associated potential loss of experience and knowledge.

Required Annual Operating Investment

Impacts (\$000s)	2019	2020	2021	2022
Gross Expenditures	125.0	219.4	223.2	227.1
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	0.0	0.0	0.0	0.0
Tax Levy Requirements	125.0	219.4	223.2	227.1
* Net Change in \$		94.4	3.8	3.9
FTEs	3.0	3.0	3.0	3.0

*In each year, all values are cumulative, not incremental.

Required Capital Investment

Total Capital (\$000s)	2018 & Prior	2019	2020	2021	2022 & Beyond
Expenditures	0.0	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

The demographics of the Transportation & Works Department indicate that 24 per cent of our Technologists are eligible to retire in the next five years. The retirement of these skilled individuals could result in a significant gap within the Department, which has the potential to impact the services we deliver. To leverage existing staff knowledge and expertise, and reduce the risks associated with this potential knowledge gap, the Department is proposing a Technologist Internship Program.

Details of Service Change

The objective of the Technologist Internship Program is to produce at the end of a three-year term trained, experienced and certified Technologists that are qualified to take on permanent vacant positions that become available due to retirements.

The Internship Program involves the recruitment of recent graduates from an accredited Canadian civil engineering technology program for a three-year term and rotation of the interns through various positions in the Engineering & Construction, Transportation & Infrastructure Planning, and Works, Operations & Maintenance Divisions. This rotation will provide the interns with a 'big picture' perspective of the Department and allow them to develop working relationships across multiple Divisions and produce Technologists with a multi-disciplinary skill set.

The Program allows interns to accumulate up to 36 months of work experience that meets the Ontario Association of Certified Engineering Technicians and Technologist (OACETT) requirements for obtaining professional certification as a Certified Engineering Technologist. This Certification is a key qualification for permanent Technologist positions within the Department.

Service Impact

The establishment of the Technologist Internship Program requires the approval of three full-time contract positions, Technologist Intern, at a proposed grade level of D.

The establishment of the program will ensure that an effective succession planning strategy is in place, providing the Department with a supply of candidates who are qualified for key Technologist positions when these become vacant, and allowing knowledge transfer to take place between Technologists approaching retirement and the Technologist Interns.

Proposed Initiative

Traffic Planning Technologist

Department Transportation & Works Department Service Area Roads

Description of Budget Request

This Budget Request is seeking an additional Traffic Planning Technologist position (one FTE) at the Grade E level for the Transportation Projects unit in the Transportation Infrastructure Management section, starting in 2019. The objective is to meet the City's service level expectations for processing development applications related to traffic issues, including operations, safety, site and network circulation, road right-of-way requirements and easements.

Required Annual Operating Investment

Impacts (\$000s)	2019	2020	2021	2022
Gross Expenditures	73.5	102.3	104.0	105.7
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	73.5	102.3	104.0	105.7
Tax Levy Requirements	0.0	0.0	0.0	0.0
* Net Change in \$		0.0	0.0	0.0
FTEs	1.0	1.0	1.0	1.0

*In each year, all values are cumulative, not incremental.

Required Capital Investment

Total Capital (\$000s)	2018 & Prior	2019	2020	2021	2022 & Beyond
Expenditures	0.0	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

As the City is intensifying, development applications are becoming more complex in nature given the more urban and congested environment. This complexity extends to the transportation-related components of the applications, leading to more staff time required to review these applications and their associated Transportation Impact Studies. In 2016/2017, the current staff complement was only able to complete 64 per cent of their application reviews on time, resulting in a request for one new FTE.

Details of Service Change

The complexity and staff effort associated with processing applications has increased and is expected to continue to increase as the City grows. This has been demonstrated with recent applications such as the Roger's Master Site Plan and the West Village Partners application and is expected for future sites such as the development of Inspiration Lakeview, and sites along the Hurontario Corridor. The two current Traffic Planning Technologists are not able to meet the service level expectations for review and comment on the various development applications due to the high demands of the submitted applications.

The need to meet service level expectations for the review of development applications is critical from both a customer service perspective and in order to meet the City's planning objectives. Increasing capacity to review will ensure that the Transportation & Works Department continues to provide high quality comments while striving to ensure that it is done in a timely manner.

Development application fee revenues have increased from \$423,601 in 2014 to \$1,111,733 in 2017. Between 2016 and 2017 the revenue budget was increased by \$370,540. However, it should be noted that this increase was made after the Roads 2017 Budget was approved. As a result, an additional Traffic Planning Technologist is being requested as part of the 2019 budget, the cost of which being offset by the \$370,540 budget increase and the revenue surplus.

Service Impact

With the addition of one Traffic Planning Technologist, the Transportation & Works Department will be better positioned to review the increasingly complex development applications that are being submitted. This includes improved compliance with the review timelines as set out by the City for submitted development applications, and improved customer service to both internal and external stakeholders.

Proposed Initiative	Department	Service Area
Fleet Maintenance Specialist	Transportation & Works Department	Roads

Description of Budget Request

This request is for the provision of a full time position, Fleet Maintenance Specialist, Fleet Services for 2019.

This Specialist will administer and manage the performance of the City's Telematics (TMX) system and vendor. TMX is a system that provides operating data and location information for equipment. The Specialist will be providing studies and recommendations on opportunities that will advance the City's climate change plan, green the fleet and advance the introduction of zero-emissions technology.

Required Annual Operating Investment

Impacts (\$000s)	2019	2020	2021	2022
Gross Expenditures	(76.9)	(240.1)	(285.0)	(283.1)
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	0.0	0.0	0.0	0.0
Tax Levy Requirements	(76.9)	(240.1)	(285.0)	(283.1)
* Net Change in \$		(163.3)	(44.9)	1.9
FTEs	1.0	1.0	1.0	1.0

*In each year, all values are cumulative, not incremental.

Required Capital Investment

Total Capital (\$000s)	2018 & Prior	2019	2020	2021	2022 & Beyond
Expenditures	0.0	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

Currently, we do not have a full time position dedicated to analysis and reporting on TMX data, advising staff when they are operating outside expectations or operating in an unsafe manner. TMX data, along with market research and analysis will be used to determine which technologies are providing the greatest benefit in lowering GHG emissions.

The potential return on investment for this position is directly related to using the data to drive efficiencies and increase accountability.

Details of Service Change

The role of the Fleet Maintenance Specialist will be to manage the TMX vendor and system, focus on performance metrics that drive operational efficiencies and reduce operating costs. Reducing salt consumption during winter road maintenance is just one example that demonstrates how data can be used to actively monitor salt dispensing rates and provide real-time alerts to staff to take corrective action. Using TMX to actively monitor salt usage will better inform and facilitate effective salt management and reduce consumption.

The Fleet Maintenance Specialist will also be responsible for developing a strategy to reduce GHG emissions by reducing fuel consumption, primarily by reducing idling and evaluating and introducing clean technology.

Further opportunities exist when the TMX system is fully utilized, some of which are listed below:

Increased operational efficiency

- equipment utilization analysis and reporting
- route optimization
- shift productivity analysis, late starts and early ending reports
- fuel efficiency analysis by equipment type and job classification
- equipment pooling and scheduling

Increased safety

- analyze trends, predict unsafe behaviours
- lone worker monitoring
- aggressive driving reporting and alerts
- decreased risk of accidents

Reduced liability

- demonstrate service level compliance
- mitigation of incident/accident claims

Service Impact

In order to maximize the benefits of a TMX system, it is critical that the correct TMX hardware be installed; that users are trained and supported; and, that the data is analyzed and presented in a format that is actionable to business units. TMX data is information that can be used to manage the City's effective and efficient use of resources.

The potential return on investment for this position is directly related to the proper implementation and contract management of the current vendor, future negotiations, installing application-specific TMX hardware and using the data to drive efficiencies and increase accountability. The initial focus will be to reduce idling and salt consumption.

Reduce idling in the first year by 30 per cent, and a further 20 per cent in the second year. This would save \$59,400 in fuel, \$26,300 in maintenance costs and reduce GHG emissions by 129,077 kg in the first 24 months. Salt Savings: using active event reports, post event analysis and spread rate analysis it is expected that salt usage can be reduced by five per cent in the first year and an additional five per cent in the second year. This would save \$316,800 in the first 24 months.

Proposed Initiative

Department

Service Area

Assistant Supervisor, Surveys and Inspections

Transportation & Works Department

Roads

Description of Budget Request

The provision of a full-time position, Assistant Supervisor, Surveys and Inspections for 2019.

Currently, the Supervisor of Surveys and Inspections manages a staff complement of 48 during the non-construction season (four months of the year) and 71 during the construction season (eight months of the year). The unit size is not manageable for one supervisor. The opportunity to address the current situation is through the provision of an Assistant Supervisor, Surveys and Inspections.

Required Annual Operating Investment

Impacts (\$000s)	2019	2020	2021	2022
Gross Expenditures	84.5	115.6	117.5	119.4
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	120.0	122.4	124.9	127.3
Tax Levy Requirements	(35.5)	(6.8)	(7.4)	(7.9)
* Net Change in \$		28.6	(0.6)	(0.5)
FTEs	1.0	1.0	1.0	1.0

*In each year, all values are cumulative, not incremental.

Required Capital Investment

Total Capital (\$000s)	2018 & Prior	2019	2020	2021	2022 & Beyond
Expenditures	0.0	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

The proposed Assistant Supervisor will provide support to the Supervisor of Surveys and Inspections, which will result in more effective management of the unit, and include more of a balance of work and responsibilities. Under the new structure, the proposed Assistant Supervisor will provide oversight to all of the temporary staff. Further, the position will provide the necessary capacity to move a number of initiatives forward, which will ultimately improve the section's operational efficiency.

Details of Service Change

Currently, the Supervisor of Surveys and Inspections is responsible for the management of 48 staff including recruitment, training, assigning work and providing guidance. However, given the number of direct reports, the unit size is not manageable for one supervisor. If the current reporting structure continues, the effectiveness of the Supervisor will continue to be negatively impacted. Below is a sample of the issues that are expected to continue if the status quo is maintained.

- Difficulty in providing oversight of the staff to ensure quality of services and monitoring of time/labour
- · Challenge to ensure timely recruitment to meet the needs of our clients
- Unable to explore innovative ways to improve our processes that would ultimately improve the section's operational efficiency and contain costs
- Challenge to address daily staff inquires, including being available to provide support/guidance to both full-time and temporary staff
- Difficulty monitoring work, assessing staff performance and providing coaching/guidance/support to staff in the field

It is recommended that this position be funded through offsetting revisions to the Transportation and Works Fees and Charges By-law (166-17) as part of the 2019 update. Technical Services will be including two new fees in the By-law update to capture the costs associated with the salary of this position.

Service Impact

The proposed Assistant Supervisor will support the Supervisor, which will result in more effective management of the unit, and balance of work and responsibilities. The following highlights the benefits of the position.

- Improved management and oversight of the staff within the unit to help ensure efficiency and productivity
- Direct oversight of all the temporary staff
- Improved customer service to clients
- Assistance in the recruitment of new personnel by assisting in reviewing applications, interviewing, onboarding and training
- Proactive exploration of new ways to improve our processes and procedures, with a view to improving effectiveness, efficiency and customer service
- Capacity to move a number of initiatives forward, such as documenting procedures and creating guidelines, which will ultimately improve the section's operations and performance
- Assistance in the development of an ongoing training program to ensure staff are trained to industry standard, support staff retention and improve staff morale
- Provision for succession planning within the Surveys and Inspections unit

Budget Request #: 5384

Proposed Initiative	Department	Service Area
Maintenance Standards	Transportation & Works Department	Roads

Description of Budget Request

The Province of Ontario is undertaking a review of the Minimum Maintenance Standards (MMS) for municipal highways. The anticipated revisions to the MMS are expected to be communicated in 2018 and required to be implemented in 2020. As a result, there is a need to advance a Budget Request (BR) to provide additional resources to meet the requirements of the new MMS, should Council adopt them, particularly related to winter maintenance and sidewalk maintenance.

Required Annual Operating Investment

Impacts (\$000s)	2019	2020	2021	2022
Gross Expenditures	0.0	3,544.3	3,460.2	3,464.7
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	0.0	0.0	0.0	0.0
Tax Levy Requirements	0.0	3,544.3	3,460.2	3,464.7
* Net Change in \$		3,544.3	(84.2)	4.6
FTEs	0.0	2.6	2.6	2.6

*In each year, all values are cumulative, not incremental.

Required Capital Investment

Total Capital (\$000s)	2018 & Prior	2019	2020	2021	2022 & Beyond
Expenditures	0.0	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

Should Council approve the new Minimum Maintenance Standards, Works Operations and Maintenance will require additional resources to meet the new service levels.

Budget Request #: 5384

Details of Service Change

Below are all the new costs that will be incurred in order to meet the requirements of the new MMS under the current levels of service:

Total Operational Budget: \$3,545,200

In 2020 there will be a premium to accommodate storage of winter equipment; however, there will not be a premium required in 2021 as the Loreland Yard will be available for use.

Service Impact

Today, there are approximately 5,600 lane kilometres of road and 2,200 kilometres of sidewalk in Mississauga. The Works Operations and Maintenance Division maintains this critical infrastructure in accordance with the existing MMS and are currently resourced to meet these MMS service level requirements.

If adopted by Council, the City would be able to continue to maintain the critical infrastructure to the standards set in the new MMS service level requirements. The City would continue to have some legal protection, due to the degree of uniformity and standardization of care on municipal roads that the travelling public depend upon, and which in turn improves public safety.

Proposed Initiative

Project Engineer - Planning and Design for Integrated Road Infrastructure Projects

Description of Budget Request

Department Transportation & Works Department Service Area Roads

This Budget Request is seeking an additional Project Engineer position (one FTE) at the Grade G level within the Transportation Projects unit in the Transportation Infrastructure Management (TIM) section, starting in April 2019, to lead the planning, preliminary and final design phases of complex road projects in order to develop appropriate project budgets during the Capital Planning process.

Required Annual Operating Investment

Impacts (\$000s)	2019	2020	2021	2022
Gross Expenditures	91.4	125.2	127.2	129.4
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	0.0	0.0	0.0	0.0
Tax Levy Requirements	91.4	125.2	127.2	129.4
* Net Change in \$		33.7	2.1	2.1
FTEs	1.0	1.0	1.0	1.0

*In each year, all values are cumulative, not incremental.

Required Capital Investment

Total Capital (\$000s)	2018 & Prior	2019	2020	2021	2022 & Beyond
Expenditures	0.0	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

Over the next three years, there are 31 rehabilitation projects identified in the Capital Plan for arterial and collector roads. The complexity of these projects is increasing from a planning perspective as there is a need to ensure that stakeholder requirements and budgets are sufficiently compiled and that all of the required design elements are identified and bundled into a complete street solution in line with the City's visions and master plans and ready for capital delivery.

Details of Service Change

The Project Engineer will lead the development of detailed project plans, research and determine land requirements and complete the detail design that addresses stakeholder needs and ensures the delivery of safe and effective transportation corridors that align with the City's strategic directions. With expertise and experience in the programming, planning and design of civil infrastructure, as well as project and stakeholder management, the Project Engineer will help to advance the City's transportation- and stormwater-related master plans and strategic objectives along our major roadway corridors in a well-coordinated manner.

The position will be responsible for identifying the full range of project requirements, consulting with internal and external stakeholders and leading projects through their programming, planning and detailed design phases. The Project Engineer will manage all stakeholder needs/expectations and balance functional design requirements, project risks and costs (both capital and operating) to create the optimal solution. The Project Engineer will work closely with the Capital Project Manager responsible for construction to ensure that all of the design elements are achieved through the construction lifecycle and ensure that project capital cost estimates reflect the true cost for construction.

Service Impact

The overall objective is to meet the growing demand for detailed project plans and budgets to ensure timely project delivery that aligns with the strategic goals of the City. Additional benefits of increasing staff to meet the demand for delivering complex projects include::

- Improved project requirements gathering
- Improved project costing/budgeting
- Improved stakeholder engagement
- Comprehensive roadway design that aligns with the City's strategic pillars, Move, Connect, Green
- Timely project delivery

With the development of a more detailed scope of work for each project, staff will be able to develop better project budget and timeline estimates for inclusion in the Roads Capital Program budget request and ultimately reduce the number of occasions where additional budget is requested.

Budget Request #: 5428		
Proposed Initiative	Department	Service Area
Tour De Mississauga	Transportation & Works Department	Roads

Description of Budget Request

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This Budget Request seeks an operating budget increase of \$50,000, starting in 2019 and ending in 2023, to support the transfer of operation and ownership of the Tour de Mississauga to a third party.

Required Annual Operating Investment

Impacts (\$000s)	2019	2020	2021	2022
Gross Expenditures	50.0	50.0	50.0	50.0
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	0.0	0.0	0.0	0.0
Tax Levy Requirements	50.0	50.0	50.0	50.0
* Net Change in \$		0.0	0.0	0.0
FTEs	0.0	0.0	0.0	0.0

*In each year, all values are cumulative, not incremental.

Required Capital Investment

Total Capital (\$000s)	2018 & Prior	2019	2020	2021	2022 & Beyond
Expenditures	0.0	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

The Tour de Mississauga is the City's signature cycling event. It showcases the cycling network and promotional programs to hundreds of residents and visitors. Leveraging its popularity is a key component of the City's marketing and educational activities for cycling.

Financial support is required to close the funding gap and make the event's transfer to a third party viable until the revenues generated by the event through registration fees and sponsorships are sufficient to sustain it.

Details of Service Change

Organizing mass participation cycling events is a time-consuming and complex process. Efforts to find a third party to take over ownership and management have been unsuccessful to date. The financial risk associated with taking over the event is large, which makes finding an interested third party difficult. Tour de Mississauga in its current form does not generate enough revenue to pay for the operating expenses and staff time required to organize it. There is an estimated \$60,000 gap between the revenue and total expenses. This estimate is supported by the staff costs incurred by both the City and SustainMobility in organizing the 2017 Tour.

Staff believe this gap can be closed in the years to come through increased registrations, sponsorships and grant revenues. The likelihood of finding an interested third party to take over ownership of the event is much greater if the City is able lower the financial risk by providing a multiple-year financial support package. Financial support, together with event structure changes and increased registration fees, is expected to allow a third party to grow the event's revenue towards breaking even and beyond.

Service Impact

The annual operating cost of this initiative is estimated to be \$50,000 from 2019 to 2023. This represents a five-year upper limit support package for the transfer of the Tour de Mississauga to a third party organizer. At the end of the five-year period the need for this financial support will be reviewed. It is anticipated that within five years, the event will approach or achieve independent financial sustainability. At a certain point, the event may achieve an annual surplus, which could be either reinvested into the event or be translated into a separate community benefit.

Proposed Capital Budget

This section summarizes the forecast 10-year capital requirements for this service. The following table presents the forecast by major program. The next table summarizes the sources of financing for the capital forecast.

Program Expenditures	2019 Proposed Budget (\$000's)	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)	2023-2028 Forecast (\$000's)	Total 2019-2028 (\$000's)
Active Transportation	6,875	10,652	5,975	3,550	33,354	60,406
Bridge & Structure Renewal	4,000	7,225	5,583	7,500	49,918	74,225
Environmental Management	175	375	375	375	2,250	3,550
Major Road Construction	17,900	29,050	30,927	36,884	175,649	290,411
Municipal Parking	400	100	100	100	600	1,300
Noise Wall Infrastructure	2,665	2,047	1,050	700	2,796	9,258
Roadway Rehabilitation	33,285	36,066	25,922	26,858	177,041	299,172
Traffic Management	4,480	7,280	6,530	3,830	24,587	46,707
Works Fleet and Equipment Management	3,597	3,561	3,886	3,986	26,016	41,046
Works Improvement	50	8,000	6,800	10,150	420	25,420
Total	73,427	104,356	87,147	93,933	492,631	851,495

Proposed 2019-2028 Capital Budget by Program

Proposed 2019-2028 Capital Forecast Highlights

Priority 2019 Projects Are Funded \$73 Million

- A comprehensive review of the Roadway Rehabilitation Program is to be undertaken to ensure that our roads are kept in a state of good repair
- Road rehabilitation projects include the renewal of 47 kilometres of roads (81 streets)
- Bridge rehabilitation projects include the renewal of one culvert structure located on Willow Road and two Bridge Structures located along Central Parkway over Cooksville Creek
- The Collegeway Cycle Track between Mississauga Road and Erin Mills Parkway
- Other projects include funding for sidewalks, cycling, noise barriers, parking, traffic, street lighting and City fleet
- Cash flow funding for active major road improvement projects including:
 - The Goreway Drive Rail Grade Separation
 - Square One Drive between Confederation Parkway and the future Amacon Driveway Phase One: Design/Construct. (Phase Two: between the future Amacon Driveway and Rathburn Road West to be completed at a later date)
 - \circ $\;$ Mavis Road between Courtneypark Drive and the North City limits $\;$
- Transportation Studies Funding For:
 - Ninth Line between Eglinton Avenue West and Derry Road West (EA)
 - Dundas Street Bus Rapid Transit Transit Project Assessment Process (TPAP)
 - o Road Characterization Study and Complete Streets Guidelines
 - Downtown Transitway Connection and Terminal TPAP
 - o Lakeshore Higher Order Transit Corridor TPAP

10-Year Capital Forecast is \$851 Million

- Corridor enhancements to support the HuLRT Project
- Bridge rehabilitation projects fully funded and road rehabilitation is partially funded using Federal Gas Tax funding
- Major road improvement projects have been rescheduled to align with forecasted development charges revenue
- Limited funding available for Major Road Improvement and Other Engineering projects

Proposed 2019-2028 Capital Budget by Funding Source

The following table provides the funding sources proposed to fund the capital portion of the proposed 2019-2022 Business Plan and 2019 Budget and the consolidated forecast for 2023-2028.

Funding	2019 Proposed Budget (\$000's)	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)	2023-2028 Forecast (\$000's)	Total 2019-2028 (\$000's)
Tax Capital	16,637	40,717	54,820	52,395	241,444	406,011
Planning Act Reserve Funds	300	0	0	0	0	300
Development Charges	18,941	25,455	20,826	23,613	149,727	238,560
Developer Contributions	470	470	370	0	2,720	4,030
Gas Tax	37,080	37,715	10,982	17,226	87,796	190,799
Recoveries	0	0	150	700	2,835	3,685
Subsidies and Senior Govt. Level	0	0	0	0	8,109	8,109
Total	73,427	104,356	87,147	93,933	492,631	851,495

Proposed 2019 Capital Budget Detail

The following tables provide a detailed listing of proposed capital projects for 2019.

Program: Active Transportation

Project Number	Project Name	Gross Cost (\$000's)	Recovery (\$000's)	Net Cost (\$000's)	Funding Source
TWOE00165	Cycling Program	100	0	100	Development Charges, Gas Tax
	Cycling Program - Scenario A	1,425	0	1,425	Development Charges,Gas Tax
TWOE00168	Sidewalks	263	0	263	Developer Contributions, Development
					Charges
TWOE00362	Cycling Program	200	0	200	Gas Tax
TWOE06838	Cycling Program (Structures)	150	0	150	Development Charges
TWOE06849	Cycling Program (Improvements)	150	0	150	Tax Capital
TWOE06869	Cycling Program - Scenario B	1,950	0	1,950	Development Charges
TWOE06871	Cycling Program	250	0	250	Development Charges
TWOE06993	Cycling Program - Scenario C	1,388	0	1,388	Development Charges
TWTI005970	Sidewalks	1,000	0	1,000	Gas Tax
Total		6,875	0	6,875	

Note: Numbers may not balance due to rounding.

Program: Bridge & Structure Renewal

Project Number	Project Name	Gross Cost (\$000's)	Recovery (\$000's)	Net Cost (\$000's)	Funding Source
TWBR00032	Bridge Repairs	3,200	0	3,200	Gas Tax,Tax Capital
TWBR00033	Bridge Structure Detail Condition Survey & Design at various locations	600	0	600	Gas Tax
TWBR00056	Bridge/Culvert Structure Appraisal and Improvement Priority	200	0	200	Gas Tax
Total		4,000	0	4,000	

Program: Environmental Management

Project Number	Project Name	Gross Cost (\$000's)	Recovery (\$000's)	Net Cost (\$000's)	Funding Source
TWOE00288	Site Assessments and Data Management	175	0	175	Tax Capital
Total		175	0	175	

Note: Numbers may not balance due to rounding.

Program: Major Road Construction

Project Number	Project Name	Gross Cost (\$000's)	Recovery (\$000's)	Net Cost (\$000's)	Funding Source
TWMR000191	Old Derry Road Realignment - Design & Construction	300	0	300	Tax Capital
TWMR00047	Goreway Drive Rail Grade Separation	4,000	0	4,000	Development Charges
TWMR00062	Ninth Line Widening - Eglinton Avenue West to Derry Road West - Class EA Study	400	0	400	Development Charges,Tax Capital
TWMR00073	Preliminary Engineering Studies	100	0	100	Development Charges
TWMR00119	Square One Drive - Confederation Parkway to Rathburn Road West	850	0	850	Development Charges
TWMR00147	Mavis Road from Courtneypark Drive to North City Limits	6,900	0	6,900	Development Charges,Gas Tax
TWMR00194	Lakeshore HOT TPAP for Phases 1 and 2	500	0	500	Tax Capital
TWMR00200	Dundas BRT TPAP	2,500	0	2,500	Tax Capital
TWMR06885	Road Characterization and Complete Streets Guidelines	250	0	250	Development Charges
TWMR07114	Downtown Transitway Connection and Terminal - TPAP	2,000	0	2,000	Tax Capital
TWOE00500	Property Acquisition	100	0	100	Development Charges
Total		17,900	0	17,900	

Program: Municipal Parking

Project Number	Project Name	Gross Cost (\$000's)	Recovery (\$000's)	Net Cost (\$000's)	Funding Source
TWRR00062	Parking Lot Rehabilitation	100	0	100	Tax Capital
TWRR006634	Parking Technology Strategy	50	0	50	Planning Act Reserve Funds
TWRR006635	Study-Capital Dev Plan & Asset Mgt. Strategy	100	0	100	Planning Act Reserve Funds
TWRR006636	Study-Future Parking Demand Forecasting	150	0	150	Planning Act Reserve Funds
Total		400	0	400	

Note: Numbers may not balance due to rounding.

Program: Noise Wall Infrastructure

Project Number	Project Name	Gross Cost (\$000's)	Recovery (\$000's)	Net Cost (\$000's)	Funding Source
TWOE00245	Noise Wall Program	1,665	0	1,665	Gas Tax, Tax Capital
TWOE00382	Noise Wall Program Retrofit	1,000	0	1,000	Development Charges
Total		2,665	0	2,665	

Note: Numbers may not balance due to rounding.

Program: Roadway Rehabilitation

Project Number	Project Name	Gross Cost (\$000's)	Recovery (\$000's)	Net Cost (\$000's)	Funding Source
TWRR00040	Road Asphalt Crack Sealing	100	0	100	Tax Capital
TWRR00041	Roadway Rehabilitation	18,900	0	18,900	Gas Tax
TWRR00101	Roadway Rehabilitation	9,186	0	9,186	Gas Tax,Tax Capital
TWRR00450	Roadway Rehabilitation	3,700	0	3,700	Gas Tax,Tax Capital
TWRR06888	Roadway Infrastructure Review	75	0	75	Tax Capital
TWRR06893	Roadway Rehabilitation	1,324	0	1,324	Gas Tax,Tax Capital
Total		33,285	0	33,285	

Project Number	Project Name	Gross Cost (\$000's)	Recovery (\$000's)	Net Cost (\$000's)	Funding Source
TWOE00128	Transit Signal Priority (TSP)	340	0	340	Development Charges
TWOE00171	Field Equipment Replacement - Traffic Controllers	190	0	190	Tax Capital
TWOE00172	Traffic Signal Equipment Enhancements	250	0	250	Development Charges
TWOE00174	Traffic Signals - New	710	0	710	Developer Contributions, Development
					Charges
TWOE00175	Traffic Signals - Rebuild	390	0	390	Tax Capital
TWOE00176	Traffic System and ITS	350	0	350	Development Charges
TWOE00248	Streetlighting	700	0	700	Tax Capital
TWOE00394	Streetlighting	300	0	300	Tax Capital
TWOE00406	Traffic Calming Program	250	0	250	Tax Capital
TWOE00487	City Entrance Signs	500	0	500	Tax Capital
TWOE006753	Streetlighting	500	0	500	Tax Capital
Total		4,480	0	4,480	

Program: Traffic Management

Program: Works Fleet and Equipment Management

Project Number	Project Name	Gross Cost (\$000's)	Recovery (\$000's)	Net Cost (\$000's)	Funding Source
TWOE00242	Specialized Equipment	156	0	156	Tax Capital
TWOE00244	Vehicle & Equipment Replacement	3,141	0	3,141	Tax Capital
TWOE00246	New Vehicles & Equipment	195	0	195	Development Charges, Tax Capital
TWOE00439	BIA Waste Equipment	25	0	25	Tax Capital
TWRR00456	Leveraging Technology to Inventory and Inspect Assets	80	0	80	Tax Capital
Total		3,597	0	3,597	

Note: Numbers may not balance due to rounding.

Program: Works Improvement

Project Number	Project Name	Gross Cost (\$000's)	Recovery (\$000's)	Net Cost (\$000's)	Funding Source
TWOE00167	Salt Management Program	50	0	50	Tax Capital
Total		50	0	50	

Proposed 2020-2022 Capital Budget by Sub-Program

The following tables provide a listing of capital forecast by sub-program for 2020-2022.

Sub-Program	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Active Transportation			
ROADS Cycling Program	7,425	3,975	1,550
ROADS Sidewalks	3,227	2,000	2,000
Subtotal	10,652	5,975	3,550

Sub-Program	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Bridge & Structure Renewal			
ROADS Bridge & Structure Appraisal	0	200	0
ROADS Bridge & Structure Evaluation & Design	500	500	500
ROADS Bridge & Structure Renewal	6,725	4,883	7,000
Subtotal	7,225	5,583	7,500

Sub-Program	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Environmental Management			
ROADS Environmental Mmgt-City Owned Properties	375	375	375
Subtotal	375	375	375

Proposed 2020-2022 Capital Budget by Sub-Program (Cont'd)

Sub-Program	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Major Road Construction			
ROADS Grade Separation	12,000	0	0
ROADS Intersection Improvements	800	1,000	0
ROADS Property Acquisition	0	3,100	0
ROADS Road Improvements	16,250	26,677	36,184
Subtotal	29,050	30,777	36,184

Sub-Program	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Municipal Parking			
ROADS Parking - Municipal	0	0	0
ROADS Parking Lot Rehab	100	100	100
Subtotal	100	100	100

Sub-Program	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Noise Wall Infrastructure			
ROADS Noise Wall Program	2,047	1,050	700
Subtotal	2,047	1,050	700

Proposed 2020-2022 Capital Budget by Sub-Program (Cont'd)

Sub-Program	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Roadway Rehabilitation			
ROADS Crack Sealing	100	100	100
ROADS Road Rehabilitation	35,966	25,822	26,558
ROADS Roadways Infrastructure Review	0	0	200
Subtotal	36,066	25,922	26,858

Sub-Program	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Traffic Management			
ROADS Road Safety	250	250	250
ROADS Signs & Markings	500	0	0
ROADS Street Lighting	1,500	1,500	1,500
ROADS Traffic Signals	5,030	4,780	2,080
Subtotal	7,280	6,530	3,830

Proposed 2020-2022 Capital Budget by Sub-Program (Cont'd)

Sub-Program	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Works Fleet and Equipment Management			
ROADS New Vehicles & Equipment	195	195	195
ROADS Specialized Equipment	75	50	50
ROADS Vehicle & Equipment Replacement	3,291	3,641	3,741
Subtotal	3,561	3,886	3,986

Sub-Program	2020 Forecast (\$000's)	2021 Forecast (\$000's)	2022 Forecast (\$000's)
Works Improvement			
ROADS Salt Management Program	50	50	50
ROADS Streetscape	0	0	0
ROADS Works Yards Space	7,950	6,750	10,100
Subtotal	8,000	6,800	10,150
Total Expenditures	104,356	86,997	93,233