



Roads

2020-2023 Business Plan
& 2020 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 40-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 16 Services Areas (including the Stormwater Program) that are outlined in this Plan. The 2020-2023 Business Plan and 2020 Budget document details 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:

- Planning, design, construction, operation and maintenance of roadways, bridges, the cycling network, sidewalks, noise walls and related infrastructure
- Management of the City's traffic signals, street lighting, municipal parking, and 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:

- Our transportation infrastructure is the largest asset owned and operated by the City (replacement value of \$4.7 billion)
- The \$4.7 billion is made up not only of bridges, culverts and roads but also noise walls, the active transportation network, public parking lots, and the street light and traffic signal systems
- The City has 5,660 lane kilometres of road network
- The City's cycling network includes approximately 570 kilometres of multi-use trails, park paths, bicycle lanes and signed bike routes
- The cycling network laid out in the 2018 Cycling Master Plan update will result in 897 kilometres of infrastructure to be built over 27 years

Highlights of the Business Plan include:

- Capital and operating investment to implement the Council-approved Transportation Master Plan (TMP) and its Action Plan including the Vision Zero Program Leader position
- Capital investments in major roads such as the Goreway Grade Separation and Active Transportation facilities
- Initiating or continuing Transit Project Assessment Processes (TPAPs) and Environmental Assessments (EAs) for key transit projects – Dundas Bus Rapid Transit (BRT), Lakeshore Higher Order Transit (HOT) and the Downtown Mississauga Terminal and Transitway Connection (DMTTC)
- Technology system updates for our Fleet Management Information System and our Telematics contract
- Developing a robust, comprehensive and integrated Asset Management Plan for all road-related infrastructure including addressing the ongoing pressures on our Roadway Rehabilitation Program
- Operating investments to help maintain service levels, and improved customer service through Lean initiatives

Net Investment (\$000s)	2020	2021	2022	2023
Operating	65,995	69,771	71,569	72,461
Capital	85,848	70,936	82,485	81,080
Full Time Equivalents	472.9	472.9	468.9	466.9

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.

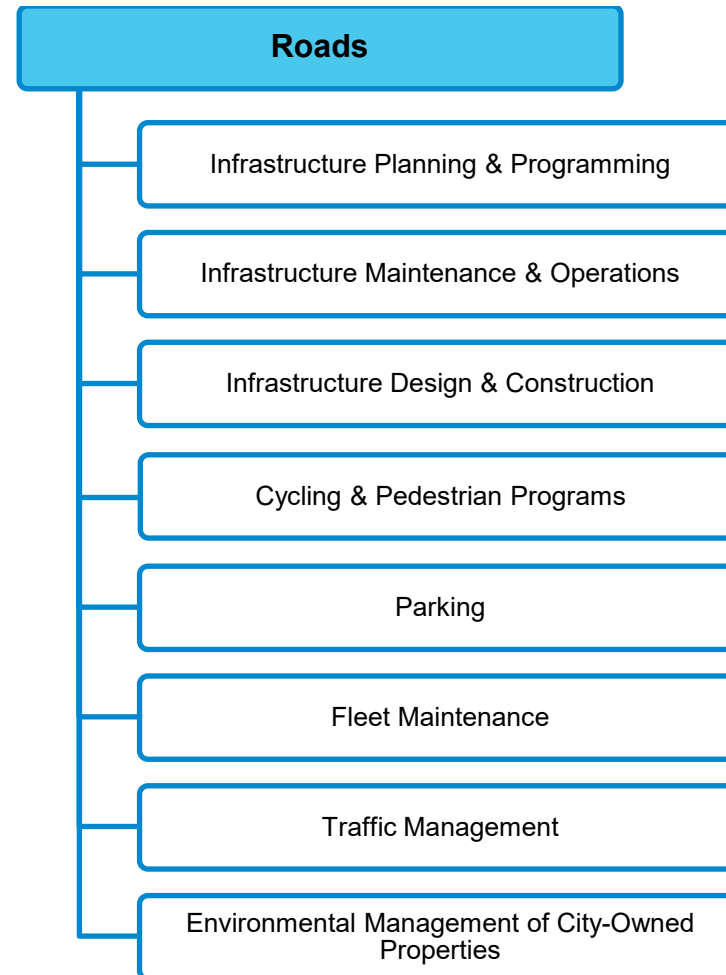
Mission

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



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.

Transportation Master Plan: Council approved the City's first Transportation Master Plan (TMP) in May 2019. The TMP identifies 91 Action Items that will allow Mississauga to achieve its vision for mobility for 2041. There are 57 Action Items that are to be initiated in the first five years.

Road Safety: The TMP places a great emphasis on road safety and has identified 32 action items that will improve safe conditions for all road users and support Vision Zero, 24 of which are to be initiated in the first five years.

Traffic Control Signals: Repair or replace all traffic control signals within 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, sidewalks and bus stops within 12-24 hours, and residential roads within 24-36 hours depending on accumulation.

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 roadway pavement conditions every four to five years in accordance with provincial and industry standards, and maintain in a safe condition.

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.

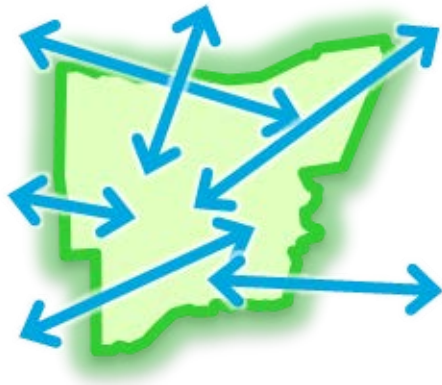
Municipal Parking: As Mississauga grows through intensification, the Parking Master Plan provides the City with the framework for developing, maintaining, and managing municipal parking infrastructure.

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. Green the fleet.

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.

The safety of all road users as well as traffic congestion remain high on the public agenda. Growth within our city and surrounding municipalities continues to put additional pressure on Mississauga's road infrastructure.



Mississaugans make 420,000 trips per day across the city boundary; people living outside Mississauga make 670,000 trips per day to and from the city

The City completed a comprehensive Transportation Master Plan (TMP) to address all aspects of transportation in Mississauga over the next 25 years. The TMP developed a consolidated vision for the future of mobility in Mississauga and established an overarching policy framework and action plan to guide investment in 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.

Road Safety remains a high priority and can be seen in City Council's 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 will be hiring a Vision Zero Program Leader to ensure the Vision Zero approach is implemented in business units across the corporation, coordinate projects, keep City Council and Committees informed, present progress reports, lead projects and develop expertise in Vision Zero advancements.



An Advanced Transportation Management System (ATMS) has been built and the City is continuing to develop and implement strategies to leverage its advanced capabilities to encourage the use of transit, walking and cycling as alternate modes of transportation.

A key component of mobility within Mississauga now and in the future is ensuring that appropriate investments are made in higher order transit initiatives. As a result, the City is carrying out Transit Project Assessment Processes (TPAPs) and Environmental Assessments (EAs) for key transit projects – Dundas BRT, Lakeshore HOT Corridor and the Downtown Mississauga Terminal and Transitway Connection. The completion of these studies will position the projects well to obtain funding from senior levels of government to proceed to detailed design and construction.

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 completed the Parking Master Plan and Implementation Strategy (PMPIS), which included a review of the needs and opportunities for parking.

Through a competitive procurement process, the supply, support and implementation of a modern Fleet Management Information system (FMIS) will be implemented in 2022. 'Faster' is the FMIS that Fleet Services and Fire use to manage the lifecycle, from acquisition to disposal, of all Fleet assets. Procurement of a system that will support the ongoing efforts in both Fleet Services and Fire to find efficiencies, lower the total cost of ownership and maximize the value of each asset is essential.

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 a state of good repair. Accessibility is also affecting maintenance, particularly winter maintenance – making bus stops and priority sidewalks more accessible by performing winter maintenance sooner.

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 tracked in this Service Area's Balanced Scorecard. The Balanced Scorecard that follows shows trends since 2016 and expected outcomes up to 2023.

Financial Measures

Average road and bridge/culvert maintenance cost per m² 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, snow removal, and the pedestrian-friendliness and cyclist-friendliness of 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 City-owned 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	2016 (Actual)	2017 (Actual)	2018 (Actual)	2019 (Plan)	2020 (Plan)	2021 (Plan)	2022 (Plan)	2023 (Plan)
Financial:								
Average road operating cost per lane km ¹	\$2,170	\$2,155	\$1,922	\$2,037	\$2,139	\$2,246	\$2,358	\$2,476
Average bridge/culvert maintenance cost per m ² of surface area ¹	\$5.20	\$4.38	\$5.50	\$5.78	\$6.07	\$6.37	\$6.69	\$7.03
Average winter maintenance operating cost per lane km ¹	\$4,189	\$3,595	\$3,955	\$5,040	\$5,292	\$5,557	\$5,834	\$6,126
Annual gross parking revenue (\$000s)	\$1,929	\$2,449	\$2,383	\$2,065	\$2,420	\$2,500	\$2,600	\$2,700
Customer:								
Citizen satisfaction with road services ²	N/A	70%	N/A	72%	N/A	74%	N/A	76%
Citizen satisfaction with road safety ²	N/A	79%	N/A	85%	N/A	88%	N/A	89%
Employee:								
Overall job engagement ³	N/A	N/A	70%	N/A	N/A	72%	N/A	N/A
Employee satisfaction ³	N/A	N/A	75%	N/A	N/A	77%	N/A	N/A
Internal Business Process:								
Percentage of roads in good condition or better ¹	77%	62%	62%	52%	49%	46%	43%	41%
Percentage of bridges in good condition or better	90%	83%	83%	85%	85%	85%	85%	85%
Percentage of City-owned intersections that function at or below planned capacity	87%	87%	86%	85%	84-85%	84-85%	84-85%	84-85%
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, 2021, and 2023)

³ The Employee Engagement Survey is completed once every three years (2018 and 2021)

Awards and Achievements

Awards

The completion of the City's construction of the Mississauga Transitway was recognized by the OPWA (Ontario Public Works Association) with its **2018 Project of the Year Award** (Transportation, greater than \$50 million category).



OPWA 2018 Project of the Year Award – Mississauga Transitway Team



The 2018 Urban Design Awards presented the Mississauga Transitway team with the **2018 Award of Merit** for the criteria Significance at a City-wide scale, Living Green, Innovation, and Execution. The team also won the **2018 Healthy by Design Award**. Both awards were for the Mississauga MiWay Stations.

Achievements

The City's first Transportation Master Plan was endorsed by City Council on May 8, 2019. This plan outlines a vision, six goals and over 90 action items to guide the future of the City's transportation system from today to 2041. This includes a commitment to advancing Vision Zero, a strategy to eliminate all traffic fatalities and injuries.

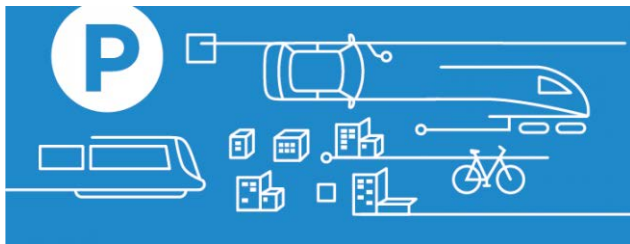


The City's first Transportation Master Plan was based on the study Mississauga Moves

The Lakeshore Connecting Communities Transportation Master Plan was completed. The plan sets out a long-term vision for transit and corridor improvements along Lakeshore Road from 2020 to 2041 that will support waterfront development.



The Parking Master Plan and Implementation Strategy (PMPIS) was completed and approved by Council.



Parking Master Plan graphic

Greening our fleet:

- We have started to replace all of the ice resurfacers in the City's recreation facilities with fully electric units. Each unit could yield a cost savings of \$75,000 over its lifecycle due to reduced maintenance and fuel costs
- We added 10 Plug-in Hybrid Vehicles to our fleet in 2018
- We secured a fully electric stage trailer for Parks, Forestry & Environment to use at park openings, events, and demonstrations



Completion of the Creditview Road bridge renewal – includes a new cycling platform on the west side of the bridge



Completion of the Stavebank Road/Lakeshore Road intersection realignment project



Completion of bicycle crossrides on Burnhamthorpe Road

Emergency and Unplanned Projects

The Roads Service Area continues its involvement in leading the response to significant weather events including high water levels along Lake Ontario.

The 2020-2023 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 the planning, development and implementation of our forward-thinking Master Plans (the Transportation, Cycling and Pedestrian Master Plans) to position ourselves as a progressive Service Area and municipality. As part of this, we will be looking to deliver on the short-term action plan items coming out of the Transportation Master Plan over the next couple of years.

Regional transit planning with a focus on multi-modal transportation is a key focus in our Master Plans. The City will be initiating or continuing Transit Project Assessment Processes (TPAPs) and Environmental Assessments (EAs) for the Dundas BRT, the Lakeshore HOT Corridor and the DMTTC in 2020. These transit projects will build on the extensive public stakeholder engagement that was conducted as part of the Dundas Connects Master Plan and Lakeshore Connecting Communities Transportation Master Plan.



Lakeshore Connecting Communities graphic

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.

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 crosswalk 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

Asset Management

The planned replacement of the Fleet Management Information System (FMIS) is critical to the ongoing efforts in Fleet Services to find efficiencies, lower the total cost of ownership and maximize value from each asset. Quality data is essential to achieving these goals, and the continued use of a quality FMIS is central to that goal.

In 2017, the Province of Ontario introduced and enacted the *Asset Management Planning for Municipal Infrastructure Regulation*. The Regulation required 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.

As part of the development of the Roads Asset Management Plan a strategy will be developed to address the funding shortfall within our Roadway Rehabilitation Program. The recently completed pavement condition survey revealed that the condition of our roads is continuing to deteriorate and additional funding is required to keep the roads in a state of good repair.



Lakeshore Road in Port Credit

Service Delivery

The City has grown substantially over the last 20 years and development continues to intensify. In addition, demand for roads maintenance and service levels is increasing, particularly for winter maintenance. In order for the Roads Service Area to meet maintenance and operational service levels in the coming years, a Yard Master Plan is being developed, with a view to determining the Roads and Parks and Forestry service areas short-, medium- and long-term yard requirements.

Given the more urban and congested environment of the City, the review of development applications and their transportation-related components has become more complex in nature. Investment in an additional Traffic Planning Technologist is planned for 2020 in order to meet service levels for the review of these applications and the associated Transportation Impact Studies.

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 Works, Operations and Maintenance (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 was initiated in 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.

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 300 Roads staff have received introductory White Belt Training; six staff have received intermediate Yellow Belt Training (plus five more in progress), and four staff have received advanced Green Belt Training (plus three more in progress). Twenty projects (including rapid improvements) and 315 small improvements have produced such enhancements as improved customer experience, faster processing times, higher quality and lower costs. (For definitions of classifications, see the Glossary.)

Some highlights of the many projects and small improvements completed include:

- Maintenance Contract Inspections review – reduced the time required to upload Utility Restoration Work Orders by 94 per cent by utilizing mobile tablets, defining roles and responsibilities and utilizing bulk work orders
- Municipal Parking Form consolidation – consolidated multiple forms into Infopath forms with approval workflows resulting in over 900 hours saved and annual cost avoidance of \$38,500
- Expanded use of Webex – improved flow of work and realized an annual cost avoidance of \$17,500
- Time Saving for Inspectors Working Out of Satellite Yards – eliminated the requirement to start and end the day at the head Mavis Yard, instead being dispatched out of satellite yards and realized a cost avoidance of \$27,500

Completed Initiatives					Total Benefits	
Improvement Type	2014-2017	2018	Sept 2019	Total	Type	Total
Small Improvement	76	132	107	315	Cost Savings and Avoidance	\$1,741,176
Rapid Improvement	1	5	6	12	Customer Service Improvements	201
Project	5	2	1	8	Safety Improvements	61
Total	82	139	114	335	Environmental Improvements	98

Advancing the City's Strategic Plan

The City's Vision and Strategic Plan are the starting points for our annual business planning and budgeting cycle. The 40-year Strategic Plan, Our Future Mississauga, is built on five pillars – **move, belong, connect, prosper, and green**. Business plans are designed to strengthen aspects of these pillars to support the attainment of Mississauga's Vision.

Below are examples of how the initiatives of the Roads Service Area relate to the Strategic Plan pillars.

move - developing a transit oriented city

- Actively developing and implementing master plans, programs and projects that encourage transit usage, including the TMP, the Transportation Demand Management Strategy, and various Metrolinx initiatives
- Initiating/continuing TPAPs and EAs for the Dundas BRT, Lakeshore HOT corridor and the DMTTC
- The ATMS will allow us to better respond to changing traffic conditions, and adjust traffic signals at busier times to keep the City moving. ATMS will also allow Transit Signal Priority at some intersections to provide more priority to buses
- Municipal Parking through the PMPIS will improve the state of parking in the City by right-sizing requirements and modernizing parking permits and permissions that will support the City's Strategic Plan
- Prioritizing winter maintenance on priority sidewalks and at bus stops sooner

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
- The Active Transportation Coordinator will lead the School Walking Routes program, coordinate infrastructure programs supporting active school travel, and coordinate cycling education and skills training for students

connect - completing our neighbourhoods

- EAs are underway to complete our road network and Capital Works Delivery Resourcing is being requested to build these plans
- 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 cycle

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

Transforming our Business with Technology

Technology plays a critical role in the delivery of efficiencies for the Roads Service Area. Through updating existing technology systems and bringing new systems online, the Roads Service Area will continue to improve service delivery and focus on increasing efficiencies, for internal business processes and for our residents as well.

Achieving Cost Savings and Driving Efficiencies

Fleet Management Information System (BR# 5980)

Through a competitive procurement process, the supply, support and implementation of a modern Fleet Management Information system (FMIS) will be implemented in 2022. 'Faster' is the FMIS that Fleet Services and Fire use to manage the lifecycle, from acquisition to disposal, of all Fleet assets. Procurement of a system that will support the ongoing efforts in both Fleet Services and Fire to find efficiencies, lower the total cost of ownership and maximize the value of each asset is essential. In addition, mobile technology, including tablets, will be acquired for each technician, which will enable them to access system information, technical repair information and order parts all without leaving their workstations.

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

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 timing 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.

Telematics Project (BR #5981)

The current telematics (TMX) contract term will be expiring at the end of October 2020. A new contract must be implemented for the winter of 2020/2021. Through a competitive procurement process, a responsive and responsible vendor will be selected to provide a robust solution with a true partnership mindset. A high level of innovation is required by the vendor and the solution must have the features required so that we can manage our resources through accurate data, intelligent analytics and exception analysis.

The potential return on investment for a new TMX solution directly relates to successful implementation, contract management and system management to achieve the initial goals of reducing idling and reducing winter road salt consumption which will be led by our Fleet Business Improvement Specialist.

Leveraging Technology to Improve Service Delivery

Parking Master Plan and Implementation Strategy (PMPIS)

The PMPIS was approved in 2019 and provides direction on the purpose and intent of parking policy and operations. This plan includes a technology component that considers and provides recommendations on the technological impacts of and opportunities relating to smart parking, mobile payment, demand-responsive pricing, licence plate recognition 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.

Capital Works Delivery Resourcing (BR #5986)

The average annual approved and forecasted budget (2019-2022) for the Roads and Stormwater Capital Programs is \$132 million. This represents an increase of more than 60 per cent over the previous average annual capital budget (2018-2021). This growth in the Capital Programs necessitates an increase in the current staff complement in order to ensure the ongoing delivery of these critical programs.

Traffic Planning Technologist (BR #5914)

With the City intensifying, development applications are becoming more complex in a more urban and congested environment. This complexity extends to the transportation-related components of the applications, requiring more staff time to review these applications and their associated Transportation Impact Studies. 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.

Yards Master Plan

The City has grown substantially over the last 20 years and development continues to intensify. In addition, demand for roads maintenance and higher service levels is increasing, particularly for winter maintenance. In order for the Roads Service Area to meet maintenance and operational service levels in the coming years, a Yard Master Plan is being developed, with a view to determining the Roads and Parks, Forestry & Environment service areas' short-, medium- and long-term yard requirements.

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 51 streets, three bridge structures and replaced two culverts
- Completed two intersection improvements
- Completed two Environmental Assessments
- Installed 1.6 kilometres of new noise barriers
- Installed three new traffic signals
- Development Construction serviced over 2,200 active building permit files and 95 servicing/municipal works/development/condominium agreements
- Development Engineering processed over 70 rezoning applications, 19 draft plan of subdivision applications, 11 condominium applications, 600 site plan applications, and 20 development-related agreements with municipal infrastructure
- Installed 7.65 kilometres of multi-use trails at nine locations
- Installed 1.8 kilometres of new sidewalks at four locations

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 turnover due to retirements. One hundred and thirty-five staff, or 32 per cent, are eligible to retire in the period 2020-2023. 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:

- Infrastructure Planning and Engineering Services (IPES)
- Traffic Management and Municipal Parking (TMMP)
- 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)

- Support is provided to staff to gain and maintain relevant accreditation, i.e., Professional Engineer (P. Eng.), Project Management Professional (PMP) designations

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
- In 2017, the Works, Operations and Maintenance (WOM) Division implemented the Supervisory development program, which ensures that we continue to develop staff to be ready to take on more responsible roles

-
- Leveraging of co-op student opportunities and relationship-building with local technical school communities
 - The Engineer-in-Training Internship Program was introduced in 2016 to attract and retain civil engineering skill sets across the Roads Service Area
 - The Technologist Internship Program, introduced in 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 strategically expand and redesign our workforce through strategic workforce planning. With a growing and intensifying City, it is essential to expand and redesign 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 Vision Zero Program Leader in 2020 to ensure the Vision Zero approach, outlined in the City's Transportation Master Plan (TMP), is implemented in business units across the corporation; coordinate projects; keep City Council and Committees informed; present progress reports; lead projects, and develop expertise in Vision Zero advancements
- One new Traffic Planning Technologist in 2020 in order to meet service level expectations in addressing the increased complexity and effort associated with processing development applications
- One new IT Lead for the Telematics project in 2020 to have the resources required to manage the project and focus on driving operational efficiencies and reducing operating costs
- One contract and one permanent Municipal Parking staff in 2020 are the first in a phased approach to the growth of the team in accordance with the timing of the recommendations of the PMPIS. The completion of the foundational work they will do leads into additional new responsibilities and roles that are intended to improve the organization's provision and management of municipal parking throughout the City
- One full-time Capital Works Delivery project manager in 2020, one in 2021 and the conversion of an existing contract position to permanent full-time in 2020 will provide the staffing level required to deliver future Capital Programs
- One full-time Automated Speed Enforcement (ASE) staff in 2020 to plan, evaluate, and report on ASE program effectiveness and address any concerns or inquiries related to the ASE program
- A conversion of the current Customer Service Representative, Permits contract position to permanent full-time in 2020 to provide the necessary capacity to manage increased service demands associated with processing permit applications
- One new Active Transportation Coordinator in 2020 to lead the School Walking Routes program, coordinate infrastructure programs supporting active school travel, coordinate cycling education and skills training for students, and liaise with the Traffic Safety Council (TSC), the Peel Safe and Active Routes to School Committee, and the local school boards on active school travel

Proposed Full Time Equivalent Staffing Distribution by Program

Program	2019	2020	2021	2022	2023
Corporate Fleet Maintenance	28.5	32.5	32.5	28.5	28.5
Crossing Guards	82.7	82.7	82.7	82.7	82.7
Infrastructure Planning & Engineering	77.4	79.0	79.0	79.0	78.0
Maintenance Control *	139.9	138.4	138.4	138.4	138.4
Municipal Parking	5.0	7.0	7.0	7.0	6.0
Streetlighting	2.0	3.0	3.0	3.0	3.0
Survey & Inspection	59.8	59.8	59.8	59.8	59.8
Traffic Management	70.6	70.6	70.6	70.6	70.6
Total Service Distribution	465.8	472.9	472.9	468.9	466.9

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 2020-2023 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 budget for 2019 was \$64.1 million and the proposed budget for 2020 is \$65.9 million.

Total Changes to Maintain Current Service Levels

The impact of maintaining current service levels for Roads Services is a net increase of \$1,493,800. Highlights include:

- Increase of \$946,000 reflecting labour adjustments and other fringe benefit increases
- Annualization of \$1,300,000 Winter Maintenance on Bus Stops and Priority Sidewalks, funded by Winter Reserve fund
- Increase of \$300,000 for an increased utility maintenance contract
- Increase of \$355,000 for various contracts (bridge repair, emergency repair, waste haulage and disposal, and sidewalk shoulder maintenance) to reflect current pricing
- Increase of \$246,000 in Contractor cost for Traffic Signal repair to reflect three year actuals
- Increase of \$360,000 to transfer to Parking Reserve Fund, as actual net revenues have exceeded expectations. Parking revenue has also been increased by \$335,000
- Decrease of \$129,000 in Utilities (Water, Electricity and Gas)
- Decrease of \$200,000 was identified in Traffic Management for communications service provider migration

Efficiencies and Cost Savings

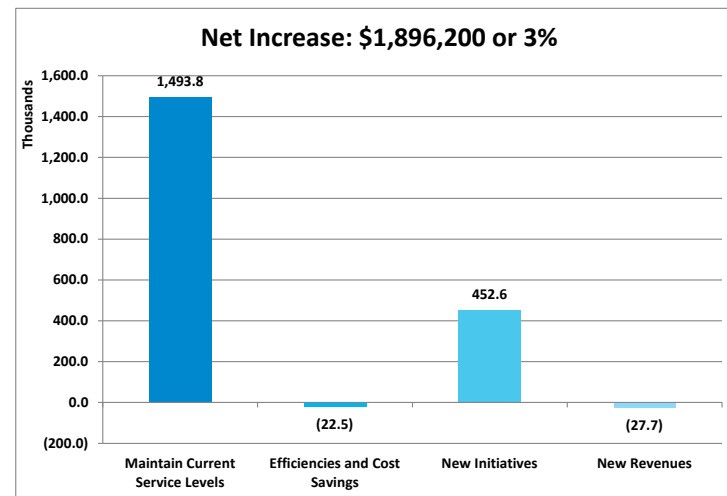
The Roads Service Area plans efficiencies and cost savings of \$22,500. Highlights are as follows:

- Savings of \$5,000 were identified due to a lower requirement for operating materials
- Efficiencies of \$5,000 were realized due to a lower requirement for mileage reimbursement for vehicle use
- \$3,000 in savings realized due to a lower requirement for promotional printing
- \$9,500 in other budget reductions were identified by staff

New Initiatives

Seven of nine new initiatives, with net costs of \$425,000, impact the 2020 operating budget. Details on the initiatives impacting the 2020-2023 operating budgets can be found later on in this business plan.

Proposed Changes for 2020 Net Operating Budget by Category (\$000s)



Operating Budget Details

The following table identifies the budgeted and forecasted operating expenditures and revenues for 2020-2023, as well as the 2019 Budget and 2018 Actuals by major program within the Service Area.

Proposed Budget by Program (\$000s)

Description	2018 Actuals	2019 Budget	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast
Expenditures to Deliver Current Services						
Bridges & Watercourses	397	327	387	387	387	387
Cleaning and Litter Pick-up	3,811	3,685	3,909	3,933	3,941	3,950
Corporate Fleet Maintenance	(295)	130	198	251	305	361
Crossing Guards	3,026	3,505	3,546	3,604	3,663	3,722
Engineering and Construction ***	(1,183)	0	0	0	0	0
Infrastructure Planning & Engineering	4,857	5,752	5,902	6,062	6,131	6,248
Maintenance Control	10,067	8,944	9,249	9,451	9,669	9,894
Municipal Parking	2,515	1,854	2,200	2,210	2,220	2,230
Road Sidewalk Maintenance	11,898	10,400	10,455	10,455	10,455	10,455
Streetlighting	5,044	6,018	6,351	6,392	6,511	6,658
Survey & Inspection	793	1,284	1,529	1,670	1,786	1,894
Traffic Management	12,830	13,060	13,126	13,238	13,359	13,484
Winter Maintenance	23,123	23,646	24,951	25,673	26,737	26,759
Total Expenditures	76,883	78,605	81,802	83,326	85,163	86,042
Revenues	(16,624)	(13,457)	(13,882)	(13,882)	(13,883)	(13,883)
Transfers From Reserves and Reserve Funds	(411)	(1,050)	(2,350)	(150)	(150)	(150)
New Initiatives and New Revenues			425	477	439	453
Proposed Net Budget Including New Initiatives & New Revenues	59,848	64,098	65,995	69,771	71,569	72,461
Expenditures Budget - Changes by Year			4%	2%	2%	1%
Proposed Net Budget - Changes by Year			3%	6%	3%	1%

Note: Numbers may not balance due to rounding.

*** Eliminated Program in 2019 due to Internal Re-organization

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 2019 budget for comparison. The three columns to the far right of the table show the totals proposed for 2020 and their dollar and percentage changes over 2019.

Summary of Proposed 2020 Budget (\$000s)

Description	2019 Approved Budget	Maintain Current Service Levels	Efficiencies and Cost Savings	Annualized Prior Year's Budget Decisions	Operating Impact of New Capital Projects	Proposed New Initiatives And Revenues	Special Purpose Levies	Proposed 2020 Budget	\$ Change Over 2019	% Change Over 2019
Labour and Benefits	32,261	677	(10)	277	0	457	0	33,663	1,402	4%
Operational Costs	45,335	1,872	(13)	0	0	337	0	47,532	2,197	5%
Facility, IT and Support Costs	209	33	0	0	0	0	0	242	33	16%
Transfer To Reserves & Reserve Funds	800	360	0	0	0	0	0	1,160	360	45%
Gross Total Expenditures	78,605	2,942	(23)	277	0	795	0	82,596	3,991	5%
Total Revenues	(13,457)	(425)	0	0	0	(370)	0	(14,252)	(795)	6%
Transfer From Reserves & Reserve Funds	(1,050)	(1,300)	0	0	0	0	0	(2,350)	(1,300)	124%
Total Net Expenditure	64,098	1,216	(23)	277	0	425	0	65,995	1,896	3%

Summary of Proposed 2020 Budget and 2021 - 2023 Forecasts (\$000s)

Description	2018 Actuals	2019 Approved Budget	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast
Labour & Benefits	30,063	32,261	33,663	34,734	35,317	35,953
Operational Costs	44,806	45,335	47,532	48,484	49,652	49,862
Facility, IT and Support Costs	186	209	242	242	242	242
Transfer To Reserves & Reserve Funds	1,829	800	1,160	1,160	1,160	1,160
Gross Total Expenditures	76,883	78,605	82,596	84,620	86,371	87,217
Total Revenues	(16,624)	(13,457)	(14,252)	(14,699)	(14,652)	(14,606)
Transfer From Reserves & Reserve Funds	(411)	(1,050)	(2,350)	(150)	(150)	(150)
Total Net Expenditure	59,848	64,098	65,995	69,771	71,569	72,461

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.

Category	2019 Budget (\$000s)	2020 Proposed Budget (\$000s)	Change (\$000s)	Details (\$000s)
Labour and Benefits	32,261	33,205	945	Increase Reflects Labour Adjustments and Other Fringe Benefit Changes
Administration and Support Costs	209	242	33	Increase in Custodial costs
Advertising & Promotions	139	110	(29)	(\$26) - Decrease to reflect actual three year trend (\$3) - Savings realized due to less promotional printing required
Communication Costs	744	585	(159)	(\$200) - Decrease in Traffic Management for communication migration \$40 - Increase due to parking meter related costs, offset by a decrease in Equipment costs below.
Contractor & Professional Services	31,497	33,399	1,902	\$1,300 - Increase in Winter Maintenance on Bus Stops and Priority Sidewalks, funded by Winter Reserve fund \$355 - Increase in various contracts (Bridge repair, Emergency repair, Waste Haulage & Disposal and Sidewalk shoulder Maintenance) to reflect current pricing \$246 - Increase in Traffic Signal repair to reflect 3 year actual
Equipment Costs & Maintenance Agreements	581	565	(16)	Decrease to reflect actual three year trend, offset by an increase in Communication Costs above
Finance Other	65	65	0	
Materials, Supplies & Other Services	9,026	8,977	(49)	(\$5) - Savings realized due to less operating materials required (\$44) - Decrease to reflect actual 3 year trend, offset by various other operating increases
Occupancy & City Costs	7,011	7,223	212	\$300 - Increase in cost for Utility Maintenance contract \$54 - Increase in lease cost for 201 City Center (\$129) - Net decrease in utilities (Water, Hydro and Gas) for various facilities (\$13) - Decrease in Storm Water Charge for various facilities
Staff Development	173	173	1	
Transfers To Reserves and Reserve Funds	800	1,160	360	Increase to transfer to Parking Reserve fund, as actual net revenues has exceeded expectations. As well, a corresponding increase to Parking Revenues has been reflected.
Transportation Costs	(3,900)	(3,903)	(3)	(\$5) - Efficiencies realized due to less mileage reimbursement for vehicle use
Subtotal - Other Operating	46,345	48,596	2,252	
Total Revenues	(13,457)	(13,882)	(425)	(\$335) - Increase in Parking Revenue to reflect actual, offset by a corresponding transfer to Parking Reserve above. (\$70) - Increase in Site Planning Fees (\$25) - Increase due to introduction of new fees
Transfers From Reserves and Reserve Funds	(1,050)	(2,350)	(1,300)	Increase transfer from Winter Reserve fund for enhanced winter maintenance on Bus Stops and Priority Sidewalks
Subtotal - Revenues	(14,507)	(16,232)	(1,725)	
Total	64,098	65,570	1,471	

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.

Proposed New Initiatives and New Revenues

Description	BR #	2020 FTE Impact	2020 Proposed Budget (\$000s)	2021 Forecast (\$000s)	2022 Forecast (\$000s)	2023 Forecast (\$000s)	2020 to 2023 FTE Impact	2020 to 2023 Capital (\$000s)
New Initiative								
Traffic Planning Technologist	5914	1.0	0	0	0	0	1.0	20
Fleet Management Information System (Faster) Replacement	5980	3.0	0	0	0	0	0.0	1,603
Telematics Project	5981	1.0	69	(63)	(102)	(92)	0.0	639
Vision Zero Program Leader	5985	1.0	110	147	149	152	1.0	2
Capital Works Delivery Resourcing	5986	1.0	2	4	4	4	2.0	31
Active Transportation Coordinator	5987	1.0	80	105	107	109	1.0	20
Automated Speed Enforcement	5991	1.0	69	53	105	157	1.0	22
Parking Master Plan Implementation	5992	2.0	122	229	174	122	1.0	23
Total New Initiatives		11.0	453	475	437	451	7.0	2,360
New Revenues								
Customer Service Representative, Permits	5993	1.0	(28)	2	2	2	1.0	4
Total New Revenues		1.0	(28)	2	2	2	1.0	4
Total New Initiatives and New Revenues		12.0	425	477	439	453	8.0	2,364

Note: Numbers may not balance due to rounding. Amounts are Net.

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 Office in the Transportation Infrastructure Management section, starting in 2020. 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)	2020	2021	2022	2023
Gross Expenditures	79.9	105.2	106.9	108.6
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	79.9	105.2	106.9	108.6
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)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	0.0	20.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

With the City intensifying, development applications are becoming more complex in a more urban and congested environment. This complexity extends to the transportation-related components of the applications, requiring more staff time to review these applications and their associated Transportation Impact Studies. In 2018, the current staff complement was only able to complete 51 per cent of their application reviews on time, down from 64 per cent in 2017, resulting in a request for one new FTE.

Details of Service Change

The cost of an additional FTE at the Technologist (E) level in 2020, with an April 1 start date, is \$76,420. The development application fees are intended to cover staff costs associated with the processing of the development applications. The budgeted revenue from development applications for 2018 was \$762,840. The actual revenues received totaled \$1,081,034, resulting in a surplus of \$318,194. For the 2019 Budget, the amount for development application revenue was increased to \$836,292. Assuming that actual 2019 revenue is again approximately \$1.1 million, a revenue surplus of \$260,000 will be realized. The projected fee revenues are expected to be sufficient to fund the cost of one additional Traffic Planning Technologist starting in 2020.

Service Impact

The benefits of dedicating an additional FTE as a Technologist include: compliance with the review timelines as set out by the City for submitted development applications; improved customer service to both internal and external stakeholders; and, resiliency within the group to maintain service levels during staff vacations and absences. With the additional Traffic Planning Technologist, it is expected that service levels will increase with the goal of meeting the target to complete reviews within expected timeline service levels 100 per cent of the time. Furthermore, the team will be better positioned to manage the increasing complexity of development applications such as the Lakeview Community Partners application and the expected future sites along the Hurontario LRT and Ninth Line corridors, while ensuring that the Transportation & Works Department continues to provide high quality comments.

Proposed Initiative

Fleet Management Information
System (Faster) Replacement

Department

Transportation & Works
Department

Service Area

Roads

Description of Budget Request

'Faster' is the Fleet Management Information System (FMIS) that Fleet Services and Fire use to manage the lifecycle of all Fleet assets. We need to plan now to replace our current end-of-life version. Through a request-for-proposal procurement process a new FMIS will be implemented in Q1 2022. In addition, mobile technology (tablets) will be acquired for all technicians, which will enable them to access system information, repair information and order parts without leaving their workstations.

Required Annual Operating Investment

Impacts (\$000s)	2020	2021	2022	2023
Gross Expenditures	0.0	0.0	0.0	0.0
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	0.0	0.0	0.0	0.0
* Net Change in \$		0.0	0.0	0.0
FTEs	3.0	3.0	0.0	0.0

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

Required Capital Investment

Total Capital (\$000s)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	0.0	1,312.0	291.0	0.0	0.0

Why Staff Recommend this Initiative

The continued use of an industry best FMIS is critical to the ongoing efforts in both Fleet Services and Fire to find efficiencies, lower the total cost of ownership and maximize value from each asset. Quality data is essential to achieving these goals, and the continued use of a quality FMIS is centre to that goal. Traditional Fleet Management of managing through observation and subjective judgement has been replaced with managing through quantitative data and empirical analysis.

Details of Service Change

Through a request-for-proposal procurement process, the supply, support and implementation of a modern FMIS will be implemented in Q1 2022. Some of the expected features, required for both Fire and Fleet Services, of a new FMIS that are not currently available in our current version of Faster are:

- Web-based platform, which will enable workforce mobility
- Enhanced scheduling to increase shop efficiency and reduce downtime
- Procurement tracking for lifecycle asset management
- Enhanced user experience through improved user interface, including user mobility
- Enhanced Key Performance Indicators (KPIs) for performance management
- Technician certification management
- Warranty management
- Full reporting functionality with out-of-box and custom reporting
- Optimized preventative maintenance based on usage, service intervals and predictive analytics
- Real-time support for garage operations and technician time tracking
- Comprehensive access to records of equipment history, repairs and maintenance for staff and clients
- Client portal for communicating job status, service request and scheduling appointments
- Development of analytics to indicate trends and historical performance
- Integration ability with a variety of City technology, including Telematics, Fuel Management and Finance
- Meets legislated requirements under the Commercial Vehicle Operators Registration for maintenance records

Service Impact

Through a request-for-proposal procurement process the most suitable FMIS will be selected and implemented in Q1 2022. This process will:

- Ensure the best product is acquired to meet strategic business objectives
- Adhere to Procurement Policy best practice guidelines for vendor relationships extending beyond 10 years
- Provide quantitative and empirical lifecycle analysis which aligns with and supports the City's Strategic Asset Management Policy
- Align with the T&W strategic technology directions for a modernized, mobile workforce and business intelligence for ease of use

Proposed Initiative

Telematics Project

Department

Transportation & Works
Department

Service Area

Roads

Description of Budget Request

The current telematics (TMX) contract term will expire at the end of Oct. 2020. This BR is asking for one IT FTE and a new TMX contract that must be implemented by the winter of 2020/2021. Through a competitive procurement process, a responsive and responsible vendor will be selected to provide a robust solution with a true partnership mindset. TMX is used to provide real-time and historic global positioning system (GPS) vehicle location and insight into how vehicles and equipment are operating.

Required Annual Operating Investment

Impacts (\$000s)	2020	2021	2022	2023
Gross Expenditures	69.3	(63.4)	(102.1)	(92.0)
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	69.3	(63.4)	(102.1)	(92.0)
* Net Change in \$		(132.7)	(38.7)	10.1
FTEs	1.0	1.0	0.0	0.0

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

Required Capital Investment

Total Capital (\$000s)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	0.0	229.0	400.0	5.0	5.0

Why Staff Recommend this Initiative

The current TMX contract is expiring in October 2020. There is one optional year that could be actioned, but it is not recommended to exercise the final year, as value for money has not been demonstrated with the current system. In 2019 Fleet Services will recruit a Business Improvement Specialist to manage the TMX project. The requested IT FTE will help ensure value is realized from both the Business Improvement Specialist position and the critical vendor contract awarding process.

Details of Service Change

With the addition of the Fleet Business Improvement Specialist in 2019 and the proposed FTE IT Lead, we will have the resources required to manage the project and focus on driving operational efficiencies and reducing operating costs. Through a competitive procurement process, a responsive and responsible vendor will be selected to provide a robust solution with a true partnership mindset. The solution will provide the necessary TMX platform, hardware and innovation that will provide the City with the data to enhance operations and drive efficiencies, some of which are summarized below:

Increased operational efficiency

- Equipment utilization analysis and reporting
- Route optimization, planning and guidance
- Shift or crew productivity analysis, including late starts and early ending reports
- Fuel efficiency analysis by equipment type and job classification
- Vehicle/equipment pooling and sharing opportunities

Increased Safety

- Analyze trends, predict unsafe driving behaviours
- Provide lone working support
- Provide aggressive driving reporting and real-time alerts
- Decrease risk of accidents

Reduced Liability

- Demonstrate service level compliance
- Investigative analysis that can be considered essential evidence in the mitigation of incident or accident claims
- Demonstrated strategic action related to asset utilization and monitoring

Service Impact

The potential return on investment for TMX relates to the proper implementation and contract management of the vendor; installing application-specific TMX hardware; and using the data to drive efficiencies and increase accountability. A high level of innovation is required by the vendor and the solution must have the features required so that we can manage our resources with accurate data, intelligent analytics and exceptional analysis. An advanced TMX solution will provide the following features:

- Operator scorecards, which will reveal behaviours such as aggressive driving and seat belt use
- Vehicle idling details which will enable Supervisors to take action to curb unnecessary idling
- Operating data such as material application information for use in winter maintenance to track material usage (salt/sand or brine application), with real-time alerts to enable proactive correction
- Route optimization, planning and completion information details
- Greenhouse gas information such as fuel consumption and efficiency and air quality
- Vehicle/equipment utilization information
- Potential savings of \$188,200 over 2020-2023

Proposed Initiative

Vision Zero Program Leader

Department

Transportation & Works
Department

Service Area

Roads

Description of Budget Request

The Vision Zero Program Leader will ensure the Vision Zero approach, outlined in the City's Transportation Master Plan (TMP), is implemented in business units across the corporation; coordinate projects; keep City Council and Committees informed; present progress reports; lead projects, and develop expertise in Vision Zero advancements.

Required Annual Operating Investment

Impacts (\$000s)	2020	2021	2022	2023
Gross Expenditures	110.2	146.6	149.1	151.6
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	110.2	146.6	149.1	151.6
* Net Change in \$		36.4	2.4	2.5
FTEs	1.0	1.0	1.0	1.0

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

Required Capital Investment

Total Capital (\$000s)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	0.0	2.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

In February 2018, City Council formally adopted Vision Zero. The TMP advances the Vision Zero principle in the first of six goals, Safety, and 32 actions specific to achieving the Safety goal. A dedicated Vision Zero Program Leader will ensure the approach is adopted throughout the Corporation; projects are coordinated; City Council and Committees are informed of progress, and expertise is developed in-house.

Details of Service Change

The Mississauga TMP (approved by Council on May 8, 2019) establishes that Vision Zero is at the heart of the City's vision for the future of transportation on Mississauga's roads, sidewalks, trails and transit from today to 2041. The TMP provides the framework of goals, objectives and actions that will advance Mississauga's progress toward Vision Zero. The list of actions are organized into Policies, Guidelines and Standards; Plans and Studies; Programs; Procedures; and Partnerships. Each action is assigned a timeline of short-, medium- or long-term. The Vision Zero Program Leader will ensure the 32 Vision Zero Actions outlined in the TMP will be implemented.

The Vision Zero Program Leader will be a grade level H position at approximately \$140,000 (based on the mid-range salary plus 23 per cent fringe) and would require an IT workstation/hardware at approximately \$2,000 (laptop, dock, monitor, programs/software), \$250 for Professional Memberships, and \$250 for Staff Development.

Service Impact

The Vision Zero Program Leader will ensure the Vision Zero approach is implemented across business units in the Corporation as directed by City Council. The Vision Zero framework embedded in the Safety chapter of the TMP will be coordinated and monitored for progress by the Program Leader. This will support a favourable impact on road safety for road users.

Proposed Initiative

Capital Works Delivery
Resourcing

Department

Transportation & Works
Department

Service Area

Roads

Description of Budget Request

This Budget Request is seeking approval for an increase in the current staffing level of the Capital Works Delivery section by one project manager in 2020, one project manager in 2021 and the conversion of an existing capital contract position to permanent full-time in 2020.

Required Annual Operating Investment

Impacts (\$000s)	2020	2021	2022	2023
Gross Expenditures	2.4	4.4	4.4	4.4
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	2.4	4.4	4.4	4.4
* Net Change in \$		2.0	0.0	0.0
FTEs	1.0	2.0	2.0	2.0

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

Required Capital Investment

Total Capital (\$000s)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	0.0	22.0	9.0	0.0	0.0

Why Staff Recommend this Initiative

The average annual Roads and Stormwater Capital Program budget is forecast to increase by \$49.8 million or 61 per cent over the previous annual average Capital Program of \$82.2 million. In order to ensure the ongoing successful delivery of the Capital Programs an increase in staff resources is required. The increase of one full-time project manager in 2020, one in 2021 and the conversion of an existing contract position to permanent full-time in 2020 will provide the staffing level required to deliver future Capital Programs.

Details of Service Change

The average annual approved and forecasted budget (2019-2022) for the Roads and Stormwater Capital Programs is \$132 million. This represents an increase of \$49.8 million or 61 per cent over the previous average annual capital budget of \$82.2 million. This growth in the Roads and Stormwater Capital Programs necessitates an increase in the current staff complement in order to ensure the ongoing delivery of these critical programs.

In addition to the growing Capital Programs, currently approximately \$70.2 million of capital projects are being delivered on an annual basis compared to the average annual budget amount of \$82.2 million. This indicates that there is a backlog of capital projects that needs to be addressed, which also requires additional resources.

In order to address these pressures, this request is recommending an increase in capital works delivery staff by one full-time project manager in 2020, one full-time project manager in 2021 and conversion of an existing contract position to permanent full-time in 2020.

The Capital Works Project Manager positions would be grade level H positions at approximately \$140,000 (based on the mid-range salary plus 23 per cent fringe) and would require an IT workstation/hardware at approximately \$2,000 (laptop, dock, monitor, programs/software) and \$2000 for each of membership dues and staff development.

Service Impact

The addition of two Capital Works Project Managers, one in each of 2020 and 2021, plus the conversion of an existing contract position to permanent full-time in 2020 will ensure that the growing Roads and Stormwater Capital Programs continue to be successfully delivered. The additional resources will also assist in addressing the current backlog of capital projects.

Proposed Initiative

Active Transportation
Coordinator

Department

Transportation & Works
Department

Service Area

Roads

Description of Budget Request

This request is seeking an Active Transportation Coordinator position (Grade E) within the Active Transportation Office, starting in April 2020, to lead the School Walking Routes program, coordinate infrastructure programs supporting active school travel, coordinate cycling education and skills training for students, and liaise with the Traffic Safety Council (TSC), the Peel Safe and Active Routes to School Committee, and the local school boards on active school travel.

Required Annual Operating Investment

Impacts (\$000s)	2020	2021	2022	2023
Gross Expenditures	79.9	105.2	106.9	108.6
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	79.9	105.2	106.9	108.6
* Net Change in \$		25.3	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)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	0.0	20.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

Ten per cent of all trips in Mississauga are “home to school”; 25 per cent of all a.m. peak trips are school-based; 30 per cent of all students arrive to school by car; active school travel behaviours among youth aged 11-17 in Peel have been decreasing over the past two decades. An increased uptake of active school travel will have positive outcomes for the City's road network, the safety of its users, active lifestyles for youth, and the environment. A staff resource is needed to lead active school travel programs.

Details of Service Change

This initiative will require the addition of one full-time, permanent Active Transportation Coordinator position (Grade E) to the staff complement within the Active Transportation Office. With a start date of April 1, 2020, the operating cost will be \$77,435 in 2020 including salary, benefits, IT costs, professional membership and staff development costs.

Service Impact

This initiative is the outcome of discussions between Traffic Safety Council (TSC) representatives and staff, on how to improve the Walking School Routes program. This initiative will provide a dedicated staff resource to work with students, parents, schools, neighbourhoods and internal stakeholders on programs to encourage active school travel. With this dedicated staff resource the City will be able to further develop and provide ongoing support to any existing active school programs that are currently being supported by TSC volunteers. The staff resource will also provide an avenue for reconciling the various City and Regional programs for active school travel through a single point of contact, while being able to draw on multiple resources and established partnerships. The programs delivered by this position will seek to reduce the number of school-based trips being taken by car, reduce traffic congestion at schools and across the City, improve safety to all road users, encourage youth to adopt lifelong active transportation habits, and improve air quality by reducing emissions. Further, this initiative will deliver on Transportation Master Plan and Cycling Master Plan action items.

Proposed Initiative

Automated Speed Enforcement

Department

Transportation & Works
Department

Service Area

Roads

Description of Budget Request

This Budget Request is for the resources to implement Automated Speed Enforcement (ASE) in Mississauga. This includes costs associated with administration of the program; the operation and maintenance of ASE field equipment such as cameras; charges generated, and revenue. A dedicated staff resource to focus on an ASE program in order to plan, evaluate, and report on program effectiveness and address any concerns or inquiries related to the Automated Speed Enforcement program is also required.

Required Annual Operating Investment

Impacts (\$000s)	2020	2021	2022	2023
Gross Expenditures	298.9	702.8	704.8	706.8
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	230.0	650.0	600.0	550.0
Tax Levy Requirements	68.9	52.8	104.8	156.8
* Net Change in \$		(16.0)	51.9	52.0
FTEs	1.0	1.0	1.0	1.0

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

Required Capital Investment

Total Capital (\$000s)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	0.0	22.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

The City has been investigating the possibility of utilizing ASE for many years, and in 2009 developed a business case requesting permission to operate automated speed enforcement in Mississauga. The Transportation Master Plan includes 32 proposed actions to achieve the Safety Goal. Specifically relating to ASE, the Transportation Master Plan recommends a Vision Zero infrastructure enhancement program, speed management program, and road safety enforcement program.

Details of Service Change

The City of Mississauga has identified a speeding problem on many of its roadways. Though many programs and initiatives have been implemented order to address speeding issues in some areas, the speeding problem persists. Automated Speed Enforcement (ASE) has been used effectively in other jurisdictions to address excessive speeding.

Currently, speeding issues are addressed through either traditional police enforcement, the implementation of passive traffic calming measures, or the installation of physical traffic calming measures. The implementation of an ASE program would provide another effective tool in reducing vehicle operating speeds on the City's roadways.

A Request for Proposals is currently being prepared on behalf of all provincial municipalities for ASE. Following equipment testing and vendor selection, the Ontario Ministry of Transportation would then be able to draft the necessary Highway Traffic Act regulations allowing for ASE implementation in Ontario. All municipalities interested in operating ASE will enter into an agreement with the successful vendor.

The ASE vendor charge will include all costs associated with the installation, operation and maintenance of cameras. All processing for ASE violations will be completed by a joint processing centre on a cost-recovery model.

Service Impact

As part of the City's Vision Zero framework and Road Safety Program, Automated Speed Enforcement has been identified as a road safety initiative to reduce vehicle operating speeds and the number of injuries and fatalities on the City's roadways.

Proposed Initiative

Parking Master Plan
Implementation

Department

Transportation & Works
Department

Service Area

Roads

Description of Budget Request

This Budget Request is to hire one contract staff for a period of two years to oversee the update of the City's parking standards in the Zoning By-law and to conduct a review of the payment in lieu of parking (PIL) program. This BR also addresses the hiring of one permanent full-time employee to undertake a review of the City's existing parking permits and permissions and develop and operate a modern permit program.

Required Annual Operating Investment

Impacts (\$000s)	2020	2021	2022	2023
Gross Expenditures	122.0	229.3	174.1	121.8
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	122.0	229.3	174.1	121.8
* Net Change in \$		107.3	(55.2)	(52.4)
FTEs	2.0	2.0	2.0	1.0

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

Required Capital Investment

Total Capital (\$000s)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	0.0	22.7	0.0	0.0	0.0

Why Staff Recommend this Initiative

These two positions within the Municipal Parking team are necessary to lay the foundation for the completion of the Parking Master Plan's Implementation Strategy. The work proposed for each of these two roles feeds into future implementation pieces that cannot be completed until these two large projects are undertaken. They will both improve the state of parking in the City by right-sizing requirements and modernizing parking permits and permissions.

Details of Service Change

If approved, this service change would add two new full-time positions (one contract and one permanent) to the Municipal Parking Team as a part of Phase One of implementation of the Parking Master Plan. There would be an associated need to increase the operating budget to cover the costs of the FTEs as well as all necessary equipment for their workstations.

There is minimal risk to creating these two new positions as there is extensive work recommended as a part of the Master Plan's implementation over the next five years and the additional resources would help successfully actualize the Plan.

Upon completion of phase one of the Parking Permit program, the service level to the general public would also improve. Obtaining a permit would be more streamlined and the internal processes at the City would be much more coordinated. In addition, the implementation of lower driveway boulevard parking will provide some residents with an additional parking space (where applicable) without the need to circulate a petition and get permission from Council. The reduced number of petitions would also free up staff resources.

These two roles are the first in a phased approach to the growth of the Municipal Parking team in accordance with the timing of the recommendations of the Master Plan. The completion of the foundational work they will do leads into additional new responsibilities and roles that are intended to improve the organization's provision and management of municipal parking throughout the City.

Service Impact

These two roles and the work they are expected to be responsible for are anticipated to increase the service level that the City is able to provide around municipal parking:

- Updating the City's Zoning By-law to reflect current parking trends will unlock development potential of land within Mississauga
- An updated PIL program will help the Municipal Parking Group take advantage of allocated parking reductions by receiving adequate funding to replace the parking spaces publically where necessary
- A streamlined permit program will improve the customer experience of obtaining parking permits
- A digital permit program will reduce the workload of staff currently administering the different programs
- A reduction in applications to the Committee of Adjustment for driveway widenings will also open up staff capacity
- Allowing lower driveway boulevard parking where possible will eliminate the need for resident petitions and the processing associated with them
- Approved parking projects including the Downtown Parking Strategy, Capital Improvement Strategy and Demand and Supply Forecasting would be the responsibility of the contract position

Proposed Initiative

Customer Service
Representative, Permits

Department

Transportation & Works
Department

Service Area

Roads

Description of Budget Request

This Budget Request is for the conversion of the current Customer Service Representative contract position to a permanent full-time position beginning in 2020 to provide the necessary capacity to manage increased service demands associated with processing permit applications. The cost of the position will be offset by two new fees and an increase to existing permit fee revenue in the 2020 update to the T&W Fees and Charges By-law 226-18.

Required Annual Operating Investment

Impacts (\$000s)	2020	2021	2022	2023
Gross Expenditures	32.3	63.3	64.3	65.3
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	60.0	61.2	62.4	63.7
Tax Levy Requirements	(27.7)	2.1	1.9	1.6
* Net Change in \$		29.8	(0.2)	(0.3)
FTEs	1.0	1.0	1.0	1.0

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

Required Capital Investment

Total Capital (\$000s)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	0.0	4.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

This request for a permanent staffing solution addresses the need for additional administrative capacity due to escalating service demands and the increased complexity of permit applications associated with permitting in an urbanizing City.

Details of Service Change

The Customer Service Counter (CSC) unit has been dependent on one full-time contract staff position funded through gapping since 2014 to process permit applications within service levels. Permit applications have increased by 157 per cent since 2009, yet the unit has not added any regular full-time staff in that time. It is evident that the change and increase in service demand over the years has become a permanent workload. Further, the trend in service demand has continued to increase over the last three years.

As a result, a permanent staffing solution is required to ensure continued efficient service delivery and to address the risk of instability in the role (staff turnover) including loss of intellectual capital. The cost of the position will be offset by two new fees and an increase to existing permit fee revenue in the 2020 update to the T&W Fees and Charges By-law 226-18. The new fees include charging applicants for processing permit extensions and collecting an administrative fee for processing refundable deposits.

Service Impact

The proposed Customer Service Representative will support the overall efficient delivery of services provided by the CSC unit and allow for a concerted effort to improve and sustain the administration of permit applications. The following highlights the benefits of the position:

- Address risk of instability in the role and staff turnover due to unit's dependency on contract staffing
- Manage increased service demands within service level expectations
- Increase administrative capacity to support front-line services provided by CSC on behalf of other departmental business units
- Improve customer service to internal and external client groups
- Assist in ensuring the applicant adheres to permit requirements as delays in the processing of permits can result in applicants working without a permit (i.e., non-compliance)
- Respond to applicants outside of a formal application submission in a timely manner
- Ensure the necessary administrative support required to meet the increasingly complex applications associated with permitting in an urbanizing City

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.

Proposed 2020-2029 Capital Budget by Program (\$000s)

Program Expenditures	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024-2029 Forecast	2020-2029 Total
Active Transportation	11,285	6,479	4,575	5,810	13,344	41,492
Bridge & Structure Renewal	4,800	7,708	7,500	8,000	45,900	73,908
Environmental Management	570	375	375	375	2,250	3,945
Major Road Construction	18,838	18,700	32,865	28,475	194,265	293,143
Municipal Parking	100	100	100	100	600	1,000
Noise Wall Infrastructure	1,500	800	850	1,950	6,900	12,000
Roadway Rehabilitation	38,504	26,256	32,555	33,064	189,593	319,971
Traffic Management	6,770	6,870	6,970	5,620	26,470	52,700
Works Fleet and Equipment Management	3,681	4,066	3,245	3,536	30,407	44,935
Works Improvement	50	50	50	50	300	500
Total	86,098	71,403	89,085	86,980	510,029	843,595

Note: Numbers may not balance due to rounding. Numbers are gross.

Proposed 2020-2029 Capital Forecast Highlights:

- Cycling Programs (Scenario C – three years, Improvements, Structures, Major Roads) \$20.1 million
- Hurontario Light Rail Transit Implementation - Associated Construction Projects \$26.6 million
- Infrastructure Needs
- Ninth Line Widening - Eglinton Avenue West to Derry Road West \$31.3 million
- Vehicle & Equipment Replacement \$41.9 million
- Bridge & Infrastructure Renewal and Appraisal \$73.9 million
- Road Rehabilitation (Integrated Road Projects, Residential and Non-Residential) \$316.8 million

Proposed 2020-2029 Capital Budget by Funding Source

The following table provides the funding sources proposed to fund the capital portion of the proposed 2020-2023 Business Plan and 2020 Budget and the consolidated forecast for 2024-2029.

Proposed 2020-2029 Capital Budget By Funding Source

Funding	2020 Proposed Budget (\$000s)	2021 Forecast (\$000s)	2022 Forecast (\$000s)	2023 Forecast (\$000s)	2024-2029 Forecast (\$000s)	Total 2020-2029 (\$000s)
Tax Capital	26,746	45,030	43,805	45,208	275,231	436,019
Planning Act Reserve Funds	0	0	0	0	0	0
Development Charges	20,347	14,906	21,380	22,391	149,053	228,077
Developer Contributions	955	470	470	570	3,120	5,585
Gas Tax	37,800	10,530	16,830	12,910	77,500	155,570
Recoveries	0	218	0	0	5,126	5,343
Subsidies and Senior Govt. Level Grants	250	250	6,600	5,900	0	13,000
Total	86,098	71,403	89,085	86,980	510,029	843,595

Note: Numbers may not balance due to rounding.

Proposed 2020 Capital Budget Detail

The following tables provide a detailed listing of proposed capital projects for 2020.

Program: Active Transportation

Project Number	Project Name	Gross Cost (\$000s)	Recovery (\$000s)	Net Cost (\$000s)	Funding Source
TWCP07768	Cycling Program (Structures)	300	0	300	Development Charges
TWMR00115	Second Line over Hwy. 401- Active Transportation Bridge Pier (Cash Flow)	4,205	0	4,205	Development Charges
TWOE00178	Cycling Program	50	0	50	Gas Tax
TWOE00182	Sidewalks	1,580	0	1,580	Developer Contributions, Development
TWOE00361	Cycling Program	250	0	250	Tax Capital
TWOE06782	Bicycle Parking Program	50	0	50	Tax Capital
TWOE06850	Cycling Program (Improvements)	150	0	150	Tax Capital
TWOE06871	Cycling Program	2,000	0	2,000	Development Charges
TWOE06995	Cycling Program - Scenario C	1,700	0	1,700	Gas Tax
TWTI005970	Sidewalks	1,000	0	1,000	Gas Tax
Total		11,285	0	11,285	

Note: Numbers may not balance due to rounding.

Program: Bridge & Structure Renewal

Project Number	Project Name	Gross Cost (\$000s)	Recovery (\$000s)	Net Cost (\$000s)	Funding Source
TWBR00034	Bridge & Structure Renewal	4,500	0	4,500	Gas Tax, Tax Capital
TWBR07715	Bridge & Structure Renewal	300	0	300	Gas Tax
Total		4,800	0	4,800	

Note: Numbers may not balance due to rounding.

Program: Environmental Management

Project Number	Project Name	Gross Cost (\$000s)	Recovery (\$000s)	Net Cost (\$000s)	Funding Source
TWOE007777	Environmental Mapping & Database System	195	0	195	Tax Capital
TWOE02895	Site Assessments and Data Management	375	0	375	Tax Capital
Total		570	0	570	

Note: Numbers may not balance due to rounding.

Proposed 2020 Capital Budget Detail (Cont'd)

Program: Major Road Construction

Project Number	Project Name	Gross Cost (\$000s)	Recovery (\$000s)	Net Cost (\$000s)	Funding Source
TWMR000148	Courtneypark Drive East / Highway 410 Interchange	500	250	250	Development Charges
TWMR000190	Clarkson Road/Lakeshore Road Intersection - Design & Construction	250	0	250	Development Charges
TWMR00047	Goreway Drive Rail Grade Separation	5,700	0	5,700	Development Charges
TWMR00062	Ninth Line Widening - Eglinton Avenue West to Derry Road West - Class EA Study	460	0	460	Development Charges, Tax Capital
TWMR00076	Preliminary Engineering Studies	115	0	115	Development Charges
TWMR00147	Mavis Road from Courtneypark Drive to North City Limits	1,376	0	1,376	Development Charges, Gas Tax
TWMR00188	Credit River AT Bridge along northside of QEW	218	0	218	Development Charges
TWMR00194	Lakeshore HOT TPAP for Phases 1 and 2	500	0	500	Development Charges
TWMR00200	Dundas BRT TPAP	1,000	0	1,000	Development Charges
TWMR006781	Bike Share Study	125	0	125	Tax Capital
TWMR06885	Road Characterization and Complete Streets	500	0	500	Development Charges
TWMR07114	Downtown Transitway Connection and Terminal - TPAP	4,850	0	4,850	Tax Capital
TWMR07725	Transit Master Plan	250	0	250	Development Charges
TWMR07726	Transit Master Plan	235	0	235	Development Charges
TWOE06827	Property Acquisition	1,010	0	1,010	Development Charges
TWOE06884	Transportation Master Plan Implementation	250	0	250	Development Charges
TWRI07770	Belbin Street from Preston Meadow to Nahani Way	1,500	0	1,500	Tax Capital
Total		18,838	250	18,588	

Note: Numbers may not balance due to rounding.

Program: Municipal Parking

Project Number	Project Name	Gross Cost (\$000s)	Recovery (\$000s)	Net Cost (\$000s)	Funding Source
TWRR00442	Parking Lot Rehabilitation	100	0	100	Tax Capital
Total		100	0	100	

Note: Numbers may not balance due to rounding.

Proposed 2020 Capital Budget Detail (Cont'd)

Program: Noise Wall Infrastructure

Project Number	Project Name	Gross Cost (\$000s)	Recovery (\$000s)	Net Cost (\$000s)	Funding Source
TWOE00218	Noise Wall Replacement	1,300	0	1,300	Tax Capital
TWOE00270	Noise Wall Replacement	200	0	200	Tax Capital
Total		1,500	0	1,500	

Note: Numbers may not balance due to rounding.

Program: Roadway Rehabilitation

Project Number	Project Name	Gross Cost (\$000s)	Recovery (\$000s)	Net Cost (\$000s)	Funding Source
TWRA07728	Road Asphalt Crack Sealing	100	0	100	Tax Capital
TWRR00043	Road Asphalt Crack Sealing	100	0	100	Tax Capital
TWRR00092	Roadway Rehabilitation	24,433	0	24,433	Gas Tax, Tax Capital
TWRR00102	Roadway Rehabilitation	8,030	0	8,030	Gas Tax, Tax Capital
TWRR07762	Roadway Rehabilitation	5,841	0	5,841	Gas Tax
Total		38,504	0	38,504	

Note: Numbers may not balance due to rounding.

Proposed 2020 Capital Budget Detail (Cont'd)

Program: Traffic Management

Project Number	Project Name	Gross Cost (\$000s)	Recovery (\$000s)	Net Cost (\$000s)	Funding Source
TWOE00144	Transit Signal Priority (TSP)	340	0	340	Development Charges
TWOE00185	Field Equipment Replacement - Traffic Controllers	190	0	190	Tax Capital
TWOE00186	Traffic Signal Equipment Enhancements	250	0	250	Development Charges
TWOE00188	Traffic Signals - New	900	0	900	Developer Contributions, Development Charges
TWOE00189	Traffic Signals - Rebuild	390	0	390	Tax Capital
TWOE00190	Traffic System and ITS	300	0	300	Development Charges
TWOE00251	Streetlighting	700	0	700	Tax Capital
TWOE00305	Fire Pre-Emption Equipment Replacement	1,500	0	1,500	Tax Capital
TWOE00395	Streetlighting	300	0	300	Tax Capital
TWOE00407	Traffic Calming Program	250	0	250	Tax Capital
TWOE00487	City Entrance Signs	500	0	500	Tax Capital
TWOE006748	Pedestrian Crossover Program	150	0	150	Tax Capital
TWOE006754	Streetlighting	500	0	500	Tax Capital
TWOE007623	Traffic Management Plan	500	0	500	Tax Capital
Total		6,770	0	6,770	

Note: Numbers may not balance due to rounding.

Program: Works Fleet and Equipment Management

Project Number	Project Name	Gross Cost (\$000s)	Recovery (\$000s)	Net Cost (\$000s)	Funding Source
TWOE00247	Specialized Equipment	50	0	50	Tax Capital
TWOE00249	Vehicle & Equipment Replacement	3,291	0	3,291	Tax Capital
TWOE00252	New Vehicles & Equipment	195	0	195	Development Charges
TWOE00440	BIA Waste Equipment	25	0	25	Tax Capital
TWOE007628	Specialized Equipment	120	0	120	Tax Capital
Total		3,681	0	3,681	

Note: Numbers may not balance due to rounding.

Proposed 2020 Capital Budget Detail (Cont'd)

Program: Works Improvement

Project Number	Project Name	Gross Cost (\$000s)	Recovery (\$000s)	Net Cost (\$000s)	Funding Source
TWOE00181	Salt Management Program	50	0	50	Tax Capital
Total		50	0	50	

Note: Numbers may not balance due to rounding.

Proposed 2020-2029 Capital Budget by Sub-Program (\$000s)

The following tables provide a listing of capital forecast by sub-program for 2020-2029.

Sub-Program	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	Total Forecast
Active Transportation											
ROADS Cycling Program	8,705	6,479	4,575	5,360	4,325	450	3,434	3,308	450	250	37,335
ROADS Sidewalks	2,580	0	0	450	0	450	0	450	0	227	4,157
Subtotal	11,285	6,479	4,575	5,810	4,325	900	3,434	3,758	450	477	41,492

Sub-Program	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	Total Forecast
Bridge & Structure Renewal											
ROADS Bridge & Structure Appraisal	0	200	0	300	0	300	0	300	0	300	1,400
ROADS Bridge & Structure Renewal	4,800	7,508	7,500	7,700	7,500	7,200	7,500	7,200	7,800	7,800	72,508
Subtotal	4,800	7,708	7,500	8,000	7,500	7,500	7,500	7,500	7,800	8,100	73,908

Sub-Program	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	Total Forecast
Environmental Management											
ROADS Environmental Mngt-City Owned Properties	570	375	375	375	375	375	375	375	375	375	3,945
Subtotal	570	375	375	375	375	375	375	375	375	375	3,945

Sub-Program	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	Total Forecast
Major Road Construction											
ROADS Grade Separation	5,700	3,500	5,000	1,000	0	0	0	0	0	0	15,200
ROADS Intersection Improvements	250	230	0	950	1,500	500	0	500	500	0	4,430
ROADS Property Acquisition	1,010	0	0	0	0	0	10,027	12,337	2,726	0	26,100
ROADS Road Improvements	11,628	14,503	21,265	20,625	30,352	27,600	8,148	5,907	39,567	49,476	229,070
Subtotal	18,588	18,233	26,265	22,575	31,852	28,100	18,175	18,743	42,793	49,476	274,800

Sub-Program	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	Total Forecast
Municipal Parking											
ROADS Parking - Municipal	0	0	0	0	0	0	0	0	0	0	0
ROADS Parking Lot Rehab	100	100	100	100	100	100	100	100	100	100	1,000
Subtotal	100	100	100	100	100	100	100	100	100	100	1,000

Sub-Program	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	Total Forecast
Noise Wall Infrastructure											
ROADS Noise Wall Program	1,500	800	850	1,950	2,200	700	1,100	700	1,200	1,000	12,000
Subtotal	1,500	800	850	1,950	2,200	700	1,100	700	1,200	1,000	12,000

Proposed 2020-2029 Capital Budget by Sub-Program (\$000s) (Cont'd)

Sub-Program	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	Total Forecast
Roadway Rehabilitation											
ROADS Crack Sealing	200	200	200	200	200	200	200	200	200	200	2,000
ROADS Road Rehabilitation	38,304	26,056	32,155	32,664	31,094	31,984	34,084	27,634	29,862	32,935	316,771
ROADS Roadways Infrastructure Review	0	0	200	200	200	200	200	200	0	0	1,200
Subtotal	38,504	26,256	32,555	33,064	31,494	32,384	34,484	28,034	30,062	33,135	319,971

Sub-Program	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	Total Forecast
Traffic Management											
ROADS Road Safety	750	250	250	250	250	250	250	250	250	250	3,000
ROADS Signs & Markings	500	0	0	0	0	0	0	0	0	0	500
ROADS Street Lighting	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	15,000
ROADS Traffic Signals	4,020	5,120	5,220	3,870	3,870	2,370	2,370	2,370	2,370	2,620	34,200
Subtotal	6,770	6,870	6,970	5,620	5,620	4,120	4,120	4,120	4,120	4,370	52,700

Sub-Program	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	Total Forecast
Works Fleet and Equipment Management											
ROADS New Vehicles & Equipment	195	195	195	195	195	195	195	195	195	195	1,950
ROADS Specialized Equipment	195	480	50	50	50	50	50	50	50	100	1,125
ROADS Vehicle & Equipment Replacement	3,291	3,391	3,000	3,291	3,841	3,941	4,041	4,141	4,241	8,682	41,860
Subtotal	3,681	4,066	3,245	3,536	4,086	4,186	4,286	4,386	4,486	8,977	44,935

Sub-Program	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2029 Forecast	Total Forecast
Works Improvement											
ROADS Salt Management Program	50	50	50	50	50	50	50	50	50	50	500
ROADS Streetscape	0	0	0	0	0	0	0	0	0	0	0
Subtotal	50	50	50	50	50	50	50	50	50	50	500
Total Expenditures	85,848	70,936	82,485	81,080	87,602	78,415	73,624	67,766	91,436	106,060	825,251

Note: Numbers may not balance due to rounding. Numbers are net.