MISSISSAUGA

Roads

2018–2021 Business Plan
& 2018 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 16 Services Areas that are outlined in this Plan. The 2018-2021 Business Plan and 2018 Budget detail how and where the City plans to allocate resources to deliver programs and services.

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

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Executive Summary of Roads

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

Services we provide:

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

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

Interesting facts about this service:

At a replacement value of $4.4 billion (2017), our road and bridge infrastructure is the largest asset owned and operated by the City.

The City has 5,290 lane kilometres of road network. If laid out end-to-end this infrastructure would connect the City of Mississauga to Dublin, Ireland.

The City's cycling network includes approximately 480 kilometres of multi-use trails, park paths, bicycle lanes and signed bike routes. Through the 2010 Cycling Master Plan, the City planned to develop more than 900 kilometres of on and off-road cycling infrastructure by 2030. This plan is currently being updated.

Highlights of the Business Plan include:

- Capital investments in facilities and new technologies to help guide the Roads Service Area through the next four years
- Capital investments in major road rehabilitation such as the Burnhamthorpe Road East reconstruction, and Mavis Road improvements
- Funding of corridor enhancements and other provisions needed to support the Hurontario Light Rail Transit (HuLRT) Project
- Operating investments to help maintain service levels and provide improved customer service
- Ongoing commitment to planning, developing and improving our multi-modal transportation system

Net Investment (000's)	2018	2019	2020	2021
Operating	67,345	67,521	68,825	68,790
Capital	47,087	82,045	91,316	62,580
Full Time Equivalents	480.0	480.6	494.6	493.6

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.

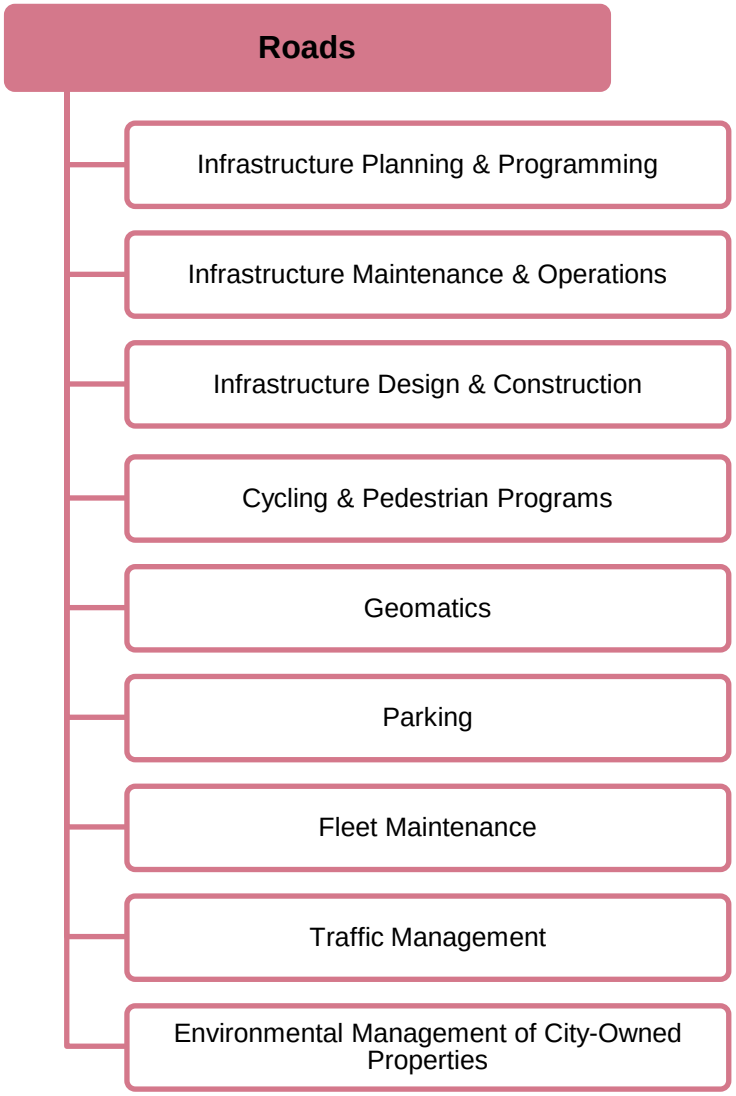
Mission

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.

Geomatics: Collect and maintain core data assets to support service expectations and critical business decision systems.

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

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

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

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

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

Mississauga roads

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: Maintain the road network at a “Good to Fair” rating, based on Ontario Ministry of Transportation standards.

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

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

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

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

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

Service Level Trends

Mississauga continues to mature as a city. Aging infrastructure and the need to balance service levels with affordability pose significant pressures and challenges for this service area. Through comprehensive condition assessments and asset management plans, the City continues to mitigate potential risks. Traffic congestion remains high on the public agenda. Growth within our City and surrounding municipalities, along with increased demand for the delivery of goods, continues to put additional pressure on Mississauga's road infrastructure.

Rush hour traffic on Hurontario Street (source: insauga.com)

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

There is a growing need for the City to provide municipal parking to meet increasing demand and as a tool in city building. To assist with this, the City is undertaking a Parking Master Plan and Implementation Strategy (PMPIS), which includes a review of the needs and opportunities for parking.

With changing trends in workforce demographics, it is integral for the City to proactively implement talent management and succession planning strategies. There are a number of 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.

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, and ensuring infrastructure is in a state of good repair.

Marked bus bay on Burnhamthorpe Road East, looking towards the Cooksville Creek Bridge and Burhamthorpe multi-use trail

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. The following section describes the measures that we use and provides context for results. The Balanced Scorecard shows trends since 2014 and expected outcomes up to 2021.

Financial Measures

What we are measuring – The operation and maintenance costs for City roads, bridges/culverts, and winter services obtained from the annual reported Financial Information Return (FIR). The FIR is a standard set of year-end reports which capture financial and statistical information for each Municipality in the Province.

Why this measure is important – Evaluating the costs to deliver our key services allows us to monitor and maintain a reasonable balance between spending and service level delivery, without compromising public safety. This measure is also used by other municipalities, allowing us to compare how we are doing relative to other municipalities.

How we are improving results – Continuing to apply best practices and finding operating efficiencies wherever possible, while providing consistent service levels ensures responsible spending and service delivery.

Customer Satisfaction Measures

What we are measuring – Results from a biennial citizen satisfaction survey, evaluating how the residents of Mississauga view the state and safety of our roads and how they feel about the services we provide.

Why this measure is important – How residents feel about road safety, maintenance and services is at the forefront of service delivery; they are the customers to whom we are accountable to meet service levels.

How we are improving results – From 2015 to 2017, the satisfaction percentages have increased by between three and six per cent. Consistent increases in resident satisfaction can continue to be seen as we maintain service delivery and expand and enhance our multi-modal transportation arteries.

Employee Satisfaction Measures

What we are measuring – Results from an employee engagement survey completed every three years, evaluating how employees within the Roads Service Area feel about the work they do and their engagement within the organization.

Why this measure is important – Maintaining a culture of employee engagement and innovation is crucial to the success of our organization.

How we are improving results – Overall job engagement and employee satisfaction is up two per cent since 2015. Dedication to employee engagement and fostering career development will ensure increasingly positive results now and in the future.

Internal Business Process Measures

What we are measuring – Results of condition surveys, and modelled condition percentages, depicting how we are managing our lifecycle asset management programs for roads and bridges.

Why this measure is important – Long term maintenance of roads and bridges brings about unique challenges as our infrastructure ages. Maintaining these assets in a state of good repair is critical. Condition surveys allow for monitoring and prioritization of infrastructure improvements.

How we are improving results – Responsible and cost-effective management of road-related assets will ensure service level targets are met. As the road and bridge infrastructure ages, condition ratings may decrease and rehabilitation and maintenance priorities will have to be managed effectively.

Balanced Scorecard

A Balanced Scorecard identifies and measures 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 towards the attainment of its goals.

Financial Measures

Average road and bridge/culvert operating cost is a measure of the City's ability to manage cost pressures associated with aging infrastructure, while providing consistent services levels.

A*verage winter maintenance operating cost* 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 indicates the City's ability to fund new parking management initiatives and adjust parking rates. 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 maintenance, traffic flow and environmental planning.

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 (Cont'd)

Measures for Roads	2014 (Actual)	2015 (Actual)	2016 (Actual)	2017 (Plan)	2018 (Plan)	2019 (Plan	2020 (Plan	2021 (Plan
Financial:								
Average road operating cost per lane km [1]	$1,827	$2,212	$2,170	$1,940	$1,940	$2,037	$2,139	$2,246
Average bridge/culvert maintenance cost per m^2 of surface area [1]	$3.31	$4.73	$5.20	$4.50	$5.00	$5.78	$6.06	$6.37
Average winter maintenance operating cost per lane km [1]	$4,828	$3,672*	$4,189	$4,800	$4,800	$5,040	$5,292	$5,557
Annual gross parking revenue ($000's)	$1,542	$1,716	$1,929	$1,735	$1,735	$1,785	$1,835	$1,885
Customer:								
Citizen satisfaction with road services [2]	N/A	64%	N/A	70% (Actual)	N/A	72%	N/A	74%
Citizen satisfaction with road safety [2]	N/A	73%	N/A	79% (Actual)	N/A	85%	N/A	88%
Employees:								
Overall job engagement [3]	N/A	72%	N/A	N/A	74%	N/A	N/A	76%
Employee satisfaction [3]	N/A	75%	N/A	N/A	77%	N/A	N/A	79%

Balanced Scorecard (Cont'd)

Measures for Roads	2014 (Actual)	2015 (Actual)	2016 (Actual)	2017 (Plan)	2018 (Plan)	2019 (Plan)	2020 (Plan)	2021 (Plan)
Internal Business Process:								
Percentage of roads in good condition or better [1]	77%	77%	77%	73%	72%	71%	70%	70%
Percentage of bridges in good condition or better [1]	98%	89%	90%	85%	85%	85%	85%	85%
Percentage of City-owned intersections that function at or below planned capacity	86%	86%	87%	85%	85%	85%	85%	85%
Percentage of time that winter maintenance response times are met	100%	100%	100%	100%	100%	100%	100%	100%

[1] Municipal Performance Measurement Program (MPMP) definitions are used.

[2] The Mississauga Citizen Satisfaction Survey is completed once every two years (2015, 2017, 2019, 2021).

[3] The Employee Engagement Survey is completed once every three years (2015, 2018, 2021).

* Cost anomaly due to the seasonality of winter maintenance.

Awards and Achievements

Awards

All four works yards were awarded the **Safe and Sustainable Snowfighting Award** in 2016 from the Salt Institute, for excellence in environmental consciousness and effective management in the storage of winter road salt.

Salt storage dome at the Mavis Works Yard

2016 Retrofit Energy Savings Champions Award from Enersource for success in improving energy efficiency and implementing energy saving projects in Mississauga through Ontario's Save on Energy Retrofit Program.

Smart Commute Gold Workplace Designation for 2016 from Metrolinx and the Smart Commute Program.

The Brenda Sakauye Environment Award presented to the Light Emitting Diode (LED) Street Lighting Conversion Project as part of the 2016 Corporate Awards.

Achievements

Initiated the update of the City's **Cycling Master Plan** and the development of a **Pedestrian Master Plan.**

Initiated the **PMPIS** with comprehensive stakeholder consultation and benchmarking.

Implemented **Phase I Parking Strategy** in Port Credit.

Completed the **Traffic Management Centre (TMC)**, which is the central hub for continued implementation of the ATMS, as well as completion of the **Traffic Control System** installation (iNET).

Mayor Bonnie Crombie, Members of City Council and Leadership Team with ATMS Staff at the new TMC

Emergency and Unplanned Projects:

Jaguar Valley **Emergency Storm Sewer Replacement** in 2016.

Dundas Street West Proudfoot Street **Emergency Slope Stabilization** in 2016.

Support on **Hickory Drive** for explosion emergency in 2016.

Support on **Lake Ontario High Water Hazard 2017.**

Dundas Street West and Clayhill Road **Emergency Slope Stabilization** in 2017.

The 2018-2021 Business Plan Outlook

Planning for the Future

Urban Mobility

The City landscape is changing, future transit and infrastructure demands on the Roads Service Area require planning, development and implementation of forward-thinking Master Plans (for example, the Transportation, Cycling and Pedestrian Master Plans) to position ourselves as a progressive service area and municipality. Regional transit planning with a focus on multi-modal transportation is a key focus in our Master Plans. Phased implementation of the Cycling Master Plan, along with additional funding for the Active Transportation Office's marketing and education strategy, will allow the City to continually improve our multi-modal transportation system and resources available to residents.

Cyclists in Celebration Square

Additionally, in response to emerging technologies such as autonomous vehicles, the City of Mississauga is partnering with the University of Toronto's Centre of Automated and Transformative Transportation Systems.

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

Rendering of the HuLRT Robert Speck Parkway stop

People and Culture

The Roads Service Area is actively preparing for the coming changes in our workplace demographics. With a significant portion of our workforce being eligible to retire in the next five years, effective succession planning and talent management strategies are essential. These strategies will also be an integral part of fostering a culture of employee innovation and satisfaction going forward. With the success of the Engineer Internship Program, the establishment of a Technologist Internship Program is proposed for 2019. The program will allow the Department to develop trained and knowledgeable technologists that will be qualified to take on permanent vacant positions that become available due to retirements.

Service Delivery

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

Salt storage at the existing Mavis Works Yard

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

Asset Management

To meet the demands of the City's aging infrastructure, it is essential to have appropriate asset management systems in place. The Roads Service Area operates and maintains the City's largest owned asset (roads and bridges); therefore, we must continually invest in and build on a system to manage these assets. Through partnerships with the Information Technology (IT) Division, Roads plans to implement progressive mobile technology to inventory and inspect assets in the field and have that data integrate with all other City systems. With linkages to the City's Geospatial Master Plan, there is an opportunity to implement improved tools to manage and maintain road-related asset data in a spatial environment. Streamlined asset management within the Roads Service Area ensures that staff can efficiently gather, integrate and use road-related asset data, in order to ensure that these assets remain in a state of good repair.

Asphalt Recycling on Central Parkway

Finding Efficiencies

The Service Area Divisions (E&C, TIP, and WOM) are focused on cost containment strategies and implementing continuous improvement initiatives to manage assets and resources more efficiently, effectively and economically.

Staff have identified operational savings and efficiencies in various programs, resulting in a savings of $644,000 in 2018.

Lean

Since the implementation of Lean in 2014, the Roads Divisions have submitted and verified 70 Small Lean Improvements and three Lean Greenbelt Projects. The Lean Small Improvements include a number of small-scale initiatives, leading to a variety of process improvements. The three Lean Greenbelt Projects are detailed below.

Payment Certification Process for Maintenance Contracts

Improved workflows for the Maintenance Contract process in the WOM Division, to deliver timely, efficient and accurate completion of work, progress payment certificates and account recovery. Construction lead time has been reduced by 54 per cent, payment processing lead time reduced by 60 per cent and recovery lead time reduced by 64 per cent.

Customer Inquiry Process for Municipal Parking

Reviewed processes for intaking parking inquiries from residents and customers. The project has resulted in streamlined processes and fewer redirected service requests, thereby reducing staff lead time and resulting in a more consistent customer service experience.

Infor Roadway Asset Management Project

Reviewed the Infor Roadway data management cycle to create a standard process, improve the flow of data between departmental systems, and improve the accuracy, timeliness and reliability of Infor Roadway asset information. Roadway data errors have been reduced by 97 per cent; overall lead time to add spatial data to Infor Roadway reduced by 99 per cent; and level of effort to update Roadways reduced by 89 per cent. Automated notification and error reports have also been created to ensure the ongoing accuracy of the data.

Continued implementation of small to large Lean improvements allows the City to capitalize on many business process improvements, saving both time and money for our citizens.

Recent and Future Initiatives

- Since the completion of the LED Street Lighting Conversion Project in mid-2016, the City has attained a 50 per cent reduction in street lighting maintenance costs and has realized an average reduction of 63 per cent in energy consumption to date – representing approximately $5 million in cost avoidance from January 2013 to May 2016
- The gradual movement towards modernized mobile technology continues to improve workflow and overall productivity in the field
- The Budget Request for a streamlined asset inventory and inspection solution will allow City staff to collect, manage and maintain road-related data more effectively and efficiently

Staff member using mobile technology to enhance productivity and co-ordination in the field

Advancing the City's Strategic Plan

move - developing a transit oriented city

- Actively developing and supporting master plans, programs and projects that encourage transit usage, including the TMP, the Transportation Demand Management Master Plan, Lakeshore Connecting Communities and other various Metrolinx initiatives
- The ATMS will allow us to better respond to changing traffic conditions, and adjust traffic signals at busier times to keep the City moving
- Municipal Parking is currently undertaking the development of a City-wide PMPIS, to provide recommendations for future parking policy and operations that will support the City's Strategic Plan

belong - ensuring youth, older adults and new immigrants thrive

- Continue to meet and exceed Accessibility for Ontarians with Disabilities Act requirements as part of the Multi-Year Accessibility Plan (2012-2017)

connect - completing our neighbourhoods

- Environmental assessments are underway to complete our road network
- Proactive implementation of Accessible Pedestrian Crossings will keep our residents connected in an environment made safer for everyone
- The Active Transportation Office is encouraging cycling and walking in the City of Mississauga by improving our sidewalk and cycling infrastructure

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 Master Plans ensure more green infrastructure and transportation options to come
- Implementation of a robust marketing and education strategy around cycling will help build a culture of cycling in Mississauga

Transforming our Business with Technology

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

Recent Highlights

The Advanced Transportation Management Systems (ATMS) has reached a milestone as the **Traffic Management Centre** has been completed.

Research and implementation are underway for an **electronic cash handling system**, to replace the current manual system at the T&W service counter. This will provide efficiencies for staff processing transactions and better data on cash handling.

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

Future Plans

Implementation of the **ATMS** continues, with planned completion for 2019. The 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 of lessening congestion and its effects on the road network. The ATMS includes projects related to the traffic signal control system replacement, traffic signal communication upgrades, and implementation of Intelligent Transportation System initiatives. This system will position Mississauga to be a leader in Transportation Management.

The development of a **Geospatial Master Plan** is currently underway, in which the City will provide recommendations for making cost effective and efficient use of location based data and Geographic Information System (GIS) capabilities. Using geospatial resources effectively, will allow for more informed planning and operational decisions that will impact many facets of City operations from policy, construction, repair, emergency operation, maintenance, collaboration with external organizations and overall delivery of services.

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

Budget Request 3934, **Leveraging Mobile Technology to Inventory and Inspect Assets**, plans to prepare the City to manage and maintain road-related asset inventory information in a spatial environment. The proposed application would ultimately replace all existing custom-made asset management related applications and consolidate all T&W asset data sources.

Maintaining Our Infrastructure

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

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

Loreland Works Yard Development: In order to meet future operational service levels, planning is underway for a new works yard in the South East quadrant of the City.

Cycling Master Plan: The Roads Service Area supports the Cycling Master Plan through expansion and maintenance of the cycling network. In 2017 the review and update of the Cycling Master Plan was initiated, and this ensures the Plan will meet the changing mobility objectives of the City's Strategic and Official Plans, providing a variety of transportation choices and healthy ways to travel.

Leveraging Mobile Technology to Inventory & Inspect Assets: Acquiring a solution that will allow for improved management and maintenance of road-related asset inventory will help the Roads Service Area to continue to maintain our infrastructure efficiently and cost effectively.

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 86 streets (29 lane kilometres) and six bridge structures
- Installed 764 metres of new noise barriers
- Completed one intersection improvement at Goreway Drive and Zahavy Way
- Installed six new traffic signals
- Installed Accessible Pedestrian Crossings at 120 intersections
- Completed five Class Environmental Assessments, two of which were in partnership with the Region of Peel
- Development Engineering reviewed over 800 development applications
- Development Construction serviced over 1,575 active building permit files and 90 servicing/municipal works/development/condominium agreements
- Completed the LED Street Lighting Conversion Project (approximately 48,000 Luminaires converted to LED)
- Expanded Paid Parking on Grand Park Drive, Parkside Village Drive, Brickstone Mews and Curran Place
- Installed over four kilometres of new sidewalks, eight kilometres of multi-use trail facilities, four kilometres of bicycle lanes, and 12 kilometres of signed bicycle routes

Mississauga cyclists, road and sidewalk construction

Managing Our Human Resources

Our Structure

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

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

Our Talent

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

- Roads Service Area staff are trained on continuous improvement and project management best practices; i.e., Lean, Project Management
- WOM has introduced in-house training programs to address the new professional development requirements from the Ontario Association of Certified Engineering Technicians and Technologists (OACETT)
- Divisional support in gaining and maintaining other relevant accreditation; i.e., Professional Engineer (P.Eng.), Project Management Professional (PMP)

Critical Roles/Functions to Achieve Business Goals

The City's infrastructure is aging, the population is growing, and development is not slowing down. Balancing timely rehabilitation of infrastructure, service levels, and affordability is an ongoing challenge for the Roads Service Area.

Mitigating the potential risks of aging infrastructure requires an increase in thorough condition assessments and sound asset management planning. A growing population makes the need for traffic management planning and initiatives (such as the ATMS), an important work stream in the coming years. Increased development in Mississauga means an increase in the complexity and volume of development applications. Arming ourselves with adequate and qualified staff to take on these challenges is integral to meeting the goals and objectives of the Roads Service Area.

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 significant turnover of staff in key areas
- Leveraging of co-op student opportunities and relationship building with local technical school communities

- Engineer-in-Training Internship Program has been introduced to attract and retain civil engineering skill sets across the Roads Service Area
- The Technologist Internship Program, requested for 2019, aims to produce trained, experienced and certified Technologists that are qualified to take on permanent positions that become available due to retirements

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

- One new Traffic Planning Technologist in 2019 in order to meet service level expectations in addressing the increased complexity and staff effort associated with processing development applications
- Fourteen new full time staff positions in 2020 for the Loreland Works Yard to carry out the day to day operations of the new yard
- One new staff member in 2019 for the Active Transportation Office, in order to address the Office's expanded scope (sidewalk development and pedestrian movement), and continue to implement the mobility objectives of the City's Strategic and Official Plans
- Three Technologists on a three-year rotating term starting in 2019 are requested in order to fulfill the succession planning goals of the Technologist Internship Program

Proposed Full Time Equivalent Staffing Distribution by Program

Program	2017	2018	2019	2020	2021
Corporate Fleet Maintenance	27.7	27.7	27.7	27.7	27.7
Crossing Guards	77.1	77.1	77.1	77.1	77.1
Engineering and Construction	61.0	61.2	59.2	59.2	59.2
Maintenance Control *	137.1	137.1	138.1	152.1	152.1
Municipal Parking	6.0	7.0	7.0	7.0	7.0
Streetlighting	2.0	2.0	2.0	2.0	2.0
Survey and Inspection	59.5	59.5	57.5	57.5	57.5
Traffic Management	66.3	65.3	65.3	65.3	65.3
Transportation and Infrastructure Planning	44.3	43.0	46.6	46.6	45.6
Total Service Distribution	**481.1**	**480.0**	**480.6**	**494.6**	**493.6**

Note: Numbers may not balance due to rounding.

* Cleaning and 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 2018-2021 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 2017 was $66.8 million and the proposed budget for 2018 is $67.3 million.

Total Changes to Maintain Current Service Levels

Highlights of the changes to maintain current service levels are:

- Increase in $647,000 reflecting labour adjustments and other fringe benefit increases
- Increase of $500,000 in Contract costs for Traffic Management Regional work to reflect actual billing – this increase is offset by an equivalent increase of recovery revenue of $500,000 from the Region of Peel to reflect chargebacks associated with the Traffic Signal Services Agreement
- Increase of $405,000 in Contractor costs to reflect current contract bid pricing for Waste Haulage, Works Sodding, Street Sweeping and Bridge Repairs
- Increase of $150,000 for third party damages to Traffic Utilities
- Increase of $100,000 in Fleet Maintenance for various vehicle diagnostic tools, equipment and licencing
- Additional revenues of $222,000 have been identified by staff

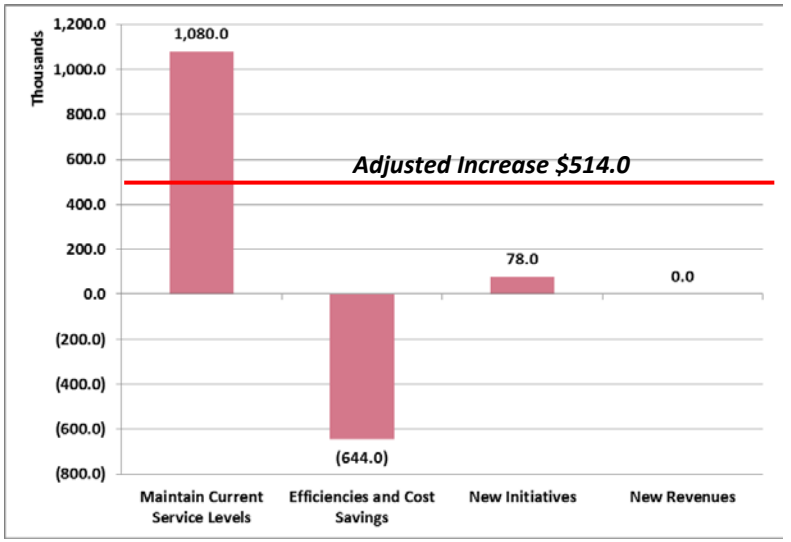
Efficiencies and Cost Savings

- Contractor costs savings of $509,000 have been identified within Winter Maintenance, Graffiti Cleaning, Litter Pickup and Street Flushing programs
- Savings of $50,000 in Traffic Management for communications service provider migration
- An additional $85,000 in other budget reductions were identified by staff

New Initiatives

One new initiative, costing $78,000, impacts the 2018 operating budget. Details on the initiatives impacting the 2018 to 2021 operating budget can be found later on in this business plan.

Proposed Changes to 2018 Net Operating Budget by Category (000's)



Adjusted Increase = cost to maintain current services + new initiatives - efficiencies and cost savings

Operating Budget Details

The following table identifies the budgeted and forecasted operating expenditures and revenues for 2018-2021, as well as the 2017 Budget and 2016 Actuals by major program within the Service Area.

Proposed Budget by Program

Description	2016 Actuals ($000's)	2017 Budget ($000's)	2018 Proposed Budget ($000's)	2019 Forecast ($000's)	2020 Forecast ($000's)	2021 Forecast ($000's)
Expenditures to Deliver Current Services						
Bridges & Watercourses	337	242	307	307	307	307
Cleaning and Litter Pick-up	3,090	3,741	3,670	3,676	3,681	3,687
Corporate Fleet Maintenance	1,318	1,514	1,670	1,709	1,748	1,788
Crossing Guards	2,953	3,156	3,231	3,275	3,321	3,367
Engineering and Construction	2,878	4,162	4,192	4,248	4,306	4,365
Maintenance Control	8,105	6,866	7,221	6,702	6,180	5,656
Municipal Parking	1,646	1,601	1,688	1,699	1,710	1,721
Road Sidewalk Maintenance	10,444	9,530	9,550	9,550	9,550	9,550
Streetlighting	5,598	5,484	5,598	5,596	5,754	5,902
Survey & Inspection	884	2,471	2,554	2,633	2,708	2,782
Traffic Management	11,995	11,806	12,312	12,406	12,497	12,589
Transportation & Infrastructure Planning	4,369	5,031	5,069	5,090	5,041	5,025
Winter Maintenance	22,808	23,209	23,013	23,015	23,017	23,020
Total Expenditures	76,424	78,813	80,074	79,905	79,819	79,759
Revenues	(13,862)	(11,831)	(12,656)	(12,656)	(12,656)	(12,656)
Transfers From Reserves and Reserve Funds	(150)	(150)	(150)	(150)	(150)	(150)
New Initiatives and New Revenues			78	422	1,812	1,837
Proposed Net Budget Including New Initiatives & New Revenues	**62,413**	**66,832**	**67,345**	**67,521**	**68,825**	**68,790**
Expenditures Budget - Changes by Year			2%	(0%)	(0%)	(0%)
Proposed Net Budget - Changes by Year			1%	0%	2%	(0%)

Note: Numbers may not balance due to rounding.

Summary of Proposed Budget

The following table shows the proposed budget changes by description and category. Costs (labour, operational costs, facility, IT and support) and revenues are shown by category with the approved 2017 budget for comparison. The three columns to the far right of the table show the totals proposed for 2018 and their dollar and percentage changes over 2017.

Summary of Proposed 2018 Budget

Description	2017 Approved Budget ($000's)	Maintain Current Service Levels	Efficiencies and Cost Savings	Annualized Prior Years Budget Decisions	Operating Impact of New Capital Projects	Proposed New Initiatives And Revenues	Special Purpose Levies	2018 Proposed Budget ($000's)	$ Change Over 2017	% Change Over 2017
Labour and Benefits	33,407	609	(44)	38	0	0	0	34,010	603	2%
Operational Costs	45,249	1,229	(600)	0	0	78	0	45,955	706	2%
Facility, IT and Support Costs	157	29	0	0	0	0	0	186	29	19%
Total Gross	**78,813**	**1,867**	**(644)**	**38**	**0**	**78**	**0**	**80,152**	**1,339**	**2%**
Total Revenues	**(11,981)**	**(825)**	**0**	**0**	**0**	**0**	**0**	**(12,806)**	**(825)**	**7%**
Total Net Expenditure	**66,832**	**1,041**	**(644)**	**38**	**0**	**78**	**0**	**67,345**	**514**	**1%**

Summary of Proposed 2018 Budget and 2019-2021 Forecast

Description	2016 Actuals ($000's)	2017 Approved Budget ($000's)	2018 Proposed Budget ($000's)	2019 Forecast ($000's)	2020 Forecast ($000's)	2021 Forecast ($000's)
Labour and Benefits	30,959	33,407	34,010	34,935	36,820	37,399
Operational Costs	45,313	45,249	45,955	45,206	44,625	44,011
Facility, IT and Support Costs	152	157	186	186	186	186
Total Gross	**76,424**	**78,813**	**80,152**	**80,327**	**81,631**	**81,596**
Total Revenues	**(14,012)**	**(11,981)**	**(12,806)**	**(12,806)**	**(12,806)**	**(12,806)**
Total Net Expenditure	**62,413**	**66,832**	**67,345**	**67,521**	**68,825**	**68,790**

Note: Numbers may not balance due to rounding.

Proposed Cost Increase Required to Maintain Current Service Levels

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

Description	2017 Budget ($000's)	2018 Proposed Budget ($000's)	Change ($000's)	Details ($000's)
Labour and Benefits	**33,407**	**34,010**	**603**	Increase reflects labour adjustments and other Fringe Benefit changes.
Administration and Support Costs	157	186	29	Increase in IT allocation Support Costs
Advertising & Promotions	108	109	1	
Communication Costs	925	905	(20)	$30k - Increase to reflect actual which is offset by Revenues ($50k) - Savings realized in Traffic Management for communication migration
Contractor & Professional Services	30,126	30,522	396	$330k - Increase to reflect Contract Bid Pricing for: Waste Haulage $145k, Works Sodding $40k and Street Sweeping of $100k $500k - Increase in Contractor cost for Traffic Management Regional work which is directly correlated/offset with increase in Recoveries from the Region. $75k - Increase in Bridge Repairs, fully offset by recoveries ($509k)-Savings realized in Winter Maintenance of $200k, Graffiti Cleanup of $45k, Liter Pickup $257k and Street Flushing of $7k, to reflect current contract pricing
Equipment Costs & Maintenance Agreements	570	581	11	Increase to reflect actual 3 year trend, offset fully by Revenues.
Finance Other	93	83	(10)	($10k) - Savings in Registry Services to reflect actual
Materials, Supplies & Other Services	9,412	9,322	(90)	($60k) - Decrease to reflect actual 3 year trend, offset by increase in various other operating Expenses ($30k) - Efficiencies realized in various material supplies
Occupancy & City Costs	6,572	6,735	163	$150k - Increase for third party Damages to Traffic Utilities, partially offset by recoveries below $49k - Increase in Stormwater charges for City Facilities ($38k) - Net decrease in utilities (Water, Hydro and Gas) for various facilities
Staff Development	161	166	5	
Transfers To Reserves and Reserve Funds	495	495	0	
Transportation Costs	(3,214)	(3,041)	173	$100k - Increase to reflect actual, offset by Revenues $75k - Increase in Fleet Maintenance for Diagnostic tools, equipment and licensing ($2k) - Savings in mileage to reflect 3 year trend
Subtotal - Other Operating	**45,406**	**46,064**	**658**	
Total Revenues	(11,831)	(12,656)	(825)	($500k) - Increase in Regional Recoveries, offset by Contractor costs above ($255k) - Increase in Fees/Recoveries offset by Cost increases above ($70k) - Increase in recoveries for third party damages, offset by Occupancy cost above
Transfers From Reserves and Reserve Funds	(150)	(150)	0	
Subtotal - Revenues	**(11,981)**	**(12,806)**	**(825)**	
Total	**66,832**	**67,267**	**436**	

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. Detailed descriptions of each Request can be found on the pages following the table.

Description	BR #	2018 FTE Impact	2018 Proposed Budget ($000's)	2019 Forecast ($000's)	2020 Forecast ($000's)	2021 Forecast ($000's)	2018 to 2021 FTE Impact	2018 to 2021 Capital ($000's)
New Initiative								
Cycling Master Plan Phased Implementation	2917	0.0	0	103	105	106	1.0	0
Loreland Works Yard	2918	0.0	0	0	1,233	1,251	14.0	14,700
Leveraging Mobile Technology to Inventory and Inspect Assets	3934	0.0	0	0	20	20	0.0	280
Active Transportation Marketing and Education Implementation Program	3937	0.0	78	100	100	100	0.6	0
Technologist Internship Program	3968	0.0	0	142	249	253	3.0	0
Traffic Planning Technologist	3971	0.0	0	76	105	106	1.0	0
Total New Initiative		**0.0**	**78**	**422**	**1,812**	**1,837**	**19.6**	**14,980**
Total New Revenues		**0.0**	**0**	**0**	**0**	**0**	**0.0**	**0**
Total New Initiatives and New Revenues		**0.0**	**78**	**422**	**1,812**	**1,837**	**19.6**	**14,980**

Note: Numbers may not balance due to rounding.

Budget Request #: 2917

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

Required Annual Operating Investment

Impacts ($000s)	2018	2019	2020	2021
Gross Expenditures	0.0	103.3	104.9	106.4
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	0.0	103.3	104.9	106.4
* Net Change in $		103.3	1.5	1.6
FTEs	0.0	1.0	1.0	1.0

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

Required Capital Investment

Total Capital ($000s)	2017 & Prior	2018	2019	2020	2021 & Beyond
Expenditures	0.0	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

The Cycling Office has expanded its scope to include sidewalk development and pedestrian movement. Additional staff is required to fulfill the new mandate of the Active Transportation (AT) Office. The goal of the AT Office is to implement the mobility objectives of the City's Strategic and Official Plans, providing transportation choices and healthy ways to travel.

Details of Service Change

Cities across Canada are developing programs that encourage cycling and walking as every day activities, increasing their livability and providing transportation choices to their residents. While Mississauga has had success to date in encouraging cycling, with 57 of the 79 recommended actions in the Cycling Master Plan (CMP) underway, more efforts to encourage walking and cycling are necessary. The key limitation to encouraging active transportation is the lack of staff resources. A new staff member in 2019 is therefore needed.

Service Impact

Cycling culture in Mississauga is growing rapidly, as demonstrated by increased participation in community ward rides, the Tour de Mississauga, and Bike to Work/School Day events. There are growing expectations from residents regarding the City's commitment to implement the CMP and to establish more sidewalks and trails. While the Region has some resources for Active Transportation, the City will need to take the lead on programs with our residents. In addition, the Cycling Committee has adopted the goal of achieving a Silver designation for Mississauga as part of the Bicycle Friendly Community award program.

Without new staff, the Active Transportation Office will be unable to adequately support public requests for new sidewalks and cycling facilities and to lead in the development of Active Transportation facilities. Without new staff, the Active Transportation Office will be unable to provide the service identified in the City’s Strategic and Official Plans. These areas are all important in achieving “Silver” status which measures achievements in Engineering (network facilities), Education, Encouragement, Enforcement, and Evaluation & Planning.

Budget Request #: 2918

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

Required Annual Operating Investment

Impacts ($000s)	2018	2019	2020	2021
Gross Expenditures	0.0	0.0	1,232.5	1,251.0
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	1,232.5	1,251.0
* Net Change in $		0.0	1,232.5	18.5
FTEs	0.0	0.0	14.0	14.0

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

Required Capital Investment

Total Capital ($000s)	2017 & Prior	2018	2019	2020	2021 & Beyond
Expenditures	1,500.0	0.0	7,950.0	6,750.0	0.0

Why Staff Recommend this Initiative

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

Details of Service Change

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

For 2020, 14 additional full time staff positions are required to support the operations of the yard, three non-union and 11 union positions. This includes one Area Supervisor, one Assistant Area Supervisor and one Administrative Assistant. One Loader Operator (WPII), one Driver-DZ (WPIII), two Drivers (WPIV), and four Labourers to carry out the day to day operations of the yard.

This yard will include a mechanic's bay which requires three mechanics – one Lead hand (Service Centre) and two mechanics (Service Centre).

New equipment will be required for day to day operations. This will include two five tonne trucks, two crew cabs, one loader, one backhoe, one belt loader (stacker) and two 1/2 ton pickups or Sport Utility Vehicles (SUV) vehicles. New equipment and tools will be needed for the Service Centre as well.

Budget Request #: 3934

Proposed Initiative	Department	Service Area
Leveraging Mobile Technology to Inventory and Inspect Assets	Transportation & Works Department	Roads

Required Annual Operating Investment

Impacts ($000s)	2018	2019	2020	2021
Gross Expenditures	0.0	0.0	20.0	20.0
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	20.0	20.0
* Net Change in $		0.0	20.0	0.0
FTEs	0.0	0.0	0.0	0.0

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

Required Capital Investment

Total Capital ($000s)	2017 & Prior	2018	2019	2020	2021 & Beyond
Expenditures	0.0	200.0	80.0	0.0	0.0

Why Staff Recommend this Initiative

The City requires better tools to manage and maintain road related asset inventory information in a spatial environment. Current methods used do not allow spatial information to flow seamlessly between various systems like INFOR and GIS. The acquisition of a tool that will allow the City to create asset inventory and manage inspection programs more effectively is required so that staff can be more efficient in gathering, integrating and using road-related asset data.

Details of Service Change

There are currently eight custom built applications that enable Transportation & Works to create asset inventory and inspection information. Many of the applications are not integrated with the City's core asset inventory system INFOR. Over time, these custom built data collection tools will be replaced with a common solution that will be tailored to that specific asset and the inspector's data collection requirements. The collected field information will be able to seamlessly integrate with back office applications like INFOR and the City's GIS data. A streamlined solution like this will allow business processes, workflows and information gathered to be aligned and ensure the most current information is available. This budget request proposes to acquire a solution that will allow users to create and maintain asset and inspection information to suit the specific needs of the business unit and asset type while seamlessly integrating that information with all major technology systems.

Service Impact

City staff will be able to collect, manage and maintain asset data in the field more efficiently, and reduce both information processing time and reduce the risk of error. This will result in more cost effective programming of infrastructure maintenance and rehabilitation activities and thereby keep the City's road-related assets in a state of good repair.

Budget Request #: 3937

Proposed Initiative	Department	Service Area
Active Transportation Marketing and Education Implementation Program	Transportation & Works Department	Roads

Required Annual Operating Investment

Impacts ($000s)	2018	2019	2020	2021
Gross Expenditures	78.0	100.3	100.3	100.3
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	78.0	100.3	100.3	100.3
* Net Change in $		22.3	0.0	0.0
FTEs	0.0	0.6	0.6	0.6

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

Required Capital Investment

Total Capital ($000s)	2017 & Prior	2018	2019	2020	2021 & Beyond
Expenditures	0.0	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

This initiative will help realize the vision of Mississauga's Official Plan, Strategic Plan and Cycling Master Plan to encourage cycling in Mississauga, enhancing our overall health and quality of life.

With this funding, the promotion/education strategies of Mississauga's Cycling Master Plan will be implemented. A campaign (based on international best practices and unique to Canada) will be launched with the goal of increasing the number of cycling trips in Mississauga by 50 per cent by 2028.

Details of Service Change

The Cycling Office, now called the Active Transportation Office, was established in 2010 and staffed by a Manager and Technologist. A small operating budget was established to address initial growth of the office.

As planned in the Cycling Master Plan that was adopted by City Council in 2010, the office grew in 2016 with the addition of a Marketing/Education Co-ordinator, who is piloting low-budget initiatives in 2017 and developing a marketing/education strategy. In order to advance this strategy sufficiently and continue to implement the strategies of Mississauga's Cycling Master Plan, a $100,000 increase in the operating budget of the Active Transportation Program is necessary. Proposed initiatives include:

- Launching the "Mississauga Bike Challenge", to get 2,500 Mississauga residents, school children and municipal employees to cycle a collective 500,000 kilometres annually
- Hiring "Bike Ambassadors" to teach 2,500 Mississauga youth to cycle safely and 50,000 Mississauga adults to share the trail and road
- Providing 10,000 Mississauga residents with free cycling information, including a new Mississauga Cycling Map
- Staging cycling events that attract 5,000 people to cycle
- Teaching 1,000 people to cycle safely and confidently
- Promoting cycling with an e-newsletter sent to 2,500 people, and enhanced website and social media promotions

Service Impact

With an increased operating budget the Active Transportation Office will be able move beyond its singular focus of developing infrastructure to deploying a more diversified strategy to build a culture of cycling in Mississauga. This will develop awareness of the cycling infrastructure that now exists, to promote its use and allow the value of the investment to be more fully realized.

Costs related to this Budget Request include:

- Cycling Safety and Skills Education (instructors and supplies)
- Bike Ambassador Program (staff and supplies)
- Website and Mississauga Bike Challenge (website & software development, promotion, prizes)
- Events
- Cycling Network Map (design, cartography, printing)

Budget Request #: 3968

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

Required Annual Operating Investment

Impacts ($000s)	2018	2019	2020	2021
Gross Expenditures	0.0	142.4	249.5	253.2
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	142.4	249.5	253.2
* Net Change in $		142.4	107.1	3.7
FTEs	0.0	3.0	3.0	3.0

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

Required Capital Investment

Total Capital ($000s)	2017 & Prior	2018	2019	2020	2021 & Beyond
Expenditures	0.0	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

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

Details of Service Change

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

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

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

Service Impact

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

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

Budget Request #: 3971

Proposed Initiative	Department	Service Area
Traffic Planning Technologist	Transportation & Works Department	Roads

Required Annual Operating Investment

Impacts ($000s)	2018	2019	2020	2021
Gross Expenditures	0.0	75.8	104.9	106.4
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	0.0	75.8	104.9	106.4
* Net Change in $		75.8	29.1	1.6
FTEs	0.0	1.0	1.0	1.0

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

Required Capital Investment

Total Capital ($000s)	2017 & Prior	2018	2019	2020	2021 & Beyond
Expenditures	0.0	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

As the City is intensifying, development applications are becoming more complex in nature given the more urban and congested environment. This complexity extends to the transportation-related components of the applications, leading to more staff time required to review these applications and their associated Transportation Impact Studies. The current staff complement is not able to meet the service level expectations for application review, resulting in this request for one new FTE.

Details of Service Change

The complexity and staff effort associated with processing applications has increased and is expected to continue to increase as the City grows. This has been demonstrated with recent applications such as the Roger's Master Site Plan and is expected for future sites such as the development of Inspiration Lakeview, Inspiration Port Credit, Imperial Oil Ltd. (IOL) Lands and sites along the Hurontario Street Light Rail Transit Corridor. The two current Traffic Planning Technologists are not able to meet the service level expectations for review and comment on the various development applications due to the high demands of the submitted applications.

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

Development application fee revenues have increased from $423,601 in 2014 to $643,990 in 2016. Between 2016 and 2017 the revenue budget was increased by $370,540. However, it should be noted that this increase was made after the Roads 2017 Budget was approved. As a result, an additional Traffic Planning Technologist is being requested as part of the 2019 budget, the cost of which being offset by the $370,540 revenue increase.

Service Impact

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

Proposed 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 2018-2027 Capital Budget by Program

Program Expenditures	2018 Proposed Budget ($000's)	2019 Forecast ($000's)	2020 Forecast ($000's)	2021 Forecast ($000's)	2022-2027 Forecast ($000's)	Total 2018-2027 ($000's)
Bridge & Structure Rehabilitation	1,500	6,500	7,500	7,500	45,000	68,000
Major Roads	13,536	19,769	30,840	19,964	86,077	170,186
Other Engineering	12,951	23,890	21,776	12,516	73,975	145,108
Roadway Rehabilitation	19,100	31,886	31,200	22,600	192,123	296,909
Total	**47,087**	**82,045**	**91,316**	**62,580**	**397,175**	**680,203**

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

Proposed 2018-2027 Capital Forecast Highlights include the following:

Priority 2018 Projects Are Funded $47 Million

- Tomken Road Bridge over the West Branch of the Etobicoke Creek Tributary is scheduled for rehabilitation
- Major road improvement projects include:
  - Goreway Drive Grade Separation (Cash-Flow)
  - Square One Drive between Confederation Parkway and the future Amacon Driveway (Phase One: Design/Construct Cash-Flow, Phase Two: between the future Amacon Driveway and Rathburn Road West to be completed at a later date)
  - Living Arts Drive between Rathburn Road West and Centre View Drive (Design/Construct)
  - Reconstruction of Burnhamthorpe Road East, just east of Dixie Road to the Etobicoke Creek Bridge (Construct)
  - Mavis Road between Courtneypark Drive and the North City limits (Design/Construct Cash-Flow)
  - Creditview Road between Bancroft Drive to Old Creditview Road (Design/Construct, Cash-Flow)
- Road rehabilitation projects include the renewal of 31 kilometres of roads (63 streets)
- Other engineering projects include funding for sidewalks, cycling, noise barriers, parking, traffic, street lighting and City fleet

10-Year Capital Forecast is $680.2 Million

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

Proposed 2018-2027 Capital Budget by Funding Source

The following table provides the funding sources proposed to fund the capital portion of the proposed 2018-2021 Business Plan and 2018 Budget and the consolidated forecast for 2022-2027.

Funding	2018 Proposed Budget ($000's)	2019 Forecast ($000's)	2020 Forecast ($000's)	2021 Forecast ($000's)	2022-2027 Forecast ($000's)	Total 2018-2027 ($000's)
Tax/Debt	12,440	20,541	29,604	39,682	217,506	319,771
Cash In Lieu	645	0	0	0	0	645
Development Charges	7,821	22,651	25,303	12,925	96,534	165,233
Developer Contributions	470	470	470	470	2,820	4,700
Gas Tax	25,712	38,384	35,940	9,503	72,206	181,745
Recoveries	0	0	0	0	0	0
Subsidies and Senior Govt. Level Grants	0	0	0	0	8,109	8,109
Total	**47,087**	**82,045**	**91,316**	**62,580**	**397,175**	**680,203**

Note: Numbers may not balance due to rounding.

Proposed 2018 Capital Budget Detail

The following tables provide a detailed listing of proposed capital projects for 2018.

Program: Bridge & Structure Rehabilitation

Project Number	Project Name	Gross Cost ($000's)	Recovery ($000's)	Net Cost ($000's)	Funding Source
TWBR00030	Bridge Repairs	1,000	0	1,000	Gas Tax,Tax/Debt
TWBR00031	Bridge Structure Detail Inspections & Design at various locations	500	0	500	Gas Tax
Total		**1,500**	**0**	**1,500**	

Note: Numbers may not balance due to rounding.

Program: Roadway Rehabilitation

Project Number	Project Name	Gross Cost ($000's)	Recovery ($000's)	Net Cost ($000's)	Funding Source
TWRR00035	Crack Sealing	100	0	100	Tax/Debt
TWRR00036	Roadway Rehabilitation - Major Roads	11,000	0	11,000	Gas Tax,Tax/Debt
TWRR00100	Roadway Rehabilitation - Residential Roads	8,000	0	8,000	Gas Tax,Tax/Debt
Total		**19,100**	**0**	**19,100**	

Note: Numbers may not balance due to rounding.

Proposed 2018 Capital Budget Detail (Cont'd)

Program: Major Roads

Project Number	Project Name	Gross Cost ($000's)	Recovery ($000's)	Net Cost ($000's)	Funding Source
TWMR00047	Goreway Drive Grade Separation	1,300	0	1,300	Development Charges
TWMR00067	Intersection Capital Program	825	0	825	Development Charges
TWMR00069	Preliminary Engineering Studies	100	0	100	Development Charges
TWMR00103	Creditview Road Widening from Bancroft Road to Old Creditview Road	500	0	500	Development Charges,Tax/Debt
TWMR00119	Square One Drive - Confederation Parkway to Rathburn Road West	950	0	950	Development Charges
TWMR00128	Living Arts Drive - Rathburn Rd W to Centre View Dr	1,501	0	1,501	Gas Tax,Tax/Debt
TWMR00147	Mavis Road from Courtneypark Drive to North City Limits	2,000	0	2,000	Development Charges,Gas Tax,Tax/Debt
TWMR00192	Burnhamthorpe Road E Reconstruction - East of Dixie to Etobicoke Creek Bridge	6,360	0	6,360	Development Charges,Gas Tax,Tax/Debt
Total		**13,536**	**0**	**13,536**	

Note: Numbers may not balance due to rounding.

Proposed 2018 Capital Budget Detail (Cont'd)

Program: Other Engineering

Project Number	Project Name	Gross Cost ($000's)	Recovery ($000's)	Net Cost ($000's)	Funding Source
TWOE00153	Salt Management Program	50	0	50	Tax/Debt
TWOE00154	Sidewalks	450	0	450	Developer Contributions, Development Charges
TWOE00155	Survey and Control Network	65	0	65	Tax/Debt
TWOE00156	Topographical Updating	55	0	55	Tax/Debt
TWOE00157	Field Equipment Replacement - Traffic Controllers	190	0	190	Tax/Debt
TWOE00159	Traffic Signal Equipment Enhancements	150	0	150	Development Charges
TWOE00161	Traffic Signals - New	710	0	710	Developer Contributions, Development Charges
TWOE00162	Traffic Signals - Rebuild	390	0	390	Gas Tax
TWOE00163	Traffic System and ITS	75	0	75	Development Charges
TWOE00225	Vehicle & Equipment Replacement	3,341	0	3,341	Tax/Debt
TWOE00236	Specialized Equipment	120	0	120	Tax/Debt
TWOE00237	Noise Wall Program	618	0	618	Gas Tax,Tax/Debt
TWOE00238	Streetlighting	600	0	600	Gas Tax
TWOE00241	New Vehicles & Equipment	195	0	195	Development Charges, Tax/Debt
TWOE00287	Site Assessments and Data Management	365	0	365	Tax/Debt
TWOE00334	Parking Master Plan and Imlementation Strategy	425	0	425	Cash In Lieu
TWOE00363	Cycling Program	200	0	200	Gas Tax
TWOE00393	Streetlighting	300	0	300	Gas Tax

Proposed 2018 Capital Budget Detail (Cont'd)

Program: Other Engineering (continued)

Project Number	Project Name	Gross Cost ($000's)	Recovery ($000's)	Net Cost ($000's)	Funding Source
TWOE00401	Pay & Display Parking Meters-Streetsville	120	0	120	Cash In Lieu
TWOE00405	Traffic Calming Program	200	0	200	Gas Tax
TWOE00434	Feasibility Study-Port Credit Library Parking Lot	100	0	100	Cash In Lieu
TWOE00436	At Grade Railway Crossing-Deficiency Correction	400	0	400	Gas Tax
TWOE00438	BIA Waste Equipment	25	0	25	Tax/Debt
TWOE00443	Noise Wall Program	1,082	0	1,082	Tax/Debt
TWOE00475	Survey & Equipment Upgrade	80	0	80	Tax/Debt
TWOE00486	Pedestrian Crossover Pilot Project	100	0	100	Tax/Debt
TWOE00487	City Entrance Signs	100	0	100	Tax/Debt
TWOE00495	Property Acquisition	75	0	75	Development Charges
TWOE00496	Property Acquisition	250	0	250	Development Charges
TWOE00497	Noise Wall Program Retrofit	520	0	520	Development Charges
TWOE00501	Cycling Program (Structures)	300	0	300	Development Charges
TWRR00441	Parking Lot Rehabilitation	100	0	100	Tax/Debt
TWSD00370	Leveraging Technology to Inventory and Inspect Assets	200	0	200	Tax/Debt
TWTI005970	Sidewalks	1,000	0	1,000	Gas Tax
Total		**12,951**	**0**	**12,951**	

Note: Numbers may not balance due to rounding.

Proposed 2019-2021 Capital Budget by Sub-Program

The following tables provide a listing of capital forecast by sub-program for 2019-2021.

Sub-Program	2019 Forecast ($000's)	2020 Forecast ($000's)	2021 Forecast ($000's)
Bridge & Structure Rehabilitation			
ROADS Bridge & Structure Appraisal	200	0	200
ROADS Bridge & Structure Evaluation & Design	500	500	500
ROADS Bridge & Structure Renewal	5,800	7,000	6,800
Subtotal	6,500	7,500	7,500

Sub-Program	2019 Forecast ($000's)	2020 Forecast ($000's)	2021 Forecast ($000's)
Major Roads			
ROADS Grade Separation	4,000	12,000	0
ROADS Intersection Improvements	500	495	450
ROADS Road Improvements	15,269	18,345	19,514
Subtotal	19,769	30,840	19,964

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

Proposed 2019-2021 Capital Budget by Sub-Program (Cont'd)

Sub-Program	2019 Forecast ($000's)	2020 Forecast ($000's)	2021 Forecast ($000's)
Other Engineering			
ROADS Cycling Program	1,725	4,625	1,725
ROADS Environmental Mmgt-City Owned Properties	375	375	375
ROADS New Vehicles & Equipment	195	195	195
ROADS Noise Wall Program	2,960	1,100	875
ROADS Parking - Municipal	100	100	100
ROADS Property Acquisition	100	0	0
ROADS Salt Management Program	50	50	50
ROADS Sidewalks	2,450	1,227	227
ROADS Signs	500	500	0
ROADS Specialized Equipment	155	75	50
ROADS Streetlighting	900	900	900
ROADS Streetscape	0	0	0
ROADS Survey Equipment and Control	105	25	25
ROADS Topographical Updating	45	45	45
ROADS Traffic Calming	200	200	200
ROADS Traffic Signals	3,355	3,555	4,755
ROADS Vehicle & Equipment Replacement	2,725	2,054	2,994
ROADS Works Yards Space	7,950	6,750	0
Subtotal	23,890	21,776	12,516

Sub-Program	2019 Forecast ($000's)	2020 Forecast ($000's)	2021 Forecast ($000's)
Roadway Rehabilitation			
ROADS Crack Sealing	100	100	100
ROADS Road Rehabilitation	31,786	31,100	22,500
ROADS Roadways Infrastructure Review	0	0	0
Subtotal	31,886	31,200	22,600
Total Expenditures	**82,045**	**91,316**	**62,580**

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