MISSISSAUGA

Fire & Emergency Services

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 & 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 Fire & Emergency Services

Mission: To protect life, property, and the environment in Mississauga from all risks through education, enforcement, engineering, emergency response and economic incentive.

Services we provide:

- Public Education
- Code Enforcement
- Fire Plans Examination
- Emergency Dispatch
- Emergency Response
- Fire Cause Determination

Interesting facts about this service:

- Responds to an average of 30,000 incidents each year
- Forty-five per cent of fire calls do not have a working smoke alarm on the fire floor
- Seventy-four per cent of structure fires are in residential occupancies
- Between 2014 and 2018 there were 52 civilian injuries and 10 civilian fatalities due to fire in the city of Mississauga; 90 per cent of the fatalities and 87 per cent of the injuries were in residential occupancies

Highlights of the Business Plan include:

- Implementation of targeted public education programs based on risk
- Implementation of proactive fire and life safety inspection programs based on risk
- Execution of long-term fire station infrastructure plan that considers the building condition along with the health and safety requirements of existing fire stations
- Implementation of the Infrastructure Renewal Strategy
- Development and delivery of staff certification based on National Fire Protection Association (NFPA) standards
- Contribution to the Public Safety Fire Reserve Fund equivalent to one per cent of the tax levy ($5.1 million) to provide funding for six additional fire stations over the next 12 years, enhance Fire's public education programming and enhance the development of the proactive fire inspection program

Net Investment ($000s)	2020	2021	2022	2023
Operating	121,072	130,435	140,242	143,281
Capital	13,047	10,771	10,898	13,218
Full Time Equivalents	769.0	784.0	811.0	832.0

Core Services

Vision, Mission, Goals of Service and Service Delivery Model

The service delivery model is built to support the programming and deployment of resources required to reduce, mitigate or eliminate community risk as it relates to fire and emergency services.

Vision

To be a global leader in Fire Service and Life Safety excellence.

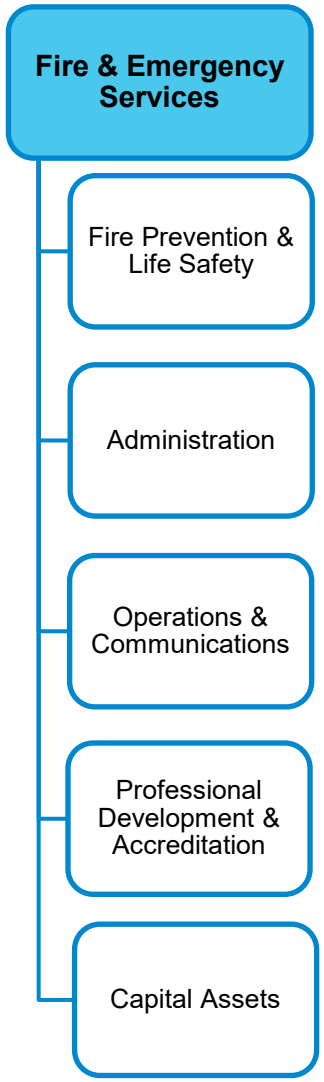
Mission

To protect life, property and the environment in the City of Mississauga from all risks, through education, enforcement, engineering, emergency response and economic incentive.

Goals of Service

- Reduce community risk
- Improve targeted fire and life safety public education programming
- Enhance the delivery of proactive fire safety inspections
- Implement long-term infrastructure renewal strategy
- Align all training programs with recognized industry professional standards
- Continue to use and develop practices that provide financial and business sustainability

Service Delivery Model



Current Service Levels and Trends

The most effective way to identify and address trends and service level challenges within the industry is to assess overall community risk as it pertains to fire and life safety.

The process of assessing community risk is receiving increased attention. Risk assessment has become fundamental to the planning and delivery of fire and emergency services to match the “needs and circumstances” of the community as defined by the *Fire Protection and Prevention Act*, 1997, (FPPA) and the Council-approved Establishing and Regulating By-law. The quantification of risks has assisted Mississauga Fire & Emergency Services to integrate risk mitigation strategies into the planning and delivery of fire protection services.

Demographics

Population and Age

Specific age groups are at a higher risk from fire related incidents. For example, Canada’s aging population has been recognized as one of the most significant demographic trends in the nation. Based on preliminary post-census estimates from Statistics Canada there were more Canadians over the age of 65 (16.1 per cent of the population) than there were children aged 0-14 (16.0 per cent). Seniors (those 65 years and over) represent one of the highest fire risk groups provincially based on the proportion of fire fatalities. As illustrated in the following table, seniors account for a much higher percentage of fire fatalities than their proportion of the population.

Movie Night, Celebration Square

Provincial Fire Fatalities by Age Group

Category	Age	% of Provincial Population	% of fire fatalities
Children/Youth	<=14	17	7
Adults	15-64	68	60
Seniors	>=65	15	33

Source: Ontario Office of the Fire Marshal and Emergency Management (OFMEM) Fire Statistics and 2011 census data

People aged 65 and over represent approximately 13.6 per cent of Mississauga’s population, yet represent 33 per cent of the fire fatalities. Consideration must also be given to people aged 50-64 as they make up 21 per cent of Mississauga’s population, and represent a future risk.

The population within a community can shift at various times during the day or week and throughout the year. Population shift can be the result of a number of factors, including employment, tourism and education. One way to measure this population shift is based on traffic counts. Within the Greater Toronto and Hamilton Area, there is a transportation census conducted that provides insight into the travel habits of residents in the region called the Transportation Tomorrow Survey (TTS). The most recent TTS reporting year (2016) indicates that, in one 24-hour period, 1,480,100 trips were made to Mississauga. Of those trips, approximately 83 per cent were in a personal vehicle (as driver or passenger) and 33 per cent (488,000 trips) were for the purposes of going to work or school. These metrics suggest that at a minimum 488,000 people are coming to Mississauga during a typical weekday. The survey results indicate that the number of users on Mississauga's road network can be greatly affected by these daily population shifts. A higher risk may be present during peak commuting times. This has an impact on the number and complexity of motor vehicle collisions on both city streets and highways. In 2018, Fire & Emergency Services responded to over 3,200 motor vehicle collisions.

Language

Fire & Emergency Services continuously looks for ways to get fire safety messages out to residents whose first language or language of choice is not English. English is the primary language spoken in 62.7 per cent of households in Mississauga. The city has a greater proportion of households that speak multiple languages at home (9.8 per cent) compared to the province as a whole (4.5 per cent). There are over 211,000 households (or 27 per cent) that speak a single language at home that is neither English nor French. After English, the top three languages spoken are Urdu, Arabic, and Polish.

Summary of Key Demographic Trends

- 13.6 per cent of the population in Mississauga is aged 65 and over and at an increased risk of experiencing a fatality in a residential fire
- Twenty-one per cent of the population in Mississauga is aged 50-64, representing a future risk
- Nearly 500,000 people visit Mississauga in a typical day, creating an increased risk of motor vehicle collisions

Building Stock

Residential

The overall number of structure fires within both the City of Mississauga and the Province of Ontario is declining even as the population continues to grow. The decrease can be linked to a stronger focus on fire prevention and public education, and revised legislative standards. While the overall number of structure fires has decreased, the proportion of structure fires occurring in residential occupancies has increased.

Garage Fire

In the City of Mississauga 95.8 per cent of the city's buildings are residential occupancies. This includes single-family dwellings, multi-unit residential, and hotels/motels. To put this in perspective, for the period from 2014 to 2018, residential fires in the city accounted for 77 per cent of all structure fires.

Fires in high-rise buildings can place significantly higher demands on fire suppression activities. In other words, more resources are necessary. This is referred to as "vertical response". It is the initial deployment of firefighters and equipment to upper level storeys for suppression, medical or other types of incidents.

Mississauga Cityscape

Industrial

Industrial occupancies represent 1.9 per cent of the city's property stock and almost 12 per cent of the city's fire loss over a 12-year period. The fire loss trend across the city is much higher than expected given the actual number of industrial occupancies. It is also much higher than the provincial average of 7.3 per cent. Industrial occupancies have been identified as a key fire risk for the city.

Many of these occupancies are large buildings, such as industrial plants and warehouses that contain combustible materials. The combination of the size and contents can result in extended response times and challenging conditions for firefighters.

Summary of Key Building Stock Trends

- Structure fires are decreasing: however, the proportion of structure fires occurring in residential occupancies is increasing
- Ninety per cent of all fatalities and 87 per cent of all injuries are in residential occupancies
- Industrial fires account for 11.6 per cent of fire loss in Mississauga, whereas the provincial average is 7.3 per cent

Fire Loss

Civilian Fire Injuries and Fatalities

Between 2014 and 2018 there were 52 civilian injuries and 10 civilian fatalities in the city of Mississauga. The majority were in residential occupancies.

Fire Cause

In 2018, as indicated in the table that follows, more than half of the fires in the city were unintentional. The "unintentional" category recognizes such things as playing with matches, smoking, unattended cooking and equipment failures.

Fire Cause

Intentional		
	# of Fires	% of Fires
Vandalism	20	7%
Arson	2	1%
TOTAL Intentional	**22**	**8%**
Unintentional		
Design/Construction/Installation Deficiency	2	1%
Routine Maintenance Deficiency (ie lint, grease buildup)	6	2%
Unattended Cooking/Candles	46	15%
Improperly Discarded Smoking/Other Materials	46	15%
Used or Placed too Close to Combustibles	9	3%
Mechanical/Electrical Failure	47	15%
Other	35	11%
TOTAL Unintentional	**191**	**62%**
Undetermined		
Undetermined Cause	84	27%
Other		
Natural Cause	3	1%
Exposure	6	2%
TOTAL Other	**9**	**3%**

Smoke Alarms

Data over the past four years indicates that 45 per cent of fire calls analyzed do not have a working smoke alarm on the fire floor. The law says that all residential occupancies must have a working smoke alarm on every floor.

The table that follows illustrates the number of times a smoke alarm was present and operating on the floor or in the suite of fire origin over the past four years.

SA Operation	2014	2015	2016	2017	2018	TOTAL	%
No smoke alarm	89	99	96	88	102	474	33%
Smoke alarm present and operated	92	92	128	74	120	506	35%
Smoke alarm present, did not operate	46	40	31	35	22	174	12%
Smoke alarm present, operation undetermined	7	9	8	6	8	38	3%
Smoke alarm presence undetermined	48	55	48	46	54	251	17%
Grand Total	**282**	**295**	**311**	**249**	**306**	**1,443**	**100%**

Summary of Key Fire Loss Trends, 2014-2018:

- Sixty-two per cent of 2018 fires were caused unintentionally
- Fifteen per cent of fires were caused by electrical or mechanical failure
- Thirty per cent were caused by unattended cooking/candles and/or discarded smoking materials
- Forty-five per cent of fire calls did not have a working smoke alarm on the fire floor

Maintain Your Smoke Alarms

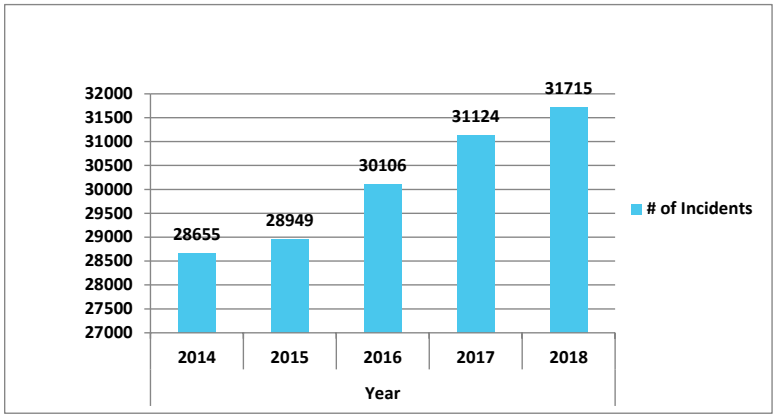
Fire Response

Analysis of historical fire loss and fire call data provides valuable insight into understanding the specific trends within a community.

Call Volume

A summary of the total number of calls within the city from 2014-2018 indicates a steady increase in the number of incidents. Overall, the number of calls responded to by Fire & Emergency Services has increased by 11 per cent from 2014 to 2018.

Call Volume by Year

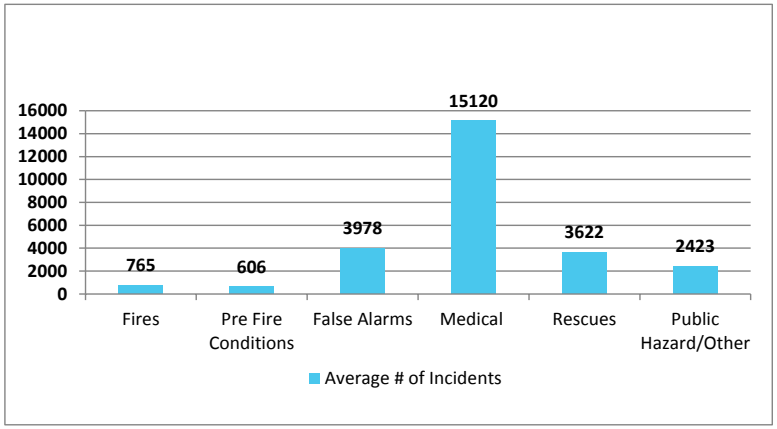


Response Type

Understanding the historical call volume and the risks associated with each type of call requires a detailed analysis of call type. The average annual call volume by response type is illustrated in the following chart.

Medical calls are 53 per cent of Fire & Emergency Services call volume. Eighty-nine per cent of those are related to asphyxia (or other respiratory condition) or chest pains/suspected heart attack. Medical response is provided by the closest available unit. Calls to 9-1-1 are evaluated by dispatchers and, if warranted, Fire & Emergency Services responds in support of Peel Regional Paramedic Service (PRPS). The decision as to whether Fire responds or not is based on a tiered response agreement between Fire & Emergency Services and PRPS. In the vast majority of situations, Fire & Emergency Services can provide quicker initial contact with the patient as a result of the geographical disbursement of fire stations across the city.

2014-2018 Average Call Volume by Response Type



Response Time

Total response time captures the time interval from the receipt of the emergency call to when the first emergency response unit arrives on scene. The major components are:

Call processing time – The time interval from when the call is acknowledged at the communications centre until response information begins to be transmitted to the emergency response units.

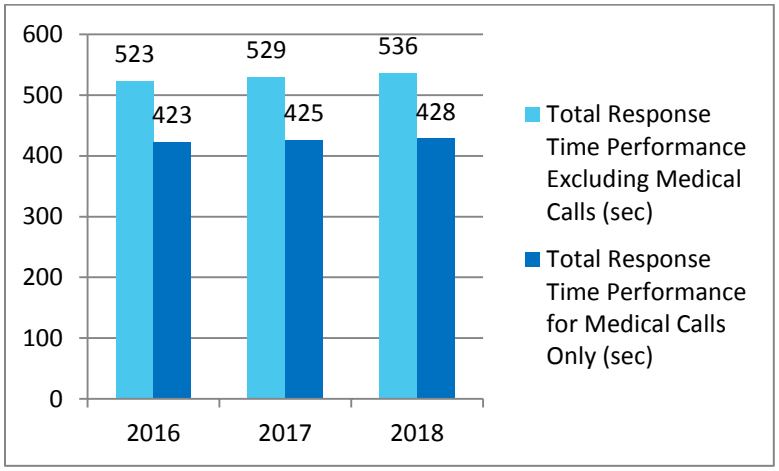
Turnout time – The time interval from when the transmission from the call centre begins and the truck leaves the station.

Travel time – The time interval from when the truck leaves the station until it arrives on scene.

The National Fire Protection Association (NFPA) total response time target is **384 seconds 90 per cent of the time** for first arriving vehicle on scene.

The chart that follows illustrates Fire & Emergency Services' actual city-wide total response time.

Total Response Time Performance



Summary of Key Fire Response Trends:

- Call volume has increased 11 per cent from 2014 to 2018
- Eighty-nine per cent of medical calls are related to asphyxia, respiratory conditions, chest pains or suspected heart attacks
- Total response time increased to 536 seconds in 2018, which is a 1.3 per cent increase over 2017

Auto Extrication Training

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

Cost Per Capita for Emergency Services is a measure that indicates how efficiently we are using our resources and is a particularly useful measure when comparing with other similar municipalities to gauge effectiveness. The goal is to balance operational effectiveness, community safety and fiscal responsibility.

Dollar Loss related to Fires is a measure that indicates the estimated dollar loss related to fire damage. The goal is to decrease the dollar loss annually.

Customer Measures

% Incidence of No Working Smoke Alarm on Fire Floor – This measure helps illustrate how effective Fire & Emergency Services public education programming is with respect to fire safety. Based on data collected over the past five years, 45 per cent of fire calls do not have a working smoke alarm on the fire floor or the presence could not be determined. The goal is to improve public fire safety education and decrease this measure to zero.

Number of Fire Safety Inspections Completed is a measure that captures the number of times Fire Prevention Inspectors conduct inspections on properties in Mississauga. In 2018, 9,256 inspections were completed. Fire & Emergency Services is working towards establishing a robust, proactive fire and life safety inspection program. This program will include an appropriate inspection cycle for all occupancy types depending on the risk level.

Employee Measures

Strategic Leadership – This measurement identifies how Fire & Emergency Services employees rate and/or are satisfied with the strategic leadership of the division. It is measured via a corporate employee survey administered every three years. The goal is to increase the percentage over time through employee engagement.

Innovation – Also measured via the corporate employee survey, this measurement identifies how satisfied employees feel about being empowered to try new business processes and their perceptions of management's acceptance of change. The goal is to increase the percentage satisfaction over time.

Internal Business Process Measures

First Unit Total Response Time (all calls excluding medical – 90th Percentile) captures the time interval from the receipt of the emergency call to when the first emergency response unit arrives on scene. The major components are: call processing time, turnout time and travel time.

The NFPA total response time target is **384 seconds 90 per cent of the time** for first arriving vehicle on scene.

First Unit Total Response Time (medical calls only – 90th Percentile) captures the time interval from the receipt of a medical call to when the first emergency response unit arrives on scene. The major components are: call processing time, turnout time and travel time.

The NFPA total response time target is **364 seconds 90 per cent of the time** for first arriving vehicle on scene.

Number of Fire Safety Inspection Orders Issued – this measure is a way of determining how effective the fire safety inspection program is and how well Fire Code compliance issues are understood and addressed. An inspection order can be issued when a fire safety inspector deems there is a compliance issue where a property has not been maintained to an acceptable fire safety level. If the property owner does not comply with the order, charges will be levied. The goal is to educate the public on the importance of compliance and reduce the number of inspection orders issued annually. A proactive inspection program and robust public education program are expected to contribute to a reduction in issued inspection orders.

Number of Fire Code Decisions Resulting in Prosecutions – Fire & Emergency Services will prosecute for non-compliance with the Ontario Fire Code. These are instances where an inspection order was issued for non-compliance and no action was initiated to rectify the infraction or there was a blatant disregard of the Fire Code. The goal is to ensure business/building owners understand their responsibilities and obligations under the Ontario Fire Code and reduce the number of prosecutions annually. To do this, buildings will be inspected at a frequency that reflects the risk.

Balanced Scorecard

Measures for Fire & Emergency Services	2016 (Actual)	2017 (Actual)	2018 (Actual)	2019 (Plan)	2020 (Plan)	2021 (Plan)	2022 (Plan)	2023 (Plan)
Financial:								
Cost per Capita for Emergency Services ($)	132.89	137.17	137.42	147.50	155.04	166.20	177.81	180.76
Dollar Loss Related to Fires ($Millions)	101.3	38.7	60.9	10.0	5.0	5.0	5.0	5.0
Customer:								
% Incidents of No Working Smoke Alarm on Fire Floor (or presence could not be determined)	56%	68%	58%	58%	55%	30%	25%	20%
Number of Fire Safety Inspections Completed	9,757	8,212	9,256	9,719	10,205	10,715	11,251	11,813
Employee:								
Employee Survey Scores: Division Leadership (%)	N/A	N/A	66.2	N/A	N/A	80.0	N/A	N/A
Employee Survey Scores: Innovation (%)	N/A	N/A	59.9	N/A	N/A	75.0	N/A	N/A
Internal Business Process:								
First Unit Total Response Time for all calls **excluding medical** (sec at the 90th percentile)	523	529	536	540	538	536	534	532
First Unit Total Response Time for **medical calls** (sec at 90th percentile)	423	425	428	432	430	428	426	424
Number of Fire Safety Inspection Orders Issued	218	283	219	200	180	160	140	120
Number of Fire Code Decisions resulting in Prosecutions	4	33	40	45	40	35	25	20

Awards and Achievements

D Shift Crew, Station 101 receive Mississauga Real Estate Board ***Firefighter of the Year***

Recruit Class Fundraiser for ***Big Brothers Big Sisters Peel***

Mayor's One Bag Challenge in support of ***Mississauga Food Bank***

Eden Food Bank ***Christmas Food Drive***

MFES ***Benevolent Fund Donation*** *to Family affected by house fire*

Camp Ignite *- Young Women learning about a career in firefighting*

The 2020-2023 Business Plan Outlook

Planning for the Future

Key Areas of Focus

Education

A priority for the 2020-2023 Business Plan is to establish a dedicated fire and life safety education section within Fire Prevention and Life Safety with a mandate to develop, implement and measure fire and life safety education programming. The programming is to be based on risk and activities will be prioritized based on highest risk. The risks identified in the 2019 Fire and Emergency Services Master Plan document will be used to inform and develop new public education initiatives. This will include a proactive smoke alarm and home escape planning program. It will also enhance the fire safety education delivered by operations staff in the field. Operations staff comprise the largest number of front-line personnel. Therefore on-duty staff can reach a large number of residents effectively and can support public education efforts.

To meet the requirements of the *Fire Protection and Prevention Act* as well as community needs, additional public education officers will be required: two in 2020 to work proactively with the fire safety inspectors and front-line fire crews on midrise fire safety, and two in 2021 to develop educational programming directed at Industrial High Hazard occupancies. This initiative will be funded through the Public Safety Fire Program Reserve Fund.

Teaching people to be the stewards of their own fire safety has proven to have a positive impact on the number and severity of fire related injuries and deaths.

Enforcement

It is the responsibility of a property owner/building manager to ensure they comply with all applicable regulations and statutes. To support a robust, proactive fire and life safety inspection program, Fire & Emergency Services is developing an inspection program that establishes appropriate inspection cycles for all occupancy types based on key risks. This program will also include the use of operations staff to assist with the delivery of fire safety inspections in collaboration with Fire and Life Safety staff.

The table below illustrates the inspection frequency and required resourcing by property classification. This model meets the minimum requirements relating to the organization and deployment of fire prevention inspections outlined in the NFPA Standard 1730, 2016.

Occupancy Type	Inspection Frequency
Assembly occupancy	Biennial
Institutional occupancy (currently legislated to conduct proactive inspections annually)	Annual
Residential occupancy - Midrise is 6-12 storeys	Annual
Residential building over 12 storeys	Annual
Business and personal services occupancy	Biennial
Industrial occupancy - High hazard	Annual
Factory industrial uses - Moderate hazard	Biennial
Warehousing and storage facilities - Moderate to Low hazard	Biennial

A total of 29 Fire Safety Inspectors will be required over the next four years to complete the proactive fire safety inspection program: 10 in 2020 to complete midrise occupancies and continue annual inspections; seven in 2021 to address high hazard industrial occupancies; six in 2022 to complete medium hazard factory industrial, assembly and business occupancies; and six in 2023 to complete the factory industrial occupancies.

Engineering

The way that buildings are constructed has a major impact on the safety of their occupants. Plans examiners are required to ensure that all assigned fire and life safety requirements of the Ontario Building Code and the Ontario Fire Code are addressed prior to the issuance of a building permit. The application of building code requirements during the plans examination process is a critical component to reduce risk. As new construction is expected to increase, a fire safety engineer is being requested in 2021 to improve the turnaround time for those permit applications that are complex and require alternative solutions.

The use of new and emerging technologies to mitigate risk is an ongoing trend in the industry. When supported by appropriate resourcing and good policy, technology can be extremely effective in improving service. One of the examples of technology that is being requested to improve service is software that will improve disaster response. The Office of Emergency Management has been working on the development of a business continuity strategy for the City of Mississauga. This includes the development of business continuity plans for all major areas of service delivery. These plans are intended to guide the City's response to a major disaster or disruption and ensure that city services can be restored quickly. Once the business continuity program is completed there will be 150 individual business continuity plans. A software/database-driven application is being considered to store, process, update and manage this data. It will also effectively deliver and report critical information during emergency exercises or during an actual event.

Emergency Response

There are two major components identified in this business planning cycle that will significantly impact emergency response capabilities.

1. Construction and location of new fire stations
2. Optimization of response deployment model

The primary goal is to have stations located so that the **travel time** for the first arriving vehicle from a station to the location of an incident can be four minutes or less, 75 per cent of the time. Travel time is one component of total response time and is the most difficult to control. To combat growth and congestion challenges, the plan is to construct six new fire stations over 12 years. This does not include fire station 120 at Hurontario and Fairwind Drive which is currently funded and under construction. This station is expected to be open before year end 2019.

New Fire Station 120 Construction

Factors to consider:

- More than 95 per cent of the city's total building stock is residential occupancies, which are classified as moderate risk
- There are more than 300 identified vulnerable occupancies classified as high risk
- There are over 500 high-hazard industrial properties classified as high risk
- There are more than 300 buildings with a height in excess of 18 metres, which are defined as high-rise buildings and are classified as high risk
- The City and provincial planning policies have identified intensification as a primary objective of community growth that will include a significant component of additional high-rise buildings in the future

Fire Ground Training

Construction and Location of Fire Stations

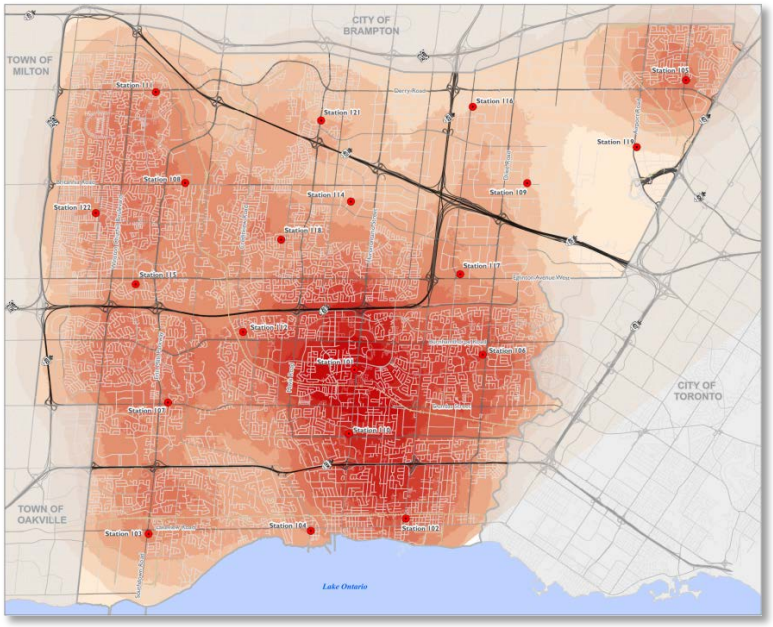
As part of the master planning process, priority areas across the city were identified where some or all of the following conditions existed:

- High volume of calls
- Historically deficient response times
- Future growth implications
- Higher risk occupancies/population

The following geographic areas were identified in the Fire and Emergency Services Master Plan as priorities and as recommended locations for new fire stations. (Sequence to be based on land availability and risk.)

1. **Dundas and Cawthra:** Historical call data indicates a high number of calls that do not meet the response time targets. There are a large number of high and moderate risk occupancies in this response area
2. **Collegeway and Winston Churchill:** This response area is primarily residential and consists of a mix of single family dwellings and low to medium rise multi-unit buildings. Historical call data indicates a high number of calls that do not meet the response time targets
3. **Tenth Line and Aquitaine:** This area has a substantial number of high and moderate risk occupancies. It is an area identified for future growth
4. **Southdown and Truscott (Lorne Park):** This area is identified as a priority based largely historical response deficiencies. This is a large geographic area where access can often be challenging for emergency response vehicles
5. **Mavis and Dundas:** Historical call data indicates a high number of calls that do not meet the response time targets. There are also a substantial number of high-rise/high risk occupancies that are either directly in this response area or would be serviced by this station in an adjacent response area

The optimization of the deployment model addresses the number and design of facilities, types of vehicles and associated equipment required to address the risks of the communities they serve.



Historical Fire Risk in the City

High Angle Rescue Training

Since Fire & Emergency Services provides response to many different types of incidents, the importance of locating firefighters with those specialized disciplines and equipment in the right place is critical to positive outcomes. Location and deployment of those resources depends on community risk.

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 219 staff have received introductory White Belt Training; four staff have received intermediate Yellow Belt Training, and three staff have received advanced Green Belt Training. Six projects (including rapid improvements) and 54 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:

- Standardizing the tasks, workflows and business processes related to the Fire component of Building Plans Review and improve customer and stakeholder experience
- Improving the ordering/delivery of the fire station inventory and personal protective equipment
- Optimizing the Fire Ministry of Transportation (MTO) Fleet Mandatory Inspection process
- Improving the turnaround time for Fire Safety Inspections
- Creating tools to improve the transparency of procurements and the quality of front-line equipment purchased

Completed Initiatives					Total Benefits	
Improvement Type	**2014-2017**	**2018**	**Sept 2019**	**Total**	**Type**	**Total**
Small Improvement	27	7	20	54	Cost Savings and Avoidance	$515,831
Rapid Improvement	-	2	-	2	Customer Service Improvements	37
Project	3	1	-	4	Safety Improvements	15
Total	30	10	20	60	Environmental Improvements	17

In-Progress Initiative	Goals of the Initiative
Fire Inspection Process – From Assignment to Arrival	Implement a process to improve the way fire inspections are arranged, scheduled and attended.
Personal Protective Equipment Cleaning	Improve the in-house cleaning process of firefighter personal protective equipment.

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 Mississauga Fire & Emergency Services relate to the Strategic Plan pillars.

belong – ensuring youth, older adults and new immigrants thrive

- Developing targeted fire safety education programming based on risk
- Enhance smoke alarm program
- Community outreach

connect - completing our neighbourhoods

- Expanding the Proactive Fire Safety Inspection Program and identifying appropriate inspection cycles to ensure compliance with the Ontario Fire Code
- Expanding public education programming to target higher-risk demographics based on results of the Comprehensive Risk Assessment

prosper - cultivating creative and innovative businesses

- Combining both operations and fire prevention staff to conduct fire safety inspections on all mercantile, commercial and industrial occupancies

green - living green

- Considering Leadership in Energy and Environmental Design (LEED) principles when building new and retrofitting existing buildings

Check the Batteries in your Smoke Alarms Regularly

ourfuturemississauga.ca

Transforming our Business with Technology

The Mississauga Fire and Emergency Services Fire Master Plan discusses the benefits of leveraging new and innovative technologies to enhance the delivery of fire and life safety services. When supported by appropriate resourcing and good policy, technology can be extremely effective in improving services.

- **Response time** – An upgrade to the existing Computer Aided Dispatch (CAD) and record management system will enhance the call handling and dispatching, intelligent mapping, field communications and data reporting and analysis. This project is funded and is currently underway. Cost of this project is shared with Brampton and Caledon fire and emergency services
- **Fire Safety Inspections/Code Compliance** – Mobile field technology will increase the number and improve the delivery of fire safety inspections. Inspection staff will be provided with mobile technology that will allow them to access and update files, maps and building data remotely. This project is funded and is currently underway
- **Business Continuity** – Business continuity includes the creation of plans to recover business processes in the event of a disruption. The requested software would capture key data about the City of Mississauga's corporate recovery needs. It will be instrumental in getting the key internal and external city business processes up and running as quickly as possible (BR# 5952)

Joint Fire Communications Centre

Maintaining Our Infrastructure

Facilities

By the end of 2019 the City of Mississauga will have 21 active fire stations. Regular maintenance is required to mitigate the wear and tear resulting from operating 24 hours per day, 365 days per year.

Fire Station 101

Fourteen of the 21 stations were built more than 20 years ago. To address major rehabilitation/renovation concerns, a Building Condition Audit was conducted to assess the condition of 14 of the existing fire stations. The primary goals of this study were to:

- Determine the current condition of each station
- Recommend a scope of work required for each station to meet health and safety standards, comply with building and fire code standards, meet accessibility requirements and consider operational requirements

The study identified three high priority areas to be included in rehabilitation/renovation plans.

1. **Health and Safety** – NFPA standards make reference to the need to prevent exposure from exhaust contaminants within the dormitory and living areas as well as the appropriate storage and separation of contaminated personal protective equipment
2. **Accessibility** – The City of Mississauga 2015 Facility Accessibility Design Standards define the specifications for accessible/barrier-free design for municipal Fire Stations
3. **Gender Neutral Washrooms –** Many older stations do not have female washroom facilities. The station audit includes recommendations for gender neutral washroom/changeroom facilities

The final report includes recommendations for each station. The scope varies for each station depending on its assessment against specific design principles. The audit used City of Mississauga Accessibility Standards and National Fire Protection Association facility standards as well as operational requirements to determine building condition.

This study along with a deployment model review has resulted in a long-term infrastructure plan. This plan includes the rehabilitation/renovation of three existing fire stations in the 10-year capital plan.

Equipment

Fire & Emergency Services has an inventory of equipment valued at more than $10 million. As an all-hazards fire department, Fire & Emergency Services responds to many different types of calls. These include fires, medical emergencies, motor vehicle accidents, public hazard situations, hazardous material, and technical rescues. All equipment must be tested and evaluated regularly to ensure reliability, and confirm compliance with legislative requirements and manufacturer recommendations.

Within the 10-year capital budget there is funding for the purchase of new and replacement equipment to support front-line operations.

Fire Truck in for Service in Mechanical Bay

Vehicles

Mississauga Fire & Emergency Services fire trucks provide front-line service for 12 years, and for an additional three years they serve as reserve vehicles. The 10-year capital budget has funding for the replacement and refurbishment of all fire vehicles in order to maintain the reliability of the fleet.

Mississauga Fire & Emergency Services mechanical staff provide fleet services to 45 fire trucks and 55 small and speciality vehicles. They are also responsible for the inspection, repair and testing and/or certification of all firefighting equipment. About 80 per cent of the repairs and services are performed in house at the Garry W. Morden Centre facility.

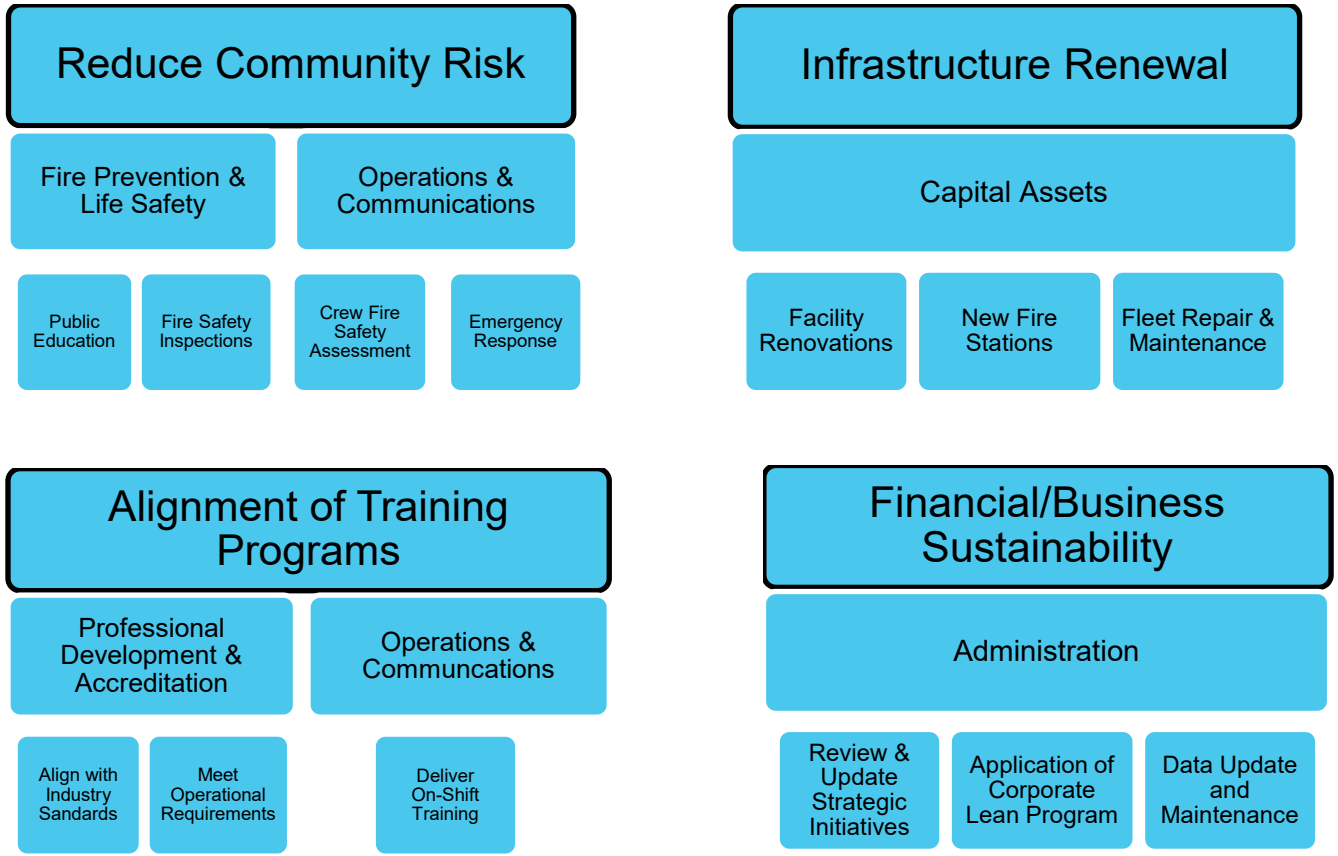
Currently the six Emergency Vehicle Technicians (EVTs) are assigned duties related to heavy fleet (fire truck) annual inspections and demand repairs. A small fleet mechanic is being requested as part of the Proposed 2020 Business Plan & Budget to meet obligations related to small and specialty vehicles as well as the testing and certification of front-line equipment.

Managing Our Human Resources

Workforce Analytics

Of the total staff complement in Fire & Emergency Services, 97 per cent are unionized. This includes all front-line operations staff, Fire and Life Safety inspectors, public educators and plans examiners, training, mechanical and the majority of the administration staff. Eighty-seven per cent of the labour is related to front-line firefighting operations. Suppression staff are hired for spring or fall recruit classes each year to fill vacancies resulting from retirements. Succession planning will be critical as nearly 20 per cent of staff are eligible for retirement in the next four years.

Our Structure



Critical Roles/Functions to Achieve Business Goals

Risk reduction is the primary goal of Fire & Emergency Services. Functions including public education and enforcement are key to mitigating community risk.

Education – A robust, targeted public education program is proven effective in the prevention of fires by providing people with the tools to help prevent fires as well as the knowledge of what to do in the event that a fire occurs.

Enforcement – Proactive fire inspections and code enforcement are critical functions for risk reduction. Existing buildings must be inspected at a frequency that corresponds with the risk (i.e., higher risk, higher frequency).

Engineering – Fire plans examination functions ensure new structures are built in compliance with Ontario Building Code and the Ontario Fire Code.

Emergency Response – To affect outcomes positively and reduce fire injuries and deaths, front-line operations staff must be able to respond quickly. The number of front-line firefighters and facility placement are significant factors in the ability to meet appropriate response targets.

Our Talent

Fire Prevention and Life Safety staff consists of public educators, plans examiners and fire safety inspectors. Specialty training to NFPA standards consists of:

- Fire Inspector (levels 1-3)
- Public Educator (levels 1 and 2)
- Building Code and Fire Protection
- Fire Investigator

Fire & Emergency Services uses the Ontario Fire Administration Inc. (OFAI) Candidate Testing Services to test potential recruits. Through the OFAI, potential candidates complete a three-stage testing program that includes written testing, psychological profiling, medical and physical testing, and a skills evaluation. The skills evaluation tests candidates to ensure they have the basic skills.

In operations there are over 650 staff at various levels that require ongoing skills development and upgrade. Staff in the Professional Development and Accreditation section, in conjunction with on-shift training instructors, develop and deliver training programs that ensure the development of new skills along with the maintenance of existing skills. These include such programs as:

- Fire Ground Operations
- Medical
- Auto Extrication
- Specialty Rescue (Confined Space/Trench/Hazmat)
- Apparatus Operation
- IT and Communications

Staff are encouraged to apply for other related courses to improve their skills in each area as well as upgrade to react to changing codes, building stock and new technologies.

Fleet mechanics for front-line emergency vehicles require ongoing training to ensure they maintain their existing skills and upgrade to adapt to emerging technologies. Fire fleet mechanics have Emergency Vehicle Technician (EVT) training and specialty manufacturer training.

Live Trench Rescue Training at Garry W. Morden Centre

Talent Needs

Emergency Operations staff are hired through a recruiting process once or twice a year depending on the number of existing vacancies. In 2020 there are no new firefighters required. Recent new recruits will fill vacancies resulting from retirements, resignations and/or long-term absences.

There is high demand for these jobs, so there is no difficulty attracting qualified candidates. Firefighters and Captains are promoted based on an internal competitive examination process.

As detailed in the Fire and Emergency Services Master Plan requirements for 2020 are:

- Two Public Education Officers (BR# 5370) to deliver targeted public education programming based on risk
- Ten Fire Safety Inspectors (BR# 5371) to support a proactive fire safety inspection program. Focus in 2020 will be on midrise occupancies
- Two Training Officers (BR# 5454) to support the ongoing development and delivery of specialized training programs to meet National Fire Protection Association certifications
- One small fleet mechanic (BR# 5527) to meet mandated safety certifications for small fleet and front-line equipment testing

Proposed Full Time Equivalent Staffing Distribution by Program

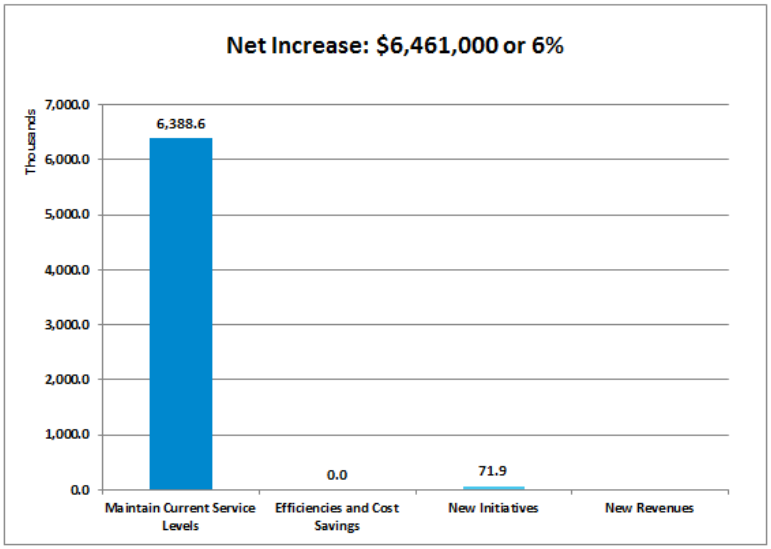
Program	2019	2020	2021	2022	2023
Fire Building Maintenance	3.0	3.0	3.0	3.0	3.0
Fire Support Services	49.0	52.0	56.0	57.0	58.0
Fire Vehicle Maintenance	11.0	13.0	14.0	14.0	14.0
Prevention	55.0	67.0	77.0	83.0	83.0
Suppression	634.0	634.0	634.0	654.0	674.0
Total Service Distribution	**752.0**	**769.0**	**784.0**	**811.0**	**832.0**

Note: Numbers may not balance due to rounding.

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 $114.6 million and the proposed budget for 2020 is $121.1 million.

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



Total Changes to Maintain Current Service Levels

The $6.4 million to maintain current service levels includes:

- Labour adjustments of $2.6 million (including annualization of prior year BRs)
- $3.6 million net transfer to Public Safety Fire Reserve Fund ($5.1 million transfer to reserve, $1.5 million transfer from reserve for annualization of prior year BRs)
- $150,000 increased fuel costs
- $80,000 equipment repairs and maintenance

New Initiatives

The $71,900 for New Initiatives includes:

- Small Fleet Mechanic
- Continuation of Public Education Programming, Proactive Fire Inspection Program, and Professional Standards & Evaluation Program. These are funded by the Public Safety Fire Reserve Fund

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						
Fire Building Maintenance	1,256	1,283	1,328	1,359	1,387	1,409
Fire Support Services	8,439	8,943	9,389	9,569	9,772	9,923
Fire Vehicle Maintenance	4,064	3,747	4,247	4,391	4,449	4,500
Prevention	6,724	7,346	7,598	7,990	8,387	8,712
Suppression	88,257	96,569	103,470	111,782	120,749	123,146
Total Expenditures	108,741	117,886	126,032	135,092	144,744	147,689
Revenues	(2,454)	(1,957)	(2,206)	(2,206)	(2,206)	(2,206)
Transfers From Reserves and Reserve Funds	0	(1,318)	(2,826)	(2,826)	(2,826)	(2,826)
New Initiatives and New Revenues			72	375	531	624
Proposed Net Budget Including New Initiatives & New Revenues	**106,287**	**114,611**	**121,072**	**130,435**	**140,242**	**143,281**
Expenditures Budget - Changes by Year			7%	7%	7%	2%
Proposed Net Budget - Changes by Year			6%	8%	8%	2%

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; 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	107,256	774	0	1,869	0	1,053	0	110,953	3,697	3%
Operational Costs	4,676	426	0	0	0	86	0	5,188	512	11%
Facility, IT and Support Costs	1,052	(32)	0	0	0	0	0	1,020	(32)	-3%
Transfer To Reserves & Reserve Funds	4,902	5,109	0	0	0	0	0	10,011	5,109	104%
Total Gross Expenditures	**117,886**	**6,277**	**0**	**1,869**	**0**	**1,139**	**0**	**127,172**	**9,286**	**8%**
Total Revenues	(1,957)	(250)	0	0	0	0	0	(2,206)	(250)	13%
Transfer From Reserves & Reserve Funds	(1,318)	0	0	(1,508)	0	(1,067)	0	(3,894)	(2,576)	195%
Total Net Expenditures	**114,611**	**6,028**	**0**	**361**	**0**	**72**	**0**	**121,072**	**6,461**	**6%**

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

Description	2019 Approved Budget	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast
Labour & Benefits	107,256	110,953	116,187	122,676	127,750
Operational Costs	4,676	5,188	5,427	5,466	5,502
Facility, IT and Support Costs	1,052	1,020	1,029	1,048	1,069
Transfer To Reserves & Reserve Funds	4,902	10,011	15,352	21,015	21,015
Total Gross Expenditures	**117,886**	**127,172**	**137,995**	**150,205**	**155,337**
Total Revenues	(1,957)	(2,206)	(2,206)	(2,206)	(2,206)
Transfer From Reserves & Reserve Funds	(1,318)	(3,894)	(5,355)	(7,757)	(9,850)
Total Net Expenditures	**114,611**	**121,072**	**130,435**	**140,242**	**143,281**

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	2019 Budget ($000s)	2020 Proposed Budget ($000s)	Change ($000s)	Details ($000s)
Labour and Benefits	**107,256**	**109,900**	**2,644**	Increase reflects labour adjustments and other fringe benefit changes
Administration and Support Costs	1,052	1,020	(32)	Internal allocations
Advertising & Promotions	45	54	9	Promotional materials for public information and education programming for the OEM
Communication Costs	435	455	20	Increased cost of VCOM licensing and software
Contractor & Professional Services	35	105	70	$50 Increase in professional services $20 Reimbursement of medical fees required to maintain DZ licences per collective agreement
Equipment Costs & Maintenance Agreements	420	500	80	$35 Related to preventative maintenance for technical rescue equipment $35 Fire station repairs and maintenance related to wear and tear $10 Medical bag advance cleaning and replacement parts
Finance Other	5	5	0	
Materials, Supplies & Other Services	1,087	1,117	30	Uniforms
Occupancy & City Costs	920	959	40	$30 Utilities and stormwater cost increase $10 Janitorial and cleaning supplies related to the addition of washers and dryers in stations
Staff Development	392	419	27	$9 BCIN Fire Prevention Specialty Training $18 Peer Team certifications and programming
Transfers To Reserves and Reserve Funds	4,902	10,011	5,109	Transfer to Public Safety Fire Reserve Fund
Transportation Costs	1,336	1,486	150	Increased fuel costs
Subtotal - Other Operating	**10,630**	**16,133**	**5,503**	
Total Revenues	(1,957)	(2,206)	(250)	($50) Fees & charges increase due to MTO rate increase ($200) Cost recovery increase based on historical trends
Transfers From Reserves and Reserve Funds	(1,318)	(2,826)	(1,508)	Annualization of prior year budget requests funded by the Public Safety Fire Reserve Fund
Subtotal - Revenues	**(3,275)**	**(5,032)**	**(1,758)**	
Total	**114,611**	**121,000**	**6,389**	

Note: Numbers may not balance due to rounding.

Proposed New Initiatives and New Revenues

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

Description	BR #	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								
Fire Public Education Programming *	5370	2.0	0	0	0	0	4.0	33
Proactive Fire Inspection Program *	5371	10.0	0	0	0	0	23.0	110
Fire Station 120- Hurontario and Eglinton *	5421	1.0	0	0	0	0	1.0	4
Fire Professional Standards and Evaluation *	5454	2.0	0	0	0	0	4.0	35
New Fire Station 123 *	5508	0.0	0	0	0	0	20.0	8,697
Fire Safety Engineer *	5519	0.0	0	0	0	0	1.0	0
Fire Small Fleet Mechanic	5527	1.0	72	182	233	250	2.0	1
Fire Emergency Management Specialist	5554	0.0	0	100	132	134	1.0	0
New Fire Station 124 *	5556	0.0	0	0	0	0	20.0	14,186
Fire Confidential Executive Assistants	5891	0.0	0	51	121	194	3.0	0
Business Continuity Management Solution	5952	0.0	0	42	44	46	0.0	183
Total New Initiatives		**16.0**	**72**	**375**	**531**	**624**	**79.0**	**23,249**
Total New Initiatives and New Revenues		**16.0**	**72**	**375**	**531**	**624**	**79.0**	**23,249**

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

* Funded by Public Safety Fire Reserve Fund

Budget Request #: 5370

Proposed Initiative	Department	Service Area
Fire Public Education Programming	Community Services Department	Fire & Emergency Services

Description of Budget Request

The establishment of a dedicated fire and life safety education section within Fire Prevention and Life Safety with a mandate to develop, implement and measure fire and life safety education programming based on identified key risks outlined in the Comprehensive Risk Assessment (CRA).

Required Annual Operating Investment

Impacts ($000s)	2020	2021	2022	2023
Gross Expenditures	172.0	438.5	562.3	602.1
Reserves & Reserve Funds	172.0	438.5	562.3	602.1
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	2.0	4.0	4.0	4.0

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

Required Capital Investment

Total Capital ($000s)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	50.0	33.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

Data over the past eight years indicates that 46 per cent of fire calls in the City of Mississauga do not have a working smoke alarm on the fire floor. By law, smoke alarms are required on every storey of a dwelling in the province of Ontario. Smoke alarm programs are also one of the required services to be provided by a fire department as per the *Fire Protection and Prevention Act* (FPPA), 1997.

Details of Service Change

Based on programming required to meet both the requirements of the FPPA as well as the needs and circumstances of a large, growing city, eight public education officers will be required over a three-year period: four required in 2019 to assess and develop additional educational programming geared to high and midrise occupancies; two in 2020 to work proactively with the fire safety inspectors and front-line fire crews on midrise fire safety; and two in 2021 to develop educational programming directed at Industrial High Hazard occupancies. In order to maintain a balance between public safety and fiscal responsibility, this initiative will be funded through the Public Safety Fire Program Reserve Fund.

Service Impact

A comprehensive smoke alarm program will reach a substantial number of residents and result in a higher rate of voluntary compliance and subsequently, improved fire safety and will reduce the fire risk in residential occupancies. Teaching people to be the stewards of their own fire safety has proven to have a positive impact on the number and severity of fire related injuries and deaths. It is critical that homeowners understand the law requires that all residential occupancies must have a working smoke alarm on every floor and that there are consequences for non-compliance.

Budget Request #: 5371

Proposed Initiative	Department	Service Area
Proactive Fire Inspection Program	Community Services Department	Fire & Emergency Services

Description of Budget Request

Develop, implement and measure a proactive fire and life safety inspection program that establishes appropriate inspection cycles for all occupancy types based on key risks identified in the CRA.

Required Annual Operating Investment

Impacts ($000s)	2020	2021	2022	2023
Gross Expenditures	674.2	1,516.9	2,358.2	2,875.8
Reserves & Reserve Funds	674.2	1,516.9	2,358.2	2,875.8
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	10.0	17.0	23.0	23.0

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

Required Capital Investment

Total Capital ($000s)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	70.0	110.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

The minimum inspection frequency for high risk occupancies is annual. Currently the City of Mississauga has over 1,200 occupancies that are classified as high risk including vulnerable occupancies (nursing and long-term care facilities), high-hazard industrial properties and high-rise buildings. Future growth plans consider additional high-rise occupancies.

Details of Service Change

A total of 34 Fire Safety Inspectors will be required over a five-year period to meet the minimum requirements relating to the organization and deployment of fire prevention inspection outlined in NFPA standard 1730, 2016. Five are required in 2019 to address high-rise and begin to address midrise occupancies. Ten are required in 2020 to complete midrise occupancies and continue annual inspections. Seven are required in 2021 to address high-hazard industrial occupancies. Six are required in 2022 to complete medium-hazard factory industrial, assembly and business occupancies which are classified as moderate risk and will require biennial inspections. Six are required in 2023 to complete the factory industrial occupancies. In order to maintain a balance between public safety and fiscal responsibility, this initiative will be funded through the Public Safety Fire Program Reserve Fund.

Service Impact

Reduce risk inherent in various occupancy types by ensuring compliance with the Ontario Fire Code. This proactive fire safety inspection program will help to reduce the impact on front-line operations.

Budget Request #: 5421

Proposed Initiative	Department	Service Area
Fire Station 120 - Hurontario and Eglinton	Community Services Department	Fire & Emergency Services

Description of Budget Request

Improve response time in this area by continuing to complete the construction of Fire Station 120 at Fairwind and Eglinton and improve depth of response in the direct response area as well as in adjacent response areas.

Required Annual Operating Investment

Impacts ($000s)	2020	2021	2022	2023
Gross Expenditures	67.6	91.0	92.2	93.6
Reserves & Reserve Funds	67.6	91.0	92.2	93.6
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	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	7,895.0	4.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

This area is highly residential and while the overall number of structure fires has decreased, the proportion of structure fires occurring in residential occupancies has increased. The most recent reporting year (2015) saw the highest proportion of fires occurring in residential structure fires at 74 per cent. This station will position Mississauga Fire & Emergency Services (MFES) to be able to appropriately service this area now and also considers the impact of future growth.

Details of Service Change

The construction of one double-truck fire station. MFES is a 24 hour per day, 365 day per year service and therefore four platoons are required for front-line operations. Each fire truck has 20 staff assigned, five per platoon; therefore 20 front-line operations personnel are required to adequately staff this station. In order to maintain a balance between public safety and fiscal responsibility, this initiative will be funded through the Public Safety Fire Program Reserve Fund.

Based on Facilities & Property Management subject matter expert review of the budget requests submitted in 2019, the need for a Service Contracts Coordinator starting 2020 was identified to continue to maintain buildings and address facility needs at the same quality and level of service expected from the Building Services and Operations team. This position will manage contract services for custodial contracts, pest control, window cleaning and others.

Service Impact

Once operational, this two-truck fire station will service the immediate response area including 32 high risk occupancies, improve response to Highway 403 westbound from Hurontario, and augment service in other response areas when required.

Budget Request #: 5454

Proposed Initiative	Department	Service Area
Fire Professional Standards and Evaluation	Community Services Department	Fire & Emergency Services

Description of Budget Request

This budget request is specifically related to the development of a robust professional standards and evaluation program that clearly defines the development, delivery and evaluation of staff certification and testing. Firefighter certification to NFPA standards is an industry best practice and fulfills the service delivery standards identified in the Establishing and Regulating (E&R) By-law.

Required Annual Operating Investment

Impacts ($000s)	2020	2021	2022	2023
Gross Expenditures	153.6	384.5	495.0	561.3
Reserves & Reserve Funds	153.6	384.5	495.0	561.3
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	2.0	4.0	4.0	4.0

**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	35.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

Currently the Professional Development and Accreditation section consists of a group of training officers assigned to the training of all staff in various prevention and response disciplines. In order to ensure staff are trained to NFPA standards and reflect the service delivery standards prescribed in the E&R By-law additional resources will be required. The Province of Ontario supports firefighter certification and evaluation requirements to ensure safety and consistency across the Province.

Details of Service Change

The Professional Development and Accreditation section of MFES will be divided into two distinct areas. One area will focus on the development and delivery of training and the other will focus on evaluation and testing. In order to execute this plan in its entirety, six new FTEs are requested. This will include two section supervisors (one for delivery and one for evaluation) and four additional training officers. The new and existing training officers will total 13 which will be divided appropriately between each new section.

Service Impact

The approval of this request will allow MFES to meet the requirements pertaining to the certification and evaluation of municipal fire and emergency services staff as it relates to the service standards prescribed in the Municipal Establishing and Regulating By-law (0269-2016). It will also meet industry expectations for a large urban municipality.

Budget Request #: 5519

Proposed Initiative	Department	Service Area
Fire Safety Engineer	Community Services Department	Fire & Emergency Services

Description of Budget Request

This budget request is in response to building permit applications that are significant in scope and complexity or require alternative solutions than those prescribed in the Ontario Fire Code with specific emphasis on key risks identified in the Comprehensive Risk Assessment.

Required Annual Operating Investment

Impacts ($000s)	2020	2021	2022	2023
Gross Expenditures	0.0	97.5	146.8	153.9
Reserves & Reserve Funds	0.0	97.5	146.8	153.9
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	0.0	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	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

Of all of the fires in Mississauga from 2003 to 2015, 14.4 per cent were caused by mechanical/electrical failure. There are 347 buildings with a height in excess of 18 metres, which are defined as high-rise buildings and are classified as high risk. The City and provincial planning policies have identified intensification as a primary objective of community growth that will include a significant component of additional high-rise buildings in the future. The expertise of a Fire Safety Engineer is needed to assist with plans examination.

Details of Service Change

Plans examiners are required to ensure that all assigned fire and life safety requirements of the Ontario Building Code and the Ontario Fire Code are addressed prior to the issuance of a building permit. Items under MFES jurisdiction in the plans review process include (but are not limited to) fire alarm systems, automatic fire sprinkler systems, emergency power systems, emergency lighting systems, hose and standpipe systems, hazardous processes/operations and protection, smoke control systems and high-rise fire safety measures. This position will be added to the existing plans examination complement with a focus on the application of building code requirements based on key risks identified in the Comprehensive Risk Assessment. The expertise of a fire engineer will improve the turnaround time for those applications that require alternative solutions.

Service Impact

The Comprehensive Risk Assessment identified industrial occupancies as a significant risk as they represent 1.9 per cent of the City's property stock and 11.6 per cent of the City's fire loss over at 12-year period. Additionally the City and provincial planning policies have identified intensification as a primary objective of community growth that will include a significant component of additional high-rise buildings in the future. The construction of these types of structures and other complex applications can take a significant amount of time. In order to complete these and other complex permit requests, a resource specializing in fire engineering would improve turnaround time.

Budget Request #: 5527

Proposed Initiative	Department	Service Area
Fire Small Fleet Mechanic	Community Services Department	Fire & Emergency Services

Description of Budget Request

This request is in response to the requirements of demand and preventative maintenance on over 40 small fire fleet vehicles. These positions do not require the same skillset as a heavy truck mechanic and therefore are classified at a lower rate than the existing front-line vehicle mechanics.

Required Annual Operating Investment

Impacts ($000s)	2020	2021	2022	2023
Gross Expenditures	71.9	182.2	233.5	249.9
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	71.9	182.2	233.5	249.9
* Net Change in $		110.3	51.3	16.4
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	1.3	0.0	0.0	0.0

Why Staff Recommend this Initiative

The Ministry of Transportation of Ontario (MTO) mandates inspections on all front-line vehicles annually. Currently the six heavy fleet mechanics are tasked with both completing the MTO inspections on all front-line vehicles to meet legislative deadlines and performing demand maintenance on emergency vehicles. This impacts the timeliness of preventative and demand maintenance on the smaller vehicles.

Details of Service Change

Operating cost is related to two small fleet mechanics that would be licensed to work on all small vehicles and specialty equipment. These FTEs do not require the same skillset as a heavy truck mechanic and therefore are classified at a lower rate than the existing front-line vehicle mechanics.

Service Impact

This request will improve the ability of the heavy vehicle mechanics to complete both preventative and demand maintenance requirements to keep the front-line emergency vehicles in service. It will also improve the timeliness of small vehicle and equipment repairs.

Budget Request #: 5554

Proposed Initiative	Department	Service Area
Fire Emergency Management Specialist	Community Services Department	Fire & Emergency Services

Description of Budget Request

This request is for a resource to provide more robust community preparedness programming to improve community readiness for a major disaster.

Required Annual Operating Investment

Impacts ($000s)	2020	2021	2022	2023
Gross Expenditures	0.0	99.9	132.0	134.1
Reserves & Reserve Funds	0.0	0.0	0.0	0.0
User Fees & Other Revenues	0.0	0.0	0.0	0.0
Tax Levy Requirements	0.0	99.9	132.0	134.1
* Net Change in $		99.9	32.1	2.1
FTEs	0.0	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	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

Resources are in place to provide training and preparedness for internal staff: however, levels of external community preparedness are very low. Based on the 2017 survey and observations from previous emergency and disaster situations the following information has been gathered: 11 per cent are unaware of what a 72-hour kit is; 63 per cent are unaware of what goes into one; 37 per cent discussed emergency preparedness with their families, and only 15 per cent discussed a family contact plan.

Details of Service Change

This resource will increase emergency preparedness and provide public education to external groups including residents with specific emphasis on vulnerable populations, businesses and non-government organizations.

Service Impact

This position will support community preparedness. It will strengthen the city's resiliency to incidents, emergencies and disasters through effective public information and educational opportunities. The focus of this work is on community-wide planning with schools, colleges and university, non-profit organizations, faith based organizations, businesses and workplaces, and hospitals.

The social investment proposition is an extremely high return (reduce loss of life, personal injuries and damage).

Budget Request #: 5556

Proposed Initiative	Department	Service Area
New Fire Station 124	Community Services Department	Fire & Emergency Services

Description of Budget Request

This budget request is related to the introduction of a new fire station in the Cawthra and Dundas Area as part of a 10-year plan to improve emergency response times city wide.

Required Annual Operating Investment

Impacts ($000s)	2020	2021	2022	2023
Gross Expenditures	0.0	0.0	0.0	669.3
Reserves & Reserve Funds	0.0	0.0	0.0	669.3
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	0.0	0.0	0.0	20.0

**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	2,193.0	5,227.0	6,766.0	0.0

Why Staff Recommend this Initiative

MFES meets the travel time target 61 per cent of the time under current conditions. MFES target is to reach 75 per cent within the next 10 years. Response time across the city has increased by one per cent per year as a result of growth related variables such as density and traffic congestion. Seventy-four per cent of structure fires are occurring in residential structures and the ability to affect a positive outcome is directly related to fast, efficient response.

Details of Service Change

Operating cost is related to staffing required to adequately staff this station 24 hours per day 365 days per year. Front-line operations have four platoons. There will be a continued effort to explore all opportunities for alternative station types and models as suggested in the 2019 Fire Master Plan.

Service Impact

This station is a critical part of the 10-year plan to improve response time across the city. It has been identified in the 2019 Fire Master Plan as a critical piece of the necessary infrastructure required to increase the percentage of time MFES meets the NFPA standard of four minutes' travel time. This station would service the Mississauga Valleys, Applewood and Cooksville (East) neighbourhoods as well as the Dixie Employment Area.

Budget Request #: 5891

Proposed Initiative	Department	Service Area
Fire Confidential Executive Assistants	Community Services Department	Fire & Emergency Services

Description of Budget Request

Executive Assistant positions are requested to support confidential administrative functions for Capital Assets, Professional Development and Accreditation and Fire Prevention and Life Safety.

Required Annual Operating Investment

Impacts ($000s)	2020	2021	2022	2023
Gross Expenditures	0.0	50.8	121.2	194.0
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	50.8	121.2	194.0
* Net Change in $		50.8	70.4	72.8
FTEs	0.0	1.0	2.0	3.0

**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	0.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

There are confidential administrative functions that require support in these business units.

Details of Service Change

Three administrative positions are requested to support confidential administrative functions for Capital Assets, Professional Development and Accreditation and Fire Prevention and Life Safety. These positions have been negotiated as exclusions in the most recent Fire Labour Negotiations.

Service Impact

These positions will support confidential duties including labour relations, analysis and general administrative support.

Budget Request #: 5952

Proposed Initiative	Department	Service Area
Business Continuity Management Solution	Community Services Department	Fire & Emergency Services

Description of Budget Request

The implementation of a software solution for Business Continuity Management will be a leap forward in the capability of the City to respond to a disruption that impacts city services. It will allow for the development and management of business response plans for all parts of the City of Mississauga. This is also an opportunity for the City of Mississauga to lead Canadian governments at all levels in having a robust Business Continuity Management program supported by a software system.

Required Annual Operating Investment

Impacts ($000s)	2020	2021	2022	2023
Gross Expenditures	0.0	42.0	44.0	46.0
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	42.0	44.0	46.0
* Net Change in $		42.0	2.0	2.0
FTEs	0.0	0.0	0.0	0.0

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

Required Capital Investment

Total Capital ($000s)	2019 & Prior	2020	2021	2022	2023 & Beyond
Expenditures	0.0	183.0	0.0	0.0	0.0

Why Staff Recommend this Initiative

The Business Continuity Management (BCM) solution output will be used strategically by the Emergency Operations Centre leadership personnel as outlined above. At the operational level, it will guide response by business units. It will store confidential information such as home phone numbers so it will be secure to different levels of management.

Details of Service Change

The purpose of this request is to implement a software-based Business Continuity Management solution that will be used to store, process, and manage the City's business continuity plan data. Key features of the solution would be:

- Business Continuity Plan creation
- Risk Assessment
- Business Impact Analysis
- IT systems recovery requirements
- Dependency Mapping
- Plan Management
- Exercise and Crisis Management
- Program Management and Governance
- Metrics, Analysis, and Reporting
- Audit response

Service Impact

- Automation of the Business Continuity Management planning process
- Just-in-time information and reports to support decision-making
- The capturing of role-based approvals from management
- Program Governance: The ability to track completion of BCM program elements (e.g., the updating of plans, the annual execution of tests and exercises)
- The mapping of business process primary locations to business recovery locations
- The association of computer applications to user groups
- IT application recovery requirements articulated by the business
- Effective business disruption exercises and the testing of business continuity plans
- Effective and efficient response to a crisis in the event of a real business disruption

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
Stations & Auxiliary Buildings	6,594	7,227	7,366	8,916	47,363	77,466
Vehicles & Equipment	6,453	3,544	3,532	4,302	41,501	59,332
Total	**13,047**	**10,771**	**10,898**	**13,218**	**88,864**	**136,798**

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

Proposed 2020-2029 Capital Forecast Highlights:

2020 Highlights

- $6.5 million for design and construction of New Fire Station 123
- $4.4 million for trucks for new fire stations 123 and 124
- $183,000 for a Business Continuity Management Solution
- $1.8 million for vehicle and front-line equipment lifecycle

2021-2029 Highlights

- Lifecycle replacement of fire vehicles and equipment (2021-2029)
- Fire Station Renovations for stations 102, 107 and 115 (2022-2027)
- New Fire Station Construction for stations 125, 126, 127 and 128 (2021-2029)

Proposed 2020-2029 Capital Budget by Funding Source ($000s)

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.

Funding	2020 Proposed Budget	2021 Forecast	2022 Forecast	2023 Forecast	2024-2029 Forecast	Total 2020-2029
Tax Capital	13,047	10,771	10,798	13,218	57,672	105,506
Development Charges	0	0	100	0	31,192	31,292
Other Reserves & Reserve Funds	0	0	0	0	0	0
Total	**13,047**	**10,771**	**10,898**	**13,218**	**88,864**	**136,798**

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

Proposed 2020 Capital Budget Detail

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

Program: Stations & Auxiliary Buildings

Project Number	Project Name	Gross Cost ($000s)	Recovery ($000s)	Net Cost ($000s)	Funding Source
CMFS00045	New Fire Station 123 - Burnhamthorpe/Winston Churchill - Design and Construction	6,504	0	6,504	Tax Capital
CMFS007781	Staff Relocation	90	0	90	Tax Capital
Total		**6,594**	**0**	**6,594**	

Program: Vehicles & Equipment

Project Number	Project Name	Gross Cost ($000s)	Recovery ($000s)	Net Cost ($000s)	Funding Source
CMFS00059	New Fire Truck and Equipment - Fire Station 124	2,193	0	2,193	Tax Capital
CMFS00061	Personal Protective Equipment Replacement	241	0	241	Tax Capital
CMFS00077	Refurbish Fire Vehicles	150	0	150	Tax Capital
CMFS00093	Semi Automatic Defibrillator Replacement	180	0	180	Tax Capital
CMFS00099	Replacement of Emergency Response Tools and Equipment	1,100	0	1,100	Tax Capital
CMFS00111	VCOM Radio System - Component Upgrade	137	0	137	Tax Capital
CMFS00123	New Fire Truck and Equipment - Fire Station 123	2,193	0	2,193	Tax Capital
CMFS007580	Business Continuity Management Tool	183	0	183	Tax Capital
CMFS007779	Personal Protective Equipment for New Hires	76	0	76	Tax Capital
Total		**6,453**	**0**	**6,453**	

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
Stations & Auxiliary Buildings											
FIRE Stations - Renovations	90	0	500	3,478	500	3,265	500	3,446	0	0	11,779
FIRE Stations New	6,504	7,227	6,766	5,438	7,040	5,658	7,324	5,886	7,620	6,124	65,587
FIRE Studies	0	0	100	0	0	0	0	0	0	0	100
Subtotal	**6,594**	**7,227**	**7,366**	**8,916**	**7,540**	**8,923**	**7,824**	**9,332**	**7,620**	**6,124**	**77,466**

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
Vehicles & Equipment											
FIRE Equipment New	259	105	33	500	0	45	0	0	0	0	942
FIRE Equipment Replacement	1,417	1,100	1,100	1,500	1,500	1,500	1,500	1,500	1,500	1,500	14,117
FIRE Safety Clothing Replacement	241	214	194	177	187	1,244	225	212	263	221	3,178
FIRE Vehicles	4,536	2,125	2,205	2,125	5,648	1,780	4,905	5,075	8,635	4,061	41,095
Subtotal	**6,453**	**3,544**	**3,532**	**4,302**	**7,335**	**4,569**	**6,630**	**6,787**	**10,398**	**5,782**	**59,332**

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