



**Mississauga Fire and Emergency  
Services  
Master Plan  
Executive Summary  
December 2010**

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# Fire Master Plan Executive Summary

## 1.0 Introduction

Mississauga Fire and Emergency Services (MFES) is a career fire fighting department that has demonstrated an ability to deliver suppression, training, education, prevention, communications and fleet and building maintenance in a cost effective manner with high resident satisfaction. MFES has one of the best fire safety records in the province.

Between 2004 and 2008 MFES averaged 3.7 fire related deaths per one million people compared with the provincial average of 7.2.

An internal team of staff was established to complete MFES' first Fire Master Plan. The intent of the plan is to understand and quantify the challenges impacting service delivery; and to research and recommend effective solutions. Findings from the plan will provide Council with the appropriate information required to understand the needs of the fire department in both the short term and long term and will provide fire administration with the ability to make informed decisions and develop future planning initiatives.

### 1.1 Summary of Recommendations

- 1) That the Establishing and Regulating By-law is reviewed and updated and shall specify the services to be provided by the Mississauga Fire and Emergency Services Division, as determined by Council. Service delivery performance measurement objectives for each major service section (i.e. Emergency Response, Fire Prevention and Public Education, Training and Education, Communications, and Fleet, Facilities and Equipment) shall be established and assessed on an annual basis and results submitted to Council.
- 2) That MFES senior staff work with: the IAFF; appropriate municipal governments; and MFES Local 1212 to investigate the possibility of entering into automatic aid agreements with neighbouring municipalities.
- 3) That all existing service area agreements with surrounding municipalities be reviewed and updated annually to reflect changing risks, needs and circumstances of the community.
- 4) That additional resources be allocated to the Emergency Management Office to provide increased capacity within this office to permit broader more robust training.
- 5) That the City of Mississauga continues to co-ordinate with the Region of Peel to ensure that hydrants comply with the requirements of the Ontario Fire Code.
- 6) That MFES task a study team to examine the feasibility of an integrated Fire/EMS model.
- 7) That MFES work with the Corporate Communications Division to ensure consistent messaging at an emergency scene.
- 8) That MFES continue to work towards National Fire Protection Association standards as operational objectives for all areas of fire service.
- 9) Consideration should be given to having a dedicated resource for data analysis and ongoing evaluation and interpretation of MFES data.



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- 10) That ongoing development opportunities for seconded personnel be provided to ensure continuous individual improvement and to augment the succession planning process.
- 11) That the service area objectives are based on a new performance model that measures total response time (call processing time plus preparation time plus travel time), based on industry best practices.
- 12) That MFES complete the categorization of all properties through a comprehensive risk assessment based on industry best practices.
- 13) That critical tasking of each major emergency component is identified and included as part of the new response model to assist in determining the deployment model.
- 14) That MFES construct and appropriately staff three fire stations within the next five years.
- 15) That MFES consider the construction and associated staffing of additional fire stations in the long term, subject to an impact assessment of the stations suggested in Recommendation #14.
- 16) That stations are identified where existing infrastructure is past its current lifecycle and plan for necessary modifications or replacement.
- 17) That MFES continue with the implementation of Mobile Data Unit (MDUs) laptops on fire suppression vehicles and Automatic Vehicle Locators (AVL) to augment the overall program to improve response time.
- 18) That MFES consider alternative fire service delivery of smaller rapid response vehicle(s) in the city core, based upon risk, on a trial basis to determine the feasibility of the program and assess any benefits to service.
- 19) That enhanced public education program delivery is targeted to match identified risk in the community. The Fire Prevention Section should continue to explore new opportunities in public education for all residents and businesses in the City of Mississauga.
- 20) That an internal review of the public education unit is completed to determine the effectiveness of the current operational model. Consideration should be given to the feasibility of public education being a separate unit under the Fire Prevention Section.
- 21) That MFES review staff requirements in order to address the changes in the Accessory Dwelling Unit By-law and rooming/boarding houses and also address propane safety legislation and guidelines.
- 22) That the Fire Prevention Section implement a more frequent inspection cycle that is deemed to be appropriate for the current needs and circumstances of the City of Mississauga and that appropriate staff be reviewed through the City Business Planning process.
- 23) That the Fire Prevention Section develop and provide public education programs to be delivered by suppression staff.
- 24) That MFES consider upgrading their station message boards to an electronic format in order to provide a consistent clear message to the residents of Mississauga.





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- 25) That additional training staff be considered to leverage opportunities available at the Garry W. Morden Centre
- 26) That a new position be created to provide sufficient staff to ensure continued operability and efficiency of the stores unit.
- 27) That MFES undertake an independent audit of the Fleet Unit to ensure appropriate industry best practices.
- 28) That reserve fire apparatus be fully equipped and prepared so that they are available immediately for deployment.
- 29) That a new position be created to provide sufficient staff to ensure continued operability and efficiency of the building maintenance unit.
- 30) That MFES continue to assess and develop a plan for the training and delivery of services related to the Light Rail Transit (LRT) system.



### 2.0 The Strategic Plan

The continued success of the City of Mississauga relies on its ability to identify current and future needs of each of its communities and determine ways in which to effectively and efficiently address those needs.

Based on the *Our Future Mississauga* consultations with all facets of the community, the City's Strategic Plan was developed as a fundamental framework through which policies and decisions are to be made.





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The five 'Strategic Pillars for Change', which form the basis of the Strategic Plan, consist of:

- Developing a transit-oriented City;
- Ensuring youth, older adults and new immigrants thrive;
- Completing our neighbourhoods;
- Cultivating creative and innovative businesses; and
- Living green.

In order to develop a city wide vision, each department has identified key priorities to ensure that both the immediate and future needs are met. Mississauga Fire and Emergency Services (MFES) is developing a fire master plan which will be instrumental to managing organizational needs and the community's fire protection services outlook for the next twenty years.

City of Mississauga Strategic Plan Pillars and Goals

## Developing a Transit Oriented City

- Develop Environmental Responsibility
- Connect Our City
- Build a Reliable and Convenient System
- Increase Transportation Capacity
- Direct Growth

## Ensuring Youth, Older Adults and New Immigrants Thrive

- Ensure Affordability and Accessibility
- Support Aging in Place
- Attract and Retain Youth
- Attract Post-Secondary Institutions
- Nurture Diverse Cultures
- Integrate Places of Religious Assembly

## Completing Our Neighbourhoods

- Develop Walkable, Connected Neighbourhoods
- Build Vibrant Communities
- Create Great Public Spaces
- Celebrate Our Community
- Provide Mobility Choices
- Build and Maintain Infrastructure
- Nurture 'Villages'
- Maintain a Safe City
- Create a Vibrant Downtown

## Cultivating Creative and Innovative Business

- Develop Talent
- Attract Innovative Business
- Meet Employment Needs
- Strengthen Arts and Culture
- Create Partnerships for Innovation

## Living Green

- Lead and Encourage Environmentally Responsible Approaches
- Conserve, Enhance and Connect Natural Environments
- Promote a Green Culture

Source: Strategic Plan, 2009

## 3.0 MFES Vision and Mission

### 3.1 Vision

We are a progressive organization dedicated to preserving life, property and the environment.

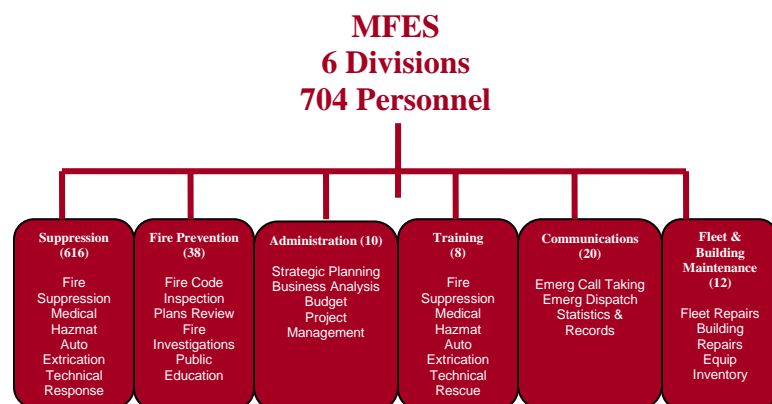
### 3.2 Mission

To protect life, property and the environment in Mississauga from all perils through education, prevention, investigation, training, rescue, fire suppression, dangerous good containment and life support services.



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### 4.0 Scope of Operations



### 5.0 Guiding Principles

- To provide a service that has appropriate quality assurances and accountability measures.
- To provide a service that responds to the changing needs and circumstances of the City of Mississauga.
- To provide a service that strives to meet service delivery objectives.
- To provide a service that is equally accessible to the entire community.

### 6.0 Primary Objectives

With a focus on both the long term and short term development of the Fire and Emergency Services Division, the Master Plan will:

- Align with the priorities identified within the City's 2009 Strategic Plan.
- Identify and recommend options and opportunities for continuous improvement for each section of the division: administration; emergency response; fire prevention and public education; communications; training and education; equipment, fleet and facilities.
- Identify facility requirements based on growth, intensification and building stock.
- Provide actionable recommendations that address: ongoing needs; shifting priorities; changing community and environmental conditions (i.e. economic climate, demographics); technology; and industry trends.
- Identify performance measurements.

### 7.0 Master Plan Methodology

#### Phase One - Research and Data Collection

Research and data collection considered during phase one included: trend analysis; demographic and population trend review; city data analysis; inventory assessment; response modelling; GIS mapping; CAD data collection; policy and standards review; impact assessment; and interviews of staff in all sections of the division. As part of the data collection process, surveys were drafted and sent to comparable municipalities to gather best practices.





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### Phase Two - Risk Assessment

This phase of the process consisted of the review of both organizational and community risks in consultation with the Ontario Fire Marshal's Office (OFM).

### Phase Three - Gap Analysis

Based on consultation with internal stakeholders, a SWOT analysis and the development of key performance measures were completed. This allowed for identification of gaps in the service area to be addressed.

### Phase Four - Complementary Documents and Analysis

Phase four of the project produced a number of background reports and working documents that include: standards of cover; municipal risk assessment; fire prevention and public education; consolidated reports; and documentation used to inform the 2011-2014 Business Planning process.

### Phase Five - Report to Council and Public Sessions

This phase is currently underway and includes the production of the Fire and Emergency Services Master Plan document. Upcoming phases of the project will include a report to Council and public information sessions in 2011.

## 8.0 Planning Context

### 8.1 Population Growth

The City of Mississauga is an urban centre 292 km<sup>2</sup> in size. Projections forecast that the current population of 730,000 people will increase by an additional 85,000 residents by the year 2031 to a total population of 812,000<sup>1</sup>. The recently completed Downtown 21 Master Plan estimates that

capacity in the City Centre has the potential to represent as much as an additional 22,000<sup>2</sup> people over current population projections for 2031. The average household size in Mississauga is 3.04 persons which is considerably higher than the provincial average of 2.6 persons.

As the population grows and resident demographic profiles change, it is crucial that public education is culturally inclusive and utilizes tools such as multi language materials. According to the 2006 Census, almost 48% of Mississauga residents state that their mother tongue is neither English nor French. The top ten unofficial languages spoken in Mississauga are: Chinese Languages; Urdu; Polish; Punjabi; Portuguese; Tagalog (Philippino); Arabic; Italian; Spanish; and Vietnamese.

Mississauga has an aging population. The portion of residents aged 55 and older increased from 15% in 1996 to 20% in 2006 and this trend is expected to continue into the future. Older adults present a risk group for fire services which must be addressed from both a prevention and response perspective.

### 8.2 Intensification of the Downtown Core and Surrounding Area

The *Places to Grow Act* (2005) is a provincial initiative that ensures that growth plans reflect the needs, strengths and opportunities of the communities involved. The Act promotes growth that balances the needs of the economy with the environment. The rapid expansion of urban areas across the province has necessitated that future growth be managed through intensification of our existing footprint.

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<sup>1</sup> Hemson Consulting Inc., 2009

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<sup>2</sup> Downtown 21 Master Plan, 2010



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Growth forecasts suggest that 41,500 people of the projected 83,400 additional Mississauga residents will reside in the downtown core and in the Hurontario and Dundas corridor.

With intensification comes: increased traffic congestion resulting in eroding response times; increased employment impacting the need for building inspections and prevention; increased call volumes; and changes in building stock impacting vertical response time and associated inspections.

In an effort to mitigate some of the impacts of intensification on fire service, recommendations promote: construction of new fire stations; targeted public outreach; increased schedule of regular fire inspections; and investigation into the use of smaller fire suppression vehicles.

### 9.0 Guidelines and Legislation

Fire services in Ontario are guided by a number of internal and external legislation, operating standards and guidelines. The *Fire Protection and Prevention Act* (FPPA) promotes fire prevention and public education in Ontario and gives authority to the municipality and Fire Chief to determine appropriate levels of education and protection. Deployment and response time objectives are to be outlined in the development of a Standards of Cover document.

Ontario's Office of the Fire Marshall 10 in 10 fire suppression guideline is intended to serve as a level to which volunteer and small composite fire departments can aspire. These guidelines are considered insufficient for large urban career departments such as MFES.

The National Fire Protection Association (NFPA) provides standards for fire services and is recognized as one of the industry best practices. The 2010 Edition of NFPA 1710 provides direction with respect to response time and depth of response. MFES will look to these guidelines in combination with other best practices as an operational model.

The 2010 Edition of NFPA 1710 total response time guidelines are outlined in Table 1.

Table 1: Total Response Time

	First Arriving Vehicle (Distribution)	Full Deployment (Concentration)
Call Processing Time	1 min.	1 min.
Preparation Time	1 min. 20 sec.	1 min. 20 sec.
Travel Time	4 min.	8 min.
Total Response Time	6 min. 20 sec.	10 min. 20 sec.

Source: NFPA 1710, 2010

### 10.0 Benchmarks and Performance Indicators

When compared with leading municipalities such as: Vancouver; Calgary; Ottawa; and Edmonton, MFES operates at a lower cost per capita that is almost \$29.00 below its closest comparator for suppression as noted in Table 2.



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Table 2: Comparator Statistics

Benchmark	Mississauga	Vancouver	Calgary	Ottawa	Edmonton
Population / Station	36,161	28,900	30,442	20,887	31,298
Population / Front Line Vehicles	24,107	16,055	14,398	10,091	20,062
Population / Fire Employee	1,027	705	785	895	766
Population / Suppression Staff	1,186	782	862	1,030	866
Cost / Capita	\$91.04	\$123.88	\$119.91	\$120.48	\$147.86

Source: Annual Comparator Survey, Calgary, 2009

As illustrated in Table 3, when measured against the NFPA total response time standard for first arriving truck, MFES is currently unable to meet these targets.

Table 3: Percentage of Deficient Calls

	2007	2008
Percentage of First Truck Response Over Standard (6 min. 20 sec.)	22.6%	23.9%
Deficiency Based on 90%	12.6%	13.9%
Total Calls	26,535	27,428

Source: MFES, 2009





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### 11.0 Challenges Facing MFES

#### 11.1 Increased Call Volume

In 2008, MFES responded to over 27,000 emergency calls. Data tracked over the past five years suggests that there is an average of an additional 500 calls per year. Increased call volumes escalate the probability that multiple or simultaneous calls will occur in the same response area. This situation implies that trucks must travel from adjacent response areas to cover for trucks serving another call within the same area. This significantly increases the response time of the second or subsequent incident.

To alleviate the impact of increased call volumes, recommendations suggest: changes in deployment strategy; targeted public education; and the construction of additional stations.

#### 11.2 Call Types

Over time, the complexity of numerous call types has prompted the need for improved and advanced training. In response, MFES provides a high level of training to its staff in an attempt to meet changing and increasing expectations of both the Province and the community. The impact of this is that crews are expected to perform duties at various types of incidents that were not required in the past, such as: high angle; water rescue; and HAZMAT. Consequently, the time that crews spend at any one incident is lengthened. Additionally, traffic safety has resulted in a second fire truck being required at an automobile fire or accident to assist with traffic control and firefighter safety.

Of the total calls received in 2007 and 2008, 45% were medical calls. Despite an overall increase in call volume, MFES has been successful in decreasing certain types of calls due in large part to education and prevention initiatives along with the recovery fees for certain incidents.

Table 4: Incidents by Call Types

Type of Call	2008	% of Total Calls
CO Detector	338	1%
Fire (structural, vehicle, other)	950	4%
Cancelled / Not Found	2,064	8%
Other Incidents	3,170	12%
Accident / Rescue	3,211	12%
False Alarm	4,845	18%
Medical	12,453	46%
Total Incidents	27,031	100%

Source: MFES, 2008

Recognizing that MFES provides added value to residents through its ability to respond to medical calls, it is recommended that MFES investigate an integrated service delivery model with peel paramedic services.



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### 11.3 Total Response Time

MFES currently tracks and reports its response capabilities in *travel time*. This model is not the most effective way to track or monitor capabilities. For this reason, MFES is recommending changing to tracking and reporting based on *total response time*. Total response time is call processing time plus preparation (turnout) time plus travel time, which is sometimes referred to as “ring to arrive”. Based on NFPA guidelines and industry best practices, MFES is recommending a total response time of 6 minutes and 20 seconds 90% of the time for the first arriving truck as an operational objective.

MFES is also recommending tracking and reporting total response time for depth of response. Based on NFPA standards and industry best practices, total response time of 10 minutes 20 seconds for the arrival of a full first alarm assignment is suggested.

In 2007 and 2008, there were a total of over 44,000 calls. Approximately 77% of calls met the total response time standard of 6 minutes, 20 seconds for the first responding vehicle, resulting in a 23% deficiency.

To help mitigate total response times, suggested recommendations include: continued introduction of Automatic Vehicle Locators (AVL); introduction of laptops on vehicles; and the construction of additional fire stations.

### 11.4 Changes in Building Stock

The type of building and building age are significant factors that must be considered when identifying key challenges in response. The number of multi storey residential occupancies has increased considerably. Many of the

buildings currently under construction have submitted building applications prior to the new mandatory sprinkler legislation. High rise occupancies pose several challenges to MFES, not the least of which is the ability of crews to reach an emergency scene on upper floors. This is known as vertical response. As part of the master planning process, MFES conducted vertical response testing. While vertical response is difficult to affect, this can be mitigated by decreasing the amount of time required to get crews to the property.

The materials used in the construction of newer occupancies as well as their contents include more lightweight materials which have proven to be highly combustible and burn much faster than materials used in older buildings. The ability of MFES to respond faster will greatly improve the odds of saving the structure and/or reducing potential dollar loss.

To mitigate the impacts of changes in building stock, recommendations advice: increased fire prevention staff; routine inspections for properties; and classification of properties based on risk.

### 11.5 Staffing

The master plan identifies staffing deficiencies throughout the organization. As part of the current business planning cycle, MFES has identified areas where these staffing deficiencies pose particular issues for service delivery. These areas include: emergency response; administration; training; facilities; stores; and fire prevention.

Recommendations suggest additional staff in a variety of positions to ensure that MFES is positioned to adhere to necessary regulations and to appropriately plan for the future.





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### 12.0 Solutions

#### 12.1 Administration

The Administration section provides support to all aspects of Fire and Emergency Services and establishes guidelines.

##### Recommendation #1

That the Establishing and Regulating By-law is reviewed and updated and shall specify the services to be provided by the Mississauga Fire and Emergency Services Division, as determined by Council. Service delivery performance measurement objectives for each major service section (i.e. Emergency Response; Fire Prevention and Public Education; Training and Education; Communications; and Fleet, Facilities and Equipment) shall be established and assessed on an annual basis with results submitted to Council.

The Fire Protection and Prevention Act (FPPA), 1997 promotes fire safety in Ontario. The Act states that every municipality shall: establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention; and provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances. In discharging its responsibilities as stated above, a municipality shall: appoint a community fire safety officer or a community fire safety team; or establish a fire department.

Further to the FPPA, the Establishing and Regulating By-law (E&R By-law) for the Municipality is an expression of Council of the City of Mississauga's wishes regarding the provision

of fire protection services. Fire protection services is a defined term under the FPPA and, therefore, has legislative meaning. Key findings of the current E&R By-law suggest that: it should be updated for legislative consistency; the type of service to be provided should be further defined; the level for each service to be provided should be defined; expectations of Council should be stated; and the document should provide for a level of detail and direction to protect all interests of the Municipality, Council, senior staff and fire department members.

An updated Establishing and Regulating By-Law will provide Council with the ability to take the necessary steps to demonstrate due diligence. Council is advised that in setting a level of fire protection service to be provided by the fire department, the necessary resources to provide those services are required. Required resources may include: staff; fiscal resources; training; equipment; and/or development of required policies and guidelines. Should a new E&R By-law be passed, the Municipality should take the necessary steps to inform residents of the services and service level provided.

##### Recommendation #2

That MFES senior staff work with: the IAFF; appropriate municipal governments; and MFES Local 1212 to investigate the possibility of entering into automatic aid agreements with neighbouring municipalities.





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Automatic aid is a program designed to provide and/or receive assistance from the closest available resource, irrespective of municipal boundaries, on a day-to-day basis. The practice has been ongoing for many years in Ontario through what has been known as first response agreements. It can be a valuable tool in the effort to ensure consistent response coverage across a City.

The advantage of implementing an automatic aid program is that the department involved in an emergency situation receives fire services from the closest available provider, supplying seamless service through the elimination of artificial service boundaries. The concept of dispatching the closest available assistance could reduce the critical element of time between the commencement of a fire and the application of an extinguishing agent to the fire. Life, property and environmental losses would subsequently be reduced, thereby, improving public and fire-fighter safety.

The potential for automatic aid is defined where two or more fire departments could work together to assemble an adequate fire attack team in a more timely manner than possible under existing arrangements. Automatic aid is intended to be provided on a cost recovery basis and is automatically dispatched. Implementation of an automatic aid agreement with neighbouring jurisdictions with career fire departments could potentially be a long term solution to eliminating some service gaps in border areas.

### Recommendation #3

That all existing service area agreements with surrounding municipalities be reviewed and updated annually to reflect changing risks, needs and circumstances of the community.

Mutual aid plans allow a participating fire department to request assistance from a neighbouring fire department. Mutual aid is not immediately available for areas that receive fire protection under an agreement. A fire department must ask for mutual aid assistance when it is at the scene or has information that immediate assistance is required.

MFES is an active partner in the Region of Peel Mutual Aid system (which includes MFES, Brampton Fire and Caledon Fire) and has an agreement with the Greater Toronto Airport Authority (GTAA).





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### Recommendation #4

That additional resources be allocated to the Emergency Management Office to provide increased capacity within this office to permit broader more robust training.

The emergency management office is responsible for emergency management programs and requirements as established by the Province. A review of staffing levels in other Ontario municipalities suggests that the City is under resourced as demonstrated in Table 5.

Table 5: Emergency Management Staff by Population

Municipality	Population	Number of Emergency Management Staff
Ottawa	860,000	9
London	310,000	2.5
Brampton	430,000	4
Mississauga	730,000	1

An additional resource is required to: manage the operations of the Emergency Management office; ensure that all functions and requirements of the City are met; liaise with stakeholders; and prepare and conduct communications during emergency preparedness week. The addition of a manager in the emergency management office would permit the existing resource to focus on performing legislated duties and provide population specific community emergency management programs as is outlined by Emergency Management Ontario. Furthermore, it would ensure that the City is adequately represented at required meetings and functions.

### Recommendation #5

That the City of Mississauga continue to co-ordinate with the Region of Peel to ensure that hydrants comply with the requirements of the Ontario Fire Code.

In the City of Mississauga, water is provided by the Region of Peel Public Works Water and Wastewater Division through two water treatment facilities: Lakeview (for the eastern portion of the City) and Lorne Park (for the western portion), and several water mains linking the eastern and western sections. Water is supplied through over 3,215 kilometres of water mains that supply 22,700 hydrants.

The standard for hydrant maintenance is referenced in the Ontario Fire Code under subsection 6.6. In addition, the colour coding of hydrants shall be in accordance with NFPA 291 guidelines. The Region of Peel has a yearly preventative maintenance program for: hydrant maintenance; hydrant replacement; hydrant painting; and hydrant repairs that is critical to the effective delivery of fire service at a fire incident





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### Recommendation #6

That MFES task a study team to examine the feasibility of an integrated Fire/EMS model.

In life threatening medical related emergencies, rapid, efficient and effective delivery of emergency medical response is a critical element in patient survivability. Patient outcomes are dependent on the speed with which trained personnel can arrive at the scene. In many cases, patients not only require immediate life saving treatment, but they may also require physical rescue, protection from the elements and protection in the way of scene safety. The fire service is structured to address all of the above simultaneously and is perfectly positioned to complement and enhance EMS (Emergency Medical System) delivery across Ontario, thus significantly improving patient outcomes.

At the present time, MFES has twenty fire stations strategically placed throughout the City of Mississauga, housing thirty front line vehicles. These vehicles are in a constant state of readiness to respond to emergencies in the city. In 2008, MFES responded to 12,453 medical incidents, accounting for 45% of all responses by MFES. Medical incidents included: heart attacks; difficulty breathing; severe bleeding; drowning; vital signs absent; and electrocution. At these incidents, MFES provides scene management, patient assessment and stabilization with symptom relief being provided through oxygen therapy and defibrillation. As the front line first responder, MFES works closely with the paramedic service to provide quality and efficient care.

Survival rates are proven to be higher in those communities where CPR and/or defibrillation are administered in less than

6 minutes from the start of a sudden cardiac arrest. In 2008, MFES was first on the scene for vital signs absent calls 70% of the time. The 90<sup>th</sup> percentile for fire response to a cardiac arrest in 2008 in Mississauga was 7 minutes and 11 seconds. The 90<sup>th</sup> percentile for ambulance response time in Mississauga in 2008 was 11 minutes and 55 seconds.<sup>3</sup> The geographic distribution of MFES stations helps to permit incident response to occur more quickly by fire than ambulatory services.

The new provincial land ambulance response time framework, Ontario Regulation 257/00, is being implemented in October 2010. Each municipality must report on the percentage of time that sudden cardiac arrest patients received assistance from a person equipped to provide defibrillation (e.g. fire) within 6 minutes from the notification of a call by an ambulance communication service. The attendance of any person equipped to provide defibrillation (including a fire fighter) will 'stop' the response-time clock.<sup>4</sup>



<sup>3</sup> Peel Emergency & Protective Service Committee EPSC-2008-3

<sup>4</sup> Ministry of Health and Long-Term Care 2009



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### Recommendation #7

That MFES work with the Corporate Communications Division to ensure consistent messaging at an emergency scene.

It is crucial that Corporate Communications is in a position to allocate resources to MFES. Emergency situations require media management to ensure accuracy in the information disseminated to the public. Furthermore, with appropriate messaging, these situations provide opportunities to enhance public education.

In the course of their activities, fire service personnel will be subject to media and public inquiries. Providing information on fire department activities and actions can take a number of forms, such as dealing with such issues as public education and dealing with situations that involve the loss of life and property.

Ideally, media issues should be dealt with by an individual who is trained in public relations and does not have duties outside of this function. The process of using active "on scene" personnel adversely affects their ability to address issues pertaining to the incident. Currently, the senior command officer at a large emergency scene such as a: structure fire; gas leak; or motor vehicle accident is the person responsible for addressing the media.

### Recommendation #8

That MFES continue to work towards National Fire Protection Association standards as operational objectives for all areas of fire service.

The National Fire Protection Association (NFPA) is one of the industry best practices with respect to fire services guidelines. Increasingly, career fire departments are looking to the NFPA guidelines to set operational objectives.

While NFPA provides direction and guidelines in all areas of fire service, including communications, NFPA 1710 relates to suppression, staffing and training of fire services. Its four priorities are:

- 1) To improve methods of fire control, extinguishment, and prevention;
- 2) To improve emergency medical service delivery;
- 3) To establish safeguards against loss of life and property; and
- 4) To protect fire fighters, EMS providers and the public.

As a career fire service, MFES should look to NFPA guidelines as operational objectives whenever possible. While these standards are not legislated or mandated, benchmarking indicates that large urban fire departments are using NFPA as a guideline.





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### Recommendation #9

Consideration should be given to having a dedicated resource for data analysis and ongoing evaluation and interpretation of MFES data.

To meet the operational objectives of NFPA 1710 and to continue to improve total response time, real data must be collected and analyzed on an ongoing basis to achieve continued efficiencies and improvements. A significant amount of data is available including: dispatch time; preparation time; travel time; occupancies; call volume and call distribution. It is inadequate to only review this data during master planning processes. This information is only valuable if it can be regularly monitored and analyzed to effect continuous improvements in processes, procedures, facilities and equipment. Currently, data is reviewed on an ad hoc basis and its full impact is not able to be realized.

This position will allow MFES to utilize the available data gathered through CAD (computer aided dispatch), AVL (automatic vehicle locators) and MAX (Mississauga Approval Express) to maximize its ability to track performance measures and response targets. It is anticipated that this position will be able to utilize data to affect policy that will drive key performance measure. As the recommended fire stations are constructed, monitoring and analysis of impacts will be essential in determining the need and most appropriate location of future stations. Vital in ensuring that deployment plans continue to be effective in their response to risk classification and critical tasking is the continued evaluation of their impacts.

### Recommendation #10

That ongoing development opportunities for seconded personnel be provided to ensure continuous individual improvement and to augment the succession planning process.

Succession planning and secondments are valuable tools in developing capacity within an organization. Succession planning provides regimented programs that identify future leaders for promotion while working to develop the skills necessary to succeed in those future positions.

Secondments provide opportunities for key staff to be exposed to new learning opportunities and allows for integration of strategic operational objectives throughout the organization. Furthermore, it permits internal staff an opportunity to work on the development of the Master Plan and other key initiatives.

The goal is to develop staff members to their full potential, provide them with compensation commensurate with increased responsibility and authority and to have a pool of qualified candidates to compete for vacancies when they become available. This can only happen with a mutual commitment by both the employee and the employer to a career development and succession planning program. Each party has an obligation in this plan. Employees must be motivated and prepared to advance through the ranks. Employers must provide opportunities and the environment for individuals and the department to grow. Through these combined efforts both get better.



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### 12.2 Suppression

The objective of fire suppression is to reduce: injuries; deaths; property loss; and damage to the environment from all perils. Furthermore, suppression strives to develop effective and cooperative relationships with all appropriate support agencies.

#### Recommendation #11

That the service area objectives are based on a new performance model that measures total response time (call processing time + preparation time + travel time), based on industry best practices.

Response time objectives based solely on travel time do not provide an effective measure of incident response. As benchmarking of similar municipalities indicates, total response time is a more comprehensive approach to measuring response time and is becoming the industry standard. Currently, incident response is measured based on travel time alone as directed by the 1999 Council Endorsed Standard. While this is one component of response time, it places significant emphasis on the one factor of response where fire service has the least amount of control. Consistent with the directives of the National Fire Protection Association 1710, and with other career fire fighting departments, MFES is recommending measuring response time based on total response time.

Total response time includes: call processing time (the time it takes the communications operator to inform station staff); preparation time (the time that it takes suppression staff to get dressed in appropriate gear safely and depart the fire

station); and travel time (the time that it takes the truck to travel from the fire station to the incident). The long term operational objective is to achieve a total response time of 6 minutes, 20 seconds 90% of the time for the first responding fire truck.

#### Recommendation #12

That MFES complete the categorization of all properties through a comprehensive risk assessment based on industry best practices.

The building stock in the City of Mississauga is comprised of a mixture of all building classifications, 93% of which are residential. For the purposes of the master plan, the Ontario Fire Marshal's risk assessment model has been utilized. Buildings were categorized on a scale of Level 1 through Level 4 using Municipal Property Assessment Corporation records, fire prevention inspection records and the HIRA (Hazard Identification and Risk Assessment).

Risk considers probability and consequence. Probability is the likelihood that a particular event will occur within a given period of time. An event that occurs daily is highly probable whereas an event that occurs once in a century is very unlikely. Consequence contains two components: life safety, which is the amount of personnel and equipment required to rescue or protect the lives of occupants from life threatening situations which include both fire and EMS; and economic impact which includes the losses of property, income or irreplaceable assets.

The four possible relationships between probability and consequence are defined in Table 6. While geographic





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areas of the city can currently be classified by the identified risks based on land use, MFES is committed to ensuring that each property within the city has been classified. This will ensure that fire and emergency responses are appropriate for the risk.

### Low Probability – Low Consequence (Level 1)

There is low probability for fire risk, and a low consequence for the potential of life/economic loss.

### High Probability – Low Consequence (Level 2)

There is a high probability these structures are most likely to be at fire risk and a low consequence for potential high life/economic loss.

### Low Probability – High Consequence (Level 3)

There is a low probability that these facilities face a fire risk. There is a high consequence for: substantial risk; or potential for multiple fatalities; or a potential for large economic loss if they are involved in a fire incident.

### High Probability – High Consequence (Level 4)

There is a high probability that these facilities are a fire risk as well as a high consequence (significant loss of life and large dollar loss).



Table 6: Property Risk Classification

Probability and Consequence	Level	Examples of Properties
Low Probability, Low Consequence	Level 1, L1	Parks, recreational areas
High Probability Low Consequence	Level 2, L2	Single family dwelling, smaller multi storey dwellings
Low Probability, High Consequence	Level 3, L3	Apartment buildings, hospitals, nursing homes, main shopping centres, theatres
High Probability, High Consequence	Level 4, L4	Concentration of high rise buildings, multi storey hotels, large commercial buildings

Source: MFES, 2010

### Recommendation #13

That critical tasking of each major emergency component is identified and included as part of the new response model to assist in determining the deployment model.

Recognizing that effective fire fighting is not just about the first responding vehicle, it is important to identify objectives for concentration or depth of response. MFES is recommending that twenty firefighters arrive on scene within 10 minutes 20 seconds. All of the tasks that have to be performed at a house fire to meet industry standards require twenty firefighters which is achieved with four to five trucks depending on staffing.

There are critical tasks that must be conducted by firefighters at structure fires. An assessment has been



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completed to determine the capabilities of arriving companies and individual firefighters for the most predominant emergencies responded to, including: residential structure fires; high rise structure fires; industrial or commercial fires; specialized technical responses; and medical aid responses. Critical tasking for fire suppression outlines the requirements by task, number of personnel and response vehicles. For example, to accomplish the critical tasks required in a fire in a typical single family dwelling, twenty firefighters are needed for such things as: search and rescue; ventilation; and fire control.



### Recommendation #14

**That MFES construct and appropriately staff three fire stations within the next five years.**

To achieve the ultimate operational objective of arriving at fire incidents within a total response time of 6 minutes and 20 seconds, a number of measures are being taken and will need to continue to be introduced over the next twenty years.

MFES uses computer aided dispatch (CAD) to record, capture and retain current call data. Actual vehicle dispatch data recorded within CAD has been used to analyze both the current call distribution as well as the changes that have occurred city wide since 2005. An analysis of current call data suggests that there are areas of the City for which an additional fire station is warranted. Fire suppression is about both the distribution (first truck on scene) and the concentration (number of trucks/firefighters).

Population growth, intensification, increasing call volumes, increasing construction of high rise buildings and changes in building stock contribute to the ongoing need for additional stations to help to achieve operational objectives.

Developing a staged implementation plan to new station locations will allow MFES to reduce a number of gaps that currently exist in three high priority areas in the city. Three stations and associated staffing should be added between 2011 and 2014 with the expectation that the overall response and impact of these stations be continually evaluated after each station is added.



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The recommended new station locations are: Hurontario and Eglinton; Burnhamthorpe and Winston Churchill; and Dundas and Cawthra.

### **Hurontario & Eglinton Area (Station 120)**

A station built in the Hurontario and Eglinton area will service the Hurontario and City Centre Planning Districts. There is a population of approximately 45,000 residents living in this station catchment area. As this area is already under serviced, the impending development of a major node in this area will put additional pressure on MFES resources.

In 2007 and 2008 there were approximately 2,300 dispatches in this response area with 26% falling short of the NFPA standard, almost double the citywide amount.

This station would also allow access to highway 403 from Hurontario both westbound toward Erin Mills and East bound toward Eastgate Parkway. This station would be responsible for response to a minimum of ten schools and one youth detention centre.

### **Burnhamthorpe & Winston Churchill Area (Station 123)**

Serving a population of over 25,000 people, a new station in the Burnhamthorpe and Winston Churchill area would serve: the Western Business Park; eight schools; and one nursing home. The building types in the Western Business Planning District are primarily large commercial and light industrial occupancies. This station would have access to highway 403

from Dundas heading east and from Winston Churchill heading east and west. In 2007 and 2008 there were over 1,300 dispatches in this area and 35% were deficient based on the NFPA standard.

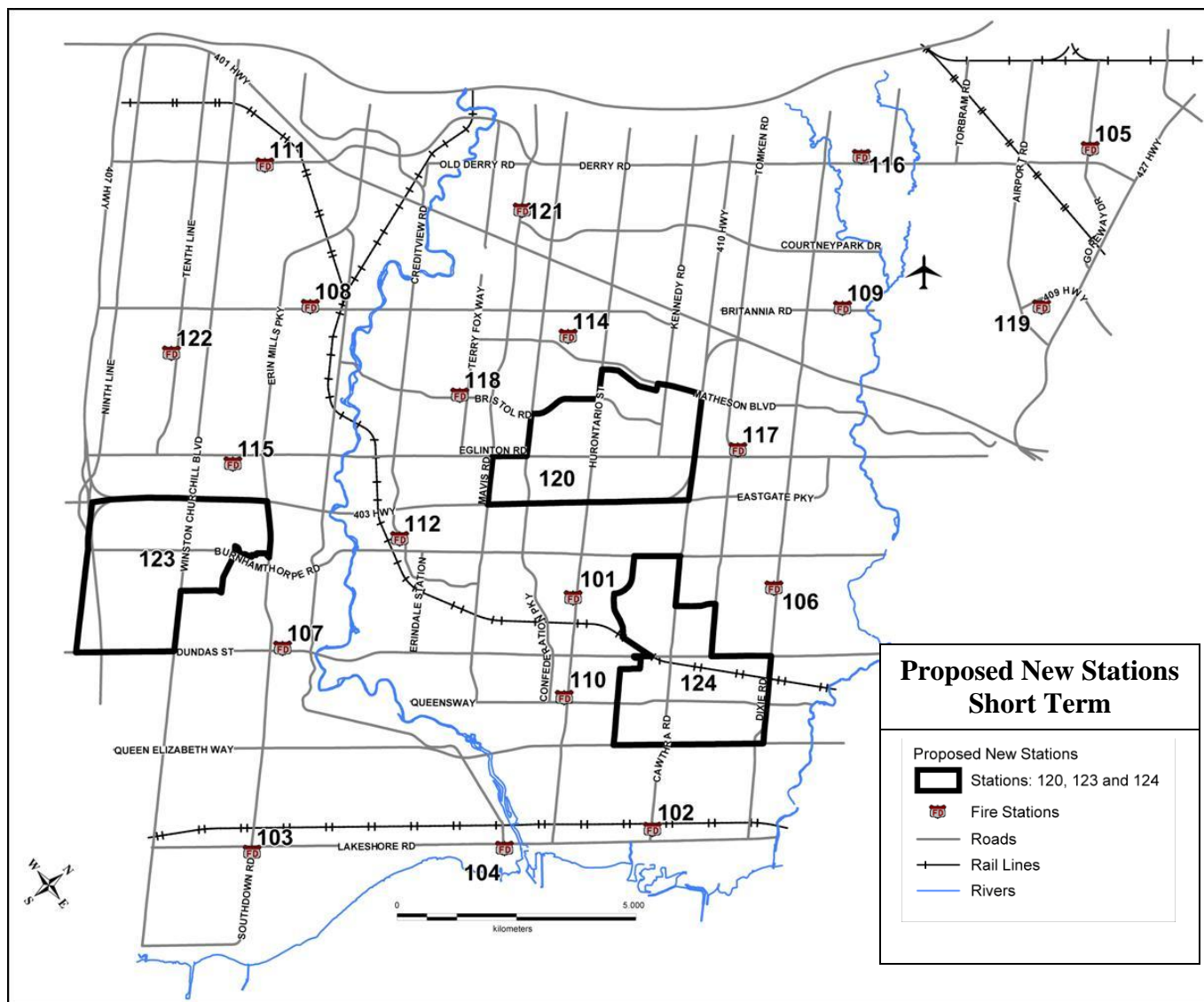
### **Dundas & Cawthra Area (Station 124)**

A station built in the Dundas and Cawthra area would service a population of approximately 25,000 residents plus an employment population of approximately 6,000. This station would provide primary response to this area and in addition, would supplement resources at Station 101, 102, 106 and 110.

In 2007 and 2008 there were approximately 1,450 dispatches, of which 16% were deficient, based on NFPA guidelines. While the deficiency is lower here than in the other two priority areas, the risk within this area is high as there are numerous occupancies classified as high risk. A station in this area would be responsible for responding to approximately eighteen schools as well as assisting in response to the Mississauga Trillium Hospital.



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### Recommendation #15

That MFES consider the construction and associated staffing of additional fire stations in the long term, subject to an impact assessment of the stations suggested in Recommendation #14.

Based on current population, three stations are recommended to move Mississauga towards achieving its objective of a total response time of 6 minutes 20 seconds 90% of the time. With projected population growth and intensification, these three stations may not be sufficient to build out. It is appropriate to consider that additional stations may be required to build out in 2031. A responsible growth strategy will permit impact assessments of each of the initial three stations as they are implemented to understand the influence of these stations on response time and on adjacent response areas. After the impact of these new stations has been fully assessed, MFES will consider additional facilities where a need is demonstrated.

### Recommendation #16

That stations are identified where existing infrastructure is past its current lifecycle and plan for necessary modifications or replacement.

As part of ongoing initiatives to improve the efficiency and effectiveness of MFES and to ensure that adequate resources exist to support staff, regular review and inspection of existing infrastructure is required to determine appropriate lifecycle improvement and replacement schedules. These improvements must be aligned with Corporate Business Planning and Corporate Budget cycles.

With the construction of new stations and as older stations reach the end of their lifecycle, it will be necessary to evaluate whether stations should be renovated or relocated based on impact assessments and annual data analysis.

### Recommendation #17

That MFES continue with the implementation of Mobile Data Unit (MDUs) laptops on fire suppression vehicles and Automatic Vehicle Locators (AVL) to augment the overall program to improve response time.

Mobile Data Units (MDUs) refer to the introduction of laptops on fire suppression vehicles. MDUs provide information related to: quickest response routes; identification of water supply; occupancy details; and capture relevant benchmark data on actions as they occur at an emergency scene to be used for future data analysis. With the pressure that population growth and intensification place on traffic congestion and call volumes, the information supplied by MDUs will assist in efforts to decrease response times and to ensure that firefighters are as prepared as possible upon arriving at an emergency scene.

Most urban fire departments as well as other agencies are already using this technology. These users include: Toronto Fire; Brampton Fire; Peel Police; and Peel Paramedic Services.

Automatic Vehicle Locators (AVL) allows dispatch to locate the closest available vehicle. This technology will select the closest responding vehicle whether it is in station or on the road. This will positively affect response times. As the volume of calls increases, the number of simultaneous



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incidents (multiple calls impacting one station) will also rise. Ensuring deployment of the closest vehicle to an incident, whether it is originating from a fire station or whether it is being deployed while 'on the road' is critical to meeting response time objectives. Minor improvements to travel time can have a significant impact on total response times.

### Recommendation #18

That MFES consider alternative fire service delivery of smaller rapid response vehicle(s) in the city core, based upon risk, on a trial basis to determine the feasibility of the program and assess any benefits to service.

With the City's increasing focus on creating walkable communities, the impact of intensification and the narrowing of streets and other traffic calming measures, there are concerns that fire response vehicles may not be able to access their intended destination in the most direct route, thereby, potentially increasing response times. It is suggested that MFES investigate the feasibility of alternative, smaller vehicles for the downtown core.

### 12.3 Prevention and Public Education

Fire prevention and public education strives to ensure minimum life safety standards are met, thereby, reducing: injuries; death; property loss; and damage to the environment from preventable emergencies. Objectives also include working with the community to ensure compliance of applicable codes, standards, regulations and by-laws and to develop an effective and cooperative relationship with all appropriate fire prevention agencies and customers.

### Recommendation #19

That enhanced public education program delivery is targeted to match identified risk in the community. The Fire Prevention Section should continue to explore new opportunities in public education for all residents and businesses in the City of Mississauga.

An important part of the new response model is the ability of MFES to be able to successfully identify and target public education programs to risk. Risk may be the occupancy, the demographic or a combination of both.

Specific programs have been created to target various groups, such as: older adults; school aged children; special interest groups; industries within the city; high rise building occupants; and preschool children. In 2009, more than 18,000 people participated in public education programs.

There continue to be new opportunities to provide additional fire safety programs. Specifically, greater effort should be placed on engaging residents of high rise occupancies in fire safety. To compliment this effort, training sessions for managers, superintendents and owners of high rise occupancies should be offered to educate them in regards to their legislative responsibilities under the *Fire Protection and Prevention Act* should be planned.





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### Recommendation #20

That an internal review of the public education unit is completed to determine the effectiveness of the current operational model. Consideration should be given to the feasibility of public education being a separate unit under the Fire Prevention Section.

There has been a recent reorganization within the MFES Fire Prevention Section as it relates to public education activities. Previously the responsibility of dedicated staff, public education duties and responsibilities are now being assumed by all fire inspectors. In most of the comparator fire departments across Canada, public education has staff dedicated to this function. Given the new response model and its reliance on the ability to appropriately target public education, a review of the current model should be completed to determine whether it is the most appropriate way to operate given the new response model approach.

### Recommendation #21

That MFES review staff requirements in order to address the changes in the Accessory Dwelling Unit By-law and rooming/boarding houses and also address propane safety legislation and guidelines.

It is the role of the fire inspector to enforce fire safety regulations and associated standards of the Ontario Building Code, the Ontario Fire Code, and municipal bylaws in all buildings within their jurisdiction. Recent and upcoming legislative changes impact the workload of fire prevention staff. These changes include: propane storage and handling regulations; legislation related to hotel retrofits; building code

changes to mandatory sprinklers in high rise residential over three storeys; and the lodging house licensing bylaw.

New regulatory legislation and a current backlog of building inspections and outstanding violations may require additional staff in the short term.

### Recommendation #22

That the Fire Prevention Section implement a more frequent inspection cycle that is deemed to be appropriate for the current needs and circumstances of the City of Mississauga and that appropriate staff be reviewed through the City Business Planning process.

While the divisional goal is to be able to inspect all industrial, commercial and multi-tenant residential occupancies at least once a year, the reality of limited resources has resulted in the creation of the "Annual Mandatory Inspection Program". This program identifies high life risk occupancies including hospitals, nursing homes and hotels where annual fire safety inspections are conducted. For further detail, please refer to Appendix A.

Frequency of inspections has an impact on the ongoing level of fire safety and code compliance of properties. Routine inspections should be conducted often enough so that the cycle will adequately re-enforce to property owners their responsibility and obligation for ensuring that their properties are maintained in a fire safe code compliant condition. The purpose of these inspections is to determine whether or not owners are fulfilling their obligation and meeting their responsibilities. Frequency of inspection should be based on the risk associated with each property classification.



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Property owners who demonstrate that they maintain their properties in conformance with the code may be inspected less frequently, or perhaps be started on a self-inspection (self compliance) program.

Currently, up to 75% of inspection time is spent conducting building permit inspections. This function ensures early warning and safe egress of building occupants as well as ensuring the safety and effectiveness of fire department personnel responding to a fire emergency. Although a significant amount of time, this commitment by staff helps to ensure code compliance at the time of initial construction and also provides a level of liability protection for the municipality, should these systems had been missed. This approach will also help to ensure that future fire code inspections will identify only minor maintenance violations, and not the need for costly retrofits. Refer to Appendix B for a list of building inspection definitions.

Table 7 provides a summary of the site inspections that were provided by fire inspectors in 2009.

Table 7: Prevention Inspection Activities, 2009

2009 Fire Prevention Inspection Activities	
Building Code Inspections	4,651
Fire Code Inspections	1,584
Complaint Inspections	869
Request Inspections	501
Follow-up Inspections	1,887
Paid Inspections	200
Mandatory Inspections	118

Source: MFES, 2010

### Recommendation #23

That the Fire Prevention Section develop and provide public education programs to be delivered by suppression staff.

Fire prevention and public education are proactive approaches to reducing the probability of fires occurring and help to reduce the loss of life and property damage in the event that fires do occur. By ensuring that buildings have the required fire protection systems and safety features, fire damage and casualties can be reduced. To augment programs delivered by prevention staff, suppression crews should assist in public education delivery.

### Recommendation #24

That MFES consider upgrading their station message boards to an electronic format in order to provide a consistent clear message to the residents of Mississauga.

In an ongoing effort to ensure that public education initiatives impact the greatest number of residents possible, consistent and effective messaging should be considered at all times. Fire station message boards have limited impact in their current design as only one message can be displayed at a time and must be changed manually. In line with the recent introduction of electronic message boards at all Recreation facilities, MFES should consider migration to electronic message boards where possible. Key public education messages could be rotated on a regular basis augmented with special initiatives and event opportunities.



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### 12.4 Training

The Training Section aims to train all Fire and Emergency staff to meet or exceed recognized standards in response to service level expectations. It strives to research and develop new techniques and equipment to meet all service level expectations and to ensure that all functions of MFES are delivered in a superior and cost effective manner while anticipating, initiating and managing change effectively. A progressive customer service focus is developed and maintained.

#### Recommendation #25

That additional training staff be considered to leverage opportunities available at the Garry W. Morden Centre.

The training section researches, develops and evaluates new techniques and equipment. Fire fighting related policies and standard operating guidelines are generated and updated by members of this section as well. The primary focus of this group is the planning, development and delivery of over fifty different programs pertaining to the skills required by the 616 firefighters and officers in the suppression section. The training section is reliant on the expertise of over 140 on-shift training instructors to assist with the delivery of specialized and hands on programs. The section is also responsible for the development and delivery of the intensive 12 week program each new recruit attends. Ongoing evaluation and testing of pertinent firefighting skills, officer development and reclassification and promotional examination processes are this section's responsibility. Documentation of program content and records of individual personnel training are maintained by the clerical support person.

Three additional Training Officers are required to effectively address the increasing safety training needs of staff. Ministry of Labour and other regulatory agencies expect safety standards to be met. Within the current staffing complement there is no capacity to meet increasing research, program design, and delivery and evaluation components for more than 50 core programs. One new training officer is required for standards, compliance and testing/certification of staff. One new training officer is required for specialized rescue programs including structural collapse. One new training officer is required for information technology, field automation and new media.

### 12.5 Fleet and Maintenance

Fleet and maintenance services support daily MFES operations.

#### Recommendation #26

That a new position be created to provide sufficient staff to ensure continued operability and efficiency of the stores unit.

This new position is required in response to the growth that has occurred and is expected to occur in MFES. Currently the equipment officer manages the set up of new vehicles, liaises with corporate finance; monitors the annual physical mechanical inventory; and inventory for clothing and protective equipment for 616 firefighters and 88 non suppression staff. This position is responsible for inventory with considerable valuable including; \$4.5 million truck inventory; \$500,000 supplementary hose inventory; \$1.3



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million new and spare bunker gear inventory; and \$2 million SCBA equipment inventory.

Since this position was created in 1999: staff complement has increased by 35%; 10 new additional front line vehicles have been put into service; three new fire stations have opened; and a third district was created. Continued growth is anticipated based on recommendations for three additional fire stations. Furthermore, a new corporate purchasing by-law was enacted in 2006 that downloaded a significant portion of the acquisition process to departments which has significantly impacted the workload of the equipment officer. Suppression staff is dependent on the ability of the stores division to provide well maintained equipment and clothing in order to execute their jobs effectively and safely.

### Recommendation #27

**That MFES undertake an independent audit of the Fleet Unit to ensure appropriate industry best practices.**

It is important to ensure that best practices are employed in the Fleet Unit and that operations are as efficient as possible. An independent audit is recommended and would ensure that MFES is following NFPA standards with respect to lifecycle replacement. This study should: ensure that the valuation of MFES fleet assets is accurately recorded; consider green fleet management strategies; evaluate lease versus purchase options and alternate financing strategies; and business process reengineering and implementation.

### Recommendation #28

**That reserve fire apparatus be fully equipped and prepared so that they are available immediately for deployment.**

When an emergency vehicle is out of service due to repair or annual maintenance, a reserve vehicle is provided to the crew. Under the current system, the reserve apparatus are not equipped as per the front-line apparatus; therefore, equipment must be transferred from one vehicle to another. If reserve apparatus were fully stocked with equipment, the out of service time would be reduced by placing the vehicle in service more quickly.

During serious emergencies or when MFES resources are taxed, having fully stocked apparatus would allow MFES to place these vehicles into service. At the present time, there is no ability to add additional vehicle resources to the fleet as these trucks do not have equipment on hand.

Fully equipping reserve fire apparatus will assist MFES in maintaining its standing with the Fire Underwriters Survey (FUS). When the FUS does a review for the purposes of an insurance rating items include: staffing on trucks; distribution of resources (fire stations and trucks); equipment carried on apparatus; pumping capacity; reserve apparatus; apparatus reliability; department personnel; pre-incident plan programs; and operational training. MFES has three pumpers and two aerial reserve apparatus. All reserve apparatus is not stocked with necessary equipment such as hose, nozzles, medical bags or vehicle extrication and rescue tools.



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### Recommendation # 29

That a new position be created to provide sufficient staff to ensure continued operability and efficiency of the building maintenance unit.

There have been 4 new stations built and 3 station additions since the last new building maintenance hire in 1995 and as the existing infrastructure continues to age it has become increasingly difficult to keep up with both the demand and preventative maintenance. The Fire Master Planning process has identified the potential need for new infrastructure in the future.

At the present time there are multiple stations in various stages of construction and or renovation. These facilities include the Garry Morden Training Centre, renovation of station 105, construction of station 116 and construction of station 106. The possible relocation of Station 119 from a leased facility to City owned facility and the addition of various new construction projects that are anticipated will add more pressure on this division.

### Recommendation # 30

That MFES continue to assess and develop a plan for the training and delivery of services related to the Light Rail Transit (LRT) system.

MFES will need to research rescue techniques for the LRT system that is used. This will include developing a rescue program, purchasing additional equipment, providing training to crews as well as maintaining the training in future years. There may be a consideration for a heavy rescue vehicle to

ensure there are adequate resources and equipment to handle an emergency involving an LRT vehicle. MFES will be situated strategically with the stations identified in this Fire Master Plan to be able to respond effectively and efficiently along the Hurontario corridor.

### 13.0 Conclusion

Mississauga Fire and Emergency Services is dedicated to continuous improvement in its efforts to advance public education, prevention and fire safety while it strives to reduce injuries, deaths, property loss and damage to the environment from all perils.

The recommendations in the Fire and Emergency Services Master Plan, as highlighted in this executive summary, will continue to be evaluated and measured and will be considered within the context of annual Business Planning and Budget Processes.



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### Appendix A: Inspection Cycles

Rank	Occupancy	Current Inspection Cycle	Desired Inspection Cycle (Long Term)
1	Institutional / Residential Nursing Homes, Retirement Homes	Mandatory On Complaint / Request	Mandatory/On Complaint/Request
2	Hospitals	Mandatory On Complaint / Request	Mandatory/On Complaint/Request
3	High Rise Residential - over 12 storeys	On Complaint / Request	Mandatory 5 year cycle/On Complaint/Request
4	High Rise Residential – 6 to 12 storeys	On Complaint / Request	Mandatory 5 year cycle/On Complaint/Request
5	Hotel / Motel / Student Residence	Mandatory On Complaint / Request	Mandatory/On Complaint/Request
6	Low Rise Residential - under 6 storeys	On Complaint / Request	Mandatory 5 year cycle/On Complaint/Request
7	Schools and Child Care Facilities (occupant load over 40)	On Complaint / Request	Mandatory 5 year cycle/On Complaint/Request
8	Industrial F-1	On Complaint / Request	Mandatory 2 year cycle/On Complaint/Request
9	Industrial F-2	On Complaint / Request	Mandatory 7 year cycle/On Complaint/Request
10	Industrial F-3	On Complaint / Request	Mandatory 10 year cycle/On Complaint/Request
11	Restaurants / Banquet Halls / Nightclubs Occupant load over 150	On Complaint / Request	Yearly/On Complaint/Request
12	Places of Worship	On Complaint / Request	Mandatory 10 year cycle/5 year cycle for multiple use facilities/On Complaint/ Request
13	Restaurants - occupant load 31-150	On Complaint / Request	3 year cycle/On Complaint/ Request
14	Assembly Occupancy Cinemas / Theatres / Museum	On Complaint / Request	3 year cycle/On Complaint/Request
15	Business Office / Personal Service Office Group D	On Complaint / Request	10 year cycle/On Complaint/Request
16	Mercantile Department Stores Group E	On Complaint / Request	7 year cycle/On Complaint/Request
17	Restaurant - occupant load 30 and under	On Complaint / Request	5 year cycle/On Complaint/Request





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### Appendix B: Inspection Types and Definitions

At a minimum MFES is obligated to perform complaint and request inspections in order to satisfy the recommendations of the Ontario Fire Marshal; however, a number of inspections occur and are outlined below.

#### Complaint Inspections

Complaint inspections are inspections for the purpose of assessing the fire safety, of hazards brought to the department's attention by residents, fire crews, other agencies or third parties. The majority of complaint inspections conducted are initiated by suppression crews identifying deficiencies during the In-company Inspection and Tactical Survey Programs, as well as during emergency and routine responses.

#### Retrofit Inspections

Owners of specifically identified occupancy type buildings are required by legislation to bring those buildings up to a minimum level of fire and life safety, beyond what was required at the time of original construction. In order to ensure building owner compliance for Low-rise and High-rise residential occupancies, MFES fire prevention created a team of inspectors specifically focussed on this retrofit section. Fire Prevention records reflect that all residential occupancies that fall within the scope of the above categories have been inspected with the vast majority meeting compliance.

#### Request Inspections

Request Inspections are inspections of a property or building upon the request of a property owner, or authorized agent, concerned about the level of fire safety and code compliance. Request inspections, often the result of parties

ensuring their legal due diligence during a property sale or refinancing, result in improved fire safety of the properties and for the occupants of the buildings involved in the requests.

#### Building Code Inspections

Mandatory inspections generated by building permit applications taken out via the *Ontario Building Code Act* (OBC). Building Code inspections are performed in order to ensure new construction and renovations to buildings comply with OBC regulations and its referenced standards.

#### Fire Code Inspections

Inspections are conducted under the requirements of the Fire Code Part 1 to Part 9, maintenance, processes, documents, storage, retrofit etc. Fire Code inspections are performed in order to ensure the existing building stock in Mississauga complies with the requirements of the OBC and reference standards.

#### Follow-up Inspection

These inspections are follow ups of initial inspections to ensure the deficiencies that were identified are corrected in a timely manner.

#### Paid Inspections

These are inspections that require a written request accompanied by authorization from the building owner. Subject to the MFES fees and charges bylaw they generate revenue for MFES. Request Inspections are inspections of a property or building upon the request of a property owner, or authorized agent, concerned about the level of fire safety and code compliance. Paid inspections, are often the result of parties ensuring their legal due diligence during a property sale or refinancing, result in improved fire safety of the



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properties and for the occupants of the buildings involved in the requests.

### Mandatory Inspection

The building occupancies that have been identified as a risk by MFES generate the need for an inspection cycle.

Mandatory inspections are usually Fire Code inspections.

The fire inspector will ensure that the occupancy meets the requirements of the appropriate codes and regulations. This is the most effective way of ensuring that targeted properties achieve an effective level of safety. It also ensures properties are inspected on a regular basis related to their level of risk to occupants and the community.