



Appendix 1

# 2014 future directions

Master Plan Executive Summary for Fire and Emergency Services  
Final Report – May 2014



## Executive Summary

The 2014 *Future Directions Plan for Fire and Emergency Services* will be fundamental to managing the community's fire protection services. This plan provides a framework that defines service delivery requirements and reflects current community and industry expectations. The goal is to provide an approach to service delivery that effectively balances fire prevention, public education and emergency response.

## 2.0 Planning Context

### 2.1 Population Growth

According to the 2011 short form Census, the population of the City of Mississauga was 713,443 persons. This represents an increase of 7% from the 2006 Census period and 16% from the 2001 Census period (excluding Census undercoverage). For 2014, the City of Mississauga estimates that the population will be 756,590 persons. Between 2014 and 2019, the City's population is forecasted to increase from 756,590 to 777,250 persons, representing an increase of nearly 3%, or 20,660 residents.

According to the 2011 Census, the majority of Mississauga residents (63%) list English as the language most often spoken at home, a decrease of 2% from the previous Census. 27% of residents list a non-official language (e.g., other than English and French). Nearly 10% reported that one or both official languages and a non-official language were most spoken at home, doubling the figure reported in 2006.

The top five unofficial languages spoken across the City in 2011 were Urdu (3%), Polish (2%), Punjabi (2%), Arabic (2%) and Chinese (1%).

### Significant Factors

- ⇒ 24% increase in senior population of which the 85+ age group is experiencing a 40% increase.
- ⇒ 35.5% increase in the 60-65 age group.
- ⇒ 53% of the population is made up of immigrants.
- ⇒ Recent immigrants represent 35% of the total foreign-born population.
- ⇒ 777,250 population by the end of 2019.
- ⇒ Most of the growth will be in community nodes and the downtown core.
- ⇒ Growth will be accommodated primarily through intensification and redevelopment.
- ⇒ Mid and high rise occupancies will comprise most of the new development.

By 2031, growth forecasts suggest that 34,070 people of the projected 69,240 additional Mississauga residents will reside in the downtown core and in the Hurontario and Dundas corridor.

Impact of growth on fire services:

- ⇒ Increased traffic congestion and narrower streets resulting in eroding response times for emergency services.
- ⇒ Increased employment impacting the need for building inspections and prevention.
- ⇒ Increased call volumes.
- ⇒ Changes in building stock impacting vertical response time and associated inspections.

In an effort to mitigate some of the impacts of growth on the fire service, the 2014 *Future Directions Master Plan for Fire and Emergency Services* recommends:

- ⇒ The construction of new fire stations to provide adequate distribution and concentration of suppression capabilities.
- ⇒ Targeted public education.
- ⇒ Increased schedule of regular fire inspections.
- ⇒ Investigation into the feasibility of automatic aid with surrounding municipalities.

### 3.0 Challenges Facing MFES

#### 3.1 Call Volume

In 2013, MFES responded to 26,395 incidents of which 21,767 were considered emergency responses. This has increased from 25,506 incidents and 20,806 emergency responses in 2012. 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.

#### 3.2 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.

#### 3.3 Changes in Building Stock

The type of building and building age are significant factors that must be considered when identifying key challenges to 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. In 2009, MFES conducted vertical response testing in conjunction with the Office of the Fire Marshal. Results of these tests indicated that response times were approximately 3 minutes longer in high rise scenarios and this delay is currently not included in response measurements. 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 in a timely manner will greatly reduce potential dollar loss and improve incident outcomes.

#### 3.4 Traffic Congestion

Since 2002 MFES has seen a negative trend in travel time. Travel time is the component of total response time that is most difficult to control as it is directly impacted by growth and congestion. The travel time target is 4 minutes 90% of the time for first arriving vehicle to arrive on scene. MFES is currently 27% deficient, meeting that target 63% of the time. This is primarily a result of traffic congestion which has caused an increase in travel time deficiency at an average of 1% per year over the last 10 years. The capability of MFES to control travel time is extremely difficult. Current congestion combined with the projected growth will continue to negatively impact travel time.

### 3.5 Response Time

Based on National Fire Protection Association (NFPA) 1710 guidelines and industry best practice, MFES targets a total response time of 6 minutes and 20 seconds 90% of the time for the first arriving truck and 10 minutes and 20 seconds 90% of the time for a full first alarm assignment (20 firefighters) as an operational objective. (Total response time includes call processing, turnout and travel time.)

In 2013, MFES responded to 21,767 emergency incidents. Approximately 72% of the emergency incidents met the total response time standard of 6 minutes, 20 seconds for the first responding vehicle, resulting in an 18% deficiency rate city wide. The deficiency rate is higher in identified station areas, with deficiencies ranging from 32% to 66%.

Travel time is the largest component of total response and is the most difficult to control in a growing municipality with significant urban intensification. The appropriate distribution of fire stations across the city is the only way to effectively meet the travel time targets in high priority areas.

To help mitigate total response times deficiencies, MFES has implemented the use of Automatic Vehicle Location (AVL) in order to dispatch the closest available apparatus and crew, use of mobile data units on all front line vehicles and worked with Transportation and Works to install pre-emption devices at all major intersections across the City.

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

**Table 1: Total Response Time**

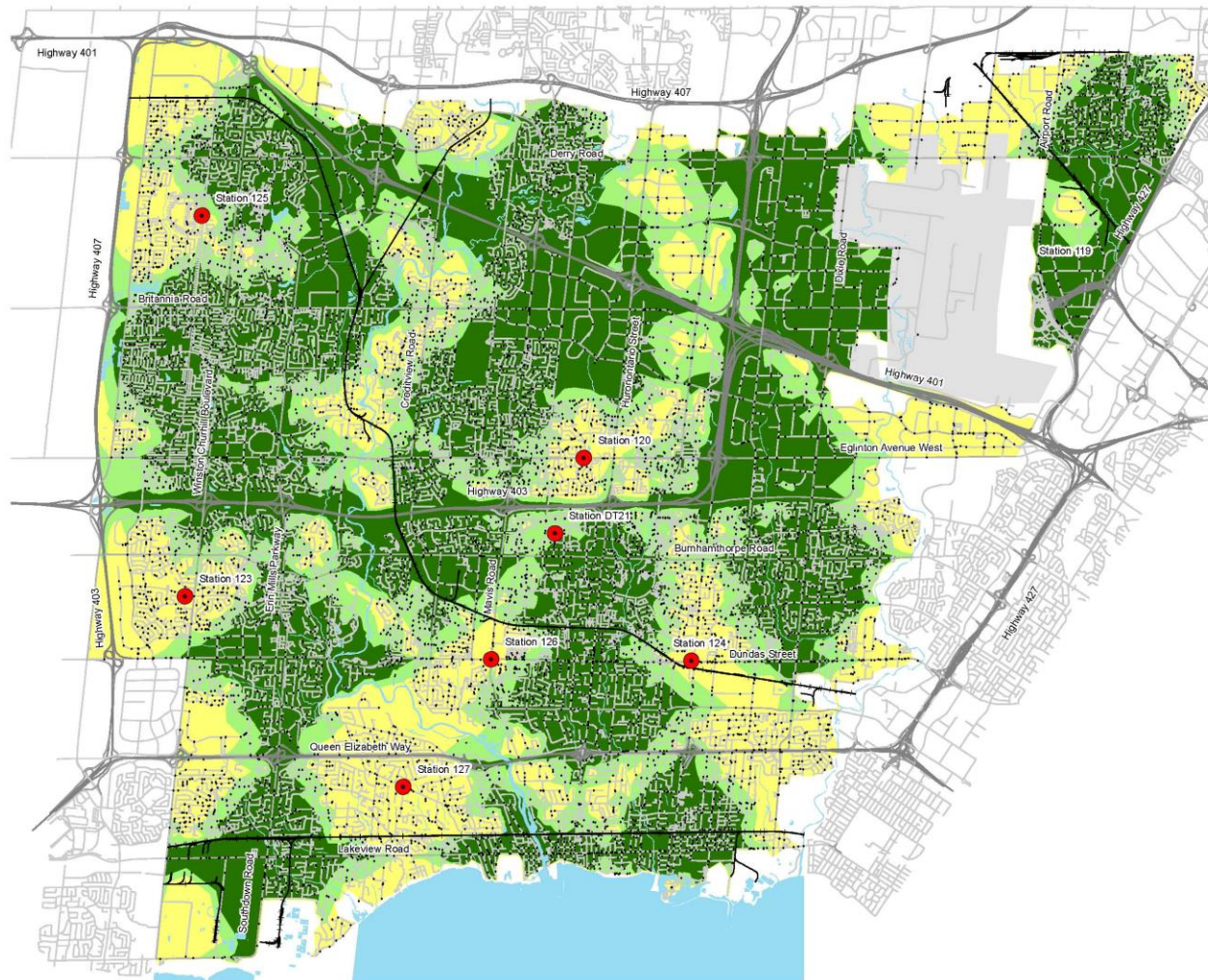
	First Arriving Vehicle (Distribution) (90% of the time)	Full Deployment (Concentration) (90% of the time)
<b>Call Processing Time</b>	1 min.	1 min.
<b>Preparation Time</b>	1 min. 20 sec.	1 min. 20 sec.
<b>Travel Time</b>	4 min.	8 min.
<b>Total Response Time</b>	6 min. 20 sec.	10 min. 20 sec.

*Source: NFPA 1710, 2010*

### 3.6 Priority Areas

As part of the 2014 Station Location Study completed by Dillon Consulting, 25 areas across the City were identified where MFES is experiencing response challenges. Recommendations 1-8 in this plan identifies the recommended action for seven of these areas which have been identified as a priority as they have higher risk occupancies and a higher deficiency rate. The following map identifies the response times across the city and the areas where new fire stations are recommended.





## CITY OF MISSISSAUGA FIRE MASTER PLAN

### 2014 EXISTING FIRST RESPONSE FIGURE 7

• HISTORICAL EMERGENCY CALL (2013)

• PROPOSED FIRE STATION

— RAILWAY

— HIGHWAY

— ARTERIAL/COLLECTOR

— LOCAL

— WATERBODY

#### TRAVEL TIMES

■ < 4 MINUTES @ NETWORK SPEED

■ < 5 MINUTES @ NETWORK SPEED

■ > 6 MINUTES @ NETWORK SPEED

Travel Time (minutes)	% Area Covered	% Calls Covered
< 4	46%	63%
< 5	66%	84%
> 6	29%	16%

0 0.5 1 2 km



MAP DRAWING INFORMATION:  
DATA PROVIDED BY THE CITY OF MISSISSAUGA  
MAP CREATED BY: SLS  
MAP CHECKED BY: SLS  
MAP PROJECTION: NAD 1983 UTM Zone 17N

FILE LOCATION: I00R130000 Mississauga Fire Master Plan



PROJECT: 14-0850  
STATUS: FINAL  
DATE: 01/02/14

### 4.0 Recommendations

#### Recommendation #1

Mississauga Fire and Emergency Services construct and appropriately resource fire station 120 in the Hurontario and Eglinton area.

This station was identified as the number one priority for suppression response in the 2010 Fire Master Plan, the July 2013 Station location update as well as the 2014 Dillon Station Location Study. This area is identified as a priority based on existing response deficiencies, current population combined with future growth, traffic congestion and community risk. A large majority of the growth in this area will be high rise development which adds a vertical response time component to response time.

Based on 2013 historical call data, there were 750 emergency incidents in this response area that did not meet the four minute travel time target. Projections to 2031 indicate a population increase of 15% in this station area and factoring in the impact of traffic congestion, it is expected that by 2031 the number of emergency incidents not meeting the travel time target would increase to 1,013.

These numbers do not take into consideration that a large portion of the growth in this area will be high rise development which will add a vertical response time component to overall response. It also does not take into consideration Light Rapid Transit and its potential effect on travel time.

#### Recommendation #2

Mississauga Fire and Emergency Services construct and appropriately resource fire station 123 in the Collegeway and Winston Churchill area.

This station was identified as the second priority for suppression response in the 2010 Fire Master Plan, and in the July 2013 Station location update. In the 2007 and 2014 Dillon Station Location also identified this area as a priority. This area is identified as a priority based on current population, existing response deficiencies, congestion and community risk.

Based on 2013 historical call data, there were 409 emergency incidents in this response area that did not meet the four minute travel time target. Projections to 2031 indicate a small population increase however given the current deficiency rate and factoring in the impact of traffic congestion, it is expected that by 2031 the number of emergency incidents not meeting the travel time target would increase to 481 in this station area.

#### Recommendation # 3

Mississauga Fire and Emergency Services construct and appropriately resource fire station 124 in the Dundas and Cawthra area.

This station was identified as the third priority in the 2010 Fire Master Plan, in the July 2013 Station location update and the 2014 Dillon Station Location Study. The 2007 Dillon Station Location also identified this area as a priority. This area is identified as a priority based on existing response deficiencies, current population and community risk.

Based on 2013 historical call data, there were 491 emergency incidents in this response area that did not meet the four minute travel time target. Projections to 2031 indicate a small population increase however given the existing deficiency rate and factoring in the impact of traffic congestion, it is expected that the number of emergency incidents not meeting the travel time target would increase to 587.

### Recommendation # 4

Mississauga Fire and Emergency Services construct and appropriately resource a fire station in the Downtown 21 area.

The Downtown Core is anticipated to add 7,620 persons by 2019. As this area intensifies and changes are made to provide a more pedestrian friendly downtown core, the combination of growth, smaller turning radii, narrower roads, and on street parking will impact emergency response and subsequently increased response time. As high rise development is expected to be a significant portion of new development, the ability to counteract vertical response time demands will be critical for appropriate service to this area.

Based on 2013 historical call data, there were 228 emergency incidents that did not meet the four minute travel time target. Projections to 2031 indicate a population increase of 111% in this station area. Factoring in both growth and congestion it is expected that by 2031 the number of emergency incidents that do not meet the travel time target would increase to 562. This does not take into account that high rise development is expected to be a significant portion of new development in this area. The ability to offset vertical response time by reducing travel time will be critical for appropriate service to this area

### Recommendation # 5

Mississauga Fire and Emergency Services construct and appropriately resource fire station 125 in the Tenth Line and Battleford area.

This station was identified in the 2010 Fire Master Plan, the July 2013 Station location update as well as the 2014 Dillon Station Location Study as an area that is considered a priority based on existing

response deficiencies, current population combined with future growth, traffic congestion and community risk.

Based on 2013 historical call data, there were 500 emergency incidents that did not meet the four minute travel time target. Factoring in both growth and congestion it is expected that by 2031 the number of emergency incidents that would not meet the travel time target would increase to 610.

### Recommendation # 6

Mississauga Fire and Emergency Services construct and appropriately resource fire station 126 in the Dundas and Mavis area.

This station was identified as a priority area in the 2010 Fire Master Plan, in the July 2013 Station location update and the 2014 Dillon Station Location Study. This area is identified as critical based on existing response deficiencies, current population and community risk.

Based on 2013 historical call data, there were 330 emergency incidents that did not meet the four minute travel time target. Projections to 2031 indicate a minimal population increase however given the existing deficiency in this area and factoring in the impact of traffic congestion, it is expected that by 2031 the number of emergency incidents that do not meet the travel time target would increase to 382.

### Recommendation # 7

Mississauga Fire and Emergency Services construct and appropriately resource fire station 127 in the Lorne Park area.

This station was identified as a priority area in the 2010 Fire Master Plan, in the July 2013 Station location update and the 2014 Dillon



Station Location Study. This area is identified as a risk based on existing population, response deficiencies and large geographical area.

Based on 2013 historical call data, there were 247 emergency incidents that did not meet the four minute travel time target. Factoring in the impact of traffic congestion combined with the existing deficiency in this area, it is expected that the number of emergency incidents that do not meet the travel time target would increase to 313 by 2031.

### Recommendation # 8

Mississauga Fire and Emergency Services identify and purchase land appropriate for the construction of a fire station in identified areas.

In order for MFES to position itself for future station development, land should be purchased in the identified areas within the next two years. This will ensure that MFES has the capability to accommodate future station development before the availability of land becomes scarce.

Land has been identified for Station 120, 124, 125 and Downtown 21 and has been purchased for Station 123. Land for Station 126 and Station 127 must be identified.

### Recommendation #9

Mississauga Fire and Emergency Services shall follow an integrated approach to community safety guided by the three lines of defence including Public Education and Prevention, Fire Safety Standards and Code Enforcement and Emergency Response.

As part of the Station Location Study completed by Dillon Consulting identified 25 areas across the city where MFES is experiencing travel

time challenges. Recommendations #'s 1-8 outline the plan to address seven of those areas that have been identified as areas that support the construction of a fire station. The remaining 18 deficient areas across the city have been assessed based on geography, population, call volume and occupancy type, and based on the results of that assessment, do not require an additional fire station to address the deficiencies. These will be addressed through targeted public education and revised inspection cycles.

In Ontario the provision of fire protection services is based on the three lines of defence

- 1) Public Education and Prevention,
- 2) Fire Inspection and Code Enforcement,
- 3) Emergency Response (Suppression).

MFES will continue to use the three lines of defence as the basis of service delivery to ensure a consistent and balanced approach to addressing challenges and to meet its responsibility under the *Fire Protection and Prevention Act*.

### Recommendation # 10

Fire Prevention and Life Safety Section will develop and provide public education programs to be delivered by suppression staff.

Suppression staff are active in the delivery of a number of valuable public education programs. These programs include such things as Home Safe Home, In-company Inspections, Tactical Survey Program, Station Visits, Vehicle Visits, and the Post Fire Community Blitz program. As suppression is the largest group in fire, providing all of these programs using on duty suppression staff allows MFES to reach a large number of residents quickly and effectively. Currently MFES is developing a public education program to be delivered to high rise occupants by suppression crews.



MFES is currently developing a public education program to be delivered by suppression crews related to high rise fire safety. Many residents have questions regarding what to do in the event of a fire in a high rise and this program will assist in communicating and explaining options for residents in the event of a fire.

### Recommendation # 11

The delivery of Public Education will be targeted to match identified risk in the community.

Fire and life safety programs are designed to respond to the needs of a broad variety of groups. As population and demographics change, fire services have to identify higher risk groups and their location across the city. For instance, as there is a large turnover of staff in Care and Treatment facilities, MFES has identified this as an area where a more concentrated focus on public education is required. MFES is working with the Adult Injury Prevention Network (AIPN) and will be conducting extensive training to Caregiver agencies to train their Personal Support Worker's (PSW's) who are going into the homes of homebound seniors. This training will include segments on fire safety, falls prevention and elder abuse. There will be a greater effort to engage residents of high rise occupancies in fire safety as well as expand the Post Fire Community Blitz to high rise occupancies.

Targeted public education programs can be used successfully to reduce risk. It can also assist in addressing areas where additional suppression resourcing still cannot completely mitigate the risk.

There are 14 residential areas identified in the 2014 Dillon Station Location Study where risk can be significantly minimized using a more targeted approach to public education. For example, the Risk Watch program could be delivered to grades 1-8 in schools located in these areas.

### Recommendation # 12

Mississauga Fire and Emergency Services implement a more frequent inspection cycle for occupancies that are deemed higher risk.

The frequency of inspections is an important issue and will impact the ongoing level of fire safety and code compliance of properties. Routine inspections should be conducted at a frequency that conveys and reinforces to property owners the importance of their properties being maintained in a code compliant condition. The purpose of a fire inspection is to ensure the owners are fulfilling their obligations and meeting their responsibilities as regulated by the Ontario Fire Code. (OFC). **Table 2** is an example of occupancies that have been ranked and suggests a more aggressive inspection cycle. It takes into consideration the risk associated with the occupancy and activities that suppression crews already perform, such as In-company Inspections, Tactical Surveys and Home Safe Home programs.

By focussing a more robust inspection cycle in the areas identified as employment lands will assist in reducing the risk inherent in these occupancies. This is particularly important where an additional fire station cannot effectively impact response time.

**Table 2: Proposed Inspection Cycles**

Occupancy Type	Current Cycle	Suggested Inspection cycle
High Rise Residential- Over 12 Storeys	On Complaint/ Request	Mandatory 5 year cycle On Complaint/ Request
High Rise Residential- 6-12 Storeys	On Complaint/ Request	Mandatory 5 year cycle On Complaint/ Request
Schools and Child Care Facilities (occupant load over 40)	On Complaint/ Request	Mandatory 5 year cycle On Complaint/ Request
Industrial F-1	On Complaint/ Request	Mandatory 2 year cycle On Complaint/ Request
Industrial F-2	On Complaint/ Request	Mandatory 7 year cycle On Complaint/ Request
Restaurants – occupant load 31-150	On Complaint/ Request	3 year cycle On Complaint/ Request
Assembly Occupancy-, theatres, museum, etc	On Complaint/ Request	3 year cycle On Complaint/ Request

### Recommendation #13

An internal review of the public education unit should be completed to determine the effectiveness of the current operational model.

MFES public education duties and responsibilities are assumed by all fire inspectors. Based on information gathered as part of the environmental scan, it is evident that many larger urban fire departments have separate units dedicated to the development and delivery of public education programs. Public education activities include the development and implementation of educational programs directed at a wide variety of groups within the community with an emphasis on higher risk demographics. Groups include older adults,

school aged children, and industrial groups which receive education programs specifically geared to their needs. Programs include fire prevention, life safety, injury prevention, and fire safe learning behaviors.

### Recommendation # 14

Mississauga Fire and Emergency Services review the impact of changes in recent legislative requirements related to second units and automatic sprinklers in residential building higher than three storeys, care homes for seniors, homes for people with disabilities, and vulnerable Ontarians to determine appropriate staffing in Fire Prevention and Life Safety.

The Second Unit Licensing By-law #204-13 came into effect January 1st, 2014. Owners of homes that have Second Units are required to register them and maintain them in compliance with applicable law. Fire has worked with Compliance & Licensing, Planning and Building, and Legal to develop a strategy on how each department will work with the process.

On January 1, 2014 Ontario became the first province to make automatic sprinklers mandatory in care homes for seniors, homes for people with disabilities, and vulnerable Ontarians. Mandatory sprinklers are part of amendments to the Ontario Fire Code and Ontario Building Code that will improve fire safety in these occupancies. Licensed retirement homes and most private care facilities will have up to five years to install sprinklers. Some care and treatment facilities, including public long-term care homes, will have an 11 year phase-in period to coincide with redevelopment plans scheduled to be completed by 2025.

On April 1, 2010, changes to the Ontario Building Code require fire sprinklers to be installed in multiple unit residential buildings higher than three storeys. This will place additional pressure on the plans

unit and the inspection unit due to the complexity of the plan submissions.

### Recommendation # 15

Mississauga Fire and Emergency Services use the results of the risk assessment to identify areas where resources may be required to address community risk.

The current MFES response model considers the risk associated with each incident type. As the probability of an incident increases and the consequences increase, the risk increases. For these types of incidents, greater demands are placed on resources and varying responses are required depending on the level of risk. By completing the categorization of each occupancy and incident based upon the risk, MFES will be able to match the appropriate resources to the risk associated with the emergency situation and therefore better be able to bring about a positive outcome. Based on preliminary review, 1.2% of the occupancies are rated as low risk, 98 % of the occupancies are rated moderate risk, .35 % of the occupancies are rated as high risk and .12 % of the occupancies are rated as extreme risk.

### Recommendation # 16

Mississauga Fire and Emergency Services work towards National Fire Protection Association Standards as operational objectives for all areas of fire service.

NFPA is the world's leading advocate of fire prevention and an authoritative source on public safety, NFPA develops, publishes, and disseminates more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risks. NFPA standards are the benchmark that most large urban fire departments strive to meet. These standards define expectations in

personal protective equipment, self-contained breathing apparatus, technical rescue capabilities and apparatus specifications and many other areas. In striving to meet the NFPA standards, MFES is meeting its obligations to the health and safety of its staff and safety of the community.

### Recommendation #17

That Mississauga Fire and Emergency Services should conduct an assessment to identify appropriate changes to service delivery in the City Centre to address, pedestrian friendly design elements, building stock and legislative requirements.

As identified in the socio-demographic profile prepared as part of the Future Directions study, the highest population growth is expected to occur in service area five which includes the downtown core. It is anticipated that much of the new construction will be high-rise, mid-rise mixed developments which will pose service delivery challenges which will have to be addressed.

As changes are made to provide a more pedestrian friendly downtown core, the combination of smaller turning radii, narrower roads, on street parking and the development of the Light Rail Transit system will also impact emergency access and subsequently increase response time. MFES will have to be in a position to respond to these changes in an effective and efficient way.

### Recommendation # 18

Mississauga Fire and Emergency Services continue to review the Fire/EMS model in the Region of Peel to ensure these services are delivered in a cost effective and efficient way.

Expectations regarding the delivery of emergency medical services to the residents of Ontario have placed pressures on the Paramedic

Services, Hospitals and Fire Services in Ontario. The Fire Service has adapted over the years to be a valuable contributor to pre-hospital care to the residents of Ontario. In 2013, Toronto Fire Service and the Toronto Paramedic Service hired a consultant to complete a study on the feasibility of a combined fire/paramedic service delivery model. The recommendations in the final report did not support the use of Paramedics under the direction of the Fire Service.

Although the Toronto report did not support this specific method of delivery of emergency medical services, it is incumbent on the fire service to continue to investigate options to deliver these services in a cost effective and efficient way, in order to serve the residents of Mississauga. In 2013 MFES continued to improve the delivery of symptom assist to patients with the introduction of Epi Pens on all front line apparatus, which has already seen positive outcomes. MFES continually updates its tiered response agreement with the Peel Paramedic Service in order to ensure that MFES crews are responding to the medical emergencies where they can have the most positive outcome. In 2014 MFES will be using simultaneous dispatch with the Central Ambulance Communication Centre (CACC) which will see fire response to medical emergencies improve.

### Recommendation # 19

Mississauga Fire and Emergency Services consider working with appropriate municipal and provincial governments and Mississauga Firefighters Association Local 1212 to investigate the feasibility of entering into automatic aid agreements with neighbouring municipalities.

Automatic aid is generally considered as a program designed to provide and/or receive assistance by the closest available resource, irrespective of municipal boundaries. The obvious advantage of

implementing an automatic aid program is the elimination of artificial service boundaries resulting in quicker response to an emergency. It would help to reduce the risk in nine areas identified as deficient in the 2014 Dillon Station Location Study. Depth of response would also be improved.

### Recommendation #20

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

As an emergency organization, MFES has obligations not only to address the needs of the community in which it serves, but also other emergency services within the municipality and surrounding communities. To that end, MFES have entered into several agreements for the sharing of resources in a major emergency. There are times where one major incident or multiple incidents occurring at the same time can deplete resources and leave parts of a municipality vulnerable. In these cases mutual aid and other types of service area agreements allow the fire service to draw resources from surrounding municipalities for either assistance at the scene or to cover areas that are depleted of resources. A service area agreement will clearly outline the roles and expectations of both the responding department and the department receiving the aid. This is critical to ensure seamless operations.

MFES currently has mutual aid agreements with Brampton and Caledon, automatic aid with Milton and Halton Hills, a service area agreement with the Greater Toronto Airport Authority and a Tiered Response Agreement with the Region of Peel.



### Recommendation # 21

That identified stations exceeding expected lifecycle are renovated and/or replaced as required based on a priority sequence.

Fire stations are in operation 24 hours per day 365 days per year and for this reason they are subject to wear and tear issues more frequently than facilities that operate more traditional working hours. The maintenance of fire station infrastructure is essential to ensure that staff can operate effectively, to meet health and safety and accessibility standards. Stations also need to be completely self-sufficient during large scale emergencies. There are currently seven fire stations in operation that were constructed prior to 1980 and only one of these has had any significant renovations.

### Recommendation # 22

Ensure fire stations are self-sustaining and are able to provide support to staff and residents in the event of a significant emergency event.

MFES plays a significant role in emergency situations and in the disaster recovery process. To assist with this there is a need to ensure fire stations are not vulnerable and are self-sufficient and able to function during these events. At the present time MFES has twelve of its twenty fire stations with back-up power generators. Equipping all fire stations with back-up power generators allows MFES to be entirely self-sufficient in the event of another major emergency event.

Fire stations have been used in other municipalities during major emergencies as dissemination points for critical necessities, such as water and food. In Vancouver and Calgary fire stations are used for blood pressure testing and pulse assessment to assist citizens in maintaining a healthy lifestyle.

### Recommendation # 23

Mississauga Fire and Emergency Services conduct an independent study of the entire fleet to ensure appropriate lifecycle replacement with a goal to optimize life expectancy and identify efficiencies.

MFES has a fleet replacement schedule in place that provides for the timely replacement of all vehicles, ensuring a high level of operational functionality. As part of the fleet replacement program, a co-ordinated approach to setting vehicle specifications ensures vehicles purchased will have consistent functions, layouts and operation. This reduces maintenance and training costs as well as provides front-line users with a familiar foundation to more effectively operate their vehicles. MFES should consider an independent review of fleet replacement in order to ensure that the optimal life cycle replacement schedule is in place for all its vehicles both front line and reserve.

### Recommendation #24

Mississauga Fire and Emergency Services consider the implementation of a formal lifecycle replacement program for equipment.

MFES stores section is responsible for approximately \$8.5 million dollars of equipment. This equipment includes personal protective equipment, (bunker gear, SCBA, helmets, face pieces etc) technical rescue equipment, hoses, nozzles and many other items. Currently MFES maintains a capital budget that allows for the purchase of new equipment when necessary and the refurbishment and repair of existing equipment. Currently there is no comprehensive replacement process in place for all equipment. This should be considered in order to ensure equipment is in good working order and that NFPA guidelines are met.

### Recommendation #25

Mississauga Fire and Emergency Services will look for partnership opportunities where feasible.

Financial sustainability is a key component in ensuring long term success. The City is facing significant challenges in balancing the demands of a growing community and the means by which they have to meet these demands. MFES must do its part to identify opportunities for operational and continuous improvement.

To that end, MFES has embarked on a number of partnerships. There are three fire stations that are currently co-locations with the Region of Peel Paramedic Service and the GWMC is a partnership with both the Federal and Regional Governments. Upcoming new and relocated stations are also being considered as co-locations with PRPS. This has helped to contain costs by providing cost sharing opportunities.

### Recommendation # 26

Mississauga Fire and Emergency Services will promote the involvement of staff and resources in outreach programs within the community.

MFES prides itself on the number of volunteer hours that staff put into supporting charity events in the community. MFES works closely with the Mississauga Food Bank to collect non-perishable food throughout the year. At Christmas MFES supports the Toronto Star Gift Fund as well as the Toys for Tots program collecting unwrapped toys at all its fire stations in partnership with Peel Regional Police. MFES is involved in a number of community programs such as Breast Cancer Awareness, and the Juvenile Diabetes Research Foundation (JDRF). Staff also volunteers to be part of the Honour Guard and Pipe Band which support a number of community events each year.

MFES is actively involved in the Juvenile Diabetes Research Foundation Telus Walk to Cure Diabetes. This organization is focussed on type 1 diabetes research. The Fire Chief is the co-chair of this campaign along with the Peel Region Police Chief. Each year MFES staff participate in the walk and raise funds to support this worthy cause.

### Recommendation # 27

Mississauga Fire and Emergency Services will investigate the use of social media, and other technology to provide regular and consistent messaging to the community.

The fire service has begun to use social media to get important, timely messages out to the public. With the increased use of social media sites, the public are able to communicate quickly with large sections of the community. MFES should consider the use of Twitter and other social media sites as a way to convey important safety information. This would help keep the residents of Mississauga abreast of current events and be an excellent way to disseminate vital information to residents in the case of a large scale emergency.

The flooding in July 2013 and the most recent ice storm in December 2013 illustrated the importance of having a robust disaster recovery plan. The value of good communication to both internal and external stakeholders is critical to the success of the recovery process.

### Recommendation # 28

Mississauga Fire and Emergency Services should investigate the opportunity that the Garry W. Morden Centre be an Ontario Fire College Regional Training Centre.

Leveraging the amenities available at the GWMC to deliver training programs to MFES staff and other industry stakeholders will benefit

both MFES and optimize the return on investment. As the Ontario Fire College (OFC) reorganizes and moves to a regional training centre model, MFES should position itself to ensure the GWMC is considered as one of these regional sites.

### Recommendation # 29

Mississauga Fire and Emergency Services shall put a priority on the training of suppression staff in technical rescue, medical response and all other facets of emergency service delivery.

Ongoing training is a daily reality in this industry and one of the key factors to ensure service excellence and safety for both staff and the community. For example crews train regularly on Auto Extrication, High Angle Rescue and Hazardous Material responses.

As the development in the city changes so too will the training requirements. For instance, the addition of Light Rail Transit and more complex building types will necessitate training in areas such as mass transit heavy rescue and structural collapse.

The training officers pool their resources and utilize on shift instructors to assist in the practical firefighting skills program. Accommodating thirty crews on each of four shifts requires considerable planning, scheduling and instructor hours.

Continuing to develop quality officer training programs and identify new opportunities for officer development is critical to the future success of MFES. Consideration must be given to the review, testing and evaluation of practices and policies for ongoing compliance against industry best practices and legislative requirements.

### Recommendation # 30

Mississauga Fire and Emergency Services shall look for additional opportunities to support collaborative strategies that provide opportunities for communication and feedback.

MFES has a number of committees that bring interested, engaged staff together for the purposes of developing ideas, policies and to discuss various issues. For example, a truck specification committee was created to discuss new and emerging trends in front line apparatus which includes mechanics, firefighters and management. This cross section assists in obtaining various perspectives and helps to develop truck specifications that meet the needs of the operations staff as well as integrate with the existing fleet and support future development and deployment. MFES has several other committees including Health and Safety, Wellness Fitness, Peer Councillor, Home Safe Home, and Two Way Communications.

These committees have all been extremely successful and MFES should look for other opportunities to collect feedback from cross sections of the department.

### Recommendation # 31

Mississauga Fire and Emergency Services shall support and enhance health and wellness programs.

MFES places a high value on its employees. Health, wellness and engagement of staff across the department is critical to its success. The Wellness Fitness Initiative (WFI) takes a broad approach to workplace health, wellness and fitness. The MFES Peer Support Team is an integral part of the WFI. The peer team operates in support of good behavioural health and is one of the most effective

and respected in the Province, and is viewed by Mental Health professionals as an appropriate standard.

### Recommendation # 32

Mississauga Fire and Emergency Services, where possible, provide development opportunities ensure resourcing is in place for succession planning and appropriate span of control.

Command level staff (Acting District Chiefs and above) should be encouraged to attend identified courses, seminars and conferences within approved budget. Networking is critical for senior staff and identified positions for an individual to expand their knowledge and have resources and contacts available to gather insight into fire service trends.

Staff should also be encouraged to participate on industry related committees. For example, the Ontario Association of Fire Chiefs (O AFC) has eighteen organizational committees and twenty three stakeholder committees where staff can play an active role. Committees play a valuable role in staff development whereby staff can become experts in various fields and become a resource to both MFES as well as other departments.

As part of the focus group sessions, management staff as well as high level operational staff identified areas where there were some concerns relating to span of control. For instance in operations, a District Chief is responsible for 10 crews within their district. As the City continues to grow and suppression resourcing is adjusted to reflect these changes, the span of control for a District Chief becomes much larger and potentially difficult to manage. This issue was also identified in other sections of the division including Fire Prevention and Life Safety and Training.

### Recommendation # 33

Where financially feasible, new facilities will be designed to LEED standards and consideration will be given to retrofitting existing buildings at the time of renovation.

The GWMC along with Station 105, 106, 116 are co-located facilities. These partners include the Department of National Defence, Peel Paramedic Service and Peel Regional Police as well as City of Mississauga IT division. The shared services allow MFES to reduce carbon footprint by sharing use of energy, land, parking and maintenance with these outside agencies. MFES has committed to seeking other opportunities for environmental sustainability.

As future stations are slated for remediation and or replacement, there will be an emphasis placed on environmental stewardship where consideration will be given to energy saving options. These types of renovations may include upgrades to windows, modern and more efficient heating and ventilating systems, efficient hot water systems, permeable pavers and options for green roofs and solar power where feasible.

### Recommendation # 34

Review the feasibility of investing in additional environmentally sustainable vehicles to augment the existing fleet.

MFES has a lifecycle replacement of twenty years, fifteen years as a frontline apparatus and five years as a reserve unit. Of the thirty front line apparatus sixteen apparatus are ten years or older. The older fire apparatus follow older standards, as fire apparatus are replaced more fuel efficient vehicles with up to date emission controls are being put into service. This combined with the purchase of smaller fire apparatus will allow MFES to further reduce the environmental impact of the vehicle fleet.



At the present time, MFES has ten hybrid vehicles in its small vehicle fleet which will continue to be enhanced as vehicles are replaced. This would include right sizing and flexibility of fuel options.

**Recommendation # 35**

Ensure that Mississauga Fire and Emergency Services is equipped to minimize contamination of gear and equipment related to emergency and non- emergency response.

MFES personnel are exposed to toxic substances in both non-emergency circumstances and at many emergency scenes such as fires and hazardous material responses. Proper training and equipment is critical to reduce the risk of recognized career related diseases.

**Recommendation # 36**

Continue to actively participate in applicable Provincial Public Education and Safety Programs and Regional Emergency Exercises.

Fire Prevention is a week where fire services all across North America get involved in educating their communities on fire safety in the home. During Fire Prevention week, MFES sends out correspondence to schools about the theme for fire prevention week and the OFM website for interactive activities.

Every year there is a new theme that the fire service across Ontario and North America elect to focus on. In 2013 the theme was “Prevent Kitchen Fires and Get Cooking with Fire Safety” as cooking is the number one cause of residential fires in Ontario. Having consistent messaging from the fire service provincially and locally allows the local fire service to get the message out in a consistent way. In 2013 MFES partnered with the Home Depot locations in Mississauga and

was able to use these locations as the kick off to fire prevention week in the City.

MFES will continue to work with our First Responder partners (Police and Ambulance) as well as local utility companies and other agencies to leverage joint training and exercise opportunities where they exist. Our focus will continue to be on the Emergency Preparedness and Response pillars of emergency management as local natural, human-induced and technological emergencies impact our citizens in the future. Mutual aid fire service relationships will continue to be strengthened and specialized equipment to enhance current program areas like chemical, biological, radiological, nuclear and explosive (CBRNE) will be required as MFES continues to play a critical role in responding to serious emergencies.