



# THE TOWN OF WHITCHURCH- STOUFFVILLE

Master Fire Plan



**April 2022**



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## EXECUTIVE SUMMARY

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A master fire plan (MFP) is a comprehensive document detailing the strengths, challenges, vision, strategies, recommendations, and associated action plans for a fire department. It outlines strategies to explain changes relating to budget, administration, governance, operations, and resources.

This MFP created for the Town of Whitchurch-Stouffville Fire and Emergency Services (the WSFES) consists of a review of the community and the emergency services, along with identifying present and future population statistics and anticipated growth of the community. The document also represents an update of the MFP document that was presented in 2018 by Emergency Management & Training Inc. (EM&T).

Based on the review conducted by EM&T, a total of 31 recommendations have been provided that include, but are not limited to:

- Review and updating of present by-laws and internal policies
- Review and updating of fire service agreements, as required
- A greater focus on fire prevention and public education initiatives
- An increase in staffing in the Fire Prevention, Training, and Suppression Divisions
- Planning for the inclusion of potential fire station locations in the eastern (Lincolnvile) and western (Vandorf) areas of Whitchurch-Stouffville, based on actual residential or commercial growth respectively and any substantive call volume data.
- Additionally, the current relocation plans for the Ballantrae Station (52) is factored into recommendations.

Recommendations are noted within the body of the document and in line with the related topic. A quick reference spreadsheet listing all the recommendations can be found in Section 12. The spreadsheet includes suggested timelines for their implementation, along with estimated costing. Many of the recommendations contained within this document are operational in nature. Operational recommendations imply that there is no to little cost to implement them; however, there are several strategic recommendations that relate to staffing, equipment and facility improvements that are associated with a cost that will require Council approval.

Through the utilization of best practices, including applicable standards and legislation, this report was prepared by completing an assessment of the following areas:

1. Community and emergency services overview
2. Planning – future community growth and related service needs

3. Risk assessment of the community in relation to present and future service requirements
4. Non-Suppression related service staffing
5. Fire Suppression services and communications/ dispatching
6. Facilities, vehicles, and equipment
7. Emergency Management
8. Mutual, Automatic Aid, and Fire Service Agreements
9. Finance
10. Technology and innovation
11. Review of previous strategic and/ or master plans

Overall, EM&T's findings indicate that the WSFES is providing a high level of quality service based on the current resources available to the department. With the continued growth of the community, specifically hi-rise building and the ensuing increase in service demands, WSFES will need to address expansion of the department resources to meet both the current and future demands.

## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>2</b>
<b>ACRONYMS.....</b>	<b>9</b>
<b>INTRODUCTION .....</b>	<b>13</b>
PROJECT INITIATION .....	13
REVIEW PROCESS AND SCOPE.....	13
PERFORMANCE MEASURES AND STANDARDS.....	15
PROJECT CONSULTANTS .....	16
<b>SECTION 1: COMMUNITY &amp; FIRE DEPARTMENT OVERVIEW .....</b>	<b>18</b>
1.1 COMMUNITY OVERVIEW.....	18
1.1.1 <i>Community Growth</i> .....	18
1.2 FIRE DEPARTMENT OVERVIEW .....	20
1.2.1 <i>WSFES Fire Stations:</i> .....	21
1.2.2 <i>Staffing Level Considerations</i> .....	23
<b>SECTION 2: PLANNING.....</b>	<b>27</b>
2.1 THREE LINES OF DEFENCE .....	27
2.2 STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT).....	28
2.2.1 <i>Strengths</i> .....	28
2.2.2 <i>Weaknesses</i> .....	29
2.2.3 <i>Opportunities</i> .....	30
2.2.4 <i>Threats/ Challenges</i> .....	31
2.3 NFPA 1201, 1710, 1720, 1601, AND 1221.....	32
2.4 ESTABLISHING & REGULATING BY-LAW .....	33
RECOMMENDATION #1.....	34
2.5 COMMISSION ON FIRE ACCREDITATION INTERNATIONAL (CFAI) .....	34
2.6 STAKEHOLDER FOCUS GROUP SESSIONS & PUBLIC SURVEY.....	36
2.6.1 <i>Stakeholders</i> .....	36
2.6.2 <i>Focus Group Sessions</i> .....	36
2.6.3 <i>Public Survey Results</i> .....	36
<b>SECTION 3: RISK ASSESSMENT.....</b>	<b>39</b>
3.1 CURRENT & FUTURE NEEDS .....	39
3.1.1 <i>Municipal Responsibilities</i> .....	39
3.2 COMMUNITY RISK ASSESSMENT .....	40
3.2.1 <i>Community Risk Assessment Profile</i> .....	40
3.2.2 <i>Future Needs</i> .....	48
3.2.3 <i>Provincial Community Risk Statistics</i> .....	48
3.2.4 <i>Whitchurch-Stouffville Community Risk Statistics</i> .....	51
RECOMMENDATION #2.....	52
3.3 SIMPLIFIED RISK ASSESSMENT.....	55
3.4 INTEGRATED RISK MANAGEMENT APPROACH .....	56
3.5 RESIDENTIAL FIRE SPRINKLERS.....	57
RECOMMENDATION #3.....	59

Town of Whitchurch-Stouffville Master Fire Plan

3.6 DEPARTMENT POLICIES & STANDARD OPERATING PROCEDURES.....59  
 RECOMMENDATION #4.....60  
 RECOMMENDATION #5.....60

**SECTION 4: DEPARTMENT STAFFING & RELATED PROGRAMS (NON-SUPPRESSION) ..... 62**

4.1 ORGANIZATIONAL OVERVIEW ..... 62  
 4.1.1 *NFPA 1201 – Standard for Providing Fire and Emergency Services to the Public* ..... 63

4.2 ADMINISTRATION DIVISION ..... 63  
 4.2.1 *CFAI*.....64  
 RECOMMENDATION #6.....65

4.3 FIRE PREVENTION & PUBLIC EDUCATION ..... 65  
 4.3.1 *Communicating with Non-English-Speaking Public* ..... 67  
 RECOMMENDATION #7.....68  
 4.3.2 *Plan Reviews* .....68  
 RECOMMENDATION #8.....69  
 RECOMMENDATION #9.....69  
 4.3.3 *Code Enforcement/ Inspections* .....69  
 RECOMMENDATION #10.....71  
 4.3.4 *Public Education*.....74  
 RECOMMENDATION #11.....75  
 RECOMMENDATION #12.....75  
 4.3.5 *Origin and Cause*.....76  
 RECOMMENDATION #13.....77  
 4.3.6 *Determination of Current Staffing Requirements* .....77  
 RECOMMENDATION #14.....78

4.4 TRAINING AND EDUCATION DIVISION ..... 80  
 4.4.1 *Commission on Fire Accreditation International*.....82  
 RECOMMENDATION #15.....82  
 RECOMMENDATION #16.....83  
 4.4.1 *Training Facilities* .....83  
 4.4.2 *Small-Scale Training Facility* .....84  
 RECOMMENDATION #17.....86

**SECTION 5: FIRE SUPPRESSION & DISPATCHING ..... 88**

5.1 FIRE SUPPRESSION/ EMERGENCY RESPONSE .....88  
 5.1.2 *NFPA 1710 and 1720 – Career and Volunteer Fire Departments*.....88  
 5.1.2 *Response Data* .....92  
 5.1.3 *Response and Meeting Industry Standards* .....94  
 5.1.4 *Call Location Map* .....98

5.2 VOLUNTEER (V/POC), COMPOSITE, OR FULL-TIME .....99

5.3 WORKLOADS .....100  
 5.3.1 *Proposed Phasing Options* .....101  
 RECOMMENDATION #18 – SUPPRESSION STAFFING INCREASES .....101

5.4 RELIABILITY & VEHICLE MOVEMENTS .....105  
 5.4.1 *Tracking of Vehicle Movements*.....105

5.5 RECRUITMENT & RETENTION OF V/POC FIREFIGHTERS .....106  
 5.5.1 *Operations Challenges – V/POCs* .....107  
 RECOMMENDATION #19.....107



Town of Whitchurch-Stouffville Master Fire Plan

RECOMMENDATION #20.....107

5.6 DISPATCHING SERVICES .....108

RECOMMENDATION #21.....108

**SECTION 6: FIRE STATION REVIEW, LOCATIONS, & SUITABILITY FOR GROWTH ..... 110**

6.1 CURRENT LOCATIONS.....110

6.2 FUTURE STATION LOCATION NEEDS .....111

RECOMMENDATION #22.....115

6.3 FIRE STATIONS PHYSICAL CONDITION & RECOMMENDATIONS.....116

6.3.1 *Stouffville Fire Station – 5-1*.....116

6.3.2 *Ballantrae Fire Station – 52* .....120

**SECTION 7: VEHICLES & EQUIPMENT ..... 124**

7.1 FIRE APPARATUS - NEW & REPLACEMENT SCHEDULES.....124

7.1.1 *FUS – Vehicle Replacement Recommendations*.....124

7.1.2 *NFPA 1911 – Vehicle Replacement Recommendations* .....125

7.2 MAINTENANCE .....126

**SECTION 8: EMERGENCY MANAGEMENT..... 128**

8.1 EMERGENCY MANAGEMENT PROGRAM.....128

8.2 COMMUNITY EMERGENCY MANAGEMENT COORDINATOR (CEMC).....128

RECOMMENDATION #23.....128

RECOMMENDATION #24.....129

RECOMMENDATION #25.....129

RECOMMENDATION #26.....130

RECOMMENDATION #27.....130

8.2 IMS & EOC.....130

RECOMMENDATION #28.....131

RECOMMENDATION #29.....132

8.3 EMERGENCY PLANNING, TRAINING, & EXERCISES .....132

RECOMMENDATION #30.....134

**SECTION 9: MUTUAL AID, AUTOMATIC AID, & FIRE PROTECTION AGREEMENTS ..... 136**

9.1 MUTUAL AID & AUTOMATIC AID .....136

**SECTION 10: FINANCE, BUDGETING, & CAPITAL INVESTMENT PLAN ..... 139**

10.1 OPERATING BUDGET .....139

10.2 CAPITAL BUDGET.....139

10.2.1 *Capital Forecasts*.....139

**SECTION 11: FIRE UNDERWRITERS SURVEY..... 142**

11.1 OVERVIEW .....142

11.2 2016 FUS REPORT FOR WSFES.....143

11.2.1 *Overview of the 2016 FUS Recommendations* .....143

11.2.2 *Summary of the 2016 FUS Recommendations* .....144

RECOMMENDATION #31.....150

**SECTION 12: SUMMARY OF RECOMMENDATIONS..... 152**

12.1 CONCLUSION .....152



12.2 RECOMMENDATIONS & ESTIMATED COSTS.....152

**APPENDIX A – DEFINITIONS & REFERENCES ..... 163**

AUTOMATIC AID AGREEMENTS – FIRE PREVENTION AND PROTECTION ACT, 1997 (FPPA 1997) .....163

COMMISSION OF FIRE ACCREDITATION INTERNATIONAL COMMUNITY DEFINITIONS .....163

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) DOCUMENTS.....163

MUNICIPAL RESPONSIBILITIES (FPPA 1997).....164

MUTUAL AID .....164

PUBLIC FIRE SAFETY GUIDELINES:.....164

SHARED RESPONSIBILITIES (FPPA 1997) .....165

VOLUNTEER FIREFIGHTER (FPPA 1997) .....165

**APPENDIX B – STAFF SURVEYS ..... 166**

**APPENDIX C – COMMUNITY SURVEYS..... 170**

**APPENDIX D – FIVE-STEP STAFFING PROCESS ..... 173**

STEP 1: SCOPE OF SERVICE, DUTIES, AND DESIRED OUTPUTS .....173

STEP 2: TIME DEMAND .....173

STEP 3: REQUIRED PERSONNEL HOURS .....173

STEP 4: PERSONNEL AVAILABILITY AND ADJUSTMENT FACTOR .....174

STEP 5: CALCULATE TOTAL PERSONNEL REQUIRED .....174

**APPENDIX E – CALL & RESPONSE DATA FOR 2018 TO 2020 ..... 175**

2020 CALLS AND RESPONSE DATA.....175

2019 CALLS AND RESPONSE DATA.....178

2018 CALLS AND RESPONSE DATA.....181

**FIGURE 1: MAP OF ANTICIPATED STRATEGIC GROWTH AREAS ..... 19**

**FIGURE 2: FIRE DEPARTMENT WHEEL OF PARTNERSHIP ..... 20**

**FIGURE 3: FIRE DEPARTMENT ORGANIZATIONAL CHART ..... 22**

**FIGURE 4: WHITCHURCH-STOUFFVILLE RELATIVE TO SURROUNDING COMMUNITIES ..... 24**

**FIGURE 5: THE TOWN OF WHITCHURCH-STOUFFVILLE BOUNDARIES & APPROXIMATE FIRE STATION LOCATIONS ..... 25**

**FIGURE 6: COMMUNITY RISK ASSESSMENT FLOW CHART ..... 43**

**FIGURE 7: NUMBER OF FIRE INSPECTIONS FROM 2017 TO 2020 ..... 67**

**FIGURE 8: NUMBER OF PLANS REVIEW FROM 2017 TO 2020 ..... 68**

**FIGURE 9: PUBLIC EDUCATION EVENTS 2017 TO 2020..... 76**

**FIGURE 10: TOTAL OF THE SERVICES PROVIDED BY FIRE PREVENTION ..... 80**

**FIGURE 11: EXAMPLE OF LIVE FIRE TRAINING UNIT – PROPANE POWERED ..... 83**

**FIGURE 12: TRAINING FACILITY EXAMPLES ..... 85**

**FIGURE 13: FIRE RESPONSE/ PROPAGATION CURVE ..... 90**

**FIGURE 14: 2018 TO 2020 YEARLY COMPARISONS OF INCIDENT TYPES FOR STATIONS 51 AND 52 ..... 93**

**FIGURE 15: MAP IDENTIFYING THE 1710 & 1720 RESPONSE ZONES (BASED ON URBAN OR RURAL CRITERION) .. 95**

**FIGURE 16: CALL LOCATION MAP ..... 98**

**FIGURE 17: PRESENT FIRE STATION LOCATIONS AND RESPONSE ZONES – STATION 51 & 52..... 111**

**FIGURE 18: FUS SUGGESTIONS FOR NEW STATIONS ..... 113**

**FIGURE 19: NEW STATION LOCATIONS WITH RESPONSE GRIDS ..... 115**

**FIGURE 20: FIRE AGREEMENT COVERAGE BY CYFS (RED HASHMARKS) ..... 137**

**TABLE 1: FIRE AND EMERGENCY SERVICES STAFF 2018 TO 2021 COMPARISON ..... 21**

**TABLE 2: WHITCHURCH-STOUFFVILLE AT-RISK COMPARISON ..... 54**

**TABLE 3: FUS SUGGESTED FREQUENCY CHART ..... 70**

**TABLE 4: PROPOSED FREQUENCY OF FIRE INSPECTIONS BASED ON NFPA 1730 ..... 71**

**TABLE 5: CURRENT FREQUENCY OF INSPECTIONS BY THE WSFES ..... 73**

**TABLE(S) 6: CALL DATA FOR STATIONS 51 AND 52 ..... 93**

**TABLE 7: NFPA 1710 (2020) STAFFING REQUIRED FOR A HIGH-RISE FIRE ..... 96**

**TABLE 8A: COMMUNITY GROWTH AND STAFFING ESTIMATES ..... 103**

**TABLE 8B: PROPOSED STAFFING CHART 2022 – 2031 – WITH YEARLY REQUIREMENTS..... 104**

## ACRONYMS

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ALS	Advanced Life Support
ASHER	Active Shooter/ Hostile Event Response
BEM	Basic Emergency Management
BLS	Basic Life Support
CACC	Central Ambulance Communications Centre
CAFC	Canadian Association of Fire Chiefs
CAO	Chief Administrative Officer
CBRNE	Chemical Biological Radiation Nuclear Explosive
CBSA	Canada Border Services Agency
CEMC	Community Emergency Management Coordinator
CERB	Central Emergency Reporting Bureau
CFAI	Commission on Fire Accreditation International
CNR	Canadian National Railway
CO	Carbon Monoxide
CPSE	Centre for Public Safety Excellence
CRA	Community Risk Assessment
CYFS	Central York Fire Services
E&R	Establishing & Regulating (By-law)
EMCPA	Emergency Management and Civil Protection Act
EMPC	Emergency Management Planning Committee
EMS	Emergency Medical Services
EM&T	Emergency Management & Training Inc.
EOC	Emergency Operations Centre
ESA	Environmentally Sensitive Area
EVP	Emergency Vehicle Pre-emption
EVT	Emergency Vehicle Technician
FESO	Fire and Emergency Service Organization
FPO	Fire Prevention Officer
FPPA	<i>Fire Protection and Prevention Act</i>
FPI	Fire Prevention Inspector
FUS	Fire Underwriters Survey
HAZMAT	Hazardous Materials
HFSC	Home Fire Sprinkler Coalition
HIRA	Hazard Identification Risk Assessment
HUSAR	Heavy Urban Search & Rescue
ICS	Incident Command System

IMS	Incident Management System
L/min	Liter Per Minute
MFP	Master Fire Plan
MOU	Memorandum of Understanding
MUSAR	Medium Urban Search & Rescue
MVC	Motor Vehicle Collision
MZO	Minister Zoning Orders
NAICS	North America Industry Classification System
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
NOC	National Occupation Classification
O AFC	Ontario Association of Fire Chiefs
OBC	Ontario Building Code
OFC	Ontario Fire Code
OFMEM	Office of The Fire Marshal and Emergency Management
OPP	Ontario Provincial Police
PFLSE	Public Fire Life Safety Educator
PFSG	Public Fire Safety Guideline
PPE	Personal Protective Equipment
PSI	Pounds Per Square Inch
RFP	Request for Proposal
RHFES	Richmond Hill Fire and Emergency Services
RTC	Regional Training Centre
SCBA	Self Contained Breathing Apparatus
SIR	Standard Incident Report
SOG	Standard Operating Guidelines
SOP	Standard Operating Policy
SRA	Simplified Risk Assessment
STA	Short-Term Accommodation
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TBD	To Be Determined
TSSA	Technical Standards & Safety Authority
V/POC	Volunteer/Paid-on-Call Firefighter
VSA	Vital Signs Absent
WSFES	Whitchurch-Stouffville Fire & Emergency Services
WETT	Wood Energy Technology Transfer
YRP	York Regional Police

YRPS York Region Paramedic Services



# INTRODUCTION

## INTRODUCTION

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To ensure compliance with required legislation, and to close any performance gaps, the main goal of a review of the community and its fire service is to prepare a comprehensive set of recommendations directed at both the fire department as well as the governing authority (Council).

### Project Initiation

Due to the level of changes occurring in the community of Whitchurch-Stouffville relating to population and infrastructure growth, it was decided to conduct a review and refresh of the master plan that was developed for the WSFES in 2018. Although much of the information remains similar, (and to that end, have not been changed within this document), there is no doubt that this updated document was necessary to ensure that the WSFES can continue to grow and meet the ongoing needs of the community they serve.

As the successful bidder, EM&T, has worked with the Town of Whitchurch-Stouffville and the WSFES staff in the gathering of data and development of this MFP. EM&T would like to thank all staff and the community for their input into this plan.

### Review Process and Scope

The review process has been based on the Town's initial Request for Proposal (RFP) and the response document submitted by EM&T.

The review was conducted by referring to industry best practices, standards, and applicable legislation as the foundation for all work undertaken. EM&T also used both quantitative and qualitative research methodologies to develop a strong understanding of current and future needs and circumstances of the community, and customer service demands of the public.

The review included, but was not limited to, the following key areas:

- i. A community fire risk assessment.
- ii. An assessment of the WSFES's ability to address the identified risks.
- iii. A recommended plan to address the needs identified in the community fire risk assessment including resource deployment (e.g., fire station location, staff & apparatus deployment, etc.).
- iv. Best practices and performance measures that should be implemented to measure the effectiveness of the WSFES.
- v. How the community risk assessment (CRA) would be completed to satisfy applicable legislation requirements.

- vi. An explanation of how the proposal relates to the process outlined in the Office of the Fire Marshall and Emergency Management's (OFMEM) Public Safety Guidelines and Optimizing Public Fire Safety Model.
- vii. A description of the research and planning process to be used to complete the MFP.
- viii. A detailed description of the service delivery categories that the plan will address.
- ix. A description of the process that will be used to determine the required performance measures.
- x. Other issues that the proposed MFP will address:
  - A work plan with a critical path and target dates for key components of the process.
  - A strategy for review of the MFP by the WSFES 's staff to ensure that it is current and continue to meet the needs of the Town (e.g., a 5-year update in 2027).

The MFP must address:

### **Staffing Needs**

Review capabilities of existing staffing and identify future need for each of the following departments: Operations, Training, Prevention, and Administration.

### **Facilities**

Review capacity of existing facilities and plan for future needs. Specific attention is required to the facility needs for the Training Division, Prevention Division, and Administration.

### **Station Location**

Review of existing station locations relative to service demands and consideration of potential needs for new stations or station relocation.

Review of existing service level standards and benchmarks to ensure that they meet the communities' needs and reflect best practices.

### **Strategic Priorities**

Establish strategic priorities complete with action plans, expressed in terms of goals, objectives, action steps, resources (human and financial) and the timelines required to successfully complete the priorities.

## Protection Agreements

Consider the effects of mutual aid and automatic aid agreements with other municipalities, options in case of changes to boundaries or the consolidation of the existing resources. Neighboring municipalities' MFPs must be taken into consideration.

## Project Process

The review process included a survey of the Council members, the CAO, the community, fire administration, and firefighters to seek input regarding the project components.

Based on the previously noted project scope criteria, through meetings with the Fire Chief and other stakeholders, the consulting team was able to complete a thorough review of elements that are presently working well and areas requiring improvement within the WSFES. During the program review, the consulting team assessed staffing, fire facilities, vehicles, and related operations. Data provided by the Fire Department was also reviewed in relation to all the previously noted items contained in the Town's RFP.

## Performance Measures and Standards

This MFP update has been based upon, but not limited to, key performance indicators that have been identified in national standards and safety regulations such as:

- The OFMEM Public Safety Guidelines
- The *Fire Prevention and Protection Act*
- The National Fire Protection Association (NFPA) standards:
  - NFPA 1221 addresses recommended standards in relation to communications/dispatching services
  - NFPA 1300 relating to community risk assessments
  - NFPA 1710 addresses recommended standards for career fire departments
  - NFPA 1720 addresses recommended standards for volunteer fire departments
  - NFPA 1730 addresses recommended standards for fire prevention and education activities
- The Commission on Fire Accreditation International (CFAI), which is a program that evaluates a fire department based on related NFPA standards, local legislation, and industry best practices (the parent organization for CFAI is the Centre for Public Safety Excellence (CPSE))
- OFMEM Integrated Risk Management program, along with the regulation relating to the completion of a community risk assessment
- The *Ontario Health and Safety Act*, National Institute for Occupational Safety and Health (NIOSH)
- Ontario Fire Service – Section 21 Guidelines

- The Section 21 Committee is based on Section 21 of the *Ontario Occupational Health and Safety Act*. This committee is charged with reviewing industry safety concerns and developing recommended guidelines to reduce injuries for the worker.

### Project Consultants

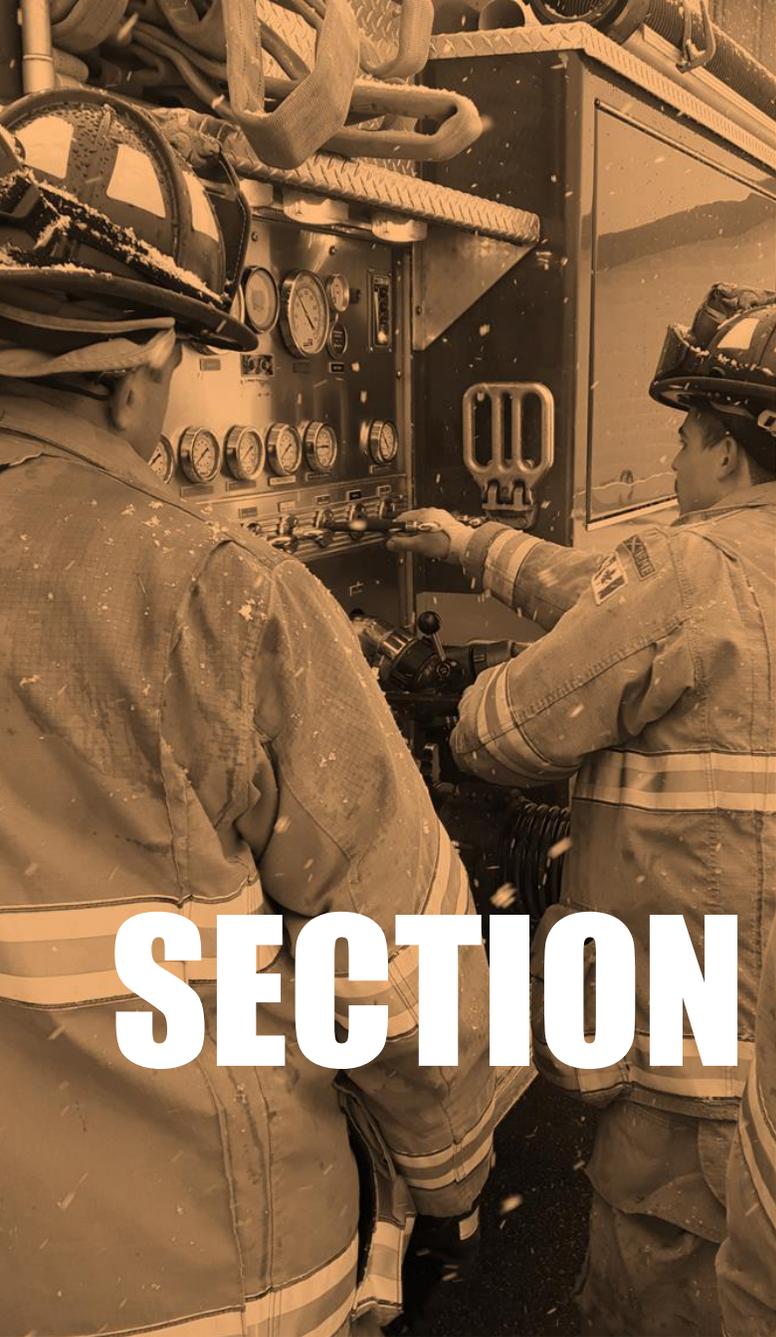
Although several staff at EM&T were involved in the collaboration and completion of this MFP, the overall review was conducted by:

- Darryl Culley, President
- Phil Dawson, Fire & Emergency Services Consultant
- Rick Monkman, Fire & Emergency Services Consultant
- Lyle Quan, VP of Operations

Together, the team has amassed a considerable amount of experience in all areas of fire and emergency services program development, review, and training. The EM&T team have worked on projects that range from fire service reviews, creation of strategic and MFPs and development of emergency response programs for clients.

Note: Much of the information in the 2018 MFP is still relevant (and in some sections has been included) in this 2022 edition of the MFP. Some repetition may therefore be noted. The key changes for this 2022 report revolve around the challenges created by the higher than anticipated growth (than was noted during the 2017/2018 process).

This 2022 update also includes the development of the OFMEM requirement of a CRA document. This CRA has been developed and provided to the WSFES as a separate report. This was done this way to provide the WSFES a ready-made report that can be supplied to the OFMEM when requested.



# SECTION

# 1

## Community & Fire Department Overview

- 1.1 Community Overview
- 1.2 Fire Department Overview

## SECTION 1: Community & Fire Department Overview

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### 1.1 Community Overview

In 2021, the population of the Town of Whitchurch-Stouffville (Town) stands at 55,800 residents (according to information provided by the Planning Department). Stouffville has a land area of approximately 206 km<sup>2</sup> (80 mi<sup>2</sup>)<sup>1</sup> which is bounded by Davis Drive to the north, York/ Durham Line to the east, one lot north of 19th Avenue to the south, and Highway 404 to the west. There are four major population centers in the Town - the communities of Stouffville, Ballantrae, Vandorf, and Gormley as well as several small hamlets. There are three small lakes, namely, Musslemans, Preston, and Island Lake.<sup>2</sup> The Town has seen considerable growth and population increase over the past ten years resulting in increased demands and challenges on the WSFES.

#### **1.1.1 Community Growth**

In the 2018 review, EM&T noted that the population in Whitchurch-Stouffville was approximately 48,000 and now stands at approximately 55,800, which equates to a 15% increase in population in just three years. The Town is expected to continue with steady growth towards 72,100 people by 2031, which will equate to another 29.3% increase in population from present to 2031.

The Town Council Report DS-012-21 “2051 Growth Forecast and Land Needs Assessment” dated April 20, 2021, anticipates the Town of Whitchurch-Stouffville to grow to 101,400 persons and 39,300 jobs by 2051; this equates to a staggering 82% increase in population within the next 30 years. Additionally, the Town intends to provide for employment area expansions along the Highway 404 corridor, particularly around the Gormley Industrial area.

Primary factors driving increased growth in the Town are:

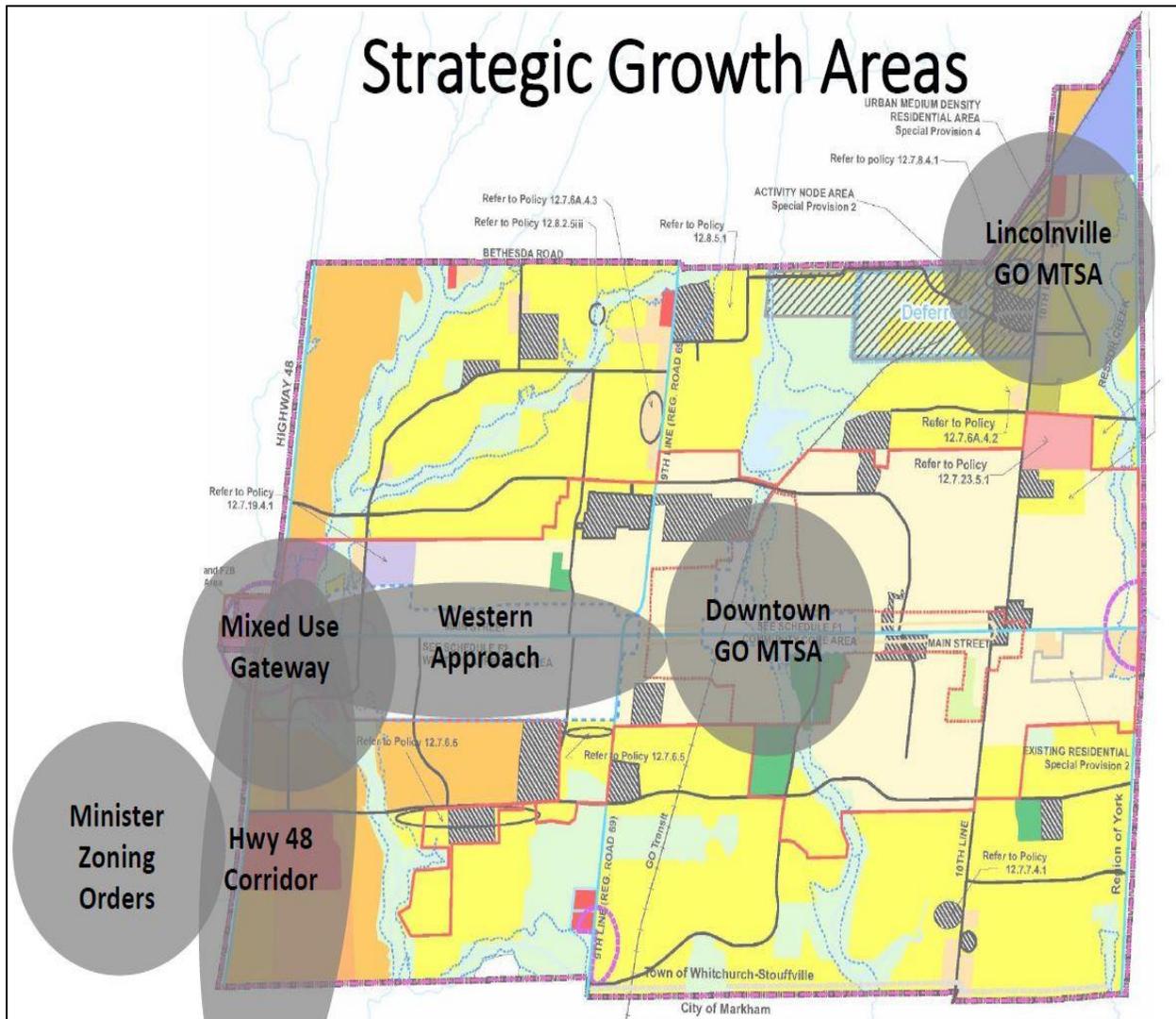
- Higher than anticipated intensification in Stouffville core area
- Lincolnville GO Transit Area
- Stouffville GO Transit Area
- Highway 48 corridor
- Development within the Whitebelt lands of Highway 48 and Stouffville Road area
- The minister zoning orders (MZO) have a bearing on the growth of the community
- Potential long-term growth in the Woodbine industrial development area

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<sup>1</sup> Wikipedia, “Whitchurch-Stouffville,” modified December 6, 2021, <https://en.wikipedia.org/wiki/Whitchurch-Stouffville>

<sup>2</sup> Wikipedia, “Whitchurch-Stouffville.”

**FIGURE 1: Map of Anticipated Strategic Growth Areas**



The growth discussed and illustrated in Figure 1 (provided by the Whitchurch-Stouffville Planning Department) will continue to put an increasing strain on the WSFES in its efforts to meet the annual rise in call types and volumes that will occur, as the population and traffic flows increase. With this population growth will come intensification of both residential and high-rise buildings. This will create another challenge for proactive inspections, Ontario Fire Code (OFC) enforcement, and reactive emergency response capabilities of the WSFES.

This document contains information and related recommendations for implementation that will allow the WSFES to continue to meet the future demands that come with this anticipated growth and intensification.

## 1.2 Fire Department Overview

The WSFES is a composite fire department that consists of a full-time component supported by a group of dedicated volunteer/paid-on-call (V/POC) firefighters. The V/POC firefighter is one that is paid for the time they incur at a call or any other activities such as training or assigned to vehicle and equipment inspections and testing.

Fire departments are viewed as a community partner that get involved in many aspects of the community, from ensuring fire safety, to meeting local, provincial, and federal regulations. The goal of any fire department is working with its industry partners to ensure the safety of the community it serves.

**FIGURE 2: Fire Department Wheel of Partnership**



With rapid intensification and population growth, there are anticipated challenges for the WSFES to meet the three lines of defence (Education, Code Enforcement, Emergency Response). Due to this growth, it is estimated that the WSFES will respond to over 1,600 calls for assistance in 2022.

Coverage is provided to both urban and rural areas with the predominant coverage area being rural. Due to the large geographic area of the Town, additional fire protection services are purchased under contract from Central York Fire Services (CYFS) for the northwest portion of the municipality. The Town provides fire protection services under contract to Uxbridge Township located on Whitchurch-Stouffville’s eastern boundary.

The new MFP must conform to guidelines and expectations of OFMEM’s *Optimizing Public Fire Safety Model*, consisting of conducting a CRA, developing implementation options, and formulating a MFP for the municipality.

**1.2.1 WSFES Fire Stations:**

**Station 51 - 100 Weldon Road, Stouffville**

- Station 51 is a joint Fire/EMS station, home to the WSFES Headquarters and the Town’s Emergency Operation Centre (EOC). The WSFES Administration as well as Fire Prevention and Training Divisions operate from this station. Career firefighters (minimum 3 on duty) staff this station 24 hours a day, seven days a week, with V/POC firefighters supporting the career staff.

**Station 52 - 15400 Highway 48, Ballantrae**

- Station 52 is staffed with career firefighters (minimum 3 on duty) 24 hours a day, seven days a week, and is the backup EOC. Support for the career firefighters is provided by V/POC firefighters.

**TABLE 1: Fire and Emergency Services Staff 2018 to 2021 Comparison**

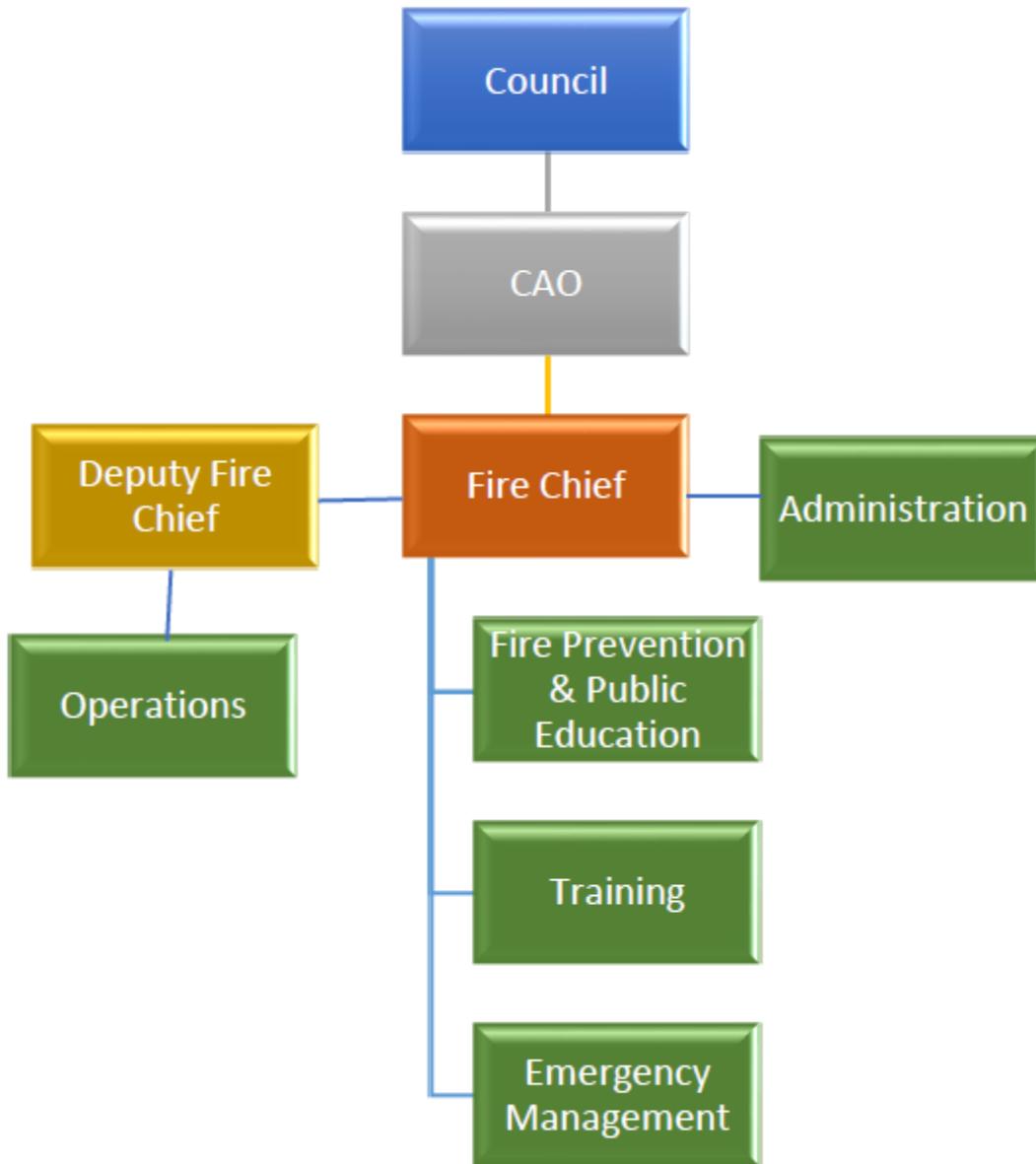
2018	2021
<ul style="list-style-type: none"> <li>• Fire Chief</li> <li>• 1 - Deputy Fire Chief</li> <li>• 1 - Administrative Assistant</li> <li>• 3 - Fire Prevention Inspectors (FPI)</li> <li>• 1 - Training Officer</li> <li>• <b>24 – Full-time fire suppression staff</b></li> <li>• <b>45 – V/POC firefighters, with an approved complement of 60</b></li> </ul>	<ul style="list-style-type: none"> <li>• Fire Chief</li> <li>• 1 - Deputy Fire Chief</li> <li>• 1 - Administrative Assistant</li> <li>• <b>1 - Fire Prevention Officer (FPO)</b></li> <li>• 3 - Fire Prevention Inspectors (FPI)</li> <li>• 1 - Training Officer</li> <li>• <b>34 – Full-time fire suppression staff</b></li> <li>• <b>36 – V/POC firefighters (60 approved, however this number fluctuates)</b></li> </ul>

\*Increases noted in bolded font

Even though there has been an increase in staffing since the 2018 MFP report, the increase falls short of what was recommended by EM&T and the companion FUS report. Presently, WSFES is unable to meet the staffing requirements of NFPA 1710 in relation to on scene numbers at shopping malls (26) or high-rise structure fires (38).

The organizational chart noted in Figure 3 reflects the general reporting structure within the Fire Department and that of the Fire Chief to the CAO and Town Council.

**FIGURE 3: Fire Department Organizational Chart**



This current reporting arrangement allows for a sufficient level of involvement by the Fire Chief within the senior management structure of the Town and also allows for a good level of administrative oversight of the day-to-day operations of the Fire Department.

As noted in the above organizational chart, the areas of responsibility presently identify that the Fire Chief is responsible for the overall management of the WSFES. The divisional oversight duties have been spilt so that the Deputy Chief manages the Operations Division, whereas the Fire Chief focuses on Administration, Fire Prevention & Public Education, Training and Emergency Management. The Fire Chief also takes on the role of Community Emergency Management Coordinator (CEMC), with the Deputy Chief being the Alternate CEMC.

### **1.2.2 Staffing Level Considerations**

Even though there is no standard that recommends a firefighter per population quota, there is the NFPA 1710 and 1720 standards on Career and Volunteer Fire Departments that identifies a staffing level per responding unit. These recommendations note that three firefighters and one officer (for a total of four) should be on each responding front run apparatus. Presently, the WSFES has a full-time staffing complement that allows for two firefighters and one officer per fire truck. This staffing level falls short of the industry standard recommendation. It also falls short of a recent arbitration settlement with the City of Greater Sudbury, in which the Arbitrator ordered an increase in staffing at their Val Therese Station to include a minimum of four full-time suppression firefighters. This station originally had two staff.<sup>3</sup>

More information on this topic of staffing will be addressed later in this document, within sections 4 and 5.

Due to the noted population growth, the call volume for the WSFES will increase over the next 10 years, based on the anticipated influx of people, traffic, industry, housing types and size (i.e., high-rise buildings). As such, a careful monitoring of call types, volumes, and response times is critical when it comes to determining if the WSFES is meeting and maintaining its response expectations or falling behind in this area. This review of response data is why EM&T had requested a full three years of data. The three years of data creates a reliable baseline for identifying how well the WSFES is meeting any related industry response standards such as those noted in the NFPA standards.

The community has hired an experienced Fire Chief to manage the WSFES and to advise on the needs of the organization and, as such, the information and recommendations provided by the Fire Chief

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<sup>3</sup>International Association of Fire Fighters, “Minimum of Four Fire Fighters Required for Health and Safety, Rules Ontario Arbitration Panel,” August 31, 2020, <https://www.iaff.org/news/minimum-of-four-fire-fighters-required-for-health-and-safety-rules-ontario-arbitration-panel/>

should be taken into consideration when deciding on future fire and emergency service staffing and equipment needs to effectively serve the community for the next 10 years.

**FIGURE 4: Whitchurch-Stouffville Relative to Surrounding Communities**

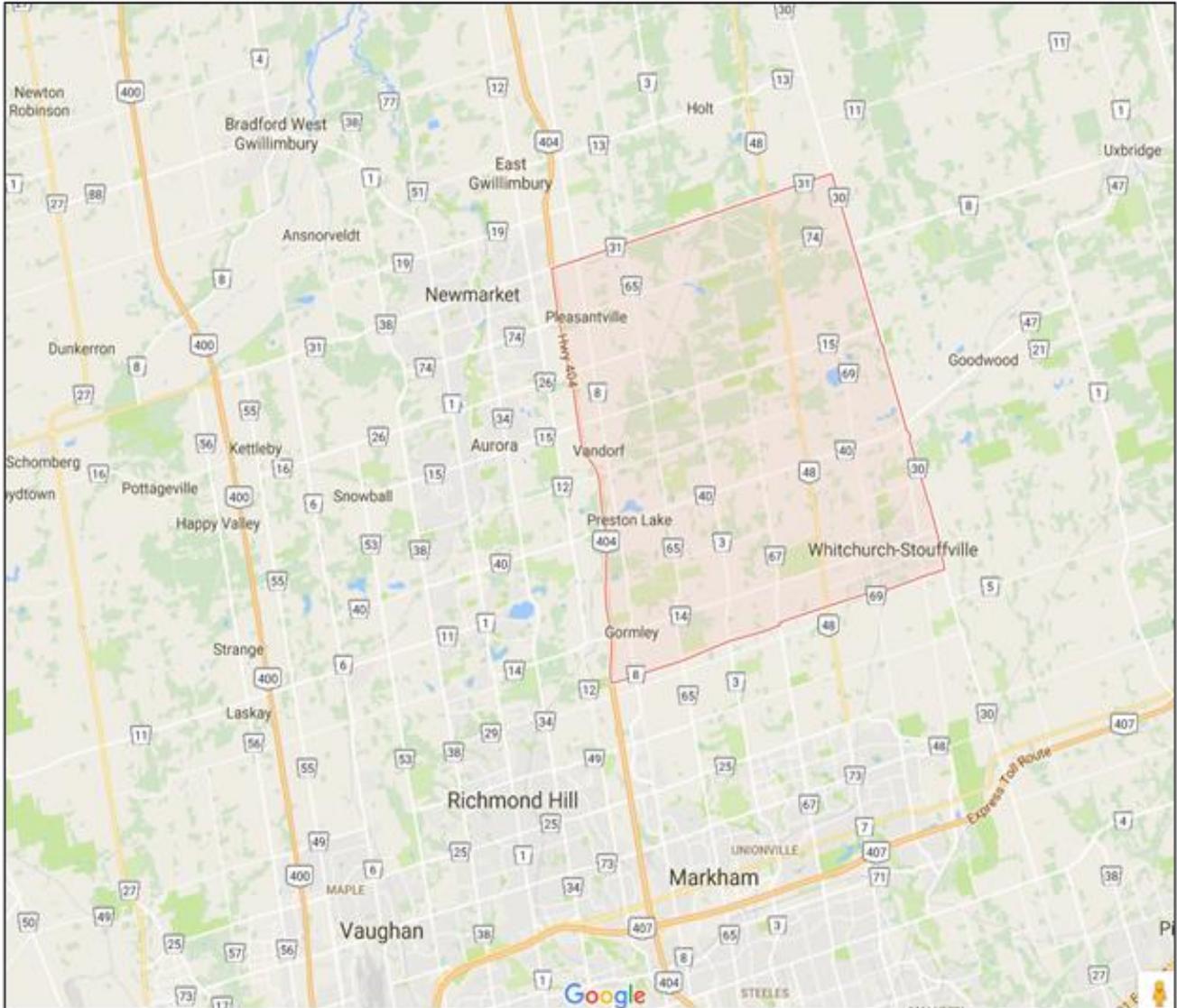
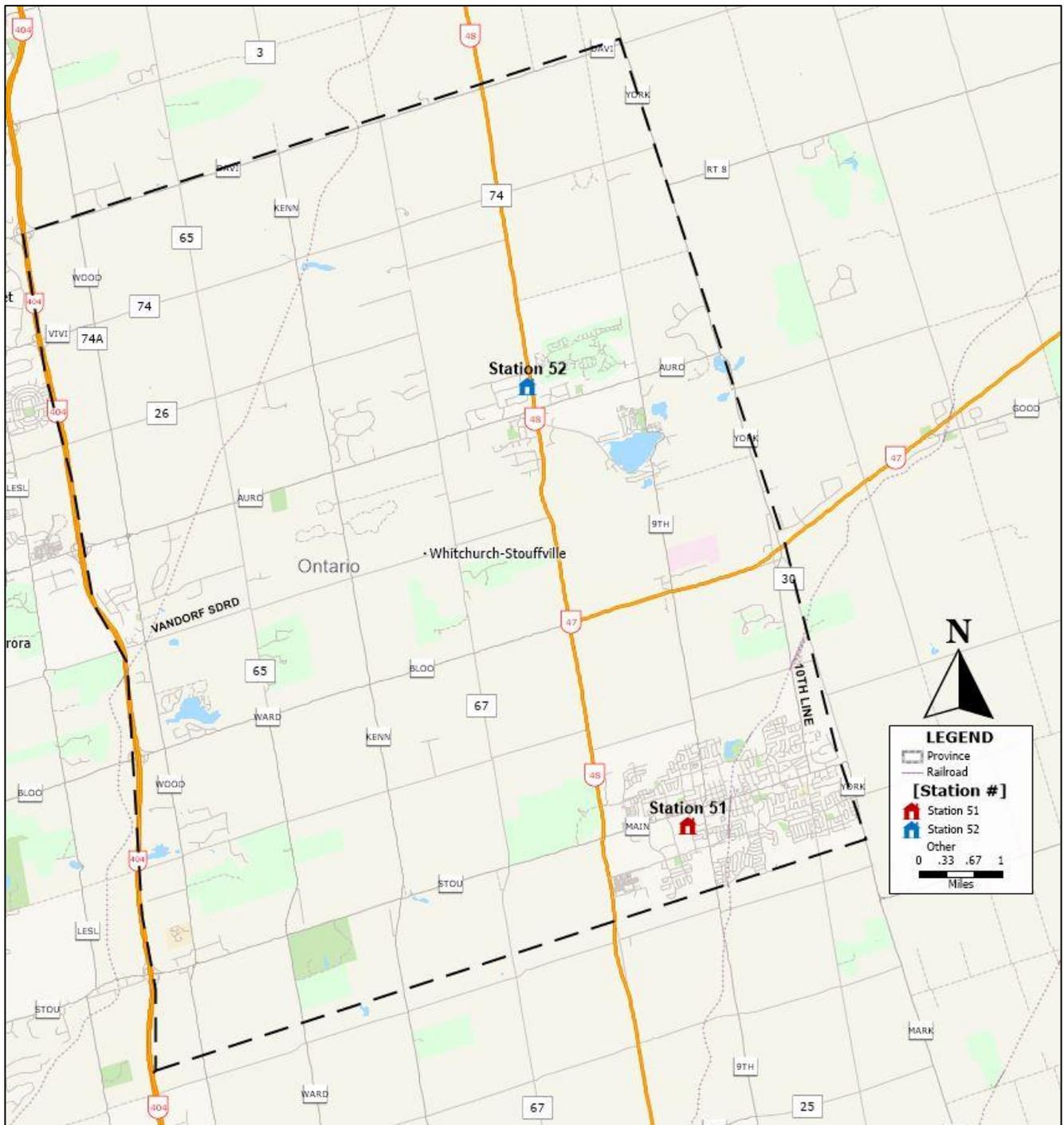


Figure from Google Maps May 2020

**FIGURE 5: The Town of Whitchurch-Stouffville Boundaries & Approximate Fire Station Locations**



# SECTION

# 2

## Planning

- 2.1 Three Lines of Defence
- 2.2 SWOT
- 2.3 NFPA
- 2.4 E&R By-law
- 2.5 CFAI
- 2.6 Stakeholder Focus Group  
Sessions & Public Survey



## SECTION 2: Planning

Planning is a key function of any organization and should be done with a focus on the present needs of the community, along with its future growth and how this will affect the service demands on the Fire Department.

Both the environmental scan and engagement process included personal interviews and on-line surveys. The environmental scan included research on practices within Whitchurch-Stouffville, as well as other fire services within the province, along with measuring the services against industry best practices. The engagement portion was completed through a series of interviews with the WSFES staff, community, and numerous other stakeholders.

The review encompassed a detailed analysis of documentation, business operations and administration, and governance processes. Through these three methods of review, identification of opportunities and principal challenges are identified, and potential solutions and recommendations have been generated throughout this document.

### 2.1 Three Lines of Defence

While this review and its recommendations are grounded, in part, on the future configuration and utilization of the fire stations and its staff, it should be highlighted that the key focus for a fire department in Ontario is to be based on the OFMEM Three Lines of Defence in relation to servicing its community. These three lines are Public Education, Safety Standard and Enforcement, and Emergency Response (as described earlier in this report). EM&T also views Emergency Management as the fourth, inclusive line of defence, and have added this into the overall concept of community safety.

- I. **Public Education** – educating residents has proven to be the most effective means in reducing and preventing the incidences of fire and property damage. Reducing the number of fires before they start and identifying how the municipality will continue to meet the fire education needs while the municipality grows. More information on this topic can be found in Section 4.
- II. **Safety Standards and Enforcement** – ensuring that the inspection and enforcement of fire codes occurs so



buildings meet the required safety standards. More information on this topic can be found in Section 4.

- III. **Emergency Response** – the availability of well trained and well-equipped firefighters to respond and effectively mitigate the incident is the last defence. The staff, equipment, and fire station locations impact how the emergency is mitigated. More information on this topic can be found in Section 5.
- IV. **Emergency Management** – a municipality is legislated to have an emergency preparedness program to ensure the safety of the residents of the community by having a training, education, response, and mitigation plan in place for any possible emergency the community may encounter. More information on this topic can be found in Section 8.

With these four lines of defence in mind, the following strengths, weaknesses, opportunities, and threats (SWOT) were identified.

## 2.2 Strengths, Weaknesses, Opportunities and Threats (SWOT)

This MFP is the result of conducting a SWOT analysis on the community, which, along with other research, has resulted in a list of recommendations for the Town’s Council, CAO, and Fire Chief to consider and implement.

The strengths and weaknesses portion of a SWOT are based on an internal review that identifies what is working well, along with recognizing areas for improvement. The opportunities and threats portion are related to external influences and how these influences affect the operations and response capabilities of the Department.

Many of the SWOT points noted in the 2018 document remain the same. The biggest change is the greater than anticipated growth within the community.

### 2.2.1 Strengths

- The Town of Whitchurch-Stouffville benefits from having two fire stations responding to emergencies. The department has a roster of V/POC firefighters to supplement response from the full-time crews.
- Both the Fire Prevention Division and Training Division are doing a commendable job, given the less-than-optimal level of staffing in each division.
- The WSFES has strong relationships with neighbouring departments and a long history

of cooperative services which should continue to be leveraged.

- The Fire Prevention Division is proactive within the community in relation to education and fire safety inspections and enforcement.
- The Town has an adequate EOC and an alternate EOC site set up to deal with large scale emergencies. The Fire Chief and Deputy Chief serve as the CEMC and Alternate.

### **2.2.2 Weaknesses**

- The WSFES present staffing levels do not meet the NFPA recommended standard of four personnel per response company. Presently, staffing only allows for three full-time firefighters per response company.
- Based on the NFPA standards and the recent arbitration award to the City of Greater Sudbury September 14, 2021,<sup>4</sup> the WSFES is understaffed and faces a critical challenge in meeting the response needs of the Town. Due to anticipated population growth, including vertical growth of high-rise occupancies, and a resulting increase in call volume, EM&T views an increase in staffing as a legitimate requirement.
  - The staffing increase in all Divisions will assist with addressing present and future demands on the WSFES in its ongoing efforts to meet inspection and response capability goals.
- The WSFES has a complement of V/POC firefighters that can respond to calls from both of its stations; however, due to other commitments such as their full-time jobs and other personal obligations, there is no guarantee these V/POC will be available to respond as needed. This can result in low numbers of on-scene staffing levels that may jeopardize operational effectiveness.
  - The WSFES has also seen a large turnover of its V/POC firefighters over the years, which can equate to a lack of training, experience, competent supervisors (officers), and lack of trained drivers/ operators.
- Presently, the response data confirms that WSFES is not meeting the general parameters of the NFPA and industry best practices for career-based fire departments (specifically NFPA 1710).
  - There are also improvements required in relation to meeting the NFPA 1720

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<sup>4</sup> Ontario Association of Fire Chiefs, “Firefighters Make the Case; Ruling to Cost Tax Payers \$1.3M a Year,” September 4, 2020, <https://www.oafc.on.ca/article/firefighters-make-case-ruling-cost-taxpayers-13m-year>

V/POC fire department response standards (which can be seen in the NFPA response charts and related data noted in Section 5 of this document).

- To support this need, the WSFES staff have been monitoring data to verify such things as:
  - Increase in call volumes and location of the calls
  - Whether the V/POC component can meet the increase in calls with the required numbers to staff the fire trucks
  - The specific response times for each fire station, both during day and nighttime hours.
  - Increase in call volumes and the affect on response times, along with the level of reliability of consistent numbers of responding V/POC firefighters.
  - Frequency of simultaneous response to multiple emergency incidents.

### **2.2.3 Opportunities**

- The WSFES has a mutual aid program in place in which it can call on neighbouring fire departments for assistance whenever resources are exhausted and/ or there is an inability to handle the situation in an efficient and effective manner. This type of resource, however, is not meant to supplement the WSFES's resources. Mutual aid is to be used when no other options are available such as automatic aid and fire services agreements.
  - This mutual aid system is an integral part of the emergency preparedness program. Exercising such partnerships during training sessions is suggested to ensure the viability of the program.
- Automatic aid and fire service agreements offer the community a more consistent level of response to areas not adequately covered by the local fire department, but they must be monitored for their level of cost effectiveness and response efficiencies. This monitoring can identify when, or if, full-time staffing levels should be increased to offer a more effective and timely level of response to those areas of the community.
- The WSFES pays the CYFS to respond to the western portion of the Town for fire related calls only, at a fixed retainer cost of \$75,000 for first year, diminishing over 5 years, plus variable costs for any actual responses. This results in an overall annual cost of approximately \$130,000. Given the range of 10 to 15 calls per year historical data, this translates into \$9,000-\$13,500 per response cost. Since this is for fire calls only, the WSFES still needs to respond to this contracted area for all other types of

calls. The cost effectiveness of this arrangement needs to be reviewed and considered as to its value to the service and staffing levels. Consideration should specifically be given to whether the cost of hiring additional full-time staff presents a more efficient and effective long-term alternative for the Town.

#### **2.2.4 Threats/ Challenges**

- Major emergencies stressing the available full-time and V/POC suppression division staffing and equipment must be considered as the community's population continues to grow, both in the residential and commercial sectors, and age. This is a challenge that needs to be considered by most communities in the Province of Ontario.
  - The best way to deal with such challenges is to plan by using related industry standards and to look at comparable communities in relation to how they have dealt with community growth. In completing this type of review, however, the Fire Chief and Council must be aware that no two communities are identical.
- Another challenge for communities to deal with is the "100-year storm". Due to changes in climate, inclement weather incidents, such as freezing rain/ ice storms, are becoming more commonplace and need to be part of the emergency response program for each community. This change in climate conditions, along with the resulting frequency and severity of incidents, has also predicated the need for a larger response component to these emergencies.
- Daytime response by the V/POC firefighters is a challenge due to their other commitments, such as full-time jobs within or outside the community. This is a challenge for most fire departments that depend on responses from the V/POC firefighters. A possible option to this dilemma is to actively recruit for V/POCs that are on shift work or straight nights and are available during daytime hours.
- Another key challenge for the WSFES is the projected population growth within the community that is anticipated to grow to more than 72,100 people by 2031. With a growth in population, and vertical growth (high-rise buildings), comes an increase in calls for service. This is another reason to accurately monitor call volumes, call types, response times and response capabilities of staffing levels to ensure the WSFES continues to be effective in its mission to serve the community.
- The population of Whitchurch-Stouffville is projected to grow from 55,800 people (in 2021) to an estimated population of more than 72,100 by 2031. A simple correlation of 1,400 calls for service per present population of 55,800 equates to approximately one call per every 40 people. Forecasting this to match the anticipated population growth

would mean the WSFES could anticipate growth of call volume to be at least 1,800 calls for service per year, over the next 10 years. This equates to an increase of approximately 25% in call volume for the fire department and does not consider that increasingly, many emergency calls require several apparatus and crews to respond. Vehicle and crew movements tracking per call would depict a more accurate picture of the resources required versus simple call volume data.

All these noted challenges need to be monitored, evaluated, and reported to Council by the Fire Chief to ensure that the WSFES is meeting the needs and expectations of the community, currently and in future.

### **2.3 NFPA 1201, 1710, 1720, 1601, and 1221**

To assist with EM&T's review and recommendations, reference has been made to several NFPA standards throughout this document. The NFPA standards are seen as the North American benchmark for fire services.

NFPA Standard 1201 – Standard for Providing Fire and Emergency Services to the Public

Section 4.3.5 notes:

- The Fire and Emergency Services Organization (FESO) shall provide customer service-oriented programs and procedures to accomplish the following:
  1. Prevent fire, injuries, and deaths from emergencies and disasters
  2. Mitigate fire, injuries, deaths, property damage, and environmental damage from emergencies and disasters
  3. Recover from fires, emergencies, and disasters
  4. Protect critical infrastructure
  5. Sustain economic viability
  6. Protect cultural resources

To accomplish this, an FESO must ensure open and timely communications with the CAO and governing body (Council); create a masterplan for the organization; and ensure there are mutual aid and automatic aid programs in place, along with an asset control system and maintenance program.

To provide the fire department clearer focus on what the ultimate goals for emergency response criteria are, the NFPA suggests that response times should be used as a primary performance measure in fire departments. This is where NFPA 1710 and 1720 need to be

considered; NFPA 1710 refers to goals and expectations for career fire departments, while NFPA 1720 refers to goals and expectations for volunteer fire departments

The third and fourth set of standards are NFPA 1061 and 1221. NFPA 1221 addresses the goals and objectives for the taking of calls for service and dispatching of these calls. NFPA 1061 is the standard that outlines the minimum job performance qualifications of persons in specific positions within the communications field, such as public safety telecommunicator, communications training officer, communications supervisor, quality assurance/ improvement personnel, communications training coordinator, communications center manager, and incident/ tactical dispatcher. Presently, WSFES receives its dispatching services from Richmond Hill Fire & Emergency Services (RHFES).

Ensuring that the communications staff of RHFES are trained to a standard and are meeting the call taking and dispatching timelines noted in the NFPA is worth considering with the agreement between the two parties.

The WSFES has adopted the use of response time measurements as a guide to evaluate their capabilities in relation to the previously noted NFPA standards. However, the WSFES's Establishing & Regulating (E&R) By-law does not specify what response time criteria is expected of its Fire Department. This alone does not restrict the WSFES from tracking and reporting on its level of service on a year-to-year basis. In fact, this is considered a positive practice for the Fire Chief, as it allows for a proper assessment of response types, number of responses and a thorough evaluation of response times to assess if the Fire Department can keep up to the demands of the community.

## **2.4 Establishing & Regulating By-Law**

Unlike police and emergency medical services, fire departments are a discretionary community service (as noted in the *Fire Protection and Prevention Act (FPPA)*), with no legislated requirement to exist in any manner whatsoever. Fortunately, most local governments create and operate a fire department in the interest of public and community safety. Typically, across Canada, fire departments exercise authority granted under local by-law or policy associated to provincial or territorial legislation. These Establishing & Regulating (E&R) By-laws define a fire department's service level and jurisdiction.

A fire department has no authority to respond to, or act at, an incident outside their defined service area unless specific instructions exist describing that capability is found in Mutual Aid Agreements and Automatic Aid Agreements – both of which the WSFES participate in.

Once a fire department is established, Council must ensure the fire department is provided with a full range of authority to prevent fires and respond effectively to incidents within their service

area. Therefore, the E&R By-law plays a critical role in the set-up, staffing, training, and overall focus of a fire department. The current E&R By-Law was last updated in 2010, making the document 11 years old. A recommendation was made in the 2018 MFP to update this document, and EM&T are again recommending that this important document be updated.

The OFMEM recommends that E&R By-laws should be reviewed and updated annually. Annual reviews of the E&R By-law document should be completed by the Fire Chief as a standard business practice to ensure that the WSFES is operating within the Council approved parameters. This does not mean that an updated report must be presented to Council annually, only that the document is current and accurate. By doing this, the Fire Chief can ensure that the WSFES is providing the needed services required by the community.

It is a good practice for the Fire Chief to do a presentation to each new Council (every four years) on the Department's E&R By-law. This will educate the incoming councillors on the goals and expectations of the fire department.

### **Recommendation #1**

**The present E&R By-law be updated, reviewed, and approved by Town Council. Annual reviews be conducted to ensure that the By-law is in line with services being provided by the WSFES.**

## **2.5 Commission on Fire Accreditation International (CFAI)**

In the MFP there was a requirement to compare how the WSFES was measuring up to CFAI related recommendations (for Accreditation purposes). These CFAI notations have been left in this 2022 report because they are still relevant to this review.

*“When a Fire Department applies a model of risk assessment to help determine their level of emergency services commitment, they have moved from being reactive to being proactive.”* – quote from CFAI overview information.

In the fire service, the NFPA standards are seen as the benchmark to strive towards. Many of these standards have, to a large degree, been adopted and supported by the OFMEM. The CFAI is an organization that has incorporated all national and local standards into an accreditation process, effectively becoming the model for best practices in fire services.

Benefits of Accreditation:

- A standard system for risk assessment, decision making, and continuous improvement
- A plan for sustainment of services and ongoing self-assessment

- Agency performance objectives and performance measures
- Verification by peers

With the updating to its 10<sup>th</sup> edition, the CFAI program now revolves around 11 categories:

1. **Governance and Administration** – Includes such things as organizational reporting structure, establishing and regulating by-law requirements, etc.
2. **Assessment and Planning** – Evaluating the organization in relation to future planning.
3. **Goals and Objectives** – What are the goals of the fire service? Do they have a strategic plan in place?
4. **Financial Resources** – Does the organization have sufficient funding in place to effectively meet the needs of internal and external stakeholders?
5. **Programs** – This includes fire prevention, fire suppression, training, and emergency management.
6. **Physical Resources** – What is the state of the fire stations and are they located in the best location to respond to the community in a timely manner?
7. **Human Resources** – This is related to staffing of the organization in all divisions as well as how the fire service works with the municipality's Human Resources Department.
8. **Training and Competency** – Review of all training programs based on what the Fire Department is mandated to provide.
9. **Essential Resources** – This section covers such things as water supply, communications/dispatch, and administrative services.
10. **External Systems Relations** – This includes such topics as mutual aid, automatic aid, third party agreements, etc.
11. **Health and Safety** – This section also include such topics as risk management, wellness, and fitness programs.

Most of these CFAI sections (that are relevant to the WSFES) will be discussed within each related section of this MFP.

## **2.6 Stakeholder Focus Group Sessions & Public Survey**

### **2.6.1 Stakeholders**

To get a complete understanding of how well the WSFES is meeting the needs of its staff and the community, discussion sessions were conducted with both the internal staff of the WSFES and the Town stakeholders. The community public survey was advertised through local media and was set up on the the WSFES 's website (in the form of an electronic survey).

Meetings included members of Council and with the Town's CAO.

### **2.6.2 Focus Group Sessions**

During the MFP process, feedback was gathered from internal staff, which included career and V/POC firefighters, Administration, Firefighters Association, Training, and Fire Prevention. Additionally, senior Town staff and all of Council feedback was also included from multiple focus group sessions.

Much of the information received from the focus group sessions in 2018 remain similar in this updated survey process:

- Staff continue to feel that they are viewed favourably by the public, Council, and Town senior staff.
- The top three major challenges for the Fire Service are:
  - Continuing to meet the needs of the community based on current and projected growth given the full-time staffing levels
  - Growth of population and high-rise occupancy
  - Financial and asset management support for equipment and staffing
- Station 5-2 location needs reassessing, and the station's facilities require updating

### **2.6.3 Public Survey Results**

Input from the community is vital as it gives the WSFES an indication of how the public perceives the Department, the community expectations of service, and suggests areas for improvement from those with first-hand interaction with the WSFES.

The following input was received:

- Most respondents see the WSFES as a dedicated and professional service

- The top concerns noted by external respondents are:
  - That the WSFES responds in a timely manner to calls for assistance
  - Training and equipment need to meet the services provided
  - How well the WSFES works with other agencies to provide wider community safety services
  - Cost of the service for the taxpayer.
- The top three services noted by external respondents are:
  - Firefighting
  - Rescue
  - Public education
- In relation to what is needed over the next 10 years, the top responses were consistently:
  - school and community education
  - community growth and staffing to meet the growth

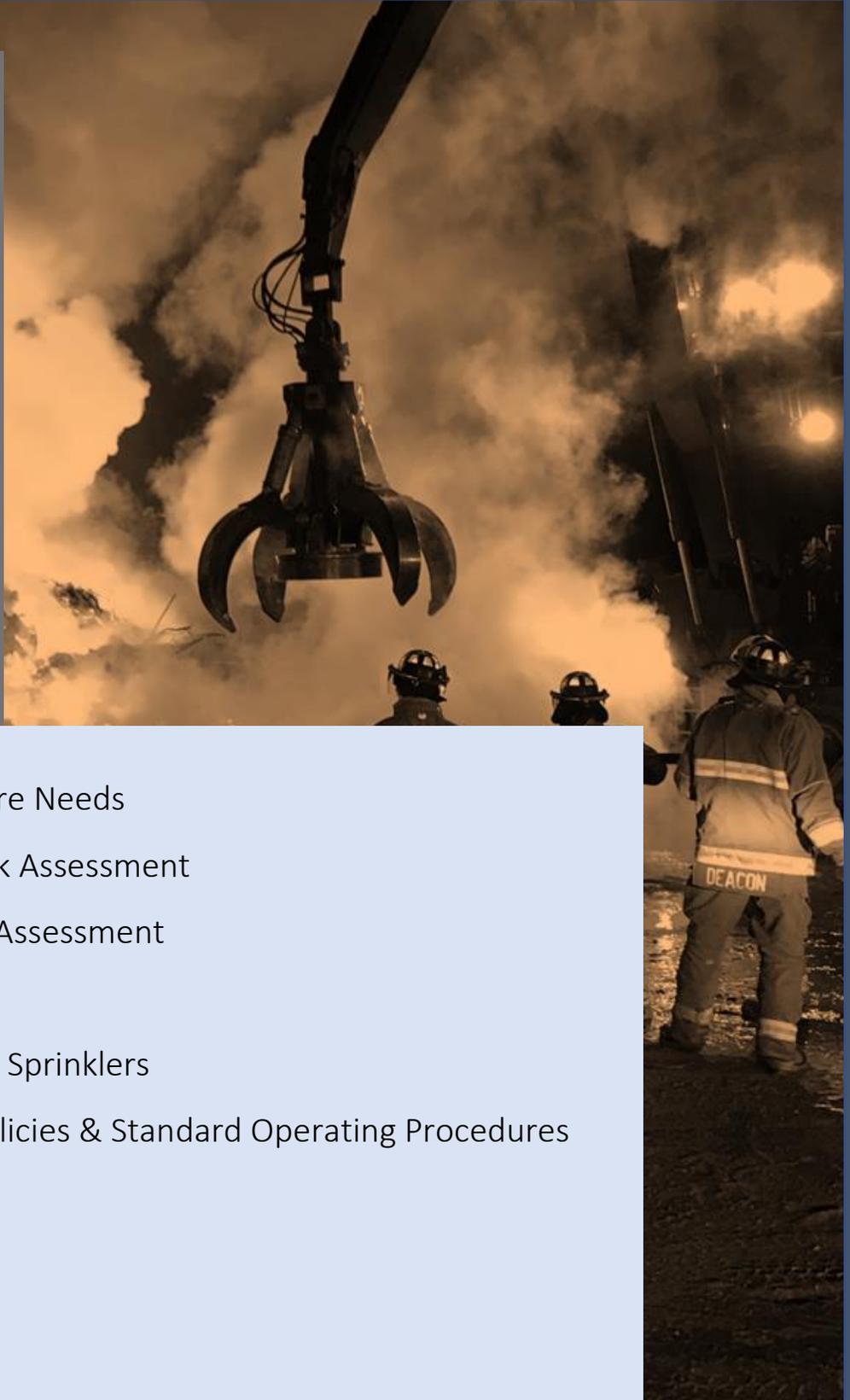
Overall, both internal focus sessions and external public survey were positive about the services being offered by the WSFES. The primary themes we heard (both internally and externally) were to ensure that the WSFES continues to expand as the community grows and that the WSFES can continue to provide a quality service to the community.

# SECTION

# 3

## Risk Assessment

- 3.1 Current & Future Needs
- 3.2 Community Risk Assessment
- 3.3 Simplified Risk Assessment
- 3.4 IRM Approach
- 3.5 Residential Fire Sprinklers
- 3.6 Department Policies & Standard Operating Procedures



## SECTION 3: Risk Assessment

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### 3.1 Current & Future Needs

As previously noted, the population of the Town is forecasted to grow considerably to 72,100 people by 2031, due to an increase in residential development. The community contains an abundance of developed areas including single family, multi-unit, low-rises, and high-rises. In the coming years, many additional high-rises will be more evident throughout the town. Council has approved high-rises to be built as high as 16 storeys. Along with these high-rise developments, there are several significant residential developments proceeding.

#### **3.1.1 Municipal Responsibilities**

It is Council that sets the level of service within the community. The *FPPA*, 1997, S.O. 1997, c. 4, outlines the responsibilities of a municipality and providing a framework for protecting citizens from fire:

2. (1) Every municipality shall:

- (a) Establish a program in the municipality which must include public education with respect to fire safety and certain components of fire prevention; and
- (b) Provide such other fire protection services as it determines may be necessary in accordance with its needs and circumstances.<sup>5</sup>

Further, the *FPPA* provides a description for the methods of providing services.

#### **Methods of Providing Services**

(2) In discharging its responsibilities under subsection (1), a municipality shall:

- (a) Appoint a community fire safety officer or a community fire safety team; or
- (b) establish a Fire Department.

The Town has established a Fire Department as outlined in Section 2.2(b) of *FPPA*, 1997, S.O. 1997, c. 4. The level of service that must thereby be provided is further outlined in Section 2.1(b) of the *FPPA*. The level of service to be provided is determined by the needs and circumstances of the community and can be derived from conducting a MFP for Council. The

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<sup>5</sup> "Fire Protection and Prevention Act, 1997, S.O. 1997, c.4; Responsibility for Fire Protection Services," Ontario, Last Modified October 19, 2021, <https://www.ontario.ca/laws/statute/97f04>

'needs' can be defined by the type of buildings, infrastructure, and demographics of the local area which in turn can be extrapolated into the types of services that would be offered and needed. The 'circumstances' are considered the ability to afford the level of service to be provided.

Together the needs and circumstances assist in identifying a level of service for the community. This combination meets the expectations of the public for safety and the affordability of this level provided.

The Town is currently experiencing rapid but controlled growth, which is leading to an infill of vacant lands and the redevelopment of others. While most of this growth is residential in design, it brings commercial and industrial prospects. This increase impacts the service delivery of the Department, effecting the need for service along with the population.

Staff at WSFES are concerned that future challenges in meeting reasonable response times could occur as call volumes increase. This creates a possible risk to the community and as such the Fire Chief will need to monitor response times including how often a full response assignment was not amassed. This type of information can be used to identify any future needs and/ or considerations for the incorporation of any additional apparatus and fire stations.

## **3.2 Community Risk Assessment**

The most effective ways to reduce injuries, death, and property damage due to fire is through public education, inspections, and enforcement. The fire prevention program addresses these key components of fire safety which starts with conducting a CRA; a completed CRA for the Town and WSFES has been prepared by EM&T as a supplementary document.

### **3.2.1 Community Risk Assessment Profile**

Risk assessment is the process used to identify the level of fire protection required within the boundary of the town. It is a means of measuring the probability and consequence of an adverse effect to health, property, organization, environment, or community as a result, of an event, activity, or operation.

Council has the authority to establish the level of fire protection within the Town. The Fire Chief is responsible for informing Council of risks existing within the Town. It is based on this information that Council can make an informed decision on the level of service to be achieved.

The Province of Ontario *Regulation 378/18* states, "a CRA is a process of identifying, analyzing, evaluating, and prioritizing risk to public safety to inform decisions about the provision of fire protection." Effective July 1, 2019, the regulation states that every municipality shall complete

a CRA by 2024 with renewal to occur every five years. The municipality is required to review the document annually.

There are two basic risk categories associated with the fire service – **operational risk** and **organizational risk**.

- Operational risk is the responsibility of the WSFES to determine the risks within its community and devise strategic, tactical, and task-orientated plans to mitigate incidents.
- Organizational risk is a function and responsibility of Council to determine the disciplines, level of service, staffing, stations, and approval of the Department’s business plan based on the overall risk assessment of the municipality.

The accumulation and analyzation of these factors will assist in applying this information to identify potential risk scenarios that may be encountered. It is during the assessment of the information gathered which includes the likelihood of these scenarios occurring and subsequent consequences that will assist in answering the following questions:

- What could happen?
- When could it happen?
- Where could it happen?
- Who could it happen to?
- Why could it happen?
- How likely could it happen?
- How bad would it be if it happened?
- What can be done to mitigate or prevent any or all the above?

The answers to these questions will frame the basis for formulating and prioritizing risk management decisions to reduce the likelihood of incidents from occurring and to mitigate the impact of incidents when they occur.

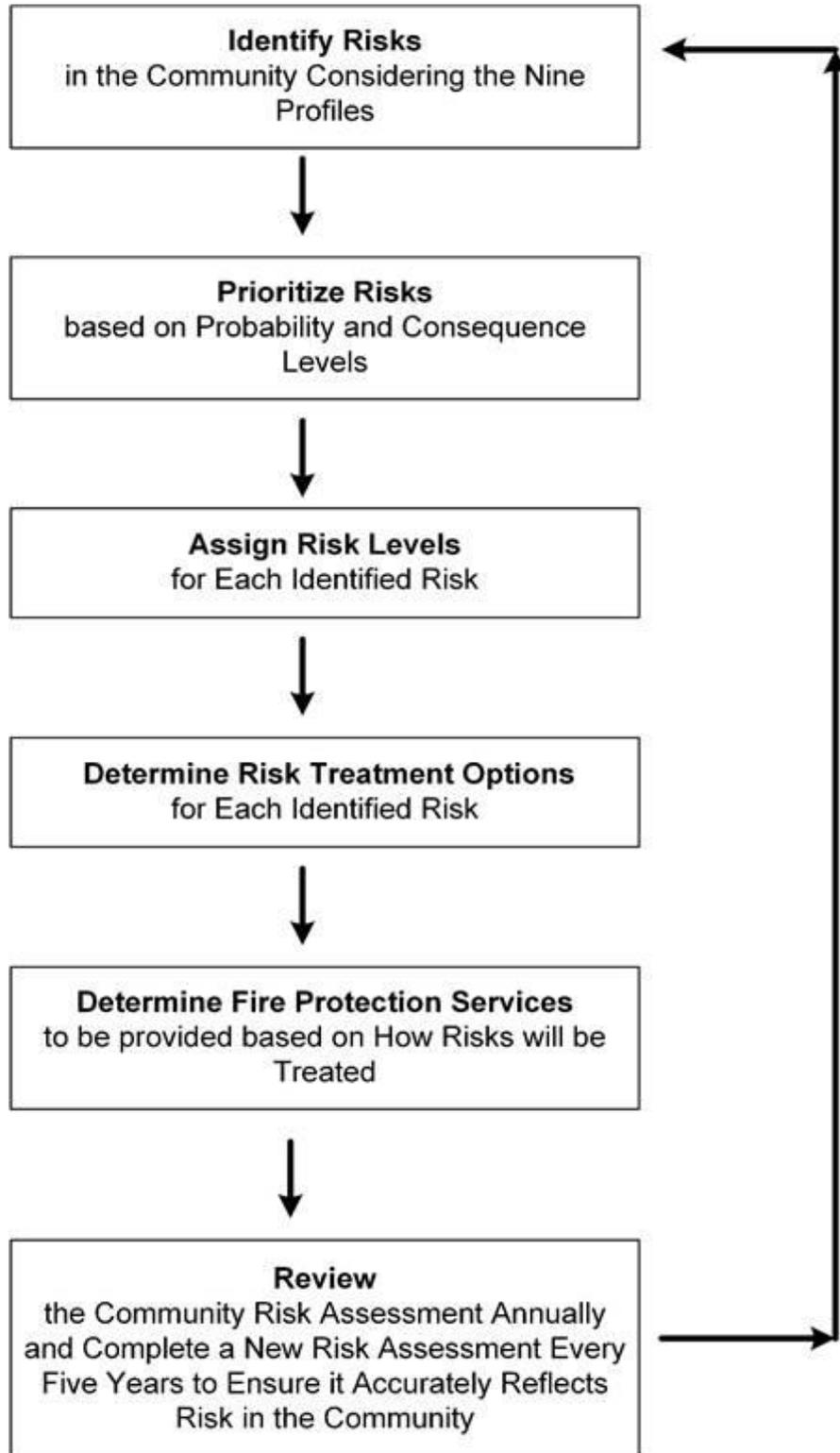
The CRA may identify gaps and areas where actual conditions vary from the desired outcomes. Data to be reviewed for each mandatory profile include:

- Demographics Profile – age, gender, educational attainment, socioeconomic makeup, vulnerable individuals or occupancies, transient population, ethnic and cultural considerations.

- *Critical Infrastructure Profile* – the facilities and services that contribute to the interconnected networks, services and systems that meet vital human needs, sustain the economy, and protect public safety and security.
- *Geographic Profile* – waterways, highways, canyons, railroads, wildland-urban interface, bridges, and other specific features of the community.
- *Building Stock Profile* – potential high-risk occupancies (whether residential, commercial, or industrial), building density, building code classifications, age of the structure(s), occupancies that could be a high life safety risk, and aging / historic buildings.
- *Public Safety Response Profile* – resource distribution within the community including their deployment and usage, types of incidents responded to and the frequency of such incidents including the seasonal variations and time of day.
- *Community Service Profile* – existing planning and zoning committees, schools, seniors’ organizations, ratepayers’ associations, mental-health organizations, faith-based groups, cultural/ethnic groups, etc.
- *Hazard Profile* – human, technological, or natural hazards.
- *Economic Profile* – infrastructure, local employers, industries, institutions, community’s tax base and local attractions.
- *Past Loss/Event Profile* – consideration to the impact and frequency of an event; identify large acute events which have a low frequency but a high impact, or small chronic events which have a high frequency with a low impact.

In the interpretation phase of the data collected for the nine profiles, only matters that are relevant to fire protection services are considered. The following flow chart as outlined in OFMEM Regulation 378/18, outlines the process whereby risks are to be identified from past events while also reviewing future growth trends within the municipality relating to demographics and building stock.

**FIGURE 6: Community Risk Assessment Flow Chart**



The probability or likelihood of a fire occurring within a community is estimated based on previous occurrences and the frequency of such events. It is this review of previous events including the fire loss data, learning from what may have occurred in other jurisdictions, and discussions with those who may have been in attendance of the event that will assist in laying a baseline for evaluation. The judgement of professionals with such experiences must not be missed during this process and may paint a more in-depth picture of what may have occurred.

These evaluations are based on five levels of probability as outlined in the Ontario Fire Marshals Comprehensive Fire Safety Effective Model:

**Rare – Level 1**

- May occur in exceptional circumstances
- No incidents in the past 15 years

**Unlikely – Level 2**

- Could occur at some time, especially if circumstances change
- Five to 15 years since last incident

**Possible – Level 3**

- Might occur under current circumstances
- One incident in the past five years

**Likely – Level 4**

- Will probably occur at some time under current circumstances
- Multiple or recurring incidents in the past five years

**Almost Certain – Level 5**

- Expected to occur in most circumstances unless circumstances change
- Multiple or recurring incidents in the past year

When an event occurs, whether minor or major in intensity, what are the consequences of it? The use of professional judgement and reviews of past events are important means for establishing the quantification levels. To establish this level, four components are to be considered:

1. Life Safety – any injuries or loss of life to anyone involved, public and firefighters (includes actual or potential situations).

2. **Property Loss** – the dollar loss relating to public and private buildings, contents, irreplaceable assets, significant and symbolic landmarks, and critical infrastructure.
3. **Economic Impact** – monetary losses associated with income, business closures, downturn in tourism, tax assessment value and loss of employment.
4. **Environmental Impact** – harm to humans, vegetation, and animals; the decline in quality of life due to air, water, and soil contamination as a result, of either the fire or fire suppression operations.

The consequences are categorized according to five severity levels.

- **Level 1 – Insignificant** – no or insignificant consequences to life safety, value of property loss, impact on the local economy or the general living conditions.
- **Level 2 – Minor** – potential life safety risk to occupants is low, minor property loss, disruption to business or general living conditions.
- **Level 3 – Moderate** – a threat to life safety of occupants, a moderate loss of property, the threat to the loss of business along with a potential threat to the environment.
- **Level 4 – Major** – large dollar loss with significant property loss, large threat to local commerce and tourism along with impacts to the environment that would result in short-term evacuation.
- **Level 5 – Catastrophic** – significant loss of life, multiple properties with significant damage, long-term disruption of business, employment, and tourism along with environmental damage resulting in long-term evacuations of residents and businesses.

The different levels of risk treatment are:

1. **Avoid the Risk** – *Implementation of programs to prevent fires or emergencies from occurring.*
2. **Mitigate the Risk** – *Programs and initiatives implemented to reduce the probability and/or consequences of a fire or emergency.*
3. **Accept the Risk** – *After identifying and prioritizing a risk, it is determined that there are no specific programs or initiatives to be implemented to address this risk.*
4. **Transfer the Risk** – *The fire department has chosen to transfer the impact and/or management of the risk to another organization or body outside the agency.*

During the completion the CRA, the following is a highlight of the top risks facing Whitchurch-Stouffville. The items are not listed in order of importance.

**Bodies of water** – There may be the need to update response protocols and policies in relation to operational procedures and rescues. Public education is key in water safety which could include partnerships with allied emergency services.

**Residential Developments** – There are many residential developments that are in varying stages of completion. Some have not begun site development as approvals are still required. With the additional residents and building stock, there will inevitably be an increase in demands on the WSFES in the form of fire inspections, public education, and emergency response. Additional resources will be required in the fire prevention and operations divisions, due to increased demands.

**Building Stock** – With the increase of residential developments, some include the building of high-rise structures. These buildings will contain a higher population density than single family developments. NFPA 1710 identifies the need for a minimum of 38 firefighters be on location of a high-rise fire. WSFES does not have the resources readily available to attain this number of firefighters on location in a timely manner.

**Illegal Second Units / Apartments** – It is unknown how many of these units exist in Whitchurch-Stouffville. Because many are basement apartments, they are a heightened fire risk due the lack of an easily accessible exit directly outside from the unit. Historically many fire fatalities have occurred in fires that originate in a basement unit.

A CRA was completed in unison with this master plan, to ensure that all risks are identified. Upon the completion of the CRA, the process of developing a Community Risk Reduction Plan (CRRP) commences. When properly applied, the CRRP coordinates emergency operations with prevention and mitigation efforts throughout the community and at the fire station level. Involvement of the personnel in the fire stations is critical for both gathering local risk data and performing activities necessary to implement the CRRP.

Aside from the main benefits to the community, a CRRP can contribute positive impacts on the fire department. The CRRP improves firefighter and emergency responder safety and occupational health, ultimately reducing line-of-duty deaths.

In addition to firefighter safety, there are several other reasons why departments should begin the process of developing a CRRP. These include:

- Assists with identifying the presence of new and emerging hazards, which makes the community safer.
- Declining budgets among fire departments and local governments. Thereby can create better allocation of resources.
- Keeping current with community demographics which can change rapidly.
- Engages the members of the community.
- Identifying high-risk residents that may remain underserved.

- May avoid the potential ramifications of hazards that were ignored or not fully addressed.
- Better defines the fire department's purpose and value within the community, beyond just fighting fires.

A CRRP is not meant for just fire prevention to review and deal with; it is to include participation of all members of the fire department. There are six steps in the development of a CRRP, two of which were identified and completed with the CRA (i.e., Identifying Risks and Prioritizing Risks). The six steps are:

**Identification and Prioritization** – Upon the completion of the CRA, in which the various community risks were identified and the priorities determined, the results should all have been documented for use in the remaining planning process. The document does not need to be complex or complicated, but in a clear and concise format that enables the reader to understand the risks and those that should have the highest priority.

During this process consider the following:

- Why and how the risk occurs and, in some cases, when.
- Who does the risk affect the most and why?
- How is the community and the fire department affected by the risk?
- What about this risk ranks it higher than others?

**Develop Mitigation Strategies/Tactics** – This requires input with a variety of individuals involved, including those most effected by the risk. Stakeholder involvement is paramount and should always be included in some of the decision-making processes. It will necessitate decisions to determine what tactics and strategies will be necessary to prevent and/or mitigate those risks with the highest priority.

During the development of the plan, there are five elements that should be included:

- **Education:** Determining the appropriate type and mix of educational messaging necessary to inform the public and effect behavioural change. More encompassing education through different mediums of social media.
- **Enforcement:** Identifying whether stronger enforcement is necessary or if newer codes and standards need adoption. Notification of the public on successful convictions through the justice system.
- **Engineering** – Determine whether there are engineering or technological solutions to address the identified risk(s).
- **Emergency Response** – Changes to the emergency response protocols, SOGs, SOPs, and policies to better meet a specific risk or need. This may require additional resources such as stations, apparatus, equipment, staffing, and/or enhanced levels of training.

- **Economic Incentive** – Identifying whether financial incentives will improve compliance or help increase awareness of community needs.

**Prepare the CRRP** – Once the risks are identified and prioritized, and strategies and tactics determined for prevention and mitigation, it will be necessary to develop a written plan.

**Implementation of the CRRP** – The implementation of the completed CRRP usually involves several steps. The process should include timelines which can be quick and focused or slow and methodical. The implementation may rely on the fire department, community partners, or a combination of both.

**Monitor the Progress, Evaluate Your Findings, Modify the CRRP** – The final step involves monitoring and evaluating the effectiveness of the plan, and adjusting as necessary. This will enable the organization to determine if they are achieving their desired goals and/or if the plan is having an impact. Ongoing monitoring allows for plan modifications in a timely manner.

The CRRP is a gateway to the reinvention of the fire service culture. It requires buy-in from Council along with vision and strong leadership to champion needed change and to navigate the process. Having a successful CRRP will bring additional resources to the effort through partnerships within the fire department as well as the community it serves. The community-based approach increases public safety because of the collective work within the community to understand, assess, and provide inclusive solutions to community safety issues.

### **3.2.2 Future Needs**

Understanding the community and its needs allows the Fire Chief and staff to be proactive with education and enforcement programs to the community. When fires occur within the community, the firefighters can be ready to battle the fires because they are trained not only in the basics of firefighting, but in understanding any unique and/ or special hazards that are found within the community. These hazards must be identified in a risk assessment so the Fire Chief can ensure preventative and mitigative programs are in place. As the community grows in population and building stock, the frequency of and the need for service will grow.

According to the new provincial legislation and continued growth within the town, there will be a continuing need for additional staff time spent in fire prevention and public education activities.

### **3.2.3 Provincial Community Risk Statistics**

The Fire Chief and staff need to work with town staff to obtain an updated listing of building stock within the community, along with identifying other hazards such as railway crossings, major highways, and the addition of any high-rise structures.

The first set of statistics noted below is of the most recent provincial data found on the OFMEM's website, which can be compared with the most recent WSFES statistics. Unfortunately, 2020 is not available but the following provides a good indication of fire statistics in the province.

### **Provincial – Loss fires by Property class<sup>6</sup>**

From 2010 to 2019, there were 110,811 fires with loss reported to the OFMEM.

- 47% of these fires occurred in residential occupancies
- 27% occurred in vehicles
- 13% occurred on structures/properties not classified by the Ontario Building code – this includes many non-structure property types – land, outdoor storage, and some structures ranging from barns to weather stations
- 5% of loss fires occurred in Industrial occupancies
- 3% in assembly occupancies
- 2% in mercantile occupancies
- 2% in business and personal services occupancies
- 1% in care and detention occupancies

The distribution of fire occurrence across property type has been relatively unchanged over the years.

### **Provincial – Loss Fires Property class: Structures only<sup>7</sup>**

From 2010 to 2019, there were 34,793 structure fires with loss reported to the OFMEM.

- Fires in residential occupancies account for 73% of structure loss fires.
- 8% in properties not classified by the OBC
- 8% in industrial occupancies
- 4% in assembly occupancies
- 3% in mercantile occupancies

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<sup>6</sup> Ontario Ministry of the Solicitor General, "Fire Losses: Causes, Trends, Issues," modified April 2, 2021, [https://www.mcscs.jus.gov.on.ca/english/FireMarshal/MediaRelationsandResources/FireStatistics/OntarioFires/FireLossesCausesTrendsIssues/stats\\_causes.html](https://www.mcscs.jus.gov.on.ca/english/FireMarshal/MediaRelationsandResources/FireStatistics/OntarioFires/FireLossesCausesTrendsIssues/stats_causes.html)

<sup>7</sup> Ontario Ministry of the Solicitor General, "Fire Losses: Causes, Trends, Issues."

- 3% in business and personal services occupancies
- 1% in care and detention occupancies

This distribution of fire incidents across structure property types has been consistent over many years.

### **Provincial – Structure Loss Fires: Ignition source<sup>8</sup>**

Nine percent of the structure loss fires were suspected to be arson or vandalism (intentionally set). Between 2010 and 2019 the ignition sources in other (not intentionally set) structure loss fires were:

- 20% reported as undetermined
- 17% cooking
- 9% electrical distribution equipment (wiring)
- 8% miscellaneous
- 8% heating/cooling
- 8% miscellaneous (natural causes and chemical reactions)
- 7% cigarettes
- 5% appliances
- 4% other electrical/mechanical
- 4% exposure fires
- 3% open flame tools/smoker's articles
- 2% candles
- 1% matches or lighters (excluding arson fire)
- 1% processing equipment

In 2019, there were 31 fire fatalities and in 2020 there were 51. This, in part, is being attributed to people staying home due to the COVID-19 pandemic, in which many worked from their residence or remained at home as directed by Government Agencies. With the increase in families staying at home during the daytime, this increased the number of incidents, of cooking related fires as they make meals at home, more frequently.

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<sup>8</sup> Ontario Ministry of the Solicitor General, "Fire Losses: Causes, Trends, Issues."

### **3.2.4 Whitchurch-Stouffville Community Risk Statistics**

The following information was obtained from the OFMEM, as well as documents received and taken from the past reports supplied to EM&T. The data offers an overview of the areas of concern within the Town. For ease of review, the data has been listed from the highest to lowest level of concern. This information will assist the Fire Chief and staff with fire prevention and public safety awareness initiatives.

#### **Fire Loss by Occupancy Classification**

The analysis indicates that between 2016 to 2020 approximately 73% of the fires reporting a loss occurred in Group C – residential occupancies.

#### **Town of Whitchurch-Stouffville Loss by Property Classification**

Based on the information received, the following building classifications for property loss are noted in order of occurrence type:

- Group C – Residential occupancies (73%)
- Group D – Business and personal services occupancies (6.6%)
- Group F – Industrial occupancies (6.2%)
- Group A – Assembly occupancies (5.8%)
- Other occupancies not classified within the OBC (i.e., farm buildings) (4%)
- Group E – Mercantile occupancies (3.2%)
- Group B – Institutional care or detention occupancies (1%)

#### **Town of Whitchurch-Stouffville Reported Fire Cause**

Assessing the possible cause of the fires reported is an important factor in identifying any potential trends or areas that may be considered for introducing additional public education or fire prevention initiatives as part of the community fire protection plan.

The leading causes of fire were:

- Misuse of ignition source/ material first ignited
- Mechanical/ electrical failure
- Undetermined
- Other unintentional
- Arson
- Other
- Design/ construction/ maintenance deficiency

## Town of Whitchurch-Stouffville Ignition Source Class

The leading causes for ignition sources were:

- Undetermined
- Miscellaneous
- Open flame tools, smoker's articles.
- Cooking equipment
- Appliances
- Heating equipment, chimney, etc.
- Other, electrical/mechanical
- Lighting equipment
- Electrical distribution equipment
- Exposure

### Recommendation #2

**To assist the Department in fire safety, staff should continue its meetings with relevant local community groups to form a partnership for organizing fire safety and public education events that can be tailored to the unique needs and challenges within the community. These events can be based on the previous fire cause information supplied.**

An example of community groups would be a local group that wish to promote fire safety in the community or any local Lions Clubs (or other clubs) that want to support fire safety initiatives.

In 2016 the "Targeted Residential Fire Risk Reduction"<sup>9</sup> report was released. This report was prepared by Len Garis, Sarah Hughan and Amanda McCormick through the University of the Fraser Valley School of Criminology and Criminal Justice and the Centre for Social Research. The focus of the report was based on previous studies in England, Scotland, Sweden, and Norway. Those reports found that targeted home visits for public education efforts produced "promising results". By shifting public education efforts by way of door-to-door campaigns away from an entire community and towards identified at-risk households, not only are the campaigns more efficient but the effectiveness has measurable outcomes.

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<sup>9</sup> Len Garis, Amanda V. McCormick, and Sarah Hughan, Research Gate, "Targeted Residential Fire Risk Reduction a Summary of At Risk Areas in Canada," , June 2016, [https://www.researchgate.net/publication/307599464\\_Targeted\\_Residential\\_Fire\\_Risk\\_Reduction\\_A\\_Summary\\_of\\_At\\_Risk\\_Areas\\_in\\_Canada](https://www.researchgate.net/publication/307599464_Targeted_Residential_Fire_Risk_Reduction_A_Summary_of_At_Risk_Areas_in_Canada)

The study team reviewed the 2011 Statistics Canada Census and National Household Survey and the numbers presented were an estimate of households and at-risk populations intended to provide an approximation. The identified five areas for “at risk” criteria:

1. Age >65
2. Age <6
3. Lone Parent
4. Unemployed
5. Mobility (movers)

The team evaluated and determined “the top 10<sup>th</sup> percentile” of areas within municipalities that would be most at risk for fires to occur in their home. From this they created dissemination areas (areas which represent populations of between 400-700 persons) and focused on single-family detached dwellings. The project did not focus on residents of condominiums, apartments, or townhouses. Surrey Fire Rescue Service used this data to create a “Home Safe” program that focused on installing smoke alarms in these identified homes.

The data shows that in the three measurable categories (at risk areas, private single detached dwellings, and at-risk population), Whitchurch-Stouffville is both above and below some of the averages at both the provincial and federal levels. Federally and provincially, the number of at-risk dissemination areas per total dissemination areas ratio is roughly 1 in 8. Whitchurch-Stouffville has a ratio of 1 in 13. Within the percentages of at-risk private single detached dwellings and at-risk population, provincial and federal levels sit 16 points below Whitchurch-Stouffville. TABLE #3 details the data as sorted within the report.

**TABLE 2: Whitchurch-Stouffville At-Risk Comparison**

<b>Garis et al Report Criteria</b>	<b>Whitchurch-Stouffville</b>	<b>Ontario</b>	<b>Canada</b>
Number of At-Risk Dissemination Areas	3	2,630	7,198
Total Dissemination Areas	40	19,964	56,154
<b>Percent of At-Risk Dissemination Areas</b>	<b>7.50%</b>	<b>13.17%</b>	<b>12.82%</b>
Number of Private Single Detached Dwellings in At-Risk Dissemination Areas	3,560	501,990	1,320,785
Total of Private Single Detached Dwellings	10,255	2,712,000	7,301,825
<b>Percent of At-Risk Private Single Detached Dwellings</b>	<b>34.71%</b>	<b>18.51%</b>	<b>18.09%</b>
Population of At-Risk Dissemination Areas	9,919	1,420,807	3,585,822
Total Population	29,519	7,488,061	19,325,962
<b>Percent of At-Risk Population</b>	<b>33.60%</b>	<b>18.97%</b>	<b>18.55%</b>

Upon evaluation of the statistics, it identifies two areas of concern. They are:

- The percentage of at risk private single detached dwellings
- Percent of at-risk population

In both instances, the town is well above the averages of both Ontario and Canada, which means a high number of residents are at risk in the event of a fire.

Based on this data, it would benefit the Town to focus its resources on targeting its public education campaigns. A Public Fire Life Safety Educator (PFLSE) would be able to concentrate public education programs where they are needed most and better prioritize program scheduling. The data used in the Garis et al Report is nearing 10 years old, but a focus on local planning data would provide a clearer picture of the current state of the Town as it pertains to its at-risk populations. Even though the data is ten years old, it must be taken into consideration that the fire service has not been able to keep pace with the growth and increased demands for service. If this survey were to be conducted in 2022, it is anticipated that the percentile of at-risk residents will have increased even further than the Provincial and Federal statistics.

All target audience public education programs should be fluent and adaptive to the changing needs of the community. The Town is involving more data analytics in its operations which is a positive step forward. By including identification of at-risk groups, the Department could better utilize available personnel resources and improve efficiency of programs. They would likely find ways to cross reference the data and metrics obtained in other areas of fire safety (i.e., tracking fire calls with areas targeted at public education).

### 3.3 Simplified Risk Assessment

As noted in the Ontario Fire Marshal's Public Fire Safety Guideline, PFSG 04-40A-03, *"The SRA and ensuing fire concern profile will assist in identifying the degree to which these activities are required in accordance with local needs and circumstances. The simplified risk assessment is made up of the following components:*

- *demographic profile*
- *building stock profile*
- *local and provincial fire loss profiles*
- *information analysis and evaluation*
- *priority setting for compliance*
- *implementing solutions*

*Conducting a simplified risk assessment is a practical information gathering and analyzing exercise intended to create a community fire profile that will aid in identifying appropriate programs or activities that can be implemented to effectively address the community's fire safety needs."*

The SRA is an integral building block in the data gathering process to understand the community that is served by the fire department. As the community continues to change, the document should not become stagnant as the results are only accurate to the time of which the review was conducted.

NFPA 1730 Standard on *Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations*, notes that this review should be conducted at a minimum every five (5) years or after significant change. This standard also establishes a process to identify and analyze community fire risks. This standard refers to the process as a CRA.

There are seven components of a CRA outlined in NFPA 1730. These components are:

1. Demographics
2. Geographic overview
3. Building stock
4. Fire experience
5. Responses
6. Hazards
7. Economic profile

In 2020 the WSFES completed an SRA. Within the document, several issues were brought forward, namely an increase in residency, and the increased number of vulnerable and residential occupancies. There are currently 15 vulnerable occupancies with an additional three in different stages of approval. Residential growth in the Stouffville area is rapidly developing. Concerns were raised over the Gormley Fire Protection System and whether the water supply could sustain fighting two fires at the same time. The origin and cause of residential fires should be a focus of public education, as most fires occur in this occupancy.

### 3.4 Integrated Risk Management Approach

The Ontario Fire Marshal's Communiqué 2014-12 introduced the Integrated Risk Management (IRM) Web Tool to the fire service. The document notes:

"The IRM Web Tool was developed as part of a commitment made by the OFMEM to the Ontario Association of Fire Chief's (O AFC) and other stakeholders. The IRM Web Tool can be used by all Ontario's municipalities and fire departments to determine building fire risks in their respective communities by taking into account building characteristics (building factors) and the three lines of defence against fire."<sup>10</sup> The three lines of defence against fire as identified in the OFMEM, Public Fire Safety Guideline, 04-40C-03, are:

- Line one: Public Education
- Line two: Fire Safety Standards and Enforcement
- Line three: Emergency Response

The IRM Web Tool is built around the OFMEM "three lines of defence" concept and intended for municipal and fire service decision-makers. The tool was designed to assist municipalities in fulfilling the responsibilities prescribed in Section 2 of the *FPPA*, 1997.

The purpose of the IRM Web Tool is a building-by-building assessment and its goal is to go beyond simply taking stock of buildings within the community; it was intended to be a holistic approach that is meant to combine all a fire department's efforts relative to:

- Fire prevention and education initiatives, which includes updated community reviews through, the use, of the OFMEM SRA.
- Fire station locations and the ability to respond in an efficient and effective manner.

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<sup>10</sup> Ontario Ministry of the Solicitor General, "Fire Marshal's Communiqué, Integrated Risk Management Web Tool, Communiqué 2014-12" May 6, 2014, [https://www.mcscs.jus.gov.on.ca/english/FireMarshal/FireServiceResources/Communiqués/OFM\\_Com\\_2014-12.html](https://www.mcscs.jus.gov.on.ca/english/FireMarshal/FireServiceResources/Communiqués/OFM_Com_2014-12.html)

- Identification of hazardous situations and locations within the community.
- Training and equipping of the firefighters to execute their duties in a safe and efficient manner.

The IRM approach is a combination of all facets of the fire service that is meant to combine a review of building stock, fire safety and prevention related issues to be addressed, ability to effectively and efficiently respond to emergencies, and how well equipped and trained the firefighters are to deal with emergencies within the community.

*NFPA 1730 Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations* defines the risks in three categories and provides examples for each. These risk categories are:

- **High-Risk Occupancy** – An occupancy that has a history of high frequency of fires or high potential for loss of life or economic loss. Alternatively, an occupancy that has a low or moderate history of fire or loss of life, but the occupants have an increased dependency in the built-in fire protection features or staff to assist in evacuation during a fire or other emergency (e.g., apartment buildings, hotels, dormitories, lodging and rooming, assembly, childcare, detention, educational and health care).
- **Moderate-Risk Occupancy** – An occupancy that has a history of moderate frequency of fires or a moderate potential for loss of life or economic loss (e.g., ambulatory health care and industrial).
- **Low-Risk** – An occupancy that has a history of low frequency of fires and minimal potential for loss of life or economic loss (e.g., storage, mercantile and business).

Accomplishing a review of every building within the Town may not be practical. Utilizing NFPA 1730 definitions of risk categories may guide Council in deciding the focus and service level within the community. Council should determine, with input from the Fire Chief, an acceptable level of risk to manage within the community based on its needs and balanced with the circumstances to deliver the services.

In both NFPA Standards, public education is a key component of having a successful Community Risk Reduction Plan.

### 3.5 Residential Fire Sprinklers

The NFPA, along with the OAFCA, are strong supporters of residential sprinkler systems to reduce the risk to life and property from fire.

In a recent NFPA on-line article it was noted that because fire sprinklers react so quickly, they can dramatically reduce the heat, flames, and smoke produced in a fire. Properly installed and maintained fire sprinklers help save lives, reduce damage, and make it safer for firefighters.

Fire sprinklers have been around for more than a century protecting commercial and industrial properties and public buildings. What many people do not realize is that the same life-saving technology is also available for homes, where roughly 85% of all civilian fire deaths occur.<sup>11</sup>

### **Facts about home fire sprinklers**

Unfortunately, due to the lack of Canadian statistics, we must rely on American statistics. Since there are so many similarities in building construction, the statistics are an accurate reflection of the Canadian experience.

Automatic sprinklers are highly effective and reliable elements of total system designs for fire protection in buildings. According to an American Housing Survey, 8% of occupied homes (including multi-unit) had sprinklers in 2010-2014 up from 4.6% in 2009.

**Source:** *U.S. Experience with Sprinklers*<sup>12</sup>

- 85% of all U.S. fire deaths occur in the home.
- The civilian death rate of 1.4 per 1,000 reported fires was 81% lower in homes with sprinklers.
- The civilian injury rate of 25 per 1,000 reported fires was 31% lower in homes with sprinklers. Many of the injuries occurred in fires that were too small to activate the sprinkler or in the first moments of a fire before the sprinkler operated.
- The average fire fighter injury rate of 13 per 1,000 reported home fires was 78% lower where sprinklers were present.

In 2021 some fire safety statistics<sup>13</sup> were released which includes:

- Fire sprinklers reduce the risk of death in a home fire by 80%.
- The risk of property loss is reduced by 70% in homes with sprinklers.

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<sup>11</sup> Marty Ahrens and Radhika Maheshwari, NFPA Research, “Home Structure Fires”, last updated October 2021, <https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Building-and-life-safety/oshomes.pdf>

<sup>12</sup> Marty Ahrens, NFPA Research, “US Experience with Sprinklers”, last updated October 2021, <https://www.nfpa.org/News-and-Research/Data-research-and-tools/Suppression/US-Experience-with-Sprinklers>

<sup>13</sup>Safe at Last, “The Latest Fire Safety Statistics – Stay Safe in 2021”, January 20, 2021, <https://safeatlast.co/blog/fire-safety/>

- A sprinkler installation typically costs 1-2% of a home’s total construction cost.
  - In Canada it has been found that due to the high costs of building materials due to the pandemic, the estimated costs vary from \$5 to \$10/sq. ft.
- Fire sprinkles activate on an individual basis.
- Fire sprinklers release less water than fire hoses.

The Home Fire Sprinkler Coalition (HFSC) is a leading resource for accurate non-commercial information and materials about home fire sprinklers for consumers, the fire service, builders, and other professionals.

By working with the developers and the public in promoting the installation of home sprinkler systems, the WSFES are demonstrating a pro-active approach to educating the public on another viable option for homeowners to help reduce the risk from fire. As such, it is proposed that the WSFES continue with this safety initiative as part of their fire prevention and public education initiatives.

### Recommendation #3

**WSFES to advocate “sprinkler safe” community through further education on the benefits of residential and commercial sprinkler systems, in relation to fire control and containment, and life safety, as well as seek consistent funding to continue with this public safety initiative.**

## 3.6 Department Policies & Standard Operating Procedures

Fire department policies and guidelines have enormous value for a department. In fact, they can be seen as the key foundation to a department’s success. The backbone of any fire service is its policies, SOPs, and SOGs, which govern and provide direction on its operations.

- **A policy** is a high-level statement that expects consistent compliance. There is very little to no leeway permitted with a policy.
- **A guideline** is a standard with an acceptable level of quality or attainment on how to act in, a given, situation with non-mandatory controls.
- **A procedure** is a standard with an acceptable level of quality or attainment in a series of detailed steps to accomplish an end. There are step-by-step instructions for implementation.

The WSFES’s SOGs are numerous and encompassing and are a credit to the department. To ensure all the SOGs are current, the department should review and revise existing policies and SOGs regularly and develop new policies and SOGs as required. Some fire departments review a third of the SOGs annually so that the entire document is reviewed every three years.

The review of the SOGs is a very involved process and the Chief Officers should not take this task on by themselves. In many cases members of the department, that have a specialty to a specific discipline, may write the SOG for the Chiefs to review. The establishment of an SOG Committee that develops its own Terms of Reference would be a great asset to the Department. The SOGs would be updated and current, and staff are more involved in the Department's operations.

A good source of information is the Section 21 Guidance notes that are kept current by a provincial team of fire service personnel. The Section 21 Committee is part of the *OHS*A initiative for fire fighter safety. The department references Section 21 in several of the SOGs.

During EM&T's review of the SOGs the following items were noted:

- When they were last reviewed and updated was not always noted, which could mean they have not been reviewed and updated for a long time.
- There was no SOGs regarding the servicing/ inspections and testing of ladders, extrications tools, or pump testing procedures.
- It is suggested that references be included in all the SOGs. There is a lack of consistency.
- Suggested an SOG on medical personal protective equipment be developed especially during this pandemic.

Some departments develop accompanying policies for each SOG, and a Policy Statement is included in each, pertaining to the content of the SOG and why it is in effect.

For a fire department to operate in a safe and efficient manner it is imperative that all members adhere to all policies, SOGs, and SOPs and those that fail to do so should be held accountable.

#### **Recommendation #4**

**An SOG Committee be established with representation of all Divisions of the Department. It is further recommended that the Department's SOGs be reviewed on an ongoing basis.**

#### **Recommendation #5**

**Upon completion of the SRA/CRA and IRM, the Fire Chief provides an overview to Council that outlines the fire inspection program with a draft policy for review and passage that outlines a fire inspection program to address identified needs and expected outcomes of the program.**

- **This program should outline the building types and the frequency of inspections.**
- **This report should also identify what level of staffing is required to meet the FUS recommended inspection program**
- **Upon approval by Council, the WSFES staff should then begin developing the community risk reduction plan.**



# SECTION

# 4

## Department Staffing & Related Programs (Non- Suppression)

- 4.1 Organizational Overview
- 4.2 Administration Division
- 4.3 Fire Prevention & Public  
Education
- 4.4 Training & Education Division

## **SECTION 4: Department Staffing & Related Programs (Non-Suppression)**

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Within the scope of work noted in the original RFP document, staffing needs was identified as a priority in which EM&T was to review the capabilities of existing staffing and identify future needs for Suppression, Training, Prevention, and Administration. This section will discuss the following divisions:

- Administration
- Fire Prevention and Education
- Training

The Suppression division, along with a review of the dispatching services will be addressed in Section 5.

When considering the overall staffing needs for the WSFES, some of the key questions that should be considered are:

- Is there a proper level of senior staff to manage the Department and its divisions?
- Is there adequate administrative support staff to assist with such things as records management and addressing day-to-day operations of the Department?
- Is the Department meeting any legislative requirements and/ or organizational goals relating to fire prevention, and public education initiatives?
- Are the training programs meeting the needs of all staff?
- Is there a need for other support staff in relation to vehicle and facility maintenance?
- What growth in population and industry is continually occurring that may precipitate more or less fire stations and staffing?

### **4.1 Organizational Overview**

As previously noted, the Fire Chief of the WSFES reports to the CAO in a council-manager style of government.

The present overall staffing of the WSFES organizational consists of three Administration staff, one Training Officer, one FPO, and three FPIs, along with 34 full-time firefighters, and 36 V/POC firefighters.

For this section, there are three main standards and industry best practices that are considered in relation to program services and staffing. First, there is the Public Safety Guidelines that are

created and distributed by the OFMEM. These Guidelines advise fire services in relation to all aspects of delivering Fire Prevention, Fire Suppression, and fire station location programs.

Second, there are industry best practices in the form of the NFPA's 1201, 1401, and 1730 standards, which offer guidance for:

- 1201 – Standard for Providing Fire and Emergency Services to the Public
- 1401 – Recommended Practice for Fire Service Training Reports and Records
- 1730 – Standard on Fire Prevention, Code Enforcement and Public Education

Third, there is the FUS. In 2016, the Fire Underwriters group were engaged to conduct a review of the community and its fire service and make recommendations based on their own proprietary formulas and expected industry criteria for community fire protection.

#### **4.1.1 NFPA 1201 – Standard for Providing Fire and Emergency Services to the Public**

Based on this standard, (section 4.3.5 notes that) the FESO shall provide customer service-oriented programs and procedures to accomplish the following:

1. Prevent fire, injuries and deaths from emergencies and disasters
2. Mitigate fire, injuries, deaths, property damage, and environmental damage from emergencies and disasters
3. Recover from fires, emergencies, and disasters
4. Protect critical infrastructure
5. Sustain economic viability
6. Protect cultural resources

A full review of administrative services, along with the training and public education programs must be assessed.

## **4.2 Administration Division**

The present Administrative Division consists of the Fire Chief, the Deputy Fire Chief and one full-time Administrative Assistant.

#### **4.2.1 CFAI**

The CFAI Accreditation program has a specific section that evaluates the administration component of a fire department. In this section, the following points are noted:

##### ***Category 9C: Administrative Support and Office Systems***

Administrative support services and general office systems are in place with adequate staff to efficiently and effectively conduct and manage the agency's administrative functions, such as organizational planning and assessment, resource coordination, data analysis/research, records keeping, reporting, business communications, public interaction, and purchasing.

With *Category 9c* in mind, along with the growth of the Town, having three administrative staff poses a challenge in relation to meeting the day-to-day needs of the organization. As such, the incorporation of a mid-management position is something that needs to be considered by the WSFES. This non-union, mid-management position would allow for a greater division of workload and on-call duties. This new position should be a Deputy Chief rank.

This new position would most benefit the department in the following ways:

- Presently the Fire Chief and Deputy Chief are on a rotating on-call system. As such, they are expected to work their normal 37.5-hour work week, attend any evening related work meetings, and be available to respond to calls after hours. Having another Deputy Chief position would help to spread out this workload and allow for a better work/ life balance.
- The growth of the WSFES and increase in call volumes and fire prevention inspections are creating a greater workload on top of what the Fire Chief and Deputy Chief are already managing.
- Legislative demands that are continually increasing justify the need for this management position.

This new position could be assigned to oversee the Fire Prevention and Public Education Division, and Emergency Management, with the present Deputy Chief focusing on Fire Suppression and Training. This would allow the Fire Chief to focus on the overall administration and financial responsibilities of the Department, along with attending senior management and council meetings. The third position would also reduce the amount of "on-call" rotations, from every two weeks to every three weeks. This again would improve the work life balance of the Fire Chief and Deputy Chief.

Another consideration for the non-unionized senior staff (such as the Deputy Chief and Fire Chief ranks) is pay rate or compression rate between unionized staff and the ranks of Deputy and Fire Chief. Many fire departments are experiencing this gap narrowing to the point where some departments are seeing their Deputy Chiefs making the same and, in some cases, less than senior unionized positions that report to the Deputy Chiefs.

Municipalities have placed a percentage rate above the top unionized position as the rate for a Deputy Chief (DFC), and further percentage for the Fire Chief (FC) wages in attempts to address the wage compression between top rate for in-scope, labour positions and that of out-of-scope, management positions of the DFC and FC. By doing this, communities can retain their senior management staff, instead of losing them to higher paying municipalities. Another option that some communities have employed to help address the compression gap, is the recognition of the extra time put in when on the “on-call” rotation. An annual stipend is given to recognize the extra time put in by the DFC and FC.

### **Recommendation #6**

**Implement a third senior management position in the form of a Deputy Chief rank. A review of the present compression rate should be conducted and implemented to ensure that the community will be able to retain its senior fire staff.**

### **4.3 Fire Prevention & Public Education**

The Fire Prevention Division is staffed with three FPIs and one FPO. The FPO oversees all prevention and education activities and sets overall program goals. The Fire Prevention Division is divided into intertwined disciplines, namely, code enforcement, plans examination/permits and inspections, origin and cause investigation, and public education.

The *Fire Protection and Prevention Act* (FPPA) notes in section 2.2(a) that a community must supply fire safety education and fire prevention programs to its community through the appointment of a community fire safety officer or a community fire safety team OR (b) establish a fire department.<sup>14</sup> Public education ranks number one in relation to the three lines of defence presented by the OFMEM. As such, public education should be considered a priority.

NFPA 1730, which is the standard relating to Fire Prevention and Public Education, notes in section 4.2.2 that the Fire Prevention Organization shall have an organizational structure of the

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<sup>14</sup> Ontario, “Fire Protection and Prevention Act, 1997, Responsibility for Fire Protection Services,” October 19, 2021, <https://www.ontario.ca/laws/statute/97f04>

size and complexity required to accomplish its mission. To accomplish this, NFPA 1730 offers a formula for the head of fire prevention to utilize.

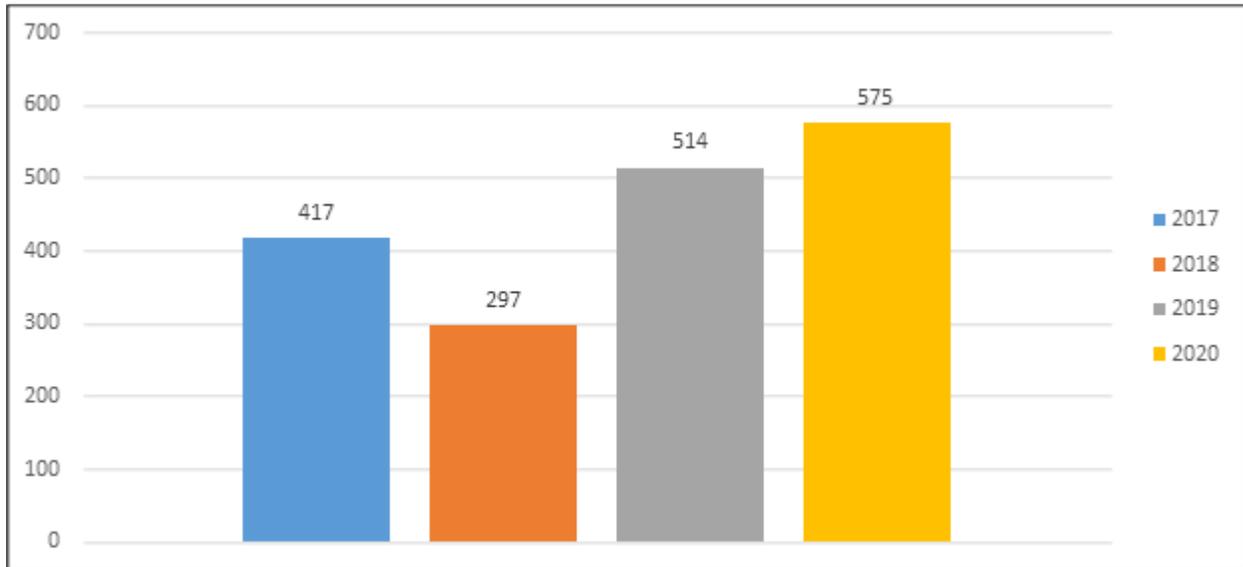
*NFPA 1035 Standard on Fire and Life Safety Educator, Public Information Officer, Youth Fire Setter Intervention Specialist and Youth Fire Setter Program Manager Professional Qualifications* (3.3.11) identifies fire and life safety education as a “comprehensive community fire and injury prevention program designed to eliminate or mitigate situations that endangers lives, health, property or the environment.”

Both fire prevention and public education are the first line of defence in relation to the OFMEM’s three lines of defence. Inspection and enforcement is the number two line of defence in preventing fires before they begin. Fire prevention and education combined with inspection and enforcement are the most effective methods of reducing injuries and death associated with fires and associated emergencies.

The members of the Fire Prevention Division are certified in both NFPA 1031, *Standard for Professional Qualifications for Fire Inspectors and Plans Examiner* and NFPA 1035, *Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist and Youth Firesetter Program Manager Professional Qualifications*. Members are also required to have successfully completed the Ontario Building Code (OBC) course, which permits them to be building inspectors under the OBC.

After reviewing data provided by the WSFES, it was confirmed that there is an inspection and public education program in place. The FPO oversees all facets of the program, and reports to the Fire Chief to ensure that the Fire Prevention Division is meeting the goals set by the Department.

**FIGURE 7: Number of Fire Inspections From 2017 to 2020**



The Fire Prevention Division manages all community outreach, data analytics, commercial building plans, new developments, new construction inspections and acts as the primary for fire investigations. One of the FPIs divides their time to complete three functions. These being public education 50%, inspections 30% and emergency management 20%.

The Town has high-risk structures that require constant monitoring by the FPIs. These include vulnerable occupancies, industries, and high rises. The Fire Prevention Division has also identified high-risk audiences and targeted these for their fire prevention and public education efforts. These efforts have focused on engaging the numerous care facilities throughout the Town with resources dedicated to conducting annual mandatory inspections, supervising fire drills, and supporting the training of onsite staff.

**4.3.1 Communicating with Non-English-Speaking Public**

The Division has challenges with engaging new Canadians who do not speak English. South Asian (32.88%) and Chinese (32.33%)<sup>15</sup> represent the largest percentages of the new Canadian population in Whitchurch-Stouffville.

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<sup>15</sup> Robert Humphrey, "Situational Analysis for the Town of Whitchurch-Stouffville," Town of Whitchurch-Stouffville, December 2015, [https://www.townofws.ca/en/business/resources/Documents/EDS\\_SituationalAnalysis.pdf](https://www.townofws.ca/en/business/resources/Documents/EDS_SituationalAnalysis.pdf)

Consideration should be given to hiring new personnel for the Fire Prevention Division that possess fluency in a second language to aid in communicating with the varied community demographic. Further, the Department should keep a list of all languages spoken by staff.

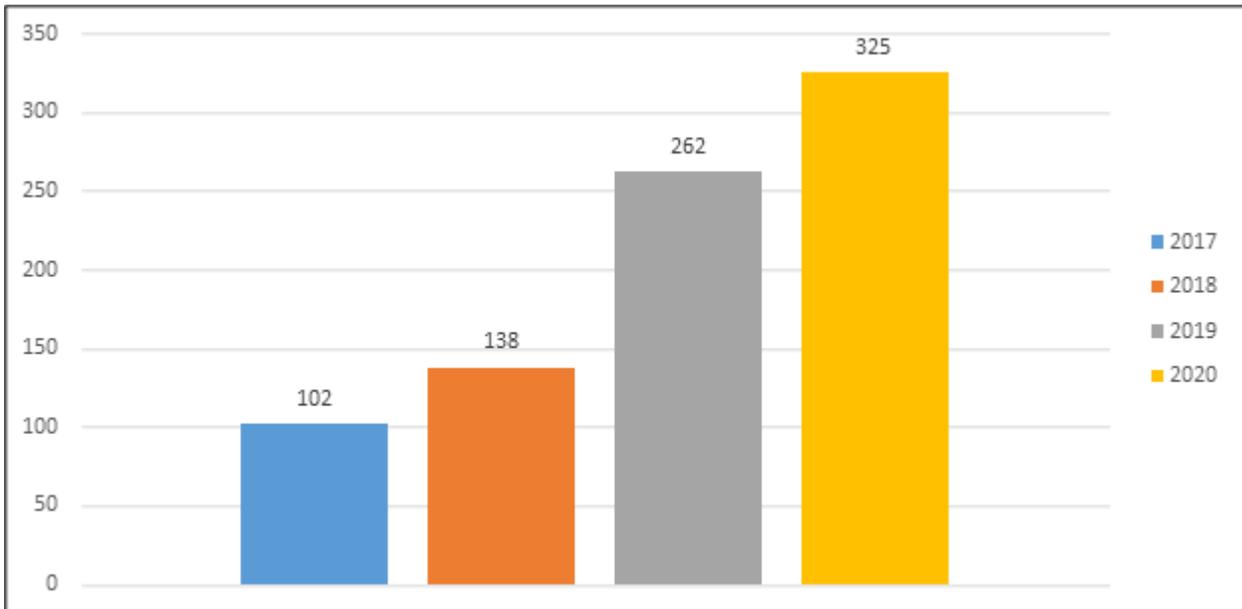
**Recommendation #7**

**Consider when hiring new personnel for the Fire Prevention Division (whenever possible) that are fluent in a second language to aid in communicating with the varied community demographic that reside in the Town. Further, create a list of all languages spoken by staff to be kept readily available for reference, as needed.**

**4.3.2 Plan Reviews**

A large amount of the Division’s time is dedicated to completing plan reviews for new construction including both structural and site plans. The following table highlights the number that have been completed between 2017 and 2020.

**FIGURE 8: Number of Plans Review from 2017 to 2020**



The application of this data is to align with the industry’s best practices, to identify any gaps, and to plan for the future. Constant and regular communication of fire department activities and performance indicators to Council is a best practice and effective in ensuring the support of Fire in both financial and human resources. Communicating objectives-based, performance criteria of fire department activities in a clear and easily relatable format, utilizing graphs and

comparison tables such as above, is an effective way to identify service gaps, accurately plan for future goals and objectives, as well as ensure organizational support for WFES.

### **Recommendation #8**

**The Fire Prevention Division to monitor and provide reports, at least annually, on activities conducted to better align current WSFES baselines and to ensure progress towards industry best practice benchmarks and the CRA.**

Along with the information noted in the previous paragraphs, the utilization of existing resources is a cost-effective option for the promotion of fire prevention and public education programs. To accomplish this, some fire departments have trained most, if not all, of their fire suppression staff to be certified to conduct fire prevention inspections and public education programs. This not only brings more resources to the table, but it also enhances the level of fire safety awareness by those trained staff.

With having at least one member of each crew trained to NFPA 1031 and 1035, the team could assist with in-service fire inspections while on duty each tour. Having the ability to inspect the non-complex occupancies would lessen the workload on the Fire Prevention Division.

### **Recommendation #9**

**Select members of the fire suppression division be trained to NFPA 1031, level I and 1035, level I to assist the Fire Prevention Division in its goal for fire safety inspections and education.**

#### **4.3.3 Code Enforcement/ Inspections**

For a Community Risk Reduction Plan to be successful, ongoing fire inspections are a necessity. It is the inspections that will identify deficiencies and contraventions of either the OFC or OBC before they cause a fire.

The FPIs oversee community life safety issues concerning fire code inspections and enforcement of the Fire Code. They also conduct fire inspections on all types of occupancies in the municipality, with the intent of ensuring compliance with the OFC. The reduction of risks from fire and other life safety hazards with detection and reporting through the inspection process is necessary for the creation of a fire safe community. Inspections also provide assurances that fire detection equipment in buildings meet code requirements, are present and operational, and that firefighting equipment in buildings have been tested to the standards. Along with completing inspections, the FPIs also manage issuing orders and filing court documents, which account for a substantial amount of their time.

The single FPO is responsible for the day-to-day operations of the division, growth, and development of the FPIs and establish strategies for preventing fires in the community. However, due to the growth in the community, the FPO efforts are more focused on the review of development applications and associated projects. Also, due to the increased workloads of the FPIs the FPO has been obligated to conduct more inspections and other FPI tasks. This has prevented the FPO in divisional planning and accompanying FPI's on inspections to provide mentorship.

Through the utilization of the FUS Inspection Frequency Chart (TABLE 6), the FPO can measure requirements to meet inspection benchmarks developing a plan with what can be accomplished with its present staffing complement, along with presenting options for increasing inspection frequencies. The utilization of this inspection chart can also prove beneficial in the Fire Chief's review for staffing needs.

**TABLE 3: FUS Suggested Frequency Chart**

Occupancy Type	Benchmark
Assembly (A)	3 to 6 months
Institutional (B)	12 months
Single Family Dwellings (C)	12 months
Multi-Family Dwellings (C)	6 months
Hotel/Motel (C)	6 months
Mobile Homes & Trailers (C)	6 months
Seasonal/Rec. Dwellings (C)	6 months
Commercial (F)	12 months
Industrial (F)	3 to 6 months

The Fire Prevention Division is not currently meeting the FUS target inspection frequencies. Improved data collection and regular reporting from the Division through the FPO will provide clarity on current performance levels and for identifying baselines and establishing benchmarks for the Division.

Currently the WSFES completes inspections in the following manner:

- annually for some assembly occupancies
- approximately once every four years for halls, arenas, and theatres
- Institutional buildings are inspected annually, as mandated by the Province of Ontario
- Commercial, businesses, and industrial are completed every five years
- Vulnerable occupancies, which are legislated inspections, are completed as required
- Schools are receiving public education and conducting annual fire drills

- Inspections that are based on license requirements, as well as upon request or complaint.

It is very difficult for the WSFES to meet FUS requirements due to their current workload, with the current staffing level. A key reason for not meeting the FUS inspection frequency is that the WSFES Fire Prevention Division is also supporting the Town’s Building Department by completing new construction inspections under the OBC. This is taking the FPIs time away from completing their own inspections and thereby putting those inspections behind.

**Recommendation #10**

**The Town of Whitchurch-Stouffville to review options of hiring FPIs based on the Division’s inspection goals and their mandate of fire safety inspections.**

The following table #4 outlines the WSFES proposed frequency of inspections based on NFPA 1730, *Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations*.

**TABLE 4: Proposed Frequency of Fire Inspections Based on NFPA 1730**

Occupancy Classification	Occupancy Type	Frequency of Inspections	NFPA 1730 Risk Classification
Class A - Assembly	Restaurants, Licensed Beverage est.	Every 3 years	Low
	Halls, Arenas, Theatres	Every 3 years	Low
	Schools, Daycares	Every 3 years	Low
Class B – Institutional	Long-Term Care, Residential Care, Care - Special Needs	<b>*Annual Mandatory*</b>	High
Class C – Residential	High-rise	Annually	High
	Low-rise	Annually	High
	Retirement Home	<b>*Annual Mandatory*</b>	High
	Boarding/Rooming	Request/Complaint (Annually)	High
	Camps ( <i>overnight lodging</i> )	Every 2 years	Moderate
	Hotels	Every 2 years	Moderate

Occupancy Classification	Occupancy Type	Frequency of Inspections	NFPA 1730 Risk Classification
	Two-units	Request/ Complaint/ Licensing by-law	----
Class D/E – Business Personal Service	Office, small restaurants, shopping/plaza’s	Every 3 years	Low
Class F – Industrial	All ( <i>includes individual units</i> )	Every 2 years	Moderate

The WSFES frequency inspection schedule was developed in 2019 as a long-term strategy to be able to return to a routine inspection cycle to better meet the needs of the community. This strategy was to move from a reactive (complaint-based) inspection schedule to a proactive (routine-based) program.

The following table lists the current status of the frequency of inspections model, based on available staffing and the time it takes to complete an inspection, and the number of inspections to be completed.

**TABLE 5: Current Frequency of Inspections by the WSFES**

Occupancy Classification	Occupancy Type	Frequency of Inspections	NFPA 1730 Risk Classification	Number of Properties	Hours per Property	Last Inspected	Hours Req. Approx.
Class A - Assembly	Restaurants, Licensed Beverage est.	Every 3years	Low	43	6hrs		258
	Halls, Arenas, Theatres, Churches	Every 3years	Low	38	8hrs	2017-2018	304
	Schools, Daycares	Every 3years	Low	44	5hrs	2021	220
Class B – Institutional	Long-Term Care, Residential Care, Care - Special Needs	<b>Annually</b>	High	11	15hrs	2021	165
Class C – Residential	High-rise	Annually	High	1	8hrs	2021	8
	Low-rise	Annually	High	22	5hrs	2020	110
	Retirement Home	<b>Annually</b>	High	3	12hrs	2021	36
	Boarding/ Rooming	Request/ Complaint	High	8	5hrs	2021	40
	Camps (overnight lodging)	Every 2years	Moderate	8	6hrs	2021	48
	Hotels	Every 2years		1	15hrs	2020	15
	Two-units	Request/ Complaint/ Licence	Moderate	25	5hrs		125
Class D/E – Business Personal Service	Office, small restaurants, shopping/plaza	Every 3years	Low	86	9hrs		774
Class F – Industrial	All	Every 2years	Moderate	426	12hrs		5,112
<p><b>Annually</b> – as per OFMEM Directive for Vulnerable Occupancies  <u>Hours Required to Inspect</u> – based on WSFES staff time as inspections are taking place per average occupancy type.  <u>Number of Occupancies</u> – numbers compiled through IMPAC, inspections records, and business listings  <u>NFPA 1730 Risk Classification</u> - column as per Table 6.7. Minimum Inspection Frequency (2019 Edition, NFPA 1730)  <u>Program Excludes</u> – single family dwellings and buildings not defined under the OBC.  <u>Program Excludes</u> – inspections and plans review related to new construction/building permit inspections.  <u>Program Excludes</u> – plans review related to site plan and subdivision agreements.  <u>Program Excludes</u> – permits/applications (fire route, burning, fireworks, lock boxes)</p>							

TABLE 5 was supplied by the WSFES Fire Prevention Division and is viewed as a work in progress. The blank boxes found within the table identify areas that WSFES has not been able to address at this time. Overall, the information supplied does acknowledge that WSFES are behind the recommended FUS frequency of inspections in some of the noted occupancies.

The frequency of inspections model developed by WSFES was established utilizing NFPA 1730 risk classification for minimum inspection frequency. WSFES is not meeting this routine inspection cycle to better meet the needs of the community. Additionally, WSFES is unable to meet FUS requirements due to their current workload, with the current staffing level.

Identifying key performance measures such as fire prevention inspection cycles is a core component of fire master planning and the ongoing monitoring and evaluation of the levels of fire protection services provided by WSFES.

Some of the contributing factors that will continue to hinder the effectiveness of the inspection program is the continued growth and development of larger and more complex buildings in the community. These files are high frequency and require time commitments to conduct thorough plans examination and pre-occupancy inspections in conjunction with the town's building division.

Historically across the province there has not been a high frequency of FPIs enforcing the prosecution process. This trend is changing provincially with the support of the OFMEM to assist municipalities. Although these files may be low frequency, the time commitment of a FPI to conduct the inspection, prepare the required documentation, and participate in the prosecution process requires the dedication of a significant amount of time.

Public education related to fire risks has proven to be one of the most effective strategies towards enhancing community fire safety. Based on current workload capacity of existing FPIs, public education programming and deployment is coordinated by one FPI in addition to their inspection workload and emergency management responsibilities. Requests for presentations, station tours, and social media content are all high frequency and require substantial time commitments to effectively meet the demands of the community.

#### **4.3.4 Public Education**

The Fire Prevention Division has a successful program that teaches fire safety to all ages and in a variety of formats and settings. Numerous partnerships with local businesses, media outlets and other Town entities such as the library have been established that aid in the delivery of this public education programming. However, it was noted that the FPI/PFLSE responsible for coordinating education activities and creating and/or delivering the programs is only afforded 50% of their time for this important endeavour. Restricting their time reduces the level of effectiveness for delivering fire safety messaging to the residents of the Town.

## Recommendation #11

**Due to the importance of public education along with the fact that this is noted as the first line of defence by the OFMEM, an FPI should be assigned to that role full-time.**

While the WSFES is committed to delivering a full array of fire prevention services and public education programs with the present available resources, many opportunities of further enhancements of these programs are being missed such as a greater utilization of social media platforms.

## Recommendation #12

**Current efforts be increased to leverage multiple social and advertising media platforms. Developing partnerships with internal and external stakeholders that would support advancement of public safety messaging campaigns.**

Further to what has already been noted by the NFPA and FUS, the CFAI outlines the following regarding fire prevention and public education:

*A public education program is in place and directed toward reducing specific risks in a manner consistent with the agency's mission and as identified within the community risk assessment and standards of cover. The agency should conduct a thorough risk-analysis as part of activities in Category 2 to determine the need for specific public education programs.*

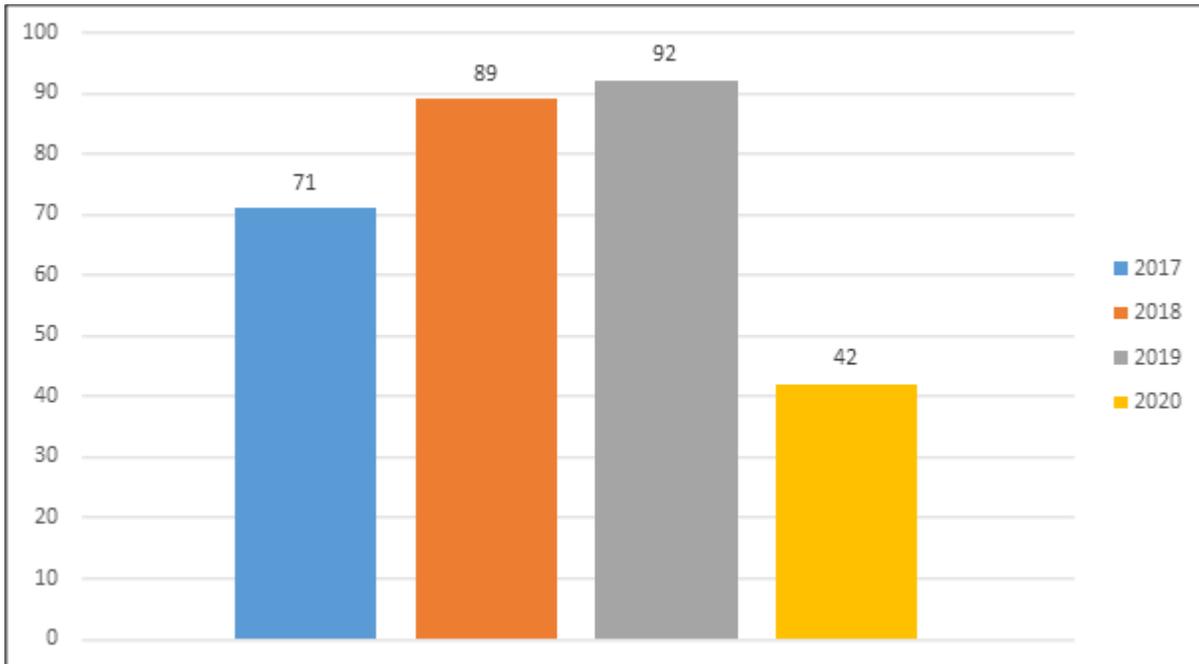
Currently the WSFES utilizes suppression personnel to support the smoke alarm program, the school program, fire station tours, community event appearances, and distributing public safety material. Opportunities exist to enhance these programs and to implement innovative approaches with support from within the WSFES directed towards the Fire Prevention Division.

Documentation of the public education events, including the topics discussed and the number of participants in attendance is required to confirm the level of public education events and attendance. The OFMEM has provided a means of documenting these events and WSFES should use this tool as a means of record management of public education events. The OFMEM website is: [Pub Ed Planning and Tracking Tool.xlsx – Google Drive](https://drive.google.com/file/d/OB0f8ggi7_vN2LVloem5tdFl1aEk/view?resourcekey=0-22HF5jDfUif-R7E-OnxtiQ), [https://drive.google.com/file/d/OB0f8ggi7\\_vN2LVloem5tdFl1aEk/view?resourcekey=0-22HF5jDfUif-R7E-OnxtiQ](https://drive.google.com/file/d/OB0f8ggi7_vN2LVloem5tdFl1aEk/view?resourcekey=0-22HF5jDfUif-R7E-OnxtiQ)

WSFES and its Fire Prevention Division should be proud of the efforts put forth in their School Program, Home Safe Home Program, and the various partnerships with local businesses. They also conduct the After the Fire Outreach Program whereby the firefighters conduct blitz public education on streets that a fire may have occurred to inform the public on the need for working smoke alarms, having an escape plan, having working CO alarms, and general good housekeeping measures.

Figure 9 outlines the number of public education events that the WSFES attended from 2017 to 2020. In 2020 there was a significant reduction in the number of public education events attended. This is due to the COVID-19 pandemic and the restrictions, on gatherings, as set forth by governmental agencies.

**FIGURE 9: Public Education Events 2017 to 2020**



**Note:** The 2020 data is lower due to the COVID-19 pandemic.

#### **4.3.5 Origin and Cause**

The fire service in Ontario is mandated to determine the origin and cause of fires. The results of these investigations assist in identifying trends which are used in the development of building and fire codes, public education, and fire prevention initiatives. Typically fire investigation is a part of the FPO's role. The *FPPA* requires the WSFES to investigate and determine the origin and cause of all fires. For a member to be successful, the office requires FPIs to successfully complete NFPA 1033, *Standard for Professional Qualifications for Fire Investigator*, and become a certified fire investigator. Presently, one of the Fire Prevention staff have done so.

Knowledge from determining origin and cause assist in targeting groups or causes to better educate the public on fire safety. Another purpose is to ensure fire code compliance (i.e., were there working smoke alarms). WSFES should continue promoting and requiring the certification of all their Fire Prevention staff to ensure a wholesome cadre of qualified staff. In addition, Suppression Captains should be included in receiving NFPA 1033 training and certification.

### Recommendation #13

**All Fire Prevention Division personnel to be qualified to NFPA 1033 as certified fire investigators. This will provide flexibility within the Fire Prevention Division, add depth to the office capacity regarding investigations, and support career development and succession planning.**

#### **4.3.6 Determination of Current Staffing Requirements**

During interviews and a review of workload levels, it was identified by EM&T that the Fire Prevention Division is finding it difficult to meet the general goals and expectations placed upon the division in relation to proactive inspections and fire code enforcement. The Division is presently staffed with one FPO and three FPIs.

To assist fire departments in determining staffing needs, NFPA 1730 outlines a five-step process within Annex “C” of the standard. This sample staffing exercise is not part of the requirements of the standard but forms a guide for informational purposes. It is important to restate that it is Council that sets the level of service within the community. This level of service must be based off the local needs and circumstances of the community.

The five-step process involves a review of the following items:

- Identifying the scope of desired services, duties, and desired outputs
- Review of the Fire Prevention Division’s overall time demands in its efforts to offer services
- Review of hours presently documented, coupled with the hours required to meet annual goals of the division
- Actual availability of division personnel, factoring in vacation and other absences. And
- Estimating total number of personnel required based on the previous four steps.

In the end, this process will assist the department in identifying what services it wants to offer, what can be delivered based on present division staffing, and any gaps. In essence, this evaluation process will identify what additional staffing is required or, at the very least, what actual services can be effectively delivered with the present staffing complement.

**Note:** *More information on this five-step process can be found in the Appendices of this document and the NFPA standard.*

To assist in this process, the Fire Prevention Division must closely track the actual time spent on each of the FPO activities (ranging from site plan reviews, routine inspections, licensing, complaints, and requests, to name a few). Further, reporting should include clearly identifying the number of public education events held as well as the number of adults and children reached. By identifying the time

spent on each project and collating this into baseline (approximate) times, the Fire Prevention Division can use those hours spent as a model figure in applying future initiatives.

This review can confirm the need for additional staff in the Fire Prevention/ Public Education Division in the form of either an additional FPI and/or a dedicated PFLSE.

The 2017 FUS report also confirmed the need for more fire prevention staff to promote fire prevention and public education initiatives. The following excerpt was taken from the 2017 FUS report (as reference).

**Recommendation 10.1-2 Improve Fire Prevention Inspection Program**

Increasing the frequency of inspections while continuing to meet legislative requirements of the Fire Protection and Prevention Act 1997, The Ontario Fire Code and OFMEM Public Safety Guidelines should be a priority of the Fire Prevention/Public Education division of the Whitchurch-Stouffville Fire & Emergency Services. In order to improve the frequency of inspections, additional resources in the form of Fire Prevention Inspectors will likely be necessary.

The amount of inspections should be improved if the fire department desires to receive additional credit within this grading item for fire insurance grading purposes. Incorporating a routine inspection program will be necessary to achieve better scoring under this item. The department should develop an inspection frequency that meets the needs of the community while maximizing fire insurance credit. The development of a plan that includes at a

March 2017 - Draft



129 | Page



Municipal Consulting Services

To WSFES' credit, they did hire an Inspector and created the FPO position after the 2018 MFP. However, based on anticipated growth, and the inability of the Division to meet the FUS frequency of inspections, a fourth FPI position should be added by 2024 with a fifth FPI position added by 2031.

### Recommendation #14

**Fire Prevention Division staffing to be increased by two FPIs, one in 2024, with the second in 2031.**

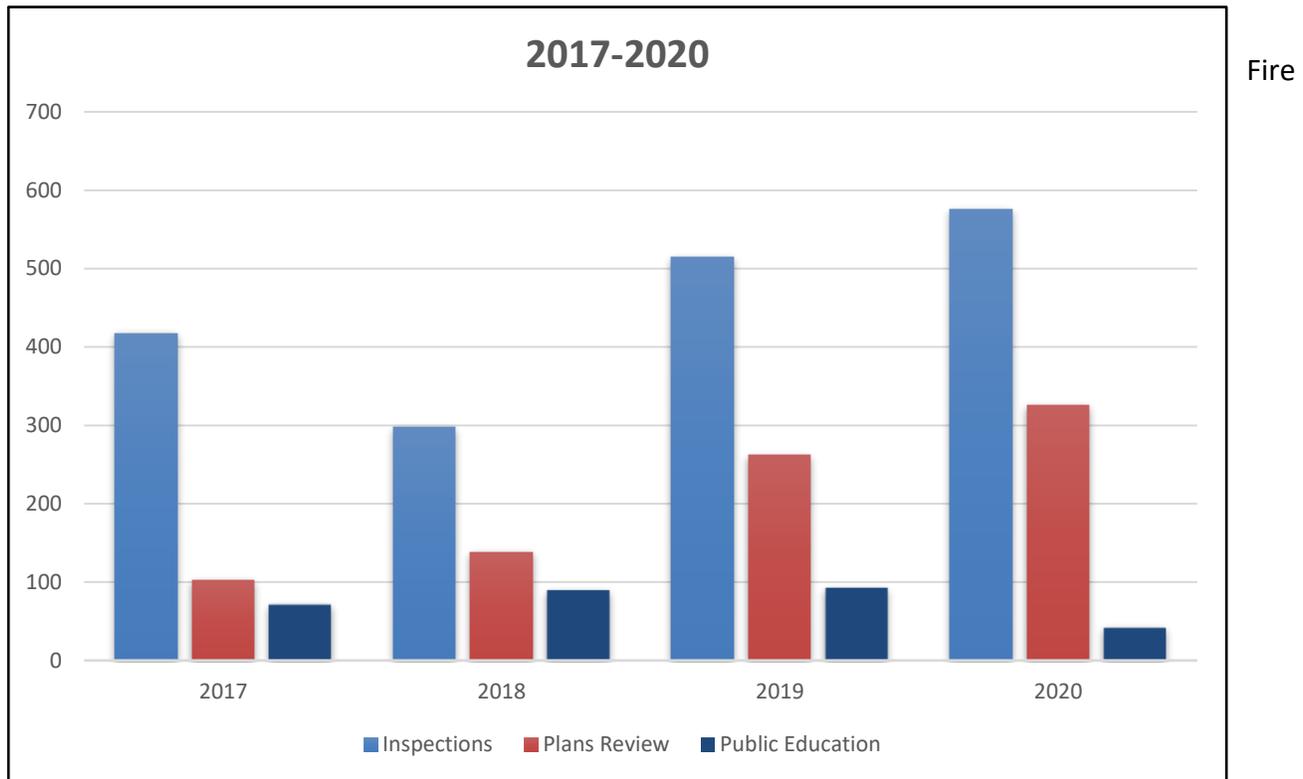
This upstaffing of the Fire Prevention Division will help the WSFES meet the current and ongoing increase in community growth, the initiatives of the division's community fire safety goals, and preparing for the legislated requirements and regulations regarding inspections, CRAs, and associated timelines.

There are several areas with the continued growth of the Town which have become a challenge for the Fire Prevention Division. These include and not limited to:

1. Future developments including high density residential proposals utilizing three storey town house developments and designs to 'sandwich' as many dwellings into structures that manipulate OBC requirements, excluding the installation of sprinklers.
  - In addition to this, these buildings are light-weight construction and typically do not have to satisfy the application of fire access route designs as they are viewed as Part 9 of the OBC buildings.
2. Large (oversized) homes exceeding 600 m<sup>2</sup> being developed which has meant the need for additional educational opportunities to property owners, builders, etc. of the need for fire protection in accordance with OBC and explaining/understanding the advantages of sprinklers being installed in these buildings.
3. Future developments that bring forth more complex buildings – (multi-towers, etc.) these designs are challenging and require hours of review to ensure proper fire protection features such as fire alarm sequencing and sprinkler protection.
4. Illegal construction of accessory apartments - number of complaints received annually regarding the construction of apartments without property approvals in place (i.e., building permits, second suite by-law)

The WSFES and the Town's Building Department should work together to find a solution to some of these challenges. To achieve a level of a consistent frequency to completing inspections, the Town should complete a comprehensive study of time required to address these challenges, which includes the addition of personnel to work within the Fire Prevention Division.

**FIGURE 10: Total of the Services Provided by Fire Prevention**



prevention workload is directly connected with the size of the municipality. All fire departments regularly inspect properties to ensure code compliance. The WSFES Prevention staff also complete inspections that otherwise would typically be assigned to inspectors in the Building Department. It is advisable that the Fire Prevention staff log hours spent on Building Department related inspections to identify what percentage of time is actually spent on fire prevention tasks.

#### 4.4 Training and Education Division

A fire service is only capable of providing effective levels of protection to its community if it is properly trained and equipped to deliver its services. Fire service staff must be prepared to apply a diverse and demanding set of skills to meet the needs of a modern fire service. Whether assigned to Administration, Fire Prevention, Training or Fire Suppression, staff must have the knowledge and skills necessary to provide reliable fire protection.

NFPA 1201 on Providing Fire and Emergency Service to the Public notes in section 4.11.1 *“that the FESO shall have training and education programs and policies to ensure that personnel are trained, and that competency is maintained in order to effectively, efficiently, and safely execute all responsibilities.”*

Further, under section 8.1, the FESO shall provide resources, planning, and training that are consistent with the level of service identified in the scope of authority and responsibilities for emergency operations.

The WSFES has one full-time Training Officer who is responsible for identifying the training needs of the suppression staff based on industry requirements. The Training Officer is responsible for planning and tracking the training of both full-time and V/POC firefighters.

During EM&T's review of the Training and Education Division, it was noted that the Training Officer is endeavoring to ensure that all required training programs are being addressed to the best of the Division's ability. However, the Department does lack a proper training facility to conduct regular hands-on programs, such as live fire training and other specialized programs that require more training props outside of those available at the fire station. Both fire stations have an area at the back of the buildings where some auto extrication and other general training can take place. Since these areas are part of the facilities parking lots, and not secured within a fenced off area, there is a safety concern for the public.

There are options for training facilities and resources that would address the lack of any training-focused facilities. Options are outlined on pages 85 and 87 of this report which discusses setting up a training facility within the town. A training center location within the community alleviates the need to fund travel, accommodation, and staffing costs that can be significant with sending staff, vehicles and equipment away to receive training at 3rd party and/or distant locations to available training centres.

Presently, the Training Officer is aware of the program needs and facility requirements and continues to maintain tracking of this. As noted in the 2018 MFP, the Training Officer should continue their efforts in identifying the following to ensure that the Training Division is meeting the related NFPA program recommendations:

- Determining the training programs required in relation to the services that the WSFES is providing as well as requirements for both full-time and V/POC staff training. Joint full-time and V/POC training provides effectiveness of operational capacities as well as ensures a standard of competencies between full-time and V/POC firefighters.
- The number of hours that are required to meet each of those training needs
- Resources required to accomplish this training
- Joint partnerships with bordering fire departments and private organizations that can be entered into to achieve the training requirements identified by the Training Officer
- An annual program outline at the start of each year to be presented to the Fire Chief, with noted goals and expectations, which are measured and reported on relative to completion success rate at the end of each year

#### **4.4.1 Commission on Fire Accreditation International**

The CFAI Accreditation Program has a specific section that evaluates the training component of a fire department. In this section, the following points are noted:

- Category VIII: Training and Competency
  - *Training and educational resource programs express the philosophy of the organization they serve and are central to its mission. Learning resources should include a library; other collections of materials that support teaching and learning; instructional methodologies and technologies; support services; distribution and maintenance systems for equipment and materials; instructional information systems, such as computers and software, telecommunications, other audio-visual media, and facilities to utilize such equipment and services. If the agency does not have these resources available internally, external resources are identified, and the agency has a plan in place to ensure compliance with training and education requirements.*

To assist the Training Division in its ongoing efforts of ensuring consistent, quality training for the WSFES staff, more resources are required. This can be accomplished by:

- Hiring a second training officer
- Utilizing on-shift officers to further participate in the development and delivery of crew training

#### **Recommendation #15**

**Enhance the Training Division resources to ensure that WSFES will be able to meet the future demands that are now required by the OFMEM in the form of new training and certification standards.**

- **Enhancements can be either in the hiring of another training officer, or perhaps the inclusion of a V/POC training officer counterpart to look after the V/POC firefighter component, while the full-time training officer focuses on the needs of the full-time firefighters.**
- **Another option is the implementation of Shift Training Officers, that requires a stipend when fulfilling the duties of a training officer.**

Training enhancement from a regional perspective include the utilization of joint training programs that accomplish several things:

- Offers consistent training throughout the region, which means that when bordering fire departments work together at a scene, they are similarly trained
- Takes advantage of combined regional training resources to be more cost effective, wherever possible, and

- Creates a pool of training officers that can jointly develop training programs, instead of doing this independently.

Planning for regional training programs should take place during budget deliberations and be scheduled to ensure there are few possibilities of short notice training courses at greater expense than necessary. It is understood that occasions exist when a training course may become available on short-term notice. Because of scheduling for the full-time and V/POCs, there could be occasions when individuals will either cancel or be sent to training on short notice. Nonetheless, some type of annual forecasting should be implemented to identify training and education opportunities for the WSFES staff.

### **Recommendation #16**

**The WSFES training division continue to search for opportunities to conduct joint training programs with other regional departments by securing/scheduling neighboring training facilities.**

#### **4.4.1 Training Facilities**

While the WSFES has a training tower at Station 51, it does not offer live fire evolutions to be conducted on site. Having staff attend at a Regional Training Centre (RTC) creates a concern when travelling outside the community to conduct training; fire department resources are consequently delayed or unavailable if a large-scale situation, such as a house fire, were to occur.

The cost of designing, developing, and maintaining a training centre can be cost prohibitive for any community. As such, many small to mid-size departments have opted to purchase a mobile training unit that has multi-training capabilities. The advantage of having access to such a unit is that it can be parked at a fire station and does not require a full site-specific yard/ compound to use. Another advantage of such a unit is that it can be moved between fire stations or even rented out to other communities on a scheduled basis as a method of revenue generation.

#### **FIGURE 11: Example of Live Fire Training Unit – Propane Powered**



#### **4.4.2 Small-Scale Training Facility**

As an alternate solution to the RTC or mobile training unit, there is also the possibility of a public-private partnership where funding is secured between the Town and third-party agencies that have a vested interest in fire suppression training.

A growing trend for training facilities is the use of shipping containers (also called sea-cans). This is due to the ease and flexibility of modifying the shipping container to design a facility that meets the NPFA 1402 Standard on Facilities for Fire Training and Associated Props. The use of shipping containers allows a fire department to custom design a facility that specifically meets their needs and allows expansion at a low cost in the future.

A two or three-storey structure for ladder training and firefighter emergency exiting (such as bail out procedures from a second storey window) can easily be accommodated with a shipping container training structure. A propane-fed system can provide environmentally friendly fires for suppression and advanced training in fire flow behaviours. The designs are limitless in terms of what a department wants to incorporate into the facility. An analysis of what the WSFES requires must occur to ensure that taxpayers' dollars are spent in the most efficient and cost-effective manner. While considering the possibility of new fire station locations, it may be cost-effective to build a small-scale training facility at the same time while ensuring the necessary space is considered.

The WSFES responds to multi-storey structures and a training facility must, at the very least, be a two-storey structure with preference being at least three or more storeys. A two-storey structure can be designed to replicate a modern apartment floor plan for ladder, search and rescue, and emergency bail out training. A new training facility must have concrete pads for auto extrication, HAZMAT training, and a car fire prop.

NOTE: Prior to the building of such a facility, the Fire Chief would need to ensure that all environmental requirements are met by the contract. This could include the installation of proper run-off, catchment systems for contaminated water, and a properly engineered foundation for the facility.

The benefits of the hands-on practical component of a small-scale training facility are numerous as firefighters can develop new skills, maintain existing skill sets, and gain confidence in equipment and tactical strategies. The practical training improves firefighter safety and reduces work related injuries. Live fire burn training is an invaluable training tool to improve a firefighter's skills and confidence when facing heat, smoke and understanding the science of fire flow paths.

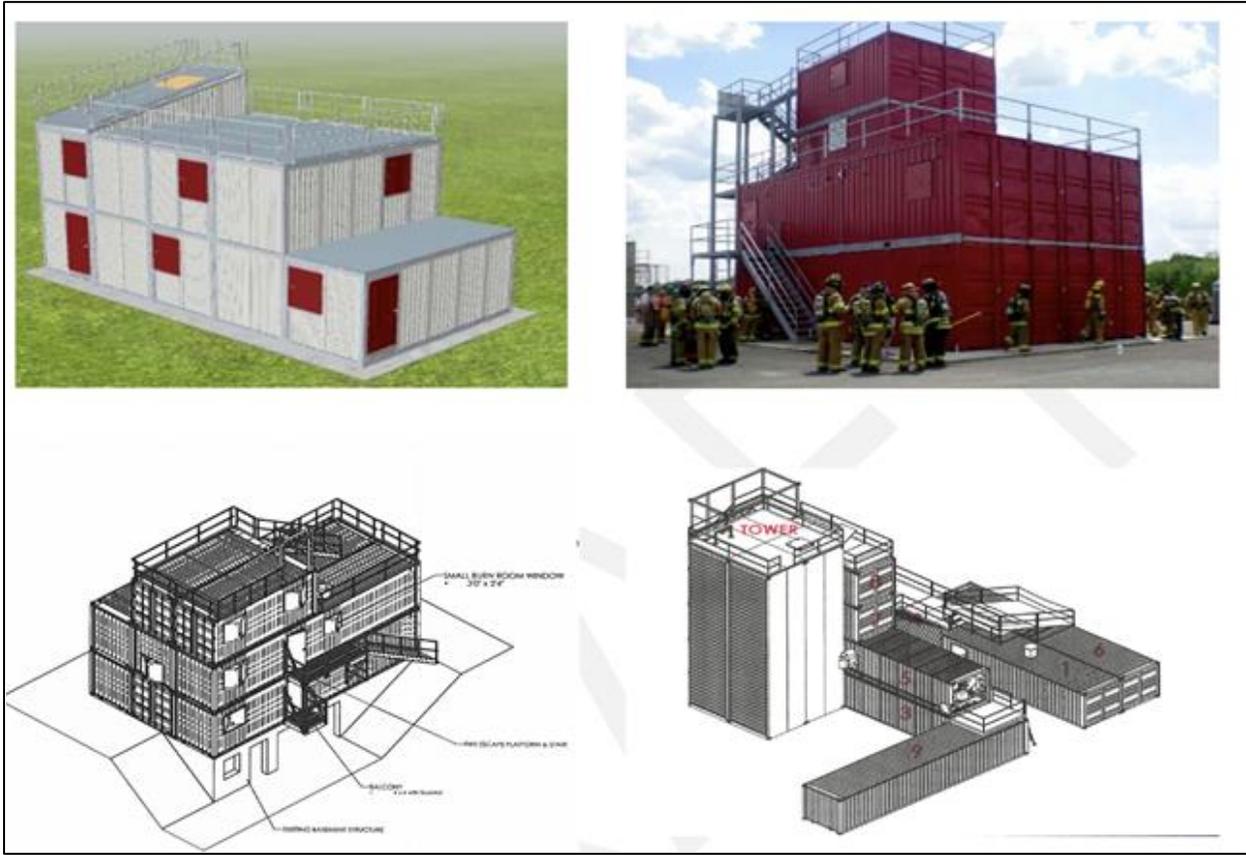
The key points for supporting a new training facility for the WSFES include the benefits to firefighters as they develop and maintain skills, and to officers as they gain new situational awareness through continuous exposure to real life scenarios.

A new small-scale, relatively low cost, training facility will vary in price from approximately \$100,000 - \$200,000 depending upon the needs, options, and configuration required. If consideration is given and supported for the development of a training facility, the WSFES should review requirements noted in NFPA 1402, which is the standard on facilities for fire training and associated props. Available and potential training location(s) such as existing Public Works Yards make close to ideal areas to set-up small-scale, yet effective, training facilities. These facilities have potential for multi-department internal and external opportunities for joint use. Driver training, confined space operations, training props for Ontario Building and Fire Code inspections, etc. have value for Fire and other municipal services and departments.

One of the common issues raised during this MFP is that the training, in particular live fire training for both full-time, and V/POC in the last five years has declined. Access to, and funding required, to address live fire training is generally an issue across most small to medium sized fire departments. A small-scale training facility, with live-burn prop(s) would address training issues across the department.

It is important to note that firefighters, whether they are V/POC or full-time, require live-fire training in a controlled environment, as both components of the staffing model respond to the same incident types, thereby requiring the same training to effectively manage the safety and competency risk-management factors.

## **FIGURE 12: Training Facility Examples**



A well-designed small-scale training facility that meets the needs of the WSFES will have many benefits, including:

- A satellite centre that can offer certified NFPA 1001 firefighter training as well as specialty rescue skills in NFPA 1006 and Driver/Operator as per NFPA 1002.
- A significant cost savings for the WSFES as they can provide improved training for all firefighters without them having to travel.
- An opportunity for revenue generation.

All fire departments should continue to investigate opportunities to conduct more collaborative training programs.

### **Recommendation #17**

**To enhance training, WSFES purchase a mobile training unit that can be moved from station to station or located in semi-permanent set-up in the existing Public Works Yard, in order to accommodate training needs of the firefighters.**



# SECTION

# 5

## Fire Suppression & Dispatching

5.1 Fire Suppression/  
Emergency Response

5.2 V/POC, Composite, or Full-  
time

5.3 Workloads

5.4 Reliability & Vehicle  
Movements

5.5 Recruitment & Retention of  
V/POCs

5.6 Dispatching Services

## SECTION 5: Fire Suppression & Dispatching

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### 5.1 Fire Suppression/ Emergency Response

To make an informed decision on fire suppression staffing requirements, consideration is dependent on the following points:

- Does the WSFES have an approved response criterion as a baseline?
  - Has Council given direction to the Fire Chief (based on his recommendations) on expected response times that are to be met by the Fire Department?
  - If so, is the Department meeting this response criterion consistently or is it struggling to meet the response times and perhaps falling behind?
- Does the Department have issues or concerns with getting enough fully trained career and V/POC firefighters to respond consistently to ensure a viable level of response?
- Local and national standards and guidelines exist to help direct the Fire Department in its decisions relating to station location and staffing models, specifically, NFPA 1710 and 1720 along with the CFAI “industry best practices”.
- What growth in population and industry is continually occurring that may precipitate more or less fire stations and staffing?

As noted earlier in this document, for fire departments in Ontario, there are three main standards and industry best practices that are considered in relation to fire suppression:

- The Public Safety Guidelines that are created and distributed by the OFMEM. These Guidelines advise fire services in all aspects of delivering fire suppression and fire station location programs.
- The NFPA’s 1201, 1710, and 1720 standards, which offer guidance on response time criteria
- The FUS

For this section, the focus will be on the NFPA 1710 and 1720 standards.

#### **5.1.2 NFPA 1710 and 1720 – Career and Volunteer Fire Departments**

When a fire department has a level of V/POC emergency personnel comprising 85% or greater, it is considered a volunteer fire department. Presently, the WSFES is below the total approved V/POC firefighter complement, and the roster continues to drop given the circumstances and challenges of recruitment and retention. As such, it is considered a composite department and should be evaluating its response services based on the NFPA 1710 standard. The key consideration is the initial response

component and how that initial response team is meeting the goals and expectations of the Fire Department.

For clarity, consideration of both 1710 and 1720 standards should be made relative to the following:

- NFPA 1710 in relation to the career firefighter component, chapter 4, notes the expectation is that the crew can:
  - turnout (respond) from the station within 80 seconds, 90% of the time
  - have a travel time of 240 seconds (4 minutes) for the first unit to arrive on scene, 90 % of the time in the primary response area
  - have a travel time of 480 seconds (8 minutes) for the remainder of the response contingent, 90 % of the time
- NFPA 1720 for volunteer fire departments, chapter 4, notes the following for the deployment of V/POC firefighters:
  - 4.3.1 notes the following: *“the Fire Department shall identify minimum staffing requirements to ensure that a sufficient number of members are available to operate safely and effectively.”*
    - *In Urban areas (population greater than 1,000 per square mile), there should be a minimum response of **15 staff within 9 minutes**, 90 percent of the time*
    - *In Suburban areas (population of 500 – 1,000 per square mile), there should be a minimum response of **10 staff within 10 minutes**, 80 percent of the time*
    - *In Rural areas (population of less than 500 per square mile), there should be a minimum response of **6 staff within 14 minutes**, 80 percent of the time.”*

To accomplish this, as noted in the NFPA Standards, a fire department should endeavour to meet the stated minimum response standards based on responding to a 2,000 ft<sup>2</sup> single family dwelling. The dwelling (noted in the Standard) does not have a basement or other exposures (buildings close enough to each other to create a greater possibility for fire spread). However, most homes in Whitchurch-Stouffville have basements and are built close enough to each other to create exposure for potential fire spread, which must be considered by the Fire Department in its response efforts.

The WSFES is diligently working at meeting the 1710 NFPA standard in relation to population verses staff/ response times. Based on a response data review and discussions with the Fire Chief, the WSFES is witnessing a varying level of success in meeting the response criteria.

When we look at the response time of a fire department, it is a function of various factors including, but not limited to:

- The distance between the fire department and response/ incident location.
- The layout of the community.
- Impediments such as weather, construction, traffic jams and lack of direct routes (rural roads).
- Notification time.
- Assembly time of the firefighters, both at the fire station and at the scene of the incident.
  - Assembly time includes dispatch time, turnout time to the fire station, and response to the scene. Assembly time can vary greatly due to weather and road conditions, along with the time of day (e.g., rush hour; many firefighters are at their full-time jobs and cannot respond to calls during work hours).

As noted in the following fire propagation diagram, the need for immediately initiating fire suppression activities is critical. It must also be noted that the WSFES responds to more than just fires. For example, motor vehicle collisions can create a medical or fire emergency that also needs to be addressed urgently. Hence the reason to be as efficient and effective as possible in responding to calls for assistance.

**FIGURE 13: Fire Response/ Propagation Curve**

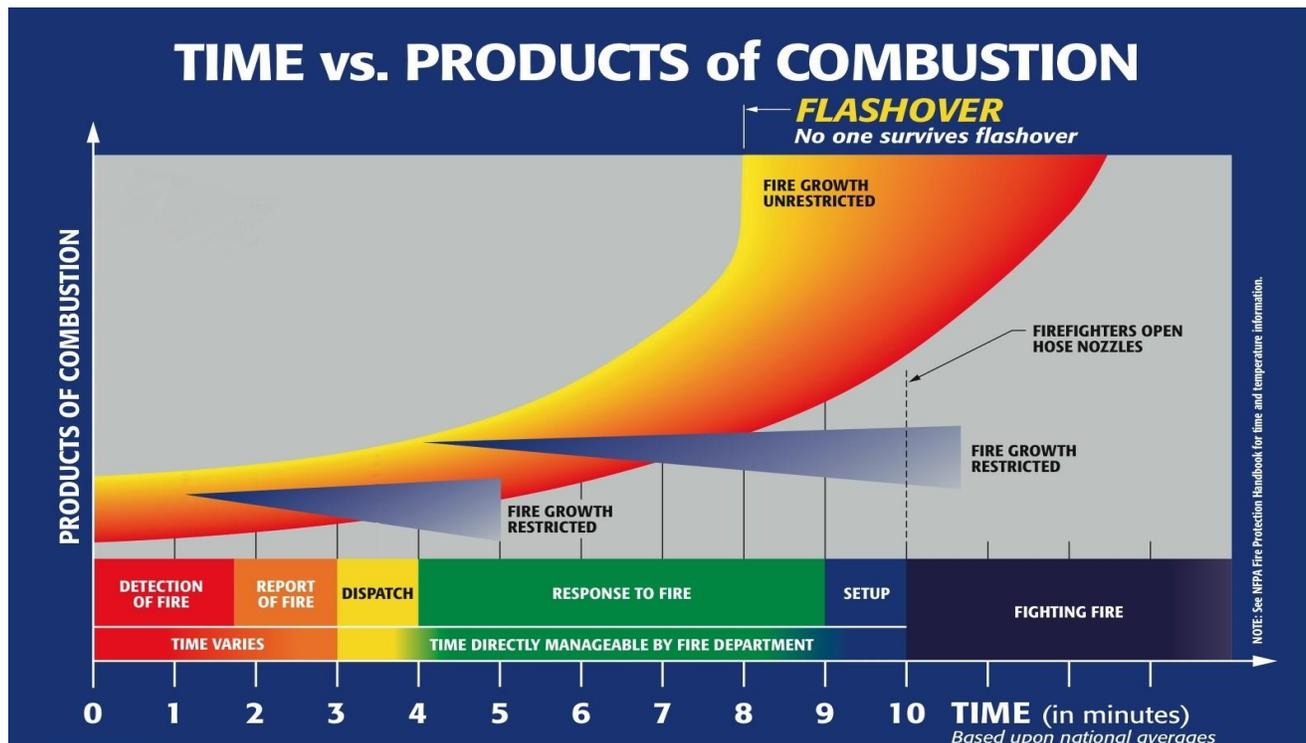


Figure 13 notes the following time variables:

- Report of fire/ Call processing – when someone has identified the fire and is calling 9-1-1 for help; the time it takes the dispatcher to receive the information and dispatch the appropriate resources.
- Response to the fire – response time is a combination of the following:
  - Turnout time – how long it takes the career firefighters to get to the fire truck and respond or how long it takes the V/POC firefighters to get to the fire station to respond on the fire truck.
  - Drive time – the time from when the crew advises dispatch that they are actually responding, until the time that they report on scene.
- Fighting the fire – actual time on scene extinguishing the fire.

The overall goal of any fire department is to arrive at the scene of the fire and/or incident as quickly and as effectively as possible. If a fire truck arrives on scene in eight minutes or less from the time the fire is detected with a recommended crew of four or more firefighters, there is increased opportunity to contain the fire by reducing further spread to the rest of the structure.

Alternatively, if the first fire attack team arrives with only three firefighters, it is limited to what operations it can successfully attempt. Based on studies and evaluations conducted by the National Institute of Standards and Technology (NIST), the NFPA and Ontario Firefighter Health and Safety Section 21 Guidelines, no interior attack is to be made by the firefighters until sufficient staff arrive on scene. The expectation is that a minimum of three firefighters and one officer arrive on scene to make up the initial fire suppression team. This team of four can effectively do an assessment of the scene, secure a water source (fire hydrant), ensure the fire truck is ready to receive the water and get the fire pump in gear, as well as unload and advance the fire hose in preparation for entry into the structure. A team of four also allows for adherence to the recommended “two-in, two-out” rule, referring to the presence of two firefighters inside the structure with two outside ready to go in as back-up.

To ensure that a complement of four firefighters is always in effect, a response protocol should be in place that supports an additional station or crew is automatically dispatched to the same incident whenever a station and its firefighters are dispatched to any type of call requiring back-up.

A major concern was identified by EM&T in its review of response times and staffing. Response records indicated the WSFES have experienced some incidents of either a delay in response by the V/POC firefighting complement from Station 5-2 (to assemble a properly staffed response team), or the V/POC firefighters were not able to gather a response team at all. This not only reduces the effectiveness of the Department’s abilities to conduct critical tasks at the fire scene, such as search

and rescue and fire suppression, but due to the lack of on scene staffing, is a health and safety factor for the firefighters at the incident.

### **5.1.2 Response Data**

The following charts identify a comparison of response types between the two fire stations for 2018, 2019, and 2020; more data is available in Appendix “E”. While the 2021 data was not available at the time of this report moving forward, the data continues to support the trend toward increasing the responses and call types.

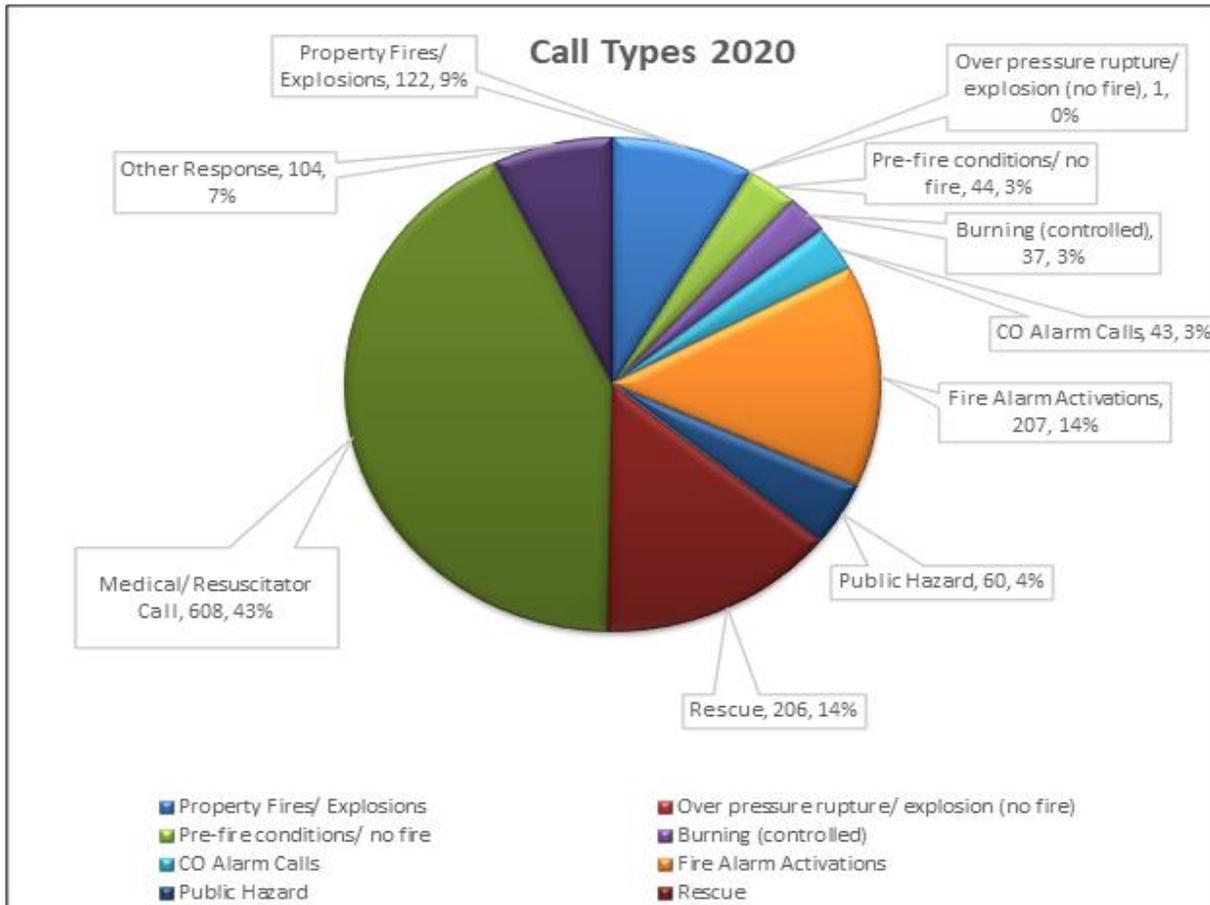
The following set of charts (using the supplied data) help to identify the types of calls that are creating the bulk of response demands and which station(s) are called upon the most for these responses.

*Note: The following charts may not reflect the total number of calls that the Fire Chief has recorded to Council in a report. This is due to the following points:*

- *To get a more accurate accounting of response times, some of the calls were removed from the data analysis due to identified anomalies in time stamping. For example, if an emergency response time was noted as taking hours, then it was removed based on the assumption of a data entry error.*
- *Also, only the emergency responses were measured, which is the recommended practice noted by the NFPA and the CFAI. For example, a department may have noted a total of 2,500 calls for service for noted year, however, only 2,000 of those calls were emergency responses.*

**FIGURE 14: 2018 to 2020 Yearly Comparisons of Incident Types for Stations 51 and 52**

**2020 Call Types Chart (charts for 2019 and 2018 can be found in Appendix “E”)**



**TABLE(S) 6: Call Data for Stations 51 and 52**

2018	Station 51	Station 52	Total
Property Fires/Explosions	64	56	120
Over pressure rupture/explosion (no fire)	2	1	3
Pre-fire conditions/no fire	36	14	50
Burning (controlled)	16	10	26
CO Alarm Calls	39	20	59
Fire Alarm Activations	157	39	196
Public Hazard	47	23	70
Rescue	133	107	240
Medical/Resuscitator Call	455	175	630
Other Response	36	33	69
Totals	985	478	1,463

2019	Station 51	Station 52	Total
Property Fires/Explosions	43	37	80
Over pressure rupture/explosion (no fire)	0	0	0
Pre-fire conditions/no fire	23	19	42
Burning (controlled)	13	5	18
CO Alarm Calls	32	5	37
Fire Alarm Activations	166	51	217
Public Hazard	47	24	71
Rescue	161	102	263
Medical/Resuscitator Call	514	203	717
Other Response	38	40	78
Totals	1,037	486	1,523

2020	Station 51	Station 52	2020
Property Fires/Explosions	52	70	122
Over pressure rupture/explosion (no fire)	0	1	1
Pre-fire conditions/no fire	35	9	44
Burning (controlled)	22	15	37
CO Alarm Calls	35	8	43
Fire Alarm Activations	148	59	207
Public Hazard	39	21	60
Rescue	100	106	206
Medical/Resuscitator Call	426	182	608
Other Response	64	40	104
Totals	921	511	1,432

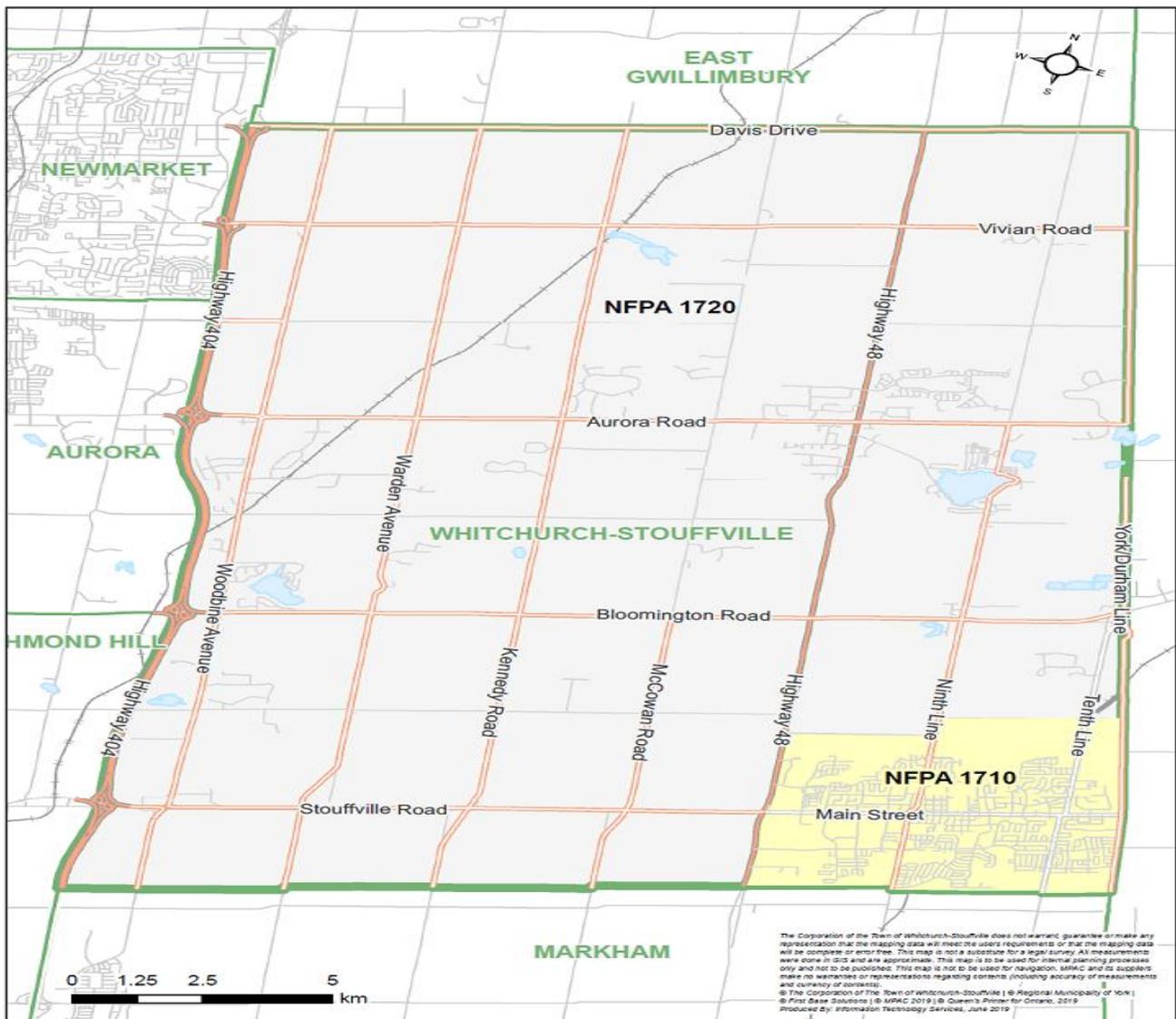
**5.1.3 Response and Meeting Industry Standards**

The WSFES is a composite fire department (with full-time (career) and V/POC firefighters). There have been concerns of the number of times appropriate staffing is available. A review of response staffing to determine the WSFES performance in meeting response standards needs to be conducted on an ongoing basis. By doing this, specific improvements to service can be presented to Council by the Fire Chief.

For this review, the Town has been divided into urban and rural sectors to coincide with related NFPA Standards 1710 and 1720, respectively, and suggested response criteria. As such, the downtown core of Stouffville has been identified as an urban response area, based on population density and construction type, with the remainder of the Town being identified as a rural response zone.

When staffing requires eight or more on scene, the WSFES is currently, and essentially, unable to meet this standard due to current, on-shift staffing numbers. This is far below the NFPA 1710 standards recommendation for effective service levels. Considering the steadily increasing development of high-rise and high-density construction in the Community, this has become a significant issue.

**FIGURE 15: Map Identifying the 1710 & 1720 Response Zones (Based on Urban or Rural Criterion)**



When it comes to meeting the effective response force on scene to deal with high-rise structure fires, the WSFES is unable to meet the staffing recommendation of 38 (as noted in the following table).

**TABLE 7: NFPA 1710 (2020) Staffing Required for a High-Rise Fire**

Function	Staffing Required
1) Establishment of a stationary incident command post outside of the hazard area for overall coordination and direction of the initial full alarm assignment with a minimum of one officer with an aide dedicated to these tasks and operations are to be conducted in compliance with the incident command system for the overall coordination and direction of the full alarm assignment.	<b>2</b>
2) Establishment of an uninterrupted water supply to the building standpipe/sprinkler connection sufficient to support fire attack operations maintained by an operator and if the building is equipped with a fire pump, one additional member with a radio to be sent to the fire pump location to monitor and maintain operations.	<b>1/1</b>
3) Establishment of an effective water flow application rate on the fire floor at a minimum of 500 gpm (1892 L/m) from two handlines, each operated by a minimum of two members to safely, and effectively, handle the line.	<b>4</b>
4) Establishment of an effective water flow application rate on the floor above the fire floor at a minimum of 250 gpm (946 L/m) from at least one handline, with each deployed handline operated by a minimum of two members to safely, and effectively, handle the line.	<b>2</b>
5) At a minimum, an initial rapid intervention crew (IRIC) assembled from the initial attack crew and, as the initial attack crew and as, the initial alarm response arrives, a full and sustained rapid intervention crew established.	<b>4</b>
6) Provision of two or more search-and-rescue teams consisting of a minimum of two members each.	<b>4</b>
7) Provision of one officer, with an aide, dedicated to, establish an oversight at or near the entry point on the fire floor(s).	<b>2</b>
8) Provision of one officer, with an aide, dedicated to, establish an oversight at or near the point of entry on the floor above the fire.	<b>2</b>
9) Provision of two or more evacuation management teams to assist and direct building occupants with evacuation or shelter actions, with each team consisting of a minimum of two members.	<b>2</b>
10) Provision of one or more members to account for and manage elevator operations.	<b>1</b>
11) Provision of a minimum of one trained incident safety officer.	<b>1</b>
12) Provision of a minimum of one officer two floors below the fire floor to manage the interior staging area.	<b>1</b>

Function	Staffing Required
13) Provision of a minimum of two members to manage member rehabilitation and at least one of the members to be trained to the ALS level.	<b>2</b>
14) Provision of an officer and a minimum of three members to conduct vertical ventilation operations.	<b>4</b>
15) Provision of a minimum of one officer to manage the building lobby operations.	<b>1</b>
16) Provision of a minimum of two members to transport equipment to a location below the fire floor.	<b>2</b>
17) Provision of one officer to manage external base operations.	<b>1</b>
18) The establishment of an initial medical care component consisting of a minimum of two crews each with one member trained to the ALS level, capable of providing immediate on-scene emergency medical support, and transport that provides rapid access to civilians or members potentially needing medical treatment. NFPA 1710 asks for four, members to be assigned to this task.	<b>No staff required as this would be handled by YRPS</b>
<b>Total effective response force, a minimum of 42 (38 due to the non-implementation of #18) 43 if the building is equipped with a fire pump.</b>	<b>38</b>

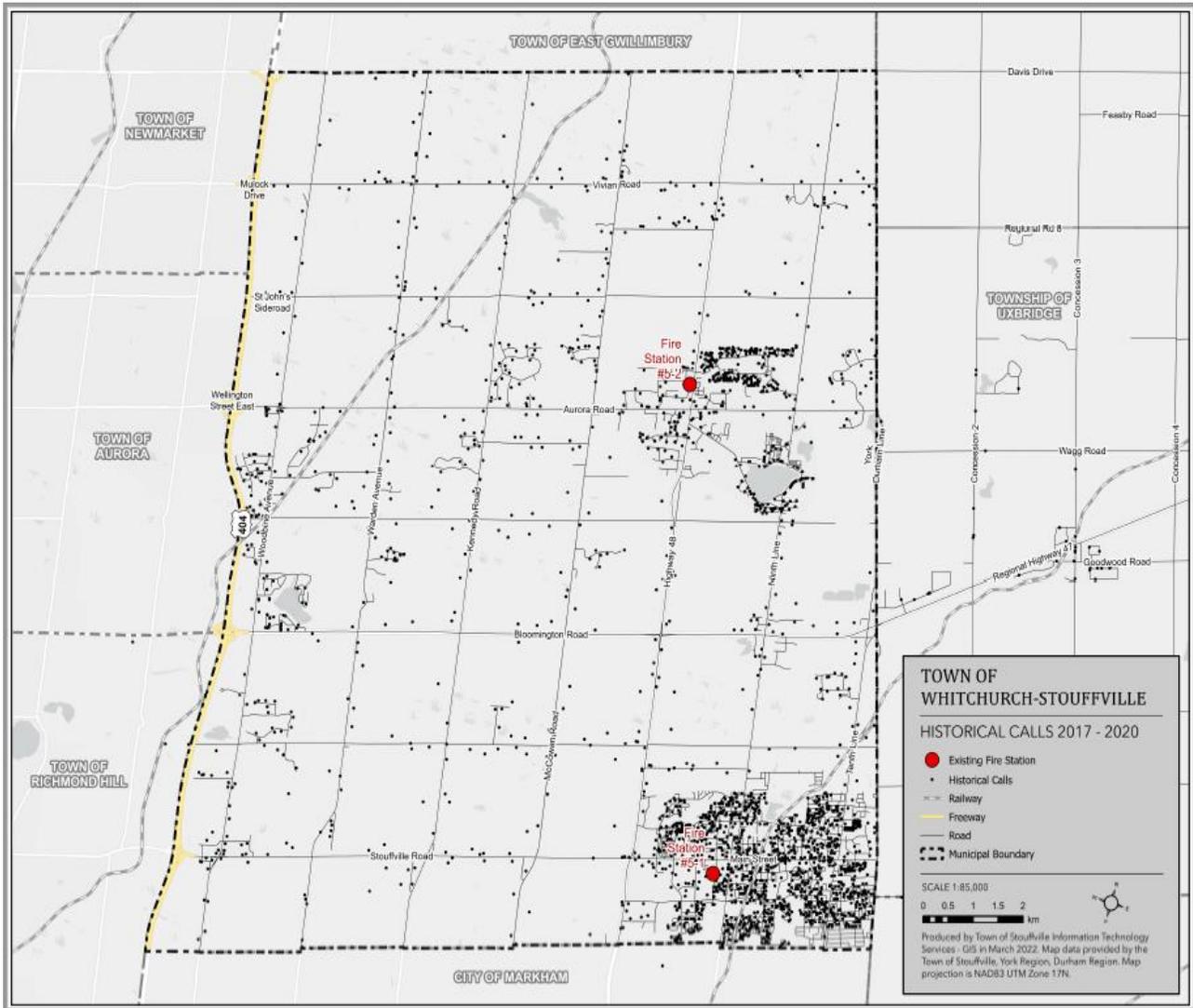
The WSFES response to a high-rise fire compared to the NFPA standards minimum required to operate at a working high-rise fire is far from adequate, which is a health and safety concern. Additional resources will be requested (as needed) under the Mutual Aid Agreement by the Incident Commander to support the fire scene, as well as provide fire protection to the town. However, it is not wise nor is it practical to depend on mutual aid to supply as many as 30 more firefighters on a high-rise fire scene. It should be noted that while WFES does currently have a V/POC complement to augment on-scene staffing numbers, there remains a severe shortage in the minimum level and consistent response numbers.

There is also the need for training and skills maintenance of the V/POC complement to the same level as full-time career staff as they would be responding to same incident type and need to work in tandem with all responding crews and apparatus. Staffing and live fire training are both significant and critical requirements to be addressed and funded to ensure competent on-scene staffing requirements.

**5.1.4 Call Location Map**

Another useful tool is to pinpoint where the bulk of the emergency responses are occurring. This ‘clustering’ of responses will help to identify where most calls are occurring, which will indicate if the present fire station locations are properly positioned, or if there were there a shift in call locations that would suggest the possible need for either the relocation of a fire station, or the need for a new fire station in another location.

**FIGURE 16: Call Location Map**



This call cluster map plots the location of the emergency calls within Whitchurch-Stouffville. This map confirms that the bulk of the calls are still located in the populated areas of Stouffville, Musselman’s Lake, and the Ballantrae communities. With planned residential, commercial, and industrial development still to come, the demand for fire responses will continue to grow in the Town. This style

of call clustering should be regularly reviewed by the Fire Chief to ensure that the fire stations are effective in meeting the growing needs of the community. This will also help to identify if there is a shift in the call locations due to growth.

The FUS report has identified a future need for two fire stations in the western portion of the Town. This will be discussed more in Section 6 of this report.

## **5.2 Volunteer (V/POC), Composite, or Full-Time**

A question that is often posed to composite fire departments is when the department should consider moving to a solely career model, eliminating the reliance on V/POC firefighters. There is no document that specifically identifies the tipping point for this move. It is based on the level of service set by the community's Council, coupled with regular reports by the Fire Chief on how the Department is meeting service level expectations.

There are many factors including the number of V/POCs arriving when paged out, how quickly they respond to the page, minimum staffing for apparatus turnout, the time of the day, and day of the week (e.g., V/POC availability during day shift vs. night shift), etc.

V/POCs must be provided with the same minimum training certifications and equipment. Recruitment and retention of V/POCs is becoming more of a challenge with increased annual training and high staff turnover with many younger V/POCs actively looking for full-time firefighting careers.

Some composite fire departments have identified where to focus additional career firefighters by identifying call volume, growth of the community, and, more specifically, the times of the day that are most challenging for V/POC firefighter responses. As with many fire departments, the daytime hours from Monday to Friday are the greatest challenge for the V/POC response. This is often due to fact that many V/POC firefighters are either at work, school, or taking care of family during this time. As such, some departments initially focus a full-time component that works dayshifts Monday to Friday, or even seven days a week. This was the case with the Ballantrae Station 52 prior to moving to 24/7 staffing.

The reliability of quick and effective response by V/POC is questionable, the Fire Chief and Town Council will need to consider moving to additional full-time firefighters, increasing minimum staffing levels and determining if there is a need for additional fire stations due to call demand within the town. This must be part of an ongoing review conducted by the Fire Chief to ensure that all expectations of Council and the community are being met.

Another indicator for making this decision is tracking the number of firefighters that arrive at the fire station to respond. If, for example, the standard set by the Department is that three or more V/POC firefighters must arrive at the station before the fire truck can respond, then this should be monitored

and reported. Specifically, notations of how many times a station is unable to muster up the needed personnel to effectively respond should be made.

There is no doubt that transitioning to an entirely full-time service is a large cost to the community; many communities have accomplished this in stages to meet the needs of the community. Whitchurch-Stouffville's model of a composite fire department has been a cost-effective form of fire protection for a community of its size. It must be emphasized, however, that the growth of the community creates pressures that force it to move towards having increased staffing for full-time response at both of its stations, with V/POC firefighters as a support component until such time as they may be completely phased out.

It is realistic with the projected growth of the community that the V/POC component may potentially be phased out over the next 10 years.

### 5.3 Workloads

Fire department workload can be correlated with population growth. As the Town grows, one might expect call volume to grow with it. Current data indicates that annual incident volume is at approximately 1,500 calls with actual property fire incidents being 3.2% or approximately 48 incidents. The largest volume of incidents is medical, resuscitator, or rescue at 46.3% of the total incident volume.

The WSFES experiences approximately four incident responses per day on average. These incidents can range from approximately one hour per response to 10 hours or more, depending on the size and scope of the incident. Crews also spend their time training, vehicle and equipment checking/maintenance, and participating in public education, events while maintaining operational readiness to respond to incidents. Full-time duty staff are typically first to arrive at the scene. These staff either mitigate the incident immediately on arrival or begin operations such as securing the site, establishing a water source, etc., while they wait for additional resources to arrive. Those resources are full-time, career staff from the other station, as well as V/POC firefighters.

It is important to note that interior firefighting activities and/or rescues, particularly in high density, high-rise building incidents require significant resources that cannot be performed with minimal firefighters on scene. Such activities can only commence once additional personnel arrive.

Should the Town encounter a second call in the same time frame, further V/POC paging and mutual aid can assist. The fire department needs to track the occurrences of simultaneous calls and the resource requirements needed. It is important to note that additional paging, mutual aid, and need for additional resources takes time before becoming effective on-site at the incident.

With the information noted, along with the challenges of ensuring adequate staffing for the ever-increasing call volumes, EM&T is proposing phasing in more full-time staff to ensure a more reliable

response to emergency incidents. The V/POC firefighters would continue to be an integral and valuable partner in the protection of the community, but due to the ever-increasing call volume, a more reliable response component is required.

### **5.3.1 Proposed Phasing Options**

Throughout the focus group sessions, data review, and in reference to the CRA, the single common theme regarding challenges to the WSFES is staffing. Council has supported hiring of ten FTE positions since the last MFP in 2018. However, there remains a significant risk due to understaffing. EM&T has made the recommendations and related phased in approach based on the following facts:

- The population over the next 10 years is projected to continue its growth rate by approximately 29.3%. This will create additional demand on the Fire Department.
- Based on FUS and NFPA, the WSFES is challenged to meet the standards and needs to accelerate adding additional staff to all the divisions now and within the next 10 years.
  - This will not negate the need for the V/POC firefighters. They will continue to be a valuable service to the community in a transition to full time, career only model.

The following are EM&T's recommendations for staffing increases considering the Three Lines of Defence, risk exposure, and growth factors:

### **Recommendation #18 – Suppression Staffing Increases**

#### **Phase 1 – 2022/2023**

**Increase of six full-time firefighters with two in 2022, and another four in 2023 (with an additional administrative position).**

- **The goal of this upstaffing is to work towards providing a minimum of four firefighters on the responding apparatus which would put WSFES in line with best practices, including NFPA 1710 and the NIST Study, and the Sudbury award.**

#### **Phase 2 – 2024/2025**

**For the WSFES to have the recommended staffing of four firefighters on a 24/7 basis without consistently incurring overtime, the department's staffing would need to have a complement of six firefighters per station. This allows for such things as vacation, time off, and sickness, while keeping four firefighters per truck.**

- **This would be accomplished through hiring four firefighters in 2024, plus an additional FPIs and two firefighters in 2025, plus a second Training Officer to ensure that each station has six firefighters per platoon, for a minimum staffing of four.**

- For shifts with more than four firefighters on duty, firefighters could be assigned to the aerial truck or tanker or rescue.
  - While these trucks would not be fully staffed, it provides additional resources on scene until the V/POC arrive.

### **Phase 3 – 2026/ 2031**

- Due to the growth of the community and the considerable V/POC firefighter recruitment, training, and retention challenges, consideration needs to be given to a reduction in reliance on the V/POC component. This can occur in a gradual process so as not to leave the community without the resources it requires at large scenes, until a proper full-time component can be fully implemented.
- The final outcome of suppression staffing increases between the years of 2026 to 2031, is 14 additional firefighters in order to staff an engine and an aerial at station 51 and an engine at station 52. It is also recommended to add an additional FPI in 2031. See attached chart (Table 8A & 8B) for staffing requirements from 2026 to 2031 based on current planned growth of the community.
- As full-time response capabilities increase, it provides opportunity to evaluate the CYFS Agreement. Costs previously allocated towards V/POC firefighters and CYFS agreement would be redirected towards funding the full-time staff. Additional full-time firefighter staffing would also address the continuing increase in growth of the community as a whole, as well as better position WFES in future for the potential increase in fire station locations specifically, the Lincolnville and Vandorf areas.

**Note:** Even though EM&T is recommending the relocation of the present Station 5-2, this move would only require the present staffing complement to be housed at the new 5-2 location.

To ensure that the fire department can keep up with response demands (based on community growth estimates), Tables 8A and B are presented as an overview of future staffing requirements.

**TABLE 8A: Community Growth and Staffing Estimates**

	<b>2016</b>	<b>2022</b>	<b>2026</b>	<b>2031</b>	<b>2051</b>
Population	45,837	55,800	Est. 62,000	Est. 72,100	Est. 90,900
Call Volume	1,388	1,400+	Est. 1,600+	Est. 1,800+	Est. 2,300+
Administration (Chief, Deputy & Admin Support)	3	3	4	4	6
Fire Prevention	4	4	5	6	7
Training	1	1	2	2	2
Suppression Full Time	24	36	48	60	68
Total FTEs	31	44	59	72	83
V/POC Firefighters	45	36	40	TBD	TBD

**TABLE 8B: Proposed Staffing Chart 2022 – 2031 – with Yearly Requirements**

Year	Additional	Suppression	Prevention	Training	Administration	Total
2022	2	(+2) 36	4	1	3	44
2023	5	(+4) 40	4	1	(+1) 4	49
2024	5	(+4) 44	(+1) 5	1	4	54
2025	3	(+2) 46	5	(+1) 2	4	57
2026	2	(+2) 48	5	2	4	59
2027	4	(+4) 52	5	2	4	63
2028	4	(+4) 56	5	2	4	67
2029	2	(+2) 58	5	2	4	69
2030	2	(+2) 60	5	2	4	71
2031	1	60	(+1) 6	2	4	72
Total Staffing Increases Per Division	30	26	2	1	1	---

**Note:** This staffing model would only bring WSFES to 3 on-duty apparatus staffed with 4 firefighters (3ff+1officer), an additional station would require 20 firefighters.

Based on the population analysis, one to five positions per year could be added to phase in higher staffing levels by 2031. It should be noted that this is not considering the density and high-rise residential development that the Town has approved. This also notes that currently WSFES cannot meet the NFPA standard for high-rise response. Furthermore, WSFES has a reduced and unreliable V/POC component. Therefore, it is unreasonable to consider including V/POC numbers for response.

The department was challenged to find savings and/or revenue generating opportunities to help fund these new costs.

- The first option is to cancel the CYFS agreement; this alone will reduce expenditures by as much as \$150,000 a year.

## 5.4 Reliability & Vehicle Movements

For amplified report accuracy, a fire department should track and evaluate total vehicle movements, along with how often a station's vehicles are available to respond to calls within its assigned response zone; this is known as the Reliability Factor.

The CFAI defines 'reliability' as *"The degree to which a test or other examination is free from chance errors of measurement. The extent to which scores are trusted and dependable."* Based on the CFAI definition and the intent of measuring reliability, it is recommended that a fire service track how many times other units must cover calls that are outside of a specific station's response zone, and why these types of calls occur. This can be a result of the following:

- A station is receiving an increase in call volume that is exhausting present resources.
- A fire service agreement with a bordering community is pulling the host community's fire vehicles out of the community more than anticipated.
- The types of calls are of such a nature that the present station's units are not equipped to handle the specific type(s) of response.

By tracking the percentage of times that a station is unable to send a vehicle within its identified response zone, the Fire Chief is then able to identify areas of concern and possible solutions to address the situation. These solutions can range from the need for a new fire station, with vehicle and crew to respond to the increase in calls or, at the very least, might require the realignment of response zones. Either way, unless a reliability study is conducted annually, a fire chief will not be able to assess if the department's resources are adequately allocated.

Based on information received, the WSFES Fire Chief and his staff have done an admirable job at monitoring reliability and should continue to monitor this data to identify any gaps in response coverage.

### **5.4.1 Tracking of Vehicle Movements**

The second consideration of this section is the tracking of vehicle movements. These can also be an indicator of resource availability. Many calls that a fire department will respond to require multiple units – for example, a house fire may require as many as four fully staffed units, with four firefighters per unit, to properly control and extinguish the fire. This house fire response would be counted as only one call, but in fact, it has pulled the resources of as many as four fire stations to properly handle the situation. As such, the number of calls related to vehicle movements varies greatly. As an example, 700

calls for service may equate to a total of 1,750 vehicle movements (multi-vehicle/ station response) to meet the response needs of the actual situations.

The Fire Chief confirmed that his staff do monitor call volumes and response capability. As such, the department should be commended for tracking and collating of this information.

## **5.5 Recruitment & Retention of V/POC Firefighters**

WSFES, as with many other fire departments, faces challenges when it comes to retention of V/POC firefighters. This is not a reflection of the WSFES; it is simply a reflection of the need for many of these firefighters to move to other communities for economic, educational, or personal needs. This puts a strain on the Department in the areas of recruitment, training, retention, and staffing of the fire stations.

The OFMEM has put out a document on recruitment and retention to offer some criteria and/or guidelines that departments can utilize. Refer to Appendix “E” for the document.

The Canadian Association of Fire Chiefs (CAFC) have also published a program – “Answer the Call” that is available on their website [www.answerthecall.ca](http://www.answerthecall.ca). It uses messaging and imagery to reflect the local challenges. Free of charges, there is a set of images that can be used as well as documentation that can be personalized to the organization. The “canned” images can, and do, reflect volunteers across all demographics, and the local community could add additional ones specific to their department. It has received significant support and it does not require considerable time or monetary investment.

V/POC firefighter recruitment is a challenge in virtually every jurisdiction of Canada and utilizing resources available to promote recruitment and retention is always advisable.

**5.5.1 Operations Challenges – V/POCs**

The Town is dependent on V/POCs to support the full-time crews as required. This is not only a cost-effective measure, but it also supports community involvement.

<b>Challenge</b>	
<i>Difficulty in maintaining V/POC complement</i>	<p><i>To be effective, V/POCs must live in the area being covered to provide reasonable response times.</i></p> <p><b>Given the older demographics of the Stouffville and Ballantrae areas, the department has struggled to recruit and maintain the number of V/POC fire staff required. Continuing efforts are planned to reach approved complement.</b></p>
<i>Lack of experience</i>	<p><i>Full-time fire careers are often a career objective of V/POC firefighters. Being a V/POC can provide the skills required to land a full-time job.</i></p> <p><b>As a result, the Town loses a considerable number of V/POC firefighters, at times before their training is even complete.</b></p>
<i>Lack of qualified drivers and officers</i>	<p><i>To operate a fire pump vehicle, staff must have additional training in the pumping equipment’s operation. These trained staff are referred to as “drivers”. Officers are provided additional training to take control and be the in-charge person at the call scene.</i></p> <p><b>With high turnover and low experience levels of some V/POC firefighters, it is not possible to guarantee that both an officer and driver will be available from the V/POC ranks. There are occasions where V/POCs were paged and but were unable to leave the station due to the lack of a driver or officer.</b></p>

**Recommendation #19**

The Fire Chief continue to utilize/enhance the V/POC recruitment tools as noted by the Office of the Fire Marshal and the CAFC “Answer the Call” program with a focus on Public Safety Announcements (PSAs), social media content, and visual imaging, to promote recruitment and retention.

**Recommendation #20**

WSFES determine its current and future use of V/POC firefighters and the training requirements to ensure consistent and standardized training to all firefighters.

## 5.6 Dispatching Services

WSFES receives its dispatching services from RHFES. Based on information received, along with a review of the dispatching data, it would appear that WSFES is receiving adequate service from RHFES. The dispatching agreement was last renewed in 2020. However, inclusion of the NFPA 1221, 1225 and 1061, which relate to call taking and dispatching criteria, along with qualifications for communicators/dispatchers is always worth investigation.

It would be prudent to confirm that the provider (RHFES) is ensuring that their communicators are qualified and receive updated training as required.

### **Recommendation #21**

**The dispatching agreement be further updated to incorporate the necessary performance measures as per the NFPA 1221, 1225 and 1061 to ensure a more consistent measure of the dispatching service (in relation to meeting all associated NFPA Standards).**

- **NFPA 1221: Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems**
- **NFPA 1225: Standards for Emergency Services Communications**
- **1061 Standard for Public Safety Telecommunications Personnel Professional Qualifications**



# SECTION

# 6

## Fire Station Review, Locations, and Suitability for Growth

- 6.1 Current Locations
- 6.2 Future Station Location  
Needs
- 6.3 Stations' Physical Condition  
& Recommendations

## SECTION 6: Fire Station Review, Locations, & Suitability for Growth

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A review of the existing facilities and locations relative to service demands relating to present and future needs was conducted by EM&T and will be addressed in this section.

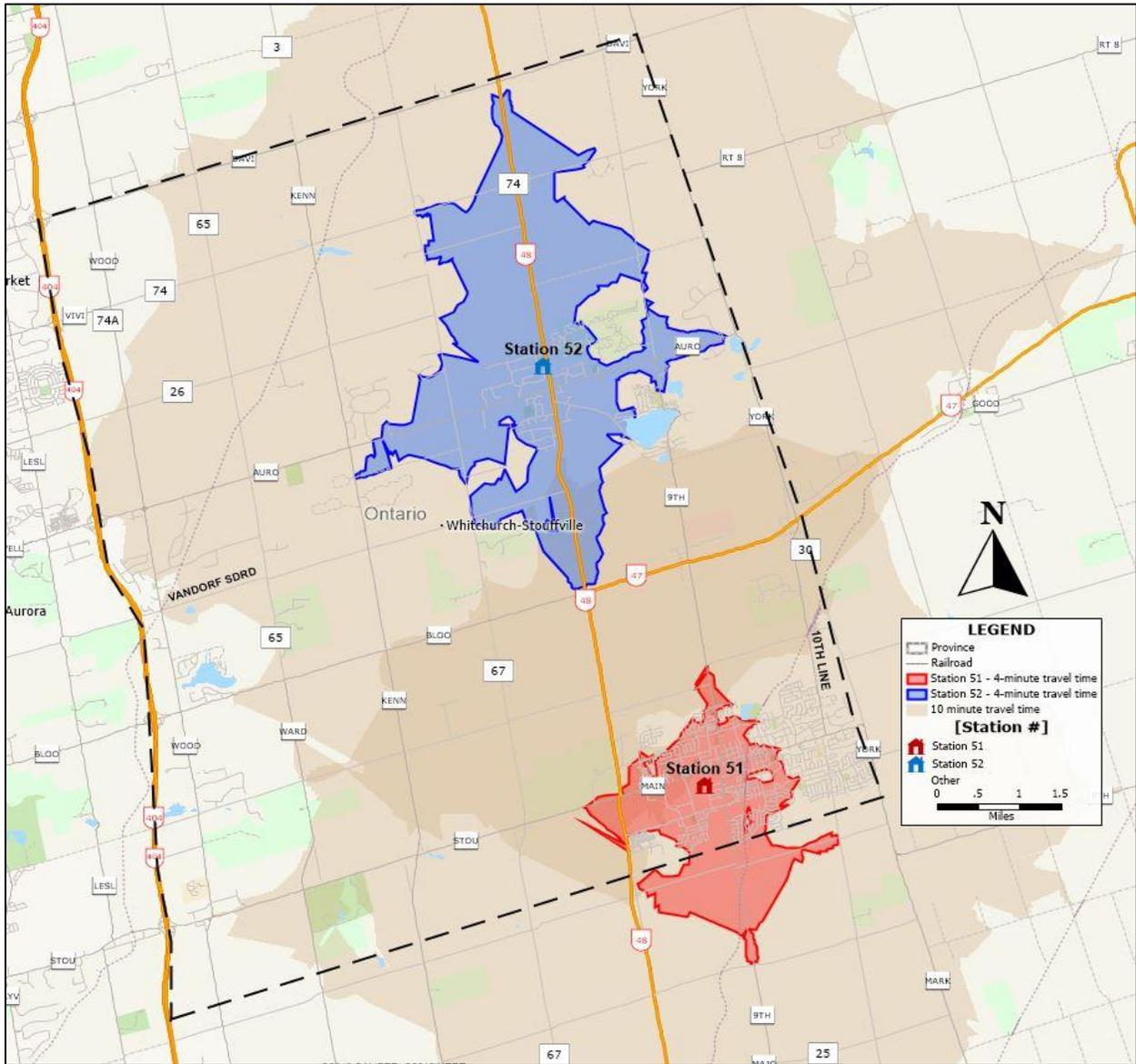
### 6.1 Current Locations

Fire stations should be positioned to offer the most efficient and effective response to the community they serve. Centering them within a determined response zone that is simply based on timed responses is not always the best option to implement. Fire station location depends on many factors such as key risks within the response zone, future growth of the community, and the response team composition (full-time vs. V/POC firefighters). Another consideration is the geographical layout of the community that can include natural barriers or divides, such as water, that makes it necessary to have some stations located within proximity of each other.

Presently, Whitchurch-Stouffville is served by two fire stations. In the following map (Figure 17), Stouffville Station 51, is illustrated in red and Station 52, located in Ballantrae is illustrated in blue.

To get a better idea of the level of coverage the following map highlights response zones around the two fire stations (51 and 52) based on NFPA recommended response times. The tan shaded areas around each fire station represent a 10-minute drive time, (the darker tan shading is where the 10-minute times overlap) while the coloured area (red and blue) represent a 4-minute drive time. Ten minutes is for V/POC coverage criteria, whereas the four-minute time related to the full-time response coverage.

**FIGURE 17: Present Fire Station Locations and Response Zones – Station 51 & 52**



As can be seen by the coloured areas, there is a greater level of coverage for the eastern portion of the town. Whereas the western section appears to be underserved by WSFES due to the station locations.

## 6.2 Future Station Location Needs

The FUS report, recommendation 8.2-4 identified a need for six other fire stations including two of them to be in the southwestern portion of the community, with a third one to be located in the north central part of the community. This recommendation by FUS was identified as a high

priority. Based on the anticipated residential and industrial growth of these areas, EM&T continues to be in full support of the FUS recommendation.

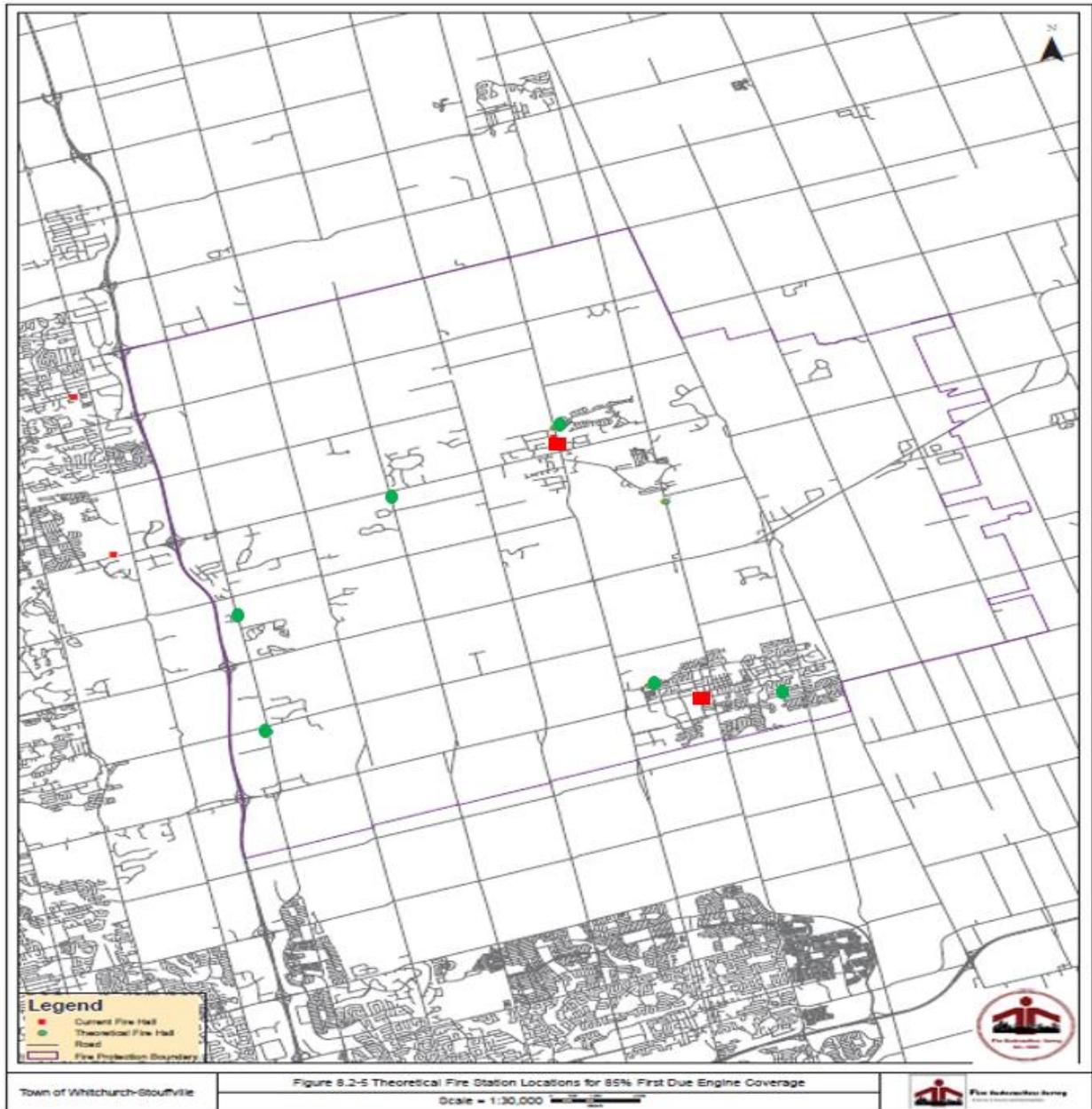
**Recommendation 8.2-4 Improve First Due Engine and Ladder Coverage**

First due coverage for Engines and Ladder could be improved to receive additional credit for fire insurance grading purposes. First due engine and ladder response credit for Engines and Ladders received less than 60 percent credit and it was determined that an additional engine and ladder companies for distribution would be required to receive near to maximum credit within this grading item for fire insurance grading purposes.

Credit up to the maximum can be received if additional fire stations with engine and ladder companies are developed within the municipality to improve first due coverage.

As noted in the following map (Figure 18) supplied by FUS, there are a total of six new fire stations recommended by FUS. The new locations are indicated by green circles, and the two present WSFES station locations are identified as red squares.

**FIGURE 18: FUS Suggestions for New Stations**



EM&T is of the opinion that all six FUS station recommendations are not required at this time but could be required in the distant future. EM&T is recommending that a total of three fire stations be built over the next 10 years. The first station to be built should be in the re-location of station 52 1-3 years, the second station would be in the south /east section of town Lincolville (10<sup>th</sup> line and Walter Atkinson Area) within five years and the final station to be built as part of this MFP would be in the lower middle westerly area of town (Bloomington,

between Woodbine and Warden), which would [provide protection for Gormley and Vandorf within the 10 year horizon based on growth.

The staffing of these fire stations would need some serious consideration based on call volumes for the noted areas. For station 52 in Ballantrae, this would simply be a matter of moving staff into the new location. Therefore, no new staffing costs would result from this move. As for the new station in the Lincolnville area, possibly numbered Station 53 this would require the following staffing:

- 20 full-time staff (4 shifts of 5)

For the Bloomington/Woodbine fire station, possibly numbered station 54 the required staffing would be;

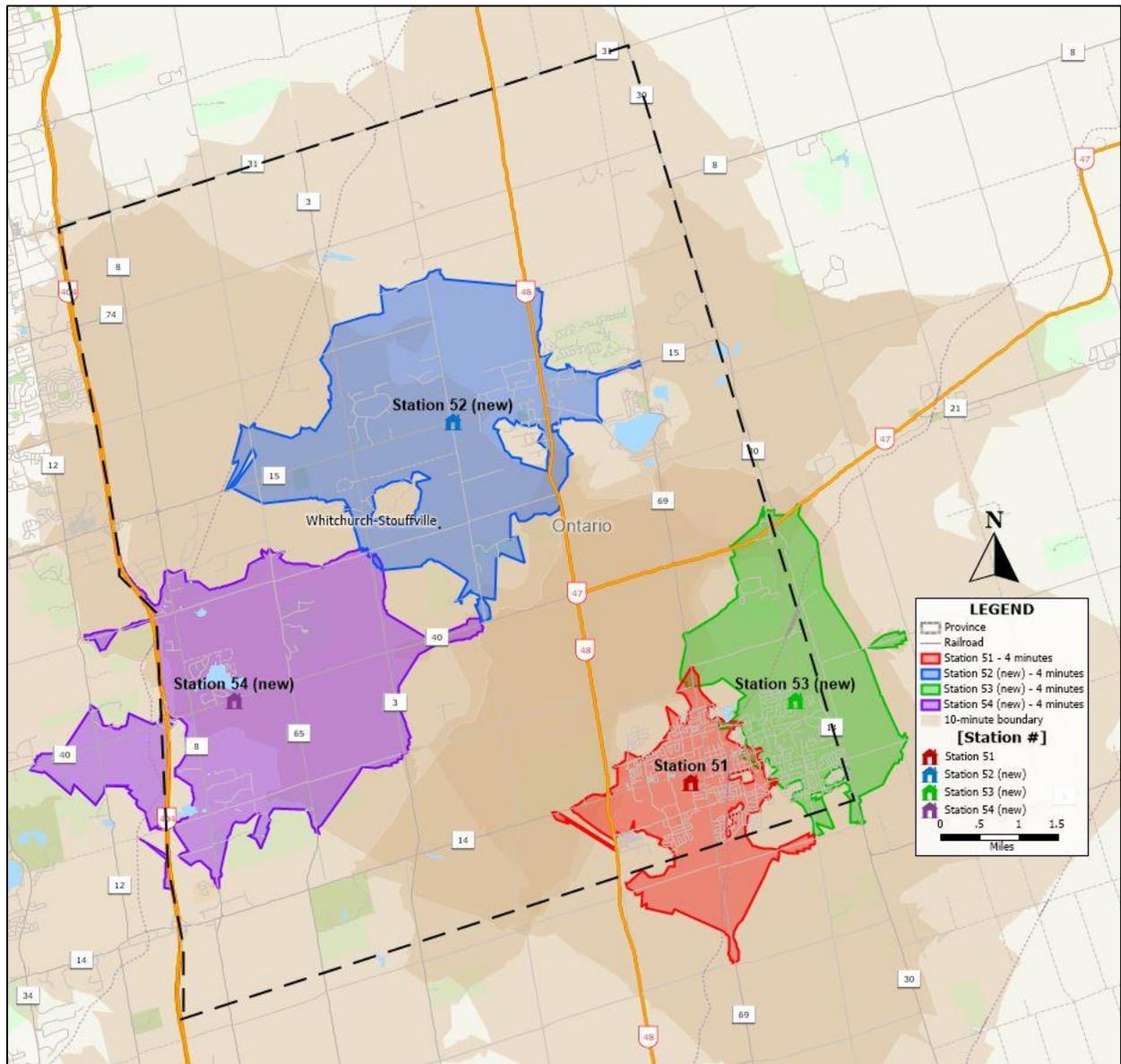
- 20 full-time staff (4 shifts of 5)

**Note:** *The new fire stations would require new fire apparatus and equipment, bunker gear for staff and all furniture, fixtures, and equipment to allow for 24/7 operations of the station.*

The agreement with CYFS does cover the west to northwest portion of Whitchurch-Stouffville. CYFS will respond to any structural fire, fire alarm or pre fire condition within the Service Area and/or any request for Emergency Service at a property within the Service Area. However, even with this agreement, there is no guarantee that the CYFS will respond due to being engaged in a large-scale event within their own community. To add to this, the area that is presently being supported by EM&T for the new WSFES station is not covered by the CYFS agreement. The CYFS coverage area is bordered by red hash marks in Figure 20 on page 137. The suggested new WSFES fire station is south of the red hashmarks.

The new fire station locations and coverage areas have been identified for comparison of coverage compared to that of the present fire stations.

**FIGURE 19: New Station Locations With Response Grids**



**Recommendation #22**

A total of three fire stations be built over the next 10 years. The first station to be built should be in the re-location of station 52 within 1-3 years, the second station would be in the south/east section of town Lincolnville (10th line and Walter Atkinson Area) within 5 years and the final station to be built as part of this MFP would be in the lower middle westerly area of town (Bloomington, between Woodbine and Warden), which would provide protection for Gormley and Vandorf within the 10 year horizon based on growth.

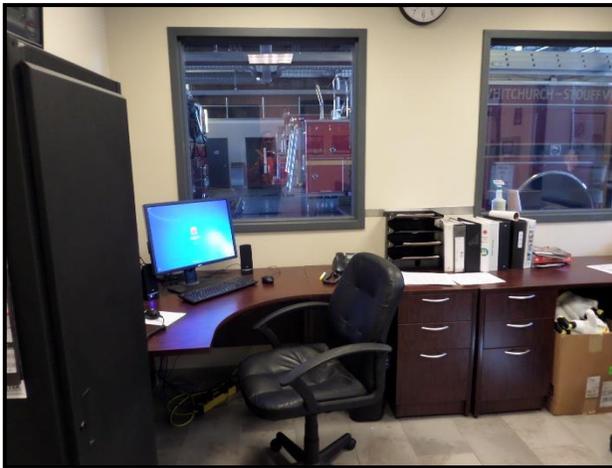
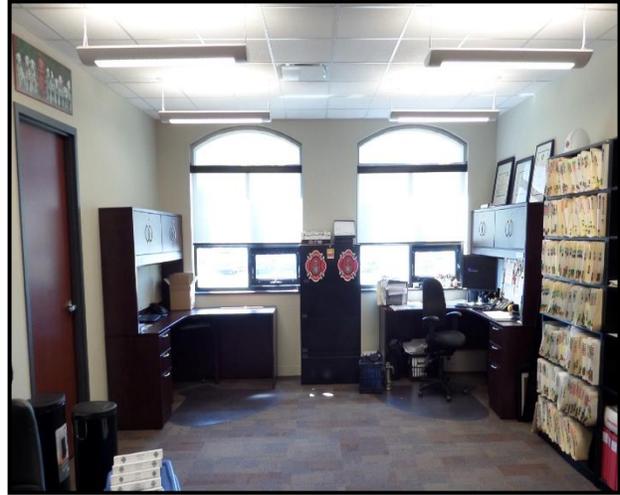
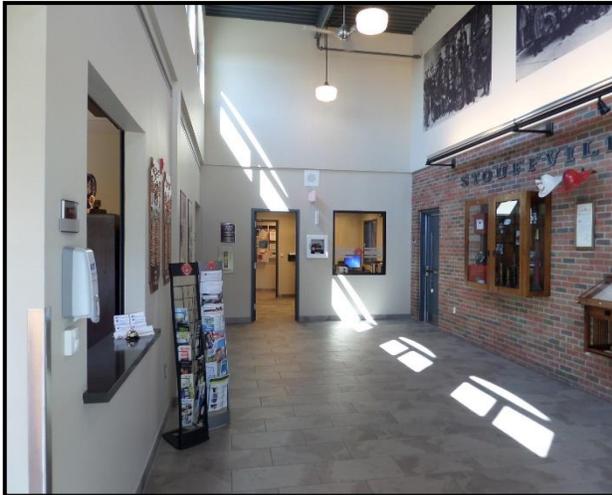
### 6.3 Fire Stations Physical Condition & Recommendations

#### 6.3.1 Stouffville Fire Station - 5-1



The Stouffville Station 51 is located at 100 Weldon Road, opened in 2010. This station is the Headquarters for the WSFES and houses the Administration, Fire Prevention, and Training Divisions.

Presently, York Region EMS responds out of the fire station, providing an efficient use of the facility by offering both services out of the same location for Stouffville and surrounding communities.



Town of Whitchurch-Stouffville Master Fire Plan



Office space, gear storage and vehicle bays were found to be well set up and maintained.



As an additional service to the community, the fire station is equipped with an emergency phone so anyone in need of assistance can pick up the phone and speak directly to the dispatch centre.

During the walk-through and review of Station 51, station, no concerns were noted.

**6.3.2 Ballantrae Fire Station - 52**



The Ballantrae Station was opened in 1999 and is staffed by full-time firefighters 24/7. There is a V/POC firefighter component that also works out of this fire station and is available for responses, as required.



Town of Whitchurch-Stouffville Master Fire Plan



Office space, gear storage, and vehicle bays appear to be well configured and maintained.

York Region EMS works out of Station 52 in Ballantrae, making efficient use of the land and offering efficient services for both Fire and EMS.



During the walk-through and review of Station 52, it was noted that the facility is being kept in a good clean state by the staff. No concerns were noted relating to housekeeping.

EM&T was made aware of a 2019 facility review conducted by Thomas Brown Architects. In their report the authors noted that the station requires major upgrades to continue meeting the needs of the full-time staff. The report noted that the recommended upgrades to the station would be more than \$4.2 million. Whereas, if the Town was to build a new station and sold the present piece of property, the cost for this new station could be less than the \$4.2 million if the new station is built on Town owned property. Thomas Brown has estimated the sale of the land would provide a significant financial offset towards the construction of a station at a new location.

Being that Station 52 is already 23 years old and requires major upgrades, it is EM&T's opinion that investing in a new facility at a new location that will provide 30 to 40 years of usable life and would be built meeting the needs of the full-time staff, with future growth in mind. This would be a logical move as opposed to investing over \$4.2 million dollars in the present facility. As a final note, the Thomas Brown report did not specify how long or even if the upgrades to Station 52 would increase its useful life.

This also allows the opportunity to relocate the station to a more suitable location.



# 7

## Vehicles & Equipment

- 7.1 Fire Apparatus – New & Replacement Schedules
- 7.2 Maintenance

**SECTION 7: Vehicles & Equipment**

**7.1 Fire Apparatus - New & Replacement Schedules**

When assessing a fire department’s ability to respond and meet the needs of the community, the FUS considers the age of a fire truck as one of its guidelines.

The fire vehicles for the WSFES are on a 12 to 17-year replacement cycle (depending on the type of vehicle) which keeps them within the Fire Underwriters recommendations and, more importantly, creates a standard when it comes to forecasting fire truck replacements.

**7.1.1 FUS – Vehicle Replacement Recommendations**

The Medium Sized Cities section (outlined in blue) is the recommendation for vehicle replacement for a town the size of Whitchurch-Stouffville. This allows for up to a 20-year replacement cycle, in which the fire vehicle can be utilized as second line response status.

Apparatus Age	Major Cities <sup>3</sup>	Medium Sized Cities <sup>4</sup> or Communities Where Risk is Significant	Small Communities <sup>5</sup> and Rural Centres
0 – 15 Years	First Line	First Line	First Line
16 – 20 Years	Reserve	Second Line	First Line
20 – 25 Years <sup>1</sup>	No Credit in Grading	No Credit in Grading or Reserve <sup>2</sup>	No Credit in Grading or Reserve <sup>2</sup>
26 – 29 Years <sup>1</sup>	No Credit in Grading	No Credit in Grading Or Reserve <sup>2</sup>	No Credit in Grading Or Reserve <sup>2</sup>
30 Years <sup>1</sup>	No Credit in Grading	No Credit in Grading	No Credit in Grading

<sup>1</sup>All listed fire apparatus 20 years of age and older are required to be service tested by a recognized testing agency on an annual basis to be eligible for grading recognition (NFPA 1071)

<sup>2</sup>Exceptions to age status may be considered in small to medium sized communities and rural centre conditionally, when apparatus condition is acceptable, and apparatus successfully passes required testing

<sup>3</sup>Major cities are defined as an incorporated or unincorporated community that has:

- a populated area (or multiple areas) with a density of at least 400 people per square kilometre; AND
- a total population of 100,000 or greater.

<sup>4</sup>*Medium Communities are defined as an incorporated or unincorporated community that has:*

- *a populated area (or multiple areas) with a density of at least 200 people per square kilometre; AND*
- *a total population of 1,000 or greater.*

<sup>5</sup>*Small Communities are defined as an incorporated or unincorporated community that has:*

- *no populated areas with densities that exceed 200 people per square kilometre; AND*
- *does not have a total population in excess of 1,000.*

*FUS definition of 1<sup>st</sup> line, 2<sup>nd</sup> line and Reserve is:*

- *1<sup>st</sup> line is the first fire truck utilized for response at the fire station*
- *2<sup>nd</sup> line is the next truck to be used if the 1<sup>st</sup> line unit is tied up at a call*
- *Reserve is the vehicle kept in the fleet to be put into service if a 1<sup>st</sup> line or 2<sup>nd</sup> line vehicle is out of service.*

The FUS is reviewed by insurance companies; provided that the Fire Department adheres to the recommended replacement timelines through an approved capital replacement schedule, the Department will retain its fire rating for vehicle replacement.

By ensuring that the vehicles are being replaced on a regular schedule, the Town is also demonstrating due diligence towards ensuring a dependable response fleet for the Fire Department and the community it serves. This in turn will keep the community's fire rating in good stance, which can also reflect on commercial and residential insurance rates.

### **7.1.2 NFPA 1911 – Vehicle Replacement Recommendations**

Another standard that supports a regular replacement schedule of fire vehicles is the NFPA 1911, *Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus*. This standard includes guidance on retirement criteria for fire apparatus. NFPA 1911 recommends that all front-run vehicles are replaced on a 15 to 20-year cycle, depending on the community size.

Although there is no national standard that legally mandates the replacement of emergency vehicles, it must be kept in mind that it is critical to replace these and other apparatus before they become unreliable. Over the long-term, delaying the replacement is inadvisable as it will add to the overall maintenance costs of the apparatus and can have an effect on insurance costs based on the Fire Department's FUS rating.

For the most part, the WSFES is well-equipped with pumper trucks, rescues, and tankers. There also appears to be a sufficient level of support vehicles and equipment to meet the general needs of the Department.

Replacement schedules are identified in the capital forecast for the fire trucks and large cost items.

The NFPA 1901 and other related NFPA standards relating to vehicle design, replacement and refurbishing should be referenced when obtaining new vehicles.

During the station and equipment review, it was noted that the vehicles and small engines (pumps, generators, etc.) are on a standard replacement cycle and that maintenance and repair work is addressed as quickly as possible by the Town or other recommended facilities.

## 7.2 Maintenance

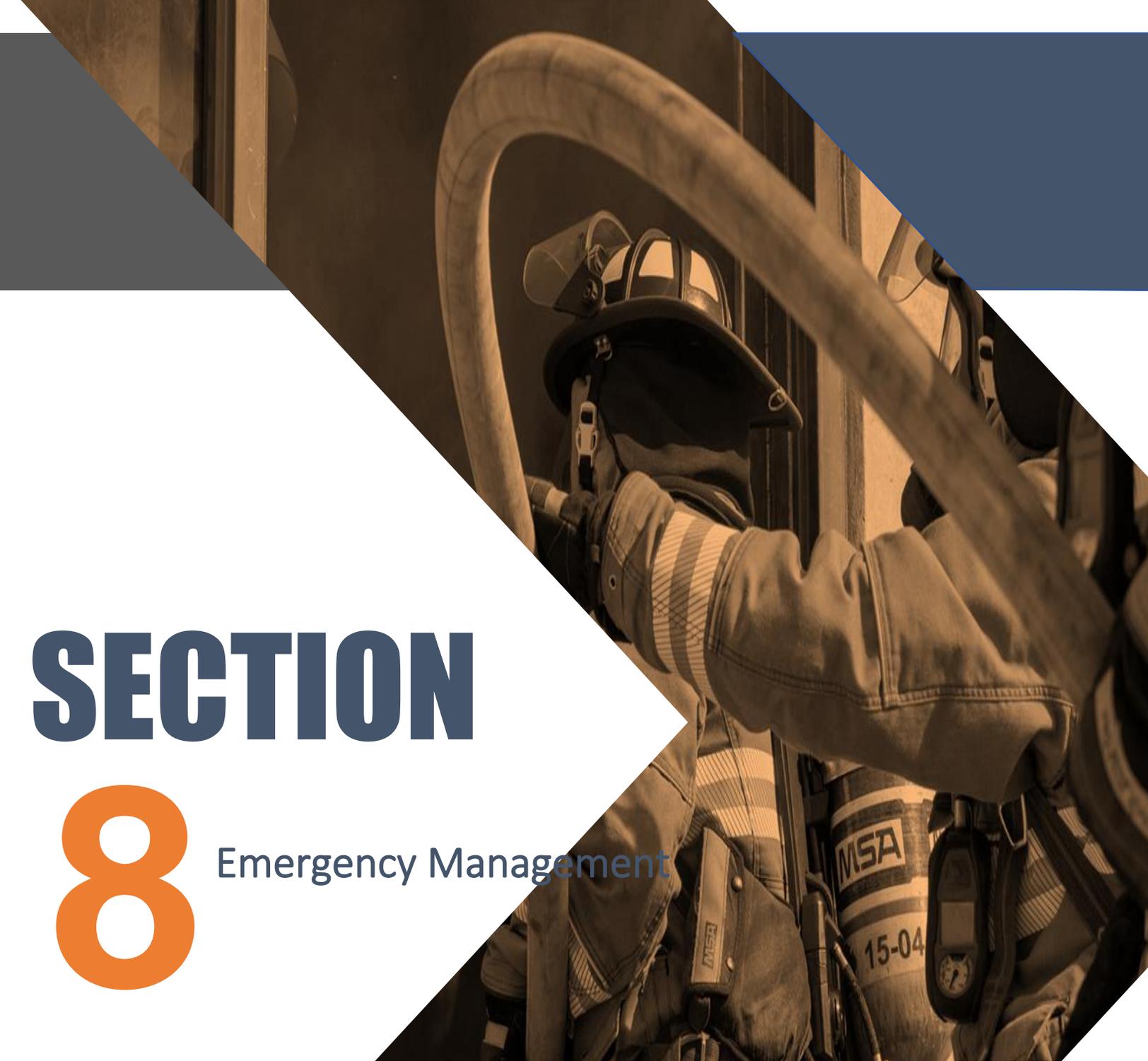
The WSFES does not have its own mechanical division to complete repairs and testing to its vehicles and equipment. This is handled in the following manner:

- Full-time firefighting staff are expected to complete all daily, weekly, and monthly (general) inspections and testing of vehicles and equipment.
- If any mechanical repairs are required for a vehicle, it is then decided whether this repair can be accomplished by the Town's Works Department or if this is a specialized repair that needs to be contracted out to a third-party facility/ mechanic.

In their efforts to find collaborative and cost-effective opportunities within the departments involved in this project, a couple of opportunities have come to light relating to the maintenance and repair of fire department vehicles.

In the 2018 MFP, EM&T had recommended that WSFES work with surrounding departments to identify a central location in which a shared Emergency Vehicle Technician (EVT) can be based to conduct all general service and repairs on the vehicles from Georgina, King, East Gwillimbury and Whitchurch-Stouffville. A second option was to create a blanket contract with a 3<sup>rd</sup> party organization that specializes in the service and repair of fire department vehicles. This 3<sup>rd</sup> party would work out of a central location along with having the ability for mobile response in the case of emergency repairs.

In the 2018 MFP, EM&T had recommended the hiring of an EVT for the WSFES. However, with the inevitable growth of the community and its fire department, it is recommended that WSFES track the expense related to 3<sup>rd</sup> party repairs/ maintenance to its vehicles compared to the cost of having a full-time EVT on staff. This option still allows for a possible collaboration with other neighbouring fire departments.



# SECTION

# 8

## Emergency Management

### 8.1 Emergency Management Program

## SECTION 8: Emergency Management

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### 8.1 Emergency Management Program

As mandated by the *Emergency Management and Civil Protection Act* (EMCPA) all municipalities in Ontario must have an emergency response plan and an emergency planning program. The *Act* also stipulates that municipalities are to conduct an annual training exercise.

The Town has updated its plan and should be commended for keeping abreast of the EMCPA requirements. There are no recommendations by EM&T in relation to the emergency management program.

### 8.2 Community Emergency Management Coordinator (CEMC)

For every community in Ontario there must also be an identified CEMC. Currently this duty falls to the Fire Chief with the Deputy Fire Chief acts as an Alternate. If an emergency were to be declared, there is a good possibility that both the Fire Chief and Deputy might be directly involved with the incident. It would be wise for the Town to add a couple of additional alternate CEMCs that are not associated with the fire department.

Both the CEMC and Alternate have completed their Basic Emergency Management (BEM) and CEMC courses. Therefore, no recommendations are being made in relation to CEMC qualifications. However, consideration should be given to assigning the role of CEMC to a town staff member. Some communities have moved to this option because during a large scale incident, the fire chief and deputy chief are required either directly at the scene or working the command post that is close to the incident location.

#### Recommendation #23

**The Town of Whitchurch-Stouffville should move the position of CEMCs out of the Fire Department's role to town staff.**

The EOC for the Town of Whitchurch-Stouffville is where municipality management will operate during the emergency. The Primary EOC is located at Station 51 in Stouffville with the secondary location at Station 52 in Ballantrae. Some municipalities have gone as far as to establish a tertiary location further away from the primary and secondary sites.

Both the primary and secondary EOCs have automatic standby generators. Even though the EOC may not be placed in operation very often, they should be maintained in a state of readiness including updates to the information technology (IT) system.

During an emergency, the fire stations will be busy with firefighters and apparatus traffic. With the extra traffic in the area, this may impede their response. An issue with both EOCs is security. There needs to be a method of securing areas of the building, so it is not accessible by the public.

Consideration should be given to relocating the EOC in the Town Hall where the majority of the Town's Departments operate from. Here, access to the town files would be more accessible.

#### **Recommendation #24**

##### **The Primary EOC should be relocated to a facility other than a fire station.**

With so many acts of domestic terrorism taking place each year throughout the world, including Canada, a municipality must plan for such an event's actuality within their own community. The ERP should have a section dedicated towards domestic terrorism. The section should include an integrated response program comparable to NFPA 3000, *Standard for an Active Shooter/Hostile Event Response (ASHER) Program*. Partnerships could be achieved with outside agencies such the CNR/Metrolinx Safety Officers, OPP, YRP and YRPS to develop and deliver a presentation to the public and include local businesses as sponsors to assist in offsetting any expenses.

#### **Recommendation #25**

##### **Whitchurch-Stouffville review partnership opportunities in the delivery of an ASHER program to the community.**

Whitchurch-Stouffville has a document available online that the public may access. It speaks to being prepared in advance and have supplies readily available to take in an emergency. There is a link to an excellent document called The Emergency Preparedness Guide, prepared by York Region. This booklet provides an all encompassing and extensive amount of information for families to use to prepare in advance for a variety of emergency situations.

One of the largest challenges in emergency planning is the notification system that alerts residents when there is a pending or active emergency in the community. Communication is essential for any large-scale incident and a mass notification system sends messages via personal cell phones to communicate to the public during an emergency. There several alerting apps available using text messaging or an actual app that is installed in a cell phone, tablets, and/or computers. In Canada, the Alert Ready notification may be used for notifying the public of several emergency situations. Environment Canada uses some of these apps as do police services.

Many communities will also use the mass notification system to communicate local issues like a water main break to advise residents in the affected area. Whitchurch-Stouffville should explore the feasibility of a proprietary warning system to alert citizens in the event of an actual or possible catastrophic event.

Some communities in Ontario, like Muskoka and Ryerson Township, Burks Falls and Armour Township have reached out to third parties to develop an app that is developed for the needs and circumstances for their communities. Some communities are now giving serious thought to installing storm sirens, such as those found throughout the United States, as another means of notification of a pending emergency. This is helpful for those that do not have a cell phone.

### **Recommendation #26**

**The Town of Whitchurch-Stouffville to collaborate with the N6 to review the feasibility of acquiring a public emergency notification system, or gain access to messaging on the Alert Ready app.**

### **Recommendation #27**

**The Town of Whitchurch-Stouffville review opportunities of installing storm sirens in the built-up areas of the municipality. This should include opportunities of applying for funding, in the form of grants, made available by upper levels of Government.**

York Region and its municipalities have entered a Memorandum of Understanding that permits York Region resources to be deployed in the event of a declaration of an emergency to any one of the municipalities making up the Region. This agreement would come into play during a declared emergency where a municipality may require a building official's equipment and staff to mitigate a situation (e.g., flooding or a natural disaster). This agreement was signed in 2019 and should be reviewed and updated.

## **8.2 IMS & EOC**

Interagency, multi-jurisdictional, multi-government, and multi-disciplinary are terms used when operating in a large-scale emergency environment. On May 1, 2016, a wildfire 7 km outside of Fort McMurray became the worst wildfire incident in Canadian history with losses and economic impacts to the community close to \$10 billion.<sup>16</sup> The Incident Command System (ICS) is based upon best practices in Canada and the United States and is used for both small or large emergency and non-emergency planned events. It identifies roles and responsibilities to improve resource and interagency communications for a common purpose. It is referred to as Incident Management System (IMS) in the Province of Ontario.

During some emergencies, there is a likelihood of the IMS being expanded into a Unified Command. The type of incident, complexity, and location of an incident may require a Unified Command structure. The Unified Command "is a management structure that brings together the 'Incident

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<sup>16</sup> Jamie Malbeuf, CBC News, "Forged by fire: Fort McMurray 5 years after the disaster," May 3, 2021, <https://newsinteractives.cbc.ca/longform/fort-mcmurray-five-years-on-from-disaster>

Commanders' of all major agencies and organizations involved in the incident to coordinate an effective response while at the same time carrying out their own jurisdictional or functional responsibilities."<sup>17</sup>

Before any members of the Emergency Management Planning Committee can truly understand their duties and responsibilities, all members should at the very least complete the BEM course. This will provide a good insight on how to deal with an emergency, prior to taking any of the IMS courses.

### **Recommendation #28**

**All members of the Emergency Management Planning Committee should complete the BEM course.**

During a train derailment, wildfire, severe weather, or earthquake, there is a high likelihood of the implementation of a Unified Command structure. Additional agencies to consider for the EOC include:

- OFMEM
- YRP
- EMS
- OPP
- Conservation Authority
- Social services
- Red Cross and/or Salvation Army

The EOC is critical for providing coordination, resource management, communications, and critical assessments of the event with the Incident Commander.

The strength of the IMS is in making sure that the safety of responders and other personnel are a priority and an effective use of resources or elimination of the duplication of services is achieved. Individuals that are expected to be a part of the EOC should have training in IMS, and this includes designated alternates as well.

There are four different types of Incident Command levels and Emergency Management Ontario's IMS identifies the following levels:

- **IMS 100:** The awareness level training that introduces the participant to IMS topics and concepts.
- **IMS 200:** The awareness level training that is designed to help people function within the IMS. This level of training provides a greater depth regarding the functional areas and positions in the IMS.

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<sup>17</sup> Deal, Bettercour, Deal, et al, (2010) Beyond Initial Response, ICS, p.I-33.

- **IMS 300:** The level that is directed for supervisory functions and provides exposure to setting objectives, unified command, planning, demobilization, and termination of command. This level is focused on developing skills through practical exercises.
- **IMS 400:** The level that is directed for supervisory functions and is orientated to developing skills for complex incidents and the coordination of multiple incidents.

There is no minimum training identified for the EOC, however the IMS is not identified in the Town of Whitchurch-Stouffville, Emergency Response Plan. Most incidents are routinely dealt with without activating the EOC. The EOC is activated when an event is expected to expand in complexity and duration requiring an efficient coordination among departments or responding agencies.

To the Town's credit, some form of IMS training has taken place that is specific to the role the individual would assume, if an emergency were to be declared. No town staff other than Fire, have become certified at IMS 100.

### **Recommendation #29**

**Due to the importance of staff understanding their roles and responsibilities in the EOC, a policy should be implemented identifying IMS 200 as the minimum standard for staff required to be in the EOC, with IMS 300 being the goal for all department heads.**

### **8.3 Emergency Planning, Training, & Exercises**

Emergency planning and IMS are skills that need to be used regularly. Several training options will be identified to assist the Town of Whitchurch-Stouffville to plan and exercise in IMS and their emergency plan activation.

**EOC Activation:** Planning for a practice activation of the primary and secondary EOC keeps staff orientated to their roles in the EOC. All EOC staff should participate in these practice sessions.

There are two main types of exercise used to test emergency plans:<sup>18</sup>

- **Discussion Based Exercise** - In discussion-based exercises, the primary intent is to have dialogue regarding the emergency plan, procedures, by-laws, and any policies that could impact an emergency. The discussion sessions are low key, low pressure, and a great tool for familiarization. The secondary intent of discussion-based exercises is to build confidence through familiarization amongst team players in the application of the plan. These discussion-based exercises are great tools to facilitate the learning process for the staff designated as

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<sup>18</sup> Culley, Darryl, *Creating Chaos & Mayhem: The Ultimate Guide to Disaster Exercise Planning*. (Ontario: Emergency Management & Training Inc., 2014), 31-35.

alternates expected to fill a role in the EOC. Discussion-based training is a great way to orientate new staff or existing staff that have not had a real opportunity to familiarize themselves with the emergency plan or organizational plans, by-laws, procedures, and policies.

- **Tabletop Exercise** -These exercises are low cost with minimal stress, but preparation can require some time to create a scenario that is relevant to the municipality. A tabletop exercise is generally led by one facilitator depending upon the complexity of the scenario. Tabletop exercises are a great way to identify gaps in plans, policies, and procedures in the post-exercise discussions. To complete the exercise, an After-Action Report is completed to identify any shortcomings or deficiencies that need to be addressed.
- **Operations-Based** - The primary intent is to deploy personnel and equipment in a drill, functional exercise, or a full-scale exercise. The disadvantage of an operations-based exercise is that they require a significant amount of time to plan and prepare for as resources will be required from multiple agencies. Operations-based exercises generally reveal gaps and weaknesses in training, inter-agency communications, resource allocation and operational procedures. Operations-based exercises include:
  - **Drills** -These are exercises that are intended to evaluate a specific operation. For example, the CFES and CSPA may conduct a drill of carbon monoxide leak in a long-term care home.
  - **Functional exercises** - These exercises can be complex with a high degree of realism and are used to test plans, procedures and policies in the training scenario which is at a single site. These exercises are used by agencies to test their capabilities of performing multiple functions in a scenario that is located at a single site.
  - **Full-scale exercises** – This is a complex exercise that tests multiple agencies in a single scenario at multiple sites. These exercises are in real time, highly realistic and usually stressful for agency personnel participating in the exercise. A full-scale exercise can take from 6-10 months to prepare for and require a significant investment in resources and funds. Several facilitators are required to ensure safety and compliance to the storyline of the exercise. A full-scale exercise is developed with clear objectives to test multiple agencies. Upon completion of the exercise, a hot wash is conducted which is a formal discussion of the involved agencies performance during the exercise. An After-Action Report and a formal Improvement Plan are prepared and distributed that identify actions required to address and improve performance.

It is unknown if the Town has, at any time, participated in a full-scale exercise. Doing so will identify shortcomings that may exist and provides the opportunity for resolution prior to an emergency occurring.

### **Recommendation #30**

**The Whitchurch-Stouffville's CEMC prepare a three-year schedule for Whitchurch-Stouffville that should identify EOC activation orientation, and annual tabletop and operations-based exercises for the WSFES, Town of Whitchurch-Stouffville, and external agencies.**

# SECTION

# 9

## Mutual Aid, Automatic Aid, & Fire Protection Agreements

### 9.1 Mutual & Automatic Aid

## **SECTION 9: Mutual Aid, Automatic Aid, & Fire Protection Agreements**

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This section will consider the effects of mutual aid and automatic aid agreements with other municipalities, options in case of changes to boundaries or the consolidation of the existing resources. Neighboring municipalities MFPs must be taken into consideration.

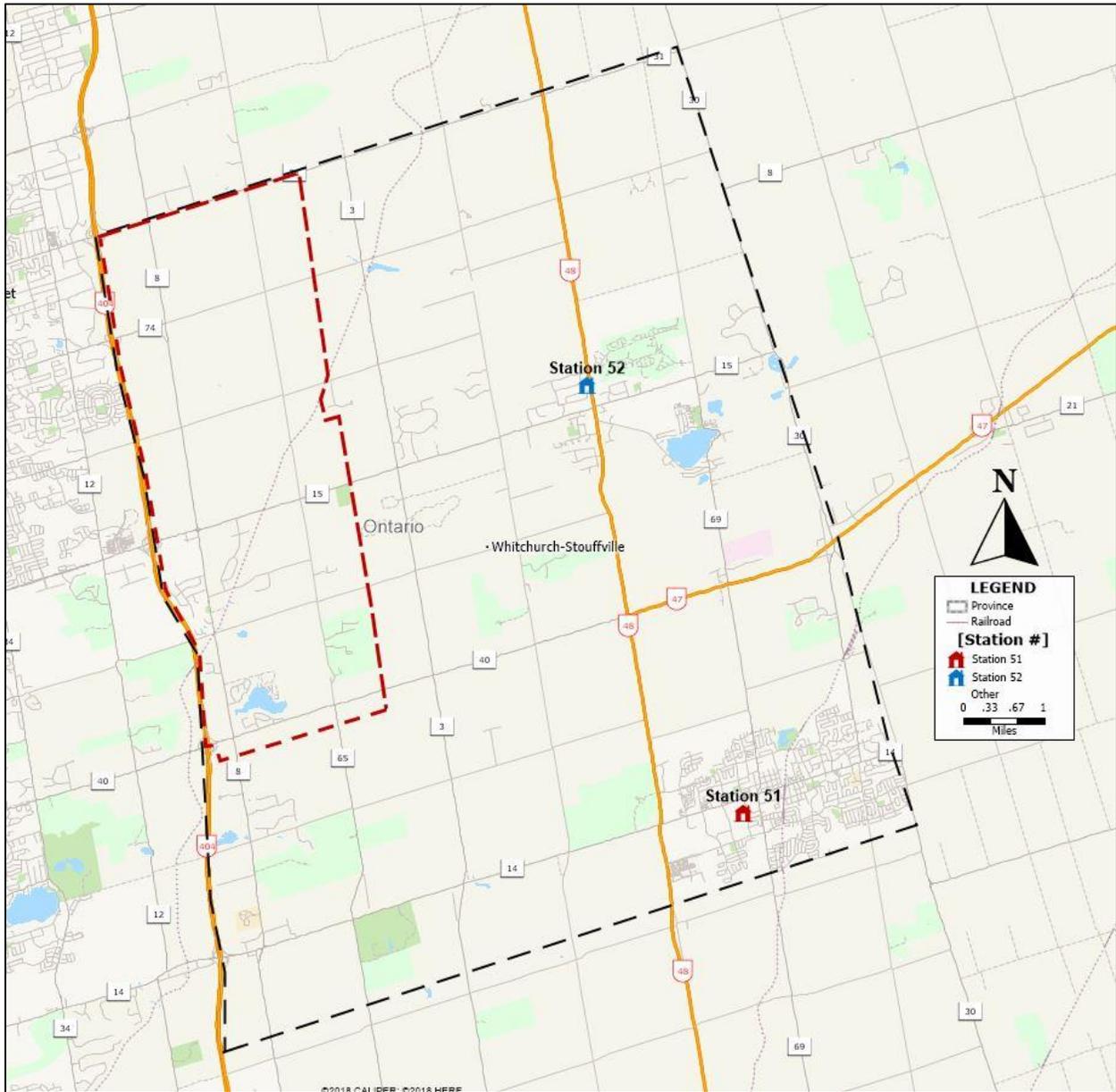
### **9.1 Mutual Aid & Automatic Aid**

WSFES is a member of the Provincial Mutual Aid group and has positive working relationships with the other fire departments in the surrounding jurisdictions. As such, mutual aid and other required agreements are in place. The WFSFES is also a member of the York Region Mutual Aid Agreement Plan and Program, which includes the Town of Georgina, Township of King, Central York (Aurora/Newmarket), Town of East Gwillimbury, City of Vaughan, Town of Richmond Hill, and the City of Markham.

During discussions with the Fire Chief, it was confirmed that the WFSFES continues to have a fire protection agreement with the CYFS for response assistance in the western portion of Whitchurch-Stouffville.

As previously mentioned, however, due to population growth and the cost of this automatic aid agreement, it is advised the WFSFES evaluate the option of constructing its own fire station in the western portion of the community and discontinue the agreement with CYFS. WFSFES also has an Automatic Aid Agreement with East Gwillimbury along the Davis Drive corridor and a Fire Protection Agreement with Uxbridge, whereby WFSFES provides fire protection services to an identified area along our eastern border.

**FIGURE 20: Fire Agreement Coverage by CYFS (red hashmarks)**



The agreement with CYFS is only for fire related calls, which means that the WSFES is still responsible for responding to all other call types and conducting fire prevention and public education programs within that area.

There are several clauses that release the CYFS of any liability if they are unable to respond due to being engaged within their own community. These clauses, although understandable, puts the community of Whitchurch-Stouffville in the possible position of still being the first responder to fire calls in the contracted area. In the long-term, as community growth occurs, a cost benefit analysis should be made for a third station in the west end of the town.

# SECTION

# 10

Finance, Budgeting, & Capital  
Investment Plan

10.1 Operating Budget

10.2 Capital Budget

## **SECTION 10: Finance, Budgeting, & Capital Investment Plan**

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The WSFES has a set of annual operating and capital budget/ forecasts that fluctuate based on the staffing, programs, and equipment that have been identified for replacement.

During the review of the operating and capital budget process, it was found that the WSFES is well organized in both areas. This indicates a strong level of support by Council and the Town's senior management team in assisting the Fire Department in meeting its service goals.

### **10.1 Operating Budget**

During the review of the operating budget, it was noted that all key account operating sections are identified and tracked, such as:

- Staffing related costs
- Training
- Fire Prevention and related Fire Safety Education
- Vehicle and equipment maintenance
- Station maintenance

A review of the operating budget for the WSFES shows that all general expenses and related revenues are accounted for.

### **10.2 Capital Budget**

Capital budget line items:

- Vehicle replacement
- Equipment replacement (for large cost items that are not covered in the operating budget)

#### **10.2.1 Capital Forecasts**

There is a 12 to 17-year replacement cycle for the fire trucks that is based on the FUS recommendations for frontline vehicles. This replacement cycle falls in line with the industry standards of 15 and 20 years, depending on the vehicle's function. As such, the Town of Whitchurch-Stouffville and its Fire Department should be commended for its efforts in endeavouring to adhere to this industry standard.

Along with the replacement schedule, FUS recommends that there should be at least one spare fire truck for up to every eight related units. For example:

- One pumper truck for every eight
- One spare aerial truck for every eight
- One spare tanker truck for every eight, etc.

A reserve unit should always be available, should one of the primary units go out of service. This still applies if the department has less than eight vehicles.

A final area for the Fire Chief to review is regarding the reserve funds for equipment. It must be ensured that adequate annual contributions for small equipment, along with apparatus repairs, and contributions for future infrastructure (fire stations) are identified. If any shortfalls are identified, then the Fire Chief should determine what effect this will have on operations and bring forward any recommendations for funding adjustments, if necessary.

There is a Town business plan in place that incorporates all the departments within Whitchurch-Stouffville to identify future goals and expectations. This plan outlines funding needs and expectations.

Based on the information received, no recommendations are being made for this section.

# SECTION

# 11

## Fire Underwriters Survey

11.1 Overview

11.2 2016 FUS Report for WSFES



## SECTION 11: Fire Underwriters Survey

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During the 2017/2018 MFP project, EM&T worked with a representative from the Fire Underwriters group to complete a review of the Department from two different perspectives. The recommendations have been kept in this updated document due to the corroborative information between both reports

### 11.1 Overview

The FUS is a national organization that provides data on public fire protection for fire insurance statistical work and underwriting purposes of subscribing insurance companies. Subscribers of FUS represent approximately 85 % of the private sector property and casualty insurers in Canada.<sup>19</sup>

FUS Certified Fire Protection Specialists conduct detailed field surveys of the fire risks and fire defences maintained in built-up communities, including incorporated and unincorporated communities of all types, across Canada. The results of these surveys are used to establish a Public Fire Protection Classification (PFPC) for each community. While FUS is not involved in rate making matters, the information provided through the Fire Insurance Grading Index is a key factor used in the development of Commercial Lines property insurance rates. The PFPC is also used by Underwriters to determine the amount of risk they are willing to assume in a community or section of a community.

The overall intent of the PFPC system is to provide a standardized measure of the ability of the protective facilities of a community to prevent and control the major fires that may occur. This is done through evaluating, in detail, the adequacy, reliability, strength and efficiency of the protective facilities and comparing the level of protection against the level of fire risk in the built environment.

The FUS also uses PFPC information to develop the Dwelling Protection Grade (DPG), which is utilized by Personal Lines insurers in determining property insurance rates for detached dwellings (with not more than two dwelling units). The Dwelling Protection Grade is a measure of the ability of the protective facilities of a community to prevent and control the structure fires in detached dwellings by evaluating the adequacy, reliability, strength, and efficiency of the protective facilities and comparing the level of protection against the level of fire risk associated with a typical dwelling.

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<sup>19</sup> Fire Underwriters Survey, "Who We Are," Accessed December 2021, <https://fireunderwriters.ca/>

The Fire insurance grading system used does not consider past fire loss records but, rather, fire potential based on the physical structure and makeup of the built environment.

When a community improves its PFPC or DPG, insurance rates may be reduced, and underwriting capacities may increase. Every insurance company has its own formula for calculating their underwriting capacities and insurance rates, however, the PFPC and DPG classifications are extremely useful to insurers in determining the level of insurable risk present within a community.

## 11.2 2016 FUS Report for WSFES

The original document contains over 200 pages of information and has not been attached to this report in its entirety – only the recommendations have been included.

*NOTE: When Fire Underwriters makes a recommendation, it is to identify the fire department's existing status of community fire protection and subsequently identify what changes are necessary to get "FULL" marks for the classification status. Their recommendations do not imply that the department is not meeting the local needs but indicates the necessary adjustments to obtain a perfect score or rating.*

### **11.2.1 Overview of the 2016 FUS Recommendations**

Recommendation	Fire Insurance Grading Weighting	Grading Items
Recommendation 8.2-1 Provide Additional Engine Apparatus	Medium	PFPC – FD-1/FD-4
Recommendation 8.2-2 Provide a Reserve Engine Apparatus	Low	PFPC – FD-1/FD-4
Recommendation 8.2-3 Provide a Reserve Ladder Apparatus	Low	PFPC – FD-2/FD-4
Recommendation 8.2-4 Improve First Due Engine Coverage	High	PFPC –FD-3/FD-1/FD-4
Recommendation 8.2-5 Train and Qualify Additional Firefighters to Officer Positions	Low	PFPC – FD-6/FD-8
Recommendation 8.2-6 Improve Total Available Fire Force	High	PFPC – FD-7
Recommendation 8.2-7 Improve In Service Apparatus Company Staffing	Medium	PFPC – FD-8

Recommendation	Fire Insurance Grading Weighting	Grading Items
Recommendation 8.2-8 Continue to Improve Training Facilities	Medium	PFPC – FD-13
Recommendation 9.2-1 Improve Pumping Capacity - Gormley	Medium	PFPC – WS-1
Recommendation 9.2-2 Improve Reliability of Back-up Pumping Capacity – All Water Systems	Low	PFPC – WS-3
Recommendation 9.2-3 Frequency of Available Fire Flow Testing – All Water Systems	High	PFPC – WS-6
Recommendation 9.2-4 Improve Redundancy of Principal Mains – All Water Systems	Low	PFPC – WS-7
Recommendation 9.2-5 Private Hydrants should be Properly Identified – All Water Systems	Low	PFPC – WD-12
Recommendation 10.2-1 Review NFPA 1730 to aid in the development of the Town’s Fire Prevention Program	Medium	PFPC – FSC-1/FSC-2
Recommendation 10.2-2 Improve Fire Prevention Inspection Program	High	PFPC – FSC-1/FSC-2

***11.2.2 Summary of the 2016 FUS Recommendations***

**Recommendation 8.2-1 Provide Additional Engine Apparatus**

The engine service requirements for fire insurance grading have not been fully met with WSFES’s existing fire apparatus fleet. WSFES may wish to improve its firefighting capabilities by acquiring additional apparatus. Fire apparatus should be ULC listed, be of an appropriate age, have an adequate pumping capacity, and be proven reliable.

WSFES received credit for 4.95 Engine Companies. Credit up to the maximum of 2.05 can still be awarded for this grading item.

Acquiring additional fire apparatus is a serious matter that requires careful consideration. There are many factors to consider and fire insurance grading is only one such factor.

**Recommendation 8.2-2 Provide a Reserve Engine Apparatus**

To ensure an adequate response when a fire department has an engine apparatus out for repair, a fire department should have a reserve engine apparatus equipped, maintained and ready for replacement purposes if its primary pumper is out of service. At a minimum one

engine apparatus should be kept in reserve for each eight-engine apparatus which would include single engine apparatus having a replacement apparatus.

For WSFES to receive maximum credit in this portion of the engine service grading item, a reserve engine would be required.

**Recommendation 8.2-3 Provide a Reserve Ladder Apparatus**

To ensure an adequate response when a fire department has a ladder apparatus out of repair, a fire department should have a reserve ladder apparatus equipped, maintained and ready for replacement purposes if its primary ladder is out of service. At a minimum, one ladder apparatus should be kept in reserve for each eight-ladder apparatus which would include a single ladder apparatus having a replacement apparatus.

For WSFES to receive maximum credit in the portion of the ladder service grading item, a reserve ladder would be required.

**Recommendation 8.2-4 Improve First Due Engine Coverage**

First due for Engines and Ladder could be improved to receive additional credit for fire insurance grading purposes. First due engine and ladder response credit for Engines and Ladders received less than 60 percent credit and it was determined that an additional engine and ladder companies for distribution would be required to receive near maximum credit within this grading item for fire insurance grading purposes.

Credit up to a maximum can be received if additional fire stations with engine and ladder companies are developed within the municipality to improve first due coverage.

**Recommendation 8.2-5 Train and Qualify Additional Firefighters to Officer Positions**

WSFES received a limited amount credit for career officers when measured against the 32 career officers needed based on a shift factor of 4. WSFES can receive additional credit up to a maximum if it increases the total number of Company Officers on the fire department. Credit can be received through a combination of career and auxiliary officers.

A fire department should have sufficient Company Officers available and assigned to provide one on duty response with each required engine or ladder company. The Company Officers should be adequately trained, preferably in accordance with NFPA 1021: *Standard for Fire Officer Professional Qualifications*, 2009 Edition or recent edition to receive full credit for fire insurance grading purposes.

### **Recommendation 8.2-6 Improve Total Available Fire Force**

WSFES is credited with 14.48 firefighter equivalent units in its available fire force out of the maximum it can receive of 48. WSFES can receive additional credit up to the maximum if it improves available force. Credit can be obtained through career and auxiliary members.

Note that the available fire forces can be improved through additional auxiliaries up to 50% of the required fire force. (In the case of WSFES, the required force is 48 fire fighter equivalent units (FFEU), so the maximum available fire force that can be provided through auxiliary fire fighters (V/POCs) and other FFEU sources is 24.)

Providing additional staffing either being career or auxiliary is a serious matter that requires careful consideration. There are many factors to consider, and the fire insurance grading is only one such grading item.

### **Recommendation 8.2-7 Improve in Service Apparatus Company Staffing**

WSFES can receive additional credit up to the maximum in this grading item if it improves its staffing of in – service fire apparatus. It should be noted that this grading item is connected with other fire insurance grading items. They include engine service, ladder service and total available fire force. Changes in those grading items may affect the amount of credit received in this grading item.

### **Recommendation 8.2-8 Continue to Improve Training Facilities**

WSFES does not have a developed training grounds or facilities. Additional training facilities should be acquired. The following props and facilities are recommended to be developed within the Town of Whitchurch-Stouffville:

- Wet drill facilities
- Smoke facilities
- Training tower
- Additional training prop for scenario-based training
  - Fuel spill fire
  - LP tank fire
  - Gas main break fire
  - Industrial fire
  - Live fire facilities

Training facilities should be developed by the Fire Department in relation to the level of the fire risk within the community so that realist firefighting training can be conducted.

It is recommended that facilities for drill and training be readily available for purposes that include necessary building or structures for ladder work, smoke and breathing apparatus training, use of pumper and hose lines, lecture space, etc. If the fire department were to develop its own training facilities it is recommended NFPA 1402: *Guide to Building Fire Services*, recent edition be used for development.

Ideally for fire insurance grading purposes training props and facilities should be located within the municipality of the fire department. Credit can be received for the use of training facilities and props in neighbouring communities if the fire department has access to use them. To receive full or partial credit training facilities and props should be within 8 km of the municipality boundary. If training facilities and props are beyond 8 km, credit can still be achieved but sufficient fire department coverage must be maintained within the municipality when fire department resources are outside of the community for training purposes.

#### **Recommendation 9.2-1 Improve Pumping Capacity - Gormley**

The Gormley water supply can receive an additional 145 points of credit up to the maximum in this grading item if the supply works was improved to deliver the maximum day demand plus Basic Fire Flow of 2,000 lpm for a rate of 2 hours.

The most limiting features of the supply works and water distribution system should be reviewed to determine the most effective way of improving the capacity to deliver the maximum day demand plus the Basic Fire Flow of 2,000 lpm for a rate of 2 hours. Several options or combination of options are available and may include but are not limited to:

- Additional storage on the distribution system
- Improve the high lift pumping stations capacity
- Improve the high lift pumping stations capacity and additional storage on the distribution system

Improvements that occur in this grading item may allow for additional credit to be received up to the maximum in additional water supply grading items. Grading items that may receive additional credit may include but not be limited to 9.2.3, 9.2.4, 9.2.6, and 9.2.7.

#### **Recommendation 9.2-2 Improve Reliability of Back-up Pumping Capacity – All Water Systems**

To receive maximum credit, remaining pumps in conjunction with or without storage, should be able to provide required fire flows for the specified durations at any time during a period of five days concurrently with consumption at the maximum day demand.

Additional back-up pumps for the water distribution system key pumping facilities is recommended if the Town of Whitchurch-Stouffville wanted to receive additional credit up to the maximum within this grading item for the Schomberg water distribution system. Additional storage on the distribution system may also be an alternative to offset need for back-up pumps.

### **Recommendation 9.2-3 Frequency of Available Fire Flow Testing – All Water Systems**

Routine available fire flow testing should be completed on water supply systems that provide public fire protection. At a minimum available fire flow test should be conducted every 5 years in accordance with NFPA 25: *Standard for Inspection, Testing, and Maintenance of Water Based Fire Protection Systems*, recent edition and NFPA 291: *Recommended Practice for Fire Flow Testing and Marking of Hydrants*, recent edition.

#### *NFPA 25 Reference 7.3.1 Tests*

*7.3.1\* Underground and Exposed Piping Flow Tests. Underground and exposed piping shall be flow tested to determine the internal condition of the piping at minimum 5-year intervals.*

*7.3.1.1 Flow tests shall be made at flows representative of those expected during a fire, for the purpose of comparing the friction loss characteristics of the pipe with those expected for the particular type of pipe involved, with due consideration given to the age of the pipe and to the results of previous flow tests.*

*7.3.1.2 Any flow test results that indicate deterioration of available water flow and pressure shall be investigated to the complete satisfaction of the authority having jurisdiction to ensure that the flow and pressure are available for fire protection.*

#### *NFPA 291 Reference 4.13 Public Hydrant Testing and Flushing*

*4.13.1\* Public fire hydrants should be flow tested every 5 years to verify capacity and marking of the hydrant.*

*4.13.2 Public fire hydrants should be flushed at least annually to verify operation, address repairs, and verify reliability.*

### **Recommendation 9.2-4 Improve Redundancy of Principal Mains – All Water Systems**

Redundancy of principle mains and water sources is important to ensure adequate pressures and flows can be continually provided throughout the community during foreseeable perils and system failures. Areas of the water distribution system should be reviewed to determine water

mains that are most important and improve redundancy for those mains. Redundancy can also be accomplished by providing additional storage that would be available to the distribution system in the event of significant water main failure.

**Recommendation 9.2-5 Private Hydrants should be Properly Identified – All Water Systems**

Private hydrants are encouraged to be colour coded differently than public hydrants. NFPA 291: *Recommended Practice for Flow Testing and Marking of Hydrants*, recent edition recommends the following:

*5.2.5.1 Marking on private hydrants within private enclosures is to be at the owner's discretion.*

*5.2.5.2 When private hydrants are located on public streets, they should be painted red or some other colour to distinguish them from public hydrants.*

**Recommendation 10.2-1 Review NFPA 1730 to aid in the development of the Town's Fire Prevention Program**

As NFPA has recently released NFPA 1730: Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations, the Whitchurch-Stouffville Fire & Emergency Services is encouraged to review the document to see how they may incorporate aspects of the Standard into development programs in the future as the fire prevention division of the fire department grows.

**Recommendation 10.2-2 Improve Fire Prevention Inspection Program**

Increasing the frequency of inspections while continuing to meet legislative requirements of the *FPPA* 1997, The Ontario Fire Code and OFMEM Public Service Guidelines should be a priority of the Fire Prevention/Public Education division of the WSEFS. In order to improve the frequency of inspections, additional resources in the form of FPIs will likely be necessary.

The amount of inspections should be improved if the fire department desires to receive additional credit within this grading item for fire insurance grading purposes. Incorporating a routine inspection program will be necessary to achieve better scoring under this item. The department should develop an inspection frequency that meets the needs of the community while maximizing fire insurance credit. The development of a plan that includes at a minimum annual inspection frequency of all properties should be investigated as it pertains to the needed resources and functions that will support the objective of annual inspections.

Two documents are recommended to be used as guides for developing an inspection program that goes beyond providing inspections on complaint and requests only.

- NFPA 1730: *Standard on Organization and Deployment of Fire Prevention and Code Enforcement, Plan Review, Investigation, and Public Education Operations, Chapter 6 Fire Prevention Inspection and Code Enforcement.*
- Fire Underwriters Survey – Technical Bulletin – Recommended Frequency of Fire Prevention Inspections. Appendix G

### **Recommendation #31**

**The Fire Chief continue to review and update the 2016 FUS recommendations in unison with those noted in this report by EM&T. The overall goal of the review is to find similarities and opportunities for implementation of the FUS recommendations, where feasible.**



## Summary of Recommendations

**SECTION 12: Summary of Recommendations**

**12.1 Conclusion**

During the review conducted by EM&T, it was demonstrated that the full-time staff and firefighters of WSFES are truly dedicated to the community they serve. Council, CAO, and Fire Chief are sincerely committed to ensuring the safety of the community and the firefighters. Based on the present staffing, equipment, and fire station’s locations, WSFES is endeavoring to offer the most efficient and effective service possible.

All costs and associated timelines are approximate estimates that can be implemented through prioritization between the Fire Chief, CAO, and Council.

Generally, an MFP is a 10-year document with a review to be conducted at the five-year mark. Due to some of the specific recommendations made in this plan, it is advisable that the Fire Chief view this as a “living document” and conduct more frequent reviews of the recommendations, bringing forward updates to Council, as required.

**12.2 Recommendations & Estimated Costs**

The following chart provides further overview of the recommendations found throughout this report along with any estimated costs that can be incurred in the associated areas.

Overall, there is a total of 31 recommendations for consideration by the WSFES and its Council.

Rec #	Recommendation	Suggested Timeline	Estimated Costs (2022)
<b>Section 1: Community &amp; Fire Department Overview</b>			
No recommendations for this section.			
<b>Section 2: Planning</b>			
1	The present E&R By-law be updated, reviewed, and approved by Town Council. Annual reviews should be conducted to ensure that the By-law is in line with services being offered by the WSFES.	2022	No cost associated with update. Costs could be incurred with

Rec #	Recommendation	Suggested Timeline	Estimated Costs (2022)
			implementation of new services
<b>Section 3: Risk Assessment</b>			
2	To assist the Department in fire safety, staff should meet with relevant local community groups to form a partnership for organizing fire safety and public education events that can be tailored to the unique needs and challenges within the community. These events can be based on the previous fire cause information supplied.	2022 and ongoing	Staff time
3	WSFES to promote a “sprinkler safe” community through further education on the benefits of residential and commercial sprinkler systems, in relation to fire control and containment, and life safety, as well as seek consistent funding to continue with this public safety initiative.	2022 and ongoing	Staff time
4	An SOG Committee be established with representation of all Divisions of the Department. It is further recommended that the Department’s SOGs be reviewed on an ongoing basis.	2022 with annual reviews	Staff time
5	<p>Upon completion of the SRA/ CRA and IRM, the Fire Chief provides Council with a draft policy for review and passage that outlines a fire inspection program to address identified needs and expected outcomes.</p> <ul style="list-style-type: none"> <li>• This program should outline the building types and the frequency of inspections.</li> <li>• It should also identify what level of staffing is required to meet the FUS recommended inspection program.</li> </ul>	2022/2023 with annual reviews	Staff time unless more fire prevention staff is required

Rec #	Recommendation	Suggested Timeline	Estimated Costs (2022)
	<ul style="list-style-type: none"> <li>Upon approval by Council, the WSFES staff should then begin developing the community risk reduction plan</li> </ul>		
<b>Section 4: Department Staffing &amp; Related Programs (Non-Suppression)</b>			
6	Implement a third senior management position in the form of a Deputy Chief rank. A review of the present compression rate should be conducted and implemented to ensure that the community will be able to retain its senior fire staff.	2023	FTE compensation package of approx. \$130,000 – 150,000
7	Hire new personnel for the Fire Prevention Division (whenever possible) that are fluent in a second language to aid in communicating with the varied community demographic that reside in the Town. Further, create a list of all languages spoken by staff to be kept readily available for reference, as needed.	As hired	\$130,000 per additional hire
8	The Fire Prevention Division to monitor and provide risk assessment reports, at least annually, on activities conducted to better align current WSFES baselines and to ensure progress towards industry best practice benchmarks and the CRA.	2022 and ongoing	Staff time
9	Select members of the fire suppression division be trained to NFPA 1031, level I and 1035, level I to assist the Fire Prevention Division in its goal for fire safety inspections and education.	Immediate and ongoing	Staff time
10	The Town of Whitchurch-Stouffville review options of hiring FPIs based on the Division’s inspection goals and their mandate of fire safety inspections.	2022 and ongoing	\$130,000 per additional hire

Rec #	Recommendation	Suggested Timeline	Estimated Costs (2022)
11	Due to the importance of public education along with the fact that this is noted as the first line of defence by the OFMEM, the FPI should be assigned to that role full-time.	2024	\$130,000 per additional hire
12	Current efforts be increased to leverage social media platforms and develop partnerships with internal and external stakeholders that would support advancement of public safety messaging campaigns.	2022 and ongoing	Staff time along with possible IT costs
13	All Fire Prevention Division personnel should be to NFPA 1033 as certified fire investigators. This will provide flexibility within the Fire Prevention Division, add depth to the office capacity regarding investigations, and support career development and succession planning.	2022 - 2024 and ongoing	Staff time along with possible course costs
14	Fire Prevention Division staffing to be increased by two FPIs, one in 2024, with the second in 2031.	2024 and 2031	\$130,000 per additional hire
15	<p>Enhance the Training Division resources to ensure that WSFES will be able to meet the future demands that are now required by the OFMEM in the form of new training and certification standards.</p> <ul style="list-style-type: none"> <li>• Enhancements can be either in the hiring of another training officer, or perhaps the inclusion of a V/POC training officer counterpart to look after the V/POC firefighter component, while the full-time training officer focuses on the needs of the full-time firefighters.</li> <li>• Another option is the implementation of Shift Training Officers, that require a stipend when fulfilling the duties of a training officer.</li> </ul>	2022 - 2025	<p>\$130,000 annually for new training officer.</p> <p>Collective agreement for compensation with Shift Training Officer</p>

Rec #	Recommendation	Suggested Timeline	Estimated Costs (2022)
16	The WSFES training division continue to search for opportunities to conduct joint training programs with other regional departments by securing/scheduling neighboring training facilities.	2022 and ongoing	Staff time
17	To enhance training, WSFES purchase a mobile training unit that can be moved from station to station or located in semi-permanent set-up in the existing Public Works Yard, in order to accommodate training needs of the firefighters.	2023	\$100,000 - \$200,000 for semi-permanent unit.  \$500,000 for mobile unit
<b>Section 5: Fire Suppression &amp; Dispatching</b>			
18	Phase 1 – 2022/2023  Increase of six full-time firefighters with two in 2022, and another four in 2023 (with an additional administrative position).  The goal of this upstaffing is to work towards providing a minimum of four firefighters on the responding apparatus which would put WSFES in line with best practices, including NFPA 1710 and the NIST Study, and the Sudbury award.	Phase 1: \$150,000 in 2022; \$300,000 in 2023.	
	Phase 2 – 2024/2025  For the WSFES to have the recommended staffing of four firefighters on a 24/7 basis without consistently incurring overtime, the department’s staffing would need to have a complement of six firefighters per station. This allows for such things	Phase 2: \$350,000 in 2024; another \$350,000 in 2025	

Rec #	Recommendation	Suggested Timeline	Estimated Costs (2022)
	<p>as vacation, time off, and sickness, while keeping four firefighters per truck.</p> <ul style="list-style-type: none"> <li>This would be accomplished through hiring four firefighters in 2024, plus an additional Fire Prevention Inspector and two firefighters in 2025, plus a second Training Officer to ensure that each station has six firefighters per platoon, for a minimum staffing of four.</li> <li>For shifts with more than four firefighters on duty, firefighters could be assigned to the aerial truck or tanker or rescue.</li> </ul> <p>While these trucks would not be fully staffed, it provides additional resources on scene until the V/POC arrive.</p>		
	<p>Phase 3 – 2026/ 2031</p> <ul style="list-style-type: none"> <li>Due to the growth of the community and the considerable V/POC firefighter recruitment, training, and retention challenges, consideration needs to be given to a reduction in reliance on the V/POC component. This can occur in a gradual process so as not to leave the community without the resources it requires at large scenes, until a proper full-time component can be fully implemented.</li> <li>The final outcome of suppression staffing increases between the years of 2026 to 2031, is 14 additional firefighters in order to staff an engine and an aerial at station 51 and an engine at station 52. It is also recommended to add an additional Fire Prevention Inspector in 2031. See attached chart (Figure 9A &amp; 9B) for staffing</li> </ul>	<p>Phase 3: No cost evaluation at this time.</p>	

Rec #	Recommendation	Suggested Timeline	Estimated Costs (2022)
	<p>requirements from 2026 to 2031 based on current planned growth of the community.</p> <p>As full-time response capabilities increase, it provides opportunity to evaluate the CYFS Agreement. Costs previously allocated towards V/POC firefighters and CYFS agreement would be redirected towards funding the full-time staff. Additional full-time firefighter staffing would also address the continuing increase in growth of the community as a whole, as well as better position WFES in future for the potential increase in fire station locations specifically, the Lincolnville and Vandorf areas.</p>		
19	<p>The Fire Chief continue to utilize/enhance the V/POC recruitment tools as noted by the Office of the Fire Marshal and the CAFC “Answer the Call” program with a focus on Public Safety Announcements (PSAs), social media content, and visual imaging, to promote recruitment and retention.</p>	<p>Immediate and ongoing</p>	<p>Staff time</p>
20	<p>WSFES determine its current and future use of V/POC firefighters and the training requirements to ensure consistent and standardized training to all firefighters.</p>	<p>2023</p>	<p>Cost would be based on the present hourly rate paid</p>
21	<p>The dispatching agreement be further updated to incorporate the necessary performance measures as per the NFPA 1221, 1225 and 1061 to ensure a more consistent measure of the dispatching service (in relation to meeting all associated NFPA Standards).</p>	<p>2022 or during next update of the agreement</p>	<p>Cost, if any, would depend on level of performance measures incorporated</p>

Rec #	Recommendation	Suggested Timeline	Estimated Costs (2022)
	<ul style="list-style-type: none"> <li>• NFPA 1221: Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems</li> <li>• NFPA 1225: Standards for Emergency Services Communications</li> <li>• 1061 Standard for Public Safety Telecommunications Personnel Professional Qualifications</li> </ul>		into the agreement
<b>Section 6: Fire Station Review, Locations, &amp; Suitability for Growth</b>			
22	A total of three fire stations be built over the next 10 years. The first station to be built should be the re-location of station 52, within 1-3 years, the second station would be in the south /east section of town Lincolnville (10th line and Walter Atkinson Area) within 5 years, and the final station to be built as part of this MFP would be in the lower middle westerly area of town (Bloomington, between Woodbine and Warden), which would provide protection for Gormley and Vandorf within the 10 year horizon based on growth.	Short to Long-term (1 – 10 years)	\$5 – 6 million per station
<b>Section 7: Vehicles &amp; Equipment</b>			
No recommendation for this section			
<b>Section 8: Emergency Management</b>			
23	The Town of Whitchurch-Stouffville should move the position of CEMCs out of the Fire Department’s role to town staff.	2022 - 2023	Staff time
24	The Primary EOC should be relocated to a facility other than a fire station.	2023	Dependent on reallocation of equipment to new site

Rec #	Recommendation	Suggested Timeline	Estimated Costs (2022)
25	Whitchurch-Stouffville review partnership opportunities in the delivery of an ASHER program to the community.	2022 and ongoing	Staff time
26	The Town of Whitchurch-Stouffville to collaborate with the N6 to review the feasibility of acquiring a public emergency notification system, or gain access to messaging on the Alert Ready app.	2022 and ongoing	Cost of new application unknown
27	The Town of Whitchurch-Stouffville review opportunities of installing storm sirens in the built-up areas of the municipality. This should include opportunities of applying for funding, in the form of grants, made available by upper levels of Government	2022 and ongoing	Grant funding could cover all costs
28	All members of the Emergency Management Planning Committee should complete the BEM course.	2022 to 2024 and ongoing	Staff time, no cost for course
29	Due to the importance of staff understanding their roles and responsibilities in the EOC, a policy should be implemented identifying IMS 200 as the minimum standard for staff required to be in the EOC, with IMS 300 being the goal for all department heads.	2022	Staff time, no cost for course
30	The Whitchurch-Stouffville’s CEMC prepare a three-year schedule for Whitchurch-Stouffville that should identify EOC activation orientation, and annual tabletop and operations-based exercises for the WSFES, Town of Whitchurch-Stouffville, and external agencies.	2022 - 2023	Staff time
<b>Section 9: Mutual Aid, Automatic Aid, &amp; Fire Protection Agreements</b>			
No recommendation for this section.			

Town of Whitchurch-Stouffville Master Fire Plan

Rec #	Recommendation	Suggested Timeline	Estimated Costs (2022)
<b>Section 10: Finance, Budgeting, &amp; Capital Investment Plan</b>			
No recommendations in this section.			
<b>Section 11: Fire Underwriters Survey</b>			
31	The Fire Chief continue to review and update the 2017/2018 FUS recommendations in unison with those noted in this report by EM&T. The overall goal of the review is to find similarities and opportunities for implementation of the FUS recommendations, where feasible.	2022 and ongoing	Staff time. Costs could be incurred with individual recommendations

# APPENDICES

**Appendix A:** Definitions and References

**Appendix B:** Staff Surveys

**Appendix C:** Community Surveys

**Appendix D:** Five-Step Staffing Process

of V/POC Firefighters

**Appendix E:** Calls & Response Data for 2018

to 2020

## APPENDIX A – Definitions & References

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### Automatic Aid Agreements – Fire Prevention and Protection Act, 1997 (FPPA 1997)

4. For the purposes of this Act, an automatic aid agreement means any agreement under which,
- a) a municipality agrees to ensure the provision of an initial response to fires, rescues and emergencies that may occur in a part of another municipality where a Fire Department in the municipality is capable of responding more quickly than any Fire Department situated in the other municipality; or
  - b) a municipality agrees to ensure the provision of a supplemental response to fires, rescues and emergencies that may occur in a part of another municipality where a Fire Department situated in the municipality is capable of providing the quickest supplemental response to fires, rescues and emergencies occurring in the part of the other municipality. 1997, c. 4, s. 1 (4).
    - o *Automatic aid is generally considered in other jurisdictions as a program designed to provide and/or receive assistance from the closest available resource, irrespective of municipal boundaries, on a day-to-day basis.*

### Commission of Fire Accreditation International Community Definitions

- Suburban – an incorporated or unincorporated area with a total population of 10,000 to 29,999 and/or any area with a population density of 1,000 to 2,000 people per square mile
- Rural – an incorporated or unincorporated area with a total population of 10,000 people, or with a population density of less than 1,000 people per square mile.

### National Fire Protection Association (NFPA) Documents

- NFPA 1201 - Standard for Providing Fire and Emergency Services to the Public
- NFPA 1500 – Standard on Fire Department Occupational Safety and Health Program, 2013 editions
- NFPA 1720 – Standard for the Organization and Deployment of Fire Suppression Operations, Medical Operations, and Special Operations to the Public by Career Departments

- NFPA 1720 – Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments.

### **Municipal Responsibilities (FPPA 1997)**

2. (1) Every municipality shall,

- a) establish a program in the municipality which must include public education with respect to Fire safety and certain components of Fire prevention; and
- b) provide such other Fire protection services as it determines may be necessary in accordance with its needs and circumstances.

### **Mutual Aid**

- a) Mutual aid plans allow a participating Fire Department to request assistance from a neighbouring Fire Department authorized to participate in a plan approved by the Fire Marshal.
- b) Mutual aid is not immediately available for areas that receive fire protection under an agreement. The municipality purchasing fire protection is responsible for arranging an acceptable response for back-up fire protection services. In those cases where the emergency requirements exceed those available through the purchase agreement and the backup service provider, the mutual aid plan can be activated for the agreement area.

### **Public Fire Safety Guidelines:**

- PFSG 04-40A-12, Fire Prevention and Public Safety Education; Simplified Risk Assessment March 2001
- PFSG 04-41-12, Fire Prevention and Public Safety Education; Community Fire Safety Officer/Team, January 1998
- PFSG 04-08-13 on Fire Station Location, September 2004

### **Shared Responsibilities (FPPA 1997)**

*FPPA* notes that;

1. Two or more municipalities may appoint a community fire safety officer or a community fire safety team or establish a Fire Department for the purpose of providing fire protection services in those municipalities

### **Volunteer Firefighter (FPPA 1997)**

- Means a Firefighter who provides fire protection services either voluntarily or for a nominal consideration, honorarium, training or activity allowance. (“pompier volontaire”) 1997, c. 4, s. 1 (1); 2001, c. 25, s. 475 (1).”

**APPENDIX B – Staff Surveys**

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The following survey was presented to internal stakeholders:

**WSFES – FMP – Internal Feedback Session/Surveys**

Emergency Management & Training Inc. (EM&T) have been hired to prepare a Master Fire Plan (MFP) for WSFES. The intent of this document is to provide a 10-year community-driven master plan to guide operational improvements and enhance how services are provided throughout the community. Your feedback is necessary in assisting EM&T in developing the MFP. Your feedback is greatly appreciated and will help to shape future service delivery efforts.

**WFES Personnel Questions:**

1. How would you describe WSFES performance in the following areas and provide an example?

- Workplace Culture / Team working /Collaboration
- Professionalism
- Effectiveness of operations
- Training and Development
- Leadership
- Community Engagement
- Growth

2. How do you think most people living in the community perceive WSFES?

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3. What would you say are the top three challenges facing WSFES in general?

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4. What areas of opportunity should WSFES need to consider in making its services more efficient and how would you implement these efficiency opportunities?

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5. Here are eight core services. Which services do you believe are most valued by the community? Please rank in order of priority from 1 (most important) to 8 (least important). *Please use each number **only once** and use all 8 numbers.*

- \_\_\_ Suppression
- \_\_\_ Rescue (motor vehicle, water, etc.)
- \_\_\_ Fire origin and cause investigations
- \_\_\_ Fire prevention and safety inspections
- \_\_\_ Community outreach / Public education
- \_\_\_ Public assist / Non-emergency responses
- \_\_\_ Emergency planning
- \_\_\_ Medical assist and response

6. Are there any other services that you believe WSFES should provide and why?

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7. What do you think WSFES should focus on for the 10 years from today and why?

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8. What are your thoughts on fire station facilities location, areas of response coverage, staffing, apparatus and apparatus deployment, department roles, policies (SOP/G) and directives?

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9. What are your thoughts about the 3 Lines of Defence and how WSFES might incorporate or continue to incorporate within its goals and objectives in the next 5 years?

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10. If you could enhance any level of current service provision to the community, what would it be and why? Examples: A specific technical rescue moving from awareness level to operations, enhance medical medication administration such as glucagon or ASA.

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**WS Senior Administration - Departmental Questions:**

1. Please describe your function and role in working with WSFES in cross-department interactions and projects?

---

2. How would you characterize WSFES performance in areas of growth matters; effectiveness and proactive value of services provided; and engagement the corporate organization?

---

3. What people and processes change might be needed regarding WSFES and collaboration between Town departments and staff?

---

4. What are the top three challenges facing WS in general?

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5. Are you aware of any innovative service programs, performance indicators, or alternate delivery models in other municipalities that should be considered and reflected in the review of WSFES?

---

6. What if anything would you suggest that would continue and enhance effectiveness and collaboration between your department and WSFES in the coming 5 years?

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**WS Council Questions:**

1. Please describe any input/comments that you have received from your constituents in relation to WSFES?

---

2. How would you characterize WSFES performance in areas of professionalism; effectiveness and proactive value of services provided; and engagement within the community?

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3. What are the top three challenges facing WS in general?

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4. What are the top three challenges facing WSFES specifically?

---

5. What is your vision regarding community fire and life safety for the next 5 years?

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6. As Whitchurch-Stouffville grows in building stock and citizens, what impacts will it have on the WS area in the coming years? Will WS growth be focussed towards residential, a retirement community, industrial, commercial etc.?

---

7. Here are eight core services. Which services do you believe are most valued by the community? Please rank in order of priority from 1 (most important) to 8 (least important). *Please use each number **only once** and use all 8 numbers.*

- \_\_\_ Suppression
- \_\_\_ Rescue (motor vehicle, water, etc.)
- \_\_\_ Fire origin and cause investigations
- \_\_\_ Fire prevention and safety inspections
- \_\_\_ Community outreach / Public education
- \_\_\_ Public assist / Non-emergency responses
- \_\_\_ Emergency planning
- \_\_\_ Medical assist and response

## APPENDIX C – Community Surveys

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During the MFP process, feedback was gathered from the community in the form of an online survey and a meeting with those from the community who have utilized the services of the WSFES.

The following survey was presented to the external stakeholders:

**The Whitchurch-Stouffville Fire and Emergency Services (WSFES) dedicates their efforts to providing protection from fire, life threatening emergencies, and dangerous conditions for residents and visitors.**

**The two fire stations are staffed by a mix full-time career firefighters and a complement of dedicated V/POC firefighters. WSFES responds to a variety of calls that may include general assistance/information inquiries, to responding to emergency incidents such as motor vehicle collisions, fires or medical emergencies.**

**In our ongoing efforts to ensure that we are meeting the needs of our growing community, we are creating a fire services plan to guide operational improvements and ensure the optimization of services to the community.**

**To accomplish this, we have engaged Emergency Management & Training Inc. (EMT), to assist us with this initiative. EMT is a consulting firm that has worked with many fire departments in developing their fire master plans, station assessments and fire service reviews. To supplement the fire services plan, EMT has created this community survey to collect input from our valued residents. Please take the time to complete the survey; we need your help! Your confidential responses will assist to ensure focused action that continues to meet the diverse needs of the community.**

**The survey will be available until June 30, 2020.**

- \* 1. What is your general impression of Whitchurch-Stouffville Fire and Emergency Services (WSFES) in relation to levels of professionalism, community safety, education and fire prevention awareness programs?
- \* 2. Have you been in contact with WSFES staff in relation to fire safety programs, and, if so, how did you find this interaction?
- \* 3. How important are the following statements to you:

Extremely important Very important Important Not very important Not important at all

How quickly WSFES gets to me if I have an emergency



Town of Whitchurch-Stouffville Master Fire Plan

	Extremely important	Very important	Important	Not very important	Not important at all
How much the fire services costs me as a tax payer	<input type="radio"/>				
How well WSFES works with other agencies to provide wider community safety services	<input type="radio"/>				
How often WSFES consults me about their services	<input type="radio"/>				
How often WSFES provides community training opportunities (e.g., fire extinguisher training; school safety programs; older and wiser program; smoke alarms; fire escape planning)	<input type="radio"/>				
How visible WSFES is at local community events	<input type="radio"/>				
Contacting assistance services (such as Red Cross or family services) after an emergency, as required	<input type="radio"/>				
Timeliness to any request for services or assistance from WSFES	<input type="radio"/>				
Purchasing and maintaining new and applicable equipment to ensure the department has reliable up to date equipment to safely deliver its services	<input type="radio"/>				
Continued and relevant training to meet the needs of the community	<input type="radio"/>				

\* 4. There are seven core services delivered by WSFES. Which services are most important to you? Please rank in order of priority from 1 (most important) to 7 (least important). Please use each number only once and use all seven numbers.

<input type="text"/>	Fire fighting
<input type="text"/>	Rescue (i.e., motor vehicle accidents)
<input type="text"/>	Code enforcement / fire investigations
<input type="text"/>	Community outreach/ public education
<input type="text"/>	Hazardous materials (i.e., gas or chemical spills)
<input type="text"/>	Public assistance requests/ non-emergency responses
<input type="text"/>	Emergency management and planning

5. Over the next 10 years, if you could implement up to three things to improve how the current services are provided by WSFES, what would those things be?

6. Have you directly received service from WSFES?

- Yes  
 No

7. Could you share some details of your experience and any recommendations for service improvements?

Thank you for completing this survey. Your feedback is greatly appreciated and will help to shape future service delivery efforts.

If you have any questions about this survey, please e-mail Phil Dawson, Consultant for Emergency Management & Training Inc. at [pdawson@emergencymgt.com](mailto:pdawson@emergencymgt.com)

## APPENDIX D – Five-Step Staffing Process

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### Step 1: Scope of Service, Duties, and Desired Outputs

Identify the services and duties that are performed within the scope of the organization. Outputs should be specific, measurable, reproducible, and time limited. Among the elements can be the following:

- Administration
- Data collection, analysis
- Delivery
- Authority/responsibility
- Roles and responsibilities
- Local variables
- Budgetary considerations
- Impact of risk assessment

### Step 2: Time Demand

Using the worksheets in Table C.2.2(a)-(d), quantify the time necessary to develop, deliver, and evaluate the various services and duties identified in Step 1, taking into account the following:

- Local nuances
- Resources that affect personnel needs

Plan Review - Refer to Plan Review Services Table A.7.9.2 of the standard to determine Time Demand.

### Step 3: Required Personnel Hours

Based on Step 2 and historical performance data, convert the demand for services to annual personnel hours required for each program [see Table C.2.3(a) through Table C.2.3(e)]. Add any necessary and identifiable time not already included in the total performance data, including the following:

- Development/preparation
- Service
- Evaluation
- Commute
- Prioritization

#### **Step 4: Personnel Availability and Adjustment Factor**

Average personnel availability should be calculated, taking into account the following:

- Holiday
- Jury duty
- Military leave
- Annual leave/vacation
- Training
- Sick leave
- Fatigue/delays/other

*Example:* Average personnel availability is calculated for holiday, annual, and sick leave per personnel member (see Table C.2.4).

#### **Step 5: Calculate Total Personnel Required**

Division of the unassigned personnel hours by the adjustment factor will determine the amount of personnel (persons/year) required. Any fractional values can be rounded up or down to the next integer value. Rounding up provides potential reserve capacity; rounding down means potential overtime or assignment of additional services conducted by personnel. (Personnel can include personnel from other agencies within the entity, community, private companies, or V/POC organizations.)

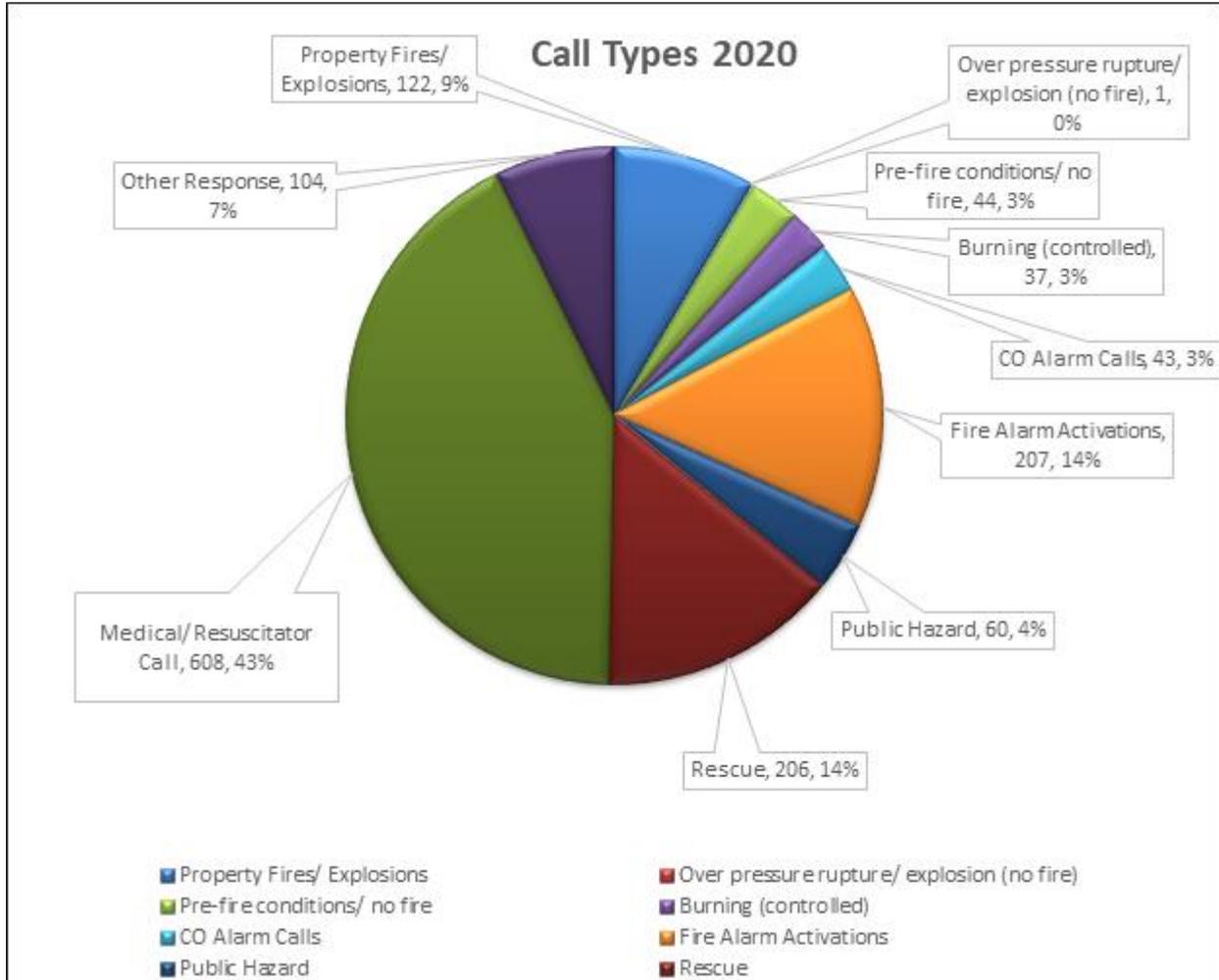
Correct calculations based on the following:

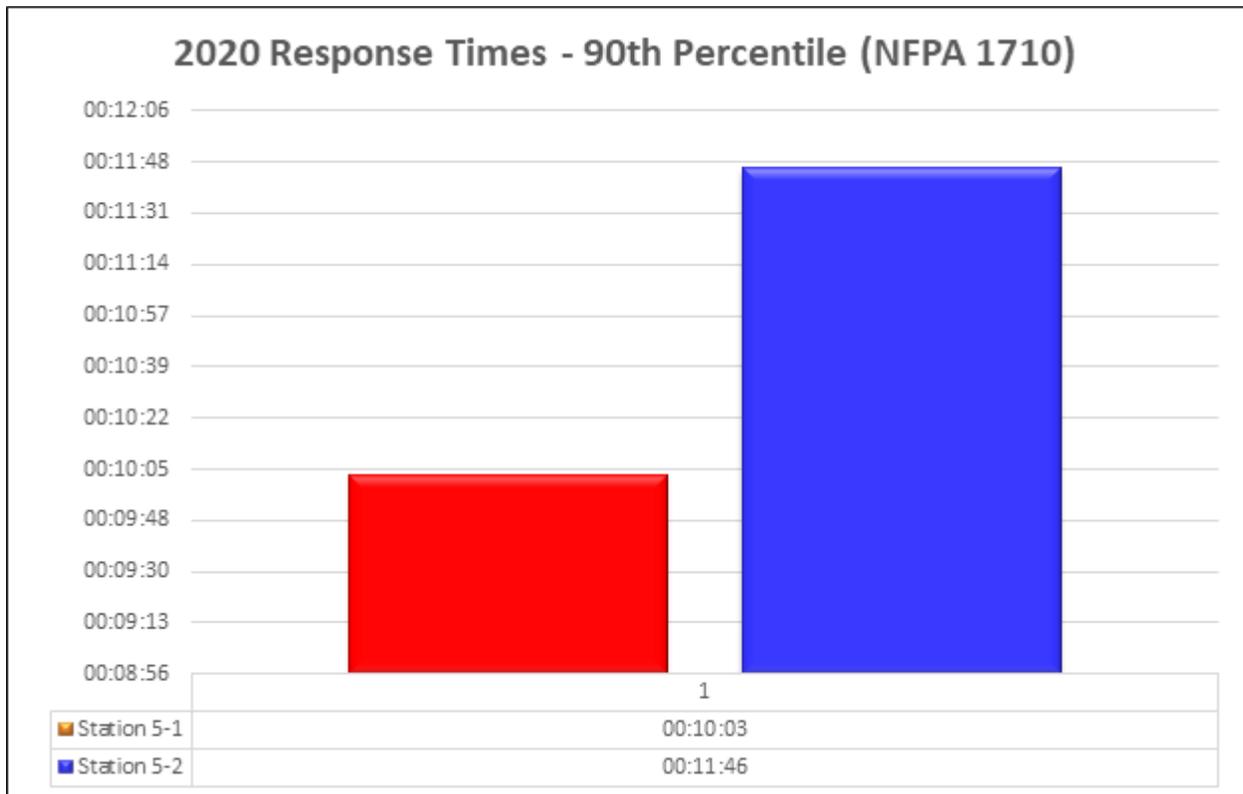
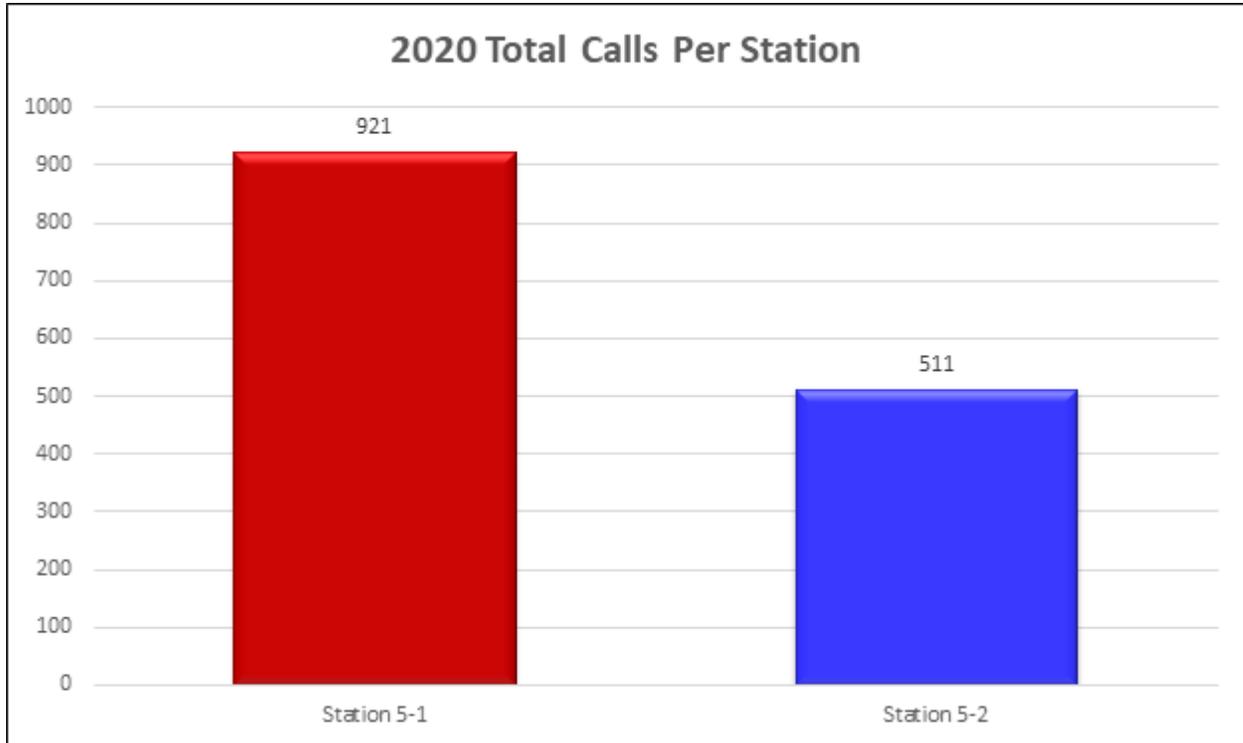
- (1) Budgetary validation
- (2) Rounding up/down
- (3) Determining reserve capacity
- (4) Impact of non-personnel resources (materials, equipment, vehicles) on personnel

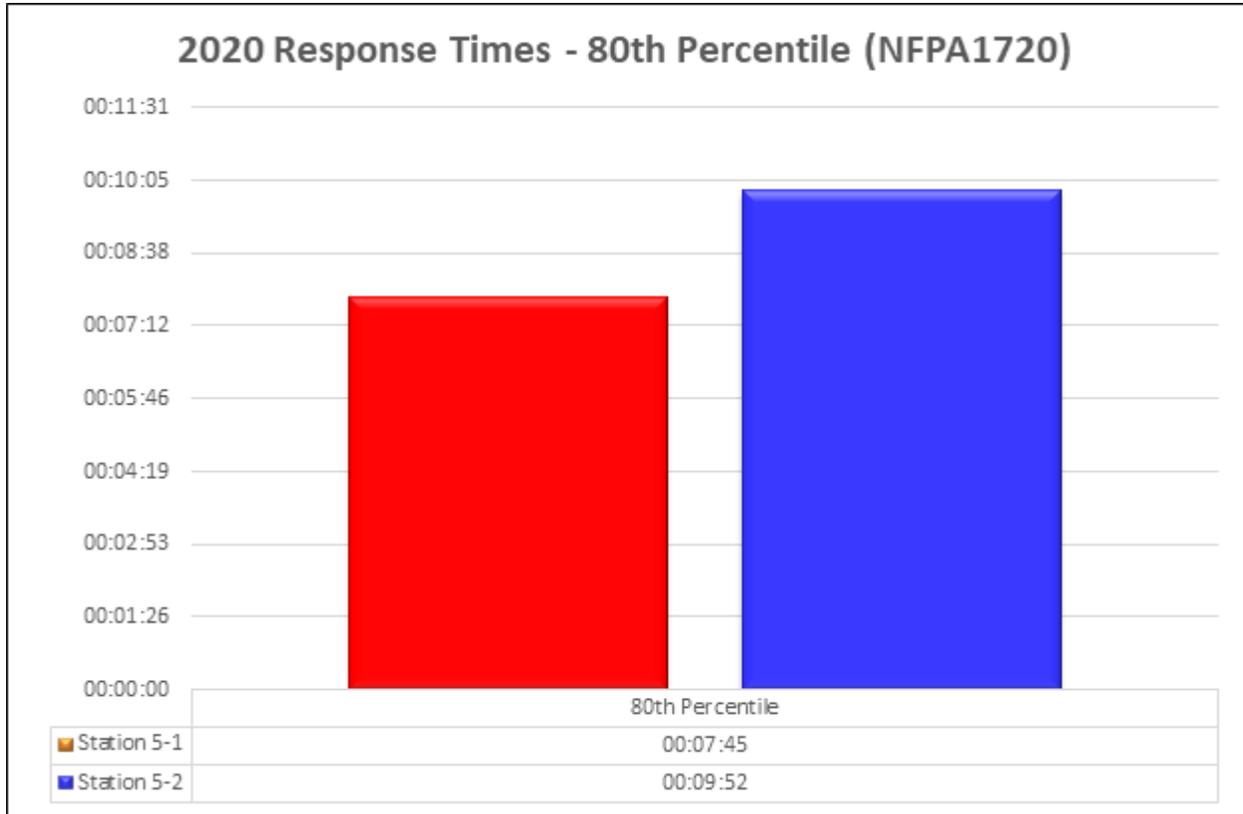
More information on this staffing equation can be found within the NFPA 1730 standard. The Fire Prevention Division should assess the previous five steps and evaluate their present level of activity and the future goals of the Divisions.

APPENDIX E – Call & Response Data for 2018 to 2020

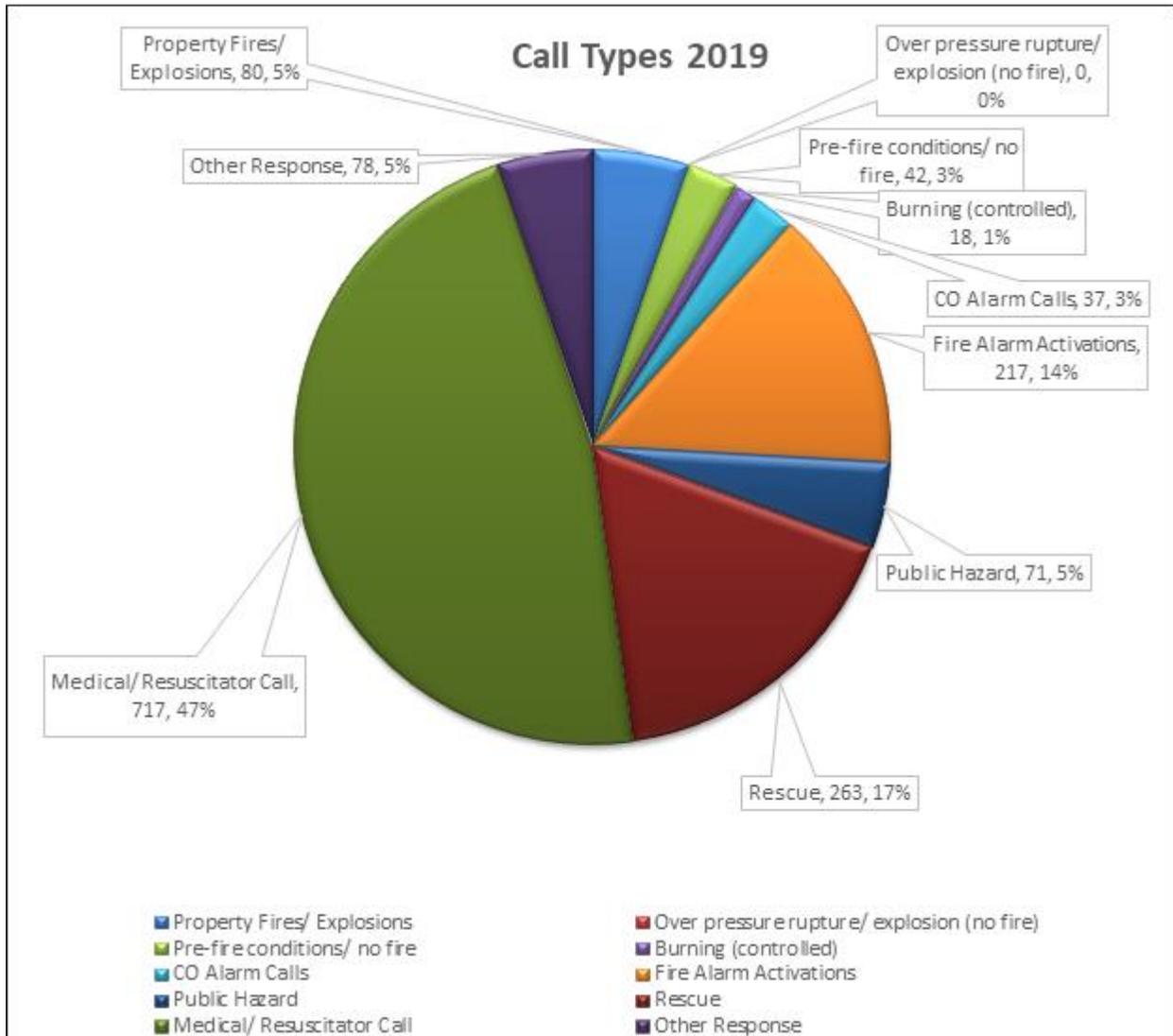
2020 Calls and Response Data

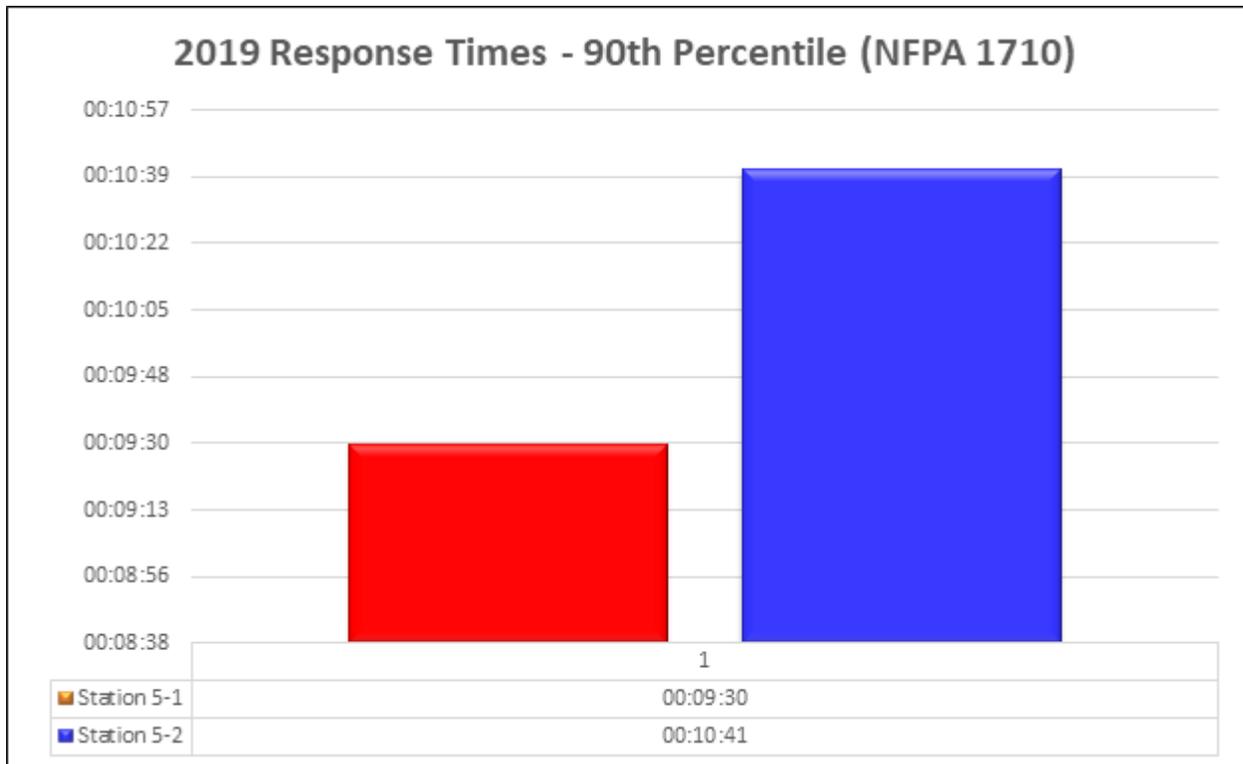
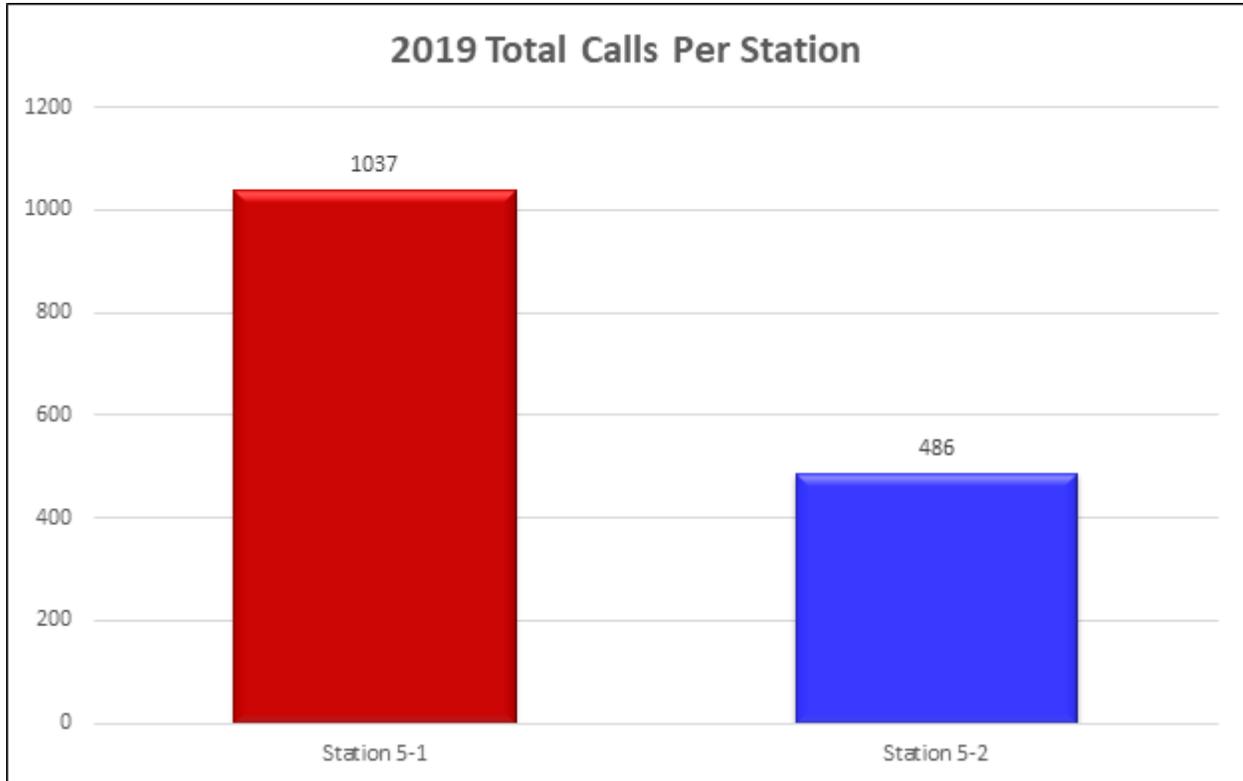




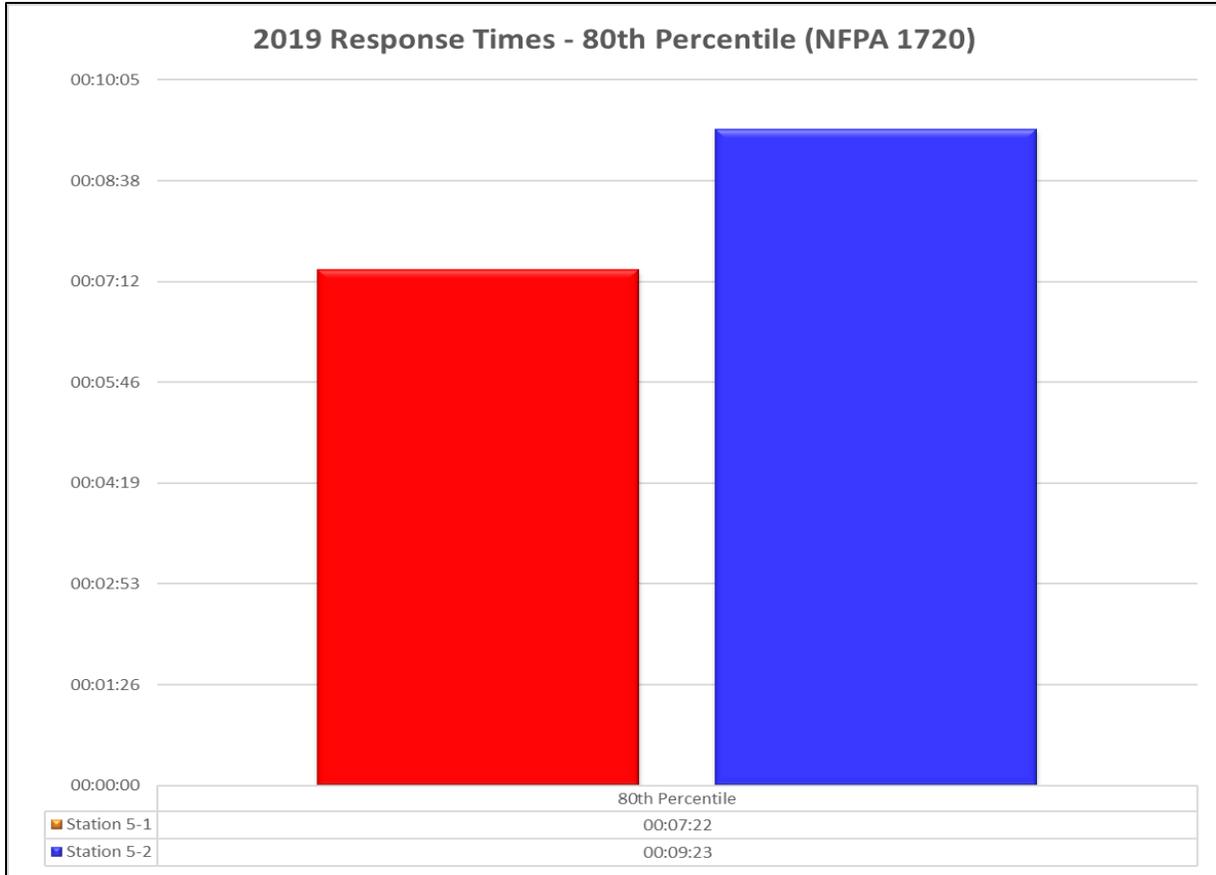


## 2019 Calls and Response Data





Town of Whitchurch-Stouffville Master Fire Plan



## 2018 Calls and Response Data

