



To: COUNCIL
Meeting Date: 3/28/2023
Subject: Cambridge Fire Department Annual Report – 2022
Submitted By: Brian Arnold, Fire Chief
Prepared By: Brian Arnold, Fire Chief
Report No.: 23-102-CRS
File No.: 2023-FIR-03
Wards Affected: All Wards

RECOMMENDATION(S):

THAT Report 23-102-CRS Cambridge Fire Department Annual Report – 2022 be received.

EXECUTIVE SUMMARY:

Purpose

- This annual summary is intended to inform Council on the performance of the department and new or evolving trends. The report summarizes the activities, operations and successes completed over the course of the year and is organized by division, providing details on staff, programs, changes, and accomplishments during the year.

Key Findings

- Significant strategic and tactical milestones were reached in 2022 as a result of the ongoing support of Council, Corporate Leadership, and the hard work of Fire Services staff.

Financial Implications

- In 2022, the Fire Services division had 150 FTE positions, and gross operating expenditures of \$28,339,575.

STRATEGIC ALIGNMENT:

- Strategic Action; or
- Core Service

Objective(s): WELLBEING - Connect people to services that support individual and community wellbeing

Strategic Action: Lay the foundation for future community-building

Program: Fire Services

Core Service: Not Applicable

BACKGROUND:

- Ongoing evaluation and monitoring of the level of fire protection services is the foundation for sustaining an effective and appropriate level of service to meet community needs;
- Preparing an annual summary report is a best practice to inform Council on the performance of the department and new or evolving trends; and
- Since last year's annual report, the new Community Risk Assessment, as required by July 1, 2024, per O. Reg. 378/18, has been completed.

ANALYSIS:

The Fire Services division provides public fire and life safety education programming, fire prevention activities such as fire safety inspections and enforcement of the Ontario Fire Code and emergency response, which includes fire suppression, motor vehicle collisions, tiered medical assist and rescue operations.

Internally, Cambridge Fire Department management, working groups and committees lead by personnel from across the department, and the Cambridge Professional Fire Fighters' Association (Local 499) are working together to change the culture of CFD and create a psychologically safe workplace for all. A two-pronged approach, supported by management but driven by frontline staff, identifies, evolves and expands mental wellness and equity, diversity and inclusion opportunities.

Teams and programs are increasing mental health supports and breaking down the stigma associated with mental health. Working groups have revised and created policies, updated plans, researched and acquired training and investigated and partnered with other agencies and organizations to provide greater mental health awareness, resources, and support options to staff.

Concurrently, the various working groups of CFD's Equity, Diversity and Inclusion Team (EDIT) continue to identify opportunities and recommendations for a more welcoming culture. The teams seek to find improvements to facilities and equipment, raise awareness through training programs, support members' career progression from recruitment to retirement, and policy changes to do things better. Small-scale to larger programs are all conceived and assessed through an EDI lens.

Core programs and services which allow us to meet our mandate include administrative and communications support, training and development, fire prevention and public education, fleet, and equipment maintenance.

A. Fire Administration

Fire Administration is responsible for managing all branches of the service. It oversees and directs the day-to-day operations as well as current and long-range strategic planning, employee wellness, labour relations, capital and operating budget development and monitoring, contracted services, procurement, policy development, performance management, recruitment, and succession, as well as facilities maintenance.

The division is comprised of a Fire Chief, two Deputy Fire Chiefs, an Assistant Deputy Fire Chief (as of January 1, 2023), a Supervisor of Administrative Services, an Emergency Management and Business Continuity Coordinator, and two Administrative Assistants.

Accomplishments and milestones in 2022 for the Fire Administration team include:

- Reintroduced the annual report to Council
- Announced the creation of a new Assistant Deputy Fire Chief position, a role occupied by CFD's first female Chief Officer
- With the guidance of CFD's EDI Training Working Group, instituted ongoing EDI training for staff
- Completed priorities within and updated the 5-year strategic workplan
- Successfully managed staffing and resources throughout the pandemic and has disbanded the Fire IMS Team
- Interviewed internal and external candidates and hired a new Captain of Fire Prevention
- Developed a Community Risk Assessment ahead of the regulatory requirement
- Worked with the consultant to update the Fire Master Plan (expected delivery to Council late Q1 2023)
- In cooperation with Organizational Development, delivered Interpersonal Skills Management training to officers

- Created the CFD information management and technology strategic plan which integrates with the corporate IT strategy
- Implemented a comprehensive training and development framework
- Interviewed and ranked qualified Platoon Chiefs and promoted two Platoon Chiefs
- Established a partnership with Wounded Warriors Canada for increased access to mental healthcare resources for personnel

Key initiatives for 2023 include:

- Complete negotiations for a new collective agreement with CPFFA Local 499
- Update By-law 20-016 – Establish, Maintain and Operate a Fire Department
- Create a master Communications Strategy for the public and internal stakeholders
- Develop a master Fire Station plan for maintenance, building component and equipment life-cycle planning, renovations, expansions and new facilities
- Enter into a new Communications/Dispatch services agreement with a third-party service provider
- Create a master Small Equipment inventory for life-cycle planning and budgeting
- Develop a formalized Succession Management plan for all career paths

B. Fire Communications

While Communications/Dispatch services are provided by the Kitchener Fire Department, our Chief Communications Officer (CCO) continues to provide critical support to CFD Fire Suppression and Administration. This includes fulfilling the role of local Administrator for our various records management platforms.

Some of the key accomplishments provided by the CCO in 2022 include:

- Completion of Quality Assurance (QA) reports and provided numerous requests for data.
- Completed and submitted the year-end OFM Standard Incident Verification report for 2022.
- TeleStaff rostering platform Cyber Attack on December 11, 2021
 - Assisted with setup of daily Excel spreadsheets for the Platoon Chief group to use to manually record suppression staffing activity.
 - Utilized/populated CriSys RMS platform's Roster Manager to digitally track suppression staffing activity.
 - TeleStaff returned to normal operation on January 21, 2022.
 - Data reconciliation – entered 42 days of staffing information that was manually collected during the outage into the TeleStaff system and ensured that it was correct and processing properly.

- Participated in numerous CFD IT Strategy meetings (As-Is conditions).
- Coordinated a significant P25 Radio programming upgrade in December 2022. 64 portable radios, 37 mobile radios & DVRS units (repeaters) required code plug and firmware updates.
- Updated CFD webpages for Emergency Preparedness Week, Carbon Monoxide Awareness Week, Fire Prevention Week, and the 12 Days of Holiday Safety.
- CFD was included in a Telecom Audit completed by Schooley Mitchell Consultants. Facilitated the review of our existing Bell services and equipment. Inefficiencies in billing errors, plan choices, pricing, and unused or unneeded services were examined. Coordinated and provided troubleshooting for the migration from the Bell Megalink PRI service to a SIP Trucking service. With the new SIP service, we are seeing cost savings of approximately \$1200/month.

C. Training and Development

The Training Division is responsible for training new recruits and delivering ongoing training for all operations staff including technical operations, emergency medical services, officer development, and training on all new trucks and equipment. This Division is also responsible for employee development opportunities and succession planning initiatives.

Lead by a Division Chief Training Officer, this branch has a weekday Training Officer and is supported by 4 on-platoon Training Officers assigned additional training and planning responsibilities while working within the Fire Suppression division. The delivery of technical rope rescue and emergency patient care programming is provided by on-platoon instructors with specialized knowledge and skills in those disciplines.

2022 Quarterly Training Syllabi

- Quarterly training is developed by the on-platoon Training Officers. It provides for the ongoing maintenance training for emergency operations as well as introduces new topics and methods. A summary of quarterly training topics covered in 2022 and hours expended per firefighter includes:

Quarter	Topics	Hours (per FF)
Q1	SCBA; Fire Ground Survival; Ice/Water Rescue; Street Training; Face Fit Testing; Rope Rescue Operations; Patient Care; Peer Support; Peer Fitness; Officer Development	53.75
Q2	Fire Ground Survival; Vehicle Extrication; Street Training; Rope Rescue Operations; Patient Care; Peer Support; Peer Fitness; Officer Development	49.75

Q3	Hazardous Materials; Toyota Motor Manufacturing Canada; Wildland Fires; Street Training; Rope Rescue Operations; Patient Care; Peer Support; Peer Fitness; Officer Development; Hose Testing	52.50
Q4	Incident Management; Pumping Operations; Low Rise Apartment Fires; Ice/Water Rescue; Street Training; Rope Rescue Operations; Patient Care; Peer Support; Peer Fitness & Fitness Appraisals; Officer Development	44.00

- Each quarter contains an additional 12 hours of routine maintenance items (i.e., Rapid Deployment Craft inspections; rescue rope inspections; Vacant / Abandoned Properties assignments)

2022 Reclassification Exams

- Being a comparatively younger department, a number of our firefighters are progressing through the reclassification process:

Reclassification	Number of Firefighters	Hours per Firefighter	Total Hours
1 st Class	0	n/a	0
2 nd Class	5	5	25
3 rd Class	7	4	28
4 th Class	1	4	4
5 th Class	11	5	55

2022 Promotional Exams

- Due to a retirement in 2022, there was a need to qualify an additional acting officer. This is done to ensure a pool of competent supervisors are prepared to assume greater responsibilities. A series of interviews, written examinations and oral evaluations were carried out in 2022 for the following positions:

Position	Preparation & marking	Number of Officer Candidates	Hours per Candidate	Hours	Total Hours
Acting Captain	10 hours	1	2.0	2.0	12.0

Recruit Programming

- The Training division conducted a joint recruit class in the fall of 2022 with Kitchener Fire Department. Over 500 hours was spent in planning, lesson development and training delivery by divisional staff and on-platoon Training Officers and Instructors.

NFPA Certifications

- It is required under Occupational Health and Safety Act that workers are trained, equipped, and can recognize the hazards of the work in which they are engaged. The use of an accredited, neutral third-party standard, such as the National Fire Protection Association (NFPA), to verify the purported knowledge and/or skills provides industry-wide credibility to the training program.
- On January 28, 2022, the province of Ontario released a draft regulation for public comment (closed February 28, 2022). This regulation lays out certification requirements for various roles over the next 4-6 years. CFD is well-positioned to be in full compliance with the regulation when it is enacted, as all staff are already certified in their current roles and are working on additional qualifications for their respective career paths.
- The following chart illustrates the certification programs and number of personnel achieving additional qualifications in 2022:

Program	Number of Personnel
1002 Pumper Operations	7
1021 Fire Officer I	4
1021 Fire Officer II	2
1033 Fire Investigator	2
1035 Fire Educator I	1
1035 Fire Educator II	1
1035 Public Information Officer	3
1041 Fire Instructor I	4
1041 Fire Instructor II	3
1521 Incident Safety Officer	4

- The costs of training vary depending on such factors as whether it is online or in-person, internally delivered or at a Regional Training Centre (RTC), the need for overtime to backfill positions, and the course duration, etc.
- The cost to certify is marginal, as after completion of the training, a fee of \$65 is paid to the Ontario Fire College in order to write the certification exam.
- A partnership was struck between the Cambridge Fire Department (CFD) and Ottawa Fire Services (OFS) in early 2022 for OFS to deliver the two-week NFPA 1072 Hazardous Materials Technician course in Cambridge to 15 CFD participants. Certification results are currently pending.

Other Courses & Certifications

- CFD has developed on-platoon Instructors who can deliver Medical Directive training and the Canadian Red Cross – Emergency Medical Responder program. In 2022, these instructors completed the re-certifications for approximately 130 personnel.

PPE and Equipment Research & Procurement

- As well as representing CFD on various committees and working groups, divisional staff also engage in PPE and equipment research and procurement. In 2022, over 150 hours was spent on items such as:
 - Rapid Deployment Craft
 - Radiological Survey Equipment
 - Rope Rescue Program
 - Hazmat Technician Program
 - Suppression Operations
 - New Self-Contained Breathing Apparatus
 - Fire Ground Survival Program
 - Training Tower
 - Equity, Diversity & Inclusion Program

D. Fire Prevention and Public Education

Public Education

Lead by a Captain and Inspector/Educator (50/50 split between both duties), our Public Educators educate the public about fire safety and fire safety regulations. The delivery of Public Education and certain components of Fire Prevention is mandated for every municipality under the Fire Protection and Prevention Act (FPPA).

The ongoing pandemic has reduced our in-person interactions with the public, resulting in a significant decrease in the number of public events, presentations, Children's Safety Village classes, station tours and training of the public on such things as use of fire extinguishers.

Virtual classrooms were implemented in collaboration with Technology Services for the JK/SK program with firefighters delivering safety messages to classrooms remotely using iPads and Google Meets. Virtual programming was also developed in partnership with the Safety Village for teachers to use within the school setting.

- A summary of Public Education Activities for 2022 includes:

Activity Type	Amount Completed
Public Education Events / Presentations	118
Evacuation/Staff Training	18
Public Relations Events	48
Social Media	723
Safety Village	0
Program Development / Review	171
Station Tours	4
Information Requests	157
Public Education Administration	585
Public Education Training	1
Other (i.e., Virtual Classrooms)	77
Waterloo Region Arson Prevention Program for Children (WRAPP-C)	0
Total Activities	1902

- The easing of pandemic restrictions and resumption of in-person interactions contributed to a significant increase in events/presentations and public relations events.
- The use of social media, specifically the @CambridgeFD Twitter account, continues to generate public fire and life safety messaging reaching a large audience.
- The following table provides a summary of 2022 Twitter analytics:

Measure	Total
Tweets	586
Tweet Impressions	940,709
Profile Visits	134,824
Mentions	489
New Followers	386

Fire Prevention

Fire Prevention Officers conduct fire safety inspections to enforce the Ontario Fire Code. The enforcement of the Ontario Fire Code is a critical function in eliminating fires and reducing the loss of life and property due to fire.

The Fire Prevention and Public Education division is responsible for conducting fire safety inspections in all types of occupancies within the City of Cambridge. Fire Prevention Officers are appointed as Assistants to the Fire Marshal under the FPPA and Provincial Offences Officers under the Provincial Offences Act. CFD Inspectors conduct fire safety inspections in all buildings within Cambridge and address violations

of the Ontario Fire Code and other fire safety hazards within the authority of the FPPA and accompanying Regulations and Fire Marshal Directives.

- Inspections Completed in 2022:

Inspection Type	Amount Completed
Complaint	138
Request	108
Routine / Vulnerable Occupancies	122
Re-inspections	74
Business License Inspections	210
Open Burn Permits / Complaints	59
Occupant Load / Liquor License	7
Other Inspections not listed	71
Total Inspections Completed	789

- Other Fire Prevention Activities in 2022:

Activity Type	Amount Completed
File Searches	118
Site Plans	383
Fire Safety Plans	118
Fire Investigations	191
Total Other Activities	810

E. Fire Suppression

In 2022, the Fire Suppression division consisted of 132 personnel working across 4 platoons on a rotating 28-day schedule. Daily operations of the division are run by 4 Platoon Chiefs. Emergency response crews are deployed from 6 fire stations across the city on a 24/7, 365 days per year basis.

Fire Suppression crews respond to emergencies that include fires, rescues, medical emergencies, hazardous materials incidents, vehicle accidents, and other disasters and emergencies. Technical operations include high and low angle rope rescue, ice/water rescue, auto extrication, confined space rescue, and trench and structural collapse incidents.

- Incidents by Response Type from 2019 to 2022:

OFM SIR Code Category	2019	2020	2021	2022
Property Fires/Explosions/Overpressure	188	216	203	254

Pre-fire conditions/no Fire	178	155	183	183
Burning (Controlled)	185	348	263	323
False Calls	1055	935	934	964
Public Hazard	191	210	232	218
Rescue	612	420	477	616
Medical/Resuscitator Calls	4834	2202	5279	4546
Other Response	448	266	568	807
Year End Call Volume Total	7691	4752	8139	7911

- Travel time is the elapsed time from when an apparatus begins to respond until its arrival on the scene. The 90th percentile travel time measure means that 90% of the travel times are equal to or lower than the stated value (mm:ss). The table below shows the 90th Percentile Travel Times for the first arriving apparatus to fires and medical calls from 2019 to 2022:

Travel Time from Station to Scene (mm:ss)	2019	2020	2021	2022
Property Fires/ Explosions/ Overpressure/ Pre-fire Conditions	06:51	06:40	07:45	06:57
Medical/Resuscitator Calls	05:29	06:18	06:06	06:02

The increase in travel time for fire responses from 2020 to 2021 was due to staff training and technical glitches with the new push-button responding feature on the mobile data terminals (MDTs) which were newly installed in 2021. The anticipated travel time improvements were realized in 2022 as staff became more familiar with its function.

- Fire Losses from 2019 to 2022:

Year	Fire Loss Total	# Fires
2022	\$9,194,464	103
2021	\$7,558,335	73
2020	\$9,958,084	85
2019	\$7,028,820	103

- Major Fires for 2022 included:

Date	Location	Fire Loss
Jan 24, 2022	103 Esther Ave	\$1,000,000
Jan 30, 2022	36 Oxford Street	\$300,000
April 18, 2022	431 Dundas Street N.	\$800,000
June 27, 2022	685 Boxwood Drive	\$2,000,000
July 10, 2022	33 Wedgewood Drive	\$650,000
September 11, 2022	34 Linnwood Ave	\$385,000

October 31, 2022	750 Lawrence Street	\$300,000
November 24, 2022	178 Sekura Street	\$600,000
December 8, 2022	135 Ballantyne Ave	\$400,000
Total		\$6,435,000

- Tragically, there was one fire fatality in the city in 2022, arising from the house fire located at 103 Esther Avenue.
- Nine (9) fires accounted for 70% of total fire losses for 2022.

F. Mechanical

The Mechanical division procures, maintains, and repairs fire trucks and support vehicles including all fleet vehicles, watercraft, as well as firefighting equipment such as self-contained breathing apparatus (SCBA) and thermal imaging cameras. The division performs repairs as well as ongoing preventative maintenance.

The Mechanical division is a team of two with a Captain and Mechanic / Firefighter; both are certified Emergency Vehicle technicians.

Highlights of 2022 for the Mechanical division include:

- One member transferred to the Fire Suppression division in early October. In late December, we were pleased to offer Sean Croome a job as the new Mechanic / Firefighter. He would complete his recruit training in January of 2023.
- Performed 13 commercial vehicle annual inspections on frontline and reserve fire apparatus and completed 68 scheduled maintenance services on the entire fleet ranging from passenger vehicles and heavy-duty apparatus.
- Performed maintenance and repairs to firefighting hand tools, including: nozzles, hoses, appliances, spanners, power generators, emergency lighting, water rescue equipment, ventilation saws, positive pressure ventilation fans, portable pumps, thermal image cameras, wildland firefighting equipment etc.
- Managed and ensured the high-pressure breathing air compressor was tested, maintained and air quality samples were taken and tested by a third-party laboratory.
- Performed self-contained breathing apparatus (SCBA) repairs and had third party flow testing performed on all firefighter personal face pieces as well as SCBA packs.
- Maintained hydrostatic SCBA cylinder testing completion dates in accordance with Transport Canada regulations.

- Maintained and managed the fuel supply system at the Fire department headquarters. This included maintaining the electronic data entry, ensuring an adequate fuel inventory is maintained, and ensuring proper maintenance is performed on all components as per TSSA regulations.
- Performed station repairs including overhead doors, ensuring proper function and good repair.
- Maintained, tested, and repaired the nine sets of heavy hydraulic auto extrication tools; these tools are both gasoline and lithium-ion battery powered.
- Product analysis and procurement of a new ice/water rescue vessel were completed. Boat 35 was damaged while launching the previous year. While the hull was sealed, the boat is currently to be used only in life saving operations. A replacement boat is on order and receipt is expected late Q1 2023.
- The rear axle housing was found to be cracked on A39. This housing was back ordered from the manufacturer and along with COVID-19 delays led to the aerial apparatus to be out of service for three months before repair could be completed.
- New self-contained breathing apparatus (SCBA) were acquired. Firefighter familiarization, and upgrades were made to all fire apparatus to secure the new equipment.
- A new heavy-duty pick-up truck was delivered. The project was managed by the mechanical division. The vehicle required upfitting which included emergency lighting, siren installation, fibreglass cap with interior equipment storage and furnishings.
- A complete battery powered heavy hydraulic extrication tool set was installed on Rescue 31 with fabricated mounts for each tool. Removal of previous tools and upfitting of the apparatus was required. This equipment has the ability to perform extrications on new car technology found on current model vehicles.
- A new car was procured for the Fire Prevention division. This required a competitive bid process to occur. Once delivered the Fire Department graphics were installed along with required safety items.
- Training and testing opportunities were available in 2022 for the first time in over two years due to the COVID-19 pandemic restrictions. Captain Peachey was able to attend testing and renew his Master Emergency Vehicle Technician certification.

EXISTING POLICY / BY-LAW(S):

Fire Protection and Prevention Act, 1997

- Cambridge Fire Department is governed by and is compliant with the Fire Protection and Prevention Act, 1997 and its regulations.
- The Community Risk Assessment is completed, making CFD compliant with O. Reg. 378/18 prior to the July 1, 2024, deadline.
- Cambridge Fire is well positioned to meet future certification requirements by the province for professional qualifications in the current draft of the Firefighter Certification regulation.

By-law 20-016 – Establish, Maintain and Operate a Fire Department

- Council has enacted a by-law to establish and regulate a fire department, as required under S. 2(2) of the FPPA.
- Council determines the level of service which its fire department provides. Appendix “A” of By-law 20-016 should be updated in 2023 to reflect in greater detail the various service levels provided.

FINANCIAL IMPACT:

Fire Services’ gross operating expenses of \$28,339,575 accounted for 17.32% of the City of Cambridge’s gross operating expenditures of \$163,592,832 in 2022.

In 2022, the Fire Services division has 150 FTE positions. Their combined salaries and benefits amount to 86.9% of Fire Services’ operating budget expenditures.

Capital expenditures for 2023 include:

- Training tower repairs: \$73,000
- Replacement and equipping of Pumper: \$1,050,654
- Replacement of a Fire Prevention vehicle: \$28,291
- Procurement of a new pickup truck for Fire Investigations: \$71,000

PUBLIC VALUE:

Transparency:

The Cambridge Fire Department Annual Report – 2022 addresses the Public Value Principle of transparency. Annual reports provide Council and the public timely updates on the performance of its fire service, the status of its progress on initiatives and programs, and a clear picture of the challenges we are striving to overcome.

ADVISORY COMMITTEE INPUT:

Not applicable.

PUBLIC INPUT:

Posted publicly as part of the report process.

INTERNAL / EXTERNAL CONSULTATION:

There was no internal/external consultation undertaken.

CONCLUSION:

Much work was accomplished across all divisions in 2022. This takes hard work, dedication, and teamwork. There are many initiatives in the 2023 work plan with a view to continuous improvement.

REPORT IMPACTS:

Agreement: **No**

By-law: **No**

Budget Amendment: **No**

Policy: **No**

APPROVALS:

This report has been reviewed and approved by the Chief Financial Officer and City Solicitor.

It has been reviewed and approved by the City Manager.

ATTACHMENTS:

None.