



# Ladysmith Fire/Rescue

## Fire Department Excellence Review

Recommendations to enhance internal and external services for the next five years.

September 3, 2021



## Acknowledgements

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This Fire Department Excellence Review (FDER) has been prepared based upon the information supplied by the Ladysmith Fire/Rescue stakeholder consultations and surveys completed by Town Council, firefighters and officers. The FDER provides Town Council, senior administration staff and the Fire Chief with the framework for the delivery of fire services by the Ladysmith Fire/Rescue Service for the next 5 years.

Genesis 20/20 Solutions Inc. appreciates and acknowledges the time committed by members of Ladysmith Fire Rescue towards this review and Town Council as well as their professionalism and dedication to the Ladysmith Fire/Rescue Service (LFRS).

## Executive Summary

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The increased demand for fire protection services challenges municipalities to sustain the costs for those services. This FDER will identify time, human and capital resources for a 5-year implementation period. The fire service is constantly changing and COVID-19 will certainly impact the Town of Ladysmith, but the fire department services will continue to be required and as the population grows the demand for services will increase and this should be planned for accordingly.

This FDER is not a commitment for future investment in the provision of fire services, but it is a document for the Town of Ladysmith that will provide direction for Town Council as part of the defined budget process and strategic planning for policy making. The way that a municipality and fire department are structured and intertwined is the foundation for the successful delivery of fire protection services. Without one or the other the delivery of fire protection service would be haphazard at best. For this very reason it is critical that information is available so educated decisions are made for the provision of fire and rescue services for the Town of Ladysmith.

The delivery of fire department services to the community will be impacted by the growth of the Town and the policies and budget supporting the fire department through that growth.



There is no generic fire service review that applies to all fire departments as the dynamics and variations in communities and their fire department is too great. This FDER is tailored for the LFRS and identifies an organization specific plan based upon the project scope. This FDER focuses on how the people (fire department staffing), product (what the fire department provides in terms of services) and processes (how the services are delivered through support from the Town of Ladysmith) may require realignment for the long-term success of the fire department.

The recommendations provided in this FDER will enhance the services delivered by the LFRS and address the anticipated effects of the growth of the community and the demand for services from the fire department. As a community grows the demand for services increases and maintaining the existing model of the LFRS will pose both challenges and opportunities in the future.

The process of understanding, prioritizing issues and implementing the recommendations in this FDER may be intimidating because of the costs and work involved, but these are critical elements required to meet the future needs of the community. The FDER identifies the issues now to provide an opportunity for future planning to meet service level challenges and build community resilience.



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## Recommendations

To assist with the prioritization and implementation of the recommendations contained in this FDER, the recommendations are color coded as per priority;

- Red: Short-Term (0-12 months-urgent based upon operational needs or health & safety requirements, policy, legal or other priorities)
- Yellow: Mid-Term (13-36 months-needs that do not need to be immediately addressed but will have impacts the longer that they are delayed)
- Green: Long-Term (37-60 months-not immediately urgent but impacts the fire department or Town in a long-term manner)

No.	Section	Recommendation	Priority
1	4.1	That the Town Council direct staff to update the Fire Services bylaws and policies.	Short Term 0-12 Months
2	4.1	That the bylaw updates include an indemnity clause that identifies the Lady Smith Fire/Rescue service as a paid-on-call fire department and that a response from the paid-on-call members may not occur.	Short Term 0-12 Months
3	8.3.1	LFRS consider annual team building sessions that focus on building relationships and the importance of developing a culture where all members are valued for the skills and abilities that they bring to the team.	Short Term 0-12 Months
4	8.3.1	Council consider directing the Fire Chief, in conjunction with the Human Resources Manager, conduct a comparative analysis of remuneration for firefighters from other paid on-call fire departments and propose a new salary rate for all positions within the LFRS service.	Short Term 0-12 Months
5	2.2.1	LFRS annually review the recruitment program and members from all levels of the department should have input into how the program is shaped and delivered.	Mid Term 13-36 Months





<b>6</b>	2.3	The LFRS and the Town of Ladysmith implement a policy where alcohol is not permitted within the fire station.	<b>Mid Term 13-36 Months</b>
<b>7</b>	2.5	The Town of Ladysmith implement a formal process where the Fire Chief is hired by the Town.	<b>Mid Term 13-36 Months</b>
<b>8</b>	2.5.1	Council consider directing the Fire Chief and Human Resources Manager to develop and implement a program for the recruitment, retention and promotion of LFRS personnel.	<b>Mid Term 13-36 Months</b>
<b>9</b>	2.5.1	The Fire Chief develop a succession program and corresponding budget that identifies and prepares members wishing to advance in their careers and prioritizes training requirements for the fire department.	<b>Mid Term 13-36 Months</b>
<b>10</b>	3.1	A formal health and wellness program be created in the next 18-months where a committee is created to come up with an SOP, education initiatives and a confidential process for treatment of a mental health injury.	<b>Mid Term 13-36 Months</b>
<b>11</b>	4.2	LFRS request the Cowichan Regional Valley District take a lead role in coordinating annual mutual aid meetings and training sessions to identify and resolve any gaps.	<b>Mid Term 13-36 Months</b>
<b>12</b>	5.2	The LFRS develop a long-range equipment and apparatus replacement program based upon the expected life cycle for SCBA, extrication tools, medical equipment, personal protective equipment and fire apparatus.	<b>Mid Term 13-36 Months</b>
<b>13</b>	5.7	The LFRS implement a policy that identifies the routine and advanced inspection requirements for turnout gear as identified in NFPA 1851 with all turnout gear being inspected annually and accompanied with supporting documentation for the inspections.	<b>Mid Term 13-36 Months</b>
<b>14</b>	6.4	The LFRS and the Town of Ladysmith develop a clear policy or contract for continuing to standby for confined space/rope rescue service to industry.	<b>Mid Term 13-36 Months</b>
<b>15</b>	6.4	LFRS should identify specific members for a confined space team and develop a training schedule for this service.	<b>Mid Term 13-36 Months</b>



16	6.6	Council consider increasing the Fire Chief to a full-time position in order to maintain and conduct annual fire inspections, prevention and education and oversee all aspects of the fire department.	Mid Term 13-36 Months
17	7.1.5	The LFRS investigate the feasibility of having residential sprinklers as a mandatory fire safety component for residential structures exceeding a 10-minute intervention time in future residential development.	Mid Term 13-36 Months
18	7.5	The LFRS conduct a Community Fire Risk Assessment and develop a Community Risk Reduction plan within the next 18-24 months.	Mid Term 13-36 Months
19	5.3.1	The Town of Ladysmith investigate the costs of renovation and upgrading for the existing fire station; or look at a multi-purpose fire station where a partnership can exist with another agency, non-profit, municipal services or government agency and plan for a new fire station within the next 5-10 years.	Long Term
20	7.3	The Town of Ladysmith identify the geographical areas that are outside a 10-minute response timeframe from the fire department and investigate the feasibility for new construction to meet the NFPA 1144 standard or HIRF requirements.	Long Term



## Acronyms, Abbreviations

AED	Automatic External Defibrillator
AHJ	Authority Having Jurisdiction
CO	Carbon Monoxide
CRA	Community Risk Assessment
CRRP	Community Risk Reduction Plan
DFC	Deputy Fire Chief
EMS	Emergency Medical Services
EMP	Emergency Management Program
EOC	Emergency Operations Centre
ERP	Emergency Response Plan
EVT	Emergency Vehicle Technician
FDER	Fire Department Excellence Review
FESO	Fire and Emergency Services Organization
FPA	Fire Prevention Act
FPA	Fire Prevention Officer
FSR	Fire Services Review
FUS	Fire Underwriter's Survey
HRVA	Hazard Risk Vulnerability Assessment
IAFF	International Association of Fire Fighters
ICS	Incident Command System
IDLH	Immediately Dangerous to Life and Health
IFSAC	International Fire Service Accreditation Congress
IT	Information Technology
LSFR	Ladysmith Fire Rescue
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
NIOSH	National Institute for Occupational Safety and Health
OHS	Occupational Health & Safety
PSAP	Public Safety Answering Point
PTSD	Post-Traumatic Stress Disorder
RIC	Rapid Intervention Crew
RMS	Records Management System
SCBA	Self-Contained Breathing Apparatus
SOG	Standard Operating Guidelines
SOP	Standard Operating Procedure
SRA	Simplified Risk Assessment



SWOT	Strengths, Weaknesses, Opportunities, and Threats
TO	Training Officer



## Project Methodology

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Genesis 20/20 Solutions Inc. utilized the GROW Model along with supplied documentation, consultations, surveys, questionnaires, industry best practices and standards as the framework for the Fire Department Excellence Review.

**Goals**-realistic and challenging goals for the fire department.

**Reality**-a situation assessment where the strengths, weaknesses, opportunities and threats are evaluation.

- **Three surveys were sent out to Town Council, Community Stakeholders and Firefighters.**
- **Analysis of survey information.**
- **Interviews with stakeholders via Zoom or phone**

**Options**-What are the options and obstacles that need to be considered to achieve the goals?

- **Research based upon industry best practices, standards and legislation.**

**Way Forward**-What is the action plan and timelines required to get to the next steps? The action plan and timeline will provide benchmarks for the department and aid in the annual evaluation of the Fire Department Excellence Review.

## Review Process and Scope

The specific scope of work identified for this Fire Department Excellence Review (FDER) was completed by utilizing best practices, current industry standards, and applicable legislation.

The FDER has addressed the scope of work and includes reviewing and assessing the following six key areas:

1. Administration and fire department organization,
2. Volunteer staffing,
3. Training standards and existing practices,
4. Mutual aid or service agreements and existing fire department bylaws,



5. Recruitment and retention practices,
6. Equipment and apparatus replacement schedules

Genesis 2020 Solutions Inc. was able to complete a thorough review of elements that are working well and areas requiring improvement within the LFRS department through telephone, Zoom and online meetings with stakeholders, surveys and questionnaires. An analysis of the following was conducted;

- Training program
- Standard Operating Guidelines
- Budget
- Equipment and apparatus replacement schedule
- Staff roster with qualifications and years of service
- Fire department 2015-2020 response data

During this FDER, the consulting team conducted an assessment of the above criteria and based upon a review of the LFRS facilities, equipment, programs and related data.

## Performance Measures and Standards

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The performance indicators for this FDER are based upon but not limited to national standards, provincial legislation and regulations such as:

- Fire Safety Act, B.C.
- WorkSafe B.C., Part-31
- National Fire Protection Association (NFPA) Standards (As identified in Annex-A)
- British Columbia Fire Service Minimum Training Standards, Structure Firefighters Competency and Training PLAYBOOK.

The National Fire Protection Association (NFPA) is a global self-funded nonprofit organization, established in 1896, devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. It delivers information and knowledge through more than 300 codes and standards, research, training, education,



outreach and advocacy by partnering with others who share an interest in their mission.<sup>1</sup> The NFPA standards are not law but they are the industry best practice and will be referenced in any litigation impacting the fire department.

The Fire Underwriters Survey (FUS) is a national organization that provides data on fire protection for fire insurance statistical work and underwriting the purposes of subscribing insurance companies. Subscribers of Fire Underwriters Survey represent approximately 85 percent of the private sector property and casualty insurers in Canada.<sup>2</sup>

*The British Columbia Fire Service Minimum Training Standards, Structure Firefighters Competency and Training Playbook* (hereafter referred to as the Playbook) was implemented in 2014 and revised in 2015 and establishes the minimum standards of training required for fire services personnel in British Columbia.

The Playbook identifies the minimum training standards for a fire department to meet based upon the community's declared level of service and is described in Section 3.0 in more detail.

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<sup>1</sup> <https://www.nfpa.org/About-NFPA>

<sup>2</sup> <https://fireunderwriters.ca>



# Section 1: Community Overview and Fire Department Organization

## 1.0 Community Overview

The town of Ladysmith is rich in culture and heritage where the community values the small-town quality of life. Ladysmith is part of the Cowichan Valley Regional District (CVRD) and is located approximately seven kilometers from the Nanaimo airport and along the Island Highway making the Town a great tourist destination and commuter location for residents.

The CVRD is comprised of nine electoral areas and four electoral municipalities that include the City of Duncan, Town of Ladysmith, Town of Lake Cowichan and District Municipality of North Cowichan with a population of approximately 80,000 residents.

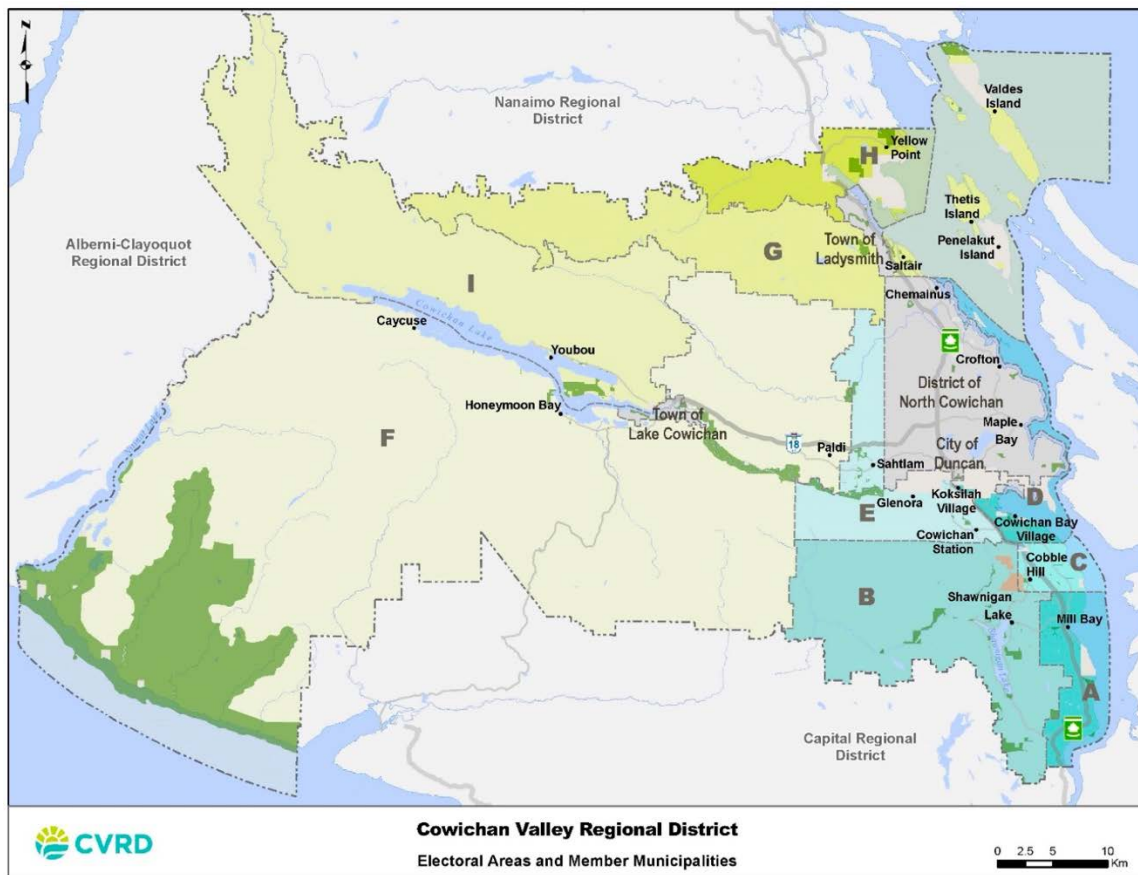


Figure 1 Cowichan Valley Regional District





In 2000 Ladysmith was identified as one of the prettiest towns in Canada and continues to be recognized as a place to live, shop and visit because of its rich heritage buildings in the downtown core. Ladysmith is also a friendly business community and in 2011 the Town won the 'Most Small Business Friendly Community Award' from the B.C. Small Business Roundtable and in 2017 Ladysmith was the recipient of the 2017 Greatest Street in Canada winner which demonstrates the pride of the community in its heritage and economy

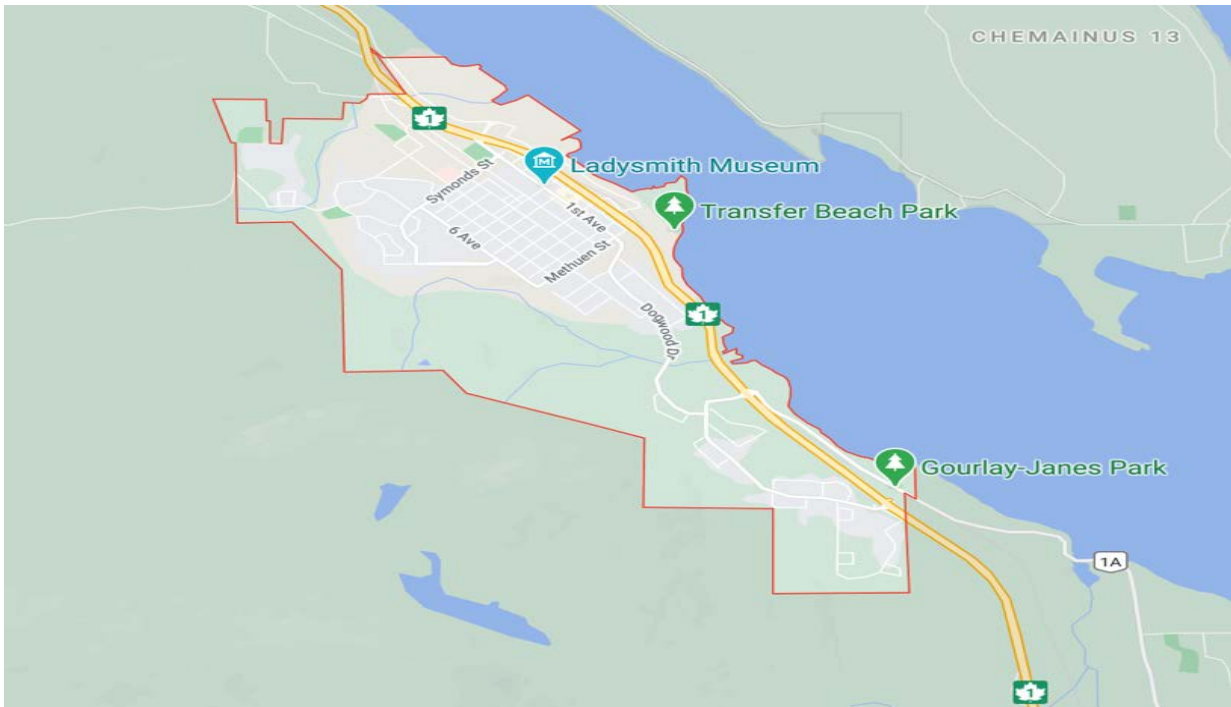


Figure 2 Town of Ladysmith Boundary

The 2016 census profile identifies the population at 10,637 residents with 13.83 square kilometers, and a population density of 769 per kilometer. The Town grew by 7.4% from 2011-2016 and with an increasing number of people retiring and relocating to the community the Town's population from age 55 and over grew by 70% from 2001-2011. This indicates the desire for people to move to a community where they feel safe and can enjoy all the amenities that Ladysmith has to offer.

The growth of the town is not expected to slow down and in the next 20 years it is anticipated that Ladysmith will grow to a population of over 11,500 residents. The increase in population and demographic makeup will impact all services provided by the Town and



the Ladysmith Fire/Rescue Service must plan for the increase in call volume and services expected from the community.

2011	2016	Projected Growth
9,904	10,637	11,500
	7.4% growth	~16% growth

Figure 3 Projected Growth

In the 2018 Community Plan (CP) the Town recognized and laid the foundation for the next 20 years through policy direction to guide decision making for the community. The CP identified Community Facilities and Services as one of the seven Community Management Areas to be addressed in the CP and stated, “Community facilities and services are integral to the livability of a community-contributing significantly toward the quality of life and health of the community. Provision of community facilities and services for Ladysmith encompasses parks, recreation and cultural facilities and services, civic facilities, educational, health, social and safety services.”<sup>3</sup>

The Community Plan identified several Community Facilities and Services Goals which include; *Continue to ensure public safety services are provided to the community.*

The Community Facilities and Services objectives identify;

- Provide for public safety through effective police, fire protection, rescue and emergency services to the community.
- Encourage the involvement of residents in community-based safety and prevention programs related to fire, crime, traffic, emergency-preparedness, and community design.

The Community Facilities and Services policies identify;

- Continue to provide fire protection and rescue services through the volunteer fire department.
- Continue to participate in the Emergency Response Program through the Cowichan Valley Regional District (CVRD).

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<sup>3</sup> Town of Ladysmith Community Plan, 2018



Ladysmith Fire/Rescue Service is identified in the CP, but no clear policy or direction was given on the provision of fire protection services for the future.

This Fire Department Excellence Review will provide the framework for Ladysmith Fire/Rescue Service to align with and enhance the Ladysmith Community Plan. This plan will be based upon accepted industry best practices, standards and legislation that the Ladysmith Fire/Rescue Service must meet and also recognizes that the Town of Ladysmith faces financial challenges to meet the demands of population and infrastructure growth.

The FDER is designed to minimize surprises that can create implications on the financial well-being of the community and the Town of Ladysmith's financial plan. The COVID-19 pandemic will certainly add to those challenges, which makes this FDER even more critical to the overall Community Plan.

Without a sound plan there can be no growth and with the challenges across Canada and the world due to the impact of COVID-19, there still remains the need to strategically plan for the future as the demand for fire/rescue services will only increase. Communities will certainly be challenged due to COVID-19, but the need for essential services will continue to exist as communities do not have the luxury to reduce essential services. In fact, the firefighters are now required to take additional precautions on medical and rescue calls as the fire department cannot risk a COVID-19 infection within the department. The health and safety of firefighters is paramount so they can continue to serve the community in their time of need.

### **1.1 Ladysmith Fire/Rescue Service Composition**

The Ladysmith Fire/Rescue Service is a volunteer paid on-call fire department that includes 27 members including the Fire Chief, Deputy Fire Chief, Chief Training Officer, 1-Captain, 3-Lieutenants and 28 Firefighters. The Fire Chief is ultimately responsible for the overall management and leadership of the fire department and reports to the Chief Administrative Officer. As per the LFRS Constitution the Fire Chief, Deputy Chief, Chief Training Officer, Captains and Lieutenants are elected to a 2-year term. This will be expanded upon more in this review.

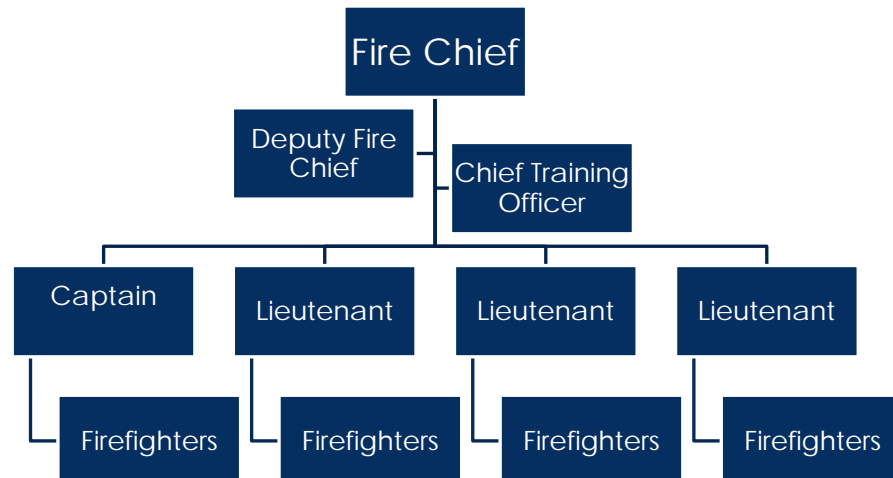


Figure 4 Ladysmith Fire Rescue Org Chart

The existing fire hall was opened in 1972 and is located at 340 6<sup>th</sup> Avenue. The fire station received seismic upgrades in the early 2000's and in 2017 a new roof was installed. In 2018 two of the bays were extended 8 feet to make more room for the apparatus. The LFRS is dispatched from FIRECOMM based out of the Nanaimo Fire Department but these dispatching services were eliminated in June 2021 and it is expected this will have a financial impact on the LSFR.



Figure 5 Ladysmith Fire Rescue Service



Ladysmith Fire/Rescue Service responds to approximately 200-250 calls per year which includes; fire suppression, motor vehicle extrication, first responder, hazardous materials, confined space/rope rescue and more.

The Ladysmith Fire/Rescue Service has a fleet consisting of:

**Command 1** - 2007 GMC Yukon

**Ladder 1** - 1997 E-One Cyclone II HP75

**Rescue 1** - 2013 Spartan Metro Star

**Engine 2** - 2005 Spartan Gladiator Classic

**Engine 3**- 2018 Spartan Metro Star LFD

**Utility 5** - 2012 Ford F-550 4x4

**Unit 6** –2020 Ford 250

#### *1.1.1 Fire Suppression Capability*

The fire suppression capability is essentially what the LFRS can and cannot do based upon its resources and equipment. The characteristics of the Town of Ladysmith will affect the level of fire risk to the community as older buildings generally do not meet modern building and fire codes. The unprotected risk is the degree or imbalance that exists between risk and suppression capability. If suppression forces available to respond to any location are inadequate to deal with the fire situation, that particular situation must be considered part of the community's unprotected risk.<sup>4</sup> Acceptable risk is the level of unprotected risk that the community is willing to accept and communicate to the public.

The Office of the Fire Marshal and Emergency Management (OFMEM) Ontario identified three lines of defence in its Comprehensive Fire Safety Effectiveness Model. The three lines of defense include;

**Public Education and Prevention**-educating residents has proven to be the most effective means in reducing and preventing the incidences of fire and property damage; and

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<sup>4</sup> The Fire Chief's Handbook, 6<sup>th</sup> Edition (2003) p. 1031



**Inspections and Enforcement**-ensuring that the inspection and enforcement of fire codes occur so buildings meet the required safety standards; and

**Emergency Response**-the availability of well trained and well-equipped firefighters to respond and effectively mitigate the incident.

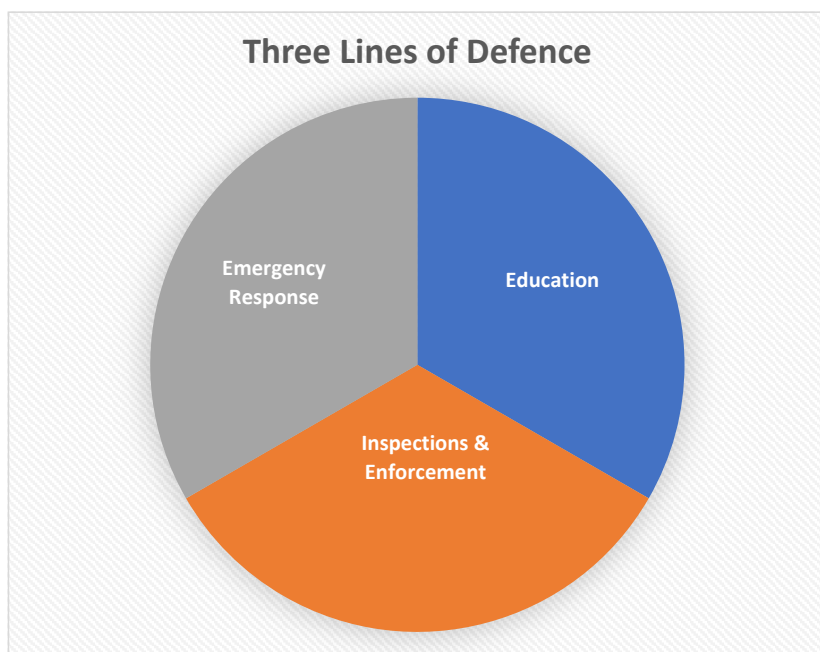


Figure 6 Three Lines of Defence

The three lines of defence highlights the importance of public education and prevention efforts in reducing fires and property damage. Education, prevention and fire inspections will be expanded upon in Section 6 of this review.

## 1.2 Comparable Fire Departments

To assist with the planning process a best practice is to look at other comparable fire departments within its own region. Caution must be exercised as no two fire departments are alike nor are any two communities alike as each has its own demographics, residential, commercial and industrial areas along with unique road networks.

The fleet was examined in terms of the number of Pumpers, Rescues, Aerials (Ladders) and Tankers for each department as these involve considerable capital investments.



Figure 7 below provides a general overview of comparable B.C. communities and their fire departments.

Community	Population	Annual Incidents	Vol FF	Career	Stations	Apparatus
Ladysmith	8,537	200	27	0	1	4
Quesnel	10,500	450	34	4	3	4
Merritt	12,000	800	35	9	1	5
Revelstoke	6,719	438	23	10	1	6
North Saanich	12,000	624	39	4	2	4
Parksville	19,000	505	44	6	1	5
Qualicum	10,906	285	35	2.3	1	6
Errington	2,700	300	30	2	2	4
Port Hardy	4,791	175	35	0	2	5

Figure 7 Comparable FD's

The same nine fire departments and their staffing level of volunteer to career ratio are identified below.

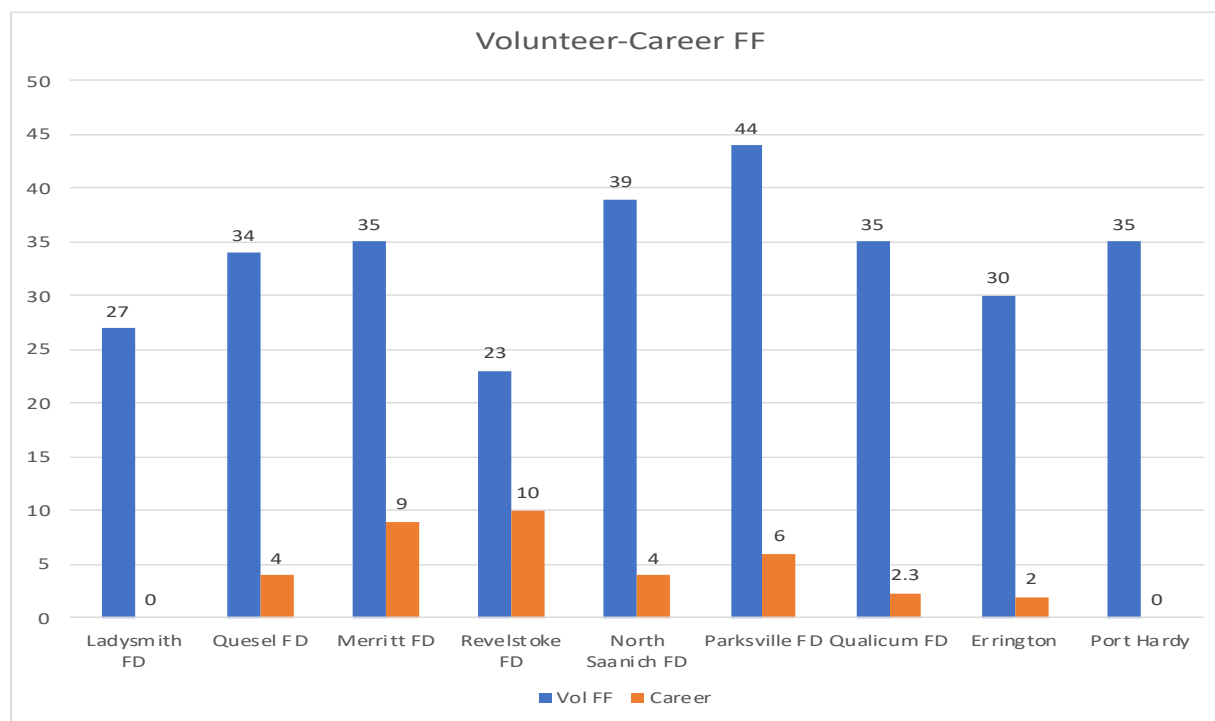


Figure 8 Volunteer-Career FF Ratio



The figure below provides six examples that include four B.C. and two Alberta fire departments with similar call volumes to that of the LFRS along with their full-time/volunteer positions.

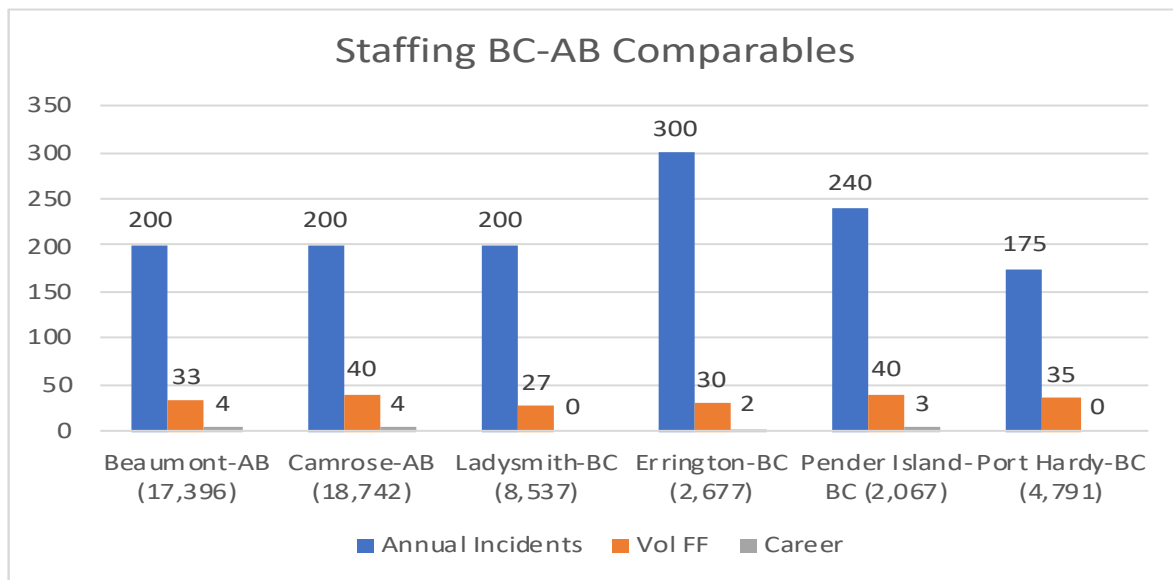


Figure 9 BC-AB Call Volume/Staffing Comparable

Due to the costs of fire apparatus, it is relevant for this FDER to compare the apparatus within the fire departments. The chart below does not specify the type of apparatus but it includes the pumpers, aerials, rescues and tankers in the fire department.

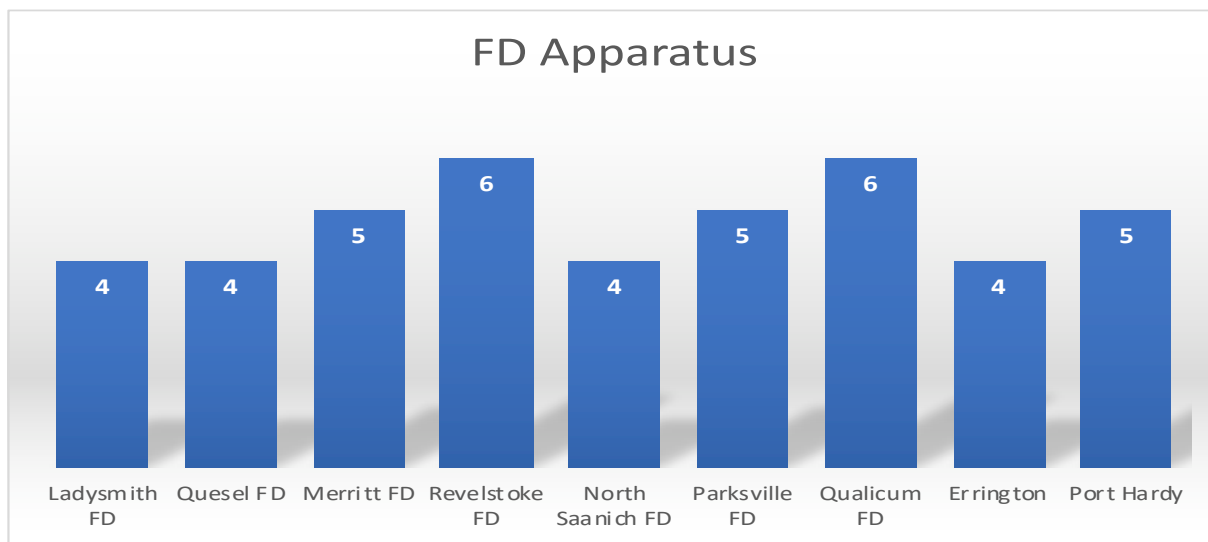


Figure 10 Apparatus Comparable





### 1.3 Incident Response Data (2015-2020)

A review of the incident response data does not identify any anomalies in call types.

The LFRS demand is highest for Motor Vehicle Incidents, Medical Aid and Burning Complaints. A further analysis identified cardiac related incidents as the majority of medical responses.

The charts below identify the 2015-2020 call volume, Top 10 Call Types, and the average response type from 2015-2020.

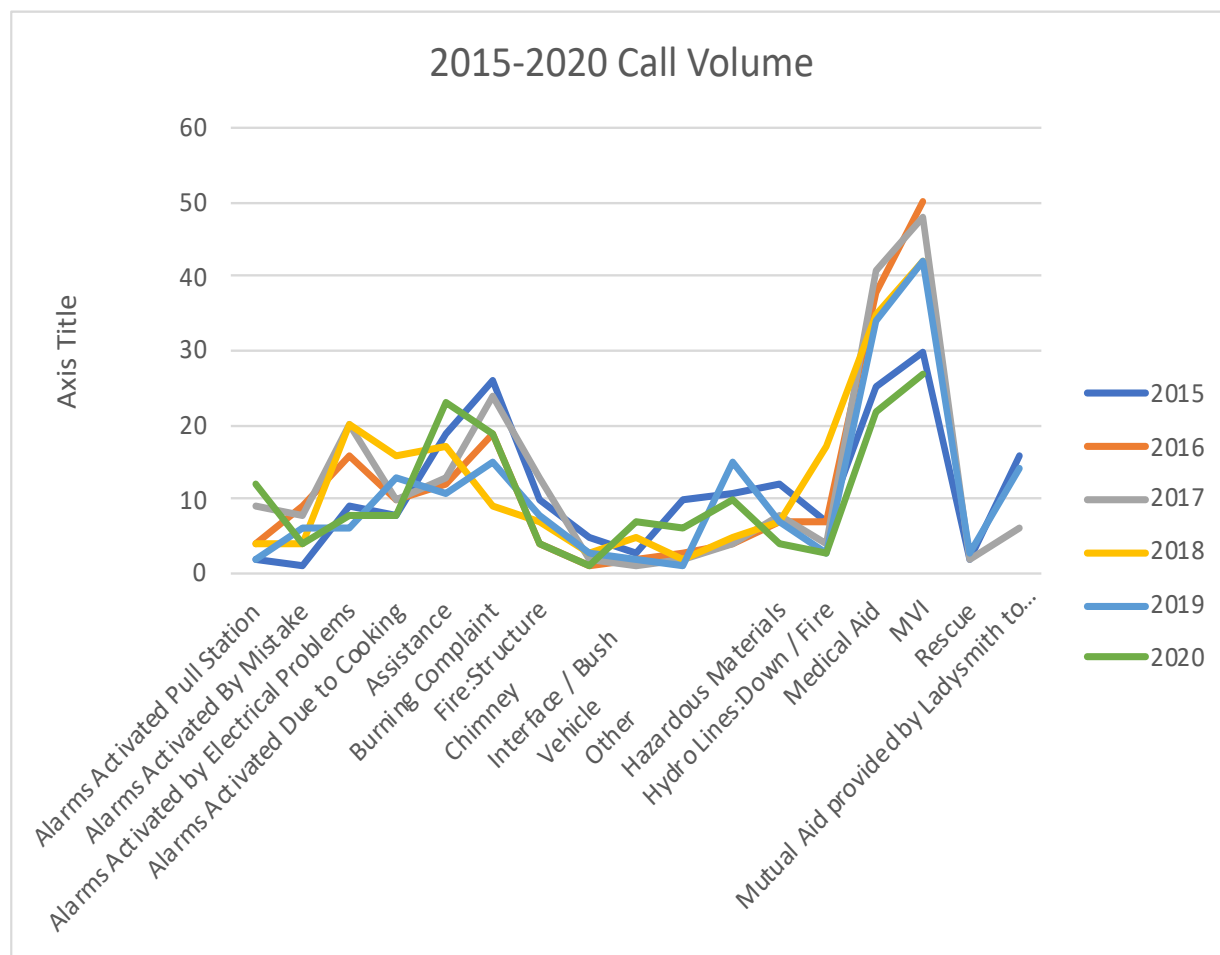


Figure 11 2015-2020 Call Volume

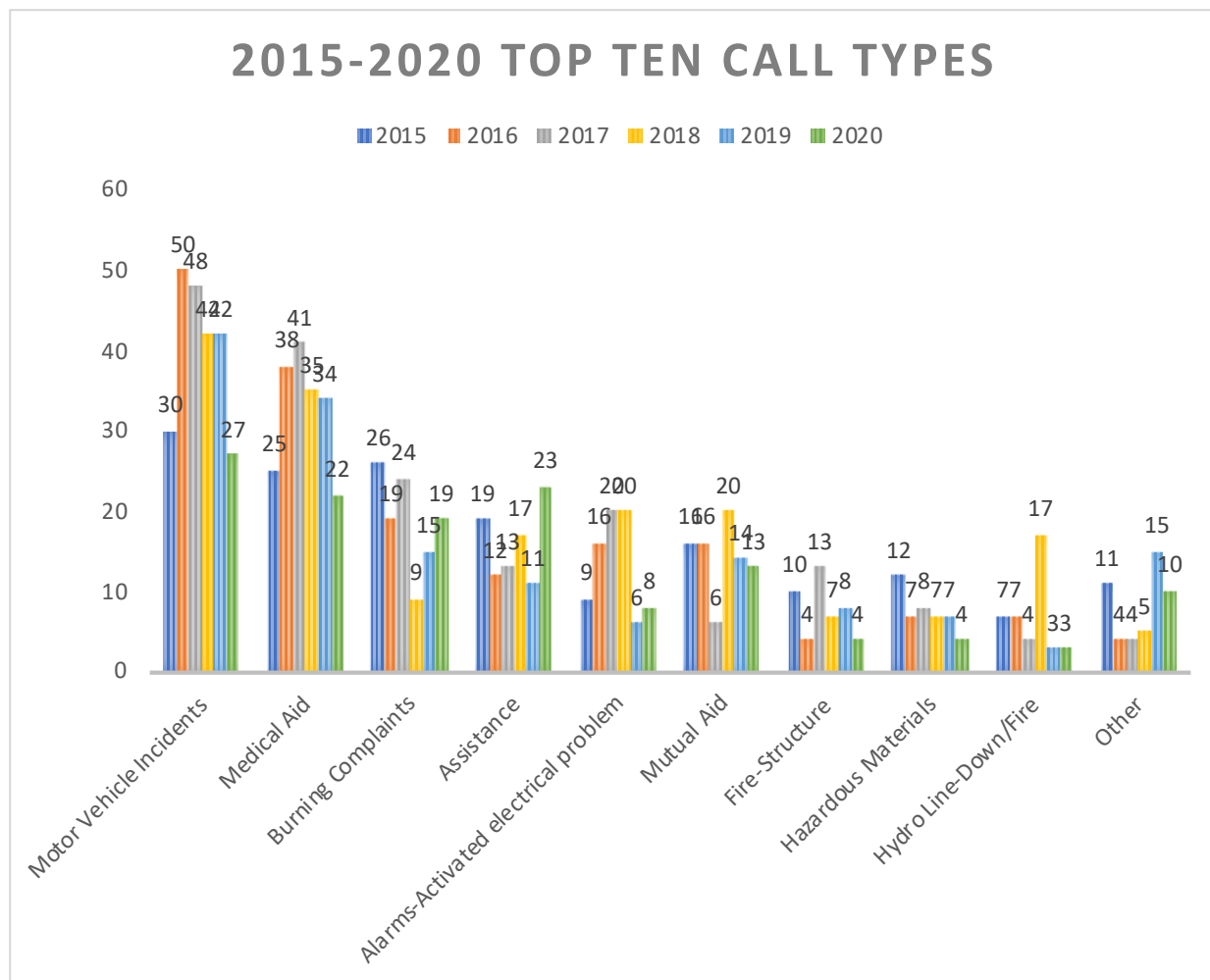


Figure 12 2015-2020 Top 10 Call Types

Motor vehicle incidents, medical aid and burning complaints make up the top three call types for the fire department from 2015-2020.



2015-2020 Average Response by Type	
Call Type	Percent
Alarms Activated Pull Station	2%
Alarms Activated By Mistake	3%
Alarms Activated by Electrical Problems	7%
Alarms Activated Due to Cooking	6%
Assistance	7%
Burning Complaint	9%
Fire:Structure	4%
Chimney	1%
Interface / Bush	1%
Vehicle	2%
Other	4%
Hazardous Materials	4%
Hydro Lines:Down / Fire	4%
Medical Aid	17%
MVI	21%
Rescue	1%
Mutual Aid provided by Ladysmith to outside areas	7%

Figure 13 2015-2020 Percentages

### 1.3.1 Structure Fires

The Canadian National Fire Information Data Base (NFID) identified in data collected from 2005-2014 that residential fires have decreased by 26%, however the two most common causes of residential fires and fatalities are cooking equipment and smoking.

Research shows that a lack of a working smoke alarm continues to be a problem for the fire service in Canada and contributes to the fire related deaths in residential structure fires. The decreasing number of structure fires is a positive thing overall for the fire service but it does decrease the experience for firefighters in a High Risk/Low Frequency incident.



The national trend was compared to the LFRS response data from 2015-2020 and on average the LFRS responds to eight structure fires and 11 activated alarms due to cooking each year. A public education and prevention program should be able to further reduce these numbers. More on public education and prevention in Section 6.

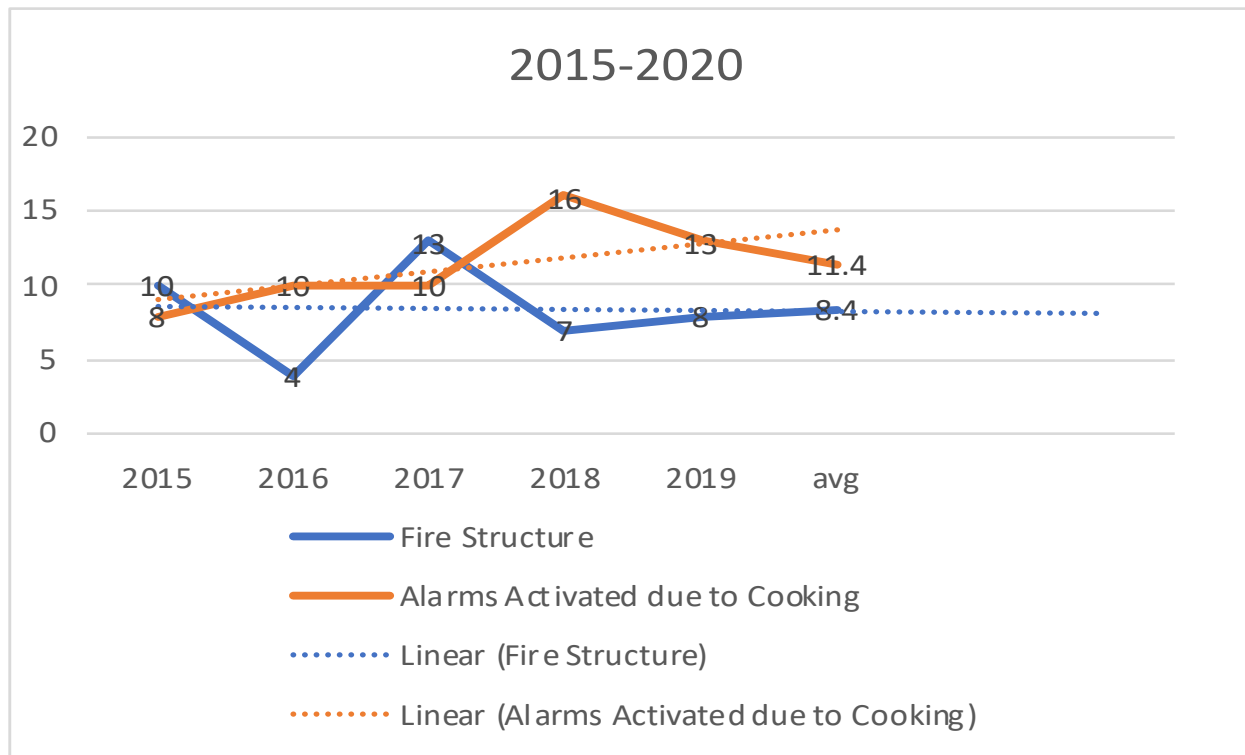


Figure 14 2015-2020 Fires and Alarms Activated

With a population projection suggesting that the Cowichan Valley Regional District will have a population of over 100,000 by 2035, it can be anticipated that Ladysmith will grow substantially during this same period. It is not unreasonable to expect Ladysmith to grow by 3,000 during this period and having a population of approximately 11,537 and thereby increasing the demands placed upon the LFRS.



## Section 2: Staffing

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### 2.1 Paid-on-Call Staffing

The recruitment and retention of firefighters is a challenge for the volunteer paid on-call fire service. Today's fire service requires a level of professionalism and competency that can only be achieved through training and education. As demographics change, it becomes harder to recruit members who can be available Monday-to-Friday and who have the time to meet the training demands present in today's fire service.

The challenges of recruitment for the LFRS were identified in the internal and external surveys. Many issues and barriers exist that can impact recruitment and retention for a volunteer paid-on call fire department. These include;

- Employer related: Employers are unsupportive of the on-the-job time required by volunteer firefighting.
- Family related: A significant time commitment is required due to the levels of training required which separates the firefighter from family and also demands that they are being called away at unpredictable times.
- Availability of people: Many people work outside of their community during the day and are unavailable to respond for fire emergencies.
- Time commitment: The increased demand on a volunteer's time for training and other activities can be a discouragement for a volunteer.<sup>5</sup>

The *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* identifies the number of firefighting personnel required to fight a 2000 ft<sup>2</sup> (186m<sup>2</sup>) two-story, single family home without basement exposures.<sup>6</sup> The purpose of the standard is to identify the minimum criteria for addressing the effectiveness and efficiency of the volunteer fire department in protecting the citizens of the jurisdiction.<sup>7</sup>

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<sup>5</sup> Volunteer Firefighter Recruitment and Retention Strategy & Toolkit, Prepared by Volunteer Alberta for the Alberta Fire Chiefs (2010)

<sup>6</sup> NFPA 1720, Section 4.3.2 (2020 edition)

<sup>7</sup> NFPA 1720, Section 1.2.1 summary (2020 edition)



The NFPA 1720 staffing and response time model for a volunteer department is identified below with the Suburban area highlighted to reflect the population density of Ladysmith and the identified percentile objective.

Demand Zone	Demographics	Minimum Staff to Respond	Response Time (minutes)	Meets Objectives (%)
Urban area	>1000 people/mi <sup>2</sup>	15	9	90
Suburban area	500-1000 people/mi <sup>2</sup>	10	10	80
Rural Area	<500 people/mi <sup>2</sup>	6	14	80
Remote Area	Travel distance > 8mi	4	Directly dependent on travel distance	90
Special risks	Determined by AHJ	Determined by AHJ	Determined by AHJ	90

Figure 15 NFPA 1720 Staffing/Response Times

The NFPA standards are not law, but they are an industry best practice and as noted in NFPA 1720, to be effective in delivering fire suppression services and because of its demographics the LFRS shall respond with a minimum of 10 firefighters within 10 minutes at 80 percent of the time. In addition, Section 4.3.4 of the standard states, *“Upon assembling the necessary resources at the emergency scene, the fire department shall have the capability to safely commence an initial attack within two-minutes 90 percent of the time.”*

The LFRS and other similarly sized paid on call fire departments struggle to have response personnel available during the normal workday hours and this was also identified in the SWOT analysis.

NFPA 1720 Section 4.7.1 identifies, *“The fire department shall have the capability for sustained operations, including fire suppression; engagement in search and rescue, forcible entry, ventilation, and preservation of property; accountability for personnel; the deployment of a dedicated rapid intervention crew (RIC); and provision of support activities for those situations that are beyond the capability of the initial attack.”*



The number and availability of firefighters and equipment determine the suppression capabilities of a fire department and the LFRS is well equipped to provide fire suppression services. There are however, numerous factors that influence the fire suppression capabilities of a fire department that include but are not limited to the following;

- The number of firefighters available to respond to the emergency incident.
- The number of firefighters in the fire department that meet a minimum standard of training.
- The number of firefighters arriving for the initial response to the incident.
- The number of firefighters that consistently respond and arrive after the initial response crew initiates fire ground operations.
- The coordination of firefighters during the emergency incident.
- The rehab of firefighters during a prolonged emergency, and
- The availability of firefighters from neighboring fire departments through mutual aid.

### 2.1.1 Fire Suppression Operations

The LFRS has two Engines (hereafter referred to as a Pumper) a Ladder Truck and one Rescue. As per NFPA standards a Pumper is staffed with firefighters that lay and advance hose lines to confine and extinguish a fire. NFPA 1720 4.6.1 states, *“Initial firefighting operations shall be organized to ensure that at least four members are assembled before interior fire suppression operations are initiated in a hazardous area.”* A ladder truck uses specialized tools to gain entry into locked buildings, and uses the ladders to access roof tops to ventilate and allow the super-heated gases to exit the structure.

The Ladysmith Operating Guidelines (OGs) identifies that both Pumpers, the Ladder Truck and Rescue respond to a structure fire. If both of the Pumpers, Ladder Truck and Rescue are fully staffed the firefighters on scene would exceed 10 and therefore exceed the minimum staffing as per NFPA 1720 suburban area response staffing. However, the likelihood of having 10 firefighters and all responding apparatus fully staffed for a structure fire during daytime hours is very low and poses some risk concerns to the Town of Ladysmith.

### 2.1.2 Staffing Requirements for Suppression Service Delivery

To make an informed decision on staffing requirements for the LFRS department, consideration must be given to NFPA 1720 and the following points:



- Does the LFRS have an approved response criteria baseline? In other words, has Council identified an acceptable response time they want the LFRS to meet 80 percent of the time?
- What can the LFRS do to get enough firefighters to respond during daytime hours Monday-Friday? Can this be achieved with the existing volunteer base?

Based upon the research conducted for this FDER, there does not appear to be any policy or bylaw identifying an acceptable response time for the LFRS.

Council should approve a policy or bylaw identifying the acceptable response time standard for the Town of Ladysmith. Consideration should be given to the industry best practices and more specifically NFPA 1720 staffing goal for a suburban community to have 10 firefighters on scene in 10-minutes for 80 percent of the incidents.

The LFRS is not unlike other volunteer fire departments is that they face challenges of getting firefighters to respond during week day hours 8:00am to 5:00pm. The Town of Beaumont, AB had concerns with this same gap in service delivery and hired two full time firefighters to conduct fire related duties and response to emergencies during the week day hours.

## 2.2 Volunteer Fire Service Challenges

The LFRS is a Paid-on-Call (POC) delivery model where members are compensated for their attendance at training and emergency responses. A consistent theme and concern in the stakeholder surveys was the limitations of the existing POC model in regard to the availability of members during regular working hours Monday-Friday. Employers are generally accepting of staff responding to emergency incidents as they consider it a contribution to the health and safety of the community, however, as call volumes increase or the time on scene increases, it becomes a challenge for the employer to let employees leave their workplace for every emergency incident. In many cases employers are not in a position to let their employee leave to attend an emergency incident and as the impact of the pandemic forces some employers to lay off staff or reorganize, there is a probability that volunteerism will be negatively impacted.





During a stakeholder session it was pointed out that many residents in Ladysmith believe the fire department is staffed with paid career members. The International Association of Fire Chiefs (IAFC) identified this as a theme for volunteer fire departments with a poor communication plan as “residents do not even know that their fire department is all volunteer. No wonder the possibility of joining is not even on their radar. Recruitment traditionally has relied heavily on word of mouth, so members tend to share the same demographic characteristics.”<sup>8</sup> The general public is hard pressed to differentiate a career firefighter from a volunteer firefighter as their equipment, uniforms, training and public events are the same. In 2015 a survey was conducted in the United States and 80 percent of the community members did not know if their fire department was recruiting and looking for volunteers.<sup>9</sup>

Word of mouth has historically proven as an effective recruitment process for the LFRS but with the existing challenges facing volunteer fire departments to recruit members from the community, it is past due in creating an effective recruitment campaign for the department. In the United States only 11 percent of the total number of volunteer firefighters were female in 2018 in comparison to 4 percent for the career sector. If a volunteer fire department is male orientated, the probability exists that word-of-mouth recruitment will be focused on males.

The volunteer fire service places significant demands upon firefighters in terms of meeting the requirements for training and responding to incidents. The U.S Fire Administration (2007) noted, “Training for both volunteer and career firefighters has grown more formal and comprehensive. National consensus training standards created by fire service committees functioning under the National Fire Protection Association (NFPA) have increased both classroom and practical requirements. The standards are designed to increase safety awareness and establish minimum competencies at various training levels.”<sup>10</sup> Volunteer firefighters make up approximately 80% of firefighters in Canada and issues and

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<sup>8</sup> International Association of Fire Chiefs (IAFC), *Guide For Creating A Diverse And Inclusive Department*, p.25

<sup>9</sup> SalterMitchell Inc. (2015) Volunteer Firefighter Recruitment and Retention Formative Research Results. Prepared for the National Volunteer Fire Council.

<sup>10</sup> U.S Fire Administration (2007) *Retention and Recruitment for the Volunteer Emergency Services; Challenges and Solutions*, p.10



barriers impacting recruitment and retention of volunteer firefighters include the following areas:

- Employer related: A lack of support of volunteer firefighting by employers.
- Family related: Volunteer firefighting requires a time commitment which separates firefighters from their loved ones at unpredictable times, and being called away from work impacts the family income.
- Availability of people: Many people work outside of the community during the day.
- Time commitment: There are increased demands on volunteers' time, and many different ways to spend free time.<sup>11</sup>
- Increased training time demands: The training time to meet the requirements have risen steadily and in British Columbia the Playbook outlines the minimum performance requirements.
- Fire department leadership: Leadership within the fire department permits some behaviors or cultural norms to exist that may hinder the recruitment strategy of the department.

### ***2.2.1. Recruitment & Retention***

The goal of any volunteer fire department is to overcome barriers of recruitment and to increase and retain firefighters in the department. A one size fits all model does not exist when it comes to recruitment and retention practices as all departments vary in their demographics and community dynamics. Fire service leaders today need to recruit differently and become marketers rather than relying upon past practices. The National Volunteer Fire Council identifies questions to guide the recruitment process include:

- How does the fire department sell itself?
- What will motivate quality candidates to become part of the mission?
- How can the department attract more diverse volunteers that represent the community?<sup>12</sup>

One aspect that can't be ignored in the volunteer fire service is that many volunteers join to have a sense of belonging to something bigger than themselves. They want to give

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<sup>11</sup> Volunteer Firefighters Recruitment and Retention Strategy (2010), Volunteer Alberta.

<sup>12</sup> National Volunteer Fire Council (2018) Volunteer Fire Service Culture: Essential Strategies For Success.



back to the community but they also want the social relationships developed within the fire service.

A recruitment program exists within the LFRS and occurs annually, but members stated through interviews and Zoom sessions that the majority of new recruits into the fire department were based upon word of mouth.

Some key factors to consider in the recruitment and retention of members;

- **Diversity:** It was identified through the SWOT analysis that there are currently no female members in the LFRS. As noted by the Alberta Volunteer Firefighter Toolkit a predominance of male firefighters may result in a perception of the fire department as the “old boys club,” even when this is not the case and the fire department welcomes new members. During Zoom meetings with members of the Department this was recognized as a gap and more emphasis needs to be placed on recruiting women into the LFRS. A successful recruitment strategy is diverse in nature and targets visible minorities and females.
- **Political Stakeholders-**It is imperative that civic leadership understands what the fire department gives to the community, why it needs to be financially supported and how the community is safer because of the fire department. Political stakeholders must be informed of the roles and responsibilities of the fire department and how it is one of the main pillars of public safety.
- **Recruitment Campaign-**Members of the fire department should be asked for ideas and allowed to contribute to the recruitment campaign. A comprehensive recruitment campaign identifies the need for more than just firefighters. Diversification is more than just gender; it is about getting members into the department that can fulfill roles other than the traditional firefighter role. It also identifies positions in the fire department that can fill administrative, public relations, human resource, emergency communications, and other nontraditional firefighter roles.
- **Communication Strategy-**It is easy to conduct a communication strategy for a volunteer fire department today as social media platforms increase the reach for the fire department, creates meaningful relationships with the community, boosts the profile of the fire department in the community and they are free. A member of the



community that does not want to fit into the firefighter role but is well versed in social media would be a great asset to the Department. This reinforces the point made earlier about diversification within the department.

- **Public Relations**-Every member of the fire department engages in public relation activities. It is about the relationships built with friends, family, community stakeholders, business owners and the local media. When members say good things about the fire department it raises awareness of the department and can motivate others to join. The opposite is also true if a member is disgruntled and speaks negatively about the fire department and brings attention to the department that is not conducive to good community relations and recruitment opportunities.
- **Leadership**-The leadership in the fire department welcomes new members, fosters teamwork among all fire department members, encourages and supports others as they learn the necessary skills and competencies to be a firefighter. This form of leadership plays a key role when senior members that have the experience and training engage in coaching, mentoring and teaching new members the trade of being a firefighter. However, if these same experienced members foster an attitude of superiority due to their experience and training and they are condescending to others, an atmosphere of tension and distrust is fostered. The leadership in the fire department must be in tune to how senior members work with new recruits as senior members portray their beliefs and attitudes through their actions. If these actions are viewed as negative, it can have a detrimental impact upon recruitment and the retention of members in the LFRS.
- **Engaging Business**-A relationship must exist with local businesses as it is critical to have local employers supporting the fire department.

Some key factors to consider for the retention of members include;

- **Incentive Program**-Most volunteer fire departments incorporate some type of incentive program to show appreciation for its members.
- **Leadership**-Many retention problems can be traced back, directly or indirectly, to inadequate or misguided efforts from department managers.<sup>13</sup> Strong leadership

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<sup>13</sup> U.S Fire Administration (2007) *Retention and Recruitment for the Volunteer Emergency Services; Challenges and Solutions*, p.27



ensures that all members are treated fairly and equally and favoritism of a group of firefighters over others does not exist.

- **Psychological Support Services**-Not all injuries are visible and the fire service as a whole has learned the hard way that psychological support for its members and families is of paramount importance. Members need to know that it is ok not to be ok and that psychological support services are available when needed. A progressive fire department educates members and spouses and helps prepare them for traumatic calls. A program should exist where members are able to attain professional help when struggling from a traumatic incident.
- **Childcare Services**-Shift workers, single parent homes or a dual working household may require childcare services during an emergency call out. The availability of childcare support for members can play a key role in the retention of members. As noted earlier, the recruitment strategy should not just be focused on firefighter positions. Childcare services can be met by one or several members that are part of the fire department to provide essential support services.
- **Diversity**-Progressive volunteer and career fire departments are diverse and encourage visible minorities, females and LGBTQ members to be part of the department. A diverse fire department is a healthy and progressive fire department and as mentioned earlier, diversity is more than just getting members into the fire hall to become firefighters.

The recruitment and retention of members of the LFRS is critical for the growth of the fire department and how it fits into the overall community profile. The motivation of a member of the fire department is based upon how they are treated when they first join and as they continue through their firefighter training. Today's volunteer firefighter will not hesitate to leave a department when they are treated poorly or disrespected.

**Recommendation:** LFRS annually review the recruitment program and members from all levels of the department should have input into how the program is shaped and delivered.

## 2.3 Social Aspects of the Volunteer Fire Department

Historically the volunteer fire department was the focal point for the community where members felt part of a social club or fraternity and had bars within the fire station. Perkins and Benoit (1996) noted that the close, fraternal nature of a department's culture is highly



valuable, but a culture that obstructs firefighting professionalism can fuel an all too familiar stereotype of volunteer firefighters (p.135).<sup>14</sup>

The U.S. Fire Administration points out that the culture of the fire and emergency service has evolved through a complex process of group learning (Thompson & Bon, 1993). This group learning occurs during training, emergency responses, downtime around the fire station, and informal activities, such as cookouts, meals at the fire department, storytelling, and watching TV. In some cases, in the fire and emergency service, methods espoused as solutions may be incorrect, but they are perpetuated because they are viewed as traditions (Gasaway, 2005).<sup>15</sup>

Every firefighter is a marketing tool for the fire department and members of the public generally do not know much about the fire department except for what they see and hear. It's for this reason that the fire service takes pride in keeping their apparatus and fire station "squeaky" clean as it is a symbol and representation of the pride within the fire department. The public pays attention to how members act and speak while in and out of uniform and the Fire Chief reinforces to department members the importance of looking and being professional at all times.

As noted, the fire service is rich in culture and tradition and a bar in the fire station was accepted as the norm at one time (and in many cases it still is), but this has changed dramatically in recent years. A fire department was the gathering point for social events and family and community traditions but times have changed. This doesn't mean that the fire department isn't a key part of the community because it certainly is, but it does mean that more volunteer fire departments recognize the optics of having a bar in the fire hall and are removing their bars and implementing policies where alcohol is no longer allowed in the fire hall, especially the fire hall that is funded by taxpayer dollars. A bar in the fire hall can harm the professional image of a fire department and with the recruitment challenges faced by volunteer fire departments today, the fire department cannot risk poor community relations.

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<sup>14</sup> Perkins, K. & Benoit, J. (1996) The Future of Volunteer Fire and Rescue Services: Taming the Dragons of Change, Fire Protection Publications. p. 135

<sup>15</sup> U.S. Fire Administration, National Safety Culture Change Initiative (2015) p. 7



Historically the rationale for having a bar in the fire hall was to build up the esprit de corps where members formed bonds and were also able to sit and talk about the bad calls over a beer. The fire service along with military, law enforcement and EMS have recognized today the importance of keeping emergency responders mentally healthy and this does not include alcohol. The image and professionalism of the fire department is paramount today and the ramifications and perception of alcohol in a fire station is generally negative.

Curt Varone has over 40 years of experience in the fire service and 30 years of practicing as an attorney in Rhode Island and Maine and wrote an article for Lexipol about liability of bars in fire halls. Lexipol LLC is a private company based in California that provides policy manuals, training bulletins, and consulting services to fire departments, law enforcement, and public safety agencies in the United States. The references from his article are U.S. based but there is little doubt these legal implications would reflect in Canadian law as well. Varone identifies some potential ramifications with a bar in the fire hall which include but are not limited too;

- i. The liability of the fire department is assumed as they are the entity supplying alcohol and responsible if someone is injured or impaired. This liability can also be expanded to the municipality as they own the fire station and may be viewed as culpable.
- ii. The optics are negative and can influence a lawsuit if a citizen believes that the fire department didn't conduct themselves professionally or ethically, or excessive damage occurred to the individual's property. The individual can claim that alcohol may have been a factor in the actions of the fire department and it then becomes the duty of the fire department to prove otherwise. It may be true that alcohol was never a factor but perception is reality and the image of the fire department may be damaged and will require significant time and resources to argue against the claim.
- iii. A member may be having a drink at the fire station and the fire department is dispatched to a significant event. There is a strong likelihood that the member will put on their PPE and respond on the apparatus. The firefighter may not be impaired but their breath may indicate otherwise. If this member has alcohol on their breath, it could set in motion a tort lawsuit.



The volunteer fire department cannot afford to come under scrutiny because of alcohol within the fire hall because members work too hard to maintain the image of trust and professionalism. Alcohol in the fire station has been a part of the volunteer culture across North America but times have changed and so has the acceptance by the public.

**Recommendation:** It is recommended that the LFRS and the Town of Ladysmith implement a policy where alcohol is not permitted within the fire station and the bar is removed.

## 2.4 Diversity

The IAFC recognizes that diversity and inclusion are critical for the recruitment and retention of firefighters and being diverse means operating with the understanding that each individual is unique, and recognizing and valuing everyone's individual differences.<sup>16</sup>

Women firefighters are described as the “hidden population” because of their low representation in the fire service.<sup>17</sup> Firefighting is physically demanding and is typically a male dominated work environment and female firefighters generally adapt and find different ways to use their body mechanics to meet the demands. In a 2011 qualitative study on the experiences of female firefighters, the female participants noted challenges with turnout gear, boots, and SCBA face pieces that are generally designed for men. In addition to this, female firefighters tend not to ask for help when conducting a job duty that exceeds their physical capabilities and place themselves at risk for injury.<sup>18</sup> This creates the image that a female cannot handle the physical demands of the profession, which isn't true as the profession is based upon teamwork and although labour intensive at times, all firefighters are expected to ask for help if they are performing a task that exceeds their physical capabilities, and in the fire service there are numerous tasks that require more than one firefighter to conduct safely.

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<sup>16</sup> National Volunteer Fire Council (2018) *Volunteer Fire Service Culture: Essential Strategies For Success*, p. 123

<sup>17</sup> Jahnke, S., Haddock, C., Jitnarin, N., Kaipust, C., Hollerback, B., Poston, W. (2019) The Prevalence and Health Impacts of Frequent Work Discrimination and Harassment among Women Firefighters in the US Fire Service.

<sup>18</sup> Sinden, K., MacDermid, J., Buckman, S., Davis, B., Matthews, T., Viola, C. (2011) *A qualitative study on the experiences of female firefighters*. School of Rehabilitation Sciences, McMaster University, Hamilton, ON.





The fire service culture as a whole tends to require new recruits to earn respect within the team and the LFRS is no different. The challenges with “earning respect” is that the very term is subjective and open to interpretation for each individual or leadership group. There are too many variants to identify the exact tipping point when a new member earns respect from the leadership core in the fire department. No checklist exists where a recruit firefighter is finally “accepted” as part of the team and this can pose problems with morale in any fire department. Barriers to “earning respect” include;

- How does a member of the department know what the target is to earn senior members respect?
- What is the timeline for earning respect?
- How are personalities removed from the equation?
- Is earning respect based upon quantitative and qualitative measures?
- What is the role of senior members in helping recruits gain confidence in their skills so they can earn respect in the team?
- How can senior leadership play a critical role in teaching, guiding and coaching new members?
- Can a senior member(s) create obstacles, discourage or withhold knowledge so a recruit doesn’t earn respect from the team?

The fire service is a paramilitary organization and has served the profession well, but today’s fire service must evolve and respect human and equality rights, cultural and gender differences.

The U.S. National Volunteer Fire Council noted that “Today’s volunteer labour force consists of citizens who are more technologically savvy and driven by an entirely different set of criteria. Those departments that ignore this evolution are suffering from staff deficiencies.”<sup>19</sup> The job of the leadership group in a fire department is to ensure that new recruits are welcomed to the team and to play a critical role in teaching, mentoring and coaching new members. Based upon feedback and communications with members of the

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<sup>19</sup> National Volunteer Fire Council (2018) Volunteer Fire Service Culture: Essential Strategies for Success



LFRS, the consensus is that the “leadership core” includes the Chief Officers, Officers and senior members in the department.

Leadership should be evident at all levels in a fire department, but when it comes to developing, shaping and encouraging members in the department, this falls directly upon the leadership core and more so upon the officers.

The education, competencies and practical skills required for a firefighter today require significant time and dedication. These skills are not attained overnight and, in some cases, may take a few years to achieve. During this period a member may feel pressure by senior members to perform a task that they aren’t confident in and feel under the spotlight where mistakes will be magnified by others. This leads to a decrease in confidence and a never-ending sense of frustration or sense of intimidation where a member wants to learn and grow but feels discouraged for fear of being ostracized for any mistakes or for asking for help. When a member wants to learn but does not ask for help for fear of looking stupid in the eyes of senior firefighters, this member has ventured into an area of fear and will eventually leave the department rather than be exposed to fear or feeling insecure about their role in the department.

The questionnaires, surveys and Zoom meetings with internal and external stake holders identified some concerns with how members are accepted as part of the LFRS team. The acceptance of new members into a fire department and the retention of these members are correlated as new members want to feel a part of the team and if they are demeaned directly or indirectly, they may choose to leave the fire department as it becomes too difficult to feel like a contributing member in a team-based profession. This is not to say that members are leaving the LFRS department in groups but the message was clear that there is an influence by some members that hinders individual growth and recruitment into the department.

The LFRS has a strong culture with senior members possessing the competencies, skills and experiences required to be a good firefighter and it was clearly stated that senior members in the LFRS have significant experience and knowledge. As in any profession, a strong culture coupled with experienced senior members can be intimidating for new members or even members that have been there for a few years.



The National Volunteer Fire Council identified how group dynamics impact the volunteer fire department. In order to progress the volunteer fire department needs to have a vision, an understanding and agreement amongst the members of where the fire department is going. Interpersonal relationships are necessary as members share the common goals and objectives. The values of the fire department set the tone for what is acceptable behavior and how everyone is treated.

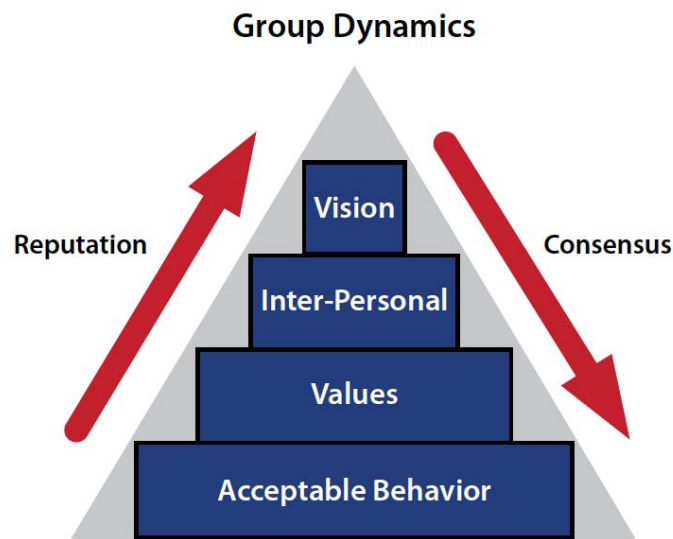


Figure 16 NVFC Group Dynamics

Making changes to any organizational culture takes time and effort and more so within the tight culture of the fire service, but if a fire department fails to make changes when society as a whole has embraced changes for the betterment of the people, then the fire department is going to struggle or fail.

## 2.5 Succession Planning and Promotions

Currently the LFRS Constitution and By-Laws (2017) establishes the process for the election of officers. The election process has commonly been referred to the “most popular person” or “popularity contest” where an individual gets the promotion because they are a nice person and everyone likes them. Feedback from the surveys, questionnaires and Zoom meetings indicated that this was considered an outdated process for the fire department and needed to change.



The fire service as a whole can be slow to change and often times the word “volunteer” can be associated with an unqualified person. It is unfortunate as volunteer fire departments take great pride in ensuring that their members are highly trained and qualified. The volunteer fire department delivers a real service in real time and under emergency conditions which requires preparation, training and specialized equipment and fortunately today, more people are beginning to understand that a volunteer firefighter requires the same training as a career firefighter and volunteers are to be considered professional as well.

When an individual has an emergency and calls 911, they expect the fire department to provide a level of service that is based upon professional services. The B.C. Playbook clearly outlines the standards for the service level declared by the municipality and this creates the framework for the professionalism expected by the public.

There are pros and cons to electing officers in a volunteer fire department and they will be briefly stated below;

### **PROS**

- Selection of the best qualified individual where time in the fire service is considered on a grading scale (it is unrealistic to expect all senior members to meet all of the required certification levels until a succession plan has been in place for several years).
- When minimum qualifications are identified, it is reasonable to expect that officers will exceed the qualification/certifications of those underneath them.
- Members are aware of an individual’s personal traits and characteristics.
- Members feel they have a say into the process of having an officer elected.

### **CONS**

- The most popular person gets elected because they are likeable or respected. The challenge is to discern how likeable and respected indicate an ability to perform the functions of an officer where leadership and competency are intertwined and critical.
- Elected terms have a term that can vary from two to five years.
- Members will vote after a probationary period on whether they believe an officer shall continue on with their term. There are numerous downfalls to this in terms of



fairness or whether a fire officer requires coaching and mentoring to move past a sticking point in their officer role.

- The perception of the “good old boys club” can overshadow an election process.
- A poor officer may be a liability to the fire department and municipality, but was elected in as a very nice person.
- A poor officer choice may place a firefighter in harm’s way through poor decision making which may result in a near-miss incident or personal harm and injury to a firefighter.
- Bitterness by another member that has equal or more qualifications of the elected officer and didn’t get elected.
- An elected officer may be reluctant to recommend disciplinary measures to a firefighter because the officer feels he owes the member for voting him into the position or for fear of being voted against at the next officer election.
- Identifying an extensive list of qualifications may make it impossible to achieve the certifications while a member is working a full-time job and maintaining a healthy work-life-fire department balance.
- A controversial decision made by the Fire Chief may result in a leadership core within the department leading a vote of non-confidence against the fire chief and calling for an election to have the fire chief ousted.

Changing from an election process to a more formal process based upon experience and qualification cannot happen overnight. Failing to recognize that this process will require good communications and input from members will result in frustration amongst members.

A culture is developed over time and is based upon symbols, beliefs, practices and attitudes within a fire department. It is built up over time and will require leadership at all levels (including Town Council) to change some old belief systems as culture is generally connected to strong emotional feelings.

**Recommendation:** The Town of Ladysmith implement a formal process where the Fire Chief is hired by the Town.



### 2.5.1 Succession Planning

Succession planning is now a topic of conversation in the fire service and especially the volunteer sector. The demands placed upon a Fire Chief for a volunteer fire department have increased significantly in recent years and it is not uncommon for a Fire Chief or Deputy Chief to suffer a health or mental health injury due to the exposures of the profession. It is imperative that succession planning is a priority within a fire department as it creates the foundation for members to possess the knowledge, skills and abilities to be promoted and take on formal management and leadership roles in the fire department.

The existing practice of elections in the LFRS eliminates the possibility of fostering a succession plan for any of the officer and chief officer positions. This FDER will address the standard and anticipatory succession planning process.

- ***The Standard Succession Plan:*** This succession plan occurs when those in key positions leave for another job or without considerable advance notice. A member with the training, education and experience can be promoted to fill the vacant spot or at the very least, act in the capacity until a formal promotional process occurs.
- ***The Anticipatory Succession Plan:*** The Fire Chief or other Chief Officer(s) have provided retirement or departure dates to the department. A well thought out training program has identified the required competencies and skill sets for internal promotional opportunities. This plan identifies leadership qualities, specific fire service knowledge, educational requirements and skills and abilities and allows the Town of Ladysmith and the LFRS to fill the vacant position without any hitches.

Currently within the LFRS the general practice is to provide fire officer training to the officers in the department. This is progressive as the officers are able to take the training as per NFPA 1021 standards but it limits the growth of other members that should be preparing for future officer roles.

It is imperative for any fire department to help its firefighters identify what they want to accomplish in their career. Many firefighters are satisfied staying clear of any administrative duties and prefer to report for duty and perform their duties as a firefighter. Others may



want to advance in their career and as such, proactive fire departments will provide opportunities for members to develop a career path (career development plan) and provide the training and education for advancement. Today's volunteer paid on-call fire department must create the training program to ensure that succession planning is successful and that the best candidate is promoted.

There is nothing wrong with having a list of certifications/qualifications to strive toward for officer positions, but it must be stressed here that a significant amount of time, resources and money will be required to achieve such qualifications.

Essentially, the goal of a succession plan is to assist those that want to advance in the fire department and take on more of a leadership and administrative role. While analyzing the years of service for members of the LFRS, it was observed that there is at least 12 members that are not officers with five or more years of experience that should be offered educational courses for future officer positions.

***Recommendation:*** Council consider directing the Fire Chief and Human Resources Manager to develop and implement a program for the recruitment, retention and promotion of LFRS personnel.

***Recommendation:*** The Fire Chief develop a succession program and corresponding budget that identifies and prepares members wishing to advance in their careers and prioritizes training requirements for the fire department.

## 2.6 Fire Chief

The Fire Chief position in the LFRS is a volunteer position that is paid an honorarium and according to the operational budget, is also paid for fire inspection duties. The Fire Chief is the primary representative of the fire department and due to the roles, responsibilities and expectations placed upon the Fire Chief, it is not unusual for similar sized communities to employ a full-time fire chief.

A brief summary of the duties required by a volunteer fire chief include but are not limited to;



- Records Management-It is critical that provincial and local reporting requirements for budget, equipment, personnel, fire inspections, fire prevention, apparatus records, emergency incidents and so forth are properly completed and saved.
- The fire chief must be able to prepare and present a budget that is a forecast of the expenditures for the fire department.
- All training records, workplace injuries/exposures, disciplinary actions and formal correspondence are required for each member of the fire department.
- A record of fire inspections and fire prevention activities is required as a matter of due diligence.
- Apparatus and equipment maintenance and annual testing must be recorded. In many cases a business case can be made for the early replacement of a piece of equipment or apparatus with high maintenance costs.
- Leadership within the fire department and the community are essential for progression of any fire department.
- The fire chief must be able to identify and analyze a situation, weigh information and make a decision and recommendation.
- The fire chief must be a strategic thinker and be able to communicate verbally and in writing to promote the strategic direction of the fire department.

There is no standard that recommends how many full time or volunteer firefighters are required per population quota, nor is there a standard or legislation that requires a community to have a part-time or full-time fire chief. As a community grows, more demands and expectations are placed upon the fire department and it should be noted that the Fire Chief is not only responsible for the department resources, but is also responsible to keep the team focused on the department's mission, be the leader for all members, foster a working relationship with Council, ensuring that the fire department is meeting its legislated requirements and also planning for the future needs of the community.

Communities that are steadily growing tend to move towards full time administrative positions in the fire department. As noted earlier with the comparable departments for this FDER, many departments are staffing with full time Fire Chief, Deputy Chief and Fire Prevention Officer.





Communities differ and no two are alike, but there is usually a tipping point when the elected officials will make the decision to hire full time positions for the fire department. This can be the result of a lawsuit, a failure to comply with legislation or recognizing the need that a full time Fire Chief is required so the community can be proactive in their due diligence and take steps to protect the health and safety of its residents.

## 2.7 Emergency Management Planning

Not originally a part of this project scope but a review of the Cowichan Valley Regional District Local Authority Emergency Plan was conducted. Emergency planning and the fire department are generally intertwined with most fire chiefs being responsible for emergency planning in their community.

Section 6 of the *Emergency Program Act* states that the, “local authority must prepare or cause to be prepared local emergency plans respecting preparation for, response to and recovery from emergencies and disasters.” The *Act* is explicit in what the municipal council is responsible for in terms of emergency planning and an emergency management organization.

The *Local Authority Emergency Plan* of the Cowichan Regional Valley District is a foundational document where local authorities add their emergency plan, bylaws and communication plans. The plan provides an overview of the many facets of a comprehensive regional emergency management program and is not tailored to specific communities. The local emergency management coordinator for a community is responsible for maintaining a local emergency plan and for continually evaluating and updating the plan. The emergency management coordinator is generally responsible for ensuring that those responsible for fulfilling roles in the Emergency Operations Center (EOC) are trained in the Incident Command System (ICS). There is no indication that any part of the plan has been adapted or personalized for the Town of Ladysmith.

A review was conducted on the Town of Ladysmith Bylaw No. 1282 the bylaw to establish an Emergency Program for the Town. During this FDER process the role of the Fire Chief for emergency planning or in the EOC could not be identified, neither could it be confirmed that the Town of Ladysmith has their own emergency plan.



## Section 3: Training Standards and Existing Practices

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### 3.0 BC Playbook

In paragraph 3(3)(b) of the *Fire Services Act* (B.C.), the Fire Commissioner is required to establish the minimum standards of training required for fire services personnel in British Columbia. *The British Columbia Fire Service Minimum Training Standards, Structure Firefighters Competency and Training Playbook* (hereafter referred to as the Playbook) was implemented in 2014 and revised in 2015.

The Playbook had extensive consultation and input from key stakeholders as well as the Fire Chiefs Association of BC, BC Fire Training Officers Association, Office of the Fire Commissioner, Justice Institute of British Columbia, College of the Rockies, and the Vancouver Island Emergency Response Academy.

Fire Chief Don Jolley stated, (2017), “Support for the Playbook from the vast majority of fire-service personnel has exceeded our expectations. We have seen interest in the Playbook from almost every province in Canada, numerous states, the NFPA, ProBoard, and training academies. Even large career departments are recognizing the opportunities the Playbook presents. The Playbook has even caused some British Columbia departments to move away from the NFPA 1001 certification and instead focus on the 1001 competencies that are directly applicable to their duties. The Playbook and its supporting materials have provided many jurisdictions with much-needed focus and an attainable standard.”<sup>20</sup>

The Playbook sets out the minimum competencies for training and operational requirements that must be met by each department based upon the Authority Having Jurisdiction (AHJ) declared service level. The AHJ is the regional or local government legally responsible for the organization and operation of the fire department. The Playbook covers

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<sup>20</sup> Jolley, Don (2017) Leading Edge May 2017: British Columbia Playbook Receives Support, Firefighting in Canada, <https://www.firefightingincanada.com/leading-edge-may-2017-24633/>



all fire departments in British Columbia including volunteer, municipal, regional and fire departments established as a society under the *Society Act* (B.C.).

The Playbook requires the AHJ to declare the service level of the fire department which in turn determines the necessary competencies for the fire department's training program. There are three service levels identified in the Playbook and the AHJ must declare which service level they wish to provide to their community. The service levels are;

- Exterior Operations Service Level,
- Interior Operations Service Level, or
- Full-Operations Service Level

When a service level is declared it should be noted that it is the responsibility of the AHJ to support the fire department so it is able to meet the applicable requirements for the declared service level.

The Playbook further elaborates, "Under British Columbia law, all employers are legally required to ensure that their employees are properly trained for their jobs and properly supervised while performing them. When a formal Service Level and related training program has not yet been implemented, AHJs and fire departments must still meet this legal obligation and manage (or limit) their operations accordingly. Where a fire department undertakes operations for which its personnel are not adequately or appropriately trained or supervised, both the department and its AHJ face potential liability."

Today's fire service continues to evolve and grow as it faces the challenges of changing standards, legislation, liability and educating elected officials with few elected officials in a community understanding the minimum requirements identified in the Playbook. The industry standards and legislation are intended to improve the health and safety of firefighters; however, it demands more financial support and administrative resources to effectively operate a fire department. A fire department can operate successfully only if adequate administrative and financial support are provided.

Fire chiefs and officers are challenged today with the increasing administrative and training requirements. Gone are the days when a notebook and simple training matrix can be used



by the fire department. The demand for due diligence and properly recording training sessions, equipment and apparatus maintenance and non-emergency functions can be frustrating for the officer that volunteers for the fire department. The lack of available time, resources and a records management system can be frustrating for the fire chief as well.

The AHJ must declare the Service Level in a formal policy or bylaw and the Interior Operations Service Level is identified for the Town of Ladysmith in a policy but not in a bylaw. There are some concerns by having this level of service in a policy rather than in a bylaw.

### 3.0.1 Interior Operations Service Level

Interior Operations fire departments can engage in interior fire suppression activities in vehicles, single family dwellings or other small structures. A pre-plan is required for larger or complex structures and firefighters must be trained specifically to the risks associated with these complex structures.

Pre-incident planning is the gathering of information that can be stored and quickly retrieved for responding firefighters to effectively manage an incident. *NFPA 1620 Standard for Pre-Incident Planning* provides guidance on collecting, evaluating and utilizing data for pre-incident planning to maintain ease of use.

The interior operations department must meet the requirements of *WorkSafe BC* in Section 31.23 Entry into Buildings;

- (1) When self-contained breathing apparatus must be used to enter a building, or similar enclosed location, the entry must be made by a team of at least 2 firefighters.
- (2) Effective voice communication must be maintained between firefighters inside and outside the enclosed location.
- (3) During the initial attack stages of an incident at least one firefighter must remain outside.
- (4) A suitably equipped rescue team of at least 2 firefighters must be established on the scene before sending in a second entry team and not more than 10 minutes after the initial attack.



- (5) The rescue team required by subsection (4) must not engage in any duties that limit their ability to make a prompt response to rescue an endangered firefighter while interior structural firefighting is being conducted.

Based upon the declared Interior Operations Service Level, every firefighter in the LFRS must meet the minimum competencies identified in the Playbook.

<b>All of Exterior Operations Firefighter PLUS completion of the following Competencies from NFPA 1001 – FF1</b>		
<b>Organization, Safety and Communications NFPA 1001 5.2.4</b>	<b>Job Performance Requirements (NFPA 1001 – FF1 Competencies)</b>	<b>Interior Operations - Firefighter</b>
<b>RIT Training – pertinent to jurisdictional hazards NFPA 1001 5.3.9 NFPA 1407, NFPA 1500</b>		
<b>Self-Contained Breathing Apparatus NFPA 1001 5.3.1, 5.3.5, 5.3.9</b>		
<b>Search and Rescue NFPA 1001 5.3.9</b>		
<b>Fire Behavior NFPA 1001</b>		
<b>Fire Extinguishers NFPA 1001 5.3.16</b>		
<b>Building Construction NFPA 1001 5.3.11, 5.3.12</b>		
<b>Forcible Entry NFPA 1001 5.3.4</b>		
<b>Ventilation NFPA 1001 5.3.12</b>		
<b>Loss Control NFPA 1001 5.3.13, 5.3.14</b>		
<b>Live Fire Exterior NFPA 1001 5.3.7, 5.3.8, 5.3.10, 5.3.19</b>		

Figure 17 BC Playbook-Interior Operations

### 3.0.2 Training Officer

The training officer is the individual tasked with overseeing the implementation, delivery and evaluation of training to fire department members. The training officer must hold NFPA 1001 competencies specific to the service level declared and Fire Service Instructor Level 1 as per NFPA 1041.

Detailed training records are mandated by WorkSafe B.C. to be properly maintained and readily available upon request. The Playbook identifies that “each department is responsible for keeping accurate and current records of the training and certifications of each it its



firefighters and officers. Third-party training providers and individual departments also are required by WorkSafe B.C. to track training and maintain individual training records for each firefighter and officer.”<sup>21</sup>

### 3.0.3 Team Leader

The Playbook introduced the term “Team Leader” and as the individual responsible for a specific crew function at an emergency scene. In most cases this will be an officer of such as a Lieutenant, Captain, or any Chief Officer in the department. The team leader concept was established in the Playbook as some fire departments do not have sufficient officers for all of the functions being performed at an emergency scene and a qualified team leader can fulfill a supervisor role for many tactical functions.

Team leaders do require additional competencies as per the *Workers Compensation Act* (B.C.) and the Playbook describes the Interior Operations Level Team Leader competencies, which will be required by the LFRS.

<b>Completion of the Operational Firefighter requirements for <u>either</u> the Exterior or Interior Service Level <u>PLUS</u> the following Competencies from NFPA 1021:<sup>4</sup></b>		
<b>Incident Command and Fire Attack NFPA 1021 4.1.1, 4.2.1, 4.2.2, 4.2.3</b>	Job Performance Requirements (NFPA 1021 – Competencies)	<b>Team Leader Exterior &amp; Interior</b>
<b>Pre-Incident Planning, Size-up and Incident Action Planning NFPA 1021 4.5.2, 4.5.3, 4.6, 4.6.1, 4.6.2</b>		
<b>Fire ground Accountability NFPA 1021 4.6.1, 4.6.2</b>		
<b>Live Fire – Exterior (Recommended for Exterior Operations) NFPA 1001 5.3.7, 5.3.8, 5.3.10</b>		
<b>Live Fire Exterior and Interior (Recommended for Interior Operations)</b>		

Figure 18 BC Playbook Team Leader

### 3.0.4 Rapid Intervention Team

A rapid intervention team is a dedicated crew of firefighters trained to conduct Interior Operations and set identified by Section 31.23(4) of the *Occupational Health and Safety Regulations* under the *Workers Compensation Act*.

<sup>21</sup> British Columbia Fire Service Minimum Training Standards, Structure Firefighters Competency and Training Playbook (2015) p.12



NFPA 1407, Standard for Training Fire Service Rapid Intervention Crews defines a rapid intervention crew as, “a dedicated crew of firefighters who are assigned for rapid deployment to rescue lost or trapped members.”

During interior firefighting operations it is important to note that firefighters may get disorientated, trapped, injured or suffer a medical emergency while they are putting themselves in harm’s way to help others. A “Mayday” will generally initiate the priorities for the rescue of a firefighter and having firefighters trained for this function is of the utmost importance.

### 3.0.5 Company Fire Officer

The company officer is responsible for a crew (team) of firefighters and a fire apparatus will generally have a Company Officer on each truck. The collective agreement for career fire departments generally identifies the minimum qualifications to be an officer and generally includes Fire Officer I-III for the career sector. The Justice Institute of British Columbia, College of the Rockies and the Vancouver Island Emergency Response Academy are seeing more volunteer members enroll as their fire departments recognize the importance of formal fire officer training qualifications and in some departments Fire Officer I, is the minimum benchmark for a company officer position in the volunteer paid-on-call department.

<b>Fire Officer 1 (NFPA 1021)</b>	<b>Job Performance Requirements (NFPA 1021 – Competencies)</b>	<b>Company Fire Officer</b>
<b>Incident Command 200</b>		
<b>Fire Service Instructor 1 (NFPA 1041 Chapter 4)</b>		
<b>Emergency Scene Management (4.6.1, 4.6.2)</b>		

Figure 19 BC Playbook Company Officer

The *Ladysmith Fire & Rescue Constitution and By-Laws* Identifies Captains and Lieutenants along with their roles and responsibilities. There are some concerns that the Town of Ladysmith does not have any clear job descriptions for firefighter, officers or chief officers



and this would certainly pose a legal problem if a member was terminated and decided to pursue legal action against the Town of Ladysmith and the LFRS.

### 3.0.6 Ladysmith Training

A fire department is only capable of providing the levels of service identified in a bylaw if it is properly equipped and trained. Operating a volunteer fire department today and training firefighters is serious business. As noted previously in this report, the legislated standards, industry best practices and occupational health & safety requirements demand compliance from the fire department.

In 2005 the Underwriters Laboratories (UL) Firefighter Safety Research Institute (FSRI) conducted an experiment to gather data on the difference of modern and legacy furnishings in a living room fire. The modern and legacy rooms were filled with furnishing commonly found in their day and both were lit with a candle on the right side of the sofa. The modern room transitioned to flashover in 3 minutes and 30 seconds while the legacy room transitioned to flashover at 29 minutes and 30 seconds.<sup>22</sup> Light weight construction and synthetic materials in today's modern room and contents fire has increased the risk and danger for interior operations firefighting. All firefighters deserve the right to be safe, properly trained and equipped as this is legislated under WorkSafe BC.

As noted earlier, the Town of Ladysmith has identified the Interior Service Level for the LFRS in a policy document. The LFRS firefighters must be highly trained and prepared for the various emergencies they will face and the fire department training program cannot be an ad hoc process. All training must be focused on meeting the requirements of the Playbook for the Interior Service Level, plus other NFPA standards. Currently the Chief Training Officer oversees the delivery, development and maintenance of the training program for the LFRS. There are three factors to consider when delivering training to firefighters;

- 1) **Initial training**-the training required to meet the standards identified in the Playbook. The LFRS is utilizing the Justice Institute of British Columbia (JIBC) as the

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<sup>22</sup> Comparison of Modern and Legacy Home Furnishings <https://ulfirefightersafety.org/research-projects/comparison-of-modern-and-legacy-home-furnishings.html>





provider/facilitator for firefighter training. Several members are recognized as evaluators for the JIBC which increases the efficiency of program delivery. To date five members have successfully completed NFPA 1001 certification and others are completing the exterior level competencies. At least seven members are on target to complete the interior level competencies for early 2021.

The LFRS strives to have new recruits complete the exterior firefighter level within six months and progress to complete the interior firefighter level with live Fire 1 and 2 before the end of the first year. The department also tries when possible to put recruits through hazmat and rope rescue training.

- 2) **Refresher (maintenance) training**-training that is ongoing and keeps firefighters' current with their skills. Maintenance training is essentially the ongoing training provided to firefighters and officers to ensure that previously acquired competencies are not lost or diminished with lack of use. Regular training occurs every Tuesday and is currently focused on the practical skills component.
- 3) **Advanced training**-this is the training used to develop department leadership as part of the promotional process and desired succession planning. Firefighters are offered courses and training as part of their developmental process to prepare them for future officer and leadership positions within the fire department. The advanced training typically requires more time and effort on behalf of the firefighter and generally includes formal fire officer, fire prevention, fire investigation and fire education programs. The LFRS currently has;
  - 1 Lieutenant completed NFPA 1031 Level 1 (Fire Inspector)
  - Fire Chief participating in NFPA 1031 Fire Inspector and NFPA 1021 Fire Officer Level 3.
  - Chief Training Officer enrolled and participating in NFPA 1021 Fire Officer Level 3.
  - 1 Firefighter and 1 Lieutenant have successfully completed NFPA 1021 Fire Officer Level I.



Training is one of the most critical components for a fire department as firefighters need to continually train to retain and expand their skills and knowledge. Fire officers are responsible for the health and safety of members during emergency incidents and need the practical experience from live fire burns and other practical evolutions to attain a high-level of situational awareness. During an emergency a fire officer must be able to rapidly diagnose the situation and make good decisions based upon Recognition Primed Decision Making (RPDM). Recognition primed decision making occurs when an officer makes a decision that is born from past experience and similar circumstances. These decisions are made within seconds and it must be stressed only if the officer has gained the experience through training, education and emergency incidents. If the officer does not possess the experience because of a low call volume such as structure fires or adequate training, the officers RPDM is weak or non-existent.

During a review of the training program, it was clear that the LFRS is striving to provide the training to the best of the Department's ability. A lack of a fire training facility can hamper actual hands-on training in motor vehicle extrication and live fire training. As noted in the Playbook, live fire training is a requirement for every interior attack firefighter and the LFRS utilizes the training grounds at the Otter Point fire department for these evolutions. The LFRS like other departments without a live fire training center are challenged to find locations for a member to attend a live fire training session.

The Chief Training Officer and a Captain create a training schedule in December for the coming year based upon low frequency, high consequence events in the area that they believe they should be training on. Due to the dangers of low frequency, high consequence events this is a good practice to conduct each year.

The fire department training and certification is recorded in firehall.net along with hard copies of certificates being placed into personnel files which meets the requirements for Worksafe B.C.

Due to the requirements for maintaining a well-trained and professional fire department, it is a challenge for the Chief Training Officer to keep up to the workload and he has admitted that it is demanding more time and becoming a challenge to develop and maintain the training program along with the administration of a recruit training program



for new members. This challenge was also highlighted by many members in the surveys, SWOT analysis and Zoom meetings.

Training remains one of the least understood areas in a fire department budget as members of the public or Town Council are not aware of the extensive requirements placed upon today's fire service. A decrease in the training budget generally has negative ramifications as training plans are either eliminated or postponed and can set a department back a year or several years in their overall training development.

From a budgetary perspective, the general practice for a training budget is to allocate \$1,500-\$2,000 per member per year. This highlights the need to ensure that training priorities are in place and a long-term plan exists so taxpayer money is spent wisely and efficiently.

### 3.1 Health and Wellness

Mental health takes on a critical importance in high-stress, high-risk work settings, such as those in which first responders operate, where their own functioning has serious implications for the health, safety, and security of the public they serve.<sup>23</sup>

First responders are routinely exposed to critical incidents. Critical incident stress can be described as a normal reaction to an abnormal traumatic incident. The Deputy Chief and the Chief Training Officer along with other four other members of the LFRS are certified in Critical Incident Stress Management. Examples of critical incidents include:

- A near miss that threatened the health and safety of a team member.
- The suicide of a co-worker.
- The loss of a patient after a rescue attempt.
- The death or a critical incident involving a child.
- A prolonged rescue or incident with excessive media coverage.

The fire service has come a long way in recognizing the importance of mental and physical health and wellness, but change occurs slowly and many firefighters still perceive it as a sign of weakness if they are bothered by an incident or are struggling to come to terms with an accumulation of critical incidents that has impacted their mental health. The LFRS

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<sup>23</sup> National Volunteer Fire Council, Firefighter Behaviour Health Alliance, American Psychological Association (n.d.) Psychologically Healthy Fire Departments, Implementation Toolkit.



took a proactive step in 2018 to start tracking exposures to critical incidents. Exposures to critical incidents can impact firefighters later in life, and having a formal record of critical incidents will assist with worker compensation claims.

Although no formal health and wellness program exists within the fire department, the department has brought in guest speakers to present sessions to firefighters on mental health.

**Recommendation:** A formal health and wellness program be created in the next 18-months where a committee is created to come up with an SOP, education initiatives and a confidential process for treatment of a mental health injury.



## Section 4: Service Agreements

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### 4.1 Bylaws

A municipality in British Columbia is not required by law to have a fire department. A fire department only has the power and authority to provide services as identified in a municipal bylaw. A bylaw provides the authority for the fire department to exist and the services it provides to the community. The lack of a bylaw identifying the establishment and services provided by the fire department could pose some liability issues for a municipality and the fire department.

The Town of Ladysmith Fire Department Bylaw, No. 832 (1985) regulates and controls the volunteer fire department for the Town of Ladysmith and establishes the Fire Chief as the head of the department. The Town of Ladysmith identifies services provided by the Ladysmith Fire/Rescue Services department on their website, but Bylaw No. 832 does not identify the services provided to the Town of Ladysmith.

In 2009 the mandatory retirement age of 65 was removed by the Town of Ladysmith Fire Department Bylaw 1985, No. 832, Amendment Bylaw 2009, No. 1698.

From a legal perspective, the authority, service level and responsibilities of the fire department must be specified in a bylaw otherwise there are no standard powers for the fire department and the provision of its services. Firefighter(s) identified in a lawsuit will be challenged to identify they were acting “within their scope of employment” when a bylaw does not exist that identifies what the fire department is “authorized” to do. In addition to this, a bylaw also provides a scope of duty for worker compensation purposes.

The *Fire Prevention Bylaw 2013, No. 1815* identifies the Ladysmith Fire/Rescue Service and Town Council but the bylaw does not identify the services provided by the LFRS nor does it authorize the fire department to respond to incidents beyond the municipal borders of the Town of Ladysmith. Section 263(1)(b) of the *Local Government Act*, permits a Regional District to make agreements with a public authority for the undertaking, provision and operation of its services but no document can be found that gives the legal authority of the LFRS to response outside of its jurisdictional boundaries.



Defining the level of service to the community provides a clearer direction for the Fire Chief regarding equipment, training needs, prevention/education activities and goals, facility requirements, staffing and response goals. Without a bylaw identifying the level of service of the LFRS, a moving target exists where past practice may dictate the services provided but this does not ensure that the LFRS is operating legally within the Town Council parameters or even correctly prioritizing their services. This environment can create frustration where strategic planning and a clear direction for the fire department cannot exist.

Without identifying and giving the authority to the Fire Chief or designate to respond outside of its jurisdiction could pose liability concerns for the Town of Ladysmith and the LFRS.

**Recommendation:** That the Town Council direct staff to update the Fire Services bylaws and policies.

**Recommendation:** That the bylaw updates include an indemnity clause that identifies the Lady Smith Fire/Rescue service as a paid-on-call fire department and that a response from the paid-on-call members may not occur.

#### 4.1.1 Policy C038 Fire & Rescue Service Level Establishment & Limitations

The British Columbia Fire Service Minimum Training Standards, Structure Firefighters Competency and Training Playbook is applicable to all fire services in British Columbia and requires the Authority Having Jurisdiction (AHJ) to declare its firefighting service level.

It was noted that *Policy C038 Fire & Rescue Service Level Establishment & Limitations* refers to *Bylaw 1815 Respecting the Prevention of Fires and the Protection of Persons and Property* and states that the Fire Chief and Deputy Fire Chief are responsible for the safe, effective and efficient operation and administration of the LFRS. The policy identifies what the LFRS will not perform in terms of service delivery and what it will provide in a reduced/modified manner.

The policy also identifies that the LFRS is “authorized to provide fire suppression activities in accordance with and subject to the limitations set out in the **Interior Service Operations Level**, as generally described in the Playbook and considering any and all



limitations contained within this Policy.” This policy would appear to be the official declaration of services by the Town of Ladysmith and during this FDER process it was not determined if this policy was officially implemented and accepted by Council.

## 4.2 Mutual Aid agreements

A mutual aid agreement is a formal document where neighbouring fire departments can request resources from each other. Fire departments in a mutual aid agreement are authorized to respond for assistance when requested for major incidents or other situations where the requesting fire department’s resources are overwhelmed by events. A mutual aid agreement identifies the expectations, rights and obligations of the parties to minimize confusion during emergency requests.

There are many variations of mutual aid and agreements consideration should be given to the following;

- The agreement should identify the resources to be provided.
- The written agreement identifies and authorizes the fire departments to leave their jurisdiction for mutual aid purposes.
- The identification of the Incident Command procedures by all parties.
- Fire departments must be suitably equipped to meet the functions they are expected to perform at an emergency and all parties must be aware of the declared service levels for each fire department.
- All fire departments have the legal obligation to serve and protect their own community prior to engaging in mutual aid activities and this must be clearly stated in the agreement.
- Liability coverage and indemnification provisions.

The Cowichan Valley Regional District’s Fire Department Mutual Aid Agreement (2020) identifies eight fire departments in the agreement and under section 263(1)(b) of the *Local Government Act*, an agreement can be made with a public authority for the provision of its services. The eight fire departments include;

- The City of Duncan
- The District of North Cowichan



- The Town of Lake Cowichan
- The Town of Ladysmith
- The Cowichan Bay Improvement District
- The Mill Bay Fire Protection District
- The Shawnigan Lake Improvement District
- The Thetis Island Improvement District

NFPA 1720 suggests that mutual aid and automatic aid agreements address liabilities for injuries, disabilities, deaths, costs of service, the authorization to respond, staffing, equipment and the resources to be made available. It also indicates that the training for firefighters in the mutual aid agreement shall be comprehensive enough to produce a capable response to deal with the emergencies they respond to.

Upon review of the mutual aid agreement there are a few matters that should be considered for addition and can be dealt with during a review of the agreement.

The Cowichan Valley Regional District's Fire Department Mutual Aid Agreement does not have a specific term or renewal period but 12.1 states, "Any Party may withdraw from this Agreement by providing sixty (60) days written notice, delivered in accordance with this Agreement to the other Parties." Section 13.2 states, "This Agreement may only be amended by written agreement of the Parties in the form of a formal amending agreement." This mutual aid agreement should have a renewal period identified within the document.

The use of a common personnel accountability system for tracking of personnel and resources during an emergency. A common accountability system will decrease any confusion with multiple departments on scene.

When multiple fire departments are part of a mutual aid agreement, there should be a provision where joint training and officer meetings are required on an annual basis. This fosters a teamwork environment where gaps can be identified and addressed prior to a real event. An option is to incorporate a 'Round Robin' mutual aid philosophy where the mutual aid departments schedule a training session and rotate to each department to build interagency relationships and exchange ideas and practices.





- The agreement should consider a provision to cover costs associated with damaged equipment or fire department apparatus. This may be in the form of the requesting Party paying a deductible or working with their insurance to help recover damages.
- All parties in the agreement should have an inventory of each department's resources.
- A dispute resolution should be included in the agreement.

As with any agreement it is important to regularly review the mutual aid agreement as staffing and equipment levels can change in a volunteer department and thereby change the dynamics of the agreement.

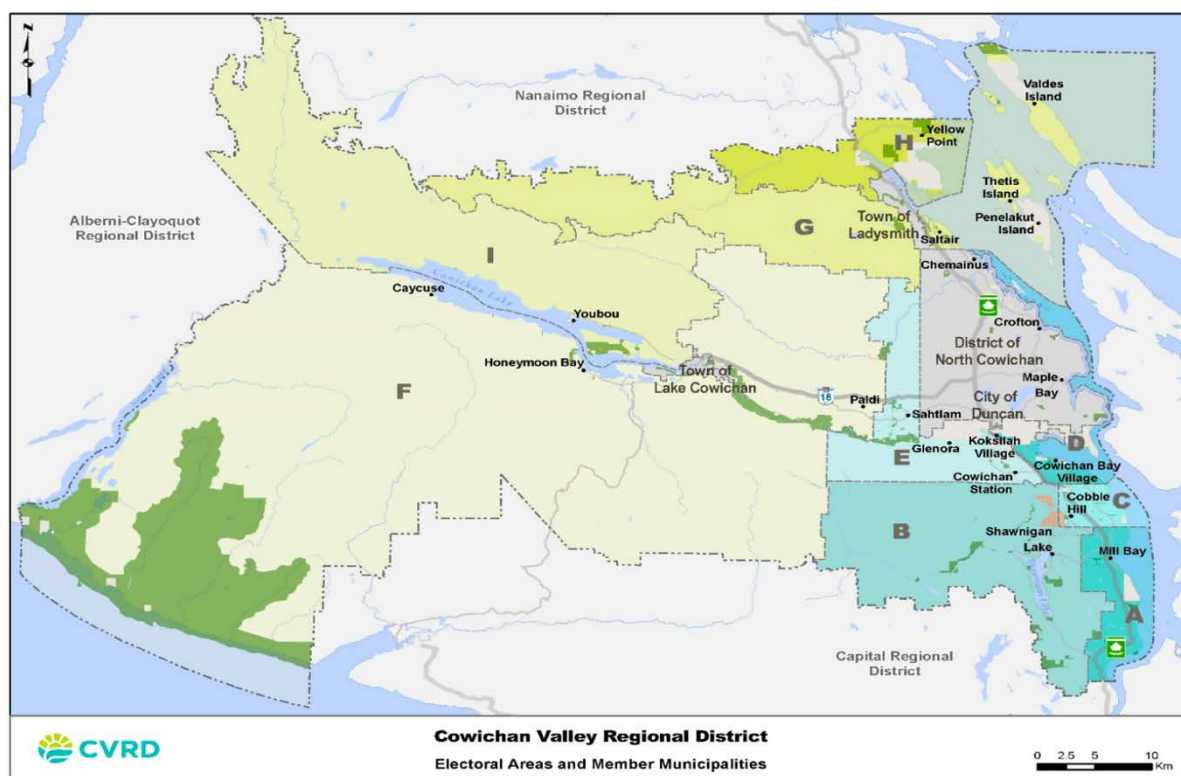


Figure 20 Cowichan Valley Regional District



At a minimum an annual meeting should occur among all parties with the primary intent is to have dialogue regarding the mutual aid agreement and any policies or procedures that could impact an emergency situation. This is a great way to orientate each other and any new staff and create an opportunity to familiarize themselves with the mutual aid agreement. Particular attention should be paid to personnel accountability systems and communication protocols.

**Recommendation:** LFRS request the Cowichan Regional Valley District take a lead role in coordinating annual mutual aid meetings and training sessions to identify and resolve any gaps.

### 4.3 Fire Service agreements

During this FDER, the only fire service agreement identified was the Town of Ladysmith Bylaw No. 543 permitting the LFRS to provide fire protection services within Electoral Area “G” in the terms of the 1972 bylaw.



## Section 5: Finance, Facilities, Vehicles and Equipment

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### 5.1 Operating Budget

During a review of the operating budget, it was found that key account operating sections are identified and tracked. Key budget line items include;

- Staffing costs (salaries & benefits)
- Training
- Vehicle maintenance
- Station maintenance
- Professional Development
- Equipment repairs
- PPE

Overall, there were no concerns with the budget line items other than clarification should be made on the fire inspection services identified within the budget and whether this line item is for Fire Chief duties or for Fire Inspections.

#### 5.1.1 Policy Framework

Most elected officials are not aware of the costs associated with operating a fire department and unfortunately in many cases a Fire Chief does not properly educate elected officials on the true costs associated with equipping firefighters with PPE, as well as maintaining and repairing equipment and apparatus. During municipal budget deliberations departments are essentially in a competition for their piece of the budget pie and the departments that have clearly defined objectives such as those laid out in a community plan, will have more likelihood of getting these scarce budget resources.

The Fire Chief is responsible for educating the elected officials on not only the associated costs of operating a fire department, but more importantly, explaining “why” these costs are necessary for the operation of the fire department and the safety of citizens in the community. Elected officials are more open to approving budget requests when the benefits to the community are clear. The importance of a bylaw that identifies the services provided by the fire department is a key step in acknowledging the importance of the



services provided by the fire department and the approval of budget requests based upon sound business planning.

### 5.1.2 Controlling Costs

More municipalities are recognizing the benefit of joint purchasing power where several fire departments will standardize or consolidate their high value items such as fire apparatus, turnout gear, SCBA and fire hose. When two or three fire departments jointly issue a tender for fire apparatus, turnout gear, or SCBA, they have more purchasing power and can get a better deal from vendors. Fire departments are able to save significantly in terms of costs and time when they agree upon a design and specs for a Pumper or Ladder truck and the financial savings are generally in the tens of thousands of dollars.

## 5.2 Capital Forecast

The LFRS does have a capital reserve fund for the fire department that is allocated specifically for equipment and vehicle purchases. There is no formal fleet replacement program or reserve funding for apparatus replacement and the Town usually borrows for larger capital ventures.

Communities differ on how they fund and plan for large capital purchases like a fire truck, and it is essential that the community knows when a fire truck is scheduled for replacement so it can be planned for and discussed during budget deliberations.

**Recommendation:** The LFRS develop a long-range equipment and apparatus replacement program based upon the expected life cycle for SCBA, extrication tools, medical equipment, personal protective equipment and fire apparatus.

## 5.3 Facilities

Fire stations should be located to achieve the most effective and efficient manner for fire apparatus to respond. The LFRS station is located at 340 6<sup>th</sup> Avenue and was built in 1972. Since that time three significant renovations occurred including seismic upgrades, a new roof and extension of two bays. The general life cycle of a fire station is 50 years as requirements and building standards change over time and maintenance issues regularly occur.



One of the concerns with older fire stations is that a fire department housing modern fire apparatus such as Pumper, Rescues and Ladder trucks becomes overcrowded with equipment and apparatus. Older stations were not designed or intended to house today's modern and larger sized apparatus. As noted in the figures below it is evident that LFRS apparatus is squeezed into the existing fire station.



Figure 21 Apparatus clearance



Figure 22 Station front door clearance



Figure 23 Station door clearance

There is evidence that space is a premium within the fire station and with the station being 49 years old, consideration should be given to formally start planning for a newer fire station within the next 5-10 years or plan to upgrade the station to meet the future needs of the LFRS.

Renovations to the existing fire station can be costly and a case can be made to replace the fire hall versus renovate an older building that does not meet current best practices in





station designs. A new fire station is a significant investment for the Town of Ladysmith and it is beyond the scope of this report to provide an estimate on renovating the existing fire station or building a new one.

### 5.3.1 Fire Station Options

Many municipalities today are exploring avenues for partnerships to decrease costs of building a new fire station and integrating other agencies or municipal services into a multi-functional building that houses the fire department. The move away from a stand-alone fire station is gaining traction as communities are challenged to be innovative and financially responsible while continuing to provide a high level of service to their community.

In 2019 the City of Vancouver partnered with the YWCA Metro Vancouver to build Station #5 that houses the fire department on two floors with the upper four floors being allocated for affordable housing for single mothers and children.



Figure 24 Vancouver Station 5

Sidney, British Columbia has a community safety building which houses the Fire Department and EMS and identified below.



Figure 25 Sidney FD/EMS station

In 2018 the City of Estevan (*picture below*) was able to utilize a former car dealership and retrofit the building for the fire department.



Figure 26 Estevan FD



The fire station for the Leduc Fire Department houses fire apparatus, ambulance and the RCMP. This multi-use building is an example where the municipality can also partner with the Federal government.



Figure 27 Leduc Fire/RCMP Station

Partnerships with non-profit organizations, public private partnerships or leasing of available commercial space are options for a new fire station and municipalities are becoming more innovative in how they incorporate a fire station into the community. This model may not work or be a fit in every community but these options are worth exploring in order to decrease costs and increase community partnerships.

Based out of Lethbridge, AB, **EXTREME** fire stations is a new concept designed upon a modular based building that is built in a factory and transported to the site. These buildings meet seismic and building code standards and use high efficiency, energy code compliant HVAC systems and fire suppression systems.





Figure 28 Extreme Fire Station multiple bay



Figure 29 Calgary FD Walden Fire Station

In 2020 the City of Calgary placed into service Walden Fire Station 43. The West Conrad station is a concept example of the diversity of EXTREME fire station designs and how they can be designed and expanded to meet the customer's needs. A two-bay Extreme fire station option with appliances, diesel extraction system, exercise room and administration space are estimated to be \$2.4 million with each additional bay adding approximately \$700,000 to the build cost.<sup>24</sup>

**Recommendation:** The Town of Ladysmith investigate the costs of renovation and upgrading for the existing fire station; or look at a multi-purpose fire station where a partnership can exist with another agency, non-profit, municipal services or government agency and plan for a new fire station within the next 5-10 years.

## 5.4 Fire Underwriters Survey

The Fire Underwriters Survey (FUS) has developed an insurance grading for fire apparatus. "To help establish appropriate fire insurance rates for residential and commercial properties, insurance companies need reliable, up-to-date information about a community's fire-protection services. Fire Underwriters Survey provides that information through the Public Fire Protection Classification (PFPC) and Dwelling Protection Grades (DPG) insurance grading systems."<sup>25</sup>

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<sup>24</sup> Costs have escalated throughout 2020-2021 due to the price of metal and building supplies.

<sup>25</sup> Fire Underwriters Survey, Grading and Recognition; downloaded <https://fireunderwriters.ca/Grading/Grading--Recognition>.



Public Fire Protection Classification (PFPC) which ranks a community's ability to combat a major fire such as commercial, industrial, multi-family residential and institutional. This is a complex and detailed grading criterion that is ranked on a scale of 1 to 10 where Class 1 represents the highest level of protection and Class 10 represents the absence of an effective fire protection system.

The FUS establishes the Dwelling Protection Grade (DPG) on a numerical system scaled 1 to 5 where the grading reflects the ability of the community to handle small fires such as single-family dwellings.<sup>26</sup> A grade 1 is the best ranking for DPG fire protection and grade 5 is low where the community has very little if any fire protection.

The overall grading process includes a risk assessment, water supply, fire department and fire safety control within the community. The FUS employs the following benchmarks to calculate the PFPC;<sup>27</sup> The overview of the FUS weighted criteria is based upon:

**Table 1 FUS Weighted Criteria**

Feature	Weight
Fire Department	40%
Water supplies for firefighting	30%
Fire Safety Control-Prevention	20%
Fire Service Communications	10%

The risk assessment is a general measurement of the speed that the fire department can response with sufficient resources to control a fire. The severity of the event is based upon building stock such as size, construction, exposures, occupancy and fire protection systems and the weighted criteria consists of the following;

**1) Fire Department (40%)**

- Number of pumper and ladder trucks
- Distribution of apparatus
- Apparatus design and conditions

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<sup>26</sup> Fire Underwriters Survey, <https://fireunderwriters.ca/Grading/Dwelling-Protection-Grade>

<sup>27</sup> Fire Underwriters Survey, <https://fireunderwriters.ca/Grading/Public-Fire-Protection-Classification>



- Personnel training
- Training programs
- Response coverage
- Equipment quality
- Pre-fire planning
- Record keeping
- The FUS will also review and take into account mutual and automatic aid agreements, contract for fire suppression service agreements and joint agreements between communities.

## **2) Water Supplies for firefighting (30%)**

- An analysis of the water system including the source, supply and distribution to the hydrant.
- Capacity to provide required fire flows (the amount of water required to confine and control, structural conditions such as construction, number of stories, occupancy, hydrant flow testing and records, etc.)
- Adequacy and reliability
- Redundancy and looping
- Hydrant distributions, spacing and maintenance (valve maintenance programs, engineering studies, etc.)

## **3) Fire Safety Control (20%)**

- Permanent or part time staff assigned to fire prevention
- Fire prevention program and code enforcement
- Building inspections
- Public education program
- Pre-plan program

## **4) Fire Service Communications (10%)**

- Means of transmitting alarms by the public
- Means of alarm dispatch and dispatching
- Radio communications



- The FUS grading system helps communities to plan, budget and justify improvements in the water distribution system, fire department and fire prevention budgets and a provides a cost benefit to communities that have a recognized grade and to those that can improve their grading.

A well rated fire department in terms of apparatus, staffing, training, fire prevention and fire safety control make up 60% of the grading system and benefit the community in more ways than just the provision of fire protection service but in insurance costing as well.

According to the FUS, the Town of Ladysmith falls within the Medium Sized community with a total population of 1,000 or more and a populated area of at least 200 people per square kilometer. Based upon this category, the FUS recommends that front line apparatus have a service life of 0-15 years, and from 16-20 years the fire apparatus be delegated as a secondary unit. After the 20-year service life the FUS does not give credit in the insurance grading.

Figure 30 FUS Apparatus Grading

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

1. 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)

2. 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

3. 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.

4. 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.

5. 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.



**Note: Fire Underwriters Survey 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, and  
***Reserve is the vehicle kept in the fleet to be put into service if the 1<sup>st</sup> line or 2<sup>nd</sup> line vehicle is out of service.***
- Fire Underwriter Surveys can be contacted at a cost to provide a review and formal recommendations on how communities can improve their grade and where gaps exist.

## 5.5 Apparatus Fleet/Replacement Schedules

Part of a fire department's due diligence is ensuring that fire apparatus is maintained and tested by qualified personnel. *NFPA 1911, Standard for the Inspection, Maintenance, Testing and Requirement of In-Service Automotive Apparatus* requires that fire apparatus is tested annually as per the standard.

The LFRS does not conduct annual pump testing on the apparatus and it has not been determined if this was a budgetary or scheduling issue but no records were available to confirm annual pump testing. This is concerning and leaves the Town of Ladysmith open for potential liability issues if a pump fails during a fire incident.

Due to the significant costs involved in replacing fire apparatus, municipalities strive to ensure that a capital reserve fund exists with annual contributions for future apparatus replacement and future infrastructure upgrades or replacement.

An exception to the service age of the apparatus may be considered by the FUS and the Town of Ladysmith would need to contact the FUS to request and successfully pass the requirements as laid out by the FUS.



Figure 31 LSFR Apparatus Replacement Schedule

Apparatus	Service Life-2021	2021	2022	2023	2024	2025	2033	2038
Unit 6 (1995) Chevy 1500	26	50,000						
Ladder 1 (1997) E-One	24		1,500,000					
Engine 2 (2005) Spartan Pumper	16					600,000		
Command 1 (2007) GMC Yukon	14		60,000					
Utility 5 (2012) Ford F-550	8					60,000		
Rescue 1 (2013) Spartan Metro Star	8						500,000	
Engine 3 (2018) Spartan Pumper	3							600,000
<b>Total</b>		<b>\$50,000</b>	<b>\$1,560,000</b>	<b>\$0</b>	<b>\$0</b>	<b>\$660,000</b>	<b>\$500,000</b>	<b>\$600,000</b>

Based upon the existing fire department apparatus it is critical that the Town of Ladysmith consider creating a capital reserve fund for the fire department. This obviously has to work within the parameters set out by Council but knowing when apparatus reach their service life will help the Town of Ladysmith for long term capital budget planning.

### Ladder 1 Service Cycle

Ladder 1 is a 1997 E-One Cyclone and is 24 years old. As noted by the FUS this truck should be annually tested by a third party and replaced when it reached a 20-year service life. The ladders must be load tested and the pump must be tested to ensure that it meets its pumping capacity. The replacement of this ladder must be a priority and the appropriate pump and ladder testing should be conducted early in 2021. The delivery date for an aerial apparatus can range from 18-24 months and if a requisition was approved for a new ladder truck in June 2021, the forceable delivery date would be December 2022 but more likely delivered before June 2023.

The acquisition of a \$1.5-1.8 million dollar piece of apparatus is not to be taken lightly and



is generally the most expensive apparatus a fire department will own. Due to the anticipated delivery date of a ladder truck, the LFRS and Town of Ladysmith need to prioritize and create a team to identify the specifications for the apparatus design. The project team should:

- Conduct research in the current and projected needs of the community.
- Determine whether a ladder or a platform aerial will best meet the needs of the community.
- Consult with other fire departments and solicit their unbiased feedback.
- Ensure the design requirements fit the fire hall and apparatus bay. (Far too often modifications have to be conducted to the fire hall or front apron due to the size of the new ladder truck).
- Consider specific maintenance requirements and how the Town of Ladysmith can meet those requirements.
- Determine if a manufacture's demo unit could meet the needs of the community. A demo unit generally can be acquired at a better price, but caution must be exercised here as the temptation to save taxpayer dollars may result in the procurement of a truck that does not fit the needs of the fire department or community.

The Town of Ladysmith could immediately issue a Request for Information (RFI) to get responses from apparatus manufacturers on their aerial designs, anticipated costs and projected delivery dates. Upon receipt of this information the Director of Finance, CAO and the Fire Chief can determine the best option to seek capital budget approval and once approved by, a formal Request for Proposal (RFP) could be released.

The Town of Ladysmith does not have a fire department capital reserve fund and there is a sense of urgency in replacing Ladder 1 as it has exceeded the 20-year service life as identified by the FUS and a delivery of a replacement in 2023 will take Ladder 1 into a 26-year service life.

As noted by the FUS, there is no insurance credit granted for apparatus exceeding a 20-year service life unless an exception is granted. It is highly unlikely an exception would be granted for Ladder 1 as no records of annual pump or ladder testing exist and an





application should have been made to the FUS prior to Ladder 1 reaching a 20-year service life.

## 5.6 Self Contained Breathing Apparatus

The LFRS has MSA M7 FireHawk air-paks in service and has a mixed inventory of 2216 psi carbon fiber and aluminum cylinders in inventory. The fire department also has a total of thirteen 4500 psi cylinders with 60-minute cylinders and spares that are for HazMat incidents. The SCBA are flow tested annually as per NFPA standards and the fire department has a tester where inhouse flow testing can be conducted.

## 5.7 Turnout Gear

The manufacturers life cycle for turnout gear is 10-years and the LFRS strives to replace 4 sets of gear annually. This is the practice of many fire departments as cycling out all of the turnout gear at once can become cost prohibitive.

*NFPA 1851, Standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting* identifies those routine inspections are conducted after each use and advanced inspections of the turnout gear are conducted annually.

**Recommendation:** The LFRS implement a policy that identifies the routine and advanced inspection requirements for turnout gear as identified in NFPA 1851 with all turnout gear being inspected annually and accompanied with supporting documentation for the inspections.

## 5.8 Financial Management Summary

The need for properly trained firefighters, apparatus, personal protective equipment, communications and a fire station will place demands upon the municipality. If these elements are not sufficiently funded, it can place human life (firefighters and the general public) at risk and the valuable properties and critical infrastructure in a community at greater risk of fire or emergency.

The role of the Fire Chief is to present business cases for budget requests to elected officials so educated decisions can be made for short- medium and long-term financial planning for the services identified in the bylaw.





## Section 6: Core Services

### 6.1 Interior Fire Service Level

The LFRS is an interior operations department which permits it to engage in interior structural firefighting operations for single family dwelling or other small structure. As per the Playbook, an interior operations department can also engage in structural firefighting operations in complex structures that the department has assessed and pre-planned for. It's critical to note that hazards and risks in larger complex structures must be assessed by the LFRS with firefighter's trained specifically for these hazards.

### 6.2 Motor Vehicle Extrication

The LFRS was one of the first fire departments in the area with hydraulic rescue tools and historically members have been exposed to a large number of fatalities on the highways. The fire department has several members with extensive experience in auto extrication who also assume the leadership roles in training others in the department. Motor vehicle incidents ranks as the top emergency incident for the department as the LFRS responds to these incidents on the 11km stretch of highway between Nanaimo and Victoria and there is nothing to indicate that this trend will change in the near future. The surveys rank this as the second top service provided by the fire department and members are extremely satisfied with how they provide this service to the public.

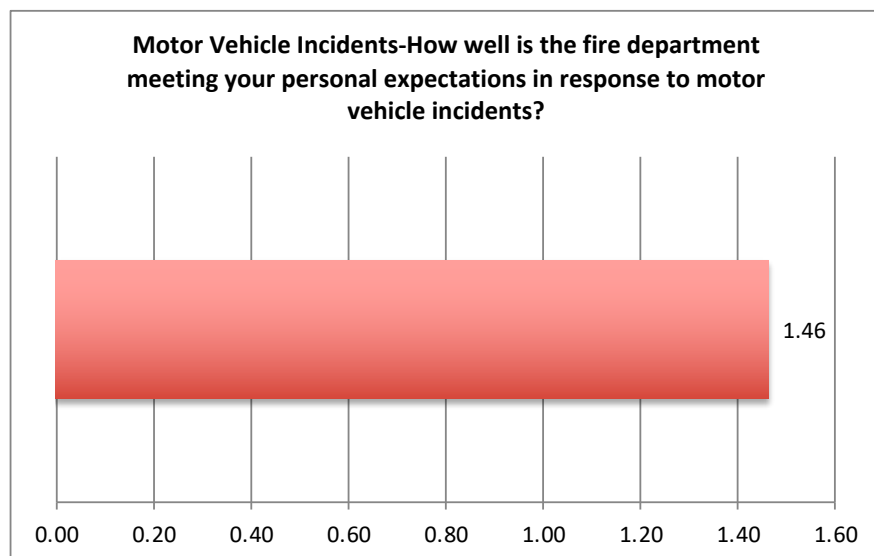


Figure 32 Motor Vehicle Response survey result



## 6.3 Hazardous Materials

The LFRS maintains an “operational level” of training for hazardous materials as they are responsible for the 11km stretch of highway between Nanaimo and Victoria. Although these incidents only make up 4% of the total call volume, these are low frequency events with high consequence potential.

## 6.4 Confined Space/Rope Rescue

The LFRS is the designated rescue team for the Town of Ladysmith for its confined spaces and functions as the standby team when town employees are working in a confined space and also provides this service to industry. Confined space training is a technical rescue skillset that requires continuous training and is another low frequency, high consequence event that has taken the lives on many good Samaritans and rescue personnel.

**Recommendation:** The LFRS and the Town of Ladysmith develop a clear policy or contract for continuing to standby for confined space/rope rescue service to industry.

**Recommendation:** LFRS should identify specific members for a confined space team and develop a training schedule for this service.

## 6.5 Public Fire & Life Safety Education

The Fire Chief and two lieutenants conduct the majority of fire and life safety education sessions and based upon feedback it appears to be more of a hit and miss or conducted on an ad hoc basis. The *NFPA 1035 Standard on Fire and Life Safety Educator, Public Information Officer, Youth Firesetter Intervention Specialist, and Youth Firesetter Program Manager Professional Qualifications* identifies fire and life safety education as a “comprehensive community fire and injury prevention program designed to eliminated or mitigate situations that endangers lives, health, property or the environment.”

As noted in the Ontario Fire Marshals Comprehensive Fire Safety Effectiveness Model, the first line of defense is public education and prevention, and when resources are specifically assigned to this activity, the community is better prepared while the fire department educates and reduces incidents of fire and property damage.



The survey analysis indicated that members of the LFRS are moderately satisfied with how this service is provided and the overall survey ranks this service as 8<sup>th</sup> out of 11 for priority.

## 6.6 Fire Inspections

Currently the records for fire inspections are filed as hard copies. To ensure that consistent records are kept for all fire inspections, the LFRS should utilize a records management system to track, log, and provide reminders of inspection follow ups and due dates.

Feedback throughout the FDER process indicated that fire inspections are a challenge. The pandemic halted fire inspections for a period of time, however no formal schedule exists for the inspection of high-risk occupancies, commercial kitchens, day care or long-term care homes. Some inspections occur after a complaint is brought forward, but this is a reactive process and should be corrected.

- ***High-Risk Occupancy-*** An occupancy that has a history of high frequency of fires, high potential for loss of life or economic loss, or that has a low or moderate history of fires or loss of life but the occupants have a high dependency on the built-in fire protection features or staff to assist in evacuation during a fire or other emergency. High risk occupancies should be inspected annually.
- ***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. Medium risk occupancies can be inspected every 2-years.
- ***Low-Risk Occupancy-*** An occupancy that has a history of low frequency of fires and minimal potential for loss of life.<sup>28</sup> Low risk occupancies can be inspected every 3-years.
- ***Critical Infrastructure-*** This is to be determined by the AHJ.

NFPA 1730, states that a Community Risk Assessment (CRA) forms the foundation for the development of fire prevention inspections and code enforcement. The CRA includes the following profiles;

- Demographics

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<sup>28</sup> NFPA 1710, *Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations* 3.3.3.1-3.3.3.3



- Geographics overview
- Building stock
- Fire experience
- Responses
- Hazards
- Economic profile

The profile data for the Town of Ladysmith and information from the CRA will identify risks facing the community and create the foundation for fire inspection and public safety education schedules and programs to be prioritized and developed.

The second line of defense is fire inspections, code enforcement and regular fire inspections must occur so the enforcement of fire codes occurs.

Fire inspections and public education are key factors in reducing risk and fires in a community and as recognized by the surveys, these areas are not a priority for LFRS members as the time to devote to these activities isn't there, but it is clear the community stakeholders expect it.

***Recommendation:*** Council consider increasing the Fire Chief to a full-time position in order to maintain and conduct annual fire inspections, prevention and education and oversee all aspects of the fire department.

## 6.7 Fire Investigations

The Fire Chief has historically been responsible for fire investigations and every fire must be investigated to determine the cause and origin. For basic residential structure fires it can be a quick formality to determine the cause and origin, but not in all cases and unless an individual is routinely conducting fire investigations, they may miss some key evidence or facts and make an incorrect determination. The LFRS can and should rely upon the Office of the Fire Commissioner for fire investigations that are complex in nature.

## 6.8 Juvenile Fire Setter Intervention Program

This program can be delivered by the Fire Chief and one of the Lieutenants but they have not had to deal with a juvenile fire setter for several years. For the most part a simple



education and intervention resolves the problem or curiosity of the child and having trained personnel in the LFRS to deliver this program is an asset to the community.

## **6.9 Wildland/Urban Interface Firefighting**

In the surveys and SWOT analysis there was concern or questions regarding the progression of new developments into a wildland/urban interface. The LFRS has the equipment and training to be able to respond effectively to these incidents and has several officers trained as Wildland Firefighter Level I trainers.

## **6.10 Child Restraint Safety Technician**

The appetite to deliver this program has declined as members do not have the time. The service is provided if a community group requests it, but overall, this program is not a priority for the department at this time.

## **6.11 Fire Extinguisher Training**

The fire department uses a Bullex fire extinguisher system to train Town staff, recruits and an organization upon request. The department will also use flammable liquid (Class B) fires to train new recruits.



## Section 7: Community Safety Options

### 7.1 Residential Sprinkler Systems

Residential Sprinklers reduce the risk of serious injury to both civilians and firefighters and will control a fire before the fire department arrives. Fires controlled by sprinklers are more likely to be confined to the room of origin than fires in properties without sprinklers. Working smoke alarms provide an essential early warning yet they cannot control the fires. Sprinklers can, and do.”<sup>29</sup>

Residential sprinkler systems are one part of a total fire prevention system of safety where smoke alarms (early detection) plus early suppression (sprinkler system) and a quick evacuation (practiced drills) reduce fatalities and harm to the public. In October 2017, a study titled, *Sprinkler Systems and Residential Structure Fires; Revisited: Exploring the Impact of Sprinklers for Life Safety and Fire Spread* was published by the University of the Fraser Valley. The study



Figure 33 Residential Sprinklers

analyzed data from 439,256 fire incidents in Canada and found that 97% of the fires occurring in residential buildings without sprinkler protection resulted in 99.2% of the fire deaths. The study also recognized that in the absence of fire sprinkler protection the death rate per 1,000 more than tripled that of sprinklered homes.

Research continues to identify that today's residential fires burn hotter and faster due to the composition of modern furnishings and synthetic materials. These hotter and faster growing residential fires pose challenges for firefighters as suppression and rescue times are significantly decreased and an offensive, quick, aggressive interior attack is one of the most

<sup>29</sup> Sprinkler Systems and Residential Structural Fires-Revisited: Exploring the Impact of Sprinklers for Life Safety and Fire Spread, Revised February 2018. University of the Fraser Valley, School of Criminology & Criminal Justice.



effective strategies to reduce the loss of lives and property damage. The fire service has recognized the importance of a quick response by a well trained and equipped fire department, but the general public may not be aware of the decreased time they have to exit a residential structure fire.

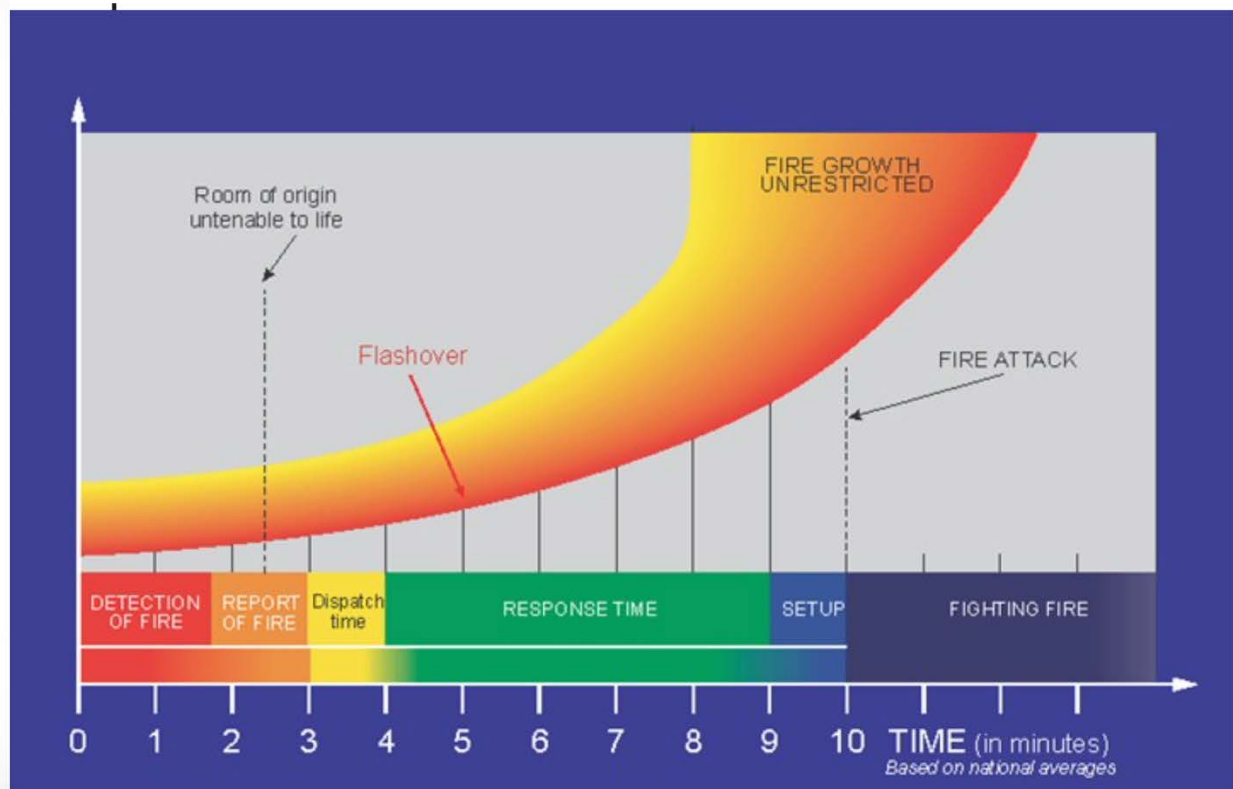


Figure 34 Fire Time Curve without Residential Sprinklers

Through a \$1.2 million dollar study the National Institute of Standards and Technology (NIST) identified that today's fire service must change their strategies and tactics when fighting modern residential structure fires. The NIST recognized that there isn't a "one tactic" solution for every residential fire scenario and firefighters will need to choose from horizontal, vertical or positive pressure attack depending upon the situation. And, the ability to choose and change tactics is determined by the level of training by the officers and firefighters that arrive on scene.

A residential sprinkler will activate prior to a fire growing into flashover conditions. A flashover is the point when the entire room and its contents ignite resulting in a fully involved room and contents fire with untenable hot gases and fire from floor to ceiling.





These conditions are not survivable and the studies have been conducted where flashover can occur within minutes after a smoke alarm is activated.

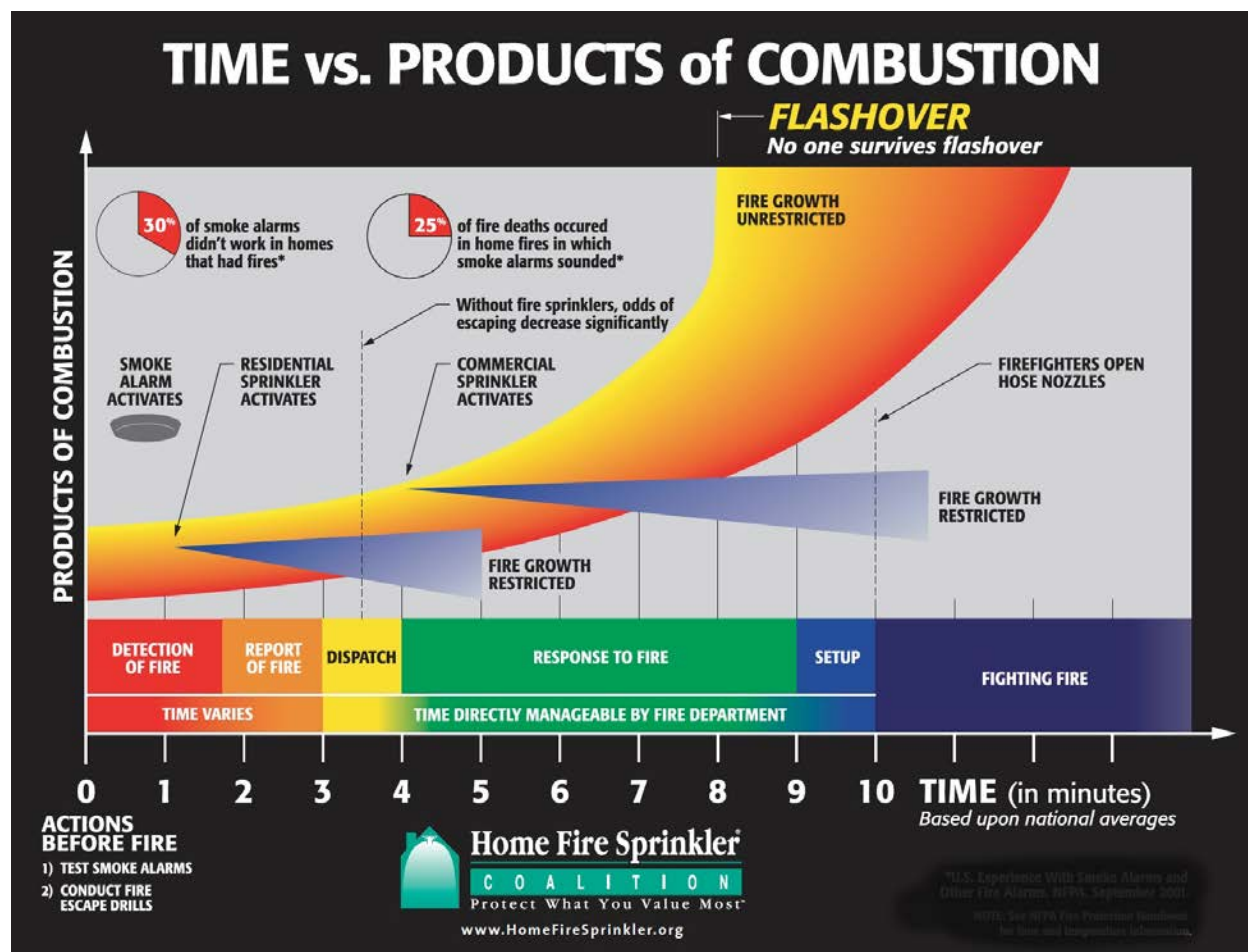


Figure 35 Fire Time Curve with Activated Residential Sprinkler

A residential sprinkler system does not replace the need for effective fire department staffing and a quick response time, rather it is part of a fire prevention system to reduce fire related deaths and property damage. The issue here is not whether residential sprinklers save lives because evidence demonstrates they do, and the Town of Ladysmith can investigate the feasibility of incorporating residential sprinklers into the community.

#### 7.1.1 Residential Sprinklers, Pitt Meadows, British Columbia

The City of Pitt Meadows, B.C. has had a regulation for residential fire sprinklers since 1991. In 2012/2013 there were three fires in multi-family apartment units where the residential sprinklers rapidly extinguished the fires with minimal water damage. The City of Pitt





Meadows is a great example for the successful implementation and mandate for residential fire sprinklers in the city.

### *7.1.2 Residential Sprinklers, Swift Current, Saskatchewan*

The City of Swift Current has a Building Bylaw #7-2010 that requires residential fire sprinklers to be installed in residential dwellings that are constructed outside a 10-minute intervention time from the fire hall.

### *7.1.3 Chilliwack, British Columbia*

If a residential dwelling is outside of a 10-minute intervention time from either of the two career staffed fire departments in Chilliwack, the residence is to be sprinklered.

### *7.1.4 Residential Sprinklers Environmentally Friendly*

In 2009 the Home Fire Sprinkler Coalition (HFSC) partnered with FM Global, one of the world's largest commercial property insurers, to identify and evaluate the environmental impact caused by home fires. With the growing concern of protecting the environment and reducing greenhouse gas emissions FM Global conducted full-scale tests to identify the environmental impact of sprinklered and non-sprinklered home fires. Interestingly, the testing identified that there were significant positive environmental impacts of sprinkler systems;

- Greenhouse gas emissions were cut by 97.8%.
- Water usage was reduced between 50% and 91%.
- Fewer persistent pollutants, such as heavy metals, were found in sprinkler wastewater versus fire hose water.
- The high pH level and pollutant load of non-sprinkler wastewater are an environmental concern.

Residential sprinkler systems can reduce the amount of water run-off and pollution, reduce fire damage by up to 71%, and reduce the amount of water used to fight a residential fire by as much as 91%. <sup>30</sup>

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<sup>30</sup> Ontario Association of Fire Chiefs



### 7.1.5 Residential Sprinkler Summary

Residential sprinklers have been proven to extinguish fires in the early stages and significantly reduce fire related casualties. The information provided here in this FDER is to provide options for the Town of Ladysmith and the LFRS to consider as the Town continues to grow and response times get longer.

## 7.2 High Intensity Residential Fires

A high-intensity residential fire (HIRFs) has been defined as fires involving rapid heat release and fire spread beyond the point of origin that usually involves adjacent buildings. These fires typically include the early exposure of large amounts of combustible materials, such as;

- Occupied residential buildings,
- Unoccupied residential buildings that are under construction, and
- A mix of occupied and under-construction residential buildings.<sup>31</sup>

The Alberta government includes HIRF requirements in the Alberta Building and Fire Codes and are intended to be in place where a fire department cannot respond to a fire in less than 10 minutes. Buildings must have additional protection to slow the spread of fire and give the fire department those few minutes to arrive on scene, deploy resources and suppress the fire before it spreads out of control. The HIRF requirements provide for additional fire protection from non-combustible siding, exterior gypsum board, no side-yard windows or the use of residential sprinkler systems.

## 7.3 Wildland Urban Interface

Ladysmith is surrounded by hills and forest and as it expands it is expected that more residential structures will be located in the wildland urban interface. The wildland urban interface can be described as neighborhoods being located in close proximity to dense forest.

As noted earlier, the HIRF identifies that buildings must have additional protection to slow the spread of fire and give the fire department those few minutes to arrive on scene to

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<sup>31</sup> High Intensity Residential Fires Working Group: Final Report, downloaded <https://open.alberta.ca/dataset/high-intensity-residential-fires-working-group-final-report>



begin fire suppression efforts. The *NFPA 1144 Standard for Reducing Structure Ignition Hazards from Wildland Fire* the following sections state:

- **Fire Resistive:** Ignition-resistant construction methods using building materials and design features that reduce the vulnerabilities of buildings to ignite from wind-blown embers (firebrands) and other wildfire exposures.
- **3.3.13 Ignition-Resistant Material.** A type of building material that resists ignition or sustained flaming combustions.
- **3.3.23 Structure Ignition Zone.** The area around a specific structure and associated accessory structures, including all vegetation that contains potential sources and fuels.

With climate change it is anticipated that wildfires will increase and the LFRS should promote preventative measures such as FireSmart to reduce property loss and fire occurrences.

**Recommendation:** The Town of Ladysmith identify the geographical areas that are outside a 10-minute response timeframe from the fire department and investigate the feasibility for new construction to meet the NFPA 1144 standard or HIRF requirements.

## 7.4 Community Risk Assessment

During the consultation process members of Council recognized the challenges facing the fire department regarding community growth, available resources, response times and wildland urban interface fires.

A community risk assessment (CRA) will provide the LFRS and Town Council critical information so informed decisions can be made about the levels of service provided to the community. The CRA is an in-depth analysis of the risks in the community and prioritizing them based upon the probability of the event happening. Without understanding the real risks in a community, the Fire Chief and Town Council cannot make informed decisions, and will rely upon past decision-making processes, which tends to lean towards a reactive approach to decision making.

The NFPA standards place significant emphasis on evaluating a community's' risk and implementing preventative measures because identification of the community risks enables



the authority having jurisdiction to prioritize the risks and make informed decisions about service levels.

The *NFPA 1300 Standard on Community Risk Assessment and Community Risk Reduction Plan Development* section 3.3.3 identifies a Community Risk Assessment as “A *comprehensive evaluation that identifies, prioritizes, and defines the risks that pertain to the overall community.*” In addition to this, section 3.3.4 identifies a Community Risk Reduction as the process to identify and prioritize local risks followed by the integrated and strategic investment of resources to reduce their occurrence and impact.

The *NFPA 1201-Standard for Providing Fire and Emergency Services to the Public*, section 4.3.1 states, “*The Fire & Emergency Services Organization (FESO) shall carry out a program to develop public awareness and cooperation in management of risks, based on analysis of relevant loss records and potential hazards in the identifiable physical and social sectors of the community.*”

Section 4.3.5 of NFPA 1201 further states, “*The FESO shall provide customer service-orientated programs and procedures to accomplish the following:*

- 1) Prevent fires, injuries, and deaths from emergencies and disasters
- 2) Mitigate fires, 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 and historical resources

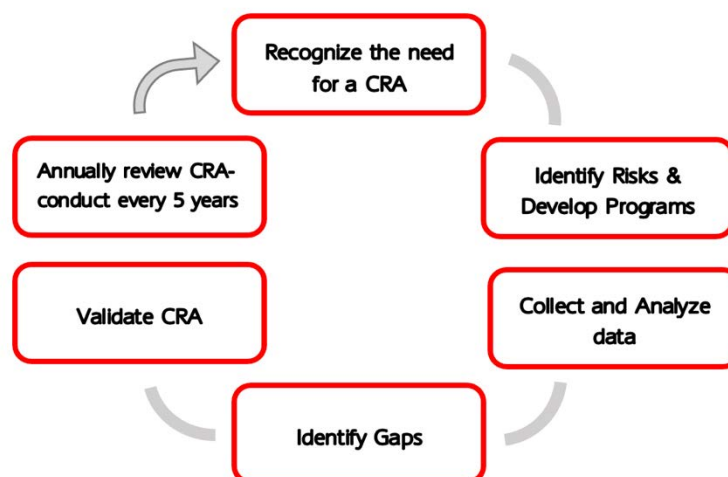
A community shall conduct a Community Risk Assessment (CRA) every 5 years or more frequently based on the community need and identify the ten (10) key community profiles that include;

- 1) ***Demographic***-age, gender, educational attainment, socioeconomic makeup, vulnerable individuals or occupancies, transient population, ethnic and cultural consideration.
- 2) ***Critical Infrastructure***- 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.



- 3) **Geographic**– waterways, highways, canyons and other landforms, railroads, wildland-urban interface, bridges and other specific features of the community
- 4) **Building Stock**– 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, historic buildings
- 5) **Public Safety Response Agencies**– how are resources distributed within the community, their deployment and usage, types of incidents responded to and the frequency of such incidents including the seasonal variations and time of day
- 6) **Community Service Organizations**– existing planning and zoning committees, schools, seniors’ organizations, ratepayers’ associations, mental-health organizations, faith-based groups, cultural/ethnic groups
- 7) **Hazards**– be they human, technological, or natural hazards
- 8) **Economic**– infrastructure, local employers and industries, institutions, community’s tax base, local attractions
- 9) **Past Loss / Event History**– 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.
- 10) **Critical Infrastructure Systems**–consideration to the impact of an event to the community critical infrastructure.

A critical risk assessment should follow a systematic approach that includes the following:





- 1) The recognition of the need to conduct a CRA for the community and to develop a Community Risk Reduction (CRR) plan.
- 2) The identification of risks and the development of programs to mitigate the risks based upon available resources.
- 3) Collect and analyze data on the community's demographics, building stock profile, geography, past loss history and the potential likelihood or anticipated future events.
- 4) Identify gaps where existing conditions are different from the desired outcomes.
- 5) Validate the CRA to ensure that it aligns with the community's acceptable level of risk, and the capabilities of resources.

NFPA 1300 defines the acceptable level of risk as the level of human and/or material injury or loss that is considered to be tolerable by a community or authorities in view of the social, political and economic cost-benefit analysis.

A CRA identifies the risks in the community and helps avoid comparisons of the LFRS with other communities as each community has very different fire risk and fire protection needs.

## 7.5 Community Risk Reduction (CRR) Plan

The development of a CRA and a community risk reduction plan will require significant time and resources. As per NFPA 1300 the strategies for risk reduction shall be placed into the following categories:

- 1) Avoid: eliminate the hazard.
- 2) Mitigate: reduce probability or impact of the risk
- 3) Accept: take no actions
- 4) Transfer: transfer the risk to another party.<sup>32</sup>

A CRR plan requires community partnerships, an individual to lead the project and support from Town Council to have a CRR plan completed based upon the community risk assessment.

The CRR plan provides the LFRS a proactive approach in dealing with and reducing community specific risks. The result of completing a CRR plan is the reduction of risk, decreased losses and less demand on resources.

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<sup>32</sup> NFPA 1300, Standard on Community Risk Assessment and Community Risk Reduction Plan Development, Section 4.2.3



***Recommendation:*** The LFRS conduct a Community Fire Risk Assessment and develop a Community Risk Reduction plan within the next 18-24 months.



## Section 8: Fire Department Surveys

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External and internal questionnaires were utilized to gather feedback and information on how the LFRS is meeting the needs of firefighters, Town Council and the community.

### 8.1 Mayor/Council Survey

The survey included ten questions that ranged from feedback on fire department facilities, strengths, weaknesses, opportunities and threats to the LFRS and what factors can be seen as impacting the fire department in the next 5 years. The survey also asked to choose what they felt were the top three issues facing the LFRS from the following list.

- ☐ Recruitment & Retention
- ☐ Budget (Operational & Capital)
- ☐ Succession Planning
- ☐ Service delivery model
- ☐ Maintaining a high level of training for firefighters
- ☐ Community growth
- ☐ Improving the mental health for firefighters
- ☐ Leadership development in the fire department

Based upon the feedback from Mayor and Town Council the top three issues impacting the LFRS are:

- 1) Recruitment & Retention
- 2) Community Growth
- 3) Budget, Maintaining a high level of training for firefighters and Leadership Development in the fire department.

The survey results identified a tie for the third issue facing the LFRS. It is apparent that Mayor and Council are aware of the challenges the LFRS faces in terms of recruitment and retention and as mentioned previously in this FDER, this is a challenge for volunteer fire departments across North America and various models exist from a full-time fire chief, part time firefighters staffing for normal work hours, to work placement programs.





## 8.2 Strengths, Weaknesses, Opportunities, Threats (SWOT) Analysis

The SWOT analysis was conducted through a questionnaire as face-to-face meetings did not occur due to the health guidelines during the pandemic. The strengths and weaknesses of the SWOT identify what is currently working well and what areas need improvement. The opportunities and threats identify what members feel are the external influencers and their impact to the fire department. Below is a summarization from the SWOT analysis.

### 8.2 (a) Strengths

- Training is progressive
- Good equipment and apparatus
- Good relationship with mutual aid partners
- Good reputation and presence in the community
- Great involvement in the community
- 

### 8.2 (b) Weaknesses

- Steeped in a strong culture
- Roles and responsibilities require a full time chief
- Recruitment of members should be more diverse
- Challenges to gain new members due to time commitments
- Fire Prevention & Education could be much stronger
- No official vision or strategic plan for the fire department
- Training to meet today's requirements is demanding on a volunteer members time.
- A lack of knowledge by civic official on what is required by today's fire service.
- Many members are limited to exterior service level.
- Limited number of members available during Monday-Friday day calls.
- 

### 8.2 (c) Opportunities

- Explore a junior firefighter program
- Look at a business plan for the department and full-time fire chief, prevention/training officer.
- Increase community involvement
- Increase communications and transparency within the department
- Improve team philosophy



- Create an environment that prepares members for future officer and leadership positions.
- Review the remuneration for members
- Improve communications and relationship with civic officials
- Progress towards officers having Fire Officer qualifications
- Increase access to town amenities for members and their families
- Develop diversity program

### 8.2 (d) Threats

- Loss of support from local businesses with firefighters on staff responding to emergencies.
- Different philosophies on how the department should be run
- Few firefighters available for day time calls
- Growing municipality will increase demand on the fire department
- Lack of analysis of services provided to the community
- Lack of diversity in the department
- Some culture norms
- Apparatus is squeezed into the fire station. Lack of space is critical.

## 8.3 Firefighter Questionnaire

The majority of members of the LFRS completed a questionnaire that provided valuable information on the Purpose, Structure, Leadership, Relationship, Rewards, Helpful Mechanisms and Attitude Toward Change. The questionnaire also provided feedback on how firefighters in the LFRS view the department's response to its core services.

The scoring from the organizational diagnosis identifies perceptions of the firefighters and which areas can be improved upon.

The organizational diagnosis identifies an understanding within seven categories:

1. **Purpose**-Mission, Goals and fire department priorities.
2. **Structure**-Workload and organizational structure.
3. **Leadership**-Fire department leadership from firefighters and officers.
4. **Relationships**-Member relationships and any unsolved conflict.



5. **Rewards**-Pay scale and other rewards.
6. **Helpful Mechanisms**-Assistance for the firefighter, information to do the job.
7. **Attitude Toward Change**-progressive, ability to grow.

This diagnosis questionnaire provides a good picture of the department through the eyes of the members and is just one element of the fire department review process. Genesis 2020 Solutions Inc., wants to thank the firefighters that took the time to complete the questionnaires and provide invaluable feedback for this project.

The organizational questionnaires provide the consultant with a high-level view of how members perceive parts of the fire department.

The organizational questionnaire is based upon a 1-7 ranking.

1-Agree Strongly  
4-Neutral

2-Agree  
5-Disagree Slightly  
7-Disagree Strongly

3-Agree Slightly  
6-Disagree

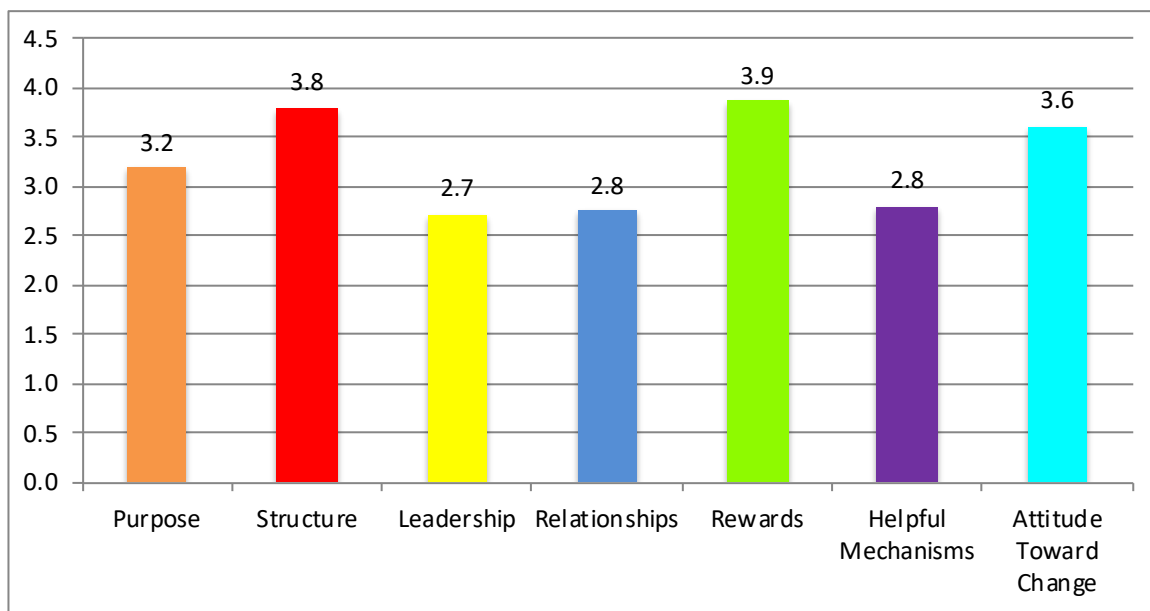


Figure 36 Firefighter Organizational Questionnaire results



### 8.3.1 Questionnaire and Survey Analysis

A review of the organizational questionnaire, surveys and SWOT analysis is provided below.

#### **(i) Purpose**

The overall ranking of 3.2 indicates that the mission, goals and fire department priorities are not clear or communicated effectively. This isn't casting blame, it a representation of how members view this organizational factor within the fire department. In the consultant's experience, if a fire department has a mission and vision statement members rarely know what it is or even know it exists.

#### **(ii) Structure**

The ranking of 3.8 was a surprise as the initial review of the surveys and questionnaires pointed out concerns with the workload and organizational structure. There was the expectation that it would be closer to a 5 or 6 ranking for this category.

There were numerous comments in the survey regarding the elections of officers and the executive structure in the LFRS.<sup>33</sup>

#### **(iii) Leadership**

A ranking of 2.7 indicated satisfaction with the leadership from officers and firefighters but a point needs to be clarified here in terms of which leadership group. Overall, the consensus is that the leadership at the Chief Officer level has improved significantly and an opportunity exists to move the department forward. Leadership was also identified as being a factor in a strong culture that needs to be more open and welcoming. There was a variance in survey results but the overall assessment is that members are hopeful that the leadership will move the department forward into a progressive fire department.

The greater the loyalty from members of the fire department the greater the motivation to achieve the goals of the department. Loyalty is driven by the connection that others feel with one another and together they unite for a common cause and for the LFRS this common cause should be focused on building and strengthening the team through strong relationships and leadership in the delivery of fire protection services to the community.

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<sup>33</sup> A recommendation has been made in this FDER to eliminate the election process within the fire department.



#### **(iv) Relationships**

The ranking of 2.8 was a result of a variance in how members answered the organizational questionnaire on member relationships and any unsolved conflict. Based upon the survey and SWOT feedback, it is noted that a strong culture exists within the LFRS. As identified previously in this document, the fire culture has a strong fraternal nature but there are times when a strong culture can also create obstacles in relationships.

**Recommendation:** LFRS consider annual team building sessions should occur that focus on building relationships and the importance of developing a culture where all members are valued for the skills and abilities that they bring to the team.

#### **(v) Rewards**

Based upon an analysis of the surveys, questionnaires and SWOT analysis there was the expectation this ranking would be much higher than the 3.9. Overall, there is a dissatisfaction with the pay scale and other rewards within the department and it is recommended that this be addressed in the immediate future. It must be stressed here and several members reinforced the point that they are not in the fire department for the pay, but an element of unfairness exists when firefighters are getting paid an hourly rate that is significantly lower than a town employee that does not require the extensive training that firefighters require. The ranking of 3.9 was the highest and indicates that members are concerned with the pay scale and lack of rewards.

**Recommendation:** Council consider directing the Fire Chief, in conjunction with the Human Resources Manager, conduct a comparative analysis of remuneration for firefighters from other paid on-call fire departments and propose a new salary rate for all positions within the LFRS service.

#### **(vi) Helpful Mechanisms**

A ranking of 2.8 indicates that overall members are satisfied with assistance received in the department and how to do their job.

#### **(vii) Attitude Toward Change**

The ranking of 3.6 was another category with a wide variance as feedback was received that there is a progressive attitude and members want the ability to grow as a department.



There was also feedback that acknowledged that the department is moving in the right direction but still has a long way to go in terms of change for the betterment of the fire department as a culture exists that is posing relationship issues internally.<sup>34</sup>

It is noted that members agreed that in the last year the department has been moving forward but there are still some areas that need improvement in terms of coaching, mentoring and guiding new members and understanding that today's fire service is built upon diversity and capitalizing on the strengths that every member brings to the department.

### **LSFR Prioritization of Core Services**

Members of the LFRS were tasked with prioritizing their core services and ranking them from a low to high priority. The 12 services were identified as;

- ☐ Fire Suppression
- ☐ Medical First Response
- ☐ Auto Extrication/Rescue
- ☐ Wildland/Urban Interface Firefighting
- ☐ Rope Rescue (steep & low slope)
- ☐ Confined Space Rescue
- ☐ Fire Inspection & Code Enforcement
- ☐ Fire Investigation
- ☐ Public Fire & Life Safety Education
- ☐ Fire Department Professionalism
- ☐ Public Relations
- ☐ Community Image

Firefighters prioritized the services as identified below.

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<sup>34</sup> Several issues have been identified in this FDER that is based upon surveys and questionnaires to firefighters, elected officials and community stakeholders. Some common themes exist in the surveys and recommendations in this FDER are intended to help address those issues.

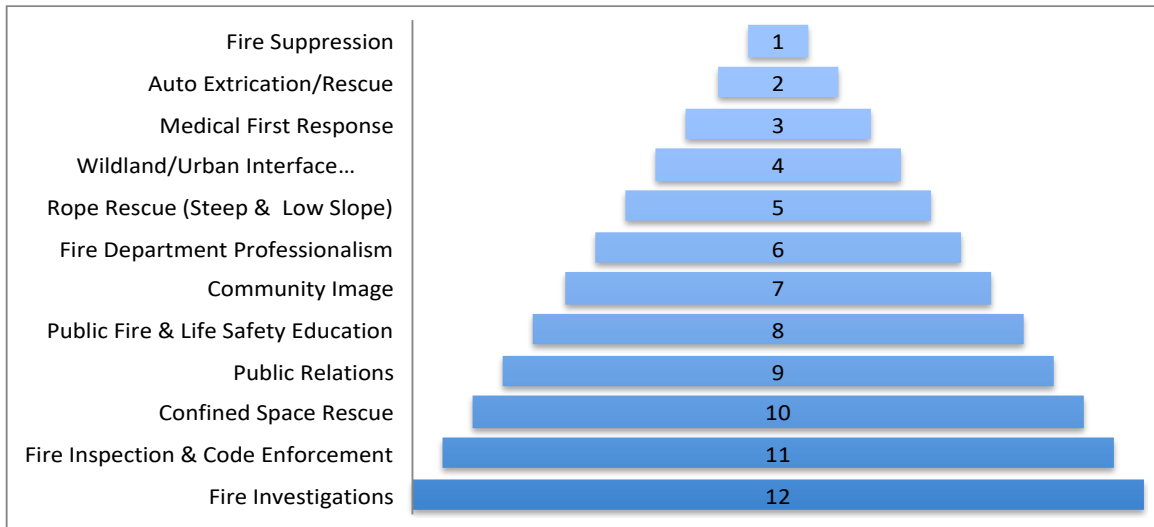


Figure 37 Firefighter Questionnaire Organizational Priorities

## 8.4 Stakeholder Survey

A stakeholder survey was utilized to get a broad picture of how the fire department's services are viewed from a community perspective. Participants were asked to prioritize the same core services identified in the firefighter survey.

The results from the community stakeholder survey prioritized the services as identified below.



Figure 38 Stakeholder Organizational Priorities



## 8.5 Analysis Summary

The organizational diagnosis questionnaire, surveys and SWOT analysis are tools that help paint a picture of the department from the viewpoint of its members, members of Council and the community. With the sample sizes of the surveys, the analysis is essentially an observable tool that provides some insight into issues that exist in the fire department and gaps that need to be addressed.

The internal and stakeholder prioritization of services is similar for the top four services; fire suppression, wildland/urban interface, auto extrication and medical first response, but community stakeholders place a higher priority on fire inspections and public fire and life safety education. Based upon feedback during this FDER, it is speculation that the community stakeholders may not realize that a full-time fire inspector and life safety educator does not exist in the fire department and these services tend to become a lower priority simple because the resources are not available.





## Section 9: Constitution and Bylaws

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### 9.1 Overview of Constitution and Bylaws

The project scope included a review of the fire department administration and fire department organization. A review of *Bylaw No. 832, Burning Regulation Bylaw 1380, Bylaw 1815, Cowichan Valley Fire Department Mutual Aid Agreement* and the *Fire Chiefs Bylaw 749* was completed.

As stated earlier, this FDER focuses on how the people (fire department staffing), product (what the fire department provides in terms of services) and processes (how the services are delivered through support from the Town of Ladysmith) may require realignment for the long-term success of the fire department. This section will point out some concerns with the bylaws and constitution of the LFRS.

The comments in this section are based upon an analysis of the constitution, bylaws, results and feedback from the surveys, questionnaires and SWOT analysis and is not to be interpreted as legal advice. The Town of Ladysmith should consult with its legal counsel to review this section prior to implementing changes.

#### *(i) Provision of Fire Protection Services*

The provision of fire protection services appears to be shared among several documents and is not specifically identified in a municipal bylaw. A municipal bylaw identifies the authority for the fire department to provide services inside and outside of the jurisdictional boundaries. A fire services bylaw should include sections that address the establishment of the fire department, duties of the fire chief, fees for service, agreement for services, fire inspections and compliance, prevention and suppression of fires, hazardous substances (underground storage tanks, etc.) and offences and penalties.

#### *(ii) Article 2-Officers and Election of Officers*

The constitution identifies the election of the Fire Chief, Deputy Fire Chief, Chief Training Officer, Captain and Lieutenants. John Benoit (1996) "Officer election leads to lots of



politicking. Picking a fight with city hall becomes one strategy to ensure election.”<sup>35</sup> Historically many volunteer fire departments elect officers and even members are voted in when they join or pass probation and there are concerns with liability for the fire department and Town of Ladysmith.

It is generally accepted in the fire service that elections become popularity contests and sometimes the wrong person gets elected. This wrong person may be well liked by the membership but does not possess the necessary skills, knowledge, abilities or leadership traits for the role and could lead to harm of a firefighter, a member of the public or significant fire loss during an incident.

An individual may get elected because of their willingness to take on “city hall” and fight for the interests of the membership. This is obviously the wrong path to follow as this will lead to a lose-win scenario and cause a breakdown in relationships when a key part of the fire service is focused on building, fostering and maintaining relationships.

The fire service is seeing a trend when volunteer members are no longer just pulling fire hose and spraying wet stuff on the red stuff; they are educated, trained and have skills to do the job. An election could potentially lead to a claim of discrimination if a member with the professional qualifications is bypassed because they may not know how to politic or are new to the fire department.

The voting of members is generally endorsed by those that are in a position to win an election for an officer position, but there is little doubt that a voting system can divide a fire department and break down the team environment. The voting of the most popular person can and does often lead to the perception of the “old boys” club and the closed-door keep out impression given by the fire department. This is not to say this is intentional, but perception is reality and people talk in a community and any indication of the “old boys” club for a fire department is certainly going to impact the recruitment and retention of members.

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<sup>35</sup> Benoit, J., Perkins, K (1996) *The Future of Volunteer Fire And Rescue Services: Taming the Dragons of Change*. P.24



If the election of officers is to continue, there needs to be accepted standards that determine whether an officer is qualified or not. The only position in the LFRS Constitution that identifies any type of stipulation for qualifications is for the position of Lieutenant where Article 2-3 states, “To hold the position of Lieutenant, a member must be with the fire department for a period of at least five (5) years, including the probationary period, excluding leaves. Up to 3 years firefighting experience with an Interior or Full-Service level fire department *may be* (italics added) considered as part of the five (5) years. This will be decided by the Fire Chief or his/her designate.” It is important to note here that Article 2-3 does not specifically identify qualifications as this member just has to have experience with an Interior or Full-Service fire department.

More interesting in the Constitution is Article 2-4, “To hold the position of Captain, Chief Training Officer or Deputy Fire Chief a member must be or have been a Deputy Fire Chief, Chief Training Officer, Captain or Lieutenant *with* (italics added) Ladysmith Fire Rescue.” Article 2-5 states, “To hold position of Fire Chief you must presently be or have been, Fire Chief, Deputy Chief, Chief Training Officer or Captain of Ladysmith Fire Rescue.” What these two clauses highlight is that you just need to put in your time and get into an officer position via the election process and you can work your way up to the Fire Chief level without ever having attained any qualifications to do the job. The most popular person does not guarantee the most qualified or able person to fill any of these officer roles, and in the fire service this means something. When an officer takes control of a team, they are commanding from a functional chain of command position, which means the most qualified person is leading a particular function because they have the experience and training to do so. The importance of officers having the management and leadership abilities to do their job cannot be over emphasized here and the most popular person may be ill equipped to manage or lead a crew or the fire department.

To reinforce the points made above, a hypothetical situation will be presented. Most, if not all municipalities have standards, bylaws and policies in relation to finance, zoning and human resources. A Fire Chief must have an understanding of finance, bylaws and human resources and a lack of understanding or qualification in these areas can have negative long-term impacts on the fire department. A fire chief today needs to be a futurist where they can provide information to Council and fire department members as to what will impact the fire service in the future. This isn’t based upon a crystal ball theory but based



upon education, innovations and research in professional organizations and separating fact from fiction. Today's fire chief is evidence based and brings this information forward to support the planning for the fire department. The most popular person may not be able to fulfill this role and by voting in the most popular person, the fire department membership can unknowingly be setting themselves back in time which will create frustration and friction within the fire department.

The fire chief should be the individual responsible for officer promotions within the department and this process must have identified standards for each officer position. If an officer is not fulfilling their role, it is the duty and responsibility of the fire chief to coach, mentor, place on probation, demote or terminate and should not fall within the parameters of the LFRS wherein the Article 2-6(j) states, "In regard to elected personnel a vote of non-confidence (Fire Chief excluded as per Town bylaw 1815 3(1), shall consist of a petition with five (5) members signatures, to be presented to the Fire Chief who on receipt of it will see that the membership committee is convened within seven (7) days to deal with said petition." There is little doubt here for the Consultant that if a vote of non-confidence occurred there would be discussions spilling over into personal issues that should be confidential and not public knowledge.

The LFRS is a "public good," and is funded by the Town of Ladysmith and is established in Bylaw 832, therefore the Town of Ladysmith has a significant responsibility to ensure that its fire department is being led by members (more so those in officer positions) that have the skills and ability to do their jobs. Councilors are being held accountable by the public for spending and fire service officers must have the skills and knowledge to provide a business case to support spending. This responsibility by the municipality is realized through the bylaw(s) that address the establishment of the fire department, duties of the fire chief, fees for service, agreement for services, fire inspections and compliance, prevention and suppression of fires, hazardous substances (underground storage tanks, etc.) and offences and penalties.

### *(iii) Article 3-Duties of the Fire Chief*

The LFRS Constitution and the Fire Chief Bylaw 749 identify duties, roles and responsibilities of the Fire Chief. With the LFRS being a department within the structure of the Town of Ladysmith, the job description of the Fire Chief in the Constitution is not pertinent. One



could argue that if the Fire Chief was following the job description in the Constitution over that identified in the Fire Chief Bylaw it could pose a problem in litigation. The job description remains the duty of the Town of Ladysmith and reference to any fire chief duties and responsibilities should be removed from the LFRS constitution.

As noted earlier, a bylaw should establish the duties of the Fire Chief and Bylaw 749 identifies these responsibilities, and it should but does not identify that the Fire Chief is responsible for the maintenance of discipline within the fire department and has the authority to make rules and regulations necessary to carry out the daily administration and operations of the fire department.

#### *(iv) Article 4-Duties of the Secretary*

Article 4-2 states, “It shall be the duty of the secretary to record and duplicate all proceedings of regular business, or special meetings, a copy to be returned to the Chief immediately. Following the meeting, to call roll and record all absentees, to keep whatever books and records entrusted to his/her care and to prepare and forward department correspondence, unless otherwise directed by the Chief.”

This description provides a good picture of the duties of a secretary in an association or non-profit organization.

#### *(v) Article 5-Election of Members*

Article 5 Election of Members sets the parameters for a member to apply for and complete the New Recruit Training Program. There are definitely concerns with a member being voted into the department rather than being interviewed by the Fire Chief or a hiring committee. Another concern here is that a member is voted in and then “must provide a doctor certificate stating he/she is in satisfactory health for firefighting duties before commencing new recruit training program.” A simple policy on hiring members for the fire department would have the requirement of a medical certificate available before a decision is made to hire the individual. Further, today’s progressive volunteer departments are embracing new members that may not be able to fulfill a role as a firefighter but they can be an Incident Command scribe, maintain and check equipment, etc.



Article 5-4 stipulates recruits that successfully pass the new recruit training program will have members observe the recruit's attendance, attitude and aptitude and report any concerns to the Fire Chief, or designate. This is a naturally occurring process for any recruit in any volunteer or career fire department and in Article 5-5 it states that "The recruit's evaluation and probationary period will then be *reviewed by the membership* (italics mine) at the beginning of the next general meeting." The concern here is that the membership generally does not need to review a recruit's skills evaluation or probationary period as this is the responsibility of the Fire Chief. Feedback is welcome but having too many members watching a recruit can cause a difference of opinion in whether a recruit is competent or not.

Further, in Article 5-5 it states, "The final review of the probationer shall be conducted by the Fire Chief, the executive of this department, at which time applicants shall be either;

- (a) Called to the meeting and issued a firefighter's badge,
- (b) Directed to take another six (6) month probationary period.
- (c) Referred to Town of Ladysmith Human Resources Department.

The focus here should be whether the recruit passes the probationary period and the Fire Chief will obviously discuss with the department officers, and the Fire Chief should be responsible for the overall decision on whether the recruit is part of the department or not. Extending the probationary period is clearly a viable option for any recruit that may be struggling.

There is some confusion in terms of (c) where the individual is referred to the Town of Ladysmith Human Resources Department. Is this a politically correct way of saying that the individual has failed the probationary period? If so, again, this is the responsibility of the Fire Chief to consult with and provide a report to the Human Resources department to justify a termination from the fire department.

## Summary of Constitution

The LFRS Constitution provides the membership a voice in how the fire department is organized and operated, even to the point of electing members including recruits, officers and chief officers up to the position of fire chief.



As noted earlier, the Town of Ladysmith is ultimately responsible for the LFRS and governance should be in place through a bylaw(s) that identifies the fire department structure, administration, finance, agreement for services, fire inspections and compliance, prevention and suppression of fires, hazardous substances (underground storage tanks, etc.) and offences and penalties. A bylaw stipulating the services provided by the fire department ensures that the Town of Ladysmith is in control over how the fire department operates and maintains accountability to the public in terms of organization structure, administration and due diligence.



## Section 11 Summary

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### 11.0 Conclusion

The Ladysmith Fire and Rescue Service takes pride in the services they provide to the community. During consultations and through the surveys, it was clear that Council and the Fire Chief are committed to ensuring the safety of the community.

There is room for improvement as noted in this Fire Department Excellence Review and the intent of the recommendations provided within this report will assist the Town of Ladysmith and the Ladysmith Fire and Rescue Service to plan and grow into the future.

Genesis 2020 Solutions Inc. acknowledges the professionalism of the Ladysmith Fire & Rescue Service. The dedication, honesty, and passion of the members of the fire department is to be commended and their contribution to this FDER is truly appreciated.

The costs and timelines in this report are approximate and must be strategically planned and prioritized by Town Council and the Fire Chief. Genesis 20/20 Solutions Inc. has acted in good faith on the information provided and cannot be held responsible for any errors or omissions in this report.

This FDER is a living document and should be reviewed annually with a report to Town Council on the progress made to achieve the goals. It is also suggested that a full review be conducted in 2026 and a report provided to Town Council.





## Appendix-A: NFPA Resources

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- NFPA 1001 Standard for Fire Fighter Professional Qualifications, 2019
- NFPA 1006 Standard for Technical Rescue Personnel Professional Qualifications, 2017
- NFPA 1021 Standard for Fire Officer Professional Qualifications, 2020
- NFPA 1031 Standard for Professional Qualifications for Fire Inspector and Plan Examiner, 2014
- NFPA 1033 Standard for Professional Qualifications for Fire Investigator, 2014
- NFPA 1041 Standard for Fire and Emergency Services Instructor Professional Qualifications, 2019
- NFPA 1201 Standard for Providing Fire and Emergency Services to the Public, 2020
- NFPA 1221 Standard for the Installation, Maintenance, and Use of Emergency Services Communications Systems, 2019
- NFPA 1300 Standard on Community Risk Assessment and Community Risk Reduction Plan Development, 2020
- NFPA 1061 Standard for Public Safety Telecommunications Personnel Professional Qualifications, 2018
- NFPA 1071 Standard for Emergency Vehicle Technician Professional Qualifications, 2016
- NFPA 1402 Standards on Facilities for Fire Training and Associated Props, 2019
- NFPA 1404 Standard for Fire Service Respiratory Protection Training, 2018
- NFPA 1407 Standard for Training Fire Service Rapid Intervention Crews, 2020
- NFPA 1408 Standard for Training Fire Service Personnel in the Operation, Care, Use and Maintenance of Thermal Imagers, 2015
- NFPA 1410 Standard on Training for Emergency Scene Operations, 2020
- NFPA 1500 Standard on Fire Department Occupational Safety, Health and Wellness Program, 2018
- NFPA 1521 Standard for Fire Department Safety Officer Professional Qualifications, 2020
- NFPA 1582 Standard on Comprehensive Occupation Medical Program for Fire Departments, 2013



- NFPA 1584 Standard on the Rehabilitation Process for Members During Emergency Operations and Training Exercises, 2015
- NFPA 1620 Standard for Pre-Incident Planning, 2020
- NFPA 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments, 2020
- NFPA 1730 Standard on Organization and Deployment of Fire Prevention Inspection and Code Enforcement, Plan Review, Investigation, and Public Education Operations, 2019
- NFPA 1851 Standard on Selection, Care and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2014
- NFPA 1901 Standard for Automotive Fire Apparatus, 2016
- NFPA 1914 Standard for Testing Fire Department Aerial Devices, 2002
- NFPA 1961 Standard on Fire Hose, 2020
- NFPA 1971 Standard on Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting, 2018



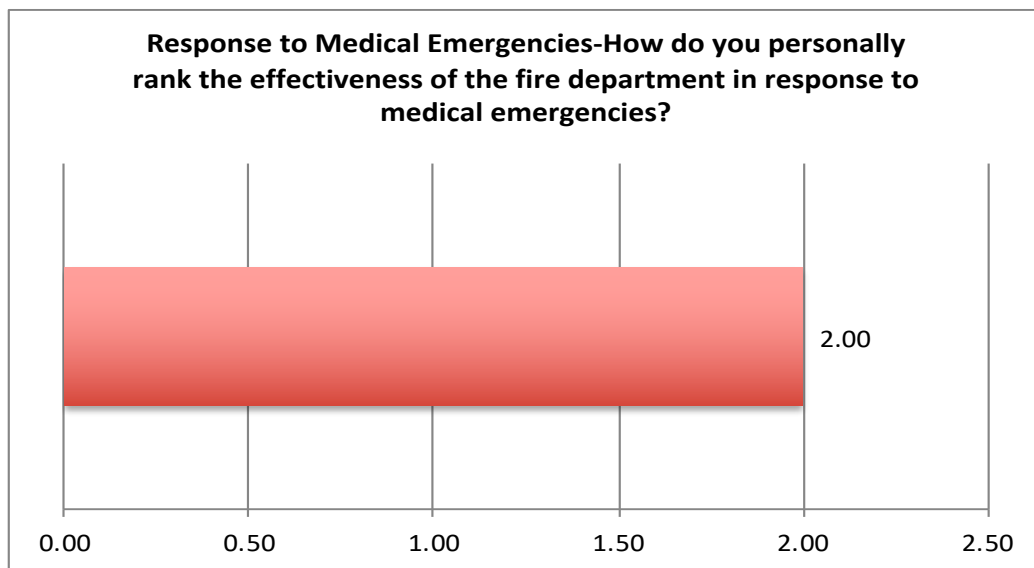
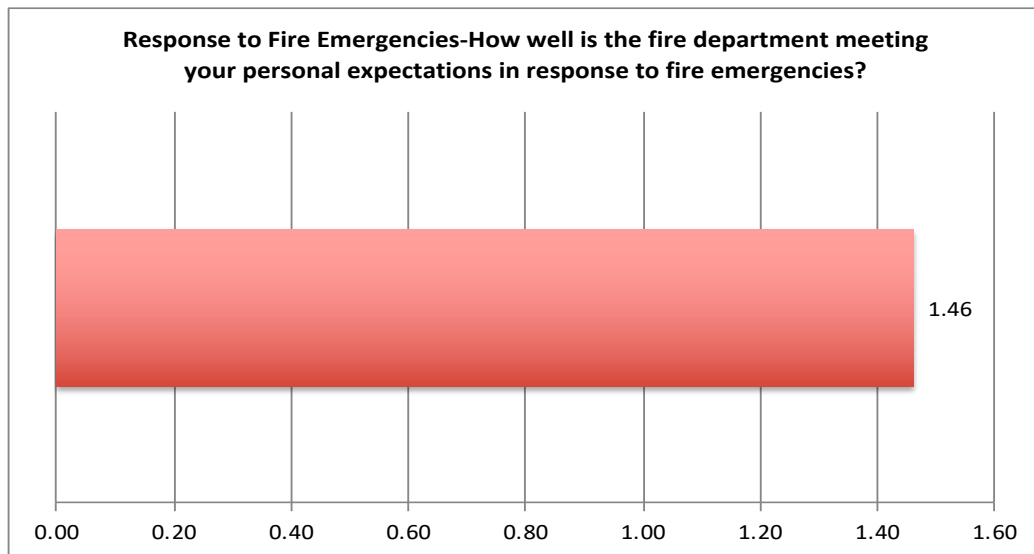
## Appendix B-Firefighter Survey

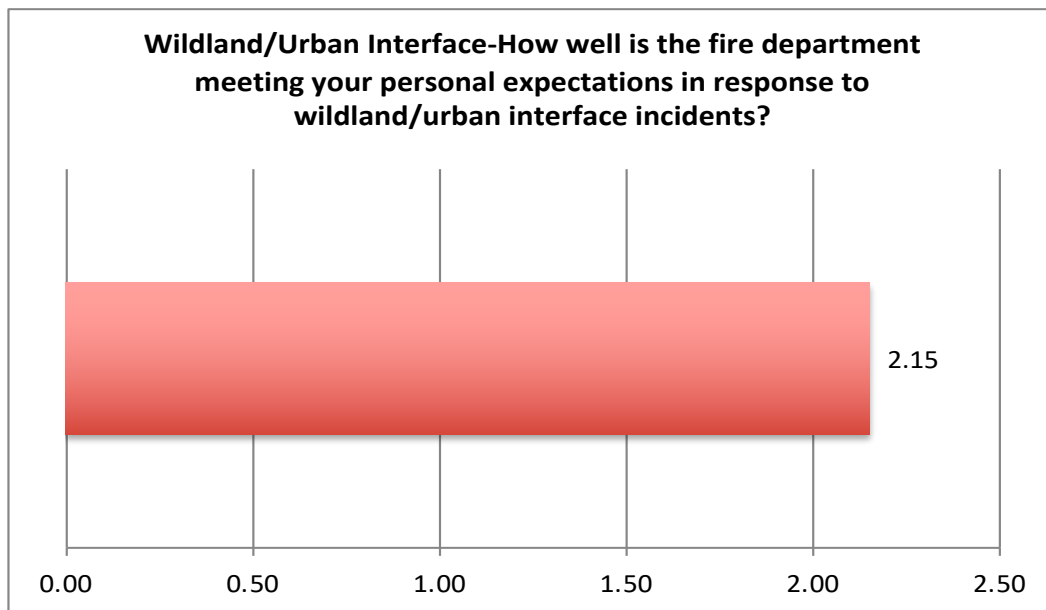
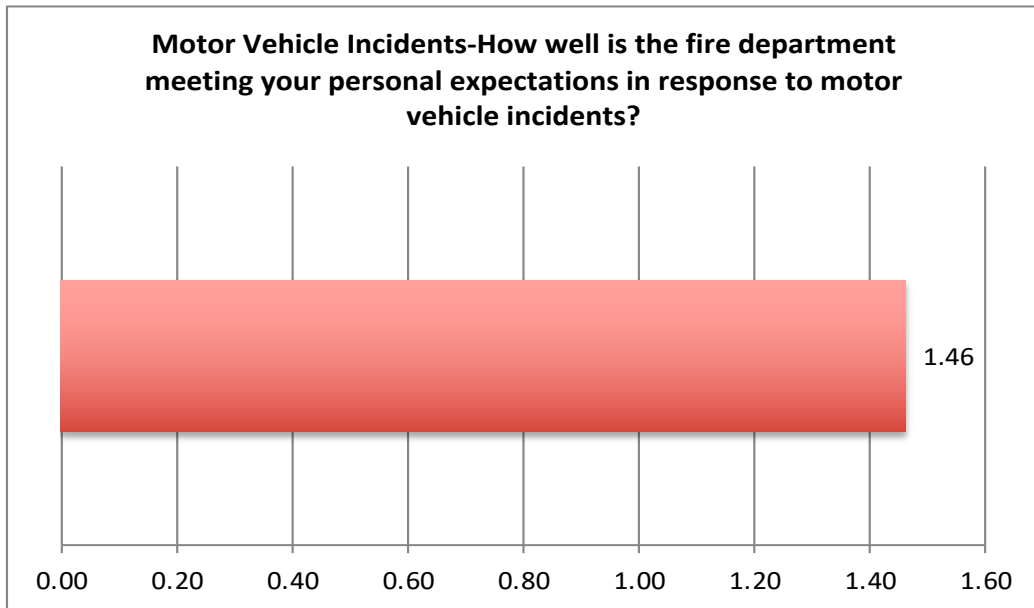
Firefighters completed a 3-part survey that provided insight into the operations of the Ladysmith Fire & Rescue service. The participant was asked rate according to the following criteria.

1-Extremely Satisfied  
4-Slightly Satisfied

2-Very Satisfied  
5-Not Satisfied

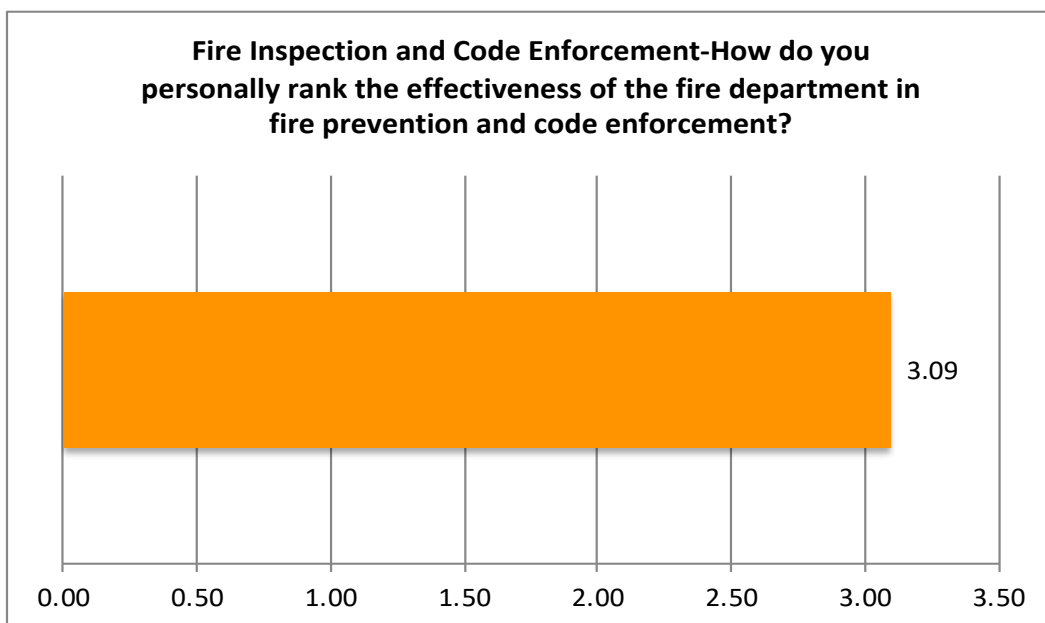
3-Moderately Satisfied



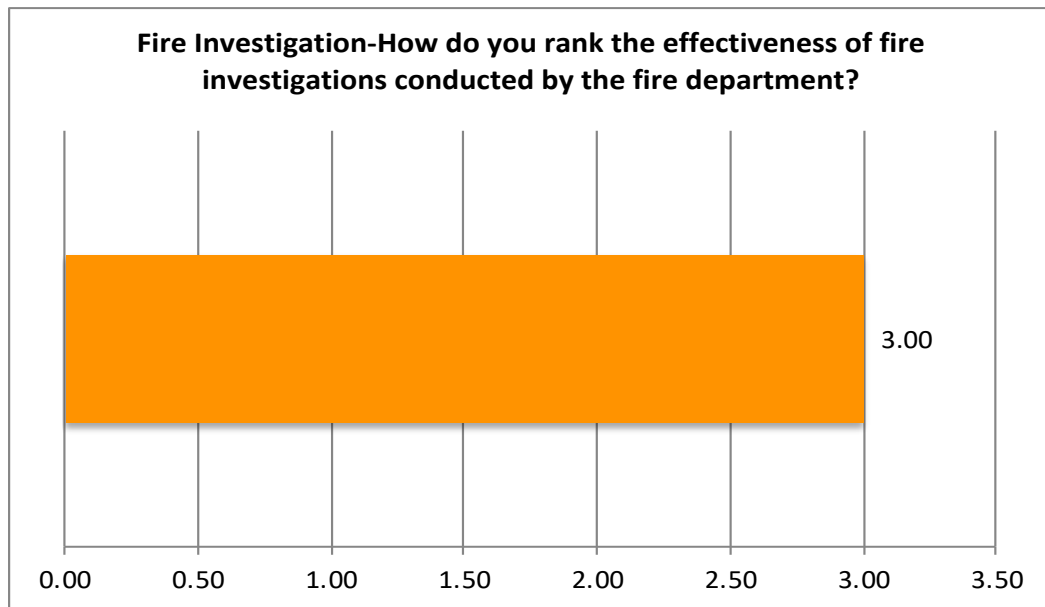




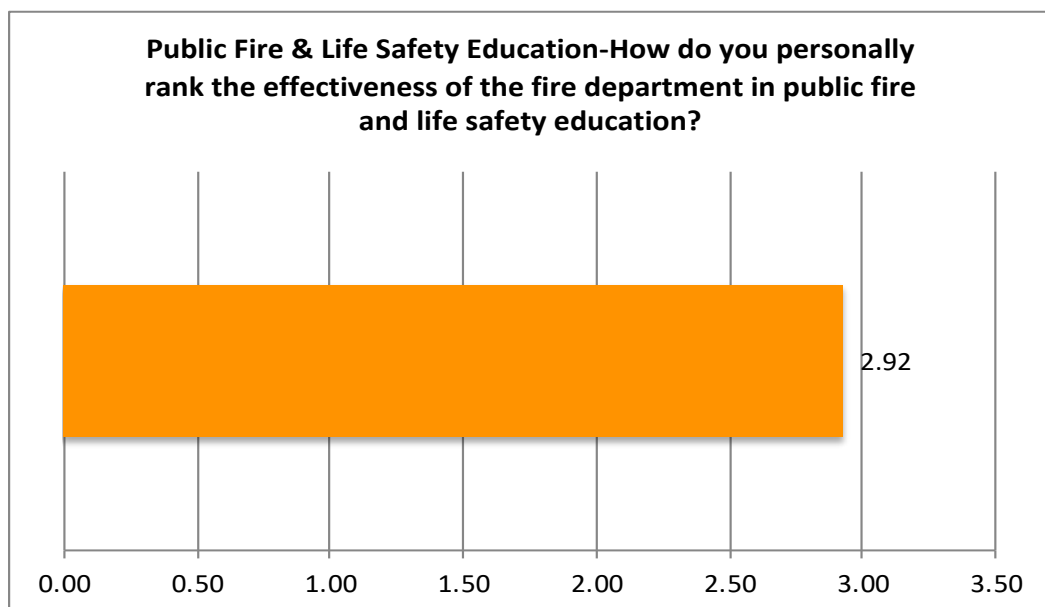
A moderately satisfied ranking identified that there is some dissatisfaction or questions with providing this service due to the resources, training and low frequency of events.

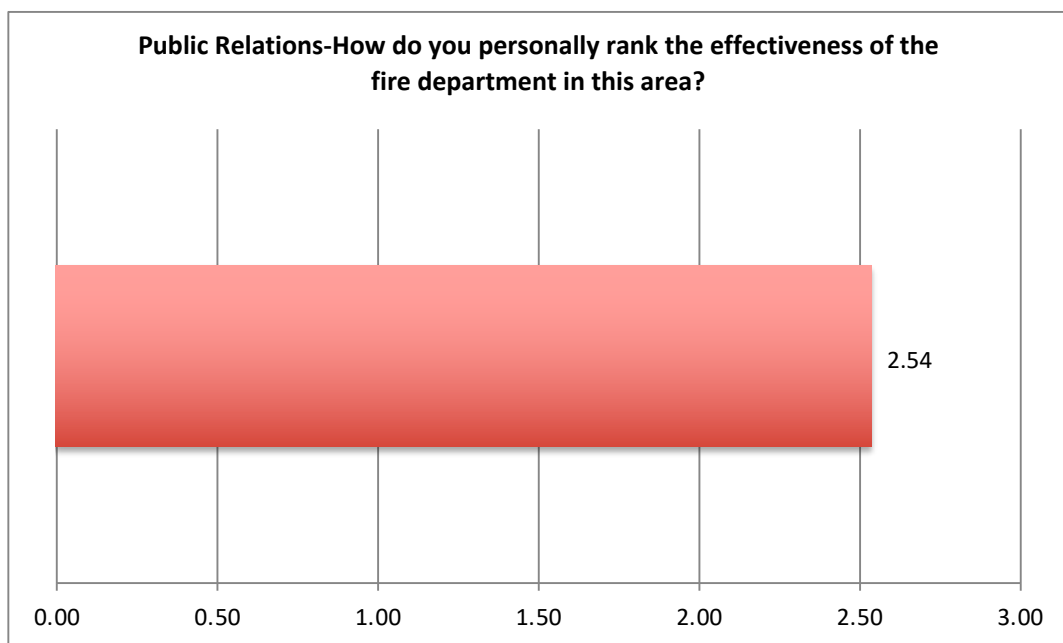
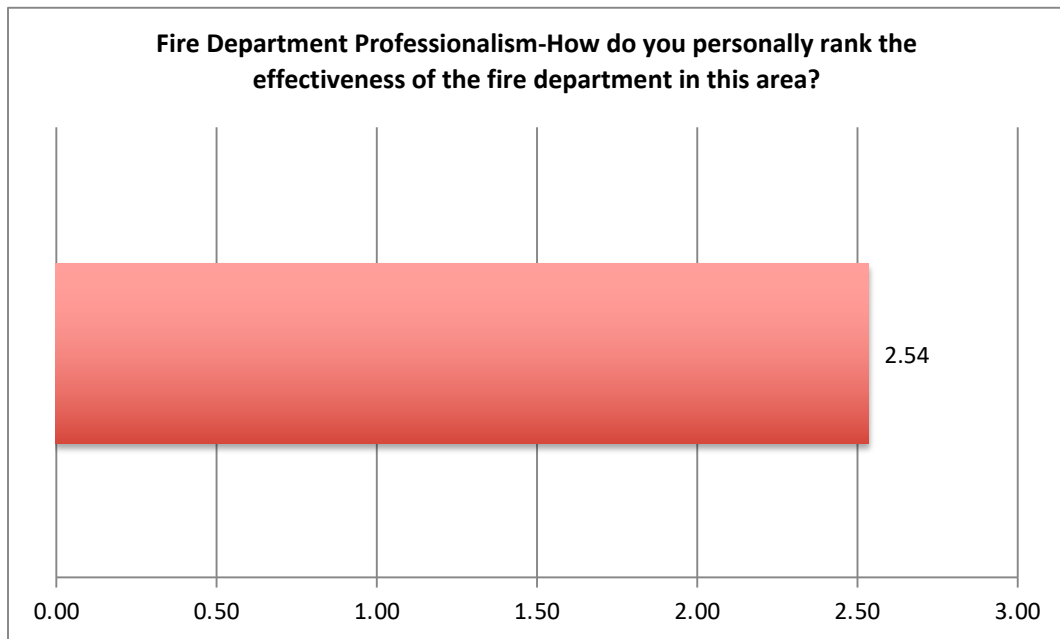


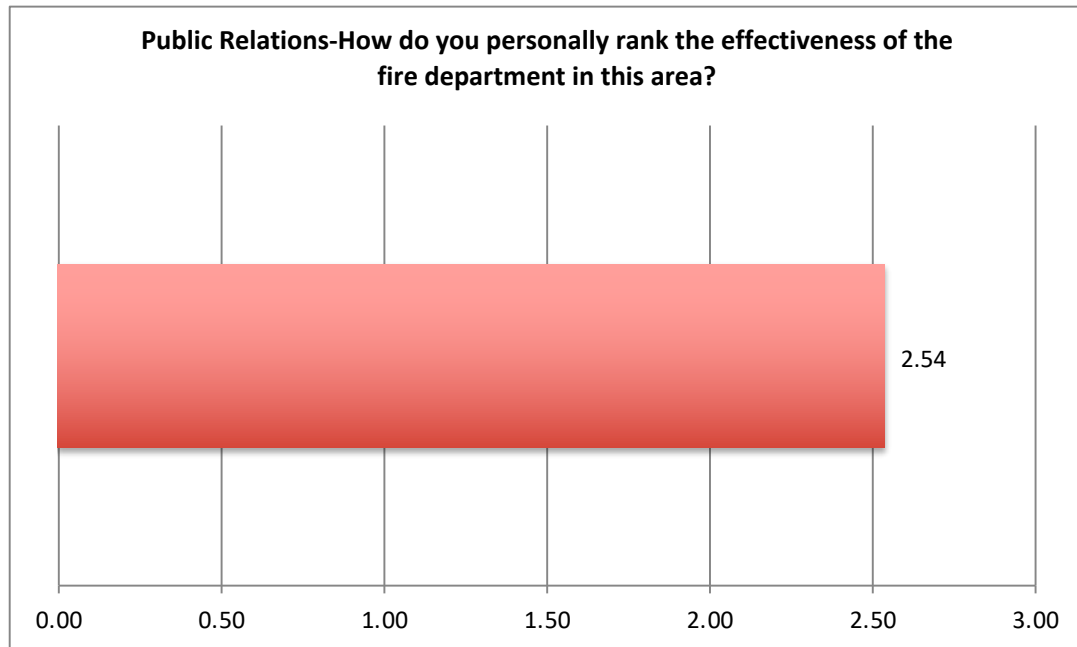
The moderately satisfied ranking here identifies that members of the fire department are not overly satisfied with how this service is delivered to the public.



The moderately satisfied ranking here identifies that members of the fire department are not overly satisfied with the delivery of this service.











## Appendix-C: Stakeholder Survey

Community stakeholders were asked to rank their satisfaction on services provided by the Ladysmith Fire & Rescue services.

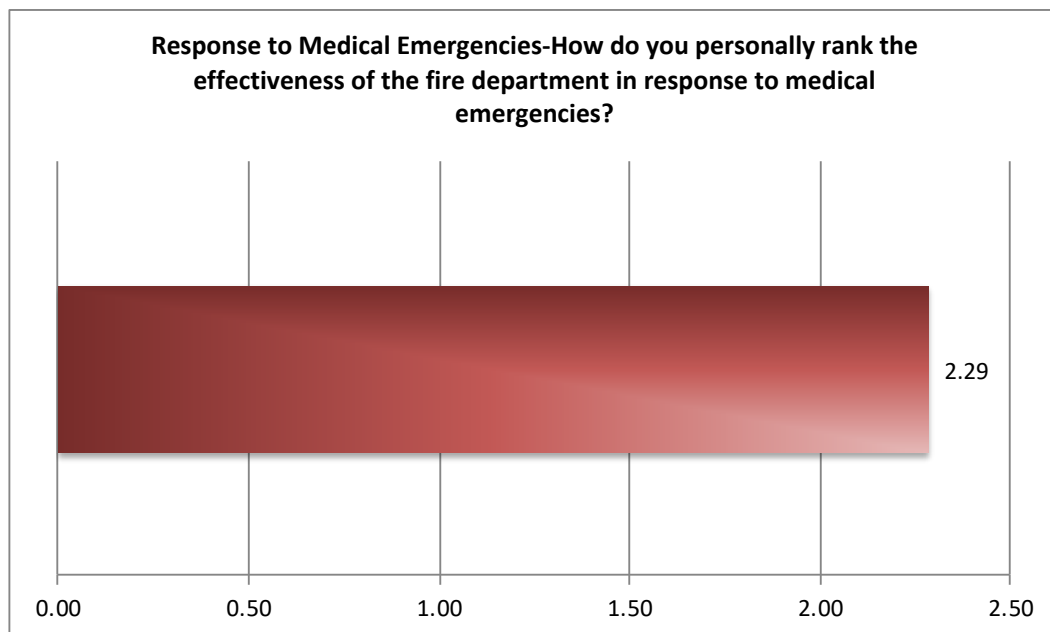
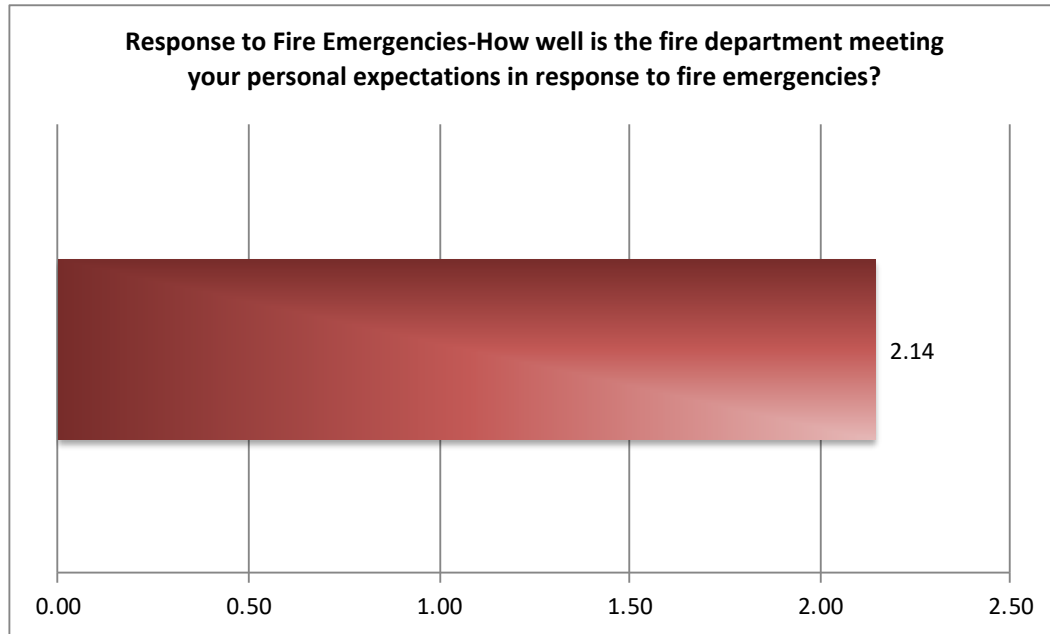
1-Extremely Satisfied

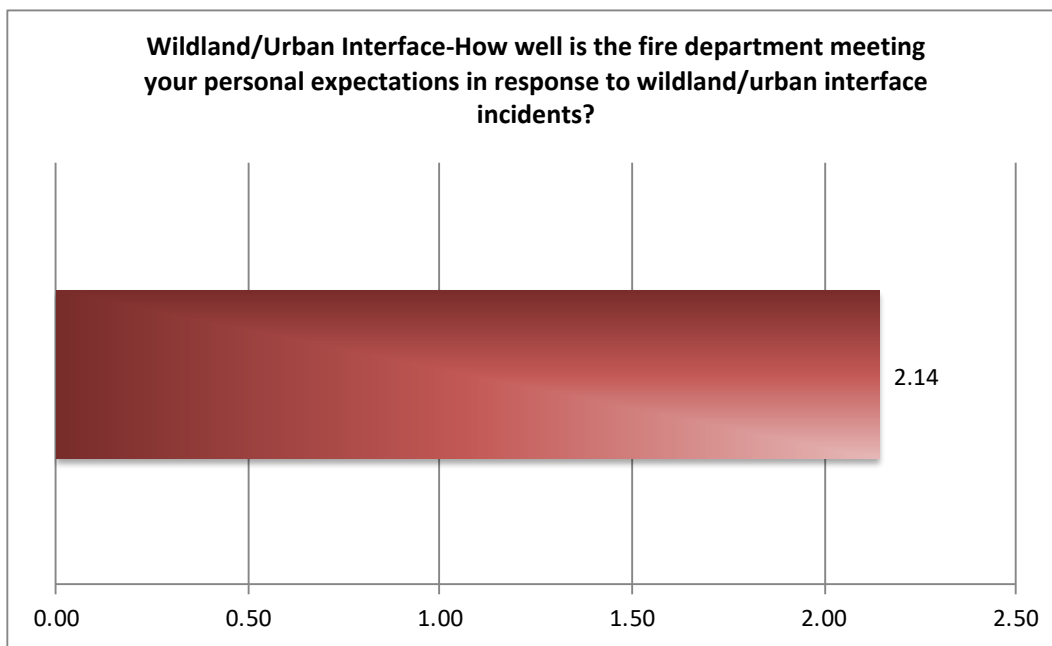
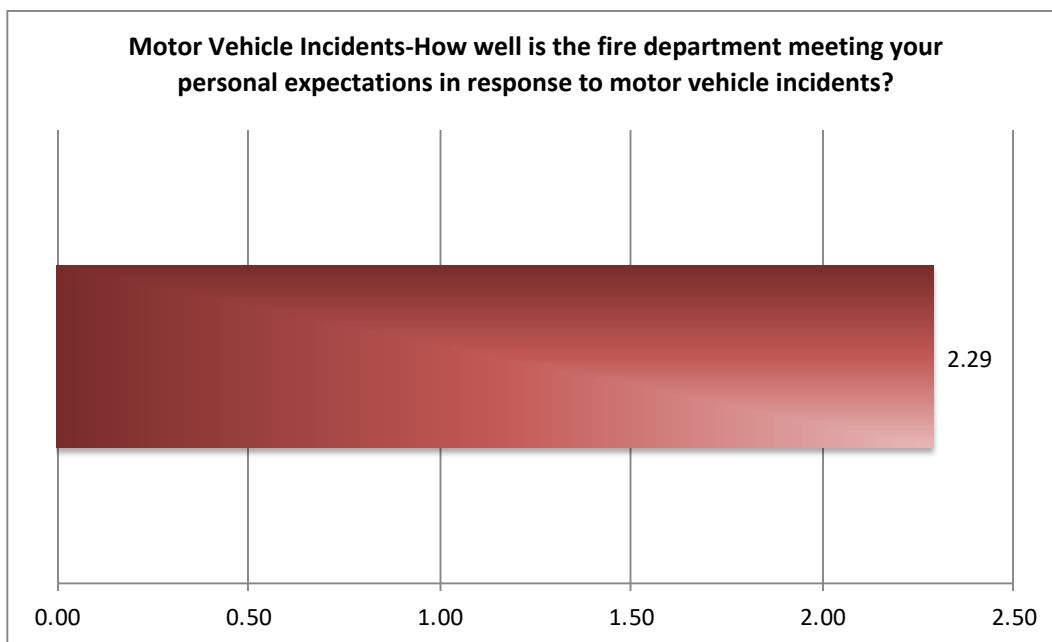
2-Very Satisfied

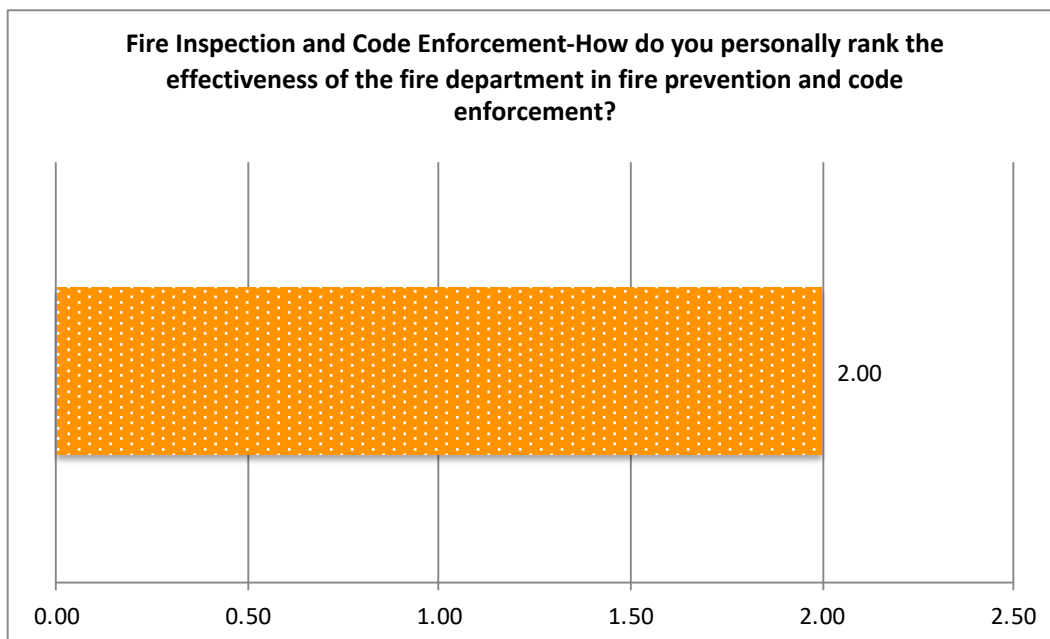
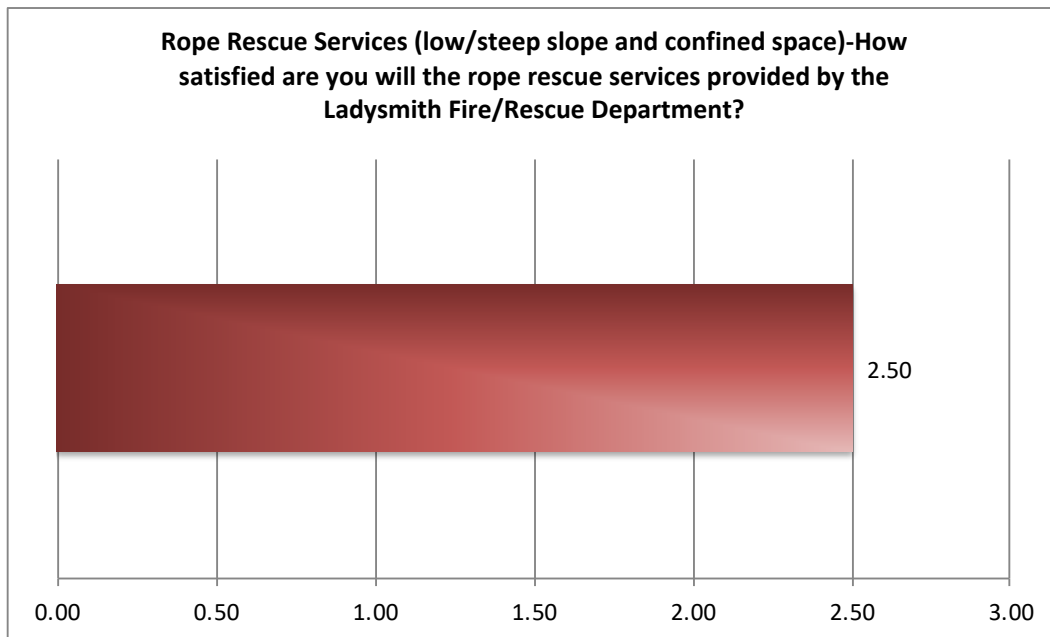
3-Moderately Satisfied

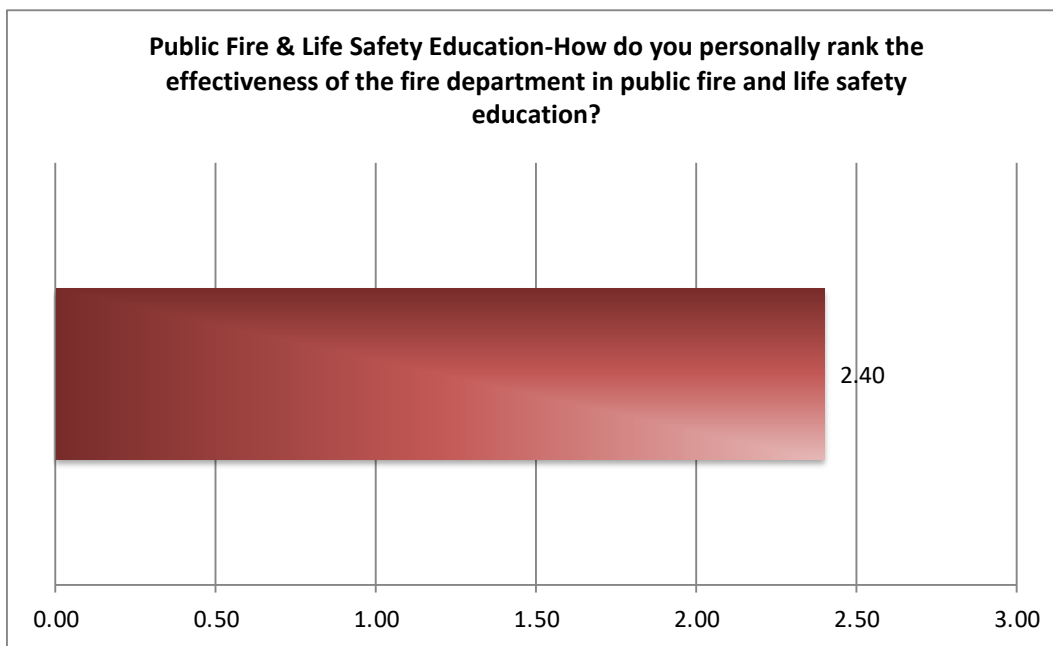
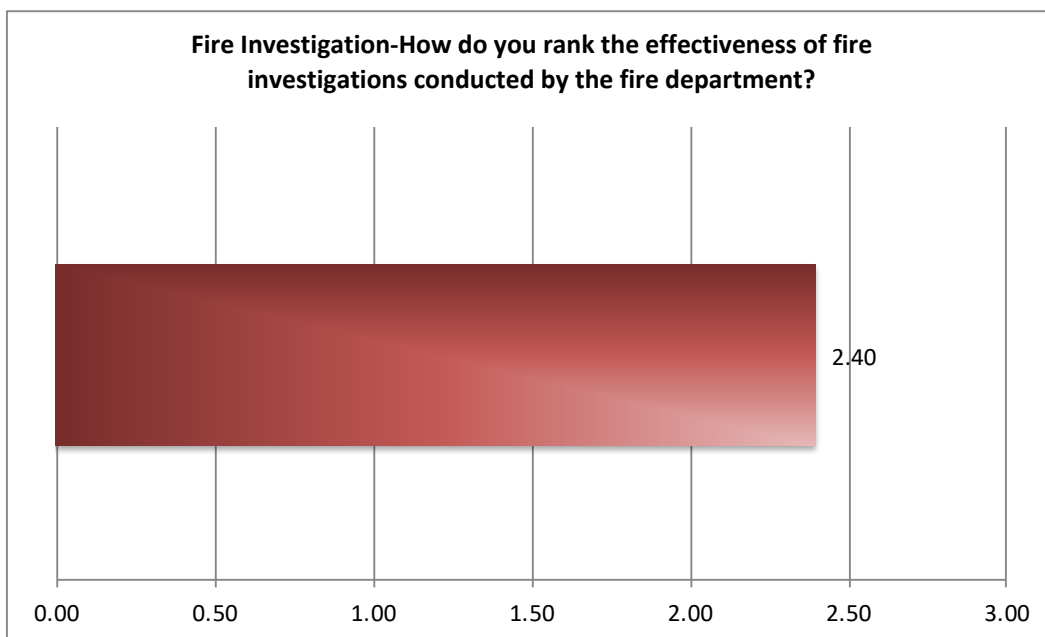
4-Slightly Satisfied

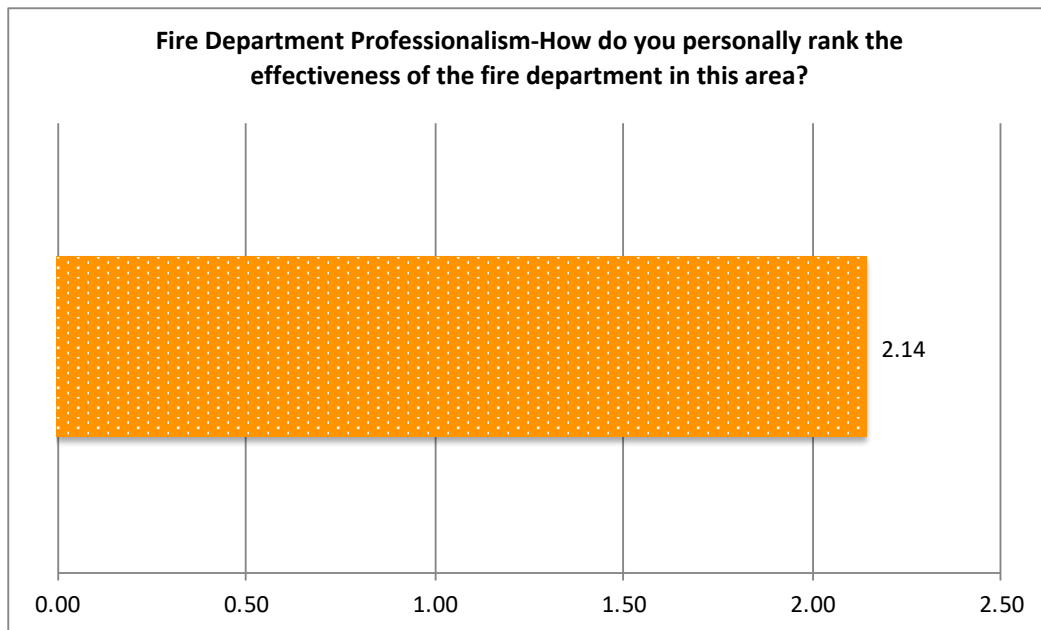
5-Not Satisfied

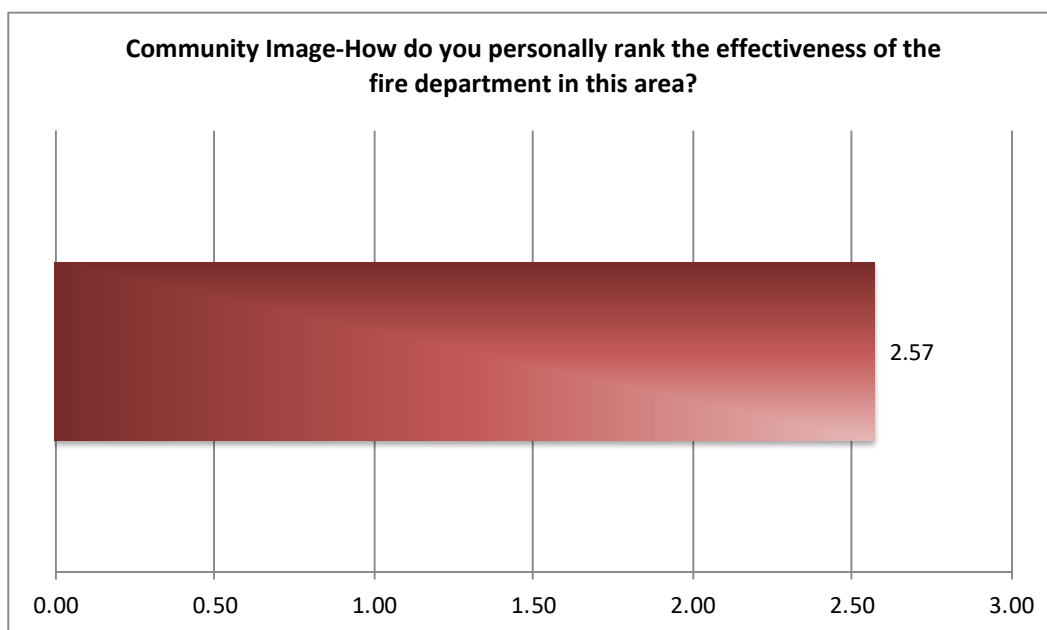














## Appendix C: Annual Call Volume Statistics

