District of Tumbler Ridge

FIRE SERVICES REVIEW & MASTER PLAN

2021

FireWise
CONSULTING

P.O. Box 253
Shawnigan Lake, BC
V0R 2W0
Phone: 250.812.9830
www.firewiseconsulting.com

Prepared by Ernie Polsom

DISCLAIMER

FireWise Consulting (FWC) is pleased to submit this report for your review and consideration. FWC makes no representation or warranty to the recipient or readers and shall not be liable for any errors or omissions in the information or the use thereof. We have relied on the information received from the District of Tumbler Ridge to prepare this report. FireWise also used information obtained through research, site visits, and data submissions provided by the customer, all of which informed an assessment of community fire risk and developed recommendations for improvement or growth.

FireWise uses the titles “Volunteer” and “Paid on Call” interchangeably, reflected broadly in fire service practice. Various standards, including National Fire Protection Standards (NFPA), are essential to completing this report and do not differentiate between volunteer and paid-on-call firefighters. Notwithstanding this, FireWise will endeavour to describe District of Tumbler Ridge firefighters following local custom.

FireWise recognizes and respects the contributions of fire fighting personnel who make themselves available to fight fires, train and make their communities safer for little to no compensation. We also recognize the vast number of additional hours of ‘volunteer time” career officers invest into their organizations to ensure that the system operates and that their staff leadership and support systems are in place.

FireWise’s use of language and names follows standard use and definitions. Definitions used in this document follow the legislation of the jurisdiction, referenced standards, or accepted Canadian definitions.

FireWise has endeavoured to ensure that this report reflects gender neutrality.

ACKNOWLEDGEMENT

FireWise would like to thank the Tumbler Ridge Fire Rescue Department members for their support and cooperation throughout this project. It has been an absolute pleasure getting to meet the many professionals that protect the people and businesses of the District of Tumbler Ridge. FireWise appreciates the prompt and efficient response by TRFD personnel to data requests and active participation in discussions and research. The quality of this report is thanks to the efforts of these people and their openness and honesty.

USE OF STANDARDS

The NFPA publishes a broad range of standards to define minimum practical performance objectives for fire protection services. These standards are accepted industry best practices for most aspects of fire protection systems. In some cases, legislation adopts specific standards or portions thereof as a requirement. FireWise will use these standards and others to anchor our recommendations to fact and accepted industry practice and science.

Fire service training programs lean heavily on NFPA standards. Few jurisdictions can create their own and adopt these recognized standards as the baseline for their training.

The reference to any standard illustrates the industry's best practice. Unless expressly indicated otherwise, it should not be considered a recommendation to adopt any referenced standard in whole or in part.

TABLE OF CONTENTS

District of Tumbler Ridge Fire Services Review & Master Plan

TABLE OF CONTENTS

District of Tumbler Ridge Fire Services Review & Master Plan

SPECIAL OBSERVATIONS

Covid 19 has underscored the critical and ongoing role of the Tumbler Ridge Fire Department (TRFD) to its community, from the “routine” to the significant events that come once or less in a generation. The pandemic has shown us that emergencies happen all the time, including through disasters and pandemics. Despite the pressures of a significant event, the daily demands of the community continue. Fires continue to happen, people get sick, car crashes occur, and rescues are still necessary. Throughout the pandemic, the staff of TRFD have risen to the challenge of providing these services while addressing the unique challenges that Covid -19 created.


British Columbia

Hundreds lose internet service in northern B.C. after beaver chews through cable

Telus calls damage 'uniquely Canadian turn of events' affecting about 900 customers

Figure 1: Fire departments deal with a vast range of emergencies, natural and human induced

Pandemic precautions made it necessary to make extensive modifications to the TRFD operational, administrative, and training models to ensure that critical services remained viable and available to the community. Pandemic precautions were essential as the risks of taking a station offline, or worse, being the source of infection for residents receiving services, were and continue to be very real. Equally crucial to TRFD was to ensure that the risks the firefighters and other frontline personnel faced in doing their jobs did not track home with them and make their families sick. PoC and career staff alike faced the risks and embraced the challenge of safe operations as they came to work every day to care for their community.

As is typical with fire departments in remote locations, TRFD played a central role in the District’s response to Covid related issues. It illustrates a professional organization that has embraced its essential role in looking after its community. The District of Tumbler Ridge can be proud of its Tumbler Ridge Fire Department and its contributions to public safety.
The following report builds on the sacrifices, professionalism, and dedication of the firefighters and officers who respond to calls for assistance every day. It carefully explores the organization and identifies areas where the District can focus its support to help this group of professionals continue their crucial public safety work effectively and safely. The Master Plan guides the Council and senior decision-makers on specific decisions supporting and enabling TRFD to continue its essential work.

EXECUTIVE SUMMARY

The Tumbler Ridge Fire Department review has revealed a well-run and organized fire service that is an industry leader in many ways. As will be detailed in the balance of the Master Plan and accompanying Fire Service Review, the department, despite being a small organization, can leverage its many strengths to ensure the continued provision of sustainable and effective fire and emergency services in the District. Fleet management and administrative practices are strong, and the Department works well with its community and other municipal departments.

The delivery of fire protection and prevention services in Tumbler Ridge is a complex task. The community is geographically remote from neighbouring communities or industries required to help with significant events. The District's population depends on the health of coal mining. This dependence influences firefighter recruitment and retention and municipal operations. Despite this, the Tumbler Ridge Fire Department (TRFD) has managed to work through uncertainty to maintain operations and deliver a broad range of fire and rescue services to its community.

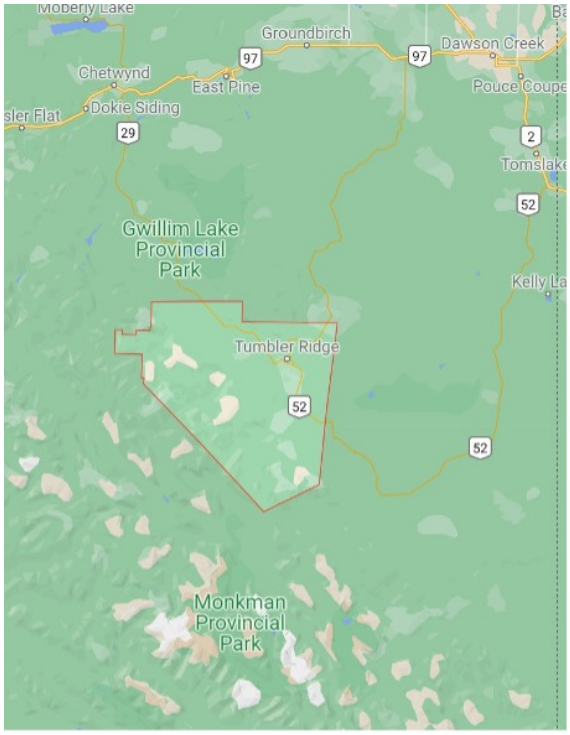


Figure 2: Map showing Tumbler Ridge location relative to neighbors

The analysis of the District and TRFD has identified paid-on-call firefighter recruitment and retention as the single most pressing concern for the department. TRFD staffing pressures are related to several factors: total numbers of paid-on-call firefighters, the relative inexperience of a large portion of the firefighters, and a lack of firefighters during specific times, including regular workdays and long weekends. TRFD has worked diligently to manage these issues but is regularly responsible for responding to severe incidents with as few as 2-3 members. Resolution of the staffing issues will require assistance from the District, local industry and business, and other stakeholders interested in fire and rescue services.

The Master Plan provides a series of recommendations intended to stabilize the fire and rescue system, make the community safer and ensure the sustainability of critical systems into the future. These start with staffing and considering using technology, finding system partners, developing mutual aid supports, and implementing prevention programs to augment the great work underway.

SUMMARY OF RECOMMENDATIONS

Recommendation 1: The District of Tumbler Ridge Council should adopt a service level policy that will provide qualitative direction to the Tumbler Ridge Fire Department related to desired service levels and include guidance on managing out-of-scope incidents.

1.The policy should build off the Fire Services Bylaw and reflect the current hazard, risk, and vulnerability assessment.

2. Link service levels to competency and staffing levels that must be achieved and maintained by the TRFD as part of initial service level approvals and ongoing quality assurance processes to deliver the specified service.

3. Establishes “out of scope” services and define how those will be delivered (mutual aid, contract, etc.)

4. The policy will also set rules for Council approval of additional services or changes in current service delivery.

5. Establish reporting requirements on fire service compliance with accepted standards and regulations related to approved services.

Recommendation 2: Council should consider establishing a volunteer recruitment and retention working group that works with organizations, including the fire department, that depends on volunteer personnel for staffing. The terms of reference should include evaluation of the issue(s), opportunities that exist in the community and options for programs for a “made in Tumbler Ridge” strategy(ies) to address identified concerns and opportunities.

Recommendation 3: Council should consider doing a full assessment of the current fire station using the 2018 RDH Building Sciences Report as a baseline and evaluate options for renovation, expansion, or replacement of the existing fire station.

Recommendation 4: Fire apparatus replacement strategies and Council approvals should link to technology to maximize effective and efficient use of limited human resources.

1. The wildland fire truck proposed for Council consideration should be approved as it represents the principles of efficiency and maximizing productivity through capability and automation.

2. Vehicle strategies should reflect the department's business to ensure adequate numbers and types of vehicles are available for emergency, operational and administrative functions. Fleet allocations should reflect job assignments.

Recommendation 5: Council should instruct Administration to develop and present a comprehensive fire prevention program that builds on the successes of the current programs but targets identified community risks, including wildland/urban interface programs. The proposed program should include the resources required to implement the various elements.

Recommendation 6: DoTR Council should consider providing instruction for Administration to develop and implement annual reporting processes that provide Council with specific information on the performance and relative effectiveness of the DoTR’s fire protection system. The report should provide context and support for annual budget submissions. At a minimum, consideration should be given to adopting the following measures:

1. Paid on Call Staffing:
   a. Total number of firefighters
   b. Recruitment rates
   c. Attrition rates

2. Training:
   a. TRFD compliance with minimum training standards related to declared service levels by individual service type.
   b. Additional training program hours.

3. Operations:
   a. Total calls
   b. Calls by incident type and trends.
   c. Report on the number of staff deploying on emergency events by time of day and day of the week with a breakdown of career and PoC.
   d. Mutual aid utilization rates

4. Prevention and Awareness:
   a. Total inspections completed.
   b. Total re-inspections required.
   c. Fire prevention program measures as presented to Council in the fire prevention program proposal.

5. Financial:
   a. Cost per capita
   b. Comparison with DoTR comparator jurisdictions.

Figure 3: Ready to respond!

INTRODUCTION

The District of Tumbler Ridge (DoTR) and the TRFD engaged FireWise Consulting to perform a basic fire service review and create a Fire Protection Master Plan. A Master Plan for Fire Protection is an important document that links Council's strategic direction and budget processes with the fire service operations. An effective Master Plan should include tracking measures that help to show the impacts of the proposed changes and informs future decision-making. Measurements should be both quantitative and qualitative. Both are important.

The delivery of fire and rescue services in the District is considered a high priority for stakeholders. This review supports the continued availability of effective and sustainable fire and emergency response systems. Small communities struggle to ensure that their fire protection systems provide for the life safety of residents, are safe for their firefighters, and provide a reasonable response to identified community risks in a sustainable way in an unpredictable world. The provision of fire protection requires careful planning to achieve the desired results.

The focus of this project is twofold. First, the project has delivered a fire protection review or "point in time analysis" of the department. This evaluation of the department's current state is essential to informing recommendations and direction for longer-term plans and proposals. The review also provides insights into issues that may require immediate attention instead of waiting for longer-term strategic process development and implementation.

The second outcome is a Master Plan that will provide strategic guidance to the District on longer-term considerations that will require policy decisions, planning, or financial preparations. Proper planning is necessary to inform District elected officials and the administration on future fire protection needs. While it is impossible to forecast the future, it is possible to implement processes to provide a flexible and responsive system that adapts to changing realities. The small population of Tumbler Ridge and relative remoteness are factors for consideration concerning the fire protection risk assessment and any recommendations made for the community.

The project scope was based on the areas of review identified in the request for proposal and confirmed during pre-project meetings and ongoing discussions with the TRFD and DoTR personnel. The RFP required analysis of all fire department activities, including a high-level assessment of the District's emergency management plans. The report will loosely follow the headings identified and codified in the proposed scope of work request but reflect some changes based on improved understandings developed through the project.

FireWise and the TRFD's Fire Chief kicked off the project with an online meeting. The session confirmed key deliverables and processes and addressed how the project would proceed, including Covid 19 protocols. Both parties agreed that while technology was going to be an important factor, an on-site visit was required to understand the unique nature of the DoTR fully. FireWise spent the week of June 14-17, 2021, performing a site visit and data collection.

Before the site visit, TRFD submitted a large number of documents and data. The request sought access to a broad range of documents, including Bylaws and Council Policies related to fire protection, budgets, internal operational guidelines, staffing proposals and organizational charts and others. Internet searches and the DoTR website provided additional information. This document review helped the consultant team evaluate and understand the structure and work processes of the District and TRFD. It also helped in the development of the questions that form the baseline for onsite and ongoing interviews.

Not all the data reviewed is specific to DoTR and TRFD. British Columbia legislation, industry best practices and accepted industry standards informed many of the observations and recommendations contained in the report. For example, WorkSafeBC's regulations are essential in determining the adequacy of facilities, equipment, vehicles, training, protection measures, competencies, and supervision of career and paid-on-call or volunteer staff. This information plays a crucial role in shaping observations and recommendations.

FireWise presents the enclosed observations and recommendations with a high degree of confidence in their objectivity and accuracy. The report recognizes the incredible efforts of the TRFD to provide safe, sustainable, and effective fire protection services to residents, businesses, and industry.

Figure 4: Technology is an increasingly important part of effective fire protection systems. As an example, this screen shows responding firefighters where they are going and who else is attending so planning can start as early as possible.

BACKGROUND AND MASTER PLAN ORIGIN

FireWise Consulting was selected through a competitive Request for Proposal process to develop a fire protection master plan for the DoTR in April 2021. This report represents the DoTR's first-ever fire protection master plan and, as such, requires analysis or review of the current state of fire protection. The project ultimately included careful analysis of the fire station, operations, and crews that make up the cornerstone of the DoTR's emergency response system. The review and report identified two streams of recommendations. The first identified operational recommendations and are best addressed at the fire service or DoTR administrative level. Those have remained in the Fire Services Review Annex of this report.

The second stream identified recommendations of a strategic nature that will require decisions from the DoTR Mayor and Council and forms the basis of the Master Plan. This Master Plan addresses the strategic level recommendations, providing the framework and direction necessary for the administration to address their operational responsibilities.

Providing fire protection to a community is a joint effort between the elected officials and those who administer and deliver the service.

There is no legislated requirement in the Province of British Columbia to provide fire protection. While fire protection may be a discretionary service, worker safety legislation must be complied with once the jurisdiction agrees to provide these services. The legislation ensures the safety of workers and those suffering an emergency. The relative complexity of the fire protection system will depend on the desires of the residents and taxpayers, service level determinations by elected officials, and the fire department's capacity.

Discussions with the DoTR, its senior administration, and fire department personnel throughout the project made it clear that fire protection is a priority for everyone. Those interviewed expressed great pride and respect for both career and volunteer fire department personnel serving the DoTR. The DoTR and TRFD are looking for a system that provides a balance of effectiveness, safety, efficiency, and sustainability.

The report recognizes the great work already done by the DoTR Council, Administration, and TRFD officers and firefighters. Excellent administrative policies and guidelines are in place. DoTR is making strategic investments in apparatus and equipment, and training is a funded priority. Senior administrators of both the DoTR and the TRFD are working to improve administrative processes to address the legislative, WorkSafeBC, and other regulatory and best practices related to the organization, administration, and delivery of fire protection services.

Fire Chiefs in larger centres see a job split of about 95% administrative and 5% operational functions. Junior staff handle most of the day-to-day operations and responses, leaving the Fire Chief to focus on the organization's strategic leadership and periodically providing command support to more significant incidents. In small

communities, the balance is much more precarious. It requires the Fire Chief to address all of the administrative functions of their larger neighbours and be an essential part of day-to-day service delivery and response. They are expected to be experts in human resources, fire department administration and operations and will be required to lead their community through significant emergencies. Balance and burnout are ongoing concerns in small fire departments—inclusion in the larger municipal organization and clear understanding and engagement by elected officials can help. The Master Plan provides recommendations for consideration that can help establish solid connections and supports at appropriate levels that have been successful in other, similar jurisdictions.

While the DoTR faces unique challenges related to industry and geography, there are also many similarities with other BC and Canadian jurisdictions. Climate change and wildland/urban interface fires are emerging as a significant threat everywhere. As we have seen in Lytton, Oliver, Williams Lake and others, wildfire is an ongoing and increasing threat to communities large and small. It is getting progressively more intense because of climate change. Firefighter recruitment and retention is the primary internal threat most fire departments face, who depend on volunteer or paid-on-call (PoC) firefighters for their staffing. The fire department cannot resolve these issues alone. They will require the engagement and support of municipal administration, Council, and the community.

The writer has no intention of being critical of TRFD or DoTR in any way. FireWise's observations are primarily positive, and all reflect very well on the people who have stepped up to serve at all levels. This report simply provides insight for a specific point in time and recommendations for consideration that build on past and current successes. As this report has been under development, the DoTR has dealt with communications outages, wildfires, and the latest phases of a global pandemic. Despite these, the fire service has continued delivery of services, modified operations to fit emerging issues, and built on previous successes.

Figure 5: While every community has unique features, fire protection issues like climate change and firefighter recruitment and retention are common threats that benefit from shared experiences.

Master Plan
Governance

Recommendation 1: The District of Tumbler Ridge Council should adopt a service level policy that will provide qualitative direction to the TRFD related to desired service levels and include guidance on managing out-of-scope incidents.

1. The policy should build off the Fire Services Bylaw and reflect the current hazard, risk, and vulnerability assessment.
2. Link service levels to competency and staffing levels that must be achieved and maintained by the TRFD as part of initial service level approvals and ongoing quality assurance processes to deliver the specified service.
3. Establishes “out of scope” services and defines how those will be delivered (mutual aid, contract, etc.)
4. The policy will also set rules for Council approval of additional services or changes in current service delivery.
5. Establish reporting requirements on fire service compliance with accepted standards and regulations related to approved services.

Service level policies of the Council establish the type and level of all the services that the DoTR will provide, including those offered by TRFD. At a minimum, they need to reflect the minimum training, equipment, and staffing requirements. Other factors include identified community risk and the organizational capacity of the TRFD. Out of scope services that the TRFD cannot provide should be identified and alternative delivery strategies explored.

There are complex services like a response to hazardous goods incidents or specialty rescues that require large numbers of highly trained personnel supported by expensive equipment, protective clothing and ongoing certifications and training. Most smaller departments limit their response to these sorts of emergencies to life safety tasks such as evacuation. They then activate pre-planned mutual aid or contract responders to these relatively rare, out-of-scope events. In some cases, the agency or industry that creates the risk, like wind power generation, must provide rescue or specialty response capabilities as part of their operating permits.

Other recommendations in this report deal with quality assurance processes that ensure that the fire service meets the training, operational, and staffing levels required to deliver its approved services. Annual reports linking performance reporting and agreed service levels are needed. They can inform requests for additional resources or recommendations for alternative service delivery options.

A sample policy located in Annex 2 of the report illustrates the relationship between services and service standards.

Budget Considerations

No cost. All information and data exist to inform the development of recommendations for Council's consideration. The proposed service level policy should include a discussion on expanded mutual aid and service delivery agreements. A draft policy in Annex 2 illustrates a complete service level policy.

Implementation Timeline:

The draft service level policy should be presented by April 1, 2022, in time for presentation with the 2023 operating and capital budgets.

Staffing and Organization

Recommendation 2: Council should consider establishing volunteer recruitment and retention working group that can work with organizations, including the fire department, that depends on volunteer personnel for staffing. The terms of reference should include evaluation of the issue(s), opportunities that exist in the community and options for programs for a "made in Tumbler Ridge" strategy(ies) to address identified concerns and opportunities.

Paid-on-call firefighter recruitment and retention are central issues for all departments that depend on traditional 'volunteer" firefighter staffing models like the TRFD. Most of these staffing model concepts have changed little over the last century regarding the utilization and engagement practices they represent. Paid on-call firefighters are employees of the jurisdiction requiring the employer to comply with all applicable health and safety regulations, including Part 31 of the WorkSafeBC Regulation.[1]

Figure 6: Firefighters getting ready for training.

Progressive employers understand that today's workplace must be more flexible and allow employees to control how they participate while achieving their objectives. This controlled participation is particularly relevant to volunteer or paid-on-call fire services, where most personnel do not depend on their firefighting role as a means of deriving an income. The system needs to reflect their needs rather than requiring the firefighter to make all the necessary sacrifices to be a member.

Some excellent work has been done in other jurisdictions to document existing and historic volunteer recruitment and retention practices. The Alberta Government funded a significant study that created a Volunteer Recruitment and Retention Toolkit (https://afca.ca/latest-news/item/238-volunteer-firefighter-recruitment-and-retention-toolkit) that may assist in developing a purpose-built system for the DoTR.

Data analysis has identified the recruitment and retention of PoC firefighters as the most severe threat facing TRFD. Response data shows that an average of 5 firefighters responds to emergency events, with 14 events in 2020 resulting in 2 or fewer responders. The shortage of

[1] https://www.worksafebc.com/en/law-policy/occupational-health-safety/searchable-ohs-regulation/ohs-regulation/part-31-firefighting

firefighters is made worse due to firefighters' high turnovers, which reduces experience and training levels. The underlying lack of staffing capacity is not unique to Tumbler Ridge but is an issue that will require solutions specific to the DoTR. The paid-on-call firefighter staffing model is critical to the long-term delivery of sustainable and affordable fire protection services in the DoTR. Still, it will require investments in a supportive capacity to maintain the staffing model's viability.

Figure 7: Example of a traditional fire department recruitment poster

Volunteer recruitment and retention challenges are not likely limited to fire department staffing. Nationally, all sectors that depend on volunteers are struggling to find enough qualified personnel to fill their ranks and anecdotally, this trend appears true in Tumbler Ridge. Fire department needs are unique, but the underlying strategies have benefited from a community-based approach that looks broadly across the volunteer sectors. The best solution for a DoTR recruitment and retention program will be a "made in DoTR" solution that capitalizes on elements of other communities' programs and successes.

Budget Considerations

Minimal in terms of a working group and the development of suggestions and strategies.

Implementation Timeline:

Fall 2021 working group terms of reference created. Membership formed and scope of activities determined.

Spring 2022- deliver preliminary findings and recommendations, including potential budget requests for Council consideration. Should include guidance on the long-term status of the working group.

Facilities

Recommendation 3: Council should consider doing a full assessment of the current fire station using the 2018 RDH Building Sciences Report as a baseline and evaluate options for renovation, expansion, or replacement of the existing fire station.

Tumbler Ridge fire hall was built in 1983 and had the east bay and training room added in 1986. The facility has received regular maintenance and upgrades. The fire station is nearing the end of its operational design life. In 2018 the fire station was assessed by RDH Building Sciences and found to need a significant renovation to return it to full function. While an interim option existed in 2018 to extend the life of the current building envelope and structure, nearly four years have passed since, and the building has continued to deteriorate. Options that existed to extend the existing systems may not be viable today.

The review did not touch on the operational effectiveness of the building. The needs of current fire services, large or small, have changed since the construction of the DoTR fire station. The station does not provide spaces required by current fire department occupational health and safety programs, including those listed by WorkSafeBC. There are no

decontamination areas for personnel and equipment separated from other workspaces. Required separations between contaminated operations and administration do not exist, and the air compressor is in a shared space as its original location did not accommodate servicing. There are inadequate administrative spaces with staff working out of a storage room and the front lobby. Finally, there is insufficient space to store all the department's front-line equipment.

Ideally, an architect who can pull together available reports and analyses and link them to industry standards and a deep understanding of fire station design will perform spatial analysis. The architect's study will provide a comprehensive assessment of all the issues related to the current facility and guide decision-makers on the range of solutions and their pros and cons. BC legislation requires post-disaster buildings to be designed by a professional.

A study is required to detail the spatial requirements of the fire department and provide Council with guidance on the options and potential costs to implement them. The review should include interim measures necessary to comply with WorkSafeBC requirements and meet immediate operational needs while implementing the preferred solution(s). The project should also include assessing the fire department's training requirements and facilities in a facility master plan.

Budget Considerations

$50-100,000 to complete the facility review and spatial analysis.

$1,500,000 to $7,000,000 for facility upgrade to replacement.

Implementation Timeline:

The fire station condition assessment should occur in 2022 to identify and focus on identifying and addressing any occupational health and safety issues.

Mitigation measures for the current fire station intended to stabilize the facility and provide interim solutions should be planned for 2022-2023. They will inform the urgency of the larger projects, pending recommendations from the analysis project.

Apparatus and Equipment

Recommendation 4: Fire apparatus replacement strategies and Council approvals should link to technology to maximize effective and efficient use of limited human resources.

1. The wildland fire truck proposed for Council consideration should be approved as it represents the principles of efficiency and maximizing productivity through capability and automation.
2. Vehicle strategies should reflect the department's business to ensure adequate numbers and types of vehicles are available for emergency, operational and administrative functions. Fleet allocations should reflect job assignments.

DoTR has invested in an appropriate fleet that supports the delivery of fire protection services. The equipment is modern and maintained in a high state of readiness and compliance with legislation and standards. The exception to the fleet observations is the current vehicle used for wildland fire responses. It is a home-built vehicle that does not meet operational requirements and does not comply with design standards. A proposal is before Council for its replacement with a purpose-built vehicle.

Figure 8: An example of a Type 3-4 Wildland fire truck in use in British Columbia

Technology is a "force multiplier" that can accomplish more work safely and with less personnel. Recognizing the low staffing numbers that the TRFD must contend with, larger and more complex vehicles, like the wildland vehicle proposed by TRFD, can enhance response capacity through automation and eliminate the need for additional support units. Specifications for future fleet acquisitions should be structured to consider automation and other capabilities that enhance the productivity of small work teams.

Budget Considerations

$300-400,000 for an appropriately designed wildland fire truck suitable to the needs of TRFD.

Implementation Timeline:

Approvals for replacing the wildland vehicle should proceed through the winter of 2021-22 and allow personnel to train in preparation for fire season.

Purchasing policies may require an amendment to include technology considerations for fire apparatus and equipment and coincide with 2022 budget deliberations.

Fire Prevention and Awareness

Recommendation 5: Council should instruct Administration to develop and present a comprehensive fire prevention program that builds on the successes of the current programs but targets identified community risks, including wildland/urban interface programs. The proposed program should include the resources required to implement the various elements.

Response capacity will not be able to protect the community from all hazards. A community approach to risk management is needed that combines preventive measures with mitigation measures intended to reduce the impact of large-scale emergencies like wildfires.

TRFD has a robust inspection and public education program that contributes to a low

fire incidence rate in the community. The municipal programs link to provincial wildfire programs that include burning controls and sharing public awareness messages. While these programs are practical and desirable, there are no mitigation programs to deal with wildland interface concerns.

From a Council perspective, planning and programs to prevent and prepare for wildland interface fires should be a critical function. The FireSmart program provides appropriate assessments to develop a public education and fuel management strategy and manage exposure risk. A comprehensive approach to fire prevention will ensure consistency in messaging and capitalization on the partner agency's efforts.

Budget Considerations

Development of the program plan should be achievable through existing DoTR and TRFD resources.

FireSmart plans will require budgets, but there are grants available that will defray some of the cost.

Implementation Timeline:

Plan development should occur through the winter 2021-2022 and have recommendations for Council consideration by spring 2022.

Efforts should focus on developing a proposal for a risk assessment and priority program funding for the 2023 grant program.

System Performance

Recommendation 6: DoTR Council should consider providing instruction for Administration to develop and implement annual reporting processes that provide Council with specific information on the performance and relative effectiveness of the DoTR's fire protection system. The report should provide context and support for annual budget submissions. At a minimum, consideration of adopting these measures:

1. Paid on Call Staffing:
   a. Total number of firefighters
   b. Recruitment rates
   c. Attrition rates

2. Training:
   d. TRFD compliance with minimum training standards related to declared service levels by individual service type.
   e. Additional training program hours.

3. Operations:
   f. Total calls
   g. Calls by incident type and trends.
   h. Report on the number of staff deploying on emergency events by time of day and day of the week with a breakdown of career and PoC.
   i. Mutual aid utilization rates

4. Prevention and Awareness:
   i. Total inspections completed.
   j. Total re-inspections required.
   k. Fire prevention program measures as presented to Council in the fire prevention program proposal.

5. Financial:
   l. Cost per capita
   m. Comparison with DoTR comparator jurisdictions.

A primary function of management of any organization includes reporting on the effectiveness of operations to decision-makers. This reporting is essential to the organization's success by demonstrating the responsible use of the resources being provided to the service and identifying problem spots that may require a reallocation of existing or provision of new resources. Good reporting will ensure that longer-term trends are identified and communicated to the DoTR Council and Administration long before they become an emergency. They will also show the relative success of approved resource allocations over time in meeting expected outcomes.

The measures included in this recommendation support the start of an effective quality assurance program and help with comparisons with other jurisdictions. As the department becomes comfortable with its reporting systems, other areas benefit from data tracking and reporting.

Budget Considerations

Minimal. The referenced reporting metrics should be possible using the current approved budget and staff resources.

Implementation Timeline:

The proposed metrics are already available through existing TRFD data management systems. Implementation of the proposed quality assurance reporting can begin immediately.

The initial reporting will provide valuable information to Council for future Operating and Capital budget processes.

Public Survey

Part of the Tumbler Ridge fire service review and master plan involved a simple assessment of public thoughts and understandings related to their fire department. The survey was intentionally kept short and focussed on residents' insights, expectations and overall satisfaction with their fire services. The survey was not well subscribed to, with less than 10% of the total population responding. Despite the survey results not achieving statistically valid levels, some observations are informative and guide future actions and decisions.

Included in the report outcomes are verbatim comments. Every effort has been made to include them strictly as provided. Some that were deemed personal have been redacted and are shared privately.

Observations:

- A total of 119 people responded to the survey representing approximately 6% of the population.
- Respondents were predominantly homeowners, with 17 responders identifying as business owners/operators as well. Only 20 percent identified as retired.
- 54% of respondents had received services of some kind from TRFD.

Figure 9: Reasons why people did not volunteer with the fire department

- A total of 119 people responded to the survey representing approximately 6% of the population.
- Respondents were predominantly homeowners, with 17 responders identifying as business owners/operators as well. Only 20 percent identified as retired.
- 54% of respondents had received services of some kind from TRFD.
- 63.5% of respondents who received services (40/119) received medical first response support from TRFD.
- 40 respondents indicated they had received either home or business fire inspections
- 89% of respondents who received services were satisfied or very satisfied with the services they received.
- Broadly, respondents feel the variety of services provided by TRFD are either important or very important.
- 84% of respondents recognized that most of the fire department's staffing consisted of volunteer firefighters. There is an opportunity to continue public awareness efforts in this area

- Only 64% of respondents were aware of the TRFD social media presence. TRFD may wish to develop itself as an essential voice and resource related to fire and public awareness. The material on the site is good, with 94% of respondents indicating they found the material they required.
- Wildfire information is an area that offers TRFD an opportunity to continue developing the District's "trusted resource" status with residents and businesses. Verbatim comments suggested that reposting BC Wildfire information was not adequate.

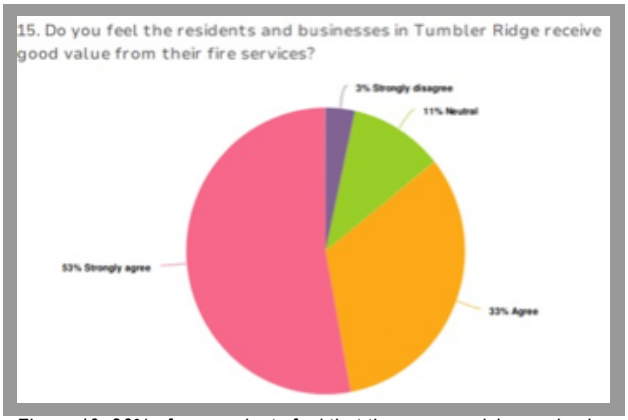


Figure 10: 86% of respondents feel that they are receiving god value from their fire services. 11% did not have sufficient understanding to venture an opinion.

Annex 1: Tumbler Ridge Fire Service Review

Provincial Legislation and Regulations

Fire services operate under a complex framework of federal, provincial, and municipal legislation. It is essential to understand that framework when considering the function and performance of a jurisdiction's fire protection system.

Legislation, Regulations and Standards

Community Charter SBC 2003

The Community Charter provides a municipality with its elemental powers to act and defines its fundamental purposes. The Community Charter does not explicitly detail the types and kinds of services a municipality may provide. Still, it does guide outcomes and delegates the authority to regulate certain behaviours to Council. In terms of fire protection services, Section 8(3) provides some guidance:

(3) A council may, by bylaw, regulate, prohibit, and impose requirements in relation to the following:

(a) municipal services,

(b) firecrackers, fireworks, and explosives,

(c) the health, safety or protection of persons or property in relation to matters referred to in section 63

(d) public health,

(e) protection of the natural environment,

(f) buildings and other structures.

These portions of the Community /Charter provide a legislative foundation for Council's decision to create and maintain a fire department and fire protection programs.
The Community Charter legislation also provides Council with authority to delegate specific roles to the Fire Chief. The council may delegate specific enforcement powers under Section 66 of the Community Charter related to entry into the property, authority to prevent and suppress fires, the powers to demolish buildings and structures and compel property owners to undertake actions. The Fire Chief may also be authorized to exercise some or all the authorities in the Fire Services Act.

Fire Services Act

The Fire Services Act focuses on the prevention and investigation of fires in British Columbia. The Act provides for delegation of authorities from the Minister to the Fire Commissioner and local assistants.

Figure 11: FireWise inspector on the job

The Act provides for the creation of Local Assistants to the Fire Commissioner. The municipality and the Fire Commissioner deliver the programs and services required under the Act.

The Fire Services Act focuses on the prevention and investigation of fires in British Columbia. The Act provides for delegation of authorities from the Minister to the Fire Commissioner and local assistants.

The Act provides for the creation of Local Assistants to the Fire Commissioner. The municipality and the Fire Commissioner deliver the programs and services required under the Act.

There are specific minimum duties of the local authority. They include the requirement to investigate all fires within three days following the fire and reporting of fires to the Fire Commissioner.

Section 26 of the Act requires a municipal council to provide a regular inspection system of hotels and public buildings in the municipality. The Act allows a local authority to engage external services to exercise some or all the powers of the local assistant in the delivery of the inspection program.

Occupational Health and Safety Regulation

The most critical piece of legislation or regulation affecting the delivery of fire and emergency response services is the Occupational Health and Safety Regulation. When a worker is assigned a task, including career, paid-on-call or volunteer firefighters, the employer must comply with the Act and Regulations.

"worker"
means being knowledgeable of the work, the hazards involved and the means to control the hazards, by reason of education, training, experience or a combination thereof.

Figure 12: Excerpt from Definitions in OHS Regulation

Compliance begins with ensuring that workers are qualified to deliver the work assigned. Workers require training before sending them to a worksite. The training must prepare them with the required knowledge to perform the work, identify hazards and protect themselves. Training and core competency management programs become a critical component of the employer's duty to comply with this regulation.

Part 31- Firefighting applies to all firefighters, from pure volunteers to career and industrial brigades. It establishes several vital requirements specific to firefighting, including the adequacy of instruction and direction of firefighters in the safe performance of their duties. It requires employers to develop written procedures that

deal with critical functions like accountability systems for firefighters at emergency incidents, management of exposure to bloodborne pathogens, stress management, traffic control and emergency vehicle operations. It also requires developing procedures related to specialty responses like rope rescue or firefighting in high-rise buildings. This part also provides entry rules for firefighters entering facilities where self-contained breathing apparatus is required. While initial crews can enter with one person outside, the department must have a rescue crew of 2 persons equipped and ready within 10 minutes of the entry.

The balance of the Regulation applies to all fire department operations the same as any other similar workplace. Fire departments must follow fall arrest, personal protective equipment selection and use, worksite hazard assessments, and all the other practices required to ensure workers' safety.

The requirement to develop and provide written procedures includes identifying the minimum number of staff required to perform specific functions. The fire service has access to consensus standards that form an accepted best practice that departments should be using as a baseline while not mandated in legislation. Procedures should include alternative considerations that the incident commander can use to amend work practices to ensure the safety of firefighters.

Emergency Program Act RSBC 1996

The Emergency Program Act provides a framework for dealing with emergencies that require prompt coordination of action, special regulation, or powers to protect people, property, and the environment.

Section 6 of the Act clarifies that a local authority is responsible for the direction and control of the local authority's emergency response. The local authority must develop an emergency plan respecting the preparation for, response to and recovery from emergencies and disasters. The local authority must create and maintain an emergency management organization with responsibility for the entire municipality. This organization can consist of anyone the local authority feels can assist in discharging its emergency management responsibilities. While not explicitly stating it, the organization's creation includes providing appropriate incident command functions and other training to members.

Enactment of the local authority's emergency plan is possible with or without declaring a state of local emergency. If adequate resources are available to the local authority, it may use its organization to manage an event. A State of Local Emergency is needed only when extraordinary powers are or may be required.

STANDARDS

National Fire Protection Association (NFPA)

The NFPA is a recognized source of standards and internationally accepted best practices for most fire protection matters. These standards are not generally part of a legislated requirement governing the delivery of fire protection services. Their broad acceptance by the industry and their foundational role in the development of training, command, organization, and engineering gives them a definitive role in helping to determine whether a jurisdiction has exercised its "due diligence" in terms of its services. It is certainly permissible for an authority to vary from the standards. Still, the local authority needs to identify the variance and document how their approach provides an as good or better ***minimum*** Few jurisdictions have the resources to develop their standards, so they adopt the NFPA standards for things like training, equipment, and apparatus written.

Figure 13: NFPA 1001 Firefighter Professional Qualifications example

Most Canadian training programs for firefighting and rescue functions comply with the minim competency standards listed here:

NFPA 472- Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents
NFPA 1001- Standard for Fire Fighter Professional Qualifications
NFPA 1002- Standard for Fire Apparatus Driver/Operator Professional Qualifications
NFPA 1003- Standard for Airport Fire Fighter Professional Qualifications
NFPA 1006- Standard for Technical Rescue Personnel Professional Qualifications
NFPA 1021- Standard for Fire Officer Professional Qualifications
NFPA 1031- Standard for Professional Qualifications for Fire Inspector and Plan Examiner
NFPA 1033- Standard for Professional Qualifications for Fire Investigator
NFPA 1041- Standard for Fire and Emergency Services Instructor Professional Qualifications
NFPA 1071- Standard for Emergency Vehicle Technical Professional Qualifications
NFPA 1072- Standard for Hazardous Materials/Weapons of Mass Destruction Emergency Response Personnel Professional Qualifications
NFPA 1500- Standard on Fire Department Occupational Safety, Health, and Wellness Program

For this report, training references are to the requirements of these standards except where specific British Columbia legislation is in effect.

NFPA 1710 & 1720 "Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations by Career or Volunteer Fire Departments, respectively, are standards that provide benchmarking for the delivery of fire response services. While the considerations are all applicable, most jurisdictions cannot achieve the performance levels detailed in the standards. Most communities do not adopt these standards but do use elements of them. Data collection, performance benchmarking and other factors detailed in the standards provide a consistent and relatively commonly applied approach that allows accurate and usable comparisons with other jurisdictions related to their relative performance.

Figure 14: Even exterior operations are dangerous and require training that reflects those hazards. Photo Credit: The ANSI Blog

INDUSTRY BEST OR ACCEPTED PRACTICES

Risk Assessment

The TFRD leadership is familiar with the risk factors driving the planning process. The risk profile for the District of Tumbler Ridge is shaped mainly by the District's geography and environment. Tumbler Ridge is an isolated community with its nearest neighbour an hour away. The district and townsite are heavily forested. The foothills provide significant elevations that complicate many responses requiring skills in slope and high angle rescue services. Despite these unique complicating risks, the business of the TRFD is relatively comparable to most other jurisdictions.

While forest fires remain the top-tier emergency concern from a fire protection perspective, BC Wildfire Service coordinates and manages this risk. The District needs to deal with fire emergencies that threaten the community and provide first response while Provincial services are mobilized and deployed. Climate change contributes to increased risks to populated areas of the District and will require investments in response capabilities, prevention, and mitigation measures.

Figure 15: Forests represent a major part of the DoTR as well as a significant threat to residents and business.

The following is explanatory material providing a basic overview of critical risks identified through observation, historical review, and analysis of existing documentation, including the District of Tumbler Ridge Emergency Plan. The risk assessment is not comprehensive but does illustrate the rationale behind the observations and recommendations in this report specific to fire protection and prevention. They also demonstrate the need for longer-term planning as the District of Tumbler Ridge continues to grow and evolve.

Community Risk

The District of Tumbler Ridge consists of rugged backcountry and heavily forested areas comprising the bulk of its landmass. Occupied spaces are restricted primarily to Tumbler Ridge and various industrial occupancies, including coal mines and wind energy projects. Some tourist facilities exist in the District as well.
The Town is a planned development built in the early 1980s. The townsite is a modern community where all buildings reflect current BC Building Codes. Fire incidence rates are relatively low when compared to other similar-sized communities.

Figure 16: TR health care centre in the downtown core

The town has a central service core surrounded by residential neighbourhoods and a small commercial park. Most commercial and government services for the community, including the fire station, are located in the centre of the community. This design supports the efficient movement of volunteer firefighters from their homes or work to the fire station and from the station to the emergency event.

Figure 17: aerial view of Tumbler Ridge. Photo Credit District of Tumbler Ridge

Residential developments include a mix of single and multi-family occupancies. Most apartment blocks or condominiums are three-storey walk-up developments with fire alarm systems but no sprinkler systems. Single-family developments are set on larger lots allowing for large side yards that offer minimal concerns related to exposure protection. A unique feature of the planned community is the reuse of approximately seven floorplans for most single-family dwellings. Fire department training and orientation for emergency operations benefit from this unique feature.

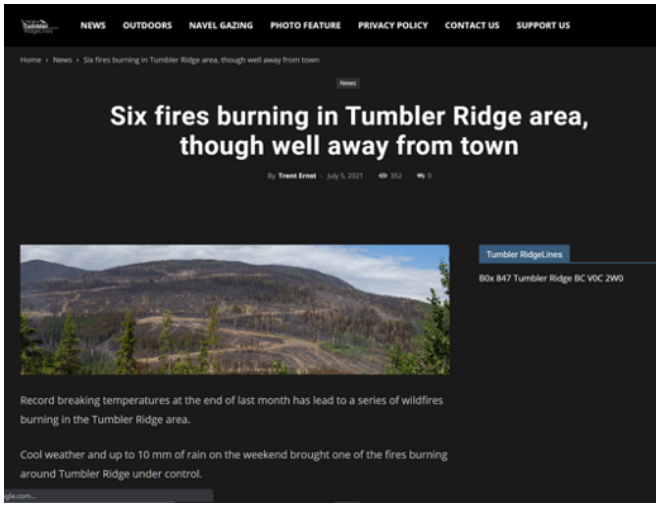
All areas of the town have piped water systems and hydrants.

There is limited new construction in the Town.

An industrial park and the Tumbler Ridge Airport are located south of the town on Highway 52. There are no high-risk occupancies situated on either site. Several of the buildings at the industrial park are vacant.

Interface Fires

The District is extensively forested, and those forests encroach on the town, airport, and industrial park. While the incidence of brush and grass fires in and around the townsite are relatively low, they hold the potential of impacting large numbers of people and causing significant property losses.



Forest fires are at the top of resident's minds across British Columbia in 2021. Tumbler Ridge has six fires in the area, although none are threatening the community. Tumbler Ridge has had experience with major fires. In 2006 a forest fire required the evacuation of the community as a whole. The evacuation required rapid movement of people out of the community. Recent interface fires in Lytton and other locations demonstrate that interface fires, affected by drought, are burning more fiercely and allow less time for human reaction, including evacuation.

TRFD has identified wildland and interface fires as a top-tier risk for the community and has developed plans to respond to them. Response planning for these risks includes proposals before Council for improved technology to help them deal with small fire events that may escalate to threaten residents.

Prevention and mitigation programs are limited in scope. The District has not implemented FireSmart principles or programs in the community.

Transportation Emergencies- Roads

The DoTR has limited road infrastructure in most of the District. It is served by Highways 52 and 29. These highways see a large volume of passenger and commodity transportation serving residents and local industry only. There is no through traffic or additional cartage to other points. The bulk of road incidents are single and two vehicle incidents involving rescue and small amounts of dangerous goods restricted to vehicle fluids.

The terrain complicates motor vehicle rescues alongside sections of the District's highways. Long stretches of the road have steep embankments that can require rescuers to work at significant elevations and move patients up near-vertical slopes.

While incidents involving dangerous goods transportation are infrequent, they represent emergencies with high impact and severe outcomes. Various products that may include fuels, chlorine, oxygen and chemicals used by the mines are transported through the district but represent an environmental risk primarily due to the unpopulated nature of the District. These responses are the responsibility of the shipper and product owner for management and response due to the complexity of the response and training requirements and the hazard they present to responders.

Transportation Emergencies- Rail

CN reopened a single rail line in 2017 to service the reopening coal mines. The rail line offers little risk to the community, with most of its length outside District boundaries. Rail and mining companies are responsible for the movement of dangerous goods along their rights of way and on their operating sites. The companies must have emergency response plans to manage transportation emergencies and spills as part of their operating and licensing permits.

Figure 18 Rail line reopening. Photo credit CBC News

Rail transportation does present a potential risk of wildland fire because of parts failures or other direct causes from wheels, brakes, and engine operations. These risks fall into wildfire planning processes.

Climate Change

Climate change is a rapidly emerging threat to the DoTR. While the impacts of climate change are broad, those having immediate effects on fire services are related to extreme weather occurrences and drought. Fire season in British Columbia is seeing an intensification of fires, rapid spread with fires occurring earlier and later than traditionally seen. Widespread droughts are affecting all areas of BC, including Tumbler Ridge. These drought events are getting more prolonged and more frequent. When the rain comes, rain events are frequently intense and short-lived, resulting in more runoff and less hydration of soils.

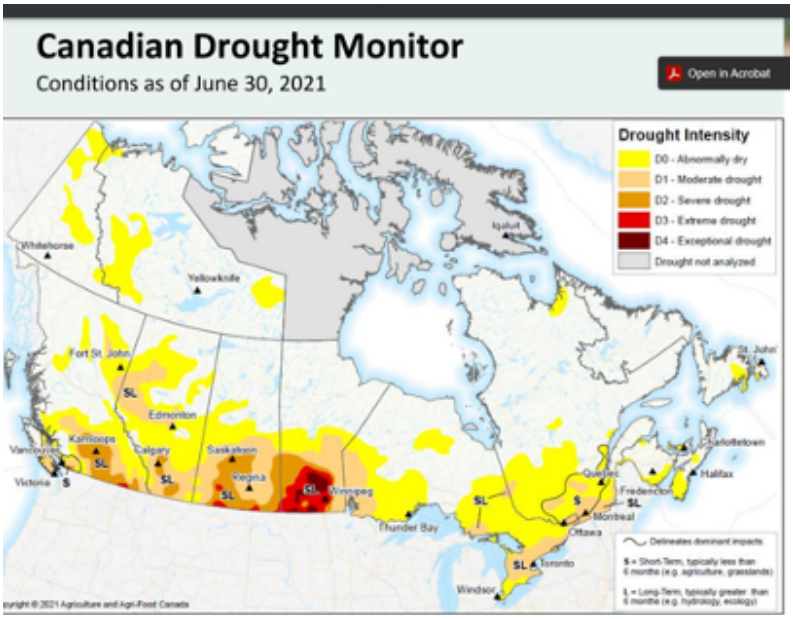


Figure 19: Tumbler Ridge in an area of abnormal dry to moderate drought

Most BC communities, including Tumbler Ridge, will be required to develop climate adaptation plans. These plans will include a combination of improved response capabilities, wildland fire prevention programs and mitigation measures intended to make the community and other built or critical areas more resilient.

Large Industry

Large industrial facilities in the DoTR are primarily coal mining operations. These facilities are remote from developed or populated areas of the District and offer little in terms of fire protection concerns for TRFD. Internal loss prevention programs deal with fire response on these sites. In-house rescue teams deliver onsite services and are well-versed in the special considerations that coal mining emergency operations represent. The direct impact on TRFD planning is related to the road transport of personnel and materials into and out of the mining sites.

An emerging industry in the District is wind power generation. There are several existing and planned wind farms located primarily on the north end of the District. These facilities do not represent any significant threats, except for rescue operations for workers who may become incapacitated in the wind turbine's nacelle. Rescue is outside of the scope of operations for TRFD and should be communicated to


Figure 20: Coal mining remains a significant industry in the region.

the operators of these facilities so that their internal operations plans include rescue plans.

Internal Risk

Analysis of TRFD shows an organization that is well-positioned for success. Departmental strengths include a strong management team committed to supporting the needs of fire department members and the community they serve. Good management practices, including a comprehensive set of operational guidelines and procedures and effective supervisory programs, have been developed. The service reflects the community's needs and is not afraid to support non-core programs where an otherwise unfulfilled need exists. During the site visit, TRFD personnel judged a school assignment for an urban studies class at the high school and supported the local health system by moving a bed required for respite care. The connection to the community speaks to the best principles of a small-town organization committed to service.

Tumbler Ridge Fire Department SWOT Analysis

Strengths	Weaknesses
Your Advantages - Clear Council support and direction - Effective and committed management team - Composite (Paid on Call and Career) staffing model - Facilities support operations - Modern community - Apparatus and equipment replacement programs - Efficiency in administration and operations - Documentation of operations, training procedures and protocols - Regional dispatch system	**Areas for Improvement** - Include fire station replacement planning in budget processes - Explore partnerships with local industry for emergency response capacity - Lack of purpose built wildland vehicle - Lack of a comprehensive recruitment and retention program - Inexperience of Paid on Call fire fighters and officers - Organizational capacity and depth - Succession planning - Getting training to paid on call firefighters to meet their needs as well as OHS, department requirements - Streamline recruit access to minimum NFPA 1001 Level 1 competencies.
Opportunities	**Threats**
Situations to Apply Your Advantages - Build on existing program successes and practices - High sense of pride in belonging to the department - Make better use of the excellent records management systems and data baseline - Develop closer relationships with industry and other service partners/providers.	**Where You are at Risk** - Paid on call fire fighter recruitment and retention. - Wildland-urban interface - Climate change - Sustainability of current service model

TRFD depends on data for its decision-making and strategic direction; The department has implemented leading practice software and data management systems that ensure data is complete and accurate. Data collection and utilization practices will continue to mature but already support important trend tracking and analysis. The service model is a sustainable model that provides a carefully considered balance between career leadership and PoC firefighters to achieve adequate protection for the District.

As with any jurisdiction, some weaknesses should provide a focus for growth. The current fire station is approaching the end of its design life and will require either significant renovations or replacement. The department is light on staff, which is an ongoing issue related to the ups and downs of the coal industry. Technology like the purpose-built wildland unit proposed for the department can help increase the productivity of the small numbers of available firefighters and improve the safety of

operations. Weaknesses are generally best resolved through administrative processes and programs and should rarely escalate to Council's attention unless funding or specific policy supports are part of the solution.

Like many fire departments in BC, the mandate and expectations for services have changed for TRFD. The fire service better understands the requirements to ensure that firefighters receive the necessary training to deal with the hazards and work they will have to deal with in their duties. Traditional approaches to training and competency management processes may be insufficient to meet these updated requirements. Medical first responder services have overtaken all other types of calls for frequency, which has added training and record management complexities. It also stresses firefighters who may have volunteered their services with a more traditional fire fighting role in mind. The conventional model that TRFD is structured around may need to change to better fit industry and PoC firefighter needs.

Organizational capacity and the health of the Paid-on Call workforce represent the most severe threat to TRFD's future viability. While the organization of the TRFD is strong, its organizational capacity is under great stress. There are inadequate numbers of PoC's in service today to assure an effective response to the more severe but common incidents like larger wildland fires, serious motor vehicle collisions and structure fires. It is challenging for PoC's to achieve and maintain minimum training competencies under the traditional delivery systems employed by TRFD. While work is underway to modernize these programs, there is a need for a fundamental review and change to the system—commitments from all District government levels and engagement with industry and the community.

Figure 21: Firefighters performing a slope rescue. One of many complicated issues TRFD is called to manage. Photo Credit Penticton Western News

The primary recommendations in this review are focussed almost entirely on addressing capacity shortfalls that will enable TRFD to focus on developing these new approaches and concentrating on critical functions like recruitment and retention. Every other observed opportunity for growth depends on having sufficient capacity to assign resources to them. Several downside risks face the District if this is not resolved, including loss of PoC's rendering the department unable to meet community needs.

Governance and Administration

Fire Services Bylaw 680, 2019

Tumbler Ridge has a modern fire bylaw that establishes a fire service and provides appropriate delegations of authority. The bylaw was passed in 2019 and addresses all aspects of fire protection.

Emergency Program Bylaw #699, 2020

The emergency program bylaw was updated and passed in 2020 and met all legislative and organizational requirements.

Observations:

The bylaw states, “The Tumbler Ridge Fire Department shall be responsible for:” and goes on to list services TRFD is required to deliver. In the absence of a service level policy of the Council, this language is definitive and does not consider staffing levels, training of available firefighters, or equipment suitability. Language in the bylaw will require updating to provide clarification of the Council’s intent.

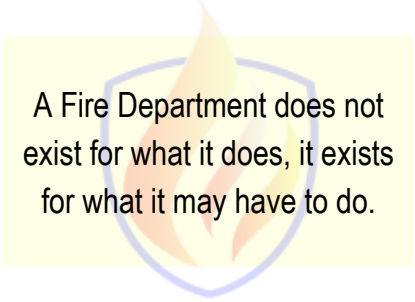
Service Level Review

TFRD is responsible for delivering fire and emergency management services in and for the DoTR. Tumbler Ridge represents a complex mix of the natural and built environment linked to a highly remote location. The distance from assistance means that TRFD will be the first agency on-site for all emergencies in the District, even those deemed out of scope. Service level direction must include clear instructions on expectations of the department related to its role at out-of-scope events and where TRFD will find the assistance it requires. These are significant factors that are important to service level discussions.

Service levels provide a critical baseline description of fire protection services in a community. These reflect the desire and instruction from the elected Council on the scope and nature of the services it wishes to be available to their community. Each identified service requires the investment of resources to deliver them. The services all have specific needs for equipment, vehicles, personnel, and other resources that may not overlap with other services.

The relative capacity of the organization to carry out those services should be a central consideration related to service levels. The availability is particularly critical when the staffing model uses volunteer or paid-on-call personnel extensively. The workforce's opportunity to obtain the basic training and skills to master the response required by Occupational Health and Safety legislation is needed to maintain minimum competency levels between emergency calls. Many of the most dangerous specialties like hazardous materials response, water and ice rescue happen infrequently and require extensive competency management to ensure practitioners meet legislated competency levels. Policies that guide all personnel on alternative approaches and options where staffing falls below the minimum necessary for safe operations should be in place.

Council has a great deal of latitude in how it chooses to deliver the services it deems necessary or beneficial to the community. Municipally operated service models are often the best way to provide most fire and rescue services. Where the services are expensive or too complex to be delivered, regional service delivery may make the most sense. Some services that are outside of the scope and capacity of the municipal service providers may have to be delivered by contract service providers or by those property owners who have created the risk as part of the approval processes. For example, many jurisdictions require companies who perform activities that could require high-angle rescue to provide an emergency plan that includes rescue provisions for their staff. Similarly, industrial complexes frequently manage their internal emergency response needs leaving the municipal jurisdiction to worry about off-site impacts.



Observations:

Incident types responded to by TRFD reflect consistency with other jurisdictions. Motor vehicle rescue, wildland fires, medical first response and alarm responses, both commercial and residential, make up most of the department's activities.

Bylaw 680, 2019 provides good general direction to TRFD related to emergency response services. The language used in the Bylaw is appropriate. Still, it would benefit from a separate service level policy that could provide detailed direction related to in and out of scope services, non-emergency services, and linkages to training and staffing standards.

Motor vehicle incidents represent between 7 and 10% of total calls for assistance.

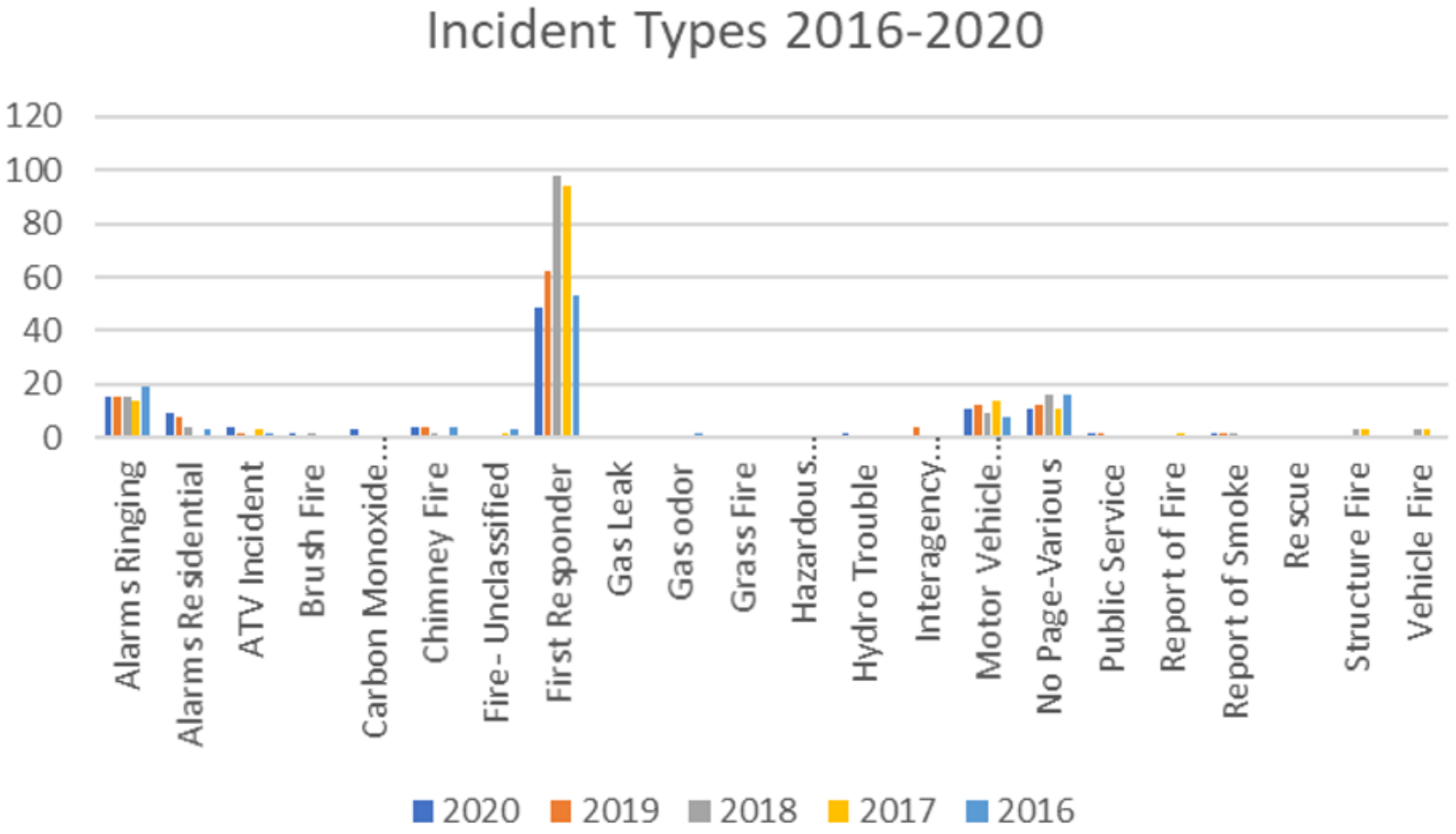
The medical first response calls for service are the most significant and fastest-growing segment of TRFD call types. These calls are impacted in frequency and duration by nursing shortages in the local health care facility requiring the movement of patients to other communities.

There are reasonable limitations in place related to some specialties like rope rescue and dangerous goods response. It is not clear that alternative plans have been made and exercised on access to alternative service providers. Service level policies should clearly state where to source services deemed outside the scope of local operations.

Staffing levels, including total numbers of available staff, their training and experience, have a significant impact on the ability of TRD to meet adequate minimum staffing for many "routine" emergencies. For example, adequate minimum staffing for a structure fire where a fire department wishes to do interior operations is between 14 and 16 firefighters. TRFD reports are regularly having fewer than five firefighters available for an initial response to an emergency call.

TRFD Responses

The following charts illustrate the types and relative frequency of incidents in DoTR. These charts are a rollup of data provided by TRFD and are illustrative of the various incident types and form part of the risk analysis of the District. Motor vehicle collisions, medical first responses, and reportable fires make up most emergency calls. Wildland fires, while a significant threat, form a relatively small percentage of overall responses.



The profile of emergency calls is what one would expect to see in a jurisdiction like Tumbler Ridge and reflects the training and competency strategies developed by the department. Most emergency calls fall into training categories contained within the NFPA 1001 Standard for Fire Fighter Professional Qualifications. Most rescue events are motor vehicle collisions. TRFD training priorities reflect this reality. Specialty rescues appear to be uncommon, with statistics indicating only 2 Industrial responses in the 5-year reporting time frame 2016-2020. TRFD responded to two hazardous materials events during the reporting period.

Medical first and co-response have added a medical training component to base training needs. The relative rarity of technical and other rescue events makes them prominent areas for alternative delivery models. These service-level decisions allow “regular” training to focus on the core competencies required to deal with the other 98% of emergencies occurring within the District.

Medical first and co-response (First Responder) is the largest category for emergency responses for the department. Before Covid 19, first responder calls accounted for 62% of total calls for assistance. Deployment orders from the BC Ministry of Health resulted in a 50% reduction in first responder calls. It is reasonable to assume that call volumes for this type of event will increase to pre-Covid levels with the relaxation of restrictions. Incident volumes should be monitored and reported on, particularly with the current concerns related to the ability of the Tumbler Ridge Health Care Centre to care for patients in the community.

Nurse shortage in Tumbler Ridge prompts closure of overnight emergency service

Northern Health authority is searching for more staff

CBC News · Posted: Jun 18, 2021 3:26 PM PT | Last Updated: June 18

Residents in Tumbler Ridge who are in need of emergency medical care will need to drive at least an hour to the nearest hospital. The community has lost one of its two nurses which prompted the closure of their overnight medical service.

Unpaged calls represent those calls received by the fire department by telephone or other non-dispatch means and result in investigation and action, usually by the Fire Chief and on-duty Captain without activation of the PoC firefighters. False alarms and fire alarm calls represent a small percentage of emergency responses in Tumbler Ridge. The numbers of events are relatively stable from year to year, with no trends or concerns noted. Residential and commercial alarms represent two different types of events and should continue with separate reporting. Some jurisdictions see increases in the numbers of residential alarm calls with the proliferation of home alarm systems, which can be a financial and operational burden to volunteer fire services.

Finance and Budget

Fire department budgets should reflect the programs and service levels that Council has approved, where Council wishes a specific service for the community. In that case, it will also have to provide adequate funding to ensure that the program has the equipment and personnel required to deliver those services. Budget requests for fire department services frequently capitalize on existing staff capacity to provide a service, so submissions for service level change are often related to purchasing tools and training, not personnel.

Budget deliberations for existing or new services should assess the department's ability to staff the services adequately. Most fire departments have adequate data systems to inform the Council on the frequency of events, staffing levels required for specific services, and the ability of the department to muster adequate staffing. TRFD has an excellent data management system in place.

Observations:

TRFD is an active participant in the municipal operating and capital budgeting processes utilized by the DoTR.

Fire department budgets appear adequate for the provision of fire protection services.

The annual cost per capita for fire protection in the DoTR is $247.32 based on the 2016 Tumbler Ridge Census population of 1,987 persons. The per capita rate reported here does not include bylaw enforcement costs.

Agreements and Services

Fire service agreements are a tool commonly used by municipal Councils to augment various services in their community. In the fire service, there are two types commonly used: mutual aid and fire service agreements.

Mutual aid agreements provide the authority and processes to share resources with other jurisdictions in time of need. Understanding where help is coming from can be critical as most emergency events are fast-paced and require fast action that traditional approval processes may not accommodate. The mutual aid agreement is the Council's approval of the conditions, cost recovery considerations, and other considerations they may deem appropriate. Often the mutual aid agreement links multiple jurisdictions.

Figure 22: Mutual aid builds teams for large-scale or complex incidents outside a single department's capabilities.

Fire service agreements represent contracts where a jurisdiction agrees to obtain services from another municipality or local authority, industry or private contractors. In this case, a specific service may include the complete provision of fire and rescue services from a provider. These agreements can be critical in providing services that are outside of the scope of the local authority's ability to resource or sustain.

Observations:

- A mutual aid agreement exists between the DoTR and the Peace River Regional District, City of Dawson Creek, Village of Pouce Coupe and the Toms Lake and District Volunteer Fire Department.
- There is currently no mutual aid agreement in place with the District of Chetwynd.
- No service agreements were made available to the consultants related to relationships with local industry or other third-party organizations.

Staffing Model

TRFD is a composite fire department and employs both career and PoC personnel to carry out Council's service level instructions. An effective composite staffing model balances a healthy PoC roster, trained and available to meet the operational and administrative needs with career personnel that can provide administrative and operational supports, ensuring an effective organization and response. The model is highly efficient but does require ongoing adjustments and support.

Current trends in the fire service identify high turnover rates of PoC or volunteer staff, with anecdotal evidence suggesting rates often over 25% annually in some areas. Recruitment and retention programs that include effective basic training systems must be structured to meet the turnover rates. Fire services depend on long-term volunteers who are committed to training and 24/7 availability to respond. Modern voluntarism trends suggest people are looking for episodic volunteer opportunities to volunteer for a short-term event or function, get it done and move on. Traditional approaches to recruitment and retention do not work well, and the operating expectations for the PoC or volunteer firefighters are not measurably different than they were 50 years ago.

Paid Call Firefighters are employees with specific needs that will require assessment and programs that support their unique needs. Training systems require balancing the organization's needs packaged and delivered to support and encourage firefighters.

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, 2020 Edition

Part of determining the adequacy of a fire department's staffing model relates to meeting performance metrics. These can include how long it takes to get a fire truck staffed and moving, total response time for the first fire truck, and how long it takes to muster "minimum effective staffing" for a given incident.

Occupational Health and Safety legislation requires employers to do a hazard assessment of the worksite. The hazard assessment must identify the hazards and include measures to eliminate or control those hazards. The evaluation would consist of the number of employees required to resource the work and any safety roles on the site. While no specific legislation specifies this, standards provide an industry perspective on career and volunteer systems for structural fire responses. While appropriate for simple residential structure fires, they do not apply to other, more minor, or critical emergencies.

NFPA 1720 provides some guidance on minimum numbers for adequate staffing levels that reflect the realities of volunteer fire department response to urban, suburban, and rural service level expectations. There is no specific standard for composite staffed departments. NFPA 1720 recognizes that there are hazards in many jurisdictions requiring special consideration. The staffing levels contained in NFPA 1720 should serve

as a baseline to measure task complexity and risks when assessing non-fire, wildfire, or conflagration emergency events.
The following chart is an excerpt from NFPA 1720 that shows deployment time and adequate minimum staffing for various demographic areas of the jurisdiction. The ***minimum*** staffing in NFPA 1720 is the number of firefighters required to extinguish a 2,000 square foot, low hazard residence safely. The low staffing numbers in terms of PoC's and their level of training is an essential factor when considering fire department service levels.

Demand Zone	Demographics	Minimum Staff to Respond	Response Time in Minutes	Meets Objective (%)
Urban Area	Greater than 1,000 people per square mile	15	9	90
Suburban Area	500-1000 people per square mile	10	10	80
Rural Area	Less than 500 people per square mile	6	14	80
Remote Area	Travel distance equal to or more than 13 kilometres	4	Directly related to distance travelled	90
Special Risks	Determined by AHJ	Determined by AHJ based on Risk	Determined by AHJ	90

Figure 24: NFPA 1720 Table 4.3.2 Staffing and Deployment

NFPA 1720 recognizes and encourages creative deployment models consisting of standard response models that include applying mutual aid agreements to meet response objectives.

Observations:

TRFD staffing number ranges from 10 to 15 PoC members at any given time. These fluctuations are not a new phenomenon and reflect staffing trends over the past five years.

A full-time fire chief leads the department with the assistance of a full-time captain. The Captain's work profile reflects a deputy chief's work, but that title currently resides with a PoC member.

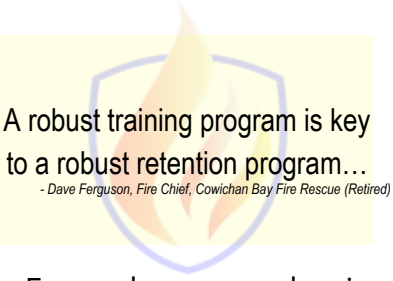
According to data provided by the department, nine members of the current 15 members (including career staff) are either probationary with limited training or have only received training in exterior operations. Staff shortages are made more concerning due to the limited training and experience of most members.
There are inadequate numbers of personnel to implement any reasonable duty schedule.

Turnouts for emergency calls average five members, including career staff. Daytime staffing is the most concerning, but there is a wide diversity of responses at all hours. Work and the need to leave the community for many services add to the variable staffing numbers.

Analysis of fire statistics for 2021 reveals that one firefighter responded to 7 responses and another seven incidents had only two members respond.

There is no coordinated recruitment and retention program that addresses the recruitment and training of recruits.

Training



WorkSafeBC defines a qualified employee as "being knowledgeable of the work, the hazards involved and the means to control the hazards, by reason of education, training, experience or a combination thereto." Only those employees who are deemed competent can be assigned work. Even where a worker is on-site but not directly engaged in the "work," they require sufficient training to recognize the hazards represented on the site, use required PPE, and protect themselves from injury. Due to the nature of the emergency response and large team operations, a firefighter may not get the opportunity to perform critical skills in a "real life" form. This reality and the life and death nature of many fire departments' operations means that training is essential to maintaining an acceptable level of safety and effectiveness.

All Canadian occupational health and safety legislation assumes that workers who will be assigned work will meet this definition and that anyone else on the worksite will be capable of identifying and protecting themselves from injury. The employer is responsible for ensuring that the work assigned to its employees is within their training, qualifications, and experience or providing the necessary training ***before*** engaging their workforce in work. Workers include volunteer, PoC, part-time and career employees. Employees must refuse work that they deem unsafe, including not being trained to perform it safely.

Service levels approved by Council form the basis for the training requirements for a given fire department. Each approved service has a specific set of skills that need to be achieved and maintained to meet legislated requirements for competency and ensure that workers can deliver complex skills when required. Most training uses accepted industry standards as their knowledge base. These standards define critical information known as Job Performance Requirements (JPR's) that describe the sets of skills required for competence in a given function.

Figure 25: Training takes many forms but reflects the practical realities of firefighting and the dangerous workspaces that firefighters will have to manage.

The fire service, recognizing the specialized and high-risk nature of fire and rescue responses, has developed internationally recognized competency standards describing minimum training requirements for most fire department operations. These competency standards are the basis of most recognized training programs and should guide ongoing competency maintenance training programs.

Skills maintenance and refresh programs are critical to maintaining basic levels of competence. The reality of fire fighting is that firefighters do not get the opportunity to use many essential skills over their careers. Gaining sufficient familiarity with a task means they must frequently train to ensure that when the time comes to employ the skills, they will be able to do so safely. The JPR's itemize the vital skills that need to be mastered in initial training and form the foundation of ongoing skills maintenance training programs.

Figure 26: Practical training is backed up by extensive classroom and home study to ensure that firefighters have the basic knowledge to support skills development.

Most career departments hire qualified firefighters or engage them in an academy and provide the necessary training before being assigned to a station. Volunteer or Paid on Call departments generally hire untrained individuals and then, over varying periods, provide training in 32 to 40-hour blocks over different periods. This approach recognizes the challenge of delivering baseline training for these staff. Still, it often fails to achieve minimum competency levels for the potentially dangerous worksites where firefighters work.

Most volunteer/PoC fire departments depend on a traditional 2-3-hour training evening for essential and ongoing skills maintenance. The weeknight training model is a training regime that dates back decades. Analysis of these sessions reveals that they do not generally provide an effective vehicle for delivering training to the modern fire service. The relatively short duration of the session limits the number of evolutions (practice sessions specific to a skill or function) that are available to firefighters over the training session. For many firefighters, this means they will receive less than 20 minutes of "time on task" training and frequently will spend the entire session observing or performing station duties. Managing skills that have significant life safety implications takes time and repetition to master. Despite this, all attending members will be "signed off" as having achieved the requisite skills, despite having little or no actual opportunity

to perform them or be assessed. Delivery models for training increasingly use a combination of self-study processes for theory and practical training sessions that consolidate multiple JPR's into more lifelike training experiences led by qualified and experienced instructors.

Efficient management of the Paid-on Call firefighter's time is essential. Planning for training sessions should take full advantage of the attendee's time, and everyone should leave the session with a sense of "That was time well spent."

Additional training requirements include emergency medical or first aid training, Workplace Hazardous Materials Information System (WHMIS), emergency scene traffic control and flagging and others specific to the workplace. These should be included in annual training programs as they would with any other local authority employee.

Figure 27: Firefighters training with EMS on patient stretcher handling

Service level policies are a vital tool in the assignment of work to fire departments. The local authority needs to understand the training implications of adopting a service. Most fire departments struggle to maintain core competencies but add additional functions with limited use and burdensome training requirements. Rescue, water and ice rescue, high angle rescue and hazardous materials response are examples of high risk and high training commitment services.

Observations:

TRFD has a strong commitment and pride in training at all levels of the department. A review of training records reveals excellent turnouts to regular and other training efforts of the department.

The fire department invests significant amounts of training time into training for emergency medical first responders to meet requirements. The fire department employs a weekly training evening and accesses externally provided certification training to achieve its training objectives.

There are few instructors to deliver TRFD training programs. The turnover of PoC firefighters and their need for entry-level education is the primary focus for TRFD instructors.

Job Performance Requirements of the NFPA 1001 standard provide adequate training for most of the skills required by TRFD firefighters. Others include wildland firefighting and motor vehicle rescue.

TRFD would benefit from developing a JPR based training calendar as the basis of their training program. Initial training of firefighters should focus on NFPA 1001 Level 1 certification and basic vehicle rescue training.

Training Grounds:

Fire service practical training with live fire is challenged in most jurisdictions to comply with provincial occupational health and safety and environmental protection regulations. Traditionally, fire departments would use abandoned and condemned buildings for live-fire training. WorkSafeBC has created rules that make these dangerous practices very difficult to perform safely. It also resulted in the release of many pollutants into the atmosphere, ground, and water systems. The transition to training grounds is essential to ensure that firefighters can continue gaining the necessary experience operating in high-temperature environments like they do in real-world responses.

The training grounds in use by TRFD are an essential part of the department's training program. It offers necessary community facilities that support safe and effective live fire training and realistic training scenarios for TRFD firefighters. Practical training with live fire is critical to reinforce theoretical learning, particularly with the decrease in fire responses.

The training simulators are well planned, constructed and maintained and are a well-deserved point of pride for department members. The training props reflect the realistic scenarios that focus on core response functions.

The proposed site has piped water services, but the proximity of neighbouring businesses hampers operations, and the need to be sensitive to roadway access as the site cannot accommodate the aerial or more considerable fire apparatus.

The current site is not paved, which creates numerous operational and functional challenges for training.

There are no classroom or washroom spaces at the training site.

There is no master plan governing the long-term development of the facility.

Observations:

- The current fire training grounds provide essential practical training opportunities for fire suppression, vehicle rescue and other skills critical to delivering existing services. The simulations are not available anywhere else in the District, and other training facilities are too far away to be practical.
- There are no recommendations related to updating or changing the location of the training grounds. Fire station discussions should include supporting practical training requirements of TRFD. Including some elements of the department's training needs in an updated or new fire station will change the simulator and site requirements for training.

Apparatus and Equipment

Firefighting apparatus and equipment are selected to match the service level policies approved by Council. Due to the complexity of modern equipment and its life safety role in keeping firefighters and the public safe, careful consideration of modern technology is required to ensure the elements have a high degree of dependability. As a result, the design, construction, use and maintenance of firefighting equipment have stringent design standards with which employers must comply.

WorkSafeBC references NFPA standards as the minimum design guidance for PPE. The standards deal with the construction and performance of firefighters' protective ensembles and include respiratory protective equipment, protective jackets and pants, wildland coveralls, gloves, helmets, and boots. Fire hoses and other equipment have specific design standards that include maintenance requirements of their own.

Fire apparatus that includes any motorized vehicles used by the fire department has its design and maintenance standards. They include:

- NFPA 1901 Standard for Automotive Fire Apparatus, 2016 Edition
- NFPA 1911 Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Emergency Vehicles, and
- NFPA 1906 Standard for Wildland Fire Apparatus

Maintenance of fire apparatus is challenging due to the complexity and interconnection of chassis and firefighting equipment on modern fire apparatus. Emergency Vehicle Technician certification is available to mechanics who will be assigned maintenance duties on fire and other emergency vehicles.

Observations:

TRFD fire apparatus is modern and well maintained. Maintenance records meet operational and industry best practices. TRFD apparatus and equipment have been professionally designed and are compliant with applicable legislation and standards.

he TRFD wildland vehicle is a poorly designed and equipped, station-constructed vehicle. It does not safely address the wildland fire response requirements for the department.

Figure 29: Equipment bays and pump. Vehicle should be assessed to ensure loaded weight is within gross vehicle weight restrictions.

Figure 30: TRFD Rescue vehicle

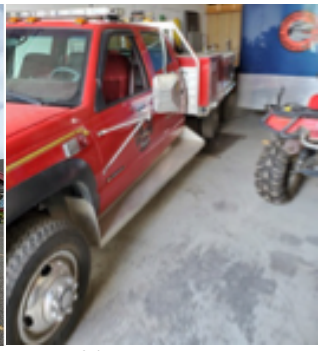


Figure 31: Wildland unit stored off site from fire station with Search and Rescue

TRFD PPE is modern and well maintained. PPE is maintained and tested following manufacturers' instructions. OG 2.03.01 provides direction to firefighters on minimum standards for PPE maintenance and references the manufacturer's instructions related to maintenance and repairs.

TRFD has operational guidelines dealing with a Respiratory Protection Program (OG#2.02.01), hose cleaning and inspection (2.06-04) and SCBA cleaning and maintenance (OG#2.06.01). Facilities are in place that support routine maintenance and testing of fire department equipment.

TRFD has added an extractor unit to properly clean firefighter's protective clothing according to the manufacturer's instructions.

TRFD sends damaged equipment and PPE out to qualified service agencies as required.

Figure 32: Tumbler Ridge FD extractor installed in work/service area.

Fire Station Location, Adequacy and Condition

Fire stations provide more than just a garage to store fire department vehicles and equipment. These complex facilities are required to support a wide range of administrative, health and safety and operational functions. The requirements and spaces required to meet these diverse needs are frequently unavailable in older buildings, despite being a requirement of WorkSafeBC and other legislation. It is also vital that the fire station be resilient and withstand foreseeable disasters that might affect a community. Seismic resilience of buildings is the most common reason for post-disaster building design; in areas like Tumbler Ridge, the fire station also needs to survive wildfires, extreme cold, power outages and severe weather.

Figure 33: Tumbler Ridge fire Station

While there are few standards directly relating to fire stations, WorkSafeBC requirements for the health and safety of firefighters and the industry's experience have provided vital guidance to the design of a modern fire station. Separations between operational and administrative areas of the fire department are required to isolate chemicals and carcinogens from vehicle exhaust and emergency scenes. Decontamination areas need to support the cleaning of vehicles, equipment, and people. These spaces must also protect uncontaminated PPE and functional spaces.

Training is a central function of most fire departments, so practical and theory skills areas are required.
The fire station is an integral part of recruitment and retention programs for volunteer or Paid-on-Call fire departments. There need to be opportunities to draw firefighters into the building and keep them linked to the organization. Strategic planning in existing and new buildings creates linkages between amenities of personal value to firefighters and helps address the organization's core needs. These may include quiet rooms for study or reflection, fitness facilities that address operational fitness and personal fitness goals, and technology hubs that support firefighters' online training and computer access.

Figure 34: TRFD fire station lounge/training area

Observations:

The current TRFD fire station was built in 1983 and added the east apparatus bay and training room in 1986. While it has received ongoing maintenance, the building is approaching the end of its functional life and will require significant investments to remain operational.
The fire station is part of a government campus at the center of the community providing excellent access to all areas of the community and both highways. It is also readily accessible to PoC firefighters who respond to the fire station and crew fire trucks.

Figure 35: Water damage on ceiling in apparatus bays

The current site is fully built out and cannot support the expansion of the building footprint. There is limited staff parking on site that requires some use of public streets for parking. There are no on-site spaces for visitors other than those located on the road.

Fire department personnel maintain the facility in a clean, neat, and professional manner in all spaces.

RDH Building Science was engaged in 2018 to assess several municipal facilities, including the fire station. They identified numerous concerns related to ventilation, building envelope, separation of spaces and the roof. Remediation of existing structures costing $250,000 would gain 5-10 years of service from existing systems. The complete restoration of the fire station was estimated at $1.5 million and would not add any additional space. These estimates are nearly four years old, and the building has continued to deteriorate. There are obvious indications of water leaks in the ceiling spaces.

The RDH review did not consider the operational effectiveness of the facility. Their recommended actions just return the facility to its original condition.

The current facility does not provide adequate decontamination spaces for equipment, vehicles. There are no designated decontamination showers or facilities for staff.

A room located off the apparatus bays on the facility's east side contains records and materials storage. It also includes a small workout area for the firefighters.

Figure 36: Storage/workout room annex off apparatus bays

The current facility does not provide adequate decontamination spaces for equipment, vehicles. There are no designated decontamination showers or facilities for staff.

A room located off the apparatus bays on the facility's east side contains records and materials storage. It also includes a small workout area for the firefighters.

There is a firefighter lounge/training area in the administrative section of the fire hall. It is poorly designed to support training efforts, despite the addition of some technology.

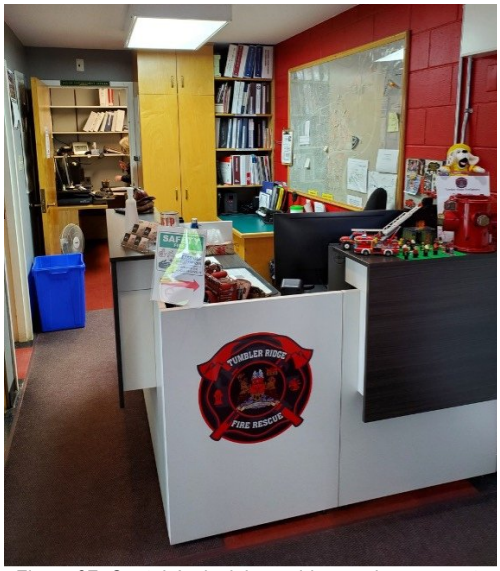


Figure 37: Captain's desk in corridor serving access to Fire Chief and Bylaw offices

There is one office in the fire station that the Fire Chief occupies. A storage room used by the Bylaw Officer as a workspace. The Captain has a poorly designed workspace in the entry lobby of the fire station.

The fire station lacks sufficient bay space for all fire department response vehicles. Storage for the wildland response unit is in an off-site facility requiring staff to deploy someone to the facility to retrieve the vehicle and return to the fire station to pick up the crew complement. The deployment of staff to alternate facilities delays responses where staffing is already a concern.

Records Management

Fire services, like any other municipal business unit, are required to maintain records of its operations. These records range from training and competency management records required by Occupational Health and Safety legislation to employment and other human resource records. The fleet of vehicles must adhere to the applicable sections of the Motor Vehicle Act Regulations that set out documentation requirements, including vehicle maintenance and operator licensing and qualifications. Fire departments also need to track emergency events as part of a provincial reporting requirement for fires resulting in injury, deaths, or dollar loss and inform longer-range trend analysis and planning.

Effective record management systems can serve as a robust risk management tool. Today's fire service lives in a litigious environment driven by increasing risks and the high costs of fire losses. Insurance companies and others are evaluating the effectiveness of fire responses to significant loss incidents. They can identify variances from accepted operations and seek to recover losses from the municipalities. Comprehensive fire service records that detail everything from education and training to detailed dispatch, response and command records are critical.

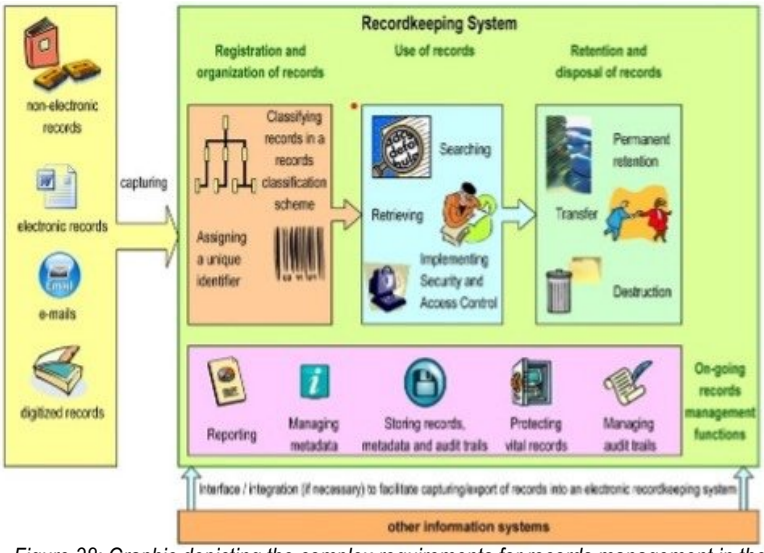


Figure 38: Graphic depicting the complex requirements for records management in the fire service.

Occupational health and safety considerations have added a critical element to fire department data management processes. Presumptive cancer legislation has been implemented that assumes that specified firefighter cancers are considered a result of their firefighting career. For PoC firefighters, there may be additional requirements to demonstrate attendance at particular events or support exposure claims. Similarly, occupational stress injuries and other exposures require an employer to support injury claims through records that can identify the nature of an incident and the role and exposure of individuals in their employ. These are sensitive records and must be protected rigorously.

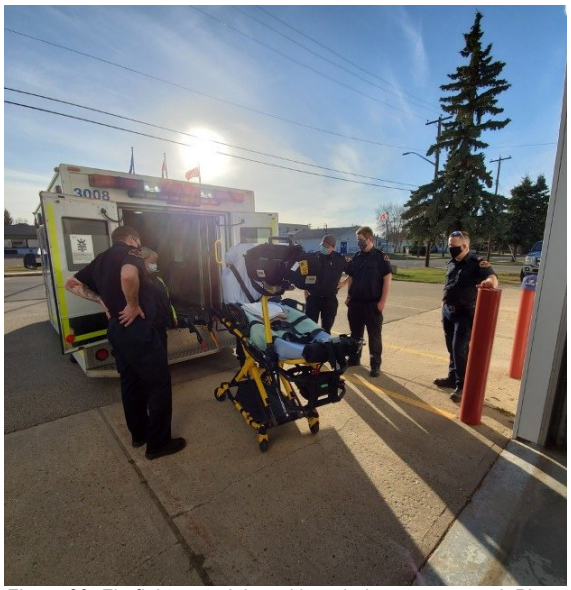


Figure 39: Firefighters training with ambulance personnel. Photo credit Sturgeon County Emergency Services

Fire department operations have also expanded into the delivery of health-related services. Fire services possess personal health information protected by provincial personal or health privacy legislation. Protection means that not only does the personal health information of the patient need to be secured, but they also have a right to access those records. Careful consideration is required to ensure that documents are kept as necessary and meet legislative requirements. Usually, operational guidelines and policies document collection and retention practices, with document retention and access policies governed under the local authority's global records management policies.

Good records management practices include annual updates and refreshers of privacy legislation and the jurisdiction's processes, particularly as they impact the individual worker.

Observations:

TRFD has implemented systems to address operational, training, inspection, and event records. FirePro2 is the software system selected by TRFD as its records management system. The software is robust and designed to meet the fire department's operational, prevention, and training requirements. The system is also valuable in tracking potential harmful exposures of firefighters through its event documentation modules. The system can maintain secure records, produce required data, and support mobile operations in emergency operations, fire inspections, and investigations. FirePro2 also supports mobile technology platforms, including tablets, to automate response and inspection-related activities.

Data security is in place and is generally acceptable. However, FirePro2 does not currently have an edit management capacity. Only authorized staff can amend saved documents. The lack of edit tracking means that there would be no record of the edits. Documentation of when modifications are made and by whom is essential to preserve the evidentiary value to these records should they be required in a court or other investigative processes.

The department falls under the DoTR records management processes for human resources, budget, billing, and planning. As such, processes are compliant with provincial legislation and follow municipal practices. PoC human resource records should be retained as a municipal human resource file to ensure future access should they be required for employment or health reasons.

Records related to employment, including those required by WorkSafeBC and other legislation, are maintained and accessible.

Records and data were made available to the consultant.

Training records are complete as it pertains to courses taken by firefighters. Tracking competency management processes and each member's compliance with those processes is evolving with the training program.

OG 3.03.04 Release of Information guides firefighters regarding the release of information in possession of the fire department. While it references provincial legislation and the “best interests” of the District, there are no process linkages to municipal information handling policies. TRFD should follow municipal practices, including clearing all information requests through the designated privacy officer, except for releasing basic information for emergency or public safety reasons.

Fire Prevention, Inspection, and Investigations

Fire prevention programs in British Columbia fall into two categories, discretionary programs and those that the Fire Services Act mandates. Discretionary programs include public awareness programs that teach residents and businesses how to improve fire safety through educational programs, including school programs and community programs like FireSmart wildfire prevention and preparedness. Mandatory programs include fire inspection and fire investigation programs.

The Fire Services Act requires municipal councils to inspect “hotels and public buildings” regularly. These inspections ensure that building fire protection systems like exits, alarms, sprinklers and fire separations are in place and maintained in working order. Reviews also provide that activities in the building are safe, emergency planning is in place, and flammable materials are stored properly.

Figure 40: Nationally, most fire deaths occur in residential properties, including inspectable buildings like apartments and condominiums

Public information and awareness programs provide residents and businesses with the information to prevent fires, improve community safety, and better react when an emergency occurs. Fire department public awareness programs have traditionally been focused on personal safety as it relates to fire. Still, they have in recent years expanded to include working with other agencies in areas like road and off-road vehicle safety as well as a wide range of health-related initiatives. Collaborative programs recognize the expanding roles of fire departments in these areas.

Figure 41: Sparky the fire dog figures prominently in TRFD's commitment to fire safety. Main public entrance of the fire station.

Prevention programs can also have a community level of focus. FireSmart programs provide information to individuals, property owners and the broader community on ways to prevent and mitigate the impact of wildfires in interface areas.

Observations:

TRFD inspects all hotels and public buildings per the Fire Services Act. OG 06-02-02 commits to inspecting hotels, schools, and assembly buildings once every nine months and all other inspectable premises once a year.

OG 6-02-01 Outlines a general approach to fire prevention programs in use by the fire department. It includes references to traditional elements such as school presentations, fire station tours and attendance at community events. There is no formal fire prevention

plan in place.

OG 6.02.03 provides a process for issuing burning permits within the District following the directives of the Fire Service Bylaw #573.

The only FireSmart observed activities are references and links on the TRFD website (part of the District of Tumbler Ridge website). There is no indication that any formal FireSmart programming is in place despite the extensive interface risks Tumbler Ridge faces.

TRFD is well connected to BC Wildfire and provides essential public information and support to residents on wildfire activities and news.

REFERENCES

Most of the information used to develop this review was received directly from TRFD as part of the information collection process. That information is essential as it relates specifically to the unique nature of the DoTR and the systems and services created to protect people, property, and the environment.

The following external sources are referenced or used by the consultant team to ensure that the data and recommendations included in the report follow accepted practices or laws of British Columbia, the District of Tumbler Ridge, and other applicable sources. These sources also provide valuable information resources to anyone wishing to seek a deeper understanding of the materials included in this report.

British Columbia Community Charter:
https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/03026_00

BC Structure Firefighter Competency and Training Playbook:
https://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/fire-safety/training/firefighter-playbook

British Columbia Wildland Urban Interface Fires:
https://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery/fire-safety/wildland-urban-interface-fire-information

FireSmart Canada: https://www.firesmartcanada.ca/

WorkSafeBC: https://www.worksafebc.com/en

Ministry of Environment and Climate Change Strategy: Ministry of Environment and Climate Change Strategy - Province of British Columbia (gov.bc.ca)

National Fire Protection Association Codes and Standards (Various):
https://www.nfpa.org/Codes-and-Standards/All-Codes-and-Standards/List-of-Codes-and-Standards

District of Tumbler Ridge Bylaws: provided by DoTR and TRFD on request
Tumbler Ridge Fire Department:
https://www.districtoftumblerridge.ca/Protective-Services/Fire-Protection

Volunteer Alberta: https://afca.ca/latest-news/item/238-volunteer-firefighter-recruitment-and-retention-toolkit