Regional District of Bulkley-Nechako Rail Safety Engagement Report

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1 Executive Summary

1.1 Purpose

The Rail Safety Report for the Regional District of Bulkley-Nechako (RDBN) was developed to evaluate rail safety risks, assess the region's capacity to respond to rail-related incidents, and provide actionable recommendations for strengthening preparedness and response capabilities. This initiative reflects the RDBN's commitment to safeguarding its communities, enhancing coordination among stakeholders, and addressing public concerns regarding rail operations, particularly those involving the transportation of dangerous goods.

1.2 Key Findings and Recommendations

The assessment highlighted several findings. Rail operations within the RDBN are extensive, with significant transportation of hazardous materials posing potential risks to communities and the environment. Emergency services demonstrated strong foundational response capabilities but identified challenges such as resource constraints, specialized training gaps, and equipment shortfalls. The Risk Assessment Workshop prioritized derailments, hazardous good spills, and environmental impacts as critical concerns. Public survey results emphasized the need for better public awareness around rail safety and emergency preparedness.

To address these findings, the report recommends:

- **Short-Term Actions:** Enhanced inter-agency coordination, targeted training for emergency responders, and addressing equipment shortages.
- **Long-Term Actions:** Policy updates, infrastructure investments, and collaborative initiatives with rail operators, Indigenous communities, municipalities and emergency services.
- **Community Engagement:** Developing public education programs to improve awareness and preparedness for rail-related emergencies.

1.3 Summary of Engagement and Recommendations

Engagement with stakeholders formed the foundation of this report. A **Risk Assessment Workshop** brought together emergency services, and key stakeholders to identify and prioritize rail safety risks. The **Incident Response Workshop** focused on evaluating current response capabilities, identifying gaps, and recommending improvements for coordinated

emergency management. An **online public survey** captured valuable insights from residents across the RDBN, highlighting community concerns around safety, preparedness and communication.

The recommendations outlined in this report address immediate needs while establishing a sustainable framework for long-term rail safety improvements. By fostering collaboration, enhancing emergency response capacity, and engaging the community, the RDBN can mitigate risks and strengthen overall resilience to rail-related incidents.

2 Introduction

2.1 Background

Rail operations play a vital role in the RDBN, supporting economic activity while presenting unique safety and environmental challenges. With increasing volumes of rail traffic, including the transportation of dangerous goods, concerns about rail safety, incident response capabilities, and community preparedness have become a priority for the region. Recognizing the need for a comprehensive assessment, the RDBN initiated this Rail Safety Report to evaluate existing systems, identify gaps, and provide actionable strategies to enhance rail safety and emergency management across the Regional District.

2.2 Report Objectives

The Rail Safety Report aims to:

1. Assess the current state of rail safety operations, infrastructure, and emergency response programs within the RDBN.
2. Identify key risks and hazards associated with rail operations, including those involving dangerous goods.
3. Evaluate the capacity of emergency services and local agencies to respond to rail-related incidents effectively.
4. Incorporate feedback and insights from key stakeholders, emergency services, Indigenous leaders, and the public to inform recommendations.
5. Develop short-and long-term strategies to improve rail safety, enhance inter-agency coordination, and build community resilience.

2.3 Methodology Overview

A multi-faceted approach was adopted to ensure a thorough and inclusive assessment of rail safety across the RDBN:

- **Program Discovery:** A review of existing policies, infrastructure, and EM programs to determine the current state of rail safety preparedness.
- **Risk Assessment Workshop:** Engagement with emergency services, Indigenous leaders, and stakeholders to identify and prioritize rail safety risks.
- **Incident Response Workshop:** Focused discussions on evaluating current response protocols, identifying gaps, and exploring opportunities to enhance coordination and capacity. The workshop also included a survey for emergency responders.
- **Public Survey:** An online survey distributed to the RDBN population to capture community perspectives, concerns, and insights regarding rail safety and preparedness.

By integrating program discovery, targeted workshops, and public engagement, the methodology ensures that the report's findings and recommendations are data-driven, stakeholder-informed, and reflective of regional priorities.

3 Current State Assessment

3.1 Program Discovery

The program discovery process evaluated the RDBN's emergency management (EM) framework, focusing on its goals, structure, and approach to risk assessment. The findings indicate that the EM program has a defined scope and clear objectives, particularly in identifying and managing risks associated with rail safety. However, while the hazard identification process is robust, it is primarily reactive, and there are gaps in integrating these efforts with broader regional planning initiatives. This creates opportunities to incorporate rail-specific risks into comprehensive long-term planning.

The Emergency Executive Committee plays a central role in overseeing EM activities, ensuring organizational roles and responsibilities are assigned. However, current structures lack formalized processes for inter-agency communication and decision-making during rail

incidents. Enhancing governance structures and accountability frameworks will strengthen overall preparedness and response coordination.

A significant gap identified during program discovery is the presence of un-serviced areas within the region – areas where no fire department is available to provide coverage. These un-serviced areas pose a critical challenge for incident response, particularly for rail-related emergencies that may require timely containment of hazardous materials or fire suppression. Addressing these gaps will require collaborative planning and resource allocation to ensure coverage in high-risk, remote areas.

Key findings include:

- The EM program identifies hazards effectively but lacks consistent prioritization of rail-specific risks.
- Communication processes between internal teams, rail operators, and external agencies needs improvement.
- Measurable, actionable goals related to rail incidents are limited and need further refinement to guide EM activities.
- Un-serviced Areas: Areas within the region that lack dedicated fire department response coverage, as well as those areas that may be difficult to access.

3.2 Infrastructure Overview

The current state of rail infrastructure within the RDBN was reviewed as part of the discovery process. Findings indicate that the region contains significant rail activity, including major rail lines, crossings, and key transport hubs that support both economic activity and the movement of hazardous goods. Rail corridors traverse populated and environmentally sensitive areas, which amplifies the potential impact of incidents such as derailments, spills and crossing accidents.

While rail infrastructure is generally well-maintained, gaps remain in monitoring and mitigation measures, particularly at high-risk locations. These include unprotected crossings in rural areas and rail segments near densely populated or environmentally vulnerable zones. Additionally, emergency services personnel emphasized the need for proactive engagement with rail operators to address infrastructure risks before they escalate into incidents.

Key findings include:

- Rail infrastructure serves a vital economic function but presents risks that require more focused mitigation.
- Existing rail crossings and vulnerable areas lack consistent monitoring and preventative safety measures.
- Greater collaboration with rail operators on maintenance, incident reporting, and risk mitigation strategies is needed.

3.3 Community Capacity

The assessment of community capacity examined the readiness of emergency services, resources, and response protocols to address rail-related incidents. Findings from program discovery highlighted that while emergency services in the RDBN have strong foundational capabilities, there are gaps in equipment, coordination, and preparedness specific to rail emergencies. Fire services, police, and emergency responders operated within their mandates effectively, but limited resources and formalized processes hinder their ability to manage large-scale or complex rail incidents.

The resource constraints are a notable concern, with emergency responders identifying insufficient access to specialized equipment, such as hazardous materials containment tools, spill kits, and rail-specific response apparatus. Additionally, limited availability of personnel, particularly in rural or remote areas, creates challenges for timely responses. Emergency plans are in place but are often generalized and lack rail-specific considerations.

The findings also reveal coordination gaps across jurisdictions and agencies. While local emergency services can respond to smaller incidents effectively, managing larger or multi-jurisdictional rail emergencies requires clearer coordination frameworks. For example, formalized communication and joint protocols with rail operators, provincial agencies, and neighboring jurisdictions are limited, delaying response efforts during incidents.

Additionally, findings suggest that while current EM plans are functional, they primarily address broad hazards and lack detailed strategies specific to rail incidents. These include:

- Defined roles and responsibilities during rail-related emergencies.
- Inter-agency communication protocols for incidents involving hazardous materials.
- Regional collaboration strategies for incidents that cross jurisdictional boundaries.

Key findings include:

- **Resource Gaps:** Limited availability of specialized tools and equipment for managing rail-related incidents.
- **Personnel Challenges:** Staffing limitations, particularly in rural areas, impact response times and capacity.
- **Coordination Gaps:** Limited formalized protocols for inter-agency collaboration and rail operator engagement.
- **Rail-Specific Planning:** Existing EM plans lack detailed considerations for rail-specific risks and response measures.
- **Business Continuity Risks:** The Emergency Operations Centre (EOC) for the RDBN is co-located within the region administration building, which sits less than 100m from the rain line. This proximity increases the risk of operational disruptions during a rail incident, necessitating contingency planning for EOC relocation, continuity of governance functions, and redundant communication.

4 Engagement Overview

4.1 Emergency Services Risk Assessment Workshop

The Emergency Services Risk Assessment Workshops were designed to gather participants' insights into rail-related risks and their perceptions of the current hazard landscape. Discussions focused on identifying key risks, exploring factors that could influence these hazards over time, and considering how such changes might either heighten or mitigate potential threats.

A total of three (3) workshops were conducted to capture a broad range or perspectives from across the region. Participants included municipal and regional Fire Chiefs, Emergency Program Coordinators, Regional District staff, representatives from the BC Ambulance Service, Health Emergency Management BC, BC Wildfire Service, the Ministry of Transportation, and CN Rail.

4.2 Incident Response Workshop

The Incident Response Workshops offered a platform to examine rail-related scenarios, identify immediate response actions, and evaluate resource requirements and critical

training gaps. These workshops aimed to enhance community preparedness and resilience by fostering a collaborative approach to addressing rail incidents.

Participants engaged in two realistic scenarios designed to reflect plausible challenges: one involving a hazardous material derailment near a residential area, and the other focusing on a train blocking emergency access routes during a critical incident. These scenarios facilitated in-depth discussions on response strategies and highlighted areas where improvements in coordination, resources, and training are needed

4.3 Online Public Survey

The Online Public Survey was conducted to gather community perspectives on rail safety within the RDBN. The survey aimed to identify residents' concerns, assess their awareness of rail-related risks, and understand their preparedness for potential emergencies. Responses provided valuable insights into public perceptions of hazardous materials transport, confidence in emergency response capabilities, and the adequacy of existing safety measures. Additionally, the survey captured input on the types of resources and information residents feel are necessary to improve preparedness, such as evacuation routes, guidance on responding to rail incidents, and details about hazardous materials being transported through the region. This feedback forum was available for two weeks, from December 12 – 24, 2024.

5 Risk and Hazard Assessment

5.1 Overview of Identified Risks

The risk and hazard assessment revealed significant concerns related to rail operations within the RDBN. These risks were identified through a comprehensive review of existing EM frameworks and facilitated workshops with emergency services and stakeholders. The identified risks primarily relate to rail infrastructure, dangerous goods, and the impacts on people, communities, and critical infrastructure.

One of the key findings is the increased movement of dangerous goods through the region, coinciding with the ongoing expansion of the Port of Prince Rupert. This expansion will result in higher rail traffic volumes transporting dangerous goods such as Liquefied Petroleum Gas (LPG), liquified petroleum gases, and chemicals. Workshop participants emphasized that this increase in dangerous goods poses a growing risk to both environmental and human safety, particularly given the region's proximity to waterways, forests, and critical infrastructure.

A critical infrastructure concern identified was the presence of aging rail ties throughout the region. The status of these rail ties may increase the risk of derailments, particularly in areas of heavy traffic or where infrastructure intersects with environmentally sensitive zones. While overheads were also discussed as a potential risk, the state of aging rail ties was highlighted as a more significant and widespread issue requiring attention to prevent future incidents.

Additionally, stakeholders raised concerns about secondary hazards, particularly fires resulting from derailments or hazardous materials spills. Fires can escalate quickly, especially if combustible materials such as LPG or propane are involved, significantly increasing the potential for explosions, posing catastrophic threats to emergency responders, residents, and critical infrastructure.

Workshop participants emphasized that fires occurring in remote areas or on rough terrain present unique challenges. In these cases, accessing the fire to initiate suppression efforts can be delayed to limited road access, rugged landscapes, or the absence of fire department coverage in un-serviced areas. Such delays allow fires to escalate and spread, endangering communities, ecosystems, and critical infrastructure.

Specific risks include:

- **Derailments and Hazardous Materials Spills:** Increased traffic carrying dangerous goods heightens the likelihood of incidents that could result in large-scale environmental contamination and safety hazards.
- **Fires as Secondary Hazards:** Fires resulting from derailments involving hazardous materials can escalate rapidly, with the potential for explosions that threaten nearby communities, infrastructure, and emergency responders.
- **Access Challenges in Remote Terrain:** Fires in remote or rugged areas may face delays in suppression efforts due to rough terrain, limited road access, and potential lack of fire department coverage.
- **Old Rail Ties and Aging Infrastructure:** Condition of rail ties may increase the potential for rail failures, posing risks to communities and surrounding ecosystems.
- **Transportation Corridor Disruptions:** As a vital link for movement throughout the region, disruptions along the rail corridor could have cascading impacts on regional and national supply chains.

- **Community-Wide Impacts:** Rail incidents occurring within community boundaries are likely to affect entire populations and surrounding infrastructure due to interconnected transportation networks and emergency response systems.

5.2 Risk Prioritization Based on Workshop Findings

During the facilitated workshops, stakeholders collaboratively identified and prioritized risks based on severity, likelihood, and potential impacts. Using maps and facilitated discussions, participants highlighted areas of vulnerability and concern. The following priorities emerged:

1. **Environmental Impacts:** Environmental concerns were identified as the top priority. Hazardous materials spills were considered a significant risk due to their potential to contaminate waterways and ecosystems. Specific concerns include:

    - Contamination of rivers, lakes, and streams, which serve as critical water sources and fish habitats.

    - Threats to ecosystems, vegetation, and Indigenous food sources, particularly fish.

    - The long-term impacts of spills or leaks on natural resources, which would significantly affect the local communities and industries.

2. **Accessibility Challenges:** Accessibility was identified as the second-highest priority, particularly the risk of rail incidents obstructing transportation routes and critical infrastructure. The ability to access and respond to a rail incident is a critical concern, as many sections of the rail corridor pass through remote or rugged terrain with limited or no road access. This creates significant challenges for emergency responders attempting to reach an incident site, potentially delaying containment and mitigation. Key concerns also include:

    - **Blocked Emergency Access:** Rail incidents could restrict the movement of fire, police, and paramedic services, delaying responses to emergencies.

    - **Critical Infrastructure and Vulnerabilities:** Facilities such as water treatment plants, hospitals, schools, pipelines, and government offices are highly dependent on accessible transportation corridors and uninterrupted operations.

    - **Community Access:** Many residents, including students and workers, rely on ferries, buses, and regional road networks to travel between communities. Participants noted that some students travel nearly two hours by ferry and bus,

underscoring the importance of maintaining safe and reliable transportation routes.

3. **Fires and Explosions:** Fires were identified as a significant secondary hazard, particularly in incidents involving flammable or combustible materials like LPG. Fires pose:

    - **Risks of Explosions:** Escalating fire incidents increase the likelihood of explosions, endangering first responders, residents, and critical infrastructure.

    - **Challenges in Remote Areas:** Fires occurring in remote or rugged areas present significant delays in suppression efforts due to rough terrain, limited access, and un-serviced areas without fire department coverage. These delays allow fires to spread further, amplifying their impact on nearby communities and natural resources.

4. **Community-Wide Effects:** Given the interconnected nature of communities in the RDBN, a rail incident in one area would have cascading impacts throughout the region. For example:

    - **Economic Disruption:** Increased movement of goods to the Port of Prince Rupert means that disruptions to rail corridors would impact industries such as forestry, mining, and agriculture, leading to economic losses and potential job impacts.

    - **School and Work Commutes:** Rail incidents could disrupt daily commutes, delaying workers and students who travel significant distances.

    - **Un-serviced Areas:** Un-serviced areas remain a major vulnerability, where the lack of fire department coverage leaves communities reliant on delayed RCMP intervention during emergencies.

5.3 Environmental Economic and Community Impacts

The discussions highlighted that the increased transportation of dangerous goods amplifies the potential for economic, environmental, and social disruptions throughout the RDBN. Rail serves as the primary link to the Port of Prince Rupert, which has seen significant expansion and increased volumes of hazardous cargo, such as LPG and chemicals. A major incident would disrupt regional and national supply chains, directly impacting industries that rely on rail for the transport of raw materials and finished goods.

From a community perspective, rail incidents pose significant risks to critical infrastructure and services, including hospitals, educational institutions, childcare facilities, pipelines, water treatment plants, and government facilities. Workshop participants emphasized that any disruption to these services would jeopardize public health and safety, particularly in areas where alternative resources are not readily available. Additionally, vulnerable populations living near rail lines or in un-serviced areas face elevated risks due to the lack of timely emergency response capabilities.

Environmental impacts remain the most pressing concern. Contamination of rivers, lakes, and other water bodies could have devastating consequences for ecosystems, fish populations, and the communities – particularly Indigenous groups – that rely on these resources for food and cultural purposes. Participants also discussed challenges of implementing proactive measures, such as shelter-in-place or evacuation order, in cases where access and egress routes are obstructed by rail incidents.

5.4 Accountability and Risk Ownership

Risk responsibility in the RDBN involves defining the roles and obligations of various partners when a rail-related incident occurs. **CN Rail**, as the primary rail operator, holds responsibility for rail safety, infrastructure maintenance, and incident response on its property. **Shippers and transporters of hazardous materials** are accountable for ensuring regulatory compliance and may bear financial responsibility for spills or contamination. While **municipal and regional governments** are not responsible for rail infrastructure, they play a critical role in emergency planning, coordination, and public safety, including evacuation and shelter-in-place orders. **Provincial and federal agencies,** such as Transport Canada, oversee regulatory enforcement and may provide support in large-scale incidents. When an incident occurs, responsibility is distributed based on jurisdiction. CN Rail is responsible for managing incidents on its property, but when hazardous materials impact surrounding communities or critical infrastructure, response coordination shifts to local emergency services. In remote or un-serviced areas, the **RCMP and provincial agencies** often become involved.

Financial liability is another key component, as hazardous materials incidents often result in significant cleanup costs. Without cost recovery bylaws, municipalities risk absorbing these expenses. Infrastructure damage from derailments or fires can further complicate liability, requiring collaboration between local governments, industry partners, and regulatory bodies to determine accountability. Strengthening regional preparedness through clear risk ownership, formalized response agreements, and regulatory enforcement will assist incident management activities while preventing undue financial and operational burdens.

6 Incident Response and Resource Gaps

6.1 Current Response Capabilities

Response capabilities across the region share a common challenge: wherever an incident occurs, the ability to effectively mitigate it is significantly limited. Fire Departments in the region lack the specialized equipment and training required to manage most hazardous materials (Haz-Mat) incidents. Only a small percentage of responders are trained to the **National Fire Protection Association (NFPA) 1072 Haz-Mat Operations Level.** The limited equipment available on fire apparatus is sufficient for managing smaller-scale incidents, such as diesel or gasoline spills.

Using handheld gas detectors, responders can assess air quality to identify **Immediate Dangerous to Life or Health (IDLH)** environments, such as areas with reduced oxygen levels. However, these devices cannot identify the specific IDLH threat. Discussions during the three-day workshops highlighted that current training supports basic product identification and, with the assistance of resource applications such as the Wireless Information System for Emergency Responders (WISER) and the Canadian Trasport Emergency Center (CANUTEC), responders can:

- Establish hot zones and safe boundaries.
- Identify necessary evacuation zones.
- Provide decontamination strategies for potentially exposed individuals.

However, the ability to mitigate Haz-Mat incidents diminishes the longer the situation remains unresolved. Delayed mitigation increases potential risks to life safety and the environment. While delayed intervention might reduce responder exposure as contaminants off-gas or leach into the ground, it exponentially raises clean-up costs. Clean-up tasks often fall outside the scope of Fire Department responsibilities and are typically managed by private contractors. Without clear bylaws outlining responsibility for response and clean-up costs, the **Authority Having Jurisdiction (AHJ)** may face a significant financial burden.

The local rail authority possesses the most robust Haz-Mat response capabilities in the region. It maintains trained personnel and strategically placed storage sites (Sea-Cans) equipped with personal protective equipment (PPE) and specialized tools to address a variety of Haz-Mat scenarios. These resources are tailored to manage risks associated with rail operations and the assortment of transported products. However, the effectiveness of these response capabilities depends on the availability of trained personnel and their ability to quickly access storage sites and respond with the required equipment.

Workshop discussions revealed that while these resources are primarily designed to serve the rail authority's needs, there is potential for them to be leveraged for regional Haz-Mat

incidents that do not involve rail assets. This would require coordination between the rail authority and local emergency services to ensure timely and effective response support.

6.2 Identified Resource, Training and Equipment Shortfalls

Within the fire departments surveyed in the Regional District, there is no dedicated Hazardous Materials Apparatus. Equipment available on frontline fire apparatus is limited to basic damming and dyking tools and gas monitors. At the Smithers, Burns Lake, and Vanderhoof Fire Departments, a small percentage of firefighters are trained to the NFPA 1072 Haz-Mat Operations level. With this level of training, the available equipment allows for mitigation of small ground spills involving substances such as diesel, gasoline, and certain other chemicals.

However, any spill requiring PPE beyond Bunker Gear (Structural Firefighting PPE) would exceed their training and equipment capabilities. In such cases, a third-party service provider would be required for both incident mitigation and clean-up.

The capacity of other fire departments in the region to respond to Haz-Mat incidents is unclear. It is reasonable to assume that departments outside Smithers, Burns Lake, and Vanderhoof likely have response capabilities and training levels below those described above. This potential gap underscores the importance of addressing regional Haz-Mat response capabilities to enhance preparedness.

6.3 Opportunities

1. **Develop Cost Recovery Bylaws**

   Establish municipal and Regional District cost recovery bylaws to address expenses incurred during various incidents, including Haz-Mat events. These bylaws would allow the recovery of response and clean-up costs from responsible parties, reducing the financial burden on local governments and ensuring accountability for incidents involving hazardous materials.

2. **Partner with Local Industry to Sponsor Equipment**

   Collaborate with local industries to sponsor the acquisition of specialized equipment, including a Hazardous Materials Response Trailer. Such partnerships can offset capital costs and provide mutual benefits by enhancing regional response capabilities while supporting industries reliant on safe rail and road transport.

3. **Increase Training and Response Capacity**

   Invest in increasing firefighting training to the **NFPA 1072 Haz-Mat Technician level** to elevate response capabilities for Haz-Mat incidents. Establish mutual aid fee-for-service agreements with one or more fire departments to provide initial response services to areas outside of municipal boundaries. These agreements could be extended to other incident types, such as structure fires and motor vehicle collisions, providing value-added services to ratepayers currently lacking emergency coverage.

4. **Establish a Regional Haz-Mat Team**

   Create a regional Haz-Mat Team modeled after the **Capital Regional District Hazardous Materials Team**. Key elements of this model include:

   - **Team Structure:** Designate one fire department to house, maintain, and respond with Haz-Mat apparatus and equipment. This department would ensure at least one certified Haz-Mat Technician is available for deployment.
   - **Team Membership:** Develop a pool of trained firefighters from multiple departments across the region. This ensures team diversity and allows for each AHJ to have at least one Haz-Mat Technician available at incidents to assess risks and establish hot and evacuation zones.
   - **Training Standards:** Train team members to the **NFPA 1072 Haz-Mat Technician level** (a two-week-course) and require monthly training sessions (3-4 hours) at a centralized location to maintain skills, operational readiness, and equipment familiarity.

5. **Expanding CN Rail Emergency Support**

   The RDBN has the opportunity to collaborate with CN Rail to enhance emergency preparedness and response capacity for rail incidents. By leveraging CN Rail's resources and expertise, the region can improve response times and coordination efforts.

   - Advocate for additional response equipment: Work with CN Rail to position Haz-mat trailers, spill containment kits, and firefighting resources at key locations.

- Formalize response agreements: Establish partnerships for training, resource access, and coordinated emergency response with CN Rail's specialized teams.

These collaborative approaches not only enhance regional response capabilities but also builds a network of skilled responders across jurisdictions, ensuring that local knowledge and expertise are available at all incidents involving hazardous materials.

7 Community Engagement Insights

7.1 Key Concerns

The RDBN Rail Safety Engagement project highlighted several critical concerns through workshops, Emergency Responder Survey, and the Community Survey, each offering unique insights into the challenges associated with rail safety.

From the Community Survey, concerns about the transportation of hazardous materials emerged as a major issue, with 80% of respondents aware of dangerous goods, such as LPG, being transported near their areas. Nearly 80% identified hazardous material spills as the most significant risk, with environmental damage, derailments near residential areas, and inadequate response resources also being frequently cited. Workshop discussions reinforced these concerns, particularly noting the potential for contamination of waterways and ecosystems in the event of a spill.

A key finding from the Community Survey was the lack of public awareness and preparedness regarding rail-related emergencies. Only 34% of respondents reported knowing what to do in such situations, and 93% indicated they had not received any guidance or information from local authorities. When asked what additional resources they would like, residents most commonly requested:

- **Guidance on responding to rail incidents (81%)**
- **Evacuation Routes (66%)**
- **Information on hazardous materials (78%)**

The Emergency Responder Survey and workshops identified resource and response challenges as a primary concern. Responders noted significant issues accessing remote or rugged areas during emergencies, particularly for fire suppression. The potential for fires and explosions involving hazardous materials was highlighted as a significant secondary

hazard, with responders emphasizing the critical delays caused by limited road access and un-serviced areas.

Both surveys and workshops consistently emphasized the need for improved emergency response coordination and public education. These findings underline the urgency of addressing rail safety risks by enhancing community preparedness, regulatory oversight, and responder resources, particularly for hazardous materials incidents and their cascading impacts.

7.2 Indigenous Community Perspectives

The RDBN Rail Safety Engagement aimed to include diverse voices, including those of Indigenous Communities, in assessing rail safety challenges and opportunities. While direct in-person engagement with Indigenous Communities was limited, key perspectives were captured through workshop discussions, survey responses, and broader partner input.

Indigenous Community representatives and workshop participants emphasized the profound connection between rail safety and **environmental stewardship**. The transportation of hazardous materials, such as LPG, raises significant concerns regarding the contamination of waterways, which are critical for subsistence, cultural practices, and community well-being. Workshop discussions highlighted that contamination of fish, a vital food source for many Indigenous Communities, could have devastating impacts on both immediate food security and long-term cultural heritage. Participants reinforced the importance of prioritizing environmental protection in rail safety planning.

Accessibility challenges were also identified as a shared concern. Indigenous Communities in remote areas face heightened risks during rail incidents due to limited access to emergency response services and evacuation routes. Workshop discussions noted that these accessibility issues could exacerbate the impacts of rail incidents, particularly for communities relying on ferries or other constrained transportation networks.

The Community Survey highlighted broader concerns about inadequate public awareness and preparedness, which also apply to Indigenous Communities. With over 93% of all respondents reporting, they had not received guidance or information from local authorities, Indigenous Communities may face additional barriers to accessing critical information and resources. This gap underscores the need for targeted outreach and culturally relevant communication strategies to ensure Indigenous residents are informed and prepared for potential rail-related emergencies.

Indigenous representation also stressed the importance of **collaboration and consultation** in rail safety initiatives. Strengthening partnerships between rail companies, local authorities, and Indigenous Communities was seen as essential to developing inclusive safety measures that respect and protect Indigenous cultural values, traditional knowledge, and environmental priorities.

These perspectives highlight the critical need for improved engagement with Indigenous Communities, ensuring their unique concerns and contributions are integral to rail safety planning and response strategies. Enhanced outreach, environmental safeguards, and culturally informed approaches will be key to addressing these challenges and fostering collaborative resilience.

7.3 Communication and Education Gaps

Effective communication and public education are critical to ensuring community preparedness and resilience in the face of rail-related incidents. Findings from the RDBN Rail Safety Engagement, workshops, and surveys revealed significant gaps in both communication and education efforts across the region, underscoring a need for targeted improvement.

The Community Survey revealed that 93% of respondents had not received any guidance or information from local authorities regarding rail safety or emergency procedures. This lack of proactive communication leaves residents unprepared for potential impacts, with only 34% of respondents indicating they would know what to do in a rail-related emergency. Additionally, residents expressed a strong demand for more information with the most commonly requested resources including, guidance or responding to rail incidents, evacuation routes, details on hazardous materials being transported.

Workshop participants further highlighted challenges in delivering protective safety recommendations, such as shelter-in-place order or evacuation directives, particularly in areas with limited access or obstructed transportation routes. These difficulties are compounded by the general lack of public awareness about emergency protocols, making it harder to implement protective measures effectively during an incident.

The Responder Survey echoed these concerns, with participants identifying gaps in communication and coordination among emergency services, rail operators, and local authorities. Responders emphasized that inconsistent messaging and lack of shared communication protocols could hinder timely response during complex rail incidents, especially in scenarios involving hazardous materials or fires.

The limited engagement with Indigenous Communities also highlighted the need for culturally informed communication strategies to address specific concerns and ensure equitable access to rail safety information and resources. Indigenous partners emphasized the importance of collaboration and consultation in designing communication materials that respect cultural values and traditional knowledge.

Addressing these gaps will require:

- **Proactive Public Education Campaigns:** Providing residents with clear, accessible information about rail safety risks, emergency procedures, and available resources.
- **Enhanced Coordination Among Partners:** Establishing consistent communication protocols between local authorities, emergency responders, rail operators, and Indigenous Communities.
- **Culturally Relevant Outreach:** Developing tailored communication strategies to effectively engage with Indigenous Communities and other vulnerable populations.
- **Training and Drills:** Expanding public and responder training programs to include scenarios that emphasize communication challenges and coordination requirements.

8 Recommendations

8.1 Short-Term Actions

To address the immediate risks and challenges associated with rail safety in the RDBN, the following short-term actions are recommended:

1. **Enhance Public Awareness and Education**

   Launch a targeted public education campaign to improve residents' understanding of rail safety risks and emergency preparedness. This should include:

   - Clear guidance on responding to rail incidents, such as evacuation and shelter-in-place procedures.
   - Accessible information about hazardous materials transported through the region.

- Distribution of emergency contact numbers and evacuation route maps tailored to local communities.

2. **Strengthen Emergency Response Coordination**

   Develop and implement standardized communication protocols between local authorities, emergency responders, rail operators, and Indigenous Communities. These protocols should focus on:

   - Streamline information sharing during emergencies.
   - Coordinating roles and responsibilities in multi-agency responses.
   - Establishing regular joint training exercises to improve operational readiness.

3. **Engage Directly with CN Rail**

   Strengthen collaboration with CN Rail as the primary rail operator in the region to enhance rail safety and emergency preparedness. This engagement should focus on:

   - Establishing clear expectations for CN Rail's response during emergencies, including roles, timelines, and communication protocols.
   - Ensuring CN Rail provides an augment to support local responders, such as access to specialized equipment, personnel, and technical expertise during incidents.
   - Encouraging CN Rail to participate in local training exercises and workshops to build stronger relationships with emergency services and foster effective coordination.
   - Advocating for CN Rail to prioritize inspections, maintenance, and upgrades to aging rail infrastructure in high-risk areas.

4. **Address Resource Gaps**

   Prioritize the allocation of essential resources to emergency services and identify solutions in areas identified as un-serviced areas or remote locations. Immediate resource needs include:

- Specialized equipment for hazardous materials containment and fire suppression.
- Basic spill kits and protective gear for first responders in underserved areas.

4. **Engage Indigenous Communities**

   Conduct targeted outreach to Indigenous Communities to understand their specific concerns and ensure culturally relevant communication strategies. Collaborate with Indigenous leaders to develop tailored emergency preparedness resources that respect traditional knowledge and values.

5. **Improve Risk Mitigations at Key Locations**

   Focus on high-risk areas, such as aging rail ties and crossings, to reduce the likelihood of derailments and incidents. This should include:

   - Conducting or requesting inspections and maintenance on vulnerable infrastructure.
   - Installing monitoring systems at critical rail crossings to detect potential hazards.

6. **Strengthen Crisis Communication**

   Enhance crisis communications by developing a Regional Crisis Communication Framework to streamline information sharing between emergency responders, CN Rail, municipal staff, and the public. Implement a Multi-Agency Notification System for real-time alerts and establish a Public Alerting Strategy using text alerts, social media, and community networks. Conduct joint communication drills to test messaging effectiveness and coordination.

8.2 Long-Term Strategies

To ensure sustainable improvements in rail safety and emergency preparedness across the RDBN, the following long-term strategies are recommended:

1. **Develop a Regional Rail Safety Master Plan**

   Create a comprehensive, multi-year Rail Safety Master Plan that outlines a strategic vision for managing rail-related risks in the region. This plan should incorporate:

- Long-term objectives for risk reduction, public education, and infrastructure modernization.
- Regular assessments of emerging risks due to changes in rail traffic, hazardous materials, or regional development.
- A framework for integrating local, regional, and Indigenous perspectives into safety planning.

2. **Establish a Rail Safety Oversight Committee**

   Form a dedicated committee to oversee rail safety initiatives and ensure accountability. This committee would:

   - Include representatives from municipal governments, Indigenous Communities, industry stakeholders, and emergency services.
   - Monitor the implementation of safety measures, training programs, and infrastructure upgrades.
   - Act as a liaison between the public, rail operators, and local authorities to address concerns and foster collaboration.

3. **Adopt Cost Recovery Bylaws**

   Develop and implement Regional District cost recovery bylaws to manage financial implications of rail-related incidents. These bylaws should:

   - Establish a framework for recovering response and clean-up costs from responsible parties, such as rail operators or shippers of hazardous materials.
   - Clearly outline procedures for incident reporting, cost determination, and invoicing.
   - **Example Bylaws**: Abbotsford Fire Rescue Services, Cranbrook Fire Services, Courtenay Fire Department
   - Align with provincial and federal regulations to ensure enforceability and fairness. This recommendation can be considered both a short-term and long-term strategy, depending on its complexity. Basic bylaw structures can be developed in the short term, while advanced mechanisms for

enforcement and integration into broader emergency response frameworks may require long-term planning.

4. **Invest in Advanced Risk Modelling and Analytics**

   Leverage technology and data analytics to predict and mitigate rail-related risks more effectively. This includes:

   - Using geographic information systems (GIS) to identify and monitor high-risk zones.
   - Developing predictive models to assess the likelihood and impact of incidents based on rail traffic, cargo, and environmental conditions.
   - Sharing data with local responders to enhance pre-incident planning and decision-making.

5. **Expand Regional Emergency Response Resources**

   Plan for long-term investments in regional emergency response capacity by:

   - Establishing emergency response hubs in strategic locations to reduce response times.
   - Expanding equipment caches with multi-purpose tools suitable for various incident types.
   - Recruiting and retaining responders through incentive programs, such as scholarships or professional development funding.

6. **Adopt Regional Environmental Safeguards**

   Incorporate environmental resilience into rail safety planning by:

   - Establishing long-term monitoring programs for ecosystems near rail lines.
   - Implementing vegetation management and erosion control measures to reduce the impact of derailments or spills.
   - Developing partnerships with environmental organizations to promote restoration projects in areas affected by rail-related incidents.

7. **Promote Legislative and Policy Advocacy**

   Advocate for provincial and federal policy changes to improve rail safety standards and funding mechanisms. This includes:

   - Lobbying for stricter regulations on hazardous materials transport and rail infrastructure maintenance.
   - Seeking dedicated funding streams for regional safety and emergency preparedness initiatives.
   - Partnering with other regional districts to present unified recommendations to higher levels of government.

8. **Integrate Resilience into Community Development Planning**

   Ensure that future land-use planning and community development decisions consider rail safety by:

   - Incorporating buffer zones around rail lines to reduce risks to residential and commercial areas.
   - Designing transportation networks to improve access and egress during emergencies.
   - Building community resilience through long-term planning for housing, schools, and critical infrastructure near rail corridors.

8.3 Collaborative Opportunities

Collaboration among stakeholders is a cornerstone of enhancing rail safety and emergency preparedness across the RDBN. The findings and recommendations throughout this report highlight the critical need for coordinated efforts involving local governments, Indigenous Communities, emergency responders, rail operators, and industry stakeholders. By working together, the region can address current gaps, build resilience, and ensure the safety of residents and the environment.

1. **Strengthen Coordination with CN Rail**

   Collaborating with CN Rail as the primary rail operator in the region is essential to enhancing response capabilities. Key opportunities include:

- Establishing **response expectations,** including timelines, roles, and communication protocols during incidents.
- Leveraging CN Rail's resources, such as strategically placed storage sites and specialized equipment, to support local emergency responders.
- Encouraging CN Rail's participation in regional training exercises to build relationships and ensure alignment of protocols.
- Advocating for regular inspections and maintenance of aging rail infrastructure to mitigate risks proactively.

2. **Expand CN Rail Emergency Support and Resources**

CN Rail should enhance regional emergency preparedness by:

- Deploying additional emergency response equipment, position Haz-mat trailers, spill containment kits, and firefighting resources at key locations along the rail corridor.
- Strengthen coordination with local responder, establishing agreements for resource-sharing, equipment access, and joint response training with fire departments and emergency services.
- Investing in local responder training: provide Haz-mat training, technical workshops, and simulation exercises to improve rail incident response capabilities.
- Increasing availability of CN Response Teams. Ensure CN Rail emergency personnel can rapidly deploy to support containment and mitigation efforts.

3. **Build Partnerships with Industry Stakeholders**

Local industries reliant on rail transport can play a vital role in supporting safety initiatives. Collaboration opportunities include:

- Sponsoring equipment, such as a **Hazardous Materials Response Trailer,** to offset capital costs for local governments.
- Participating in joint planning sessions to align industry and responder priorities for hazardous materials incidents.

- Funding public education campaigns to improve community awareness and preparedness for potential rail-related emergencies.

4. **Engage Indigenous Communities**

Building strong relationships with Indigenous Communities is critical to ensuring that rail safety initiatives are inclusive and culturally relevant. Collaborative efforts should focus on:

- Incorporating Indigenous perspectives and traditional knowledge into safety planning and risk assessments.
- Developing tailored communication strategies to address specific concerns and barriers faced by Indigenous communities.
- Partnering on environmental restoration projects in areas affected by rail incidents to reflect shared stewardship values.

5. **Foster Regional Collaboration Among Emergency Services**

Establishing formal mutual aid agreements and regional response frameworks will enhance the collective capacity to address rail-related incidents. Collaborative strategies include:

- Creating a **Regional Hazardous Materials (Haz-Mat) Response Team,** pooling resources and expertise from multiple fire departments.
- Standardizing communication and response protocols across jurisdictions to ensure seamless coordination during multi-agency incidents.
- Hosting regular joint training exercises to build familiarity with regional resources, including CN Rail's capabilities and industry-sponsored equipment.

6. **Advocate for Provincial and Federal Support**

Collaboration with higher levels of government is essential to securing the resources and policy changes needed to enhance rail safety. Opportunities include:

- Lobbying for stricter regulations on hazardous materials transport and rail infrastructure maintenance.

- Seeking funding for infrastructure upgrades, such as modernizing rail ties and crossings in high-risk areas.
- Partnering with neighboring regional districts to present unified recommendations to provincial and federal agencies.

7. **Enhance Public Communication and Education**

   Collaborative communication efforts are crucial to addressing the identified gaps in public awareness and preparedness. Suggested actions include:

   - Partnering with local governments, CN Rail, and industries to create a comprehensive public education campaign.
   - Sharing resources such as evacuation maps, hazardous materials information, and response guidance through centralized communication channels.
   - Involving community groups, Indigenous organizations, and educational institutions in outreach initiatives to broaden the reach and effectiveness of safety messages.

9 Conclusion

9.1 Summary of Findings

The RDBN Rail Safety Engagement project has highlighted critical insights into the challenges and opportunities associated with rail safety and emergency preparedness across the region. These findings, derived from workshops, surveys, and stakeholder discussions, underscore the pressing need for coordination action, resource investment, and strategic planning.

Key findings include:

1. **Significant Risks Associated with Hazardous Materials**

   The transportation of hazardous materials, such as LPG, chlorine, etc., poses substantial risks to the region's residents, environment, and infrastructure. Workshop participants and survey respondents emphasized concerns about spills, derailments, and secondary hazards like fires and explosions. The potential for environmental

contamination, particularly to waterways and ecosystems, was identified as a top priority.

2. **Limited Response Capabilities**

   Fire departments across the region lack dedicated hazardous materials apparatus and have limited equipment and training to manage complex Haz-Mat incidents. Most departments rely on basic tools, such as damming and dyking equipment and gas monitors, which are insufficient for large-scale or high-risk scenarios. Response capacity outside Burns Lake, Houston, Smithers, Telkwa and Vanderhoof is particularly limited, further emphasizing the need for enhanced regional capabilities.

3. **Resource and Infrastructure Gaps**

   Aging rail infrastructure, including deteriorating rail ties and major crossings, increases the likelihood of derailments and other incidents. Remote areas with limited emergency access, or un-serviced areas, exacerbate delays in response and mitigation efforts. These gaps highlight the need for infrastructure modernization and strategic placement of emergency resources.

4. **Low Public Awareness and Preparedness**

   The Community Survey revealed a significant lack of public knowledge about rail safety and emergency procedures, with 93% of respondents reporting no guidance from local authorities. Residents expressed strong interest in resources such as evacuation routes, hazardous materials information, and response guidance, highlighting a critical communication and education gap.

5. **Opportunities for Collaboration**

   Collaboration with stakeholders, including CN Rail, local industries, and Indigenous Communities, offer significant potential to address rail safety challenges. Stakeholders emphasized the value of partnerships for resource sharing, training, and developing tailored emergency preparedness initiatives. Additionally, mutual aid agreements and regional Haz-Mat teams were identified as key opportunities to enhance collective response capabilities.

6. **Financial and Legislative Needs**

   The lack of cost recovery mechanisms places a financial burden on local governments for response and clean-up efforts. Developing bylaws to recover costs and clarify

responsibilities for incident management is essential. Advocacy for stricter provincial and federal regulations and funding support was also identified as a critical need.

These findings illustrate the multifaceted nature of rail safety challenges in the RDBN, requiring a combination of short-term actions and long-term strategies. By addressing these issues through collaborative efforts, targeted investments, and policy development, the region can build a resilient framework to safeguard its residents, environment, and economy.

9.2 Final Recommendations for Rail Safety

To effectively address the complex challenges associated with rail safety in the RDBN, a comprehensive strategy that integrates collaboration, investment, and policy development is essential. The RDBN must prioritize enhancing emergency response capabilities through the creation of regional Hazardous Materials Response Teams. This team would provide specialized skills and resources, supported by regular training and strategic placement of equipment to mitigate the risks of hazardous materials incidents. Such an initiative would strengthen regional readiness and ensure consistent response capabilities across all jurisdictions, including underserved and remote areas.

Collaboration is a cornerstone of this strategy. The RDBN should foster partnerships with CN Rail, local industries, and Indigenous Communities to leverage expertise, share resources, and align safety objectives. CN Rail's robust response capabilities, combined with industry-sponsored equipment and training, can fill critical gaps in the region's emergency preparedness. Engaging Indigenous communities ensures that safety initiatives are inclusive, culturally relevant, and reflective of traditional knowledge, particularly in protecting the environment and critical ecosystems.

Public education is equally vital. The Community Survey revealed significant gaps in awareness and preparedness, with the majority of residents reporting no guidance from local authorities. A targeted public education campaign should address this by providing clear information on evacuation routes, hazardous materials, and emergency procedures. Empowering residents with this knowledge will build community resilience and improve the effectiveness of emergency responses.

Cost recovery mechanisms and legislative advocacy must also be prioritized. Developing municipal and regional bylaws to recover response and clean-up costs will ensure financial sustainability and accountability for hazardous materials incidents. Advocacy efforts aimed at securing stricter provincial and federal regulations, along with dedicated funding for rail

infrastructure modernization and emergency preparedness, are critical to achieving long-term goals.

By implementing these recommendations, the RDBN can create a resilient and collaborative framework for rail safety. This approach not only addresses immediate risks, but also establishes a foundation for sustainable safety and preparedness, protecting residents, the environment, and the regional economy from the escalating challenges of rail-related incidents.

10 ANNEX A: Workshop Details & Invite

The Regional District of Bulkley-Nechako Presents:

Regional Rail Safety Engagement

AUDIENCE: Local Government and First Nations Staff, Fire Chiefs, Emergency Management Personnel, Law Enforcement and BC Emergency Health Services.

DATE:
Dec 3, 2024: Smithers Town Chambers, 1027 Aldous St
Dec 4, 2024: Burns Lake RDBN Board Room 37 3rd Ave
Dec 5, 2024: Vanderhoof Fire Hall 2230 Nechako Ave

TIME:
Morning Session: 9:00 AM – 12:00 PM *(Risk Assessment)*
Afternoon Session: 1:00 PM – 4:00 PM *(Incident Response)*

Note: Light snacks and beverages will be available; lunch will not be provided

CONTACT: protective.services@rdbn.bc.ca

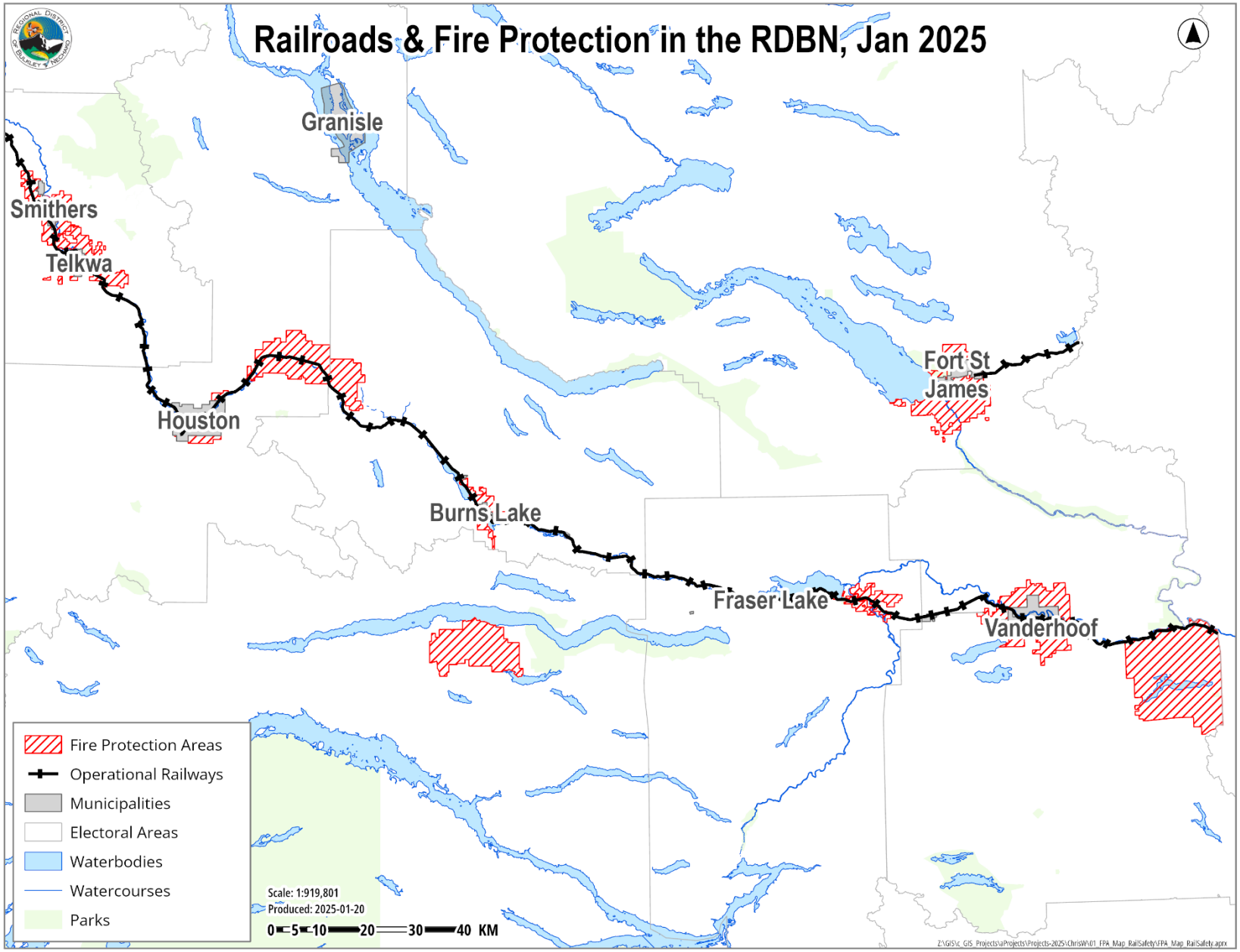
The Regional District of Bulkley -Nechako (RDBN) is developing a Rail Safety Report to address concerns from residents, first responders, local authorities, and First Nations about rail safety. These workshops aim to:

- Identify risks and assess gasps in rail response capacity.
- Develop strategies to enhance training, resources and safety measures.
- Address challenges from hazardous material transport and increased rail activity due to the Port of Prince Rupert's expansion.

Morning sessions will focus on risk assessments for the Region, while the afternoon focuses on response to a rail incident scenario.

Your input will be critical in shaping actionable solutions and informing the RDBN Rail Safety Report.

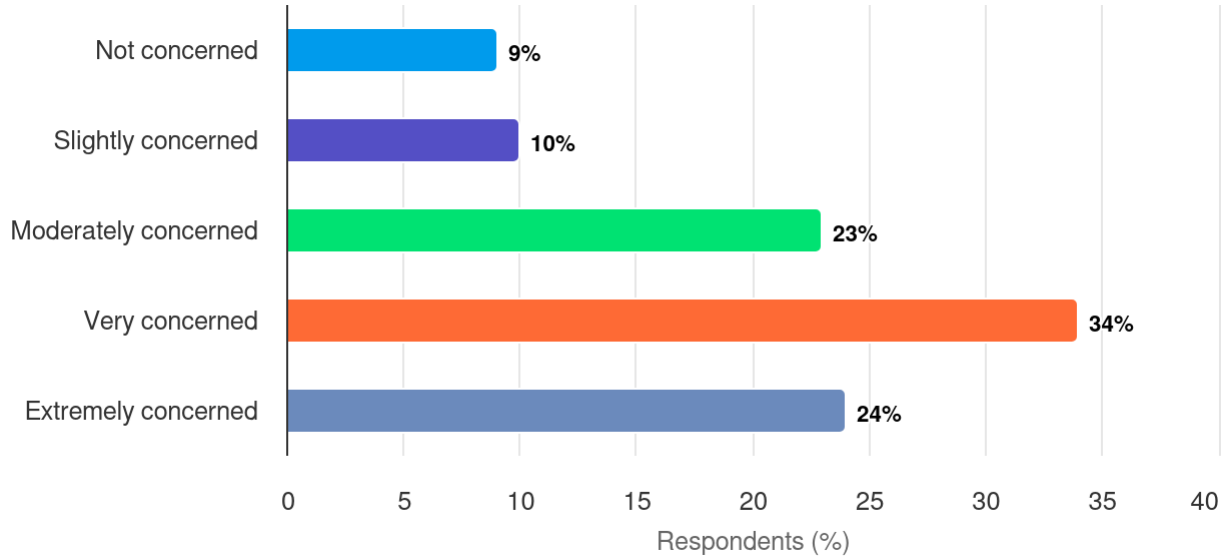
11 ANNEX B: RDBN Fire Protection Area

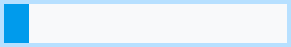
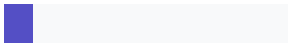
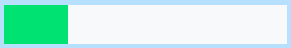
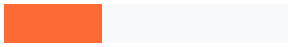
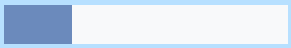


12 ANNEX C: Survey Data & Analysis

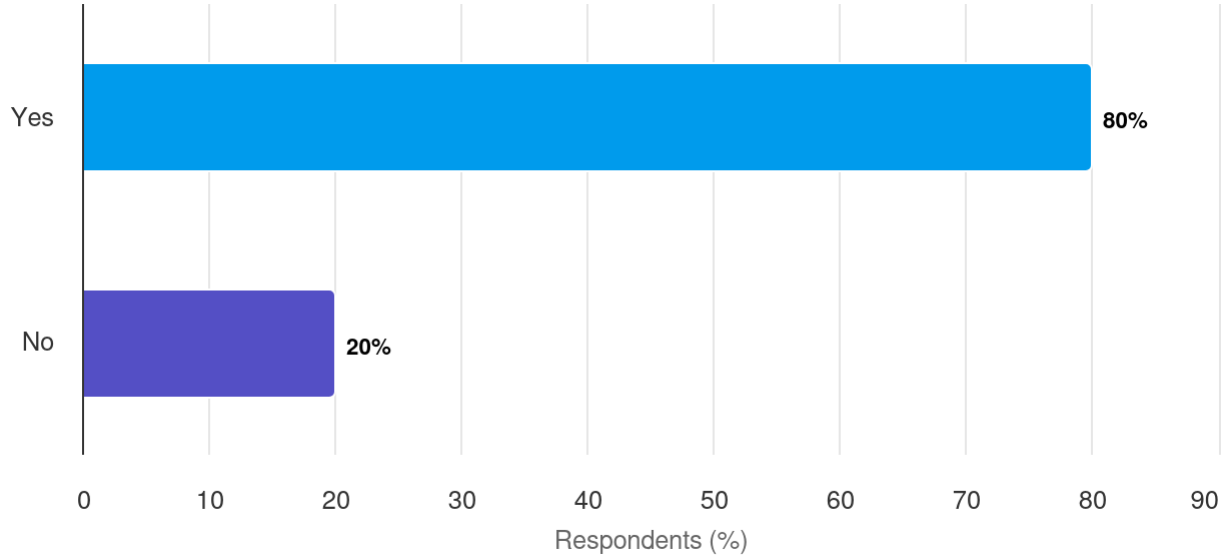
12.1 Community Survey

How concerned are you about rail safety in your community? *145 respondents*



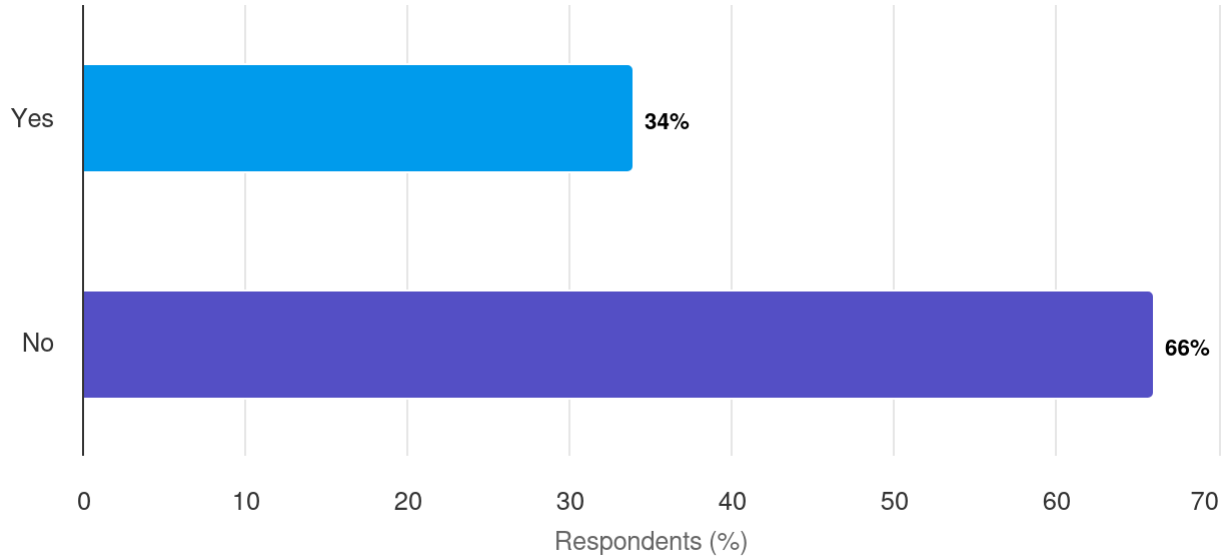
	%	Frequency	
Not concerned	8.97%	13	
Slightly concerned	10.34%	15	
Moderately concerned	22.76%	33	
Very concerned	34.48%	50	
Extremely concerned	24.14%	35	
Total		145	

Are you aware of hazardous materials being transported through the rail network near your area? *143 respondents*



	%	Frequency	
Yes	80.42%	115	
No	20.28%	29	
Total		143	

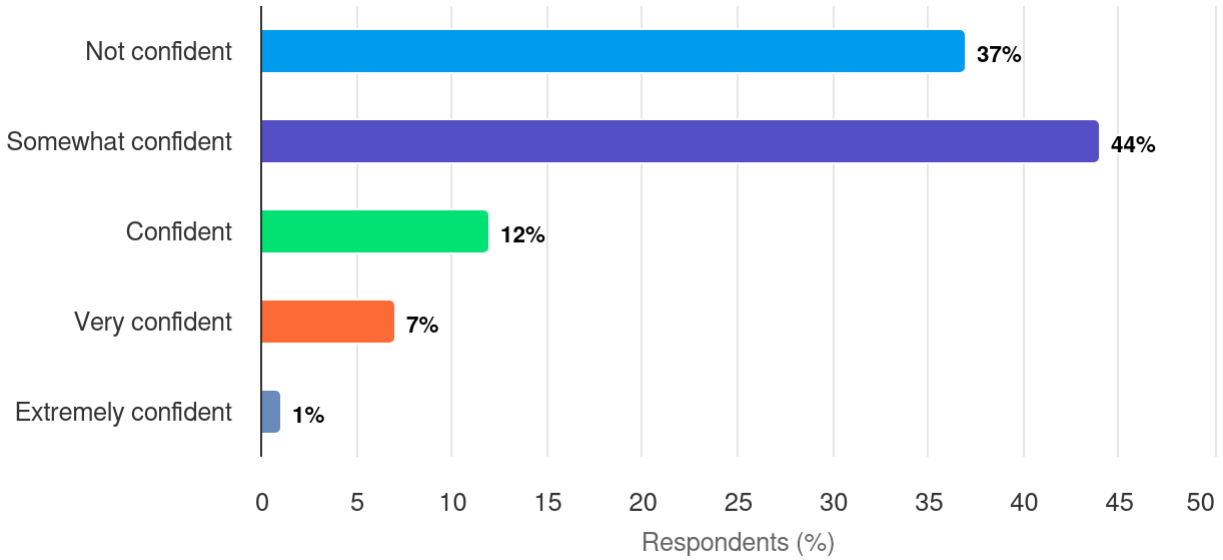
Do you know what to do in the event of a rail-related emergency? *145 respondents*



	%	Frequency	
Yes	33.79%	49	
No	66.21%	96	
Total		145	

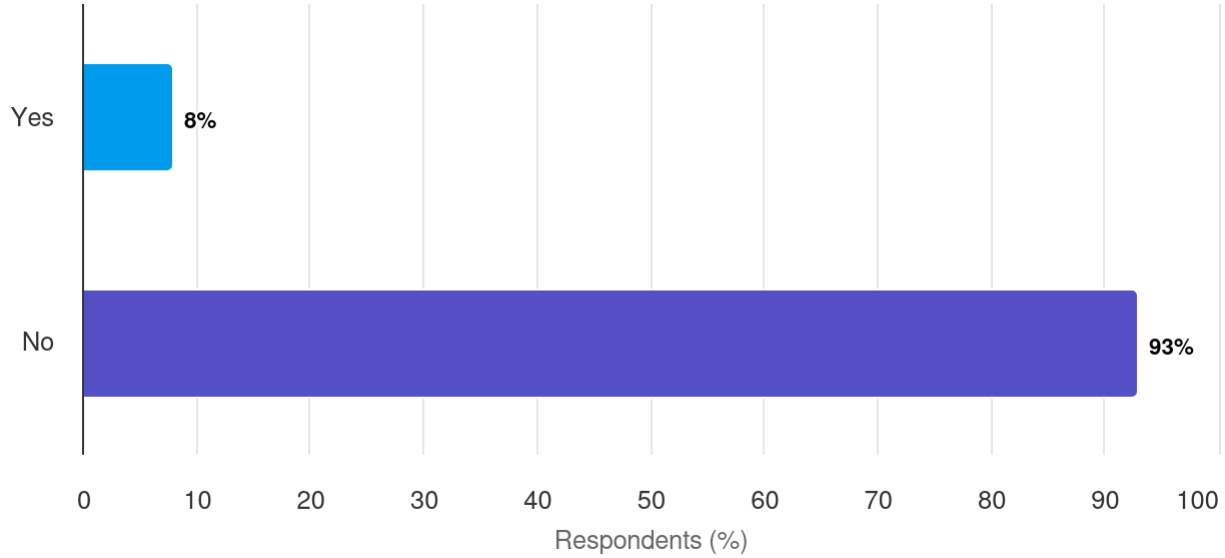
How confident are you in local emergency responders' ability to handle a rail incident?

137 respondents



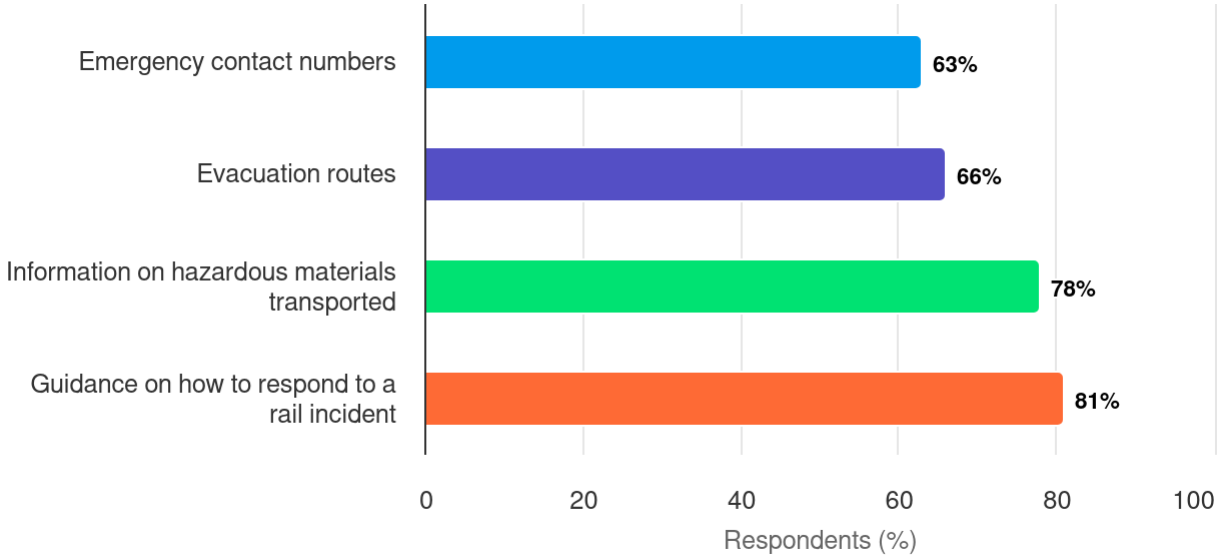
	%	Frequency	
Not confident	36.50%	50	
Somewhat confident	43.80%	60	
Confident	11.68%	16	
Very confident	6.57%	9	
Extremely confident	1.46%	2	
Total		137	

Have you received information or guidance from local authorities about rail safety or emergency procedures? *137 respondents*



	%	Frequency	
Yes	8.03%	11	
No	92.70%	127	
Total		137	

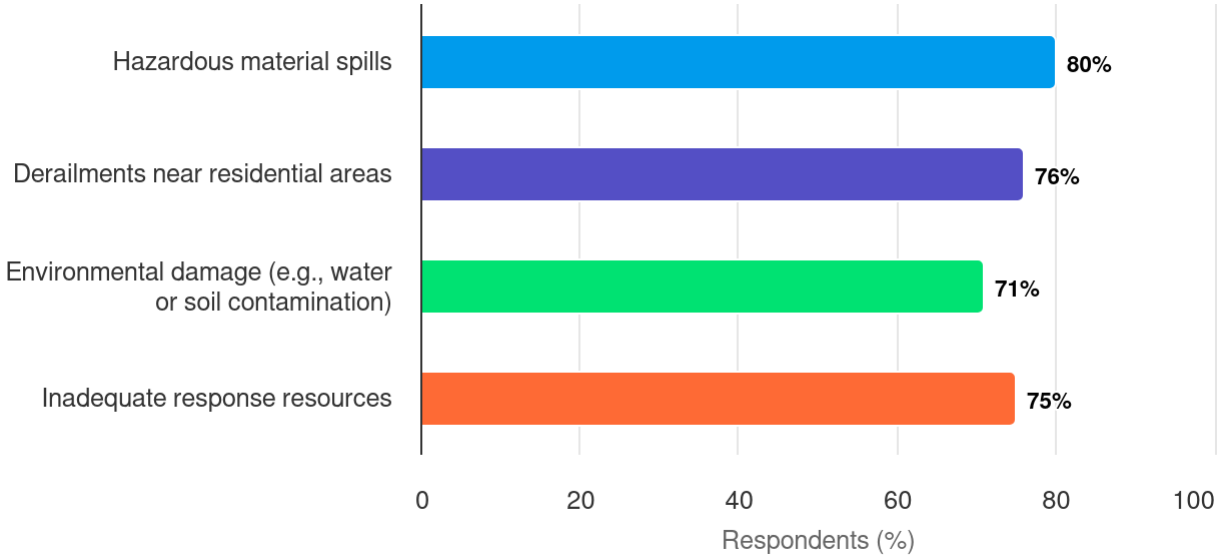
What additional information or resources would you like regarding rail safety? (Select all that apply) *130 respondents*



	%	Frequency	
Emergency contact numbers	63.08%	82	
Evacuation routes	66.15%	86	
Information on hazardous materials transported	77.69%	101	
Guidance on how to respond to a rail incident	80.77%	105	
Total		130	

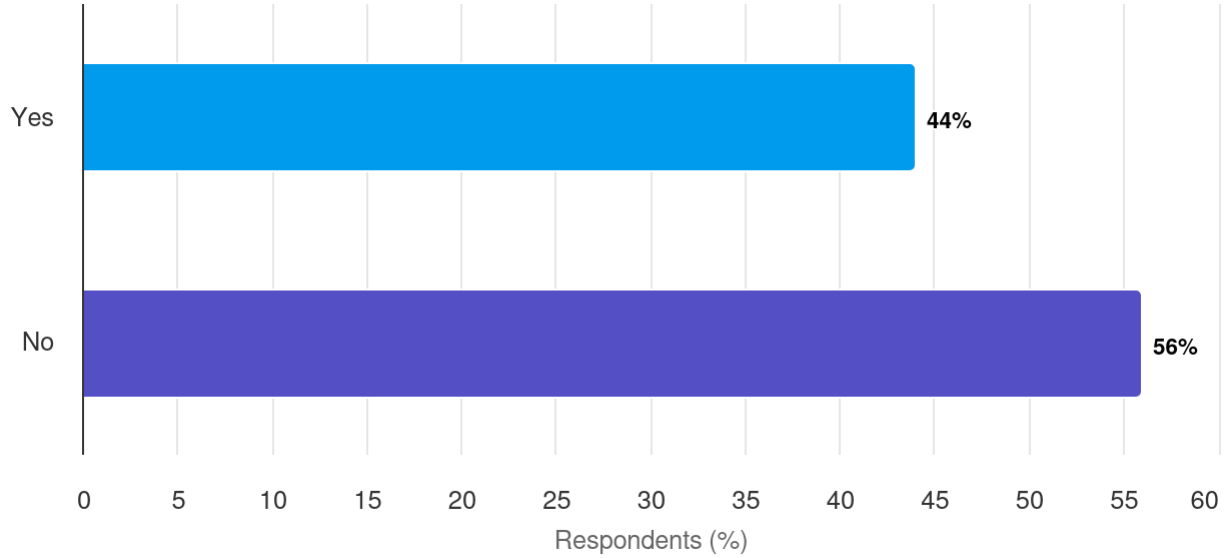
What do you believe are the biggest risks associated with rail transport in the RDBN?

124 respondents



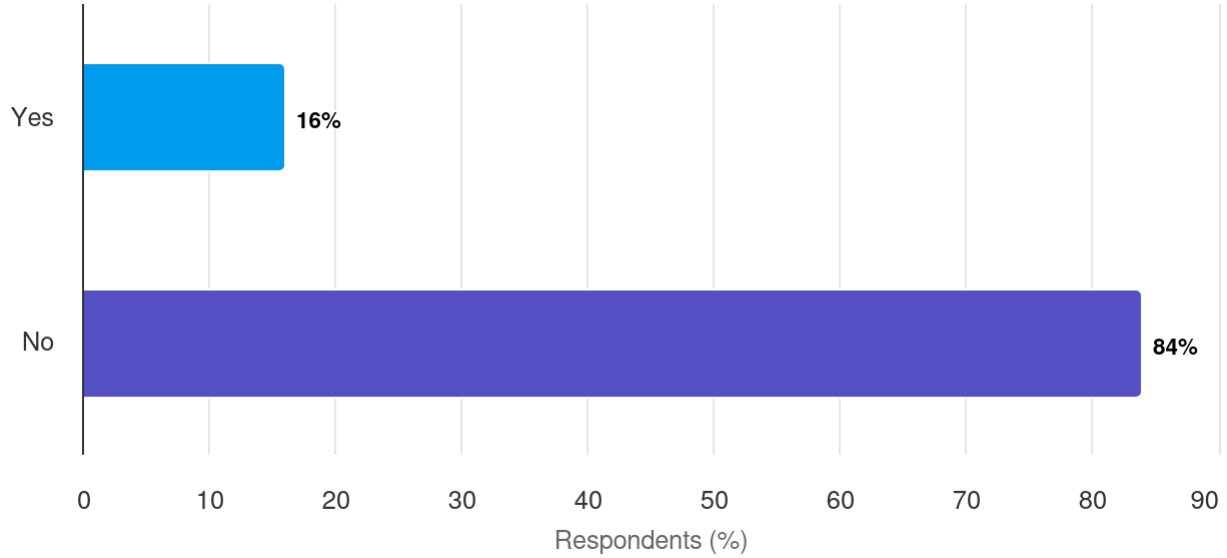
	%	Frequency
Hazardous material spills	79.84%	99
Derailments near residential areas	75.81%	94
Environmental damage (e.g., water or soil contamination)	70.97%	88
Inadequate response resources	75.00%	93
Total		124

Have you experienced or observed any incidents related to rail safety in your area? *132 respondents*



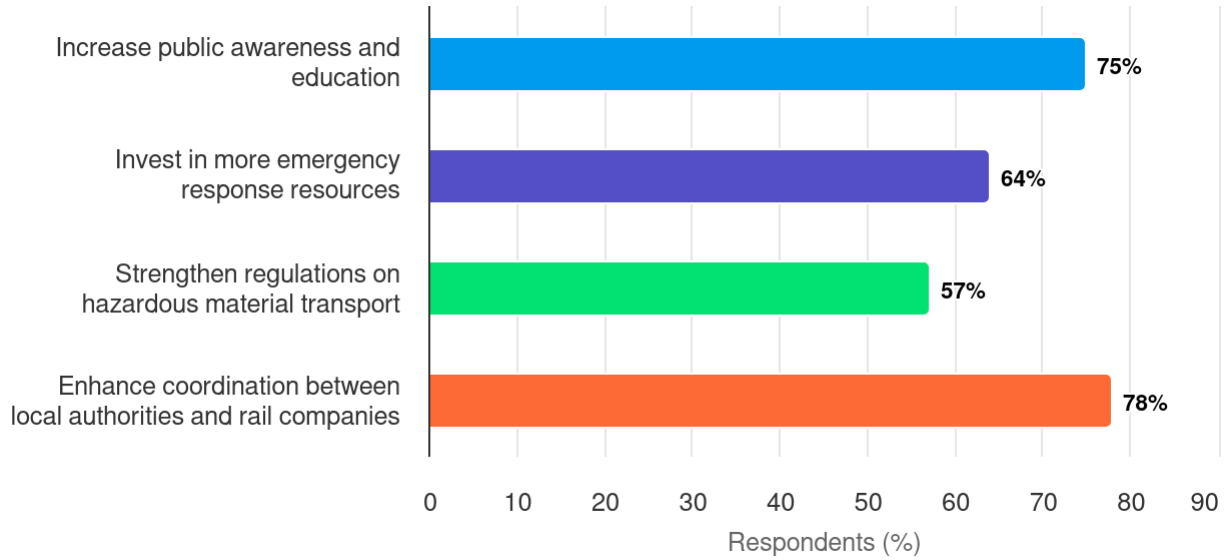
	%	Frequency	
Yes	43.94%	58	
No	56.06%	74	
Total		132	

Do you feel that your community's concerns about rail safety are being adequately addressed? *120 respondents*



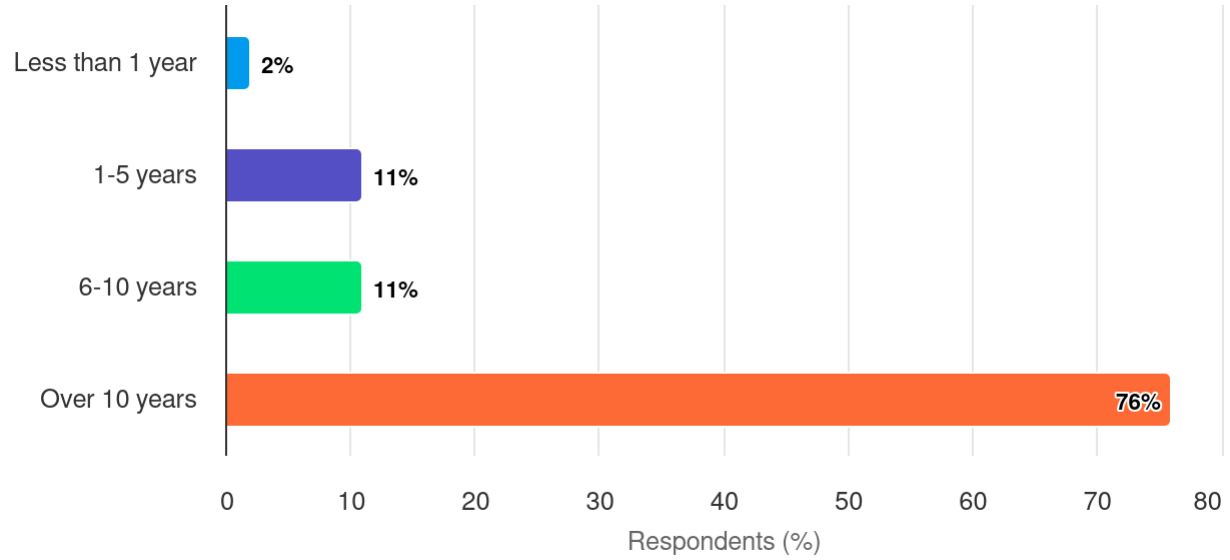
	%	Frequency	
Yes	15.83%	19	
No	84.17%	101	
Total		120	

What additional steps should be taken to improve rail safety in your area? *119 respondents*



	%	Frequency	
Increase public awareness and education	74.79%	89	
Invest in more emergency response resources	63.87%	76	
Strengthen regulations on hazardous material transport	57.14%	68	
Enhance coordination between local authorities and rail companies	78.15%	93	
Total		119	

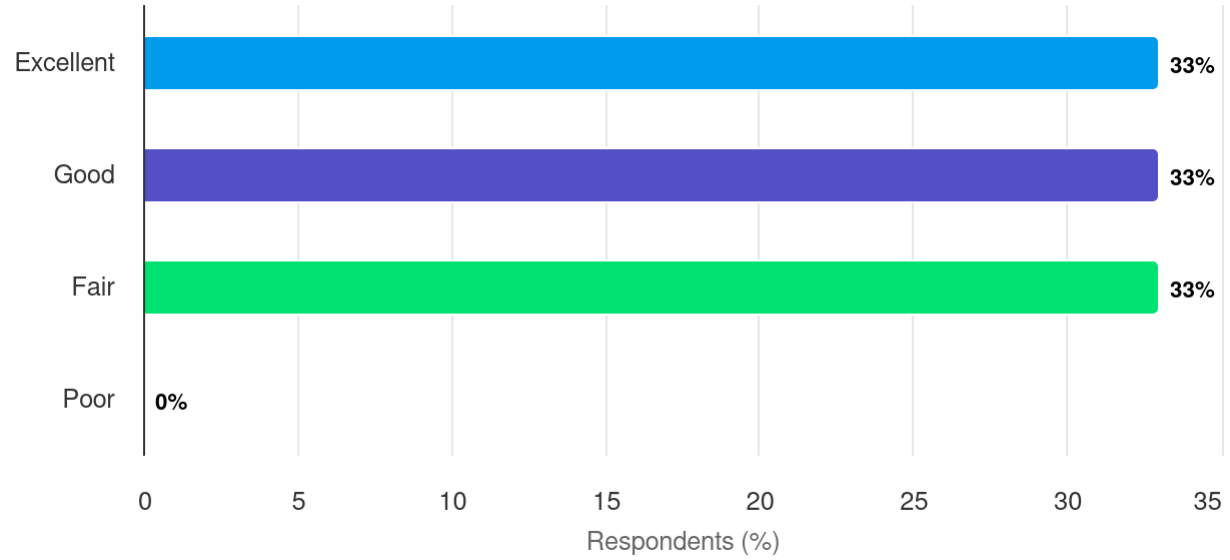
How long have you lived in the RDBN? *127 respondents*



	%	Frequency	
Less than 1 year	2.36%	3	
1-5 years	11.02%	14	
6-10 years	11.02%	14	
Over 10 years	75.59%	96	
Total		127	

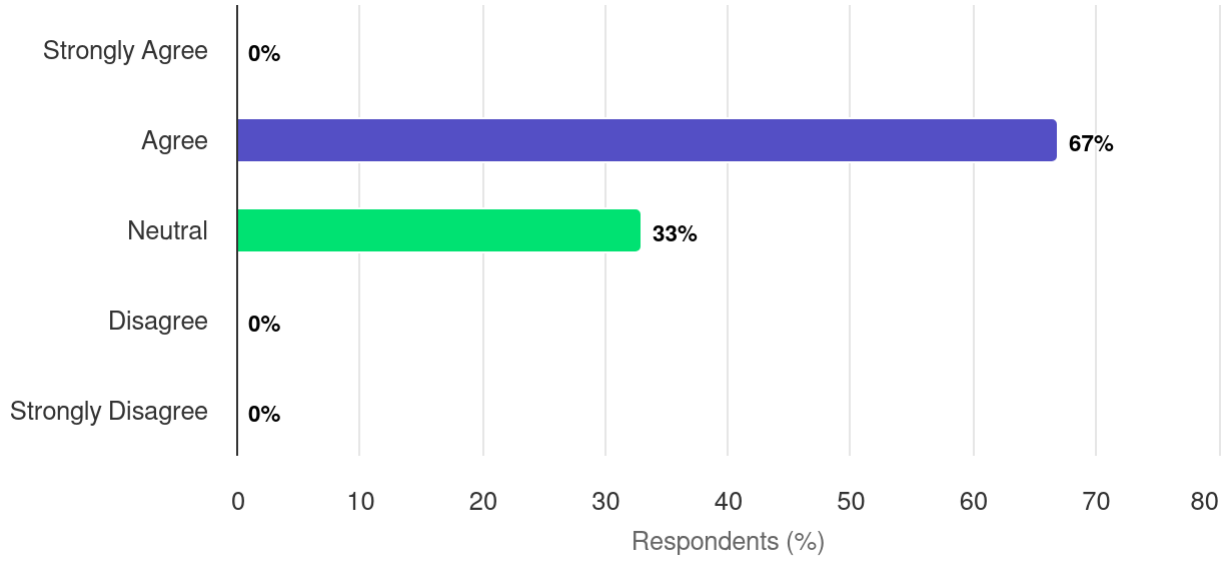
12.2 Emergency Services Survey

How would you rate the overall effectiveness of the morning session in identifying and prioritizing rail-related risks in the RDBN? *3 respondents*



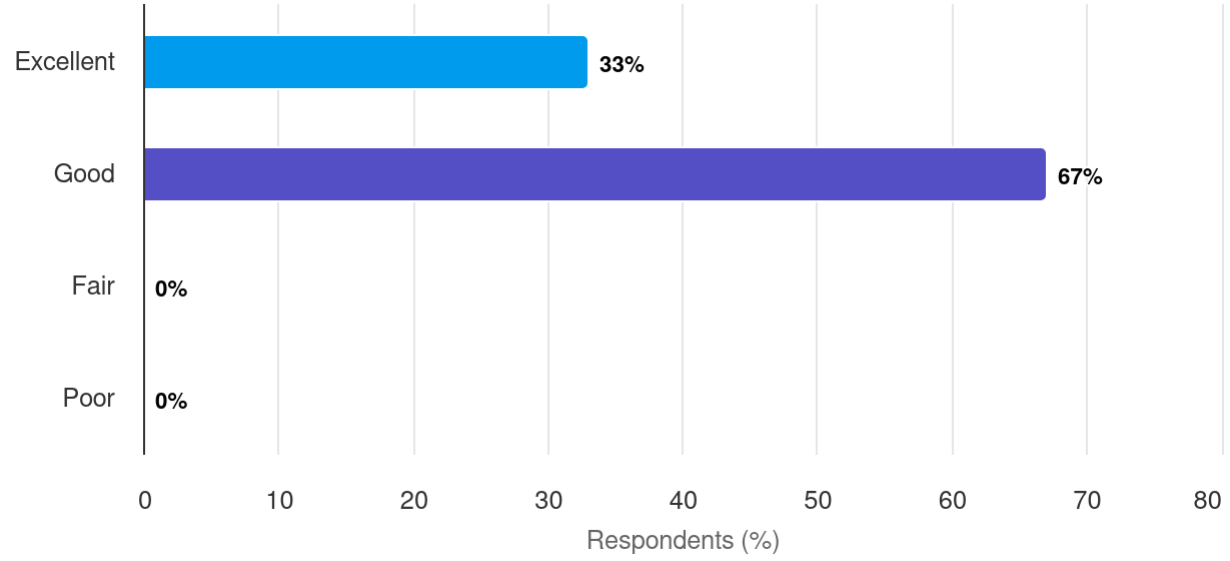
	%	Frequency	
Excellent	33.33%	1	
Good	33.33%	1	
Fair	33.33%	1	
Poor	0.00%	0	
Total		3	

Did the activities (e.g., risk mapping, discussions) help you better understand the current rail safety challenges in the region? *3 respondents*



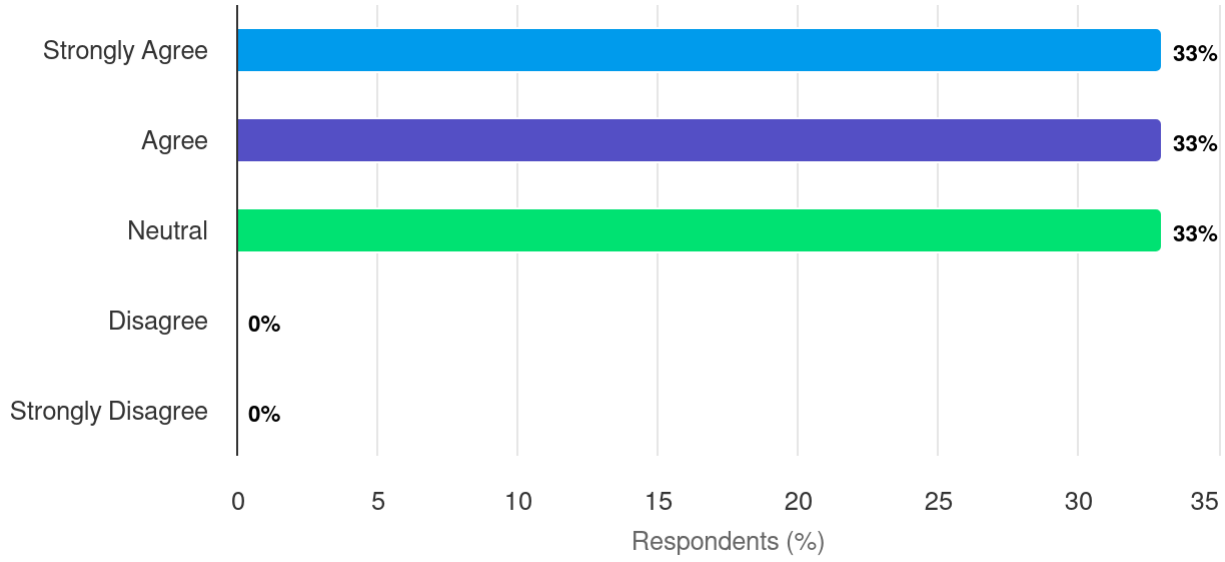
	%	Frequency
Strongly Agree	0.00%	0
Agree	66.67%	2
Neutral	33.33%	1
Disagree	0.00%	0
Strongly Disagree	0.00%	0
Total		3

How would you rate the overall effectiveness of the afternoon session in preparing participants for rail-related emergencies? *3 respondents*



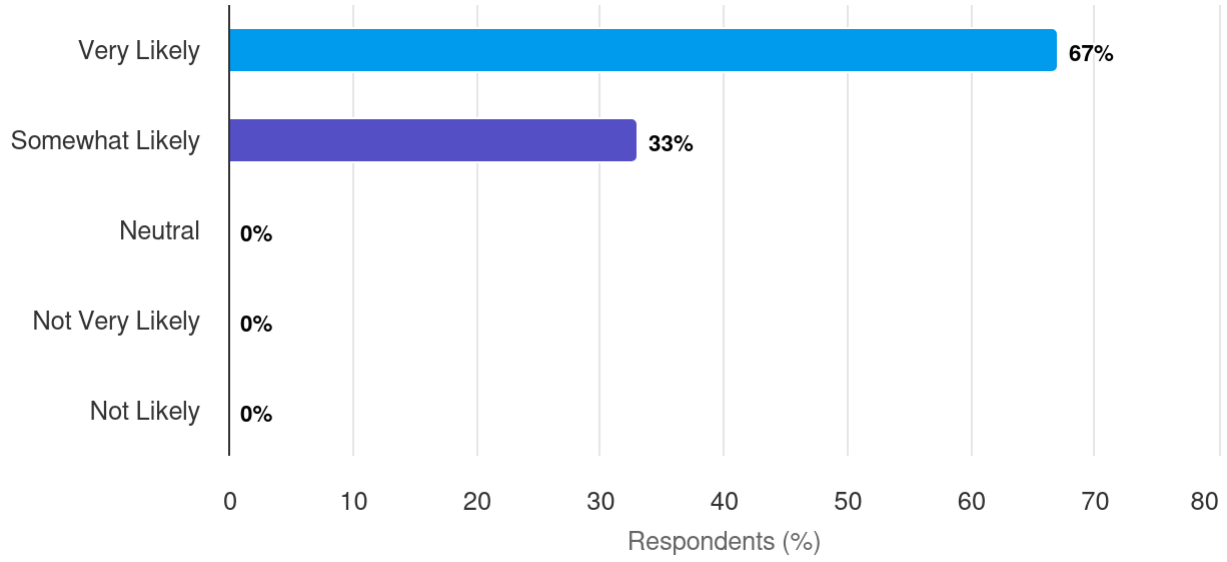
	%	Frequency	
Excellent	33.33%	1	
Good	66.67%	2	
Fair	0.00%	0	
Poor	0.00%	0	
Total		3	

Did the scenarios provide practical insights into response actions, resource needs, and coordination challenges? *3 respondents*



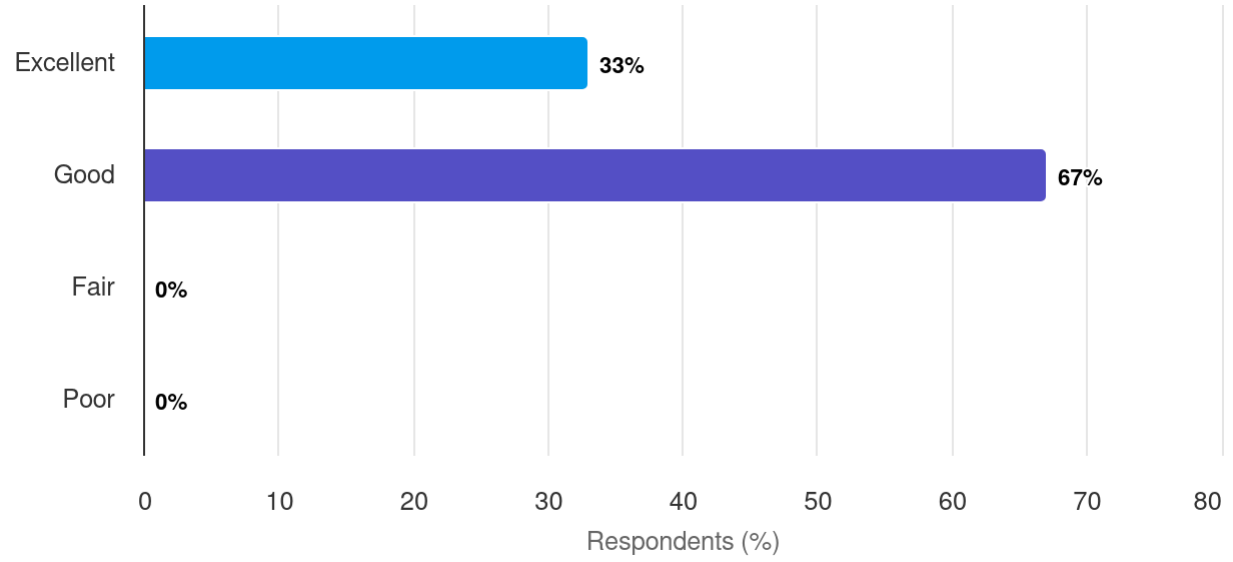
	%	Frequency
Strongly Agree	33.33%	1
Agree	33.33%	1
Neutral	33.33%	1
Disagree	0.00%	0
Strongly Disagree	0.00%	0
Total		3

How likely are you to apply the strategies discussed in this session to your role or organization? *3 respondents*



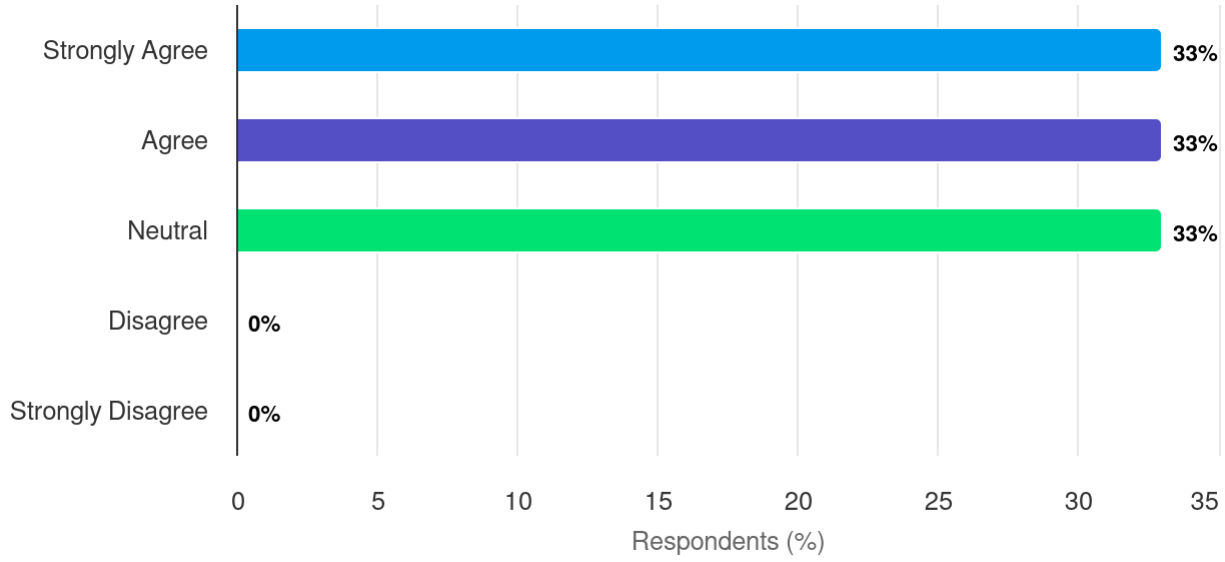
	%	Frequency
Very Likely	66.67%	2
Somewhat Likely	33.33%	1
Neutral	0.00%	0
Not Very Likely	0.00%	0
Not Likely	0.00%	0
Total		3

How would you rate the facilitation of both sessions in guiding discussions and capturing participant input? *3 respondents*



	%	Frequency	
Excellent	33.33%	1	
Good	66.67%	2	
Fair	0.00%	0	
Poor	0.00%	0	
Total		3	

Were the materials and resources provided (e.g., maps, templates, scenarios) sufficient and useful? *3 respondents*



	%	Frequency
Strongly Agree	33.33%	1
Agree	33.33%	1
Neutral	33.33%	1
Disagree	0.00%	0
Strongly Disagree	0.00%	0
Total		3

13 ANNEX D: City of Abbotsford Fire Service Bylaw, 2020

City of Abbotsford Fire Service Bylaw, 2020

Part 6 — Fees and Cost Recovery

Division 1 — General Cost Recovery

14 City action at defaulter's expense

76 The fire chief may direct that, if a person subject to a requirement under this bylaw fails to take the required action, the City may

(a)fulfill the requirement at the expense of the person, and

(b)recover the costs incurred from that person as a debt.

15 Recovery of fees and costs as special fees

77 If the City does work or provides services in relation to land or improvements, the City may recover the fees and costs incurred by the City as special fees in accordance with Division 14 *Recovery of Special Fees* of Part 7 *Municipal Revenue* of the *Community Charter*.

Division 2 — Attendance by Fire Department

16 Incident costs

78 (1)A person must pay costs calculated in accordance with subsection (2) if the person does any of the following that results in an incident to which the fire department responds:

(a)causes damage to property by

(i)intentionally starting or adding fuel to a fire, or

(ii)using an explosive device or substance;

(b)summons the fire department without reasonable belief that an incident was imminent or occurring;

(c)contravenes this bylaw, a permit issued under this bylaw or an order issued under this bylaw;

(d)contravenes the *Controlled Substance Property Bylaw*.

(2)The cost that applies to the type of equipment used by the fire department set out in Column 1 of Table 1 is the cost set out in Column 2 of Table 1 opposite the type of equipment.

Table 1 - Equipment Costs

Item	Column 1 **Equipment**	Column 2 **Cost**
1	fire engine (4-person unit)	$500 per hour
2	tender (2-person unit)	$400 per hour
3	squad (2-person unit)	$400 per hour
4	aerial (6-person unit)	$750 per hour

(3)The cost that applies to the type of unit dispatched by the fire department set out in Column 1 of Table 2 is the cost set out in Column 2 of Table 2 opposite the type of unit.

Table 2 - Unit Costs

Item	Column 1 **Unit**	Column 2 **Cost**
1	hazardous materials unit and trailer	$750 per hour

Table 2 - Unit Costs		
Item	Column 1 **Unit**	Column 2 **Cost**
2	special operations unit and trailer	$750 per hour
3	wildland unit	$400 per hour

(4)The cost that applies to the member dispatched by the fire department set out in Column 1 of Table 3 is the cost set out in Column 2 of Table 3 opposite the member.

Table 3 - Personnel Costs		
Item	Column 1 **Member**	Column 2 **Cost**
1	duty officer	$120 per hour
2	fire prevention officer	$85 per hour
3	training officer	$85 per hour
4	captain	$75 per hour
5	lieutenant	$70 per hour
6	firefighter	$60 per hour

(5)The cost that applies to consumables used by the fire department is the actual costs of consumables used.

17 Dangerous goods

79 A person who fails to comply with section 39 *dangerous goods* must pay

(a)a fee calculated in accordance with section 78 *incident costs*,

(b)the costs incurred by the City to clean up and dispose of the dangerous goods,

(c)the costs incurred by the City to mitigate the incident, and

(d)the costs incurred by the City for the repair, decontamination and replacement of equipment damaged or contaminated while attending the incident.

18 Security alarms

80 An owner or occupier of a premises to which the fire department has attended in response to an activation of a security alarm system that has been routed to the fire department must pay a fee of $250 for each occasion that the fire department has attended in response to an activation of the security alarm system.

19 False alarms

81 (1)An owner or occupier of a premises to which the fire department has attended in response to a false alarm must pay the costs calculated in accordance with section 78 *incident costs*.

(2)For each subsequent occasion that the fire department has attended a premises in a 12-month period from the date of the most recent false alarm, in addition to the costs payable under subsection (1), an owner or occupier of the premises must pay a fee as follows:

(a)for a residential building of up to 4 dwelling units per lot, including a single-family dwelling, townhouse and duplex,

(i)$50 for a second false alarm,

(ii)$150 for a third false alarm,

(iii)$200 for a fourth false alarm, and

(iv)$400 for a fifth false alarm and each subsequent false alarm;

(b)for a residential building of more than 4 dwelling units per lot,

(i)$150 for a second false alarm,

(ii)$300 for a third false alarm,

(iii)$600 for a fourth false alarm, and

(iv)$1 200 for a fifth false alarm and each subsequent false alarm;

(c)for a commercial building, including a commercial building with residential units,

(i)$150 for a second false alarm,

(ii)$300 for a third false alarm,

(iii)$600 for a fourth false alarm, and

(iv)$1 200 for a fifth false alarm and each subsequent false alarm.

(3)The fire chief may waive a cost or fee payable under subsection (1) or (2) if the following conditions are met:

(a)the owner or occupier provides the fire chief with written evidence from a fire protection technician that improvements have been made to the premises to reduce or eliminate subsequent false alarms;

(b)the owner or occupier submits the evidence to the fire chief within 30 days of the most recent false alarm.

20 Fire alarm system testing

82 An owner or occupier must pay the costs calculated in accordance with section 78 *incident costs* if the owner or occupier fails to notify the fire alarm system monitoring service provider or fire department when carrying out testing, repair or maintenance to a fire alarm system and members attend the premises as a result of that failure.

21 Special events

83 (1)A person must pay the costs calculated in accordance with section 78 *incident costs* if any of the following applies:

(a)the person has a fire in connection with a special event;

(b)the person requests the attendance of the fire department at a special event;

(c)the fire chief considers that the supervision by members is necessary to ensure the safety of persons and property at a special event.

(2)Despite subsection (1), if a member attends a special event in accordance with the subsection (1) (b) or (c), the fee for the attendance of a member at a special event is

(a)$115 per hour for the attendance of the first member, and

(b)$85 per hour for the attendance of each additional member.

22 Inspections

84 The fee payable for an inspection or re-inspection of a premises by the fire department is $115 per hour.

Division 3 — Fees for Other Services

23 Investigation and report under the Fire Services Act

85 If the fire department responds to a fire where damage to a premises is more than $2,500 and the fire department must complete an investigation and report under the *Fire Services Act*, the owner or occupier of the premises must pay a fee of $500.

24 Occupant loads

86 The fee payable for

(a)a calculation of occupant load under the Fire Code, including the sign stating the occupant load, is $50, and

(b)an occupant load sign is $25.

25 Comfort letter

87 The fee payable for a comfort letter identifying the dates of inspection of a building and whether the building complies with applicable codes and bylaws is $130.

14 ANNEX E: City of Cranbrook Fire Services Bylaw 3676, 2010

Cranbrook Fire Services Bylaw 3676, 2010

Residential

Accumulation of combustible material in any building, yard, vacant lot, carport, garage or open space is not allowed.
Regulation of residential indoor burning prohibits burning of residential waste and limits burning materials to ONLY seasoned fire wood or clear construction material.
Requires all homes and other places of residence to have their address clearly marked.
A minimum required clearance around fire hydrants.
Provision for cost recovery - Wherever the Bylaw imposes the requirement on a person that something be done, Council may by resolution direct the person to take action. If the person does not take action, City staff may do the work at the expense to the person and recover those costs.

Businesses/Public Spaces & Buildings

For the purposes of prevention, control and enforcement the Director of Fire & Emergency Services or other member is authorized to enter and inspect premises for conditions that may cause fire or increase the danger of fire. The Director may immediately take action to eliminate the danger and may evacuate and close a hotel or public building. Further, if an emergency arises from a fire hazard or risk of explosion and causes the Director to be apprehensive of imminent or serious danger to life or property he may take steps he thinks advisable to remove the hazards, which may include evacuation of a building or area.
Vacant Buildings – every owner of an abandoned or unoccupied premise is required to ensure the premises is made and kept secure against an unauthorized entry.
Provision to regulate the size, location and construction of commercial or communal garbage containers.
Monitoring and transmission of signals to Fire & Emergency Services will be required in all buildings containing fire alarm systems.
Requirement for an owner to provide alternative fire protection measures in event of interruption of fire protection systems.
Requirement to maintain exit paths in open floor storage areas in buildings.
Materials stored indoors and outdoors are not to create a fire hazard nor create an obstacle or obstruction for fire fighting.

Requires all businesses and other workplaces to have their address clearly visible.
A minimum required clearance around fire hydrants.
Enforcement options which include City of Cranbrook Municipal Ticketing Information, charges under the Offence Act and options available in the capacity of a Local Assistant of the Fire Commissioner.
Provision for cost recovery - Wherever the Bylaw imposes the requirement on a person that something be done, Council may by resolution direct the person to take action. If the person does not take action, City staff may fulfill the requirement at the expense to the person and recover the costs incurred from that person as a debt.

15 ANNEX F: The Corporation of The City of Courtenay Bylaw No. 2556 A Bylaw to establish fire protection regulations within the City

The Corporation of The City of Courtenay Bylaw No. 2556 A Bylaw to establish fire protection regulations within the City

"Cost Recovery" means the method the City may use to recover any costs and expenses of and incidental to the taking of certain measures pursuant to this Bylaw, as set out in section 85 and Schedule 'C' attached to and forming part of this Bylaw;

PREVENTION, CONTROL AND ENFORCEMENT

7. The Fire Department may prevent, suppress, control and extinguish fires, mitigate the effects of incidents involving Dangerous Goods, and generally protect persons and property, including performing rescue operations and administering first aid. The Fire Chief and Officers may enforce the Fire Code and any City bylaws and regulations for the prevention and suppression of fires. The Fire Chief and Fire Inspectors may exercise the powers provided by the Fire Services Act.

8. Where the Fire Department has responded to a fire call or an incident for the purpose of preserving life or property from injury or destruction, including any such action taken by responding to a False Alarm, the City may, in respect of any costs incurred by the Fire Department in taking such action, charge those costs so incurred by the Fire Department to the owner of the Premises or the person in possession of the Premises where the Incident occurred.

   That charge may be collected as a Cost Recovery charge pursuant to section 85.

ACCUMULATION OF COMBUSTIBLES

15. No person shall permit any accumulation of combustible growth, materials, waste or rubbish of any kind to be or to remain upon any Premises which, in the opinion of the Fire Chief, or a Fire Inspector, is liable to catch fire and endanger property. If not complied with, the Fire Chief or Designate may issue a Municipal Ticket (MTI). The MTI fine is specified in Schedule "C".

16. All vegetation or combustible materials that are liable to catch fire and endanger property must be cut down and removed by the Occupant of the premises on which the vegetation or combustible materials are located. All waste or rubbish of any kind that is liable to catch fire and endanger property must be removed by the Occupant. If the Occupant does not comply with an order of the Fire Chief or his designate under this section, the Fire Chief or his designate may cause the required work to be completed and invoice the property owner for Cost Recovery in accordance with section 85.

INSPECTION FEE COST RECOVERY

31. If there are any violations under the Fire Code, Fire Services Act or this bylaw while performing a fire inspection, an Officer will write an order (an "Order for Deficiencies") requesting that the violations be corrected within a defined time period and will advise of a return date for a re-inspection to ensure that the corrections are made. If the Occupant has not complied with the Order for Deficiencies, upon the re-inspection a subsequent Order for Deficiencies will be written requesting any continuing violations be corrected within a defined time period and will advise of a return date for a re-inspection to ensure that the violations are corrected. If the Order for Deficiencies from the re-inspection has not been complied with after the second re-inspection, a fee will be charged for that reinspection and each additional re-inspection if required. The charge is subject to Cost Recovery in accordance with section 85.

SECURING VACANT PREMISES SECURE VACANT PREMISES

32. (1) The owner of any vacant or unoccupied Premises must ensure that the Premises are secure against unauthorized entry by any person.

(2) If an Officer finds premises which are accessible, contrary to Section 32 (1), the Officer may contact the owner of the Premises and require that the Premises be secured against unauthorized entry.

(3) If an owner of that Premises fails to bring the Premises into compliance with Section 32 (1) within 24 hours of receiving notice to do so, or if the Officer is unable to contact the owner of that Premises within 24 hours of finding the Premises unsecured, the Officer may have the Premises secured by a City contractor who may board up or otherwise secure doors, windows and other points of entry into the Premises in order to prevent fires, and charge the Occupant for Cost Recovery pursuant to section 85.

SECURE FIRE-DAMAGED PREMISES

33. The owner of a fire-damaged Building must ensure that the Premises are guarded or that all openings of any fire-damaged Buildings are kept securely closed and fastened so as to prevent the entry of unauthorized persons. If an Officer finds a Premises that is accessible contrary to this section, the Officer may contact the owner of the Premises and require that the Premises be secured against unauthorized entry. If the owner fails bring the fire damaged Building into compliance within 24 hours after receiving an order to do so from an Officer, then the Fire Chief or his designate may have the work performed and charge the owner for Cost Recovery pursuant to section 85. Those costs will include the cost of boarding-up by City crews or City contractors.

CONTACT PERSONS REQUIREMENTS CONTACT PERSONS

34.(1) The Occupant of a Building or Premises having either a Fire Alarm System or an automatic Sprinkler System, whether monitored or not monitored, must provide the Fire Department, on a form approved by the Fire Chief, yearly and on a change in contact information, the names and phone, cellular phone, pager and beeper numbers, as available, for three persons ("Contact Persons") who will be available to attend, enter and secure the Premises in case of Alarm or Incident. Contact Persons must have full access to the Building or Premises of which they have responsibility and be able to take control of the Building or Premises on completion of the Incident from the fire company. Any changes to designated Contact Persons or their contact numbers during the current year must be submitted to the Fire Department. The form of notice for Contact Persons must contain the written consent of the persons to act as Contact Persons.

(2) Failure to comply with the requirements in section 34 (1) will result in a charge being levied against the owner or occupant for any standby time at a Building or Premises where an alarm has sounded, the Fire Department has attended, and a Contact Person has not attended within the time specified in Section 34(1). This charge is subject to Cost Recovery in accordance with section 85.

COST RECOVERY FOR FAILURE TO NOTIFY

41. The owner or occupant of any building containing an Automatic Sprinkler System or a Fire Alarm System shall be assessed a charge as a Cost Recovery charge pursuant to section 85 for any False Alarm that occurs when the owner or Occupant fails to notify the Fire Department prior to service, testing, repair, maintenance, adjustment or alterations, or installation of that system.

BURNING PERMITS

51. (1) All Burning Permits issued pursuant to this Part are subject to such conditions, restrictions, and provisions, as the Officer may consider necessary to include therein. Without limitation, the Burning Permit may regulate: (a) the location of a fire; (b) the dates and times a fire may be maintained; (c) the maximum area occupied by a fire; (d) the materials to be burned in a fire; (e) precautions to be taken in connection with the fire.

(2) No person to whom a Burning Permit has been issued shall burn or combust Trade Waste, tires, animal carcasses, oil, tar, asphalt, shingles, battery boxes, plastic materials, or any similar material which may produce heavy black smoke, on or in any fire. If not complied with, the Fire Chief may charge the owner of the Premises on which the fire occurs for the cost incurred by the City to extinguish the fire, as a Cost Recovery charge pursuant to section 85.

(3) Every person who burns outdoors shall place a competent person in charge of that fire at all times and must provide that person with sufficient equipment to prevent that fire from getting beyond control, causing damage, or becoming dangerous.

(4) At any time an Officer may, on account of hazardous fire conditions, cancel or suspend until such time as is specified in the order, all or any permits issued pursuant to this bylaw, or may impose further conditions and restrictions on those permits.

(5) A fire may be deemed out of control under this Part when it spreads beyond the boundaries of the parcel of land on which it was started, or threatens to do so, or endangers any building or property.

(6) If a fire is deemed to be out of control, or in contradiction of this bylaw, and the Fire Department makes efforts to extinguish that fire, the City may charge the owner of the property on which the fire starts for the cost incurred by the City to extinguish the fire, as a Cost Recovery charge pursuant to section 85.

RECOVERY OF COSTS

63. (1) Every Occupant of Premises in respect of which the Fire Department responds to a Dangerous Goods Incident must pay the City a charge based on the actual costs of the Fire Department response to the Dangerous Goods Incident, as a Cost Recovery charge pursuant to section 85.

(2) The Fire Chief may charge an Occupant of a Premises for the replacement or repair of Fire Department equipment where as a result of an Incident at that Premises, such equipment has been damaged or contaminated by a hazardous substance or Dangerous Good and consequently requires decontamination, repair or replacement. That charge may be collected as a Cost Recovery charge pursuant to section 85.

HIGH HAZARD FIREWORKS PERMIT CHARGE

82. On application for a permit for High Hazard Fireworks or Movie/TV Pyrotechnics as set out in section 79, a Cost Recovery charge will be charged pursuant to section 85 for administration and review of Fire Safety Plans.

FIRE PROTECTION AT MOVIE/TV PYROTECHNICS

84. The amount of fire protection required at a Movie/TV Pyrotechnics event must be approved by the Fire Chief or his designate with consideration to the minimum staffing requirements as reviewed at the site for the appropriate life safety and emergency resource needs. The cost of fire protection provided by the Fire Department at such an event may be recovered as a Cost Recovery fee pursuant to section 85.

PENALTIES AND ENFORCEMENT COST RECOVERY

85. The City may recover all costs and expenses it incurred incidentally to the taking of any measures pursuant to sections 8, 16, 31, 32, 33, 34, 41, 51, 63, 82, and 84 jointly and severally from any person who at the time had the charge, management or control of the Building, Premises or property that is the subject of the charge, which costs and expenses are set out in Schedule "C" attached to and forming part of this Bylaw. If that person fails to pay those costs and expenses within 6 months after they were incurred, the City may recover those costs and expenses from the owner of the Building or Premises by direct invoice, together with costs and interest at the rate set out in the Taxation (Rural Area) Act. Default on those costs, expenses and interest will

result in their being added to the property taxes of the owner of the Building or Premises.

BYLAW NO. 2556, 2008

SCHEDULE "C" – MTI FINES AND COST RECOVERY

SECTION		DESCRIPTION	MTI FINE	COST RECOVERY
8	Prevention, Control and Enforcement	Response to Fire Call or Incident		Fire crew and fire truck costs $400.00 each truck and crew per hour (minimum 1 hour).
12	Interference with Egress or Access to Buildings	Interfering with Egress or Access to a Building or Premises	$100.00	
13	Interference with Fire Protection Equipment	Interfering with Fire Protection Equipment	$100.00	
14	Interference with Fire Protection Equipment	Activating Fire Alarm when no Fire	$100.00	
15	Accumulation of combustibles	Permit combustible material to remain on Premises	$100.00	
16	Accumulation of combustibles	Failure to maintain property		Cost of removal by City crews or City contractor and invoiced to the property owner.
17	Accumulation of Daily Combustibles	Fail to remove combustible items or store same in safe manner	$100.00	
18	Storage of Combustible Materials	Failure to provide non-combustible container	$100.00	
19	Fire Doors or Fire Separation Devices	Failure to keep fire doors in good repair	$100.00	

20	Quantity and Storage of Flammable or Combustible Liquids	Improper storage of Flammable or Combustible Liquids	$100.00	
23	Cleaning with Combustible Liquids	Cleaning with Combustible Liquids	$100.00	
25	Fire Extinguishers	Failure to Provide and Maintain Fire Extinguisher	$100.00	
27	Obstruction	Obstruction of Officer	$100.00	
28	Access for Fire Inspection	Failure to provide access for Fire Inspection	$100.00	
31	Inspection fee cost recovery	Failure to correct violation after re-inspection		$100.00 per re-inspection
32 33	Secure Vacant Premises; Secure Fire-damaged Premises	Failure to board-up		Cost of board up by City crews or City contractor and invoiced to the property owner.
34 35	Contact Persons	Failure for contact person to attend at a Premises		Fire crew and fire truck costs $400.00 each truck and crew per hour (minimum 1 hour).
38	Maintenance of Fire Alarm and Sprinkler Systems	Failure to Maintain Fire Alarm and Sprinkler Systems	$100.00	
39	Correction of Deficiencies	Failure to correct fire alarm deficiencies	$100.00	
41	Cost Recovery for failure to notify	Activation of alarm system, and failure to notify of testing.		Fire crew and fire truck costs $400.00 each truck and crew per hour (minimum 1 hour).
44	Private Fire Hydrants	Failure to maintain hydrant	$100.00	

45	Fire Hose	Tamper with Fire Hose	$100.00	
46	Emergency Access to Building	Obstructing Emergency Access	$100.00	
47	During Construction Phases	Obstructing Emergency Access during Construction	$100.00	
48	Security Gates	Fail to receive approval for security gates	$100.00	
49	Signage	Failure to post signs	$100.00	
50	Open Air Burning Regulations	Open Air Burn without Burning Permit	$100.00	
51 (2)	Burning permits	Burning prohibited materials. Fire extinguished by Fire Department		Fire crew and fire truck costs $400.00 each truck and crew per hour (minimum 1 hour).
51 (6)	Burning Permits	Fire under permit deemed out of control, and extinguished by Fire Department		Fire crew and fire truck costs $400.00 each truck and crew per hour (minimum 1 hour).
59	Authorization of Coverage	Covering tank without authorization	$100.00	
62	Dangerous Goods Regulation	Failure to handle or store Dangerous Goods safely	$100.00	
63 (1)	Dangerous good response	Cost recovery for response to dangerous goods incident		Fire crew and fire truck costs $400.00 each truck and crew per hour (minimum 1 hour), plus the cost of any extra measures required on account of Dangerous Goods on the Premises.
63 (2)	Contamination and replacement of equipment	Contamination and replacement of damaged equipment from hazardous material or dangerous goods		Equipment replacement cost or decontamination costs including taxes.

67	Regulations – Low Hazard Fireworks	Possession of Low Hazard Fireworks	$100.00	
68	Regulations – High Hazard Fireworks	Possession of High Hazard Fireworks	$100.00	
69	Sales Prohibition	Sale of Fireworks	$100.00	
78	Firecrackers	Sale or Detonation of Firecrackers	$100.00	
82	High Hazard Fireworks Permit Charge	Review and administration of Fire Safety Plans		$150.00
84	Fire Protection at Movie/TV pyrotechnics	Fee charged for providing fire protection at movie or TV productions as required		Current fire equipment and staffing cost recovery as approved by the Fire Chief

16 ANNEX G: Acronyms

Acronym	Definition
AHJ	Authority Having Jurisdiction
BCAS	BC Ambulance Service
BCEM	BC Emergency Management
BCWS	BC Wildfire Service
CIRT	Critical Incident Response Team
CN	Canadian National Railway
CRD	Capital Region District
EOC	Emergency Operations Centre
GIS	Geographic Information System
Haz-Mat	Hazardous Materials
HUSAR	Heavy Urban Search and Rescue
IDLH	Immediate Danger to Life or Health
MOU	Memorandum of Understanding
NFPA	National Fire Protection Association
PPE	Personal Protective Equipment
RDBN	Regional District of Bulkley-Nechako
SAR	Search and Rescue
SOP	Standard Operating Procedure