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FIRE SERVICES REVIEW

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Final Report

Prepared by Transitional Solutions Inc.



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List of Acronyms

Acronym	Meaning / Definition
AHJ	Authority Having Jurisdiction
APCO	Association of Public-Safety Communication Officials
CAO	Chief Administrative Officer
CAD	Computer-Aided Dispatch
CBRFES	Cape Breton Regional Fire and Emergency Services
CBRM	Cape Breton Regional Municipality
COOP	Continuity of Operations Plan
CRA	Community Risk Assessment
CRTC	Canadian Radio-Television and Telecommunications Commission
EMO	Emergency Management Organization
ERF	Effective Response Force
HVAC	Heating, Ventilation, Air Conditioning
ICS	Incident Command System
JPRs	Job Performance Requirements
LOS	Level of Service
MGA	Municipal Government Act
MVC	Motor vehicle collisions
NFPA	National Fire Protection Association
NG911	Next-Generation 9-1-1
PPE	Personal protective equipment
RMS	Records management system
SOC	Standards of Cover
SOGs	Standard Operating Guidelines
SOPs	Standard Operating Procedures
TSI	Transitional Solutions Inc.

1. Executive Summary

The Cape Breton Regional Municipality (CBRM) retained Transitional Solutions Inc. (TSI) to complete a comprehensive review of fire service delivery across the municipality. The purpose of the review was to assess the current state of fire services, identify system-level challenges, and provide direction for a more coordinated, sustainable, and risk-informed fire service model.

CBRM is served by a large and complex fire service system consisting of 34 fire stations, including career, composite, and volunteer stations, operating across a geographically diverse municipality with urban, suburban, rural, and remote communities. The fire service responds to a broad range of emergency incidents, including fires, motor vehicle collisions, alarms, medical responses, water and ice rescue, hazardous materials incidents, and other public safety events.

The review found that CBRM benefits from a strong culture of local service, committed career and volunteer firefighters, and significant community investment in fire protection. These strengths are foundational and must be preserved through any future change. However, the review also found that the current fire service model is not structured as a unified municipal fire service. Rather, it reflects a legacy system that has evolved over time through local decision-making, independent governance arrangements, and historical settlement patterns.

The central finding of this review is that the current decentralized model limits CBRM's ability to govern, plan, fund, manage, and measure fire services as a coordinated regional system. This condition affects nearly every major component of service delivery, including governance, Level of Service, deployment, infrastructure, apparatus, training, financial planning, data management, and long-term sustainability.

Key Findings

The review identified several interrelated system-level issues.

First, CBRM *does not currently have a single Authority Having Jurisdiction (AHJ)* over all fire services operating within the municipality. This creates fragmented authority, unclear accountability, and variability in how policies, operational practices, training requirements, service expectations, and financial decisions are established and applied.

Second, CBRM *has not adopted a formal municipality-wide Level of Service (LOS) or Standards of Cover (SOC) framework*. As a result, service expectations are not consistently defined, response performance is not measured against adopted targets, and resource deployment is not formally aligned with community risk, incident demand, travel time, staffing capacity, or effective response force requirements.

Third, the *station network and infrastructure model reflect historical development rather than a coordinated deployment strategy*. The current system provides broad geographic coverage, which is important in rural and remote areas. However, several urban and suburban areas contain clustered stations in close proximity to one another. These areas require detailed review to determine whether station location, function, condition, ownership, and long-term investment remain aligned with future service requirements.

Fourth, the *apparatus fleet is large, diverse, and aging*. Apparatus distribution has generally developed through local allocation rather than regional fleet planning. In some areas, particularly clustered station areas, there may be duplication of apparatus or near-term replacement decisions that should be tested against future LOS, SOC, station optimization, staffing, and deployment requirements before being approved. At the same time, several frontline apparatus are approaching or beyond expected service life, creating operational and capital planning risk.

Fifth, *training and operational capability vary across the system*. While training frameworks and standards exist, they are not consistently implemented or verified across all departments. Differences in training access, certification expectations, documentation, specialty service training, and operational practices affect interoperability and create variability in service capability.

Sixth, the *current data and records environment limits evidence-based decision-making*. The absence of consistent system-wide records, reliable response performance data, and mature analytics limits the municipality's ability to evaluate service performance, support deployment modelling, assess LOS achievement, or make fully data-informed decisions regarding infrastructure, apparatus, staffing, and capital investment.

Finally, the financial review identified *financial sustainability and capital planning as core system-level issues*. The 2025 operating budget is detailed and well administered; however, the broader financial framework does not yet provide a complete basis for long-term capital planning, lifecycle renewal, reserve funding, grant accountability, taxation review, or transition to a unified regional fire service model. Major future requirements, including apparatus replacement, facility renewal, technology modernization, and reserve contributions, are not fully reflected in the annual operating budget.

Recommended Future Direction

The recommended future state is a unified, regionally integrated fire service operating under a single AHJ.

This model would establish centralized governance and accountability under one Fire Chief, while recognizing the ongoing importance of local station leadership, volunteer participation, and community identity. The intent is not to erase the strengths of the current community-based system, but to provide the authority, structure, and planning framework required to manage fire services as a coordinated municipal service.

Under the recommended model, CBRM should establish:

- a single AHJ through a Council-approved bylaw;
- a defined and differentiated LOS framework;
- a formal SOC framework;
- coordinated deployment and multi-station response;
- resource-based dispatch and deployment;
- standardized policies, procedures, training, and operational practices;
- centralized records, data, and performance measurement systems;

- coordinated financial planning, reserve development, capital prioritization, and grant accountability;
- regional infrastructure and fleet strategies; and
- sufficient organizational capacity to manage the expanded responsibilities of a unified fire service.

The review does not recommend immediate full operational amalgamation without preparation. Moving too quickly would create unnecessary risk to operations, organizational stability, volunteer participation, and community trust. Instead, the report recommends a phased transition in which governance authority is established first, while operational integration, asset planning, service standards, and organizational capacity are developed over time.

Implementation Roadmap

The implementation strategy is structured as a five-year transition roadmap, supported by ongoing lifecycle renewal and continuous improvement beyond the initial implementation period.

Phase 1 – Immediate Direction and Foundation (0–12 months) should focus on establishing Council direction, creating a single AHJ, confirming transition governance, building initial organizational capacity, initiating the Fire Master Plan, developing LOS and SOC foundations, implementing interim capital decision controls, beginning financial implementation planning, and establishing engagement, data, training, and policy foundations.

Phase 2 – Transition and System Integration (1–3 years) should focus on adopting and operationalizing the Fire Master Plan, LOS, and SOC; implementing phased department integration; completing priority station cluster reviews; developing regional infrastructure and fleet strategies; strengthening financial planning and grant accountability; implementing standardized training and procurement practices; and advancing resource-based dispatch and deployment.

Phase 3 – Optimization and Continuous Improvement (3–5 years) should focus on substantially completing system integration, optimizing deployment and staffing models, implementing approved station and fleet decisions, embedding performance management, strengthening prevention and community risk reduction, and reporting regularly to Council and the public on implementation progress, service performance, financial impacts, capital requirements, and realized efficiencies.

Beyond the five-year transition period, CBRM should continue lifecycle renewal and continuous improvement through regular municipal capital planning, asset management, reserve funding, performance reporting, and periodic review of the Community Risk Assessment, LOS, SOC, infrastructure strategy, fleet strategy, and fire service funding model.

Conclusion

CBRM is at an important decision point. The current fire service model has provided broad geographic coverage and strong community-based service for many years. However, the system is no longer well positioned to meet future expectations for governance, accountability, consistency, financial sustainability, performance measurement, and risk-informed planning.

The recommended transition to a unified fire service under a single AHJ provides the clearest pathway to address these challenges. Success will require Council direction, sustained leadership, transparent communication, investment in organizational capacity, and careful engagement with firefighters, departments, communities, and municipal partners.

The transition should be deliberate, phased, and accountable. It should protect the strengths of the existing system while establishing the governance, standards, data, financial planning, and operational coordination required to support a modern regional fire service. With these foundations in place, CBRM can move toward a fire service model that is more consistent, sustainable, transparent, and aligned with the risks and needs of the communities it serves.

2. Introduction

2.1. Introduction

The Cape Breton Regional Municipality (CBRM) retained Transitional Solutions Inc. (TSI) to conduct a comprehensive review of fire service delivery across the municipality. The purpose of this review is to assess the current state of fire services and identify opportunities to improve effectiveness, efficiency, and long-term sustainability.

This review examines governance, service delivery, infrastructure, apparatus, staffing, training, and operational practices across the system. The objective is to provide clear, actionable recommendations that support the modernization of fire services and align service delivery with community risk, demand, and municipal expectations.

While the review is informed by available data, it also reflects the realities of a system where information is not consistently captured or standardized. As a result, the analysis incorporates a combination of data review, stakeholder engagement, professional expertise, and alignment with recognized industry standards, including those established by the National Fire Protection Association (NFPA).

2.2. Study Approach and Limitations

The scope and complexity of fire service delivery within CBRM presented several challenges to the review process. The system spans a large geographic area, includes a significant number of independently operated departments, and reflects a wide range of operational practices and service environments.

A key limitation identified during the review was the availability and consistency of data. The absence of a fully integrated records management system, combined with limitations in dispatch data, particularly with respect to time stamps and performance metrics, constrained the ability to conduct detailed quantitative analysis of response performance.

In response to these limitations, the study approach was adapted to ensure that findings and recommendations remained robust and defensible. This included:

- Direct engagement with stakeholders across the fire service and municipal administration
- Review of existing documentation, policies, and operational practices
- Comparative analysis using established industry benchmarks and best practices
- Application of professional judgement informed by experience in similar jurisdictions

While data constraints limited certain aspects of analysis, they do not diminish the validity of the findings. Rather, they reinforce a key conclusion of this report: the need for improved data systems, performance measurement, and evidence-based planning.

2.3. Previous Review and Context

In 2016, a comprehensive review of the CBRM fire service, commonly referred to as the Manitou Report, was completed. That review identified a number of opportunities to improve service

delivery, including governance reform, consolidation of services, and the development of a more coordinated regional approach.

Many of the findings and recommendations from the 2016 review remain relevant. While some incremental changes have occurred, the current review indicates that the majority of the recommendations have not been fully implemented. As a result, many of the structural and operational challenges identified at that time continue to influence fire service delivery today.

Since 2016, the operating environment has evolved. Changes in population trends, development patterns, and volunteer availability have introduced additional complexity, particularly in relation to staffing capacity and service sustainability in certain areas.

This review builds on the foundation established by the previous study, while incorporating updated analysis of community risk, incident demand, and current system conditions. It also reflects a broader understanding of system performance, including the relationship between resource deployment, staffing, and service delivery across the municipality.

2.4. Current Service Context

Fire service delivery within CBRM is characterized by a hybrid model that includes a combination of career, composite, and volunteer departments operating across a large and diverse geographic area.

While the Cape Breton Regional Fire and Emergency Services (CBRFES) provides centralized leadership and administrative support, the majority of fire service delivery occurs through independently operated departments. More than 30 stations operate outside of direct municipal control, maintaining their own governance structures, policies, and operational practices.

This structure reflects the historical development of fire services within the region and has supported strong local engagement and community-based service delivery. However, it also creates challenges in establishing consistency, coordination, and system-wide planning.

Key characteristics of the current system include:

- A distributed network of fire stations that has evolved based on historical development rather than a coordinated regional strategy
- A combination of career, composite, and volunteer staffing models
- Limited centralized authority over the majority of fire departments
- Variability in policies, procedures, training, and operational capability across departments
- Informal or inconsistent mutual aid and response arrangements

The decentralized nature of the system limits the ability of the municipality to implement consistent service standards, align resources with demand, and manage fire services as a unified system.

2.5. Need for a Strategic Approach

The findings of this review indicate that a comprehensive, long-term approach is required to modernize fire service delivery within CBRM.

A key component of this approach is the development of a Fire Master Plan, which would provide a structured, data-informed framework for decision-making considering the following five elements:



While the development of a Fire Master Plan is beyond the scope of this review, it is strongly recommended as a critical next step.

More broadly, the review identifies the need to transition from a system shaped by historical development and local decision-making toward one that is guided by data, aligned with industry best practices, and structured to deliver consistent and measurable service outcomes across the municipality.

This transition will require a coordinated and phased approach, supported by clear governance, defined Level of Service (LOS), and alignment across all components of the fire service system.

3. Stakeholder Engagement

3.1. Overview

Stakeholder engagement was a central component of this review and was undertaken to ensure that the findings and recommendations are informed by the experience, perspectives, and operational realities of those directly involved in fire service delivery within the CBRM.

Given the limitations in available system data, engagement activities played a critical role in developing an understanding of current conditions, identifying system-level challenges, and validating observations across multiple sources. Input was obtained from career and volunteer firefighters, fire service leadership, and municipal officials through a combination of surveys and in-person workshops.

The engagement process was designed to capture both quantitative and qualitative input, with particular emphasis on identifying consistent themes across stakeholder groups.

3.2. Engagement Approach

The engagement process included the following components:

Firefighter Survey

An anonymous survey was distributed to all career and volunteer firefighters across the municipality. A total of 278 responses were received, representing a broad cross-section of the fire service.

The survey included both structured questions and open-ended response opportunities, allowing participants to provide detailed input on strengths, challenges, and opportunities within the current system.

The anonymous nature of the survey was intended to encourage candid feedback, particularly in areas related to governance, operations, and organizational culture.

Firefighter Workshops

Four in-person workshops were conducted at locations across the municipality to facilitate direct engagement with firefighters. These sessions included participation from both career and volunteer members and were structured to support open discussion on operational practices, training, governance, and system performance.

The workshops provided an opportunity to explore issues in greater depth, validate survey findings, and understand how system-level challenges are experienced at the local level.

Council Workshop

An in-person workshop was also conducted with members of Council. This session focused on presenting high-level observations from the review and facilitating discussion on governance, service delivery expectations, and future direction.

The Council workshop provided important context regarding municipal priorities, policy considerations, and the broader decision-making environment within which fire services operate.

3.3. Fire Service Management Engagement

A series of meetings and interviews were conducted with the CBRM fire service management team, including the Fire Chief, Deputy Chiefs, and administrative personnel. These discussions provided insight into the current administrative and operational structure, workload distribution, and system-level challenges associated with managing fire services within the municipality.

Through these consultations, it was consistently identified that the current management structure is operating under significant capacity constraints. Existing staff are responsible for a wide range of administrative, operational, and coordination functions, and several roles were described as operating at or beyond sustainable workload levels. This has resulted in limited capacity to advance strategic initiatives, complete ongoing projects, and support system-wide coordination.

The current structure relies heavily on the commitment of individual staff members, including extended working hours, to maintain operational continuity. While this has enabled the system to function, it has been identified as unsustainable over the long term, particularly given potential system expansion or increased administrative responsibility.

Management representatives expressed strong alignment regarding the need to transition toward a unified governance model under a single Authority Having Jurisdiction (AHJ). This was identified as a necessary step to improve coordination, reduce duplication, and support the development of consistent policies, training standards, and operational practices across the municipality.

At the same time, it was emphasized that any transition to a unified model must be implemented in a structured and phased manner. The current management capacity is not sufficient to support the immediate integration of all departments without additional resources. The need for a defined staffing model, including the phased addition of administrative and operational support positions, was identified as a critical component of a successful transition.

Overall, the management engagement confirmed both the need for structural change and the importance of aligning that change with appropriate organizational capacity, planning, and implementation sequencing.

3.4. Key Themes from Engagement

The engagement process identified a consistent set of themes across all stakeholder groups. While perspectives varied in emphasis, there was a high degree of alignment regarding the core challenges affecting the system.

These themes are summarized below.

Decentralized Structure and Lack of Consistency

A central theme emerging from both the survey and workshop discussions was the impact of the current decentralized model of fire service delivery.

Participants consistently identified variability in governance, training, operational practices, and service expectations across departments. This lack of consistency was described as affecting interoperability, coordination, and overall system performance.

In particular, differences in how incidents are managed, how training is delivered, and how standards are applied were noted as creating challenges during multi-station responses and contributing to uncertainty in operational environments.

The absence of a unified structure also places additional coordination demands on a limited management capacity, further contributing to variability in governance, operations, and service delivery across the system.

Training Access, Delivery, and Standardization

Training was one of the most frequently identified areas of concern.

Participants highlighted challenges related to:

- Limited availability of recruit training, particularly Firefighter Level I
- Inconsistent scheduling and delivery of training programs
- Variability in training quality and alignment with recognized standards
- Lack of standardized training requirements across departments

These issues were identified as having direct implications for operational capability, safety, and the ability to maintain a consistent level of service across the municipality. These challenges are further influenced by limited centralized coordination capacity, which affects the consistency, scheduling, and delivery of training programs across the municipality.

The need for more accessible, coordinated, and standardized training was consistently emphasized across both career and volunteer participants.

Governance, Communication, and Trust

Engagement activities identified significant concerns related to governance, communication, and organizational trust.

A recurring theme was a perceived disconnect between fire service administration and local departments, particularly within the volunteer system. Participants expressed concerns regarding:

- Limited transparency in decision-making processes
- Insufficient communication regarding policies, plans, and training opportunities
- Lack of consistent engagement between leadership and frontline personnel

In workshop settings, tensions between career and volunteer members were also evident, reflecting differences in operational expectations, resources, and organizational structure.

These challenges are compounded by administrative capacity constraints, which limit the ability to maintain consistent communication, support engagement, and provide system-wide coordination. As a result, issues related to communication and trust are influenced not only by organizational

alignment, but also by structural limitations within the current governance model. These factors collectively contribute to a broader challenge related to trust and alignment within the system.

Volunteer Sustainability and Workforce Pressures

The sustainability of the volunteer workforce was identified as a critical concern.

Key issues included:

- Declining availability of volunteers during daytime hours
- An aging membership base in many departments
- Challenges in recruiting and retaining new members
- Barriers associated with training requirements and time commitments

Participants also noted the absence of consistent incentives or supports for volunteers, which may further affect recruitment and retention over time.

Given the significant reliance on volunteer personnel across the municipality, these challenges were identified as directly affecting long-term service sustainability.

Operational Coordination and Resource Deployment

Participants identified opportunities to improve coordination between departments, particularly in relation to multi-station response and resource deployment.

Concerns were raised regarding:

- Inconsistent or informal mutual aid practices
- Dispatching approaches that do not always align with proximity or resource availability
- Variability in command practices and incident management

These issues were described as limiting the effectiveness of regional response and contributing to inefficiencies in how resources are deployed. These coordination challenges are further affected by the absence of centralized oversight and limited capacity to manage and continuously refine deployment practices at a system level.

Equipment, Infrastructure, and Support Systems

Engagement findings also highlighted concerns related to equipment, infrastructure, and administrative support.

Participants identified:

- Aging apparatus and equipment in some departments
- Delays in accessing personal protective equipment and other resources
- Limitations in administrative systems, including records management and data tracking
- Infrastructure challenges in certain areas that may affect response capability

While these issues varied across departments, they were consistently linked to broader system-level challenges related to planning, investment, and coordination. These issues are also influenced

by broader administrative and planning constraints, including limited capacity to support long-term asset management, lifecycle planning, and system-wide investment prioritization.

3.5. Summary

The stakeholder engagement process provided critical insight into the current state of fire service delivery within CBRM.

Across all engagement methods, participants demonstrated a strong commitment to their communities and a high level of pride in the service they provide. At the same time, the input consistently indicated a system characterized by variability, limited coordination, and mounting pressures related to training, staffing, governance, and resource management. Engagement with fire service management further identified capacity constraints within the current administrative structure, limiting the ability to support system-wide planning, coordination, and implementation of consistent standards.

Importantly, there was a high degree of alignment between stakeholder input and the findings identified through the broader analysis. The themes emerging from engagement are not isolated concerns, but rather reflect underlying structural, organizational, and capacity-related conditions that influence the effectiveness, efficiency, and sustainability of fire service delivery across the municipality.

These findings inform the analysis presented in the following chapters and support the identification of key system-level issues and future service direction outlined later in this report.

4. Current State of the Fire Services

4.1. Municipal Context

The CBRM is the largest municipal government on Cape Breton Island, with its administrative centre in Sydney, Nova Scotia. CBRM serves as the economic, cultural, and service hub for eastern Cape Breton and delivers a broad range of municipal services, including infrastructure, policing, fire protection, and emergency management.

The municipality covers a large and diverse geographic area of approximately 2,419.7 square kilometres, encompassing urban centres, suburban neighbourhoods, and rural coastal communities. The region includes several population centres such as Sydney, Glace Bay, Sydney Mines, North Sydney, New Waterford, and Howie Centre, as well as suburban communities including Dominion and Louisbourg.

Established on August 1, 1995, CBRM was formed through the amalgamation of eight former municipalities, including the City of Sydney, former County of Cape Breton, and surrounding towns. This consolidation was intended to address regional challenges, including population decline, dispersed settlement patterns, financial constraints, and inefficiencies associated with duplicated municipal services. The objective was to create a unified governance structure capable of delivering services more efficiently and equitably across the region.

While amalgamation successfully integrated most municipal services under a centralized governance model, fire services were not included in this transition and continue to operate under a legacy structure.

In recent years, the municipality has experienced renewed population growth, with the population now exceeding 100,000 residents. This growth, following a prolonged period of decline, has increased demand for municipal services, including emergency services, and adds further complexity to service delivery across a geographically large and diverse region.

The combination of a large geographic area, mixed urban and rural service environments, and evolving population trends creates a complex operating context for fire service delivery within CBRM.

4.2. Formation and Governance Structure

The CBRM operates under a Council/Chief Administrative Officer (CAO) model of governance, consistent with municipal structures across Nova Scotia. Under this model, Council is responsible for establishing policy direction and making decisions through bylaws, policies, and resolutions, while Administration is responsible for implementing those decisions and managing day-to-day operations.

CBRM is governed by a single Council composed of a Mayor and twelve Councillors representing geographic districts across the municipality. The administrative structure is centralized, with all municipal departments reporting through the CAO, who is accountable to Council for the overall management and performance of municipal operations.

Municipal decision-making related to fire services and other protective services is typically brought forward through the Committee of the Whole, which includes all members of Council and is chaired by the Deputy Mayor. This forum enables discussion and consideration of issues prior to formal decisions being made by Council. The Director of Fire and Emergency Services participates in this process by presenting reports and providing subject matter expertise when requested.

This governance structure is designed to provide clear lines of accountability, with Council setting direction, Administration ensuring implementation, and departments delivering services in alignment with established policies. In practice, this model has enabled the municipality to centralize most service areas and standardize service delivery across the region.

Fire services continue to operate under a legacy structure that differs from other municipal services. As a result, the governance framework described above is not consistently applied across all fire service operations within the municipality.

4.3. Fire Service Overview

The CBRFES provides fire protection and emergency response services across the municipality, serving a population of approximately 112,789 (2024) within a geographically large and diverse service area.

Fire service delivery within CBRM reflects the municipality's mixed urban, suburban, and rural composition. The population is nearly evenly distributed between urban/suburban and rural areas, requiring a service model capable of responding to a wide range of incident types and operating environments.

The current system includes 34 fire stations distributed throughout the municipality, consisting of two career stations, three composite stations, and 29 volunteer stations. These stations support the deployment of approximately 138 pieces of apparatus, including pumpers, tankers, rescue units, and various support vehicles.

Over a data analysis period of 5 years (November 2021 – November 2025) the fire service responded to more than 22,000 incidents, reflecting a broad scope of service that includes structure fires, medical first response, motor vehicle collisions, hazardous materials incidents, technical rescues, and emergency management coordination.

While the system provides comprehensive coverage across the municipality, it operates through a combination of centrally managed and independently operated departments. A small number of stations operate under the direct authority of the CBRFES management team, while the majority of stations are managed independently by local fire departments.

This hybrid structure has evolved over time and reflects the historical development of fire services within the region. It provides a high level of local presence and community-based service delivery, particularly in rural areas, while also introducing variability in how services are organized and delivered across the municipality.

4.4. Governance and Authority Structure

4.4.1. Governance Framework

Municipal governance operates through a structured relationship between Council, Administration, and operational service delivery. Council establishes policy and direction, Administration implements those policies, and departments deliver services to the community within that framework.



Figure 4-1 Typical Municipal Governance Structure

In a typical municipal model, this structure provides clear lines of authority, accountability, and oversight. Council sets direction through bylaws and policy, Administration ensures implementation, and operational departments deliver services in alignment with established expectations.

In the current fire service model, this governance relationship is not consistently applied across all departments, resulting in fragmented authority, inconsistent policy implementation, and limited administrative oversight.

4.4.2. Legacy Governance Model

Despite municipal amalgamation in 1995, fire services within CBRM retain a legacy governance structure that predates the formation of the regional municipality. Fire departments were not included in the original amalgamation and continue to operate largely as independent entities.

As a result, the current model does not function as a unified fire service. Instead, it reflects a collection of individual departments operating within the same geographic region, each with varying degrees of autonomy.

Little has been done over the past 30 years to modernize governance or advance the regionalization of fire services. While other municipal services were successfully integrated under a centralized governance structure, fire services have remained decentralized, resulting in a system that has evolved based on local practices, historical arrangements, and individual department leadership.

This legacy model, as illustrated in Figure 4-2 below, continues to influence how fire services are governed, funded, and delivered across the municipality.

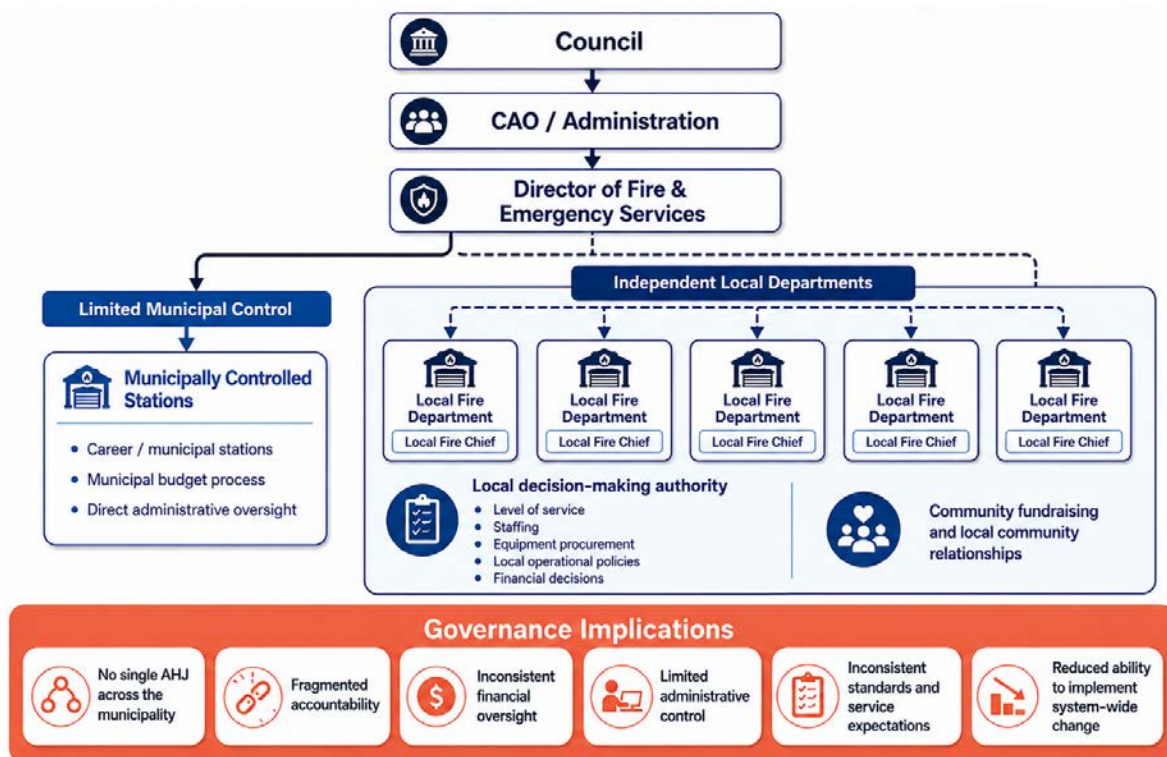


Figure 4-2 Legacy CBRM Fire Governance Model

4.4.3. Authority Having Jurisdiction

Governance of a fire service is fundamentally tied to the concept of Authority Having Jurisdiction (AHJ), defined as the organization or official responsible for establishing, enforcing, and overseeing compliance with applicable legislation, policies, and operational standards.

Within CBRM, the Director of Fire and Emergency Services does not hold AHJ authority over all fire departments operating within the municipality. While the Director reports through the CAO to Council and participates in municipal governance processes, their authority is limited to a small number of stations operating under centralized municipal control.

The majority of fire departments within the municipality are governed independently by local Fire Chiefs, who retain authority over:

- Level of service
- Staffing
- Equipment procurement
- Local operational policies
- Financial decisions, including local tax levies

Local Fire Chiefs are responsible for the operation of their respective departments and assume associated responsibility and liability for service delivery within their jurisdictions. This includes decisions related to service levels, resource allocation, and operational practices.

These departments also maintain a direct relationship with their communities. As a result, financial and service-related decisions are made at the local level, rather than through a centralized municipal process. These departments operate outside of the municipal administrative structure and are not subject to consistent oversight, reporting, or performance management by CBRM.

4.4.4. Governance Implications and Accountability

The absence of a single, clearly defined AHJ across the municipality results in a governance structure with unclear lines of accountability and authority. This has implications across several critical areas of fire service delivery, including:

- Financial accountability and transparency
- Liability and duty of care responsibilities
- Consistency in training and personal protective equipment standards
- Regulatory and legislative compliance
- Health and safety practices
- Incident command and operational consistency

Funding for fire services within CBRM reflects the broader governance structure. The two career stations are funded through municipal property taxes, with the Director of Fire and Emergency Services participating in the standard municipal budgeting process. In contrast, volunteer departments are funded through a combination of local tax levies and community fundraising, with approximately \$2.4 million allocated annually (2025).

This model results in differing levels of financial oversight and accountability across the system. Independently operated departments are not subject to consistent financial reporting or administrative controls aligned with municipal practices. As a result, the current governance framework does not provide clear lines of accountability for local Fire Chiefs with respect to service delivery or financial oversight, nor does it consistently meet the level of transparency expected of publicly funded organizations.

In addition, the current structure limits the ability of municipal administration to implement system-wide changes, establish consistent service expectations, or ensure alignment with Council-approved priorities.

The lack of a consistent reporting relationship between independently operated fire departments and CBRM Council further complicates oversight and accountability, particularly in the context of publicly funded services.

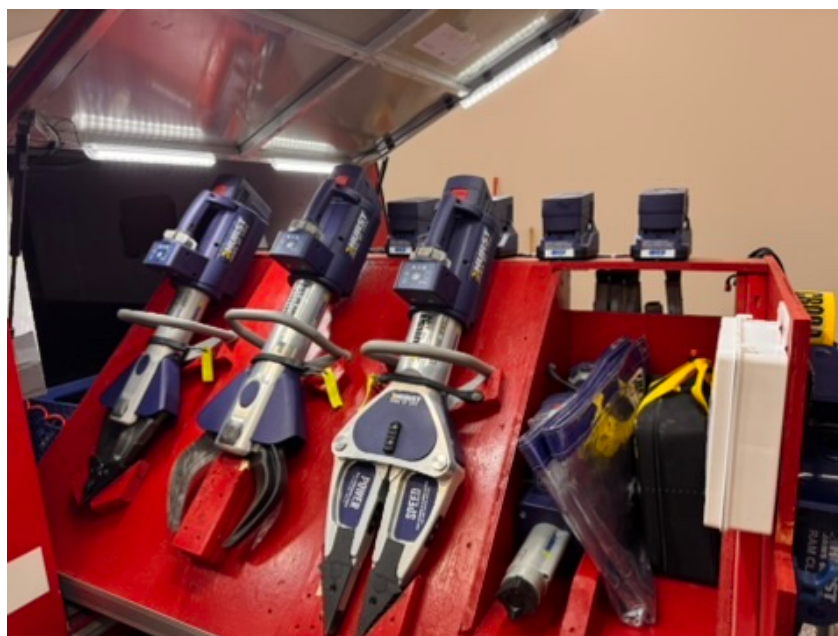
4.5. Policies, Bylaws, and Agreements

The policy, bylaw, and agreement framework governing fire services within CBRM reflects the broader decentralized structure described in Section 4.4. While the municipality maintains formal governance processes and a suite of Council-approved policies, these are not consistently applied across all fire departments operating within the region.

At the municipal level, CBRM has enacted limited fire-specific bylaws, including the Open-Air Burning Bylaw and the Emergency Management Bylaw. These bylaws provide direction in specific areas of fire prevention and emergency coordination but do not constitute a comprehensive regulatory framework governing fire service delivery across the municipality.

More broadly, the municipality maintains approximately 94 Council-approved policies, including 24 related to Human Resources. These policies apply to municipally managed staff and operations; however, their applicability to independently operated fire departments is limited and inconsistent. A review of the current policy framework identified a limited number of active, Council-approved policies primarily focused on administrative, financial, and organizational aspects of fire service delivery. These include policies related to the registration of fire service providers, operational grant funding frameworks, acquisition of surplus municipal equipment, and minimum qualifications for volunteer fire service personnel.

Collectively, these policies establish foundational requirements for participation in the municipal fire service system, including registration, funding eligibility, governance expectations, and baseline training qualifications. However, they do not constitute a comprehensive or integrated operational policy framework governing service delivery across the municipality.



A number of Standard Operating Procedures and Guidelines (SOPs/SOGs) have been developed over time to support fire service operations across the municipality. These documents address a range of operational and administrative functions and, in many cases, reflect alignment with recognized fire service practices.

However, the current status of these documents is not consistently defined or controlled at a system level. It could not be confirmed that all SOPs and SOGs have been formally approved, are actively in force, or are consistently applied across all departments. In some cases, documents appear to overlap with existing municipal policies or represent amended versions of earlier materials without clear indication of adoption, replacement, or authority.

As a result, the presence of documented procedures does not consistently translate into standardized or enforceable operational practice across the system.

The level of policy documentation and currency varies across departments, with some lacking comprehensive or regularly updated procedures. This contributes to inconsistencies in operational practices across the system.

Mutual aid agreements between departments exist in some areas but are not standardized across the region. In many cases, these agreements are informal or based on historical practice rather than formalized, documented, and authorized arrangements. As a result, they may not be enforceable or defensible in a legal context

Notably, the municipality has not established a formal, Council-approved Level of Service (LOS) framework to define expected performance standards, response objectives, or service delivery outcomes across the fire service system. In the absence of such a framework, there is no consistent basis for aligning policies, operational practices, resource deployment, or training requirements with defined municipal expectations. This contributes to variability in service delivery and limits the ability to measure performance or ensure consistency across departments.

The absence of consistent, region-wide policies and formalized agreements further reinforces this lack of alignment, resulting in differences in operational procedures, training expectations, and inter-departmental coordination during emergency incidents. This limits the municipality's ability to measure performance, enforce standards, or ensure consistency across departments. Further, there



is no consistent, system-wide process for the regular review and updating of policies and procedures. As a result, policy relevance and alignment across departments cannot be assured.

While individual departments have developed policies and practices that reflect local needs and experience, the overall framework lacks consistency at a regional level. This limits the ability to ensure uniform standards, coordinated response, and alignment with municipal expectations for service delivery.

4.6. Organizational Structure and Service Delivery Model

Fire service delivery within CBRM operates across a large and diverse geographic area through a distributed network of stations. The two stations within the urban community of Sydney operate as career departments, while other departments operate as composite or volunteer departments. This model reflects the need to balance service demands, resource availability, and community-based response.

However, the current system does not operate as a single, coordinated fire service. Instead, it functions as a collection of independently managed departments, each operating within its own local context.

Stations are distributed throughout the municipality to provide broad geographic coverage. This distribution has evolved over time based on historical development, community expectations, and local decision-making, rather than a comprehensive, region-wide deployment strategy.

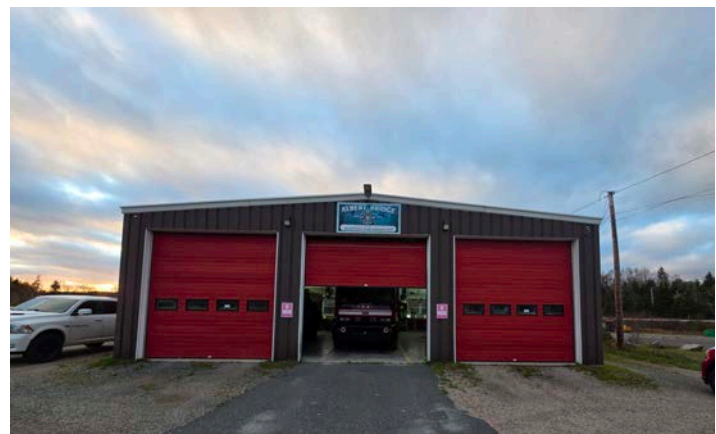
As a result, the organizational structure reflects a hybrid model:

- A small number of stations operate under centralized municipal management
- The majority of stations are independently operated by local fire departments
- Operational practices, staffing approaches, and response models vary across the system

While mutual aid responses occur between departments, these arrangements are not consistently standardized or governed by a unified operational framework. In practice, response to incidents often relies on cooperation between departments rather than coordinated deployment through a centrally managed system.

This structure supports a strong local presence and community-based service delivery, particularly in rural areas. However, it also introduces variability in how services are delivered, including differences in response capability, training levels, and operational procedures.

In the absence of a formalized regional deployment model, decisions regarding station locations, apparatus allocation, and response practices have largely been made at the local level. This has resulted



in a system that provides extensive geographic coverage but is not consistently aligned with call demand, risk, or overall system efficiency.

The current service delivery model reflects the historical evolution of fire services within the region rather than a deliberately designed, integrated system. As a result, the ability to coordinate resources, implement consistent operational practices, and optimize service delivery across the municipality is limited.

4.7. Emergency Communications and Dispatch

Fire services within CBRM are dispatched through a centralized Enhanced 911 system operated by the Regional Communications Centre, which also provides emergency communications services for the Regional Police Service.

Given the critical role of emergency communications in public safety, the Communications Centre is designed to support a high level of reliability, redundancy, and continuity of operations.

A review of the Communications Centre identified the following key characteristics:

Systems and Technology

- The Centre utilizes Bell Public Safety Computer-Aided Dispatch (CAD) to support multi-agency operations
- Efforts are underway to comply with the Canadian Radio-Television and Telecommunications Commission (CRTC) mandate to transition to Next-Generation 9-1-1 (NG911), with a required implementation date of March 31, 2027
- NG911 will enable enhanced capabilities, including the transmission of text, images, and video to emergency services

Infrastructure and Resilience

- The Centre is designed to ensure uninterrupted power supply for primary systems, supported by automated backup power
- A documented Continuity of Operations Plan (COOP) is in place to maintain communications during system or facility disruptions
- A fully redundant backup Communications Centre is currently under construction to enhance system resilience

Staffing and Training

- Staffing levels are considered adequate and consist of trained emergency telecommunicators supported by supervisory oversight
- The Communications Manager has delegated authority to increase staffing through a structured call-back process during large-scale or unplanned incidents
- Telecommunicators receive a combination of in-house training and external training through the Association of Public-Safety Communication Officials (APCO), supplemented by a specialized fire communications training module

Operational Procedures

- Standard operating guidelines are in place for key functions, including firefighter paging, radio communications management, emergency evacuation procedures, and Mayday protocols

While the Communications Centre is well-developed from an operational and infrastructure perspective, current capabilities do not fully support the consistent capture, analysis, and reporting of response and performance data. This limits the municipality's ability to evaluate service performance, establish evidence-based benchmarks, and support data-driven decision-making. As a result, key planning functions, including LOS validation, deployment modelling, and resource allocation, are constrained by gaps in available data.

Overall, the Communications Centre represents a well-developed operational component of the fire service system, with established systems, procedures, and infrastructure designed to support reliable emergency response. However, enhancements to data capture, performance measurement, and analytics will be required to fully support a modern, data-informed fire service model.

4.8. Staffing Model

The fire service within CBRM operates under a combination of career, composite, and volunteer staffing models. This approach reflects the municipality's geographic size, population distribution, and the need to provide service across both urban and rural environments.

The system includes approximately 77 career firefighters operating from two career stations in Sydney and three composite stations, supported by approximately 826 volunteer firefighters staffing the composite and volunteer stations across the municipality. In total, volunteers contribute staffing capacity at 32 of the 34 stations within the system. A summary of staffing by rank across the 34 fire stations is provided below:

Table 4-1 Volunteer and Full-Time Staffing by Rank Across 34 Fire Stations

Rank	Full-Time	Volunteer	Total
<i>Chief</i>	1	32	33
<i>Deputy Chief</i>	2	34	36
<i>Platoon Chief</i>	4	0	4
<i>Deputy Platoon Chief</i>	4	0	4
<i>Captain</i>	8	66	74
<i>Lieutenant</i>	0	66	66
<i>Fire Fighter</i>	58	628	686
<i>TOTAL</i>	77	826	903

In addition to front-line staffing, the fire service maintains a leadership and administrative structure responsible for oversight of operations, training, fire prevention, and emergency management functions. This includes the Fire Chief, two Deputy Fire Chiefs, the Emergency Manager, Fire Prevention Division staff, and training personnel.

These roles support a broad scope of service delivery, including response to structure fires, motor vehicle collisions and rescues, medical first response, hazardous materials incidents, technical rescues, and coordination of emergency management activities.

Based on available data, this equates to an average of approximately 25.8 personnel per station. While actual staffing levels vary by department, overall staffing capacity is strong when compared to similarly sized municipalities and rural fire service models.

The volunteer model plays a critical role in supporting fire service delivery across CBRM, particularly in rural and suburban areas where full-time staffing is not practical. This model provides a high level of local coverage and community engagement and represents a significant contribution to the overall capacity of the system.

At the same time, staffing models and operational expectations vary across departments. Differences in availability, training levels, and response capability are influenced by local conditions, department size, and community characteristics.

The composite stations provide an additional level of flexibility by combining career and volunteer staffing, supporting response capacity in higher-demand areas while maintaining a connection to the volunteer model.

Overall, the staffing model reflects a system that is well-supported in terms of personnel numbers and community involvement. However, the decentralized structure of the fire service contributes to variability in how staffing resources are organized, managed, and deployed across the municipality.



4.9. Legislative Framework

Fire services within Nova Scotia operate within a legislative framework that includes multiple statutes governing municipal authority, public safety, and emergency management. Unlike some provinces, there is no single, consolidated piece of legislation that comprehensively regulates fire service delivery.

The primary legislative authority for the provision of fire services is established through the Municipal Government Act (MGA), which enables municipalities to provide a wide range of services, including fire protection and emergency response. Under the MGA, Council is responsible for making decisions through bylaws, policies, and resolutions, and for ensuring that municipal services are delivered in a manner that supports safe and viable communities.

In addition to the MGA, fire service operations are influenced by other legislation and regulatory frameworks, including occupational health and safety requirements, fire prevention and inspection authorities, and emergency management legislation. These frameworks collectively establish expectations related to safety, training, incident management, and public protection.

Within this legislative environment, municipalities are responsible for determining how fire services are organized, governed, and delivered. This includes establishing appropriate bylaws, defining levels of service, and ensuring that operations align with applicable legislation and standards. This places significant reliance on municipal governance and policy frameworks to ensure consistency in service delivery.

At present, the absence of a single, unified legislative framework for fire services in Nova Scotia places greater emphasis on municipal governance structures to ensure consistency, accountability, and compliance across service delivery.

The Province of Nova Scotia is currently undertaking a review of fire service legislation, which may result in future changes to the legislative environment. Any such changes could have implications for how fire services are governed and delivered within CBRM.

4.10. External Agency Relationships

Fire service delivery within CBRM involves coordination with a range of external agencies, most notably the Cape Breton Regional Police Service. Effective collaboration between these agencies is essential to supporting public safety, particularly in incidents involving criminal activity, emergency management, and complex or multi-agency responses.

An assessment of current operations identified an established working relationship between Fire and Police leadership. Command teams meet regularly to discuss matters of shared interest, and these interactions are described as collegial and productive, supporting effective inter-agency coordination.

Operationally, the Police Service provides support at fire scenes where criminality is suspected. This includes securing scenes until appropriate investigative resources are available. This practice

is applied consistently across both career and volunteer-served areas within the municipality, providing a level of continuity in fire scene management.

While current collaboration between agencies is effective, the level of integration varies depending on the nature of the incident and the resources available. In particular, differences in fire investigation capacity across the municipality can influence how incidents involving suspected criminal activity are managed.

Overall, external agency relationships within CBRM are positive and functional, providing a strong foundation for coordinated public safety response. These relationships support operational effectiveness and reflect a shared commitment to serving the community.



4.11. Human Resources and Training Framework

The CBRM maintains a Human Resources Training and Development Policy that provides a framework for employee development, training, and organizational capacity building. Originally approved in 1996 and updated in 2009, the policy is intended to align training initiatives with Council priorities, departmental business planning, and long-term workforce needs.

The policy supports a range of objectives, including employee development, succession planning, and the effective delivery of municipal services. Responsibility for implementation is assigned to department heads, who are expected to identify training needs and support employee development within their respective areas of responsibility.

Within the fire service, training practices vary across departments, reflecting the broader decentralized structure of the organization. Municipally managed stations operate within established training frameworks aligned with municipal policies, while independently operated departments manage training requirements at the local level.

This results in variability in training approaches, certification levels, and professional development opportunities across the system. While many departments demonstrate strong commitment to training and skill development, there is no single, standardized framework governing training across all fire service operations within the municipality.

Succession planning practices within the fire service are also influenced by this decentralized model. While the municipal policy framework identifies succession planning as a priority, implementation within the fire service is not consistent across all departments. In addition, there is no formalized, system-wide approach to leadership development or succession planning specific to the fire service. The identification and preparation of individuals for key leadership roles is largely managed at the department level, resulting in variability in how leadership capacity is developed and sustained. This creates potential challenges related to continuity, knowledge transfer, and organizational resilience, particularly within a system that relies heavily on volunteer leadership and decentralized decision-making.

Overall, the Human Resources and Training framework provides a foundation for workforce development within CBRM. However, its application within the fire service is not consistent across all departments, reflecting differences in governance, structure, and operational control across the municipality.



5. Community Risk and Service Demand

5.1. Introduction

The Community Risk Assessment (CRA) provides a structured evaluation of the hazards, vulnerabilities, and service demands within the CBRM. This assessment establishes the foundation for determining appropriate levels of service, resource deployment, and long-term strategic priorities for the fire service.

Consistent with national guidance, including Public Safety Canada's Community Risk Assessment framework and NFPA standards, this analysis considers demographic characteristics, development patterns, historical incident data, and geographic factors that influence both risk and emergency response capability.

This chapter builds on the preceding analysis of governance, infrastructure, and apparatus, and integrates broader municipal planning direction. In particular, the CBRM Growth Management Strategy and Municipal Planning Strategy have been considered to ensure that fire service planning is aligned with long-term community growth, land use, and infrastructure investment decisions.

5.2. Community Profile and Demographic Trends

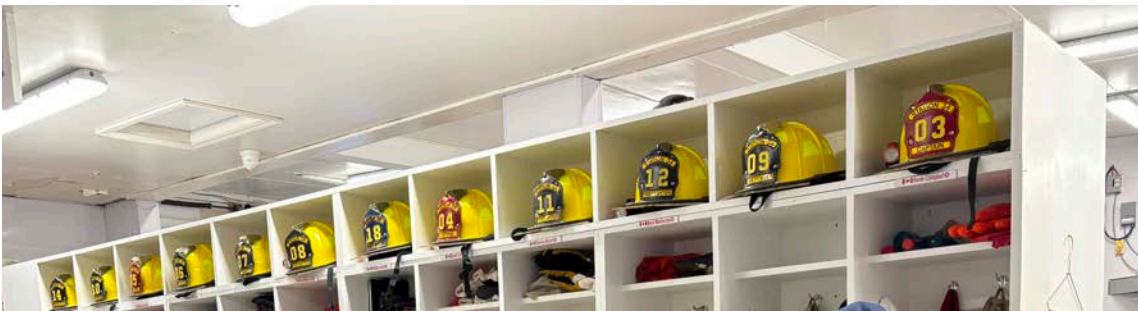
The CBRM is Nova Scotia's second-largest municipality and is best understood as a "community of communities," reflecting a distributed network of urban centres, suburban areas, and rural settlements.

The municipality's historical development is closely tied to coal mining, fishing, and steel production. As these industries declined, the region experienced sustained population loss and economic restructuring. This long-term trend has shaped both the physical form of the municipality and the current service environment.

While population decline defined much of the late 20th century, more recent trends suggest a degree of stabilization. Modest population growth in select years has been attributed to reduced out-migration and increased immigration, although long-term projections continue to indicate a relatively flat or slowly declining population base.

A defining feature of the municipality is its aging population. Approximately half of residents are over the age of 50, with a significant concentration in the 50 to 75 age range. This demographic profile has direct implications for fire service demand, particularly in relation to medical response, residential fire risk, and the need to support vulnerable populations during emergencies.

An aging population is typically associated with increased call volumes for medical incidents, higher fire fatality risk, and greater challenges related to mobility and evacuation. These factors contribute to a risk environment that is less about rapid population growth and more about evolving service needs within an older demographic base.



5.3. Development Patterns and Land Use Context

The spatial distribution of population and development across CBRM is a primary driver of both fire risk and response performance.

The municipality is characterized by a highly dispersed settlement pattern, shaped by historic industrial communities and subsequent suburban and rural expansion. Development has occurred along transportation corridors and coastal areas, resulting in a broad geographic footprint with multiple population centres rather than a single dominant urban core.

Municipal planning documents identify this pattern as a key challenge. Much of the region's historical and recent development has occurred outside traditional urban centres, contributing to low-density growth and increasing the cost and complexity of infrastructure and service delivery.

The Municipal Planning Strategy further distinguishes between serviced urban areas and surrounding rural development areas through the establishment of a Service Area Boundary. Within this boundary, higher-density development and municipal infrastructure are concentrated, while areas outside the boundary reflect lower-density, rural development patterns.

From a fire service perspective, this distinction is critical. Urban areas tend to generate higher call volumes and allow for more efficient response due to shorter travel distances and denser development. In contrast, rural areas present lower call volumes but significantly greater challenges in terms of travel time, water supply, and reliance on volunteer staffing models.

Current planning policy seeks to address these challenges by directing future growth toward serviced urban areas, particularly within the Regional Centre. This approach is intended to improve infrastructure efficiency and support economic development, while also creating opportunities for more effective emergency service delivery over time.

5.4. Housing and Built Form

The characteristics of the built environment within CBRM further shape the community's risk profile.

The housing stock is predominantly composed of single-detached dwellings and is generally older than the provincial average, with a significant portion constructed prior to 1980. These conditions are important from a fire risk perspective, as older structures are more likely to contain aging electrical systems, outdated heating equipment, and construction materials that do not reflect modern fire safety standards.

In addition, municipal planning analysis identifies a mismatch between the existing housing stock and current demographic trends. Much of the housing supply consists of larger, single-family homes, while the population is aging and household sizes are decreasing.

This mismatch has implications beyond land use planning. It affects fire risk, as older residents may be living in housing that is not well-suited to their mobility or safety needs. It also has operational implications, particularly in terms of evacuation challenges, accessibility, and the potential for increased demand in multi-unit or assisted living environments as housing patterns evolve.

5.5. Hazard Identification and Risk Profile

Overview

The risk profile for the CBRM provides the foundation for all aspects of fire service delivery, including service levels, operations, staffing, apparatus, training, and station location. It establishes a clear understanding of the hazards and risks present within the community and supports informed decision-making regarding resource allocation and emergency response.

Risk within the CBRM is best understood as the intersection of assets, threats, and vulnerabilities. In this context:

- Risk represents the potential for loss, damage, or destruction resulting from a threat exploiting a vulnerability.
- Hazards are natural or human-caused agents with the potential to cause harm.
- Vulnerabilities are gaps or weaknesses in fire protection or community resilience.
- Threats are events or conditions, whether intentional or accidental, that can exploit vulnerabilities and result in harm.

A clear understanding of these concepts is necessary to evaluate both individual occupancies and the broader regional environment.

Risk within a municipal fire service context is not eliminated, but managed through a combination of strategies, including prevention and mitigation, operational response, and the transfer or acceptance of certain risks where appropriate. In practice, municipalities have limited ability to alter underlying factors such as geography, settlement patterns, or demographics, but can influence risk through land use planning, service delivery models, and inter-agency agreements.





Figure 5-1 Risk Management Strategies

This approach reinforces that LOS is ultimately a policy decision, balancing the likelihood and consequences of events against the cost and practicality of mitigation. In some cases, particularly in low-density or remote areas, certain risks may be accepted, provided they are understood, documented, and supported by appropriate contingency planning.

The following risk profiles build on the preceding community context and focus specifically on how geographic, demographic, and built environment characteristics influence risk, vulnerability, and emergency response requirements within the municipality.

Hazard Assessment

The purpose of the hazard assessment is to identify the range of natural and human-caused hazards that may impact the CBRM and to inform appropriate mitigation strategies.

The review determined that no previous comprehensive regional risk assessment was available. As such, there is a clear need to establish a proactive and ongoing process for identifying and evaluating hazards, threats, and vulnerabilities as part of standard fire service administration.

A key component of the hazard assessment is the identification of values at risk: the people, infrastructure, and economic assets that may be impacted by emergency events. Within the CBRM, these values reflect both essential services and critical components of the local economy and community function.

The assessment identifies several categories of high-value assets across the municipality, including:

- **Critical infrastructure and essential services**, such as hospitals, schools, water and wastewater systems, electrical supply, and roadway networks
- **Economic and industrial assets**, including agriculture (cattle, dairy, hay, grains, and vegetable production), manufacturing, and warehousing
- **Transportation infrastructure**, including rail corridors, the Port of Sydney, and the J.A. Douglas McCurdy Airport
- **Public and institutional facilities**, such as government buildings, public works facilities, recreational amenities, and places of assembly and worship

These assets are exposed to a range of hazards that vary in both likelihood and consequence. The primary hazards identified within the CBRM include severe weather events such as damaging winds, ice storms, and overland flooding, as well as wildland fires, transportation incidents including train derailments, and explosion-related events.

Flooding associated with torrential or prolonged rainfall also represents a recurring risk, particularly in vulnerable or low-lying areas. In addition, low-frequency but high-impact events such as infectious disease outbreaks, cyber threats, violent acts, or civil unrest have the potential to disrupt critical infrastructure and community stability.

While many of these hazards occur infrequently, their potential consequences, particularly where they affect critical infrastructure or densely populated areas, underscore the importance of ongoing risk identification, mitigation planning, and coordinated emergency response.

Risk and Vulnerability Considerations

A risk and vulnerability assessment considers both the likelihood of a hazard occurring and the consequences if it does. This typically involves evaluating how hazards may exploit gaps in protection systems, resulting in incidents or losses. This type of assessment should be conducted on a regular basis, supported by formal governance and administrative processes. Ongoing review ensures that fire service deployment, training, and prevention strategies remain aligned with current and emerging risks within the community.

5.5.1. Geographic Profile



CBRM encompasses a large and geographically complex area of approximately 2,471 square kilometres. The landscape is characterized by mixed forest, numerous lakes, and interconnected river systems, combined with an extensive and irregular coastline.

The municipality is bounded by significant bodies of water, including the Bras d'Or Lake system to the west and the Atlantic Ocean along the northern and eastern boundaries. Coastal areas such as Sydney Harbour, Spanish Bay, Lingan Bay, Morien Bay, and Mira Bay further contribute to the region's expansive and rugged shoreline.

This geography introduces several considerations from a risk and service delivery perspective. The combination of a large land mass, dispersed communities, and natural barriers, including water bodies and forested areas, creates variability in service demand and increases the complexity of emergency response.

In particular, these conditions contribute to:

- Extended travel distances and response times in rural and remote areas
- Access constraints in areas separated by waterways or limited road networks
- Increased exposure to coastal weather events and environmental hazards
- Elevated wildland and interface fire risk in forested regions

Based on these factors, including the municipality's large geographic area, dispersed settlement pattern, and associated access and response challenges, the overall geographic risk within the CBRM is considered **moderate**.

5.5.2. Demographic Profile



The population of the CBRM is distributed across both urban and rural areas, with approximately half of residents located within the primary urban centres of Sydney, North Sydney, Sydney Mines, New Waterford, and Glace Bay, and the remaining population dispersed across rural and remote communities. From a fire service perspective, this creates a mixed service environment requiring both concentrated urban response capability and extensive geographic coverage.

The population is estimated at approximately 112,000 residents and includes the following general age distribution:

- 18% aged 19 and under
- 49% aged 20 to 59
- 33% aged 60 and over

Based on the aging population and its associated impacts on medical demand, life safety risk, and emergency response complexity, the overall demographic risk within the CBRM is considered **moderate**.

5.5.3. Building Stock Profile



Information regarding the regional building stock is limited; however, available data indicates that the CBRM includes approximately 48,000 private dwellings, with an estimated residential assessment value of approximately \$5 billion and commercial assets valued at approximately \$700 million.

The building stock is predominantly composed of single-detached residential dwellings, many of which are older and constructed prior to modern building and fire code requirements. From a fire risk perspective, older structures are more likely to contain legacy construction materials, aging electrical systems, and outdated heating equipment, all of which can contribute to increased fire occurrence and more rapid-fire development.

In addition to residential occupancies, the municipality includes a range of institutional, commercial, and public buildings that present varying levels of risk depending on occupancy type, size, and use. These include schools, healthcare facilities, and commercial properties, which may

require enhanced response due to life safety considerations, occupant load, or operational complexity.

Available data regarding light and heavy industrial occupancies is limited, which presents a constraint in fully assessing risk associated with higher-hazard properties. This gap reinforces the need for ongoing data development and pre-incident planning to ensure that fire service resources are appropriately aligned with existing and emerging risks.

Based on the age and composition of the building stock, including the prevalence of older residential structures and associated fire safety considerations, the overall risk related to the built environment within the CBRM is considered **moderate**.

5.5.4. Critical Infrastructure Profile



Critical infrastructure within the CBRM includes essential systems such as municipal water supply and distribution, electrical utilities, and communication networks. The loss or disruption of these systems can result in significant community and operational impacts, including effects on emergency response capability, public safety, and overall service continuity. While these systems represent high-consequence assets, they are generally supported by established protections, redundancy measures, and mitigation strategies.

The structure and distribution of infrastructure across the municipality further influence this risk profile. Serviced infrastructure is primarily concentrated within urban areas, while rural and remote communities rely more heavily on limited or decentralized systems. This creates variability in both system resilience and fire protection capabilities, particularly regarding water supply and access.

In addition to core utilities, other infrastructure critical to the functioning of the municipality includes educational institutions, healthcare facilities, and key public service buildings. Disruption to these systems may have broader community impacts and is similarly assessed as posing a moderate risk.

Planning policies that direct growth toward serviced areas may improve infrastructure efficiency over time but also increase the concentration of assets and dependency on these systems. As a result, maintaining system resilience and continuity of operations remains an important consideration in emergency planning and fire service delivery.

Based on the presence of high-value assets, balanced by existing protections, redundancy, and mitigation measures, the overall risk associated with critical infrastructure within the CBRM is considered **moderate**.

5.5.5. Transportation Corridor Profile



The transportation network within the CBRM is diverse and plays a critical role in supporting regional connectivity, economic activity, and community access. Key components include marine transportation through the Port of Sydney, air travel via the J.A. Douglas McCurdy Airport, rail infrastructure supporting the movement of goods, and an extensive roadway network consisting of arterial, trunk, and collector highways.

From a fire service perspective, the roadway network represents the most significant source of service demand. Major highways and connecting routes support both local and regional traffic, including a notable volume of commercial and heavy vehicle activity. As a result, motor vehicle collisions (MVCs) account for a substantial portion of emergency responses, often requiring technical rescue and multi-agency coordination.

The municipality's development pattern, characterized by communities distributed along transportation corridors, further contributes to this demand, concentrating incident activity along key routes while also requiring response across a broad geographic area.

While rail, marine, and air transportation systems are important to the regional economy, the likelihood of significant incidents within these modes is comparatively low. Consequently, the overall transportation-related risk profile is driven primarily by roadway incidents, with other modes representing low-frequency, higher-consequence events.

Overall, the transportation-related risk within the CBRM is considered **low to moderate**, reflecting the high frequency and operational impact of roadway incidents, balanced against the relatively low likelihood of significant events within rail, marine, and air transportation systems.

5.5.6. Economic Profile



The commercial and industrial sectors provide local employment and are integral to the overall economy of the CBRM. When assessing risk, it is important to consider the potential impacts that fire or other emergency events may have on these sectors, including the loss of employment, disruption of services, and closure of commercial or retail occupancies.

The local economy is supported by a range of industries, including tourism, forestry, agriculture, fishing, education, and healthcare. Key economic drivers include the Port of Sydney, which supports tourism and trade activity, as well as post-secondary institutions and healthcare facilities that contribute to regional employment and service delivery.

Fire or other disruptions affecting these sectors can have broader community impacts; however, existing planning, mitigation measures, and emergency response capabilities help to limit overall vulnerability. As a result, the economic risk within the CBRM is considered low, with impacts typically localized and manageable.

Local departments and partner organizations, including those involved in economic development and social services, can support recovery efforts and assist in mitigating longer-term impacts through business continuity planning and resource coordination.

Based on the diversity of the local economy and the presence of existing mitigation and recovery mechanisms, the overall economic risk within the CBRM is considered **low**, with impacts typically localized and manageable.



5.5.7. Public Safety Response Profile

The public safety response framework within the CBRM is characterized by a multi-agency approach involving several key organizations. Fire services operate through a combination of career, composite, and volunteer departments, supported by a network of 34 fire stations distributed across the municipality.

Fire services are supported by the Cape Breton Regional Police Service, Emergency Health Services, and the Emergency Management Organization (EMO), which together support emergency response and incident management across the municipality.

The EMO structure includes advisory and planning functions, as well as dedicated coordination roles, supporting preparedness, response, and recovery activities across the region. This framework provides the foundation for managing both routine incidents and larger-scale emergencies or disasters.

From a risk perspective, the multi-agency model provides the potential for enhanced response capacity; however, coordination and integration between agencies are not consistently formalized or supported by a unified governance framework. The effectiveness of response is further influenced by geographic distribution, staffing models, and variability in service demand across urban and rural areas. In addition, the absence of a single, unified AHJ, combined with limited performance data, restricts the municipality's ability to evaluate system effectiveness, ensure consistent operational performance, or verify that response objectives are being achieved.

Based on the presence of a multi-agency response framework, balanced by geographic challenges, staffing variability, uneven service demand, and limitations in system-wide coordination, governance, and performance measurement, which collectively affect the consistency and reliability of response, the overall public safety response risk within the CBRM is considered **moderate**.

5.5.8. Risk Profile Summary

Overall, the risk environment within the CBRM can be characterized as low to moderate, with variability across geographic areas, hazard types, and community contexts.

This profile is shaped by several interacting factors. The municipality's large geographic area and dispersed settlement pattern create a complex response environment, requiring both broad coverage and the ability to address concentrated demand within urban centres. Demographic trends, particularly an aging population, influence the type and frequency of incidents, with increasing demand for medical response and life safety services.

At the same time, the presence of critical infrastructure and community assets introduces moderate consequence risk, particularly where service disruption may impact essential systems or economic activity. Transportation corridors, especially the roadway network, represent a consistent and significant source of emergency response demand, driven by motor vehicle collisions and associated incidents.

While many identified hazards are low-frequency, their potential impacts, combined with geographic and demographic factors, reinforce the need for a coordinated and risk-informed approach to fire service delivery.

The assessment also identifies opportunities to strengthen alignment between risk and service delivery, including the need for a formalized and regularly updated regional risk assessment process, enhanced pre-incident planning, and ongoing evaluation of response models to ensure resources are aligned with current and emerging risks.

Across these profiles, risk levels are generally assessed as low to moderate, with variations driven primarily by geographic complexity, demographic trends, infrastructure distribution, the concentration of service demand within specific areas of the municipality, and system-level factors related to coordination, governance, and performance measurement that influence the consistency and reliability of emergency response.

Risk Profiles Evaluated

Seven risk profiles were assessed to determine the overall risk within the CBRM.

			OVERALL RISK LEVEL
	1. GEOGRAPHIC PROFILE	Large land area, dispersed communities, natural barriers, and exposure to coastal and environmental hazards.	MODERATE 
	2. DEMOGRAPHIC PROFILE	Aging population with implications for medical demand, life safety, and response complexity.	MODERATE 
	3. BUILDING STOCK PROFILE	Predominantly older residential stock with institutional, commercial, and industrial occupancies.	MODERATE 
	4. CRITICAL INFRASTRUCTURE PROFILE	Essential systems and key assets supported by protections, redundancy, and mitigation measures.	MODERATE 
	5. TRANSPORTATION CORRIDOR PROFILE	Roadway incidents drive demand; rail, marine, and air incidents are low frequency, higher consequence.	LOW TO MODERATE 
	6. ECONOMIC PROFILE	Diverse economy with mitigation and recovery mechanisms; impacts typically localized.	LOW 
	7. PUBLIC SAFETY RESPONSE PROFILE	Multi-agency response model with coordination, governance, and data limitations affecting consistency.	MODERATE 
RISK LEVEL LEGEND  LOW Limited impact; well managed  MODERATE Manageable risk; mitigation in place  HIGH High potential impact; requires enhanced controls			

5.6. Pre-Incident Planning and Risk Mitigation

Effective community risk management extends beyond the identification of hazards to include proactive planning and preparedness measures that support operational response. One key component of this approach is pre-incident planning, which involves the systematic identification and documentation of risks, hazards, and site-specific considerations for targeted properties and areas.

Pre-incident planning supports both fire prevention and emergency operations by providing critical information related to building construction, occupancy, access, water supply, and fire protection systems. When integrated into operational systems, including dispatch and records management platforms, this information enhances situational awareness and supports more effective command decision-making during emergency incidents.

Pre-incident planning also plays an important role in strengthening coordination between fire services, municipal planning functions, and external stakeholders, including commercial and industrial property owners. This integration supports risk-informed development, improves compliance with fire and building codes, and ensures that fire protection considerations are incorporated early in the planning and development process.

While elements of pre-incident planning exist within the current system, there is an opportunity to formalize this function through the development of standardized procedures, consistent documentation practices, and integration with broader risk assessment and operational planning processes.

5.7. Fire Prevention and Risk Management

Fire prevention is a critical component of modern fire service delivery and must incorporate both a fire inspection program and a public education campaign. These elements are essential to reducing community risk and supporting overall public safety outcomes.

A comprehensive fire prevention program includes an inspection policy, formally approved by Council, which delineates the types of buildings subject to inspection and the required inspection frequency. Such a policy enhances transparency by clearly communicating public expectations regarding fire inspections, while also providing the fire service with a structured framework for planning inspection activities and determining required resources.

The second essential component of a fire prevention program is a robust public education campaign. A coordinated, region-wide approach enables consistent messaging across the municipality, reinforcing key safety initiatives such as smoke alarm installation and targeted programs for high-risk populations. This approach allows for more effective communication and ensures that fire safety messages are delivered in a consistent and accessible manner.

Fire prevention programs can be as instrumental as suppression activities in reducing fire-related injuries and fatalities. Educating residents on the importance of early warning systems, such as smoke and carbon monoxide alarms, and promoting safe evacuation practices directly contributes

to life safety outcomes. This is particularly relevant in rural areas, where longer travel distances can increase response times and place greater emphasis on prevention and early intervention.

The effectiveness of fire prevention efforts is dependent on the availability of reliable data to support risk-based decision-making. This includes information related to building stock, demographic characteristics, geographic considerations, and incident trends. Call volume and incident types are also key inputs in determining inspection priorities and public education strategies.

Within CBRM, fire prevention activities are undertaken across the system; however, the approach is not consistently defined or coordinated at a municipal level. In the absence of a unified framework, inspection practices, public education efforts, and program delivery vary between departments.

A coordinated fire prevention program, supported by a single AHJ, would enable consistent program delivery, improved alignment with community risk, and more effective use of available resources. Strengthening this function represents a key opportunity to enhance public safety and reduce overall fire risk across the municipality.

5.8. Fire Investigation and Inter-Agency Coordination

Fire investigation and origin-and-cause determination are important components of community risk assessment and fire prevention. The ability to identify the causes and contributing factors of fire incidents supports evidence-based decision-making, targeted prevention strategies, and improved public safety outcomes.

Within CBRM, there is an established working relationship between fire services and the Regional Police Service, with regular coordination at the leadership level and operational support provided during incidents where criminality is suspected. This collaboration provides a strong foundation for inter-agency cooperation.

However, the current approach to fire investigation is not consistently defined or supported across the system, particularly within areas served by volunteer departments. This creates variability in investigative capability and limits the ability to systematically capture and analyze fire cause data.

There is an opportunity to formalize a fire investigation model, such as a joint task force involving fire service personnel and police investigators, as a defined component of fire service delivery. Supported by appropriate training, inter-agency coordination, and standardized procedures, a consistent assessment of fire scene origin, cause, and potential criminality across the municipality could be established.



5.9. Incident Demand and Service Demand Analysis

The analysis of historical incident data (November 2021 – November 2025) provides a quantitative foundation for understanding service demand within the CBRM and is a critical input to both the Community Risk Assessment and the development of an appropriate LOS framework.

A review of incident records across all stations identifies a total of approximately 22,000 emergency responses over the 5-year study period, or approximately 4,400 incidents on average each year. Of these 22,000 incidents, nearly 8,000 of them were responses from the Sydney career stations (Station #1 and Station #2), amounting to approximately 36% of the total call volume. The remaining 14,000 events (64% of the total call volume) were incidents that the remaining 32 stations responded to. These incidents were categorized into six primary response types: medical, fire, alarm, motor vehicle collisions (MVC), water/ice rescue, and other service calls. The average annual call volume for the entire CBRM fire services is shown below in Figure 5-2, distributed by call type.

Average Annual Incidents by Type

Distribution of incident demand across the CBRM fire service system

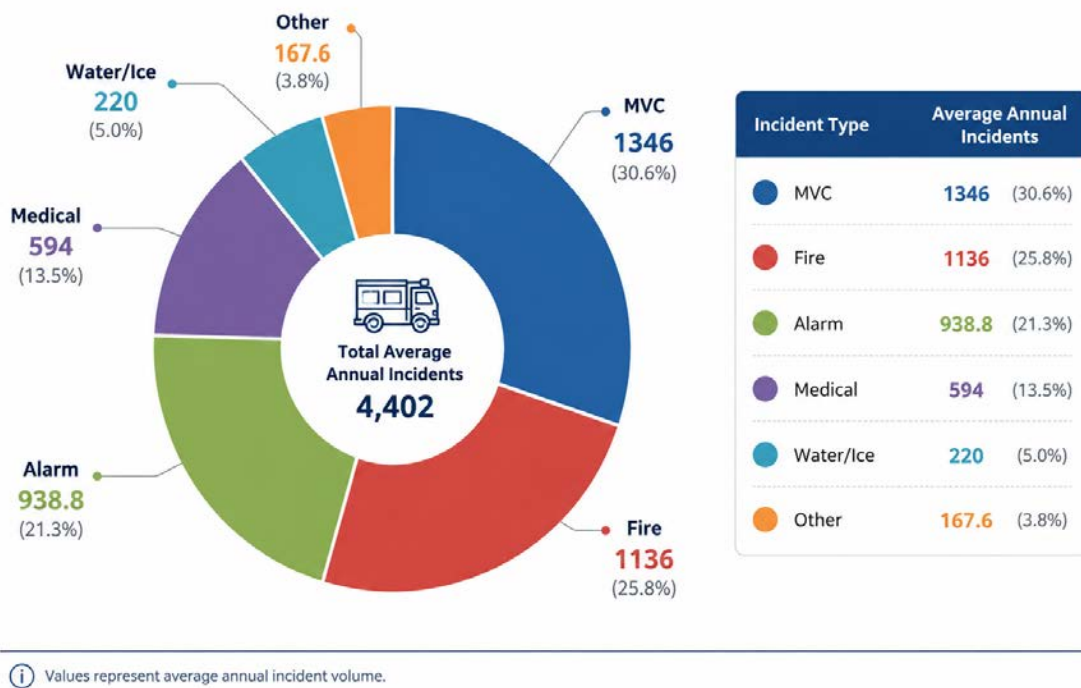


Figure 5-2 Average Annual Call Volume, Distributed by Call Type

The distribution of incident volume and call types varies significantly across the system. To improve clarity and readability, the three highest-volume stations are presented separately from the remainder of the system. Figure 5-4 illustrates incident volume and distribution across the majority of stations, while Figure 5-3 presents the demand profile for the highest-volume stations.

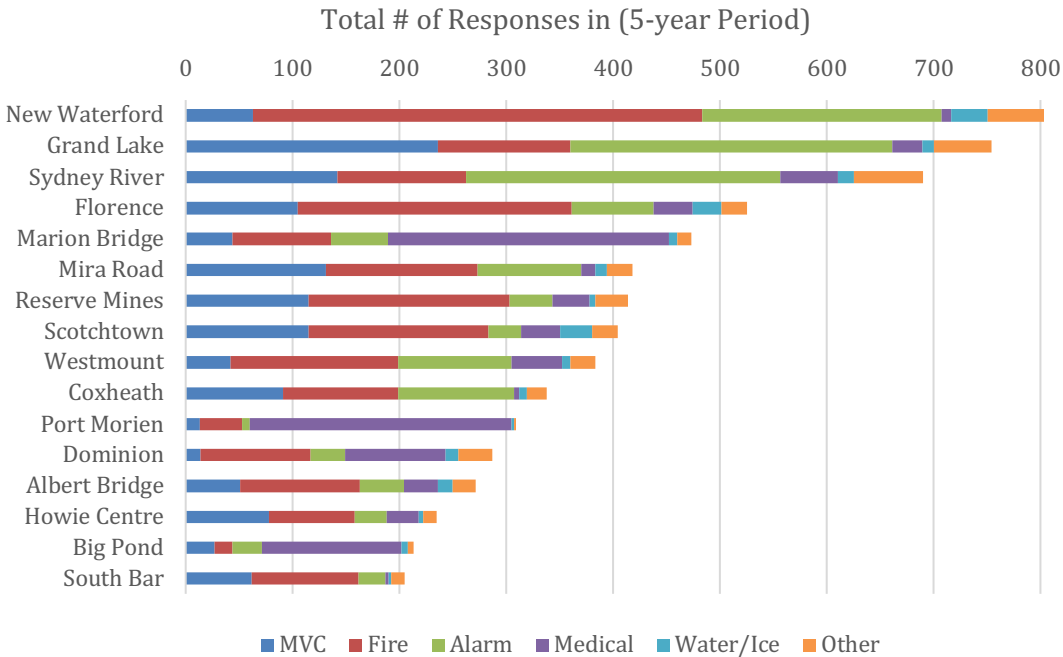


Figure 5-3 Incident Volume and Distribution by Station (5-year total responses by station; excluding highest-volume stations)

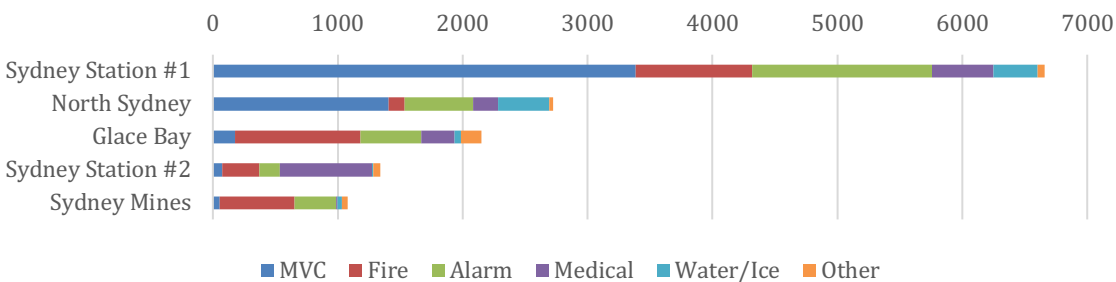


Figure 5-4 Incident Volume and Distribution by Station (5-year total responses by station; highest-volume stations)

5.9.1. Data Sources and Limitations

Incident data used in this analysis was provided on a per-station basis, with each station's records reflecting the incidents to which that station responded over the study period. As a result, the dataset represents total responses, rather than a count of unique incidents.

In situations where multiple stations responded to the same event, the incident is recorded in the dataset for each responding station. Accordingly, the aggregate total number of incidents presented in this analysis may include duplicate entries for single events involving multi-station response.

Despite this limitation, the dataset provides a reliable representation of overall service demand, workload distribution, and response patterns across the system, and is appropriate for use in assessing resource deployment, operational capacity, and LOS considerations.

5.9.2. Overall Demand Profile

The distribution of incidents across these categories is summarized as follows:

- Motor vehicle collisions (MVC): ~31%
- Fire incidents (excluding alarms): ~26%
- Fire alarms: ~21%
- Medical incidents: ~13%
- Water/Ice rescue: ~5%
- Other incidents: ~4%

While these figures provide an overall picture of system-wide demand, they are significantly influenced by high call volumes within the two career Sydney stations in the downtown core (Stations #1 and 2). When these stations are considered separately, different demand patterns emerge across the remainder of the municipality. To better understand how demand varies across the municipality, a comparison was completed between Sydney Stations #1 and #2 and all other stations, as shown in Figure 5-5.

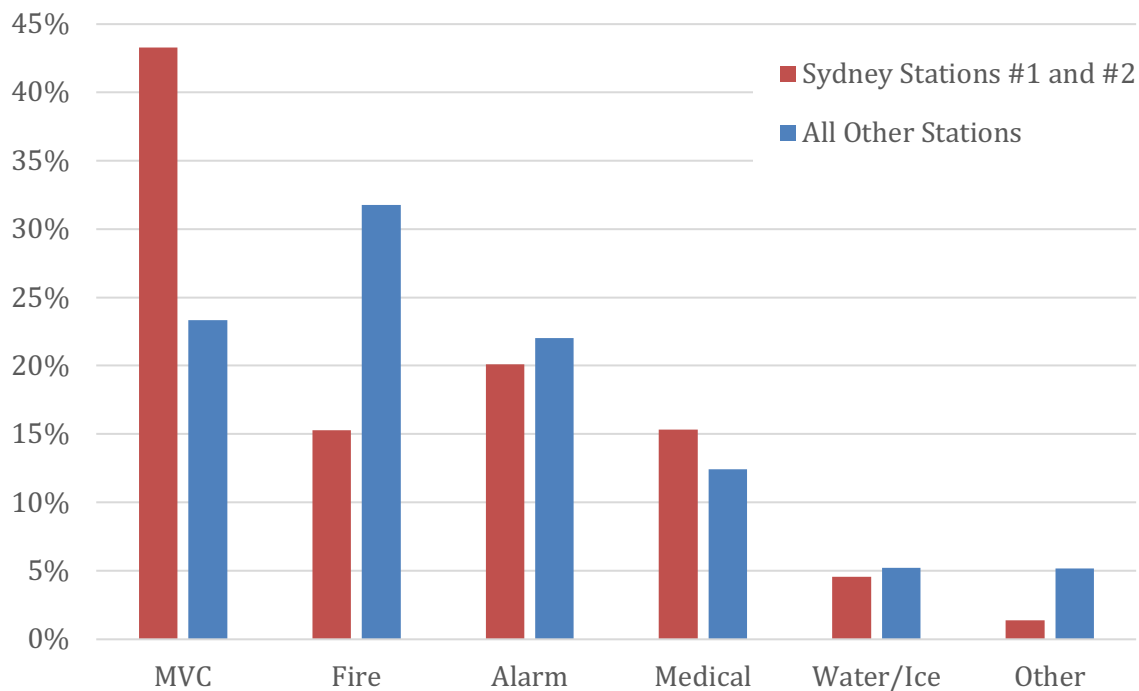


Figure 5-5 Comparison of Incident Type Distribution – Sydney Stations #1 and 2 vs. All Other Stations (Percent of total responses by incident category)

As illustrated, the two Sydney career stations experience a distinct demand profile compared with the remainder of the municipality. Sydney Station #1 is heavily influenced by motor vehicle collision responses, while Sydney Station #2 has a comparatively higher proportion of medical and alarm-related incidents. When combined, the Sydney career stations differ from the broader system, but they do not fully define system-wide demand. Several non-career and composite stations also experience substantial call volumes and distinct incident profiles.

Across the municipality, motor vehicle collisions and fire-related incidents represent the largest components of overall demand. This indicates that CBRM fire services are responding to a significant volume of transportation-related incidents, fire suppression events, alarm activations, and specialized rescue calls. Medical response represents a smaller proportion of overall demand and is more localized to specific stations rather than a system-wide driver.

When combined, fire incidents and fire alarms account for approximately 47% of total responses. However, it is important to distinguish between actual fire incidents and alarm activations. Alarm responses represent a significant workload category, but they differ operationally from confirmed fire events and may include repeat activations at specific properties.

5.9.3. Nature of Fire Service Demand

The data indicates that the fire service is responding to a broad range of incident types, including:

- Motor vehicle collisions, including extrication, traffic hazard control, and roadway incident support
- Fire suppression, including structure, vehicle, brush, wildland/interface, electrical, and other fire-related incidents
- Automatic alarm activations
- Medical first response and support to emergency medical services
- Water/ice rescue and other specialized rescue incidents
- Public assistance, hazard mitigation, and other service calls

While structural firefighting remains a critical, high-risk and high-consequence function, the data demonstrates that fire service demand in CBRM extends well beyond structure fire response. Motor vehicle collisions are the largest single demand category, followed by fire incidents and alarm activations. This reinforces the importance of maintaining a broad operational capability that includes roadway response, suppression, rescue, alarm response, and support to other emergency services.

5.9.4. Spatial and Operational Variability

A key finding of the analysis is the significant variation in demand across the system. Stations do not exhibit a uniform incident profile. Instead, call volume and incident type vary considerably by geography, population density, road network exposure, built environment, and local service role.

Stations can generally be understood as falling into several broad demand profiles:

Urban Core / High-Demand Stations:

The two Sydney career stations represent the highest-volume urban response environment. Station #1 is heavily influenced by motor vehicle collision, alarm, and fire response activity, while Station #2 has a stronger medical and alarm component.

High-Volume Urban and Community Centres:

Stations such as North Sydney, Glace Bay, Sydney Mines, and New Waterford experience high overall call volumes, but their profiles differ from the Sydney core. These stations are more strongly

influenced by MVC and fire-related demand, with varying levels of alarm, medical, and other response activity.

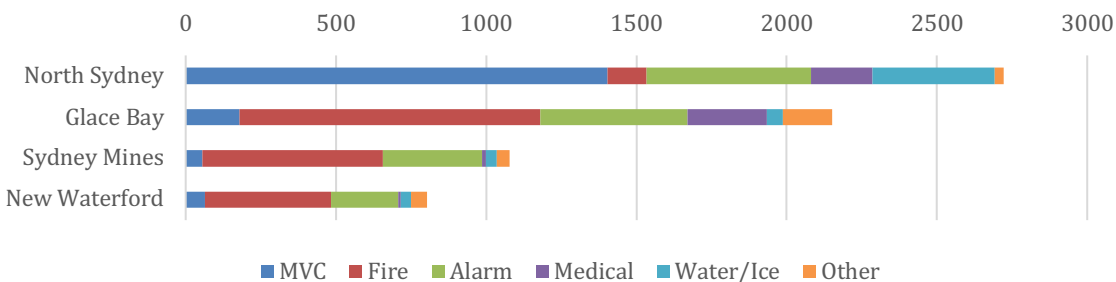


Figure 5-6 Incident Volume and Distribution by Station (5-year total responses by station; high-volume stations)

Mixed-Demand Regional and Composite Stations:

Stations such as Grand Lake, Sydney River, Florence, Marion Bridge, Mira Road, Reserve Mines, Scotchtown, Westmount, and Coxheath demonstrate moderate to high call volumes with a mixed distribution of MVC, fire, alarm, and other incident types. These stations often serve broader operational roles due to their location, proximity to transportation corridors, or relationship to surrounding communities.

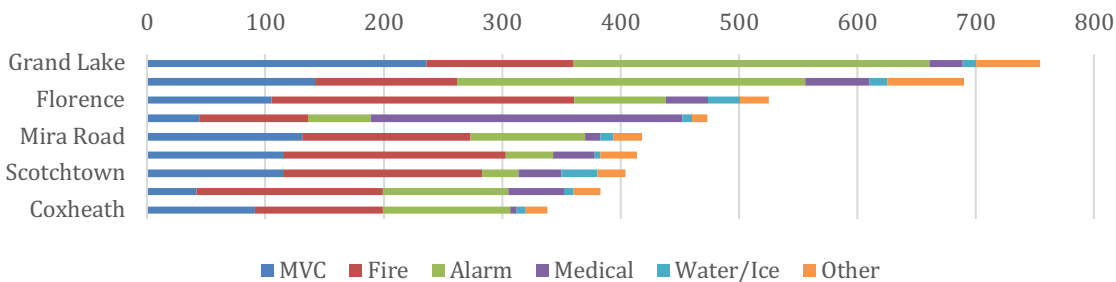


Figure 5-7 Incident Volume and Distribution by Station (5-year total responses by station; moderate-high call volume stations)

Specialized or Single-Driver Demand Stations:

Some stations have lower overall call volumes but are strongly influenced by one dominant incident type. Examples include Port Morien, Big Pond, and South Side Boularderie, where medical response represents a large share of demand, and Frenchvale or Northside East Bay, where MVC response is a major driver.

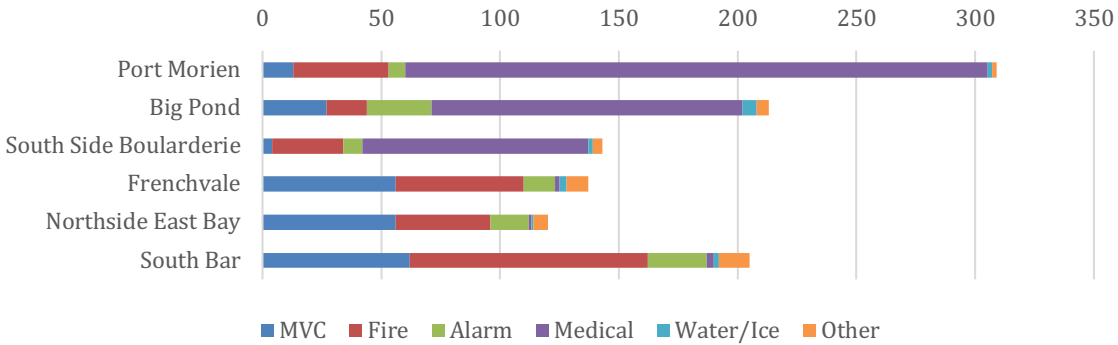


Figure 5-8 Incident Volume and Distribution by Station (5-year total responses by station; low-volume, single-driver stations)

Rural / Lower-Volume Community Stations:

Several stations experience lower call volumes overall but continue to provide important geographic coverage and response capability. These stations often have variable profiles, with demand driven by local fire incidents, MVCs, alarms, or specialized risks rather than a single system-wide pattern.

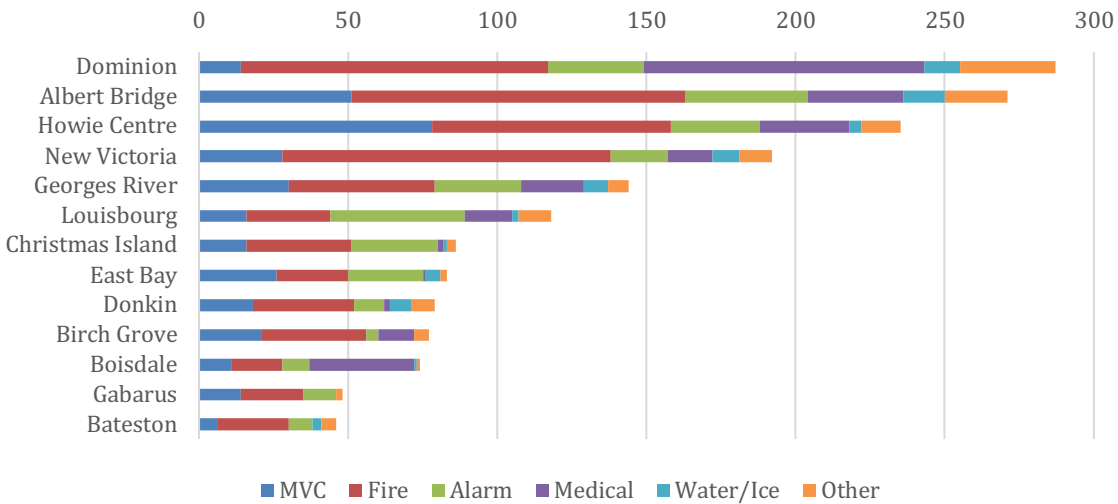


Figure 5-9 Incident Volume and Distribution by Station (5-year total responses by station; low-volume, variable profile stations)

This variability demonstrates that CBRM does not operate within a single service demand model. Instead, the fire service functions across multiple demand environments, each with different implications for staffing, apparatus, training, deployment, and LOS planning.

5.9.5. Implications for Risk and Service Delivery

The incident data reinforces several key aspects of the community risk profile:

- **Transportation-related demand is significant.** MVCs represent the largest single category of response across the system, indicating that roadway incidents are a major

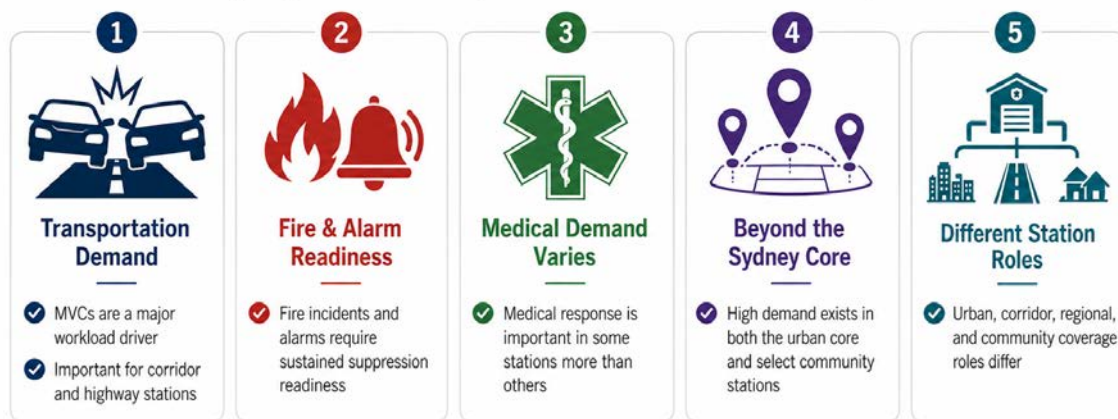
driver of fire service workload, particularly for stations located near arterial roads, highways, and key transportation corridors.

- **Fire-related demand remains substantial.** Fire incidents and alarm activations together account for nearly half of all responses. While not all alarm calls represent confirmed fire events, they still require dispatch, response, and operational readiness.
- **Medical response demand is important but unevenly distributed.** Medical calls represent a smaller share of system-wide demand than MVC, fire, and alarm incidents, but certain stations experience a high proportion of medical response activity. This suggests that medical first response is an important local service role in some areas rather than a uniform system-wide driver.
- **Demand is concentrated but not limited to the Sydney core.** The two Sydney career stations account for a significant share of total responses; however, several other stations also experience high call volumes and distinct operational profiles. This indicates that future service planning should consider both urban core demand and the role of high-volume community and regional stations.
- **Station roles vary considerably.** Some stations function primarily as high-volume urban responders, others as regional or corridor-response stations, and others as lower-volume community coverage stations. These differences should inform future decisions regarding station planning, apparatus allocation, training priorities, and LOS expectations.

Overall, the corrected incident data shows that fire service demand in CBRM is shaped primarily by transportation incidents, fire-related responses, alarm activity, and localized medical demand. This supports a risk-based approach to service planning that recognizes the different operational roles played by stations across the municipality.

Incident Demand and Service Delivery Implications

Key insights from incident patterns across the CBRM fire service system



Use demand patterns to inform LOS, apparatus, training, station roles, and deployment.

5.10. Summary

The Community Risk Assessment and incident demand analysis collectively demonstrate that fire service delivery within the CBRM operates across a range of distinct risk and demand environments. These include high-density urban areas, transportation corridor-influenced communities, mixed-demand regional areas, and lower-volume rural service areas.

The analysis confirms that service demand is driven primarily by motor vehicle collisions, fire-related incidents, and alarm activity, with medical response representing an important but more localized component of overall workload. In addition, the distribution of demand is uneven, with both the Sydney core and several non-core stations experiencing relatively high call volumes and distinct operational roles.

These findings reinforce that a single, uniform service delivery model is not appropriate for the municipality. Instead, fire service planning must reflect the variability in risk, geography, and incident demand across the system.

The results of this analysis provide the foundation for the development of an appropriate LOS framework. The following chapter builds on this understanding by establishing performance objectives, response expectations, and service delivery standards aligned with the identified risk and demand conditions.



6. Level of Service

6.1. Introduction

Level of Service (LOS) defines the type, quality, and performance of services that a fire department commits to delivering to the community. It establishes expectations for response, capability, staffing, and outcomes, and provides the foundation for aligning resources with risk and demand.

In a modern fire service, LOS is typically formalized through policy, bylaw, or strategic planning documents. It is used to:



Within CBRM, a formal, municipality-wide LOS has not been established. Instead, LOS is determined at the local level by individual fire departments and Fire Chiefs, consistent with the decentralized governance model described in Chapter 4.

In this context, decisions regarding the types of services provided, the level at which those services are delivered (such as awareness, operations, or technical capability), and staffing expectations and response practices are made independently by each department. These elements are generally not defined through formal, standardized documentation or consistently applied performance targets.

This approach has resulted in a system in which LOS exists in practice but is implicit rather than explicitly defined, and varies across the municipality based on local capacity, resources, and decision-making.

As identified in the Community Risk Assessment and incident demand analysis, service demand within the CBRM is driven primarily by motor vehicle collisions, fire-related incidents, and alarm activity, with medical response representing a smaller but variable component across the system. In addition, demand is not uniform, with distinct operational environments ranging from high-density urban areas to lower-volume rural and corridor-based response areas. These factors must be reflected in the development of a formal LOS framework.

6.2. Standards of Cover

Standards of Cover (SOC) is a planning and performance framework used to evaluate whether fire service resources are appropriately deployed to meet established LOS objectives. It translates

community risk and service expectations into measurable response performance targets and deployment requirements, providing the analytical basis for aligning resources with demand.

Within a fire service context, SOC defines how response capability is delivered and assessed. Key components typically include response time objectives, effective response force (ERF) requirements, first-due response configurations, and the distribution and concentration of resources across the service area. SOC also incorporates performance measurement, enabling the municipality to evaluate whether response targets are being achieved and to identify gaps in coverage or capability.

SOC is closely linked to LOS but serves a distinct function. While LOS defines the type, level, and expected outcomes of service delivery, SOC establishes the operational and performance framework required to achieve those expectations. Together, these elements support evidence-based decision-making related to deployment, staffing, infrastructure, and service delivery models.

Within CBRM, a formal SOC framework has not been established. As a result, response performance targets, deployment strategies, and resource alignment are not consistently defined or evaluated at a system level. This limits the municipality's ability to assess whether current service delivery aligns with identified risks and demand and contributes to variability in response capability across the system.

The absence of a formal SOC framework reinforces the need for a structured, data-informed approach to service planning that integrates community risk, performance expectations, and resource deployment into a cohesive model.

In CBRM, the absence of a single AHJ further limits the municipality's ability to develop and implement a comprehensive SOC framework. Without clear authority to establish response expectations, coordinate deployment practices, and apply consistent operational standards across all stations, the municipality cannot fully evaluate or implement alternative response models, staffing approaches, automatic aid protocols, or resource-based dispatch and deployment strategies. As a result, a future SOC should be developed in conjunction with governance reform, defined LOS expectations, and improved response performance data.

Resource-based deployment refers to the practice of dispatching and coordinating the most appropriate available resources based on incident type, location, risk, required capability, staffing availability, and adopted response objectives, rather than relying solely on historical station boundaries or local department response areas. In a regional fire service model, this approach allows resources to be managed as part of one coordinated system and supports more consistent alignment between community risk, service demand, and response capability.

Figure 6-1 summarizes the key features of resource-based deployment and illustrates how the concept supports a future LOS and SOC framework for CBRM.

Key Features of Resource-Based Deployment

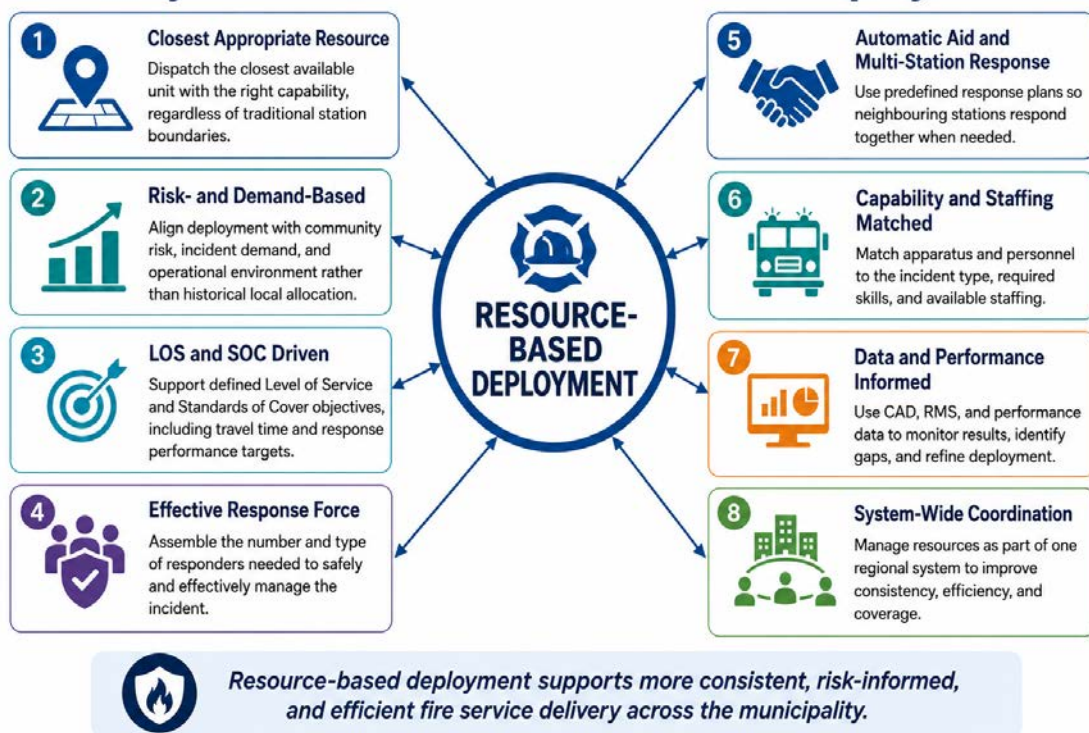


Figure 6-1 Key Features of Resource-Based Deployment

As shown in the graphic, resource-based deployment is dependent on defined service expectations, reliable data, coordinated dispatch protocols, multi-station response, and the ability to match apparatus and personnel to incident requirements. These elements reinforce the need for a formal SOC framework supported by clear governance authority under a single AHJ.

6.3. Current Service Provided

Despite the absence of a formal LOS framework, the fire service delivers a broad range of services consistent with an all-hazards response model.

Core services include:



The range of call types listed in the Cape Breton Regional Fire Service Fire Code Guidelines reflects this comprehensive scope of service. This scope of service aligns with industry norms for municipal fire services and reflects the range of incident types identified within the Community Risk

Assessment. Motor vehicle collision response represents a significant component of service demand within the CBRM. These incidents often require specialized capabilities including extrication, scene management, and coordination with other emergency services. As a result, roadway response capability should be considered a core component of LOS, particularly for stations located along major transportation corridors.

While the range of services provided is comprehensive, the level at which these services are delivered (e.g., awareness, operations, or technical capability) is not consistently defined across the municipality, nor is it supported by a formal SOC framework to align the service delivery with risk, demand, and response performance expectations.

6.4. Absence of a Defined Level of Service

A key finding is the absence of a formally defined and consistently applied LOS and supporting SOC framework across CBRM.

There is:

- No Council-approved LOS policy or bylaw
- No standardized definition of service levels or associated performance benchmarks (e.g., response time, staffing, ERF)
- No consistent framework defining service capability across departments

As a result, LOS exists in practice but is implicit rather than explicitly defined and is determined at the local department level in alignment with the broader decentralized governance model. Further, it is not supported by a formal SOC framework to establish measurable performance expectations or align deployment with risk.

This results in:

- Variability in operational capability
- Inconsistent expectations for service delivery
- Limited ability to measure or manage performance at a system level

Without a defined LOS, the municipality cannot clearly establish:

- How quickly fire services should respond
- What level of staffing should be assembled
- What level of technical capability should be available in different areas
- What level of operational and firefighter safety can be consistently achieved across the system

6.5. Regional Variability in Service Delivery

Service delivery varies significantly across the municipality due to differences in geography, call volume, staffing models, training levels, and local capacity. Stations operate within distinct service environments, including high-demand urban areas, transportation corridor-based response areas,

and lower-volume rural and remote communities. These environments present different risk profiles, incident types, and operational requirements.

As identified in the Community Risk Assessment, service demand is not uniform across the system. While motor vehicle collisions, fire-related incidents, and alarm activity represent the primary drivers of demand, the relative proportion and complexity of these incident types vary by location.

Call volume further illustrates this variation: some stations respond to fewer than 10 incidents annually, while the busiest stations respond to between 400 and 1,300 per year. However, differences in demand are not limited to volume alone, but also reflect fundamentally different operational roles across the system.

This variability is consistent with findings in previous chapters, which identify that infrastructure distribution, apparatus deployment, and staffing capacity have evolved based on historical development rather than a coordinated, demand-driven strategy.

As a result, the LOS experienced by residents is not consistent across the municipality and is influenced by location, available resources, and local response capacity.

More importantly, the analysis demonstrates that CBRM does not operate within a single, uniform service delivery model. Instead, the system functions across multiple distinct operational environments, each requiring different service expectations and response approaches.

Accordingly, a single standardized LOS is not appropriate. A differentiated LOS framework is required to reflect the varying risk profiles, demand patterns, and operational realities present across the municipality.

6.6. Specialty Service Delivery

Specialized services are provided within the CBRM fire service; however, their availability and deployment are not consistently structured across the municipality.

Vehicle extrication represents the most developed and coordinated specialized service. This capability is delivered through a network of nine fire departments, including both career and volunteer stations, supported by defined dispatch protocols that enable regional utilization of equipment and trained personnel. This model reflects a more structured approach to service delivery, with elements of coordinated deployment already in place.



In contrast, other specialized services are less consistently organized.

High-angle rescue capability is currently provided by four strategically located volunteer fire departments. While this distribution reflects an attempt to align service with geographic need, particularly given the topography of the region, it remains limited in scope and is not supported by a clearly defined regional deployment model.

Water rescue services are provided by a combination of volunteer departments and the Sydney career station, with some seasonal variation in service delivery. Given CBRM's coastal geography and reliance on marine activity, demand for this service is ongoing; however, coverage is not uniformly distributed across the municipality.

Ice rescue capability is provided by nine volunteer departments; however, these services vary in terms of equipment, training, and operational capacity. In many cases, departments provide limited capability without access to dedicated rescue craft, which may affect response effectiveness and operational safety.

While these services exist across the system, their distribution reflects a combination of local initiative, historical development, and available resources, rather than a coordinated, risk-based regional strategy supported by a defined SOC framework.



As a result, the availability and level of specialized service that can be delivered at an incident may vary depending on location, resource availability, and the ability to coordinate response across departments.

6.7. Dispatch and Response Capability

Emergency communications are a critical component of LOS, as they directly influence response times, coordination, and resource deployment.

Fire services within CBRM are dispatched through a centralized Enhanced 911 system supported by modern Computer-Aided Dispatch (CAD) technology. The system includes established redundancy, continuity planning, and an ongoing transition to Next-Generation 9-1-1 (NG911), which will enhance communications capability through the integration of text, image, and video-based information. Collectively, these elements indicate that the communications system is generally well-developed and aligned with current industry practices, with a strong emphasis on reliability and operational continuity.

At the provincial level, there is an increasing emphasis on the modernization and consolidation of fire dispatch and communications systems across Nova Scotia. This includes alignment with NFPA 1225 standards for emergency communications, the implementation of enhanced data and records management systems to support performance measurement and risk-based planning, and continued advancement of NG911 capabilities.

These directions reinforce the importance of integrating communications systems with performance analytics and service planning. While the current Communications Centre

demonstrates strong foundational capability, the absence of formalized performance measurement, particularly in relation to call processing and dispatch time, limits the ability to fully align with these emerging standards from a LOS perspective.

From a LOS perspective, dispatch represents one component of overall response performance. From a SOC perspective, these components collectively define response performance and are used to evaluate whether service delivery meets established expectations. Total response time is influenced by multiple factors, including:

- Call processing time
- Turnout time (dispatch to response)
- Travel time
- Total response time to incident

While dispatch capability within CBRM is well-established, there is no formally adopted set of response performance benchmarks or SOC-defined performance targets (e.g., NFPA 1710/1720) governing these elements across the municipality. In addition, current systems do not consistently support the capture, analysis, and reporting of key response performance metrics, including call processing time, turnout time, travel time, and total response time. As a result, overall response performance cannot be reliably measured or evaluated against defined service expectations, limiting the municipality's ability to establish evidence-based benchmarks, assess service delivery, and support data-informed planning.

6.8. Level of Service Benchmarks and Performance Framework

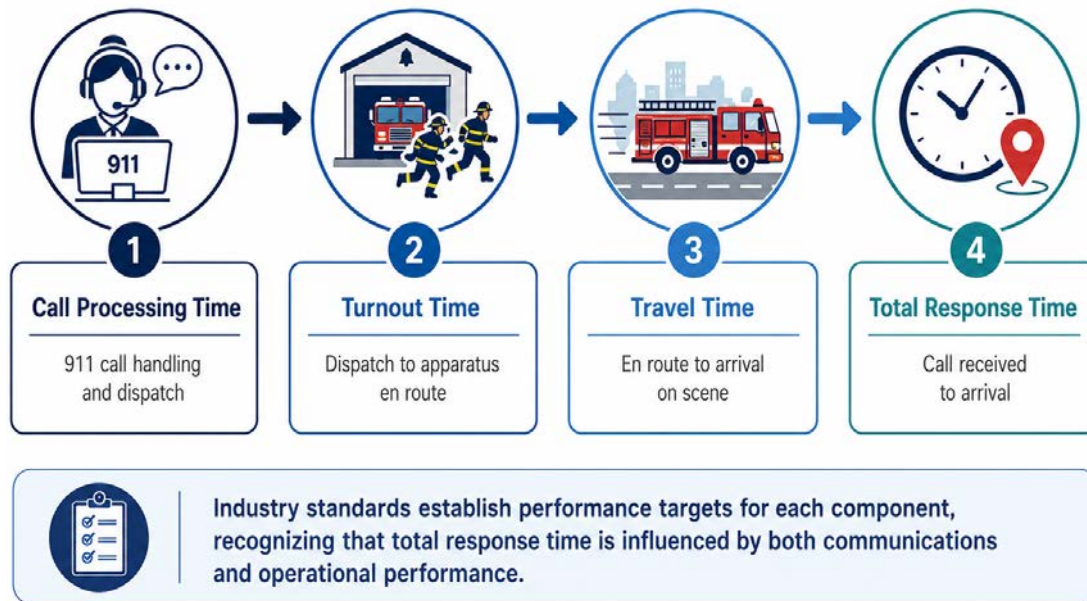
To evaluate fire service performance and define an appropriate LOS, it is necessary to reference established industry standards and best practices. These benchmarks represent key components of a SOC framework, providing reference points for defining response performance expectations and evaluating service delivery. While these standards are not legislated requirements in Nova Scotia, they are widely used across North America to guide service design, performance measurement, and resource deployment.

The most commonly referenced benchmarks include those established by the NFPA, particularly NFPA 1710 (career departments) and NFPA 1720 (volunteer and composite departments).



6.8.1. Response Time Components

Fire service response time is typically measured as a sequence of intervals:



Within CBRM, while dispatch capability is generally well-developed, there are no formally adopted response time performance targets governing these components across the system.

6.8.2. NFPA 1720 – Volunteer Fire Service Benchmarks

Given that the majority of fire stations within CBRM are volunteer-based, NFPA 1720 provides the most relevant reference framework. These benchmarks are not regulatory requirements but are widely used as reference points for establishing performance expectations and evaluating service delivery.

NFPA 1720 establishes response objectives based on population density:

Area Type	Minimum Staffing	Response Time	Performance Criteria
Urban (>1,000/km²)	15 personnel	9 minutes	90% of incidents
Suburban (500–1,000/km²)	10 personnel	10 minutes	80%
Rural (<500/km²)	6 personnel	14 minutes	80%
Remote	4 personnel	No fixed time	Travel-based

These benchmarks are intended to define the Effective Response Force (ERF) required to safely and effectively manage a structure fire or similar incident.

As identified in Chapter 0, many stations within CBRM operate in rural or remote conditions, where achieving these staffing and response benchmarks is inherently challenging due to:

- Distance between stations
- Volunteer availability

- Lack of formalized multi-station response

6.8.3. Effective Response Force

The concept of Effective Response Force (ERF) refers to the number of personnel required on scene, within a defined time frame, to safely and effectively manage an incident.

For a typical residential structure fire, ERF requirements generally include:

- Fire attack crew
- Water supply
- Incident command
- Rapid intervention capability
- Ventilation and support functions

Industry best practice indicates that:

- 15–17 personnel are typically required for full structure fire operations (urban model)
- 6 personnel represents a minimum functional crew in rural environments

Within CBRM, the ability to consistently achieve an ERF is influenced by:

- Volunteer turnout variability
- Lack of automatic aid
- Distributed staffing across multiple stations

As a result, ERF is often achieved, if at all, through informal or delayed multi-station response, rather than a structured deployment model.

6.8.4. Travel Time and Coverage

Travel time is a critical determinant of fire service effectiveness, particularly in relation to fire growth and life safety outcomes.

Industry benchmarks commonly reference:

- 4-minute travel time for initial response in urban environments
- 8-minute total response time for first arriving unit (NFPA 1710 context)

In rural and remote environments, travel time expectations are extended; however, the relationship between time and fire growth remains constant.

Analysis of station distribution (Chapter 0) indicates that:

- Urban areas benefit from clustered station coverage, enabling shorter travel times
- Rural and remote areas experience extended travel distances, often exceeding recommended thresholds

This creates a system where travel time performance, and therefore service effectiveness, varies significantly across the municipality.

6.8.5. LOS Benchmarks Summary

When viewed against these benchmarks, several observations emerge:

LOS/SOC is Not Defined Against Any Standard

There is no formal adoption of NFPA benchmarks or equivalent performance targets within CBRM.

Response Performance is Not Measured Systematically

Without defined targets, there is limited ability to:

- Measure compliance
- Identify gaps
- Track improvement over time

ERF is Not Reliably Achieved

Due to staffing and coordination limitations, the system does not consistently deliver an ERF within recommended timeframes.

Travel Time Variability Drives Service Inequity

Residents in different parts of the municipality experience significantly different response times and service outcomes.

System Design is Not Aligned to LOS/SOC

As identified in earlier chapters:

- Infrastructure is not aligned to demand
- Apparatus is not aligned to staffing
- Deployment is not coordinated regionally

LOS is therefore implicit, variable, and not supported by a formal SOC framework to align service delivery with the underlying risk and demand conditions identified in the CRA. This reinforces the need to establish a differentiated LOS framework that reflects the varying operational roles of stations across the system, rather than applying a single uniform standard.

6.9. Summary

The current LOS within CBRM can be characterized as comprehensive but undefined. While a broad range of services is delivered, there is no formal framework establishing performance expectations, staffing benchmarks, or service capability standards, nor a SOC framework to evaluate and align service delivery with risk and demand. As a result, LOS is variable across the municipality and is influenced by local capacity rather than a consistently defined, risk-based approach.

The Community Risk Assessment and incident demand analysis demonstrate that service demand within the municipality is driven primarily by motor vehicle collisions, fire-related incidents, and alarm activity, with medical response representing a smaller but variable component across the



1 No Defined Standard

No formal adoption of NFPA benchmarks or equivalent performance targets.



2 Performance Not Measured

Limited ability to measure compliance, identify gaps, or track improvement over time.



3 ERF Not Reliably Achieved

Staffing and coordination limitations affect the timely delivery of effective response force.



4 Travel Time Variability

Response times differ across the municipality, creating service inequity.



5 System Design Misalignment

Infrastructure, apparatus, and deployment are not aligned with LOS/SOC expectations.

system. In addition, demand is not uniformly distributed, with both the Sydney core and several non-core stations experiencing high call volumes and distinct operational roles.

The current system continues to reflect strong local capability and community-based response. However, it also includes significant variability in service delivery, multiple distinct demand environments, limited standardization in response performance, and no coordinated regional deployment model. As a result, the LOS experienced by residents is largely determined by local capacity and resource availability rather than by a consistently defined, risk-based municipal framework.

This results in several key implications:

Inconsistent Service Experience

Residents across the municipality may receive different levels of service depending on location, staffing availability, and local capability.

Limited Accountability

Without defined LOS targets, it is not possible to:

- Measure performance
- Identify gaps systematically
- Report consistently to Council or the public

Misalignment with Risk and Demand

As identified in the Community Risk Assessment, service demand is concentrated in specific stations and driven by transportation incidents, fire-related responses, and alarm activity. However, infrastructure distribution, apparatus deployment, and staffing models do not consistently reflect these patterns. As a result, LOS is implicitly determined by resource availability rather than being intentionally aligned with risk and demand.

The ability to deliver services aligned with risk and demand is also influenced by the training and certification levels of personnel. While minimum training guidelines and certification frameworks exist within the system, they are not consistently standardized or aligned with defined service expectations across all departments. This contributes to variability in operational capability and further reinforces the need for a formal LOS framework that clearly defines required competencies.

Barriers to Strategic Planning

The absence of LOS limits the ability to:

- Prioritize investments
- Optimize deployment
- Support regionalization or integration efforts

Establishing a clearly defined, data-driven LOS and SOC framework is a critical next step for the CBRM fire service. Doing so will enable the municipality to align resources with identified risk and demand, reflect the differing operational environments across the system, and improve the

consistency and equity of service delivery. It will also provide the foundation for enhanced accountability, performance measurement, and informed decision-making in future system planning and design.

Importantly, a defined LOS and SOC framework will also provide the evidence-based basis for future decisions regarding station location, station function, staffing models, apparatus deployment, and capital investment. Decisions related to station relocation, consolidation, closure, modernization, apparatus purchases, and apparatus allocation should not be made independently of defined service expectations. Rather, they should be evaluated against adopted LOS objectives, SOC performance targets, travel time analysis, effective response force requirements, incident demand, community risk, and the availability of personnel. In this way, LOS and SOC become the framework through which CBRM can determine what resources are required, where those resources should be located, and how they should be deployed to provide an adequate and consistent level of service across the municipality.



7. Infrastructure

7.1. Overview

The review of fire service infrastructure within CBRM is a multifaceted and complex issue. The system includes 34 fire stations distributed across a large and diverse geographic area, and when considered in relation to oversight, management, maintenance, service delivery, operational suitability, and fiscal sustainability, this footprint creates a significant administrative challenge.

This infrastructure has evolved over time through local decision-making and community-based development rather than through a coordinated regional strategy. As a result, the system reflects a strong local presence and identity, but also introduces complexity in how infrastructure is managed, maintained, and aligned with service delivery needs.

From an infrastructure perspective, the key issue is not simply the number of stations, but whether the location, function, ownership, condition, and long-term cost of those stations align with the level of service the municipality intends to provide. In some areas, particularly rural and remote communities, existing stations may be critical to maintaining geographic coverage and volunteer response capacity. In other areas, particularly where stations are clustered in close proximity, there may be opportunities to improve efficiency, reduce duplication, avoid unnecessary future capital costs, and modernize facilities through station relocation, consolidation, or changes in station function.

Fire stations within CBRM are more than operational facilities; they are often central community assets. In many cases, they serve as focal points within the communities they support, reinforcing strong local ownership and identity within the fire service. This characteristic is particularly pronounced within the volunteer system and has influenced both the development and continued operation of fire service infrastructure across the municipality.

7.2. Station Distribution

The distribution of fire stations across CBRM reflects historical settlement patterns and community expectations rather than a defined deployment model based on demand or risk.

Stations are commonly located in clusters throughout urban and suburban areas, particularly in and around Sydney, Glace Bay, New Waterford, and North Sydney. These areas reflect higher population density and, in many cases, multiple stations operating in close proximity to one another. In contrast, rural and remote areas experience significantly greater distances between stations, where response is more dependent on travel time and available personnel, and access to neighbouring stations is often limited.

To better understand the operational implications of station placement, station locations were analyzed based on NFPA 1720 rural staffing and response expectations. Under this standard, a minimum of six personnel is expected to respond to an incident within 14 minutes for areas within 12.87 km (8 miles) of a fire station. Incidents occurring beyond this distance are considered remote, where staffing expectations are reduced to four personnel and response time is based primarily on travel time.

All fire stations were reviewed in relation to their location and the proximity of their two nearest neighbouring stations. This approach reflects the operational reality that volunteer fire departments are often staff-limited, and that response effectiveness can be improved through coordination with neighbouring stations. The analysis is therefore based on the premise that multi-station response is necessary to achieve adequate staffing levels and service capability.

Travel distances between stations were calculated using road network data available through Google Maps, and the analysis assumes that automatic aid can be implemented through a next-generation enhanced 911 dispatch system. It is also recognized that incidents do not occur at fire stations themselves, but rather between them, and that turnout time is included within the 14-minute response expectation.

The analysis identified significant variation in station proximity and support across the municipality. The southeast portion of CBRM includes a number of remote stations, including Gabarus, Louisbourg, Albert Bridge, and Marion Bridge. Additional remote stations are located in the south-central and southwestern areas, including Christmas Island, Boisdale, Eskasoni First Nation, Big Pond, and Southside Boularderie.

Overall, 12 of the 34 fire stations were identified as operating in semi-remote or remote conditions. A semi-remote station is defined as one where only one of the two nearest neighbouring stations is within the 12.87 km response threshold, while a remote station has no neighbouring stations within that range. Stations exceeding either the distance threshold or the 14-minute response expectation are considered remote.

Semi-remote stations include Frenchvale and Georges River (marginal). Remote stations include Albert Bridge, Bateston, Big Pond, Boisdale, Christmas Island, Gabarus, Louisbourg, Marion Bridge, Southside Boularderie, and Eskasoni First Nation (mutual aid partner).

Understanding the geographic relationship between fire stations provides a foundation for developing realistic and effective response models. By aligning station locations, staffing capacity, and travel distances, fire service administration can establish response frameworks that support consolidated response to critical and time-sensitive incidents. This approach also enables the development of a defined standard of cover that reflects both operational capability and geographic constraints.

Call volume analysis further reinforces the imbalance in distribution. Demand for service varies widely across the system, with some stations responding to fewer than 20 incidents annually, while others experience significantly higher call volumes. As expected, the highest demand is concentrated in urban centres, while remote stations tend to experience the lowest levels of activity.

Overall, the existing station network provides extensive geographic coverage; however, its configuration reflects incremental growth rather than a strategically planned system aligned with service demand, staffing realities, or performance expectations. This creates two distinct infrastructure challenges. In rural and remote areas, the priority is to maintain realistic geographic coverage and ensure that stations are supported by appropriate staffing, apparatus, and mutual or

automatic aid. In clustered urban and suburban areas, the priority is different: the municipality should evaluate whether the current number, location, and function of stations remains necessary, or whether comparable or improved service could be provided through fewer, better-located, modernized facilities supported by coordinated deployment and resource-based dispatch.



7.3. Ownership Model

Fire service infrastructure within CBRM continues to operate under a decentralized ownership model that reflects the legacy structure of fire services within the municipality.

Currently, with the exception of the two career fire stations in Sydney, and Glace Bay, North Sydney, and New Waterford fire stations, local fire departments or associations are responsible for the ownership, upkeep, maintenance, and operation of their respective fire stations. Municipal funding is provided to these departments; however, there is no consistent reporting requirement governing how these funds are allocated or spent. One anomaly is noted for the Sydney Mines fire station – the Sydney Mines fire department owns the station's infrastructure, while CBRM directly funds its operation and maintenance.

In addition to municipal funding, departments rely on locally generated revenue sources, including fundraising activities and provincial programs. The long-standing model of raising funds through community hall rentals and events continues to support local operations and infrastructure maintenance.

An argument can be made that this volunteer-based funding model has reached its practical limits. While it has historically been effective in sustaining local fire services, it may not be sufficient to support future infrastructure needs, particularly in the context of increasing capital costs and evolving facility requirements.

The decentralized ownership model also limits the authority of central fire service leadership. The Fire Chief does not have full control over infrastructure resources across the municipality, particularly outside of municipally managed stations. This creates challenges in establishing consistent standards, prioritizing investments, and managing infrastructure as part of a coordinated regional system.

7.4. Current State Observations

7.4.1. Maintenance Variability

A key observation is the absence of a formal, standardized process for building maintenance, inspection, and lifecycle planning across the municipality. There is no consistent framework to assess facility condition, prioritize capital investment, or ensure that infrastructure is maintained to a defined standard. CBRFES has limited authority regarding fire service infrastructure outside of municipally managed stations, further constraining the ability to implement a coordinated approach.

Station visits indicated mixed results in maintenance conditions. Overall, fire station maintenance was generally adequate; however, some districts were experiencing challenges related to aging infrastructure and limited reinvestment. Many stations exhibited a high level of tidiness and well-maintained apparatus, reflecting pride and ownership within the fire service.

Of the 34 stations reviewed, only one, Christmas Island, was identified as having reached the end of its useful service life. Most stations were found to be in very good condition, with a smaller number in fair condition. Despite this, the absence of a formal evaluation process limits the municipality's ability to establish a clear baseline for infrastructure condition.

Key observations also identified the need to improve air quality within fire stations and reduce contamination risks within both fire service facilities and attached community halls.

Advancing toward a more integrated or regional model will require a comprehensive evaluation of all fire stations by a qualified agency, with a focus on building envelope, structural integrity, and mechanical systems.

7.4.2. Occupational Health and Safety

Firefighter health and wellness is a significant consideration in modern fire station design. Most, if not all, fire stations within CBRM were constructed prior to the adoption of more recent design standards, guidelines, and best practices related to firefighter health and safety. As a result, many facilities do not fully reflect current approaches to contamination control and exposure reduction.

Fire stations are typically divided into “dirty” and “clean” zones. Dirty areas include apparatus floors, where contaminants from diesel exhaust and off-gassing from personal protective

equipment (PPE) are present. Clean areas include offices, meeting rooms, washrooms, and common spaces. Maintaining separation between these areas is critical to reducing cross-contamination and supporting a healthy working environment.

Within CBRM, the integration of community halls with fire stations further compounds this issue, increasing the potential for contaminants to migrate into public spaces. This creates additional challenges in maintaining appropriate environmental separation and protecting both firefighters and the public.

The importance of enhanced occupational health and safety practices is underscored by the increased health risks faced by firefighters. Cancer is the leading cause of job-related deaths among firefighters in Canada, accounting for the majority of duty-related fatalities. Firefighters also face elevated risks of both cancer diagnosis and mortality compared to the general population.



To address these risks, a range of initiatives and practices have emerged as industry standards. These include the installation or retrofitting of vehicle exhaust extraction systems, as well as improved air filtration and ventilation systems within fire stations. Operational practices such as gross decontamination and clean cab initiatives also play a critical role in reducing the transfer of contaminants.

Additional considerations include the provision of dedicated PPE storage areas with appropriate ventilation systems, as well as ensuring that fire stations and attached community halls operate with separate HVAC systems. The creation of transition zones between operational and public spaces is also an important design element in reducing cross-contamination.

Despite these measures, firefighters may still be exposed to persistent contaminants within apparatus cabs and station environments. As such, strict adherence to established health and safety procedures, including existing decontamination guidelines, is essential. The implementation of both procedural controls and mechanical systems will be necessary to effectively manage long-term exposure risks within the fire service environment.

7.4.3. Community Hall Model

A prominent feature of fire service infrastructure within CBRM is the integration of fire stations with community halls. This model is deeply rooted in the history and culture of the fire service and reflects the role of fire departments as central institutions within their communities.

Community halls serve as important gathering spaces and provide a source of revenue through rentals and events. This grassroots funding approach has contributed to the sustainability of local fire departments and has reinforced strong community support.

However, this model also introduces operational considerations. The combination of emergency service facilities with public assembly spaces creates additional complexity in building design, maintenance, and long-term infrastructure planning. It also reinforces the decentralized nature of infrastructure ownership and funding, as facilities are often developed and maintained based on local priorities rather than consistent regional standards.



7.4.4. Governance Fragmentation

Infrastructure management within CBRM is significantly influenced by fragmented governance and limited central authority.

Responsibility for facility maintenance and operations rests primarily with individual departments, and there is no unified framework governing infrastructure standards, investment priorities, or lifecycle planning. The Fire Chief's limited authority over stations outside of municipally managed facilities further constrains the ability to manage infrastructure at a regional level.

This fragmentation is compounded by broader challenges within the system, including limited collaboration between departments, concerns regarding loss of local control, and the complexity associated with transferring ownership or administration of facilities.

Several factors have contributed to limited progress toward a coordinated regional model, including strong local independence, concerns regarding loss of control over locally developed

infrastructure, the perceived risk of station closures, the complexity of facility ownership transfer, and limited central authority over non-municipally controlled stations. These factors have reinforced locally driven infrastructure management and limited the municipality's ability to plan, prioritize, and invest in fire service facilities as a unified asset base.

Little progress has been made over the past several decades to modernize infrastructure governance or advance regionalization. As a result, infrastructure continues to be managed largely at the local level, with varying approaches and priorities across the municipality.

CURRENT STATE INFRASTRUCTURE OBSERVATIONS

Key issues affecting fire station condition, safety, planning, and governance



MAINTENANCE VARIABILITY

No standardized inspection, maintenance, or lifecycle planning framework exists across the municipality.



HEALTH AND SAFETY

Many stations require improved contamination control, air quality measures, and exposure-reduction features.



COMMUNITY HALL MODEL

Shared fire station and community hall use adds complexity to facility design, maintenance, and long-term planning.



GOVERNANCE FRAGMENTATION

Decentralized ownership and limited central authority constrain coordinated regional infrastructure planning.



A coordinated infrastructure strategy is needed to assess condition, manage risk, prioritize investment, and align facilities with the future regional service model.

7.5. Operational Analysis

From an operational perspective, the distribution of infrastructure across CBRM presents both opportunities and challenges.

It was noted that, in general, fire departments are located in clusters throughout the CBRM, typically corresponding to urban and suburban areas or areas of higher population density. These groupings provide a basis for analyzing fire hall locations from a strategic and operational perspective, particularly in understanding how time and distance influence response capability and service delivery.

By examining a station in relation to its closest neighbours, it is possible to estimate travel times and better understand the effects of multi-station response on initial response, staffing capacity, and overall service effectiveness. Expanding this analysis to include a station's two closest

neighbours further enhances the understanding of response dynamics and potential service improvements.

7.5.1. Station Clustering

Notable station clusters were identified in the following areas:

- **North Sydney:** North Sydney, Sydney Mines, Florence, Georges River*
- **New Waterford:** New Waterford, New Victoria, Scotchtown, South Bar*
- **Glace Bay:** Glace Bay, Dominion, Reserve Mines, Donkin, Port Morien, Birch Grove
- **Sydney:** Sydney #1, Sydney #2, Grand Lake Road, Mira Road, Sydney River, Coxheath, Westmount, Howie Centre*, Frenchvale*, South Bar*
- **East Bay:** East Bay, Northside East Bay, Howie Centre*

** Stations may be associated with more than one cluster.*

The presence of these clusters reinforces that fire station placement within CBRM has been influenced more by historical community development than by a coordinated deployment strategy. In clustered areas, multiple stations may provide opportunities for resource pooling, improved multi-station response, and stronger volunteer participation. However, these same clusters also create the potential for overlapping coverage, duplicated infrastructure, and higher long-term capital and operating costs. As a result, clustered station areas should be prioritized for detailed review to determine whether service can be maintained or improved through station relocation, consolidation, modernization, changes in station function, or more coordinated deployment.

This analysis must also account for volunteer availability and community identity. Fire service capacity is not defined solely by station location; it also depends on the ability to recruit, retain, and assemble firefighters in each area. In many cases, volunteer participation is closely tied to local identity and proximity to the fire station. As a result, station clustering should not be interpreted as simple duplication. Any future consolidation, relocation, or change in station function should evaluate the potential effect on volunteer recruitment, retention, turnout, and local service continuity, while also considering whether neighbouring stations can be used more effectively to support coordinated response.

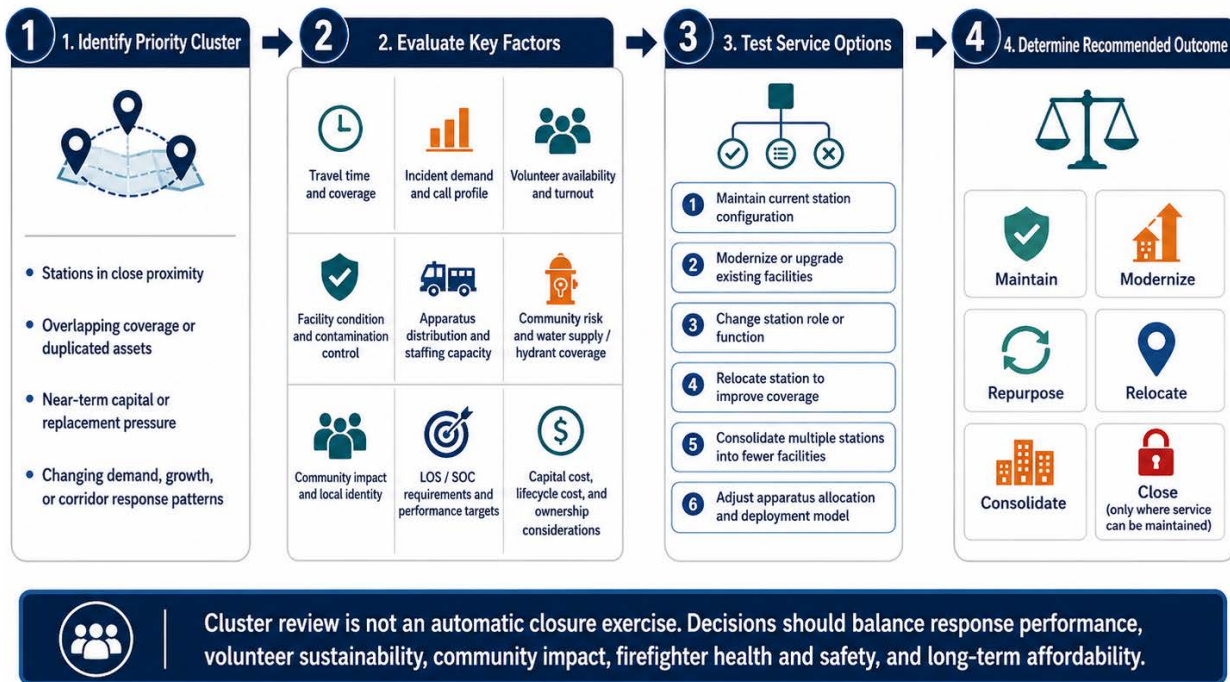
In contrast, rural and remote areas experience greater distances between stations, resulting in longer travel times and reduced access to neighbouring support. This creates challenges in achieving consistent response performance across the municipality.

7.5.2. Infrastructure Optimization

The station clusters identified above represent the most immediate areas where CBRM should undertake targeted infrastructure optimization analysis. These areas should not be interpreted as automatic station closure recommendations; however, they do indicate where overlapping coverage, duplicated infrastructure, and fragmented facility investment may be present.

Station Cluster Review Framework

A structured, data-informed process for evaluating clustered fire stations



To be completed as part of the Fire Master Plan and aligned with adopted LOS and SOC.

Figure 7-1 Station Cluster Review Framework

In clustered areas, there may be opportunities to improve service efficiency and reduce long-term costs by consolidating or relocating stations, modifying station function, or replacing multiple legacy facilities with fewer modern, purpose-built fire stations. A modern consolidated station can be designed to address current operational needs, including apparatus space, clean/dirty separation, PPE storage, exhaust control, training space, accessibility, administrative support, and community-use considerations. In this way, consolidation or relocation may improve service capability and firefighter health and safety while also reducing the long-term cost of maintaining multiple aging facilities.

Station optimization should be evaluated at the cluster level rather than solely on a station-by-station basis. While the historical value and local support associated with each station must be recognized, the key planning question is whether the cluster as a whole has the right number of facilities, in the right locations, with the right apparatus, staffing, and response model to meet adopted LOS and SOC expectations. This approach allows CBRM to consider the combined role of nearby stations and determine whether resources can be deployed more effectively across a broader response area.

Potential outcomes of a cluster-based infrastructure review may include maintaining existing stations, modifying the role of certain stations, relocating stations to better serve growth areas or transportation corridors, consolidating multiple stations into a single modern facility, or closing

stations where service can be maintained through neighbouring resources. These decisions should be supported by travel time analysis, incident demand, volunteer availability, apparatus requirements, community risk, facility condition, ownership considerations, and the impact on recruitment and retention.

A cluster-based approach also provides a practical way to identify cost savings and cost avoidance. Maintaining all existing stations in their current form may require significant future investment in building renewal, contamination control, accessibility, mechanical systems, and lifecycle maintenance. Where multiple stations operate in close proximity, CBRM may be able to reduce duplication and redirect future capital investment toward fewer, higher-quality facilities that better support a unified regional fire service.

7.5.3. Multi-Station Response and Automatic Aid Framework for Analysis

While some level of informal multi-station response may occur in practice, there are no standardized or consistently applied automatic aid or mutual aid agreements across the municipality. As a result, coordinated response between neighbouring stations is not systematically structured or optimized.

The concept of multi-station response is therefore best understood as an analytical and planning framework, aligned with SOC principles, rather than a consistently implemented operational model. Within a formal SOC framework, multi-station response and automatic aid are used to achieve defined response performance targets, including ERF and travel time objectives. This approach is particularly relevant in a system where many volunteer fire departments are staff-limited and may not be able to consistently assemble a crew of six responders in accordance with NFPA 1720 expectations.

Using station clusters as a foundation, a multi-station response model can be used to evaluate how resources from neighbouring stations could be combined to achieve appropriate staffing levels and improve overall service capability. In effect, this represents a potential form of service consolidation for mutual benefit, enabling a more seamless and coordinated response model.

This framework aligns with the concept of automatic aid, where the closest available resources respond regardless of jurisdictional boundaries. When formalized, such an approach has the potential to improve response performance, reduce duplication of apparatus, and support more consistent achievement of staffing benchmarks.

The potential benefits of this model include more prompt and reliable service delivery, improved access to available resources, enhanced incident command capacity, and improved firefighter safety. It may also support improvements in fire protection grading and better alignment with public expectations for emergency response.

However, the implementation of such a model would require careful consideration. Potential challenges include increased call volumes in certain jurisdictions, the risk of uneven service burden between departments, and the need for formal agreements to ensure equitable participation and funding alignment.

7.6. Key Findings

The CBRM fire service operates with an extensive network of fire stations that has developed over time without consistent alignment to demand, risk, staffing capacity, or strategic planning. While this network provides broad geographic coverage and supports strong local identity, it does not function as a coordinated regional infrastructure system.

The current station footprint creates different challenges in different parts of the municipality. In rural and remote areas, stations play an important role in maintaining geographic coverage where travel distances are long and access to neighbouring support is limited. In urban and suburban areas, several stations are clustered in relatively close proximity, creating overlapping coverage and potential duplication of infrastructure.

These clustered areas represent the clearest opportunity for operational efficiencies, cost savings, and long-term capital cost avoidance. Through a defined LOS and SOC framework, CBRM should evaluate whether some stations can be relocated, consolidated, modernized, repurposed, or potentially closed while maintaining or improving response capability. This analysis should consider station location, travel time, incident demand, staffing availability, apparatus needs, facility condition, health and safety requirements, community impact, and volunteer sustainability.

The decentralized ownership model and fragmented governance structure limit the ability to manage infrastructure as a unified municipal asset base. This affects consistency in maintenance, investment, facility standards, lifecycle planning, and operational alignment. If CBRM moves toward a single AHJ, it will require a clear strategy for facility ownership, maintenance responsibility, capital prioritization, and the potential transfer, replacement, or consolidation of existing assets.

Sustainability is a growing concern. The reliance on local funding models, combined with increasing capital requirements, aging infrastructure, contamination-control expectations, accessibility considerations, and the cost of maintaining multiple facilities, places pressure on the system's ability to modernize over time. Maintaining all existing stations in their current form may not represent the most efficient or affordable long-term approach.

Overall, the current infrastructure model provides extensive coverage but is not fully aligned with a regional, risk-based service delivery model. A coordinated infrastructure strategy, completed as part of the Fire Master Plan, should identify where stations should be maintained, upgraded, repurposed, relocated, consolidated, or closed. This process should be data-informed, transparent, and designed to balance response performance, community impact, volunteer participation, firefighter health and safety, operational effectiveness, and long-term affordability.



8. Apparatus and Fleet

8.1. Overview

The CBRFES operates a large and diverse fleet of apparatus that supports fire suppression, rescue, and all-hazards emergency response across the municipality. The system includes approximately 137 pieces of apparatus, with approximately 129 motorized units forming the core operational fleet.

The fleet is dominated by fire suppression apparatus, with pumpers and tankers representing the majority of units. This reflects the operational realities of a geographically large municipality with a mix of hydranted and non-hydranted areas, where apparatus must support both fire attack and water supply functions. The overall composition of the fleet is illustrated in Figure 8-1, which highlights the concentration of apparatus within core suppression categories, particularly pumpers and tankers, alongside a smaller number of specialized and support units.

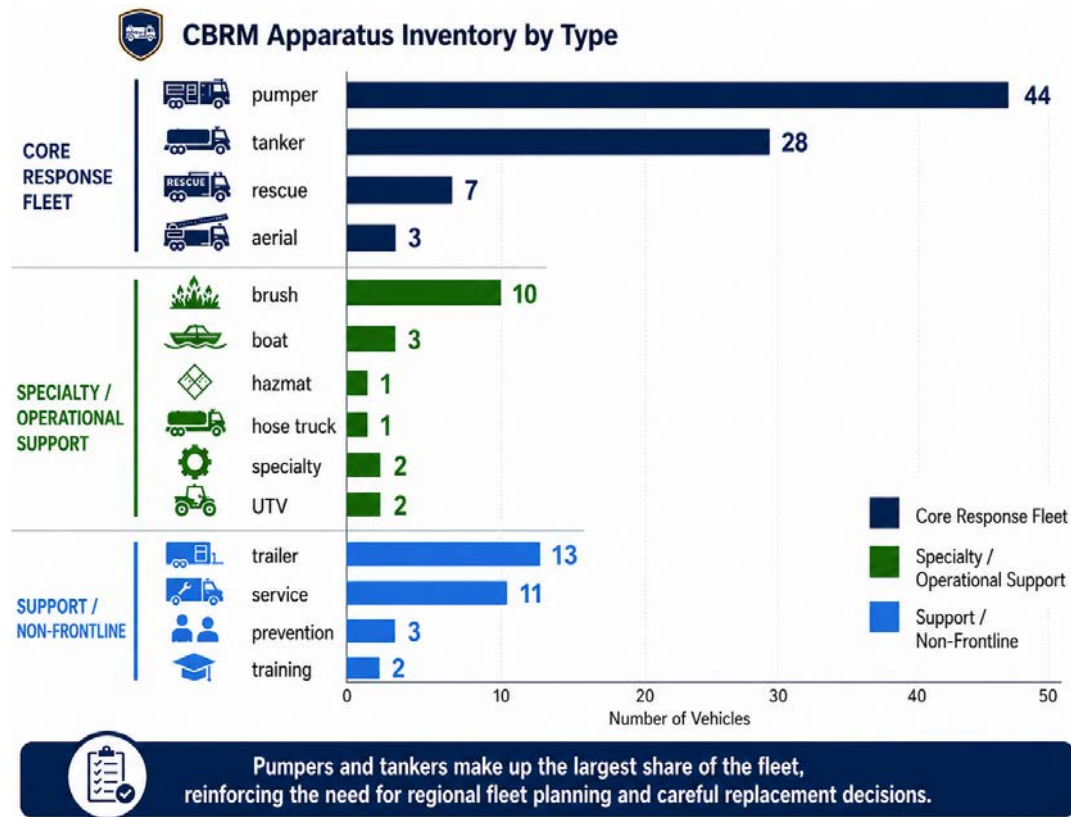


Figure 8-1 Apparatus Count by Type

The fleet is not only diverse in composition but also reflects an aging profile. As shown in Table 8-1, frontline suppression apparatus, including pumpers and tankers, average approximately 18 to 19 years in service, while smaller and light-duty units such as brush trucks and support vehicles, are comparatively newer.

Table 8-1 Average Apparatus Age by Type

Type	Average Age (Years)
Pumper	19
Tanker	18
Rescue	18
Aerial	13
Brush	9
Specialty/Support	12

This variation reflects both the differing lifecycle expectations of apparatus types and the incremental nature of fleet development across the system.

A review of stations and apparatus indicates that frontline units are generally well equipped and consistent with industry standards and best practices. The fleet is capable of supporting the full range of core services expected of a modern fire service.

However, similar to the infrastructure and governance conditions identified in previous chapters, the apparatus fleet has developed incrementally over time through a combination of municipal and locally driven decision-making. As a result, the fleet reflects strong local capability but also variability in composition, age, and deployment that is not consistently aligned with service demand, staffing capacity, or long-term planning.

The central fleet issue for CBRM is therefore not simply whether individual apparatus require replacement, but whether the overall number, type, location, and specification of apparatus are appropriate for the future service model. In a decentralized system, apparatus have historically been assigned to individual stations to maintain local capability. Under a unified AHJ, apparatus should be planned, procured, and deployed as a regional fleet, aligned with LOS, SOC, staffing capacity, station role, incident demand, water supply requirements, and resource-based dispatch. This shift creates an opportunity to reduce duplication, improve standardization, avoid unnecessary replacement costs, and direct capital investment toward the apparatus that are most critical to system-wide response capability.

8.2. Fleet Composition and Apparatus Types

8.2.1. Pumpers

Pumpers form the core of the suppression fleet and represent the most common apparatus type within CBRFES, with a total of 44 units distributed across 34 stations.

These apparatus are typically equipped with fire-rated pumps in the range of 1050 to 1250 gallons per minute and water tank capacities between approximately 1,000 and 1,500 gallons. Most units are designed to carry a crew of five or more, consistent with industry expectations for delivering an ERF.

The pumper fleet demonstrates a wide range of manufacturing years, with an average age of approximately 19.4 years and a median age of 21 years. A significant portion of the fleet has been in service for more than 20 years, with the oldest units exceeding 30 years of age.

Replacement planning indicates a concentration of units reaching the end of their service life in the near term. Fifteen pumpers are identified for replacement in 2025, with an additional 10 units that could be scheduled for replacement by 2030. There are 3 pumpers that were identified as “no replacement” (Units 6040, 6020, and 6058), all manufactured in 2000 or earlier.

The fleet is characterized by a high degree of manufacturer diversity, although two manufacturers represent a significant portion of the inventory. International chassis account for 16 units, while Spartan represents an additional 9 units, together comprising approximately 57 percent of the total pumper fleet.



The distribution of pumpers across the system reflects the decentralized structure of the fire service. While the fleet spans 34 stations, most departments operate a single pumper, with 28 stations maintaining only one unit. Sydney Mines operates the largest complement with three pumpers, while a limited number of other stations operate two units.

This distribution reflects a model focused on maintaining baseline suppression capability at the local level, with limited consolidation of apparatus across stations.

8.2.2. Tankers

The tanker fleet consists of approximately 27 units and plays a critical role in supporting fire suppression in non-hydranted areas.

Tanker apparatus are typically equipped with integrated fire pumps, allowing them to function in both water supply and suppression roles. Most units are single-axle vehicles with water capacities in the range of approximately 1,500 gallons.

The tanker fleet has an average age of approximately 18 years, with nearly half of the units in service for 20 years or longer. The oldest unit in the fleet is approximately 38 years old, while newer units have been acquired in recent years.

Replacement planning indicates that a number of tanker units are scheduled for replacement within the next several years, with a concentration of replacements occurring between 2024 and 2027.

The tanker fleet is characterized by a mix of manufacturers, with two chassis types representing a significant portion of the inventory. International chassis account for approximately 10 units, while GMC TopKick units represent an additional 6 units. Together, these two manufacturers comprise

over half of the fleet. Notably, the GMC units represent some of the oldest apparatus currently in service.

Beyond these dominant manufacturers, the remaining units are distributed across a wide range of apparatus builders and chassis types, including Dependable, Metalfab, GM McDonald Welding, Rosenbauer, Spartan, Pierce, and Ford. This diversity reflects the incremental and locally driven nature of apparatus acquisition across the system.

The distribution of tanker apparatus mirrors the broader decentralized structure of the fire service. The 27 units are distributed across 24 stations, with the majority of departments operating a single tanker. Marion Bridge is the only station operating more than one unit, with two tankers assigned.

This distribution reflects a model focused on maintaining local water supply capability at the station level, particularly in areas without hydrant coverage.



8.2.3. Aerial Apparatus

At the time of analysis, the aerial fleet consisted of three Rosenbauer units, including two manufactured in 2012, deployed from Glace Bay and North Sydney, and one unit manufactured in 2015 and deployed from Sydney #1. All aerial apparatus are equipped with integrated fire pumps and are configured to carry a minimum crew of four personnel, consistent with operational requirements for aerial operations.

The two 2012 units represent the older portion of the fleet and are approaching mid-to-late lifecycle. The Glace Bay unit has been identified for near-term replacement, while the North Sydney unit is projected for replacement around 2032. The Rosenbauer unit in Sydney is newer, with a projected replacement timeline extending to approximately 2035.

Subsequent to the initial analysis, CBRM advised that a new Sutphen SPH-100 aerial apparatus has been placed into service for Sydney #1. As part of the associated redeployment plan, the existing Sydney tower is being redeployed to Glace Bay, and the Glace Bay 75-foot aerial apparatus is being reassigned to Sydney as a reserve ladder. Following this transition, the aerial fleet will continue to provide frontline aerial capability, supported by a reserve ladder resource.

This update does not materially change the findings of this review. Rather, it illustrates that aerial apparatus planning is already evolving and reinforces the need for future aerial deployment, reserve coverage, and lifecycle replacement decisions to be managed through a coordinated regional fleet strategy.



8.2.4. Rescue Apparatus

The rescue fleet consists of a small number of units distributed across the municipality, supporting fire suppression, technical rescue, specialty services, and crew transport functions.

The fleet demonstrates a wide range of vehicle types and configurations, reflecting varied approaches to apparatus selection at the local level. Units are built on a mix of commercial and custom platforms, including Ford, International, and Spartan chassis, contributing to differences in capability and configuration across the system.

The rescue fleet spans a significant age range, with an average age of approximately 18 years. Older units include a 1994 Ford rescue in Louisbourg and a 2000 International rescue in Scotchtown, both of which are among the oldest apparatus currently in service.

More recent additions include the 2016 Dodge Ram 5500 rescue in Glace Bay, currently scheduled for replacement in 2036.

Rescue apparatus are distributed across five locations, including Glace Bay, Sydney River, Louisbourg, Christmas Island, and Scotchtown, providing broad geographic coverage across the municipality.

Replacement planning for the rescue fleet indicates a staggered lifecycle profile, with two units scheduled for replacement in the near term (2025), including the Scotchtown and Louisbourg apparatus. Additional units are projected for replacement in the medium term, including a 2008 Ford F-550 in Christmas Island (2028) and a 2006 Spartan Gladiator in Sydney River (2031), while the newest units are expected to remain in service into the longer term.



8.2.5. Brush Trucks

The brush truck fleet consists of approximately 10 units and is primarily composed of light- and medium-duty vehicles designed to support wildland, grass, and wildland-urban interface fire response.

The fleet is dominated by Dodge/Ram and Ford vehicles, which together account for the majority of units. Dodge/Ram represents approximately 60 percent of the fleet, while Ford accounts for approximately 30 percent. The remaining units are composed of Chevrolet vehicles. This relatively concentrated manufacturer profile reflects a more utility-based approach to apparatus acquisition compared to heavy apparatus, although variations in configuration remain.

Most brush trucks are built on three-quarter-ton or one-ton chassis and are equipped with skid-mounted units that include pumps and water tanks typically ranging from 200 to 400 gallons. These units are generally configured as crew cab vehicles with a crew capacity of four personnel. This configuration supports a range of operational uses, including wildland and interface fire response, as well as incidents involving limited access where larger apparatus may be restricted.

The brush truck fleet has an average in-service age of approximately 9 years, indicating a comparatively newer fleet relative to heavy apparatus. Available information suggests that replacement planning for these vehicles extends to approximately 20 years of service.

Brush trucks are distributed across multiple stations and communities, including Glace Bay, New Waterford, North Sydney, South Bar, Sydney, Sydney Mines, Scotchtown, and Howie Centre, with some locations operating more than one unit. This distribution provides broad geographic coverage and supports response across a range of operational environments.

Based on the current distribution of units, brush truck coverage is more limited in certain areas of the municipality, including portions of the southwest and southeast regions, where fewer units are positioned relative to other parts of the system.



8.2.6. Support and Specialty Vehicles

The fleet includes approximately 27 support vehicles of varying configurations, which play a key role in enabling an all-hazards approach to fire and emergency service delivery.

These vehicles are primarily composed of medium-duty pickup trucks and sport utility vehicles and are used to support a wide range of operational and administrative functions. A significant portion of the fleet, approximately 44 percent, is classified as service vehicles, which are utilized for day-to-day operations, equipment transport, towing, and, in some cases, direct support to emergency response.

In addition to general support units, the fleet includes a number of specialty vehicles designed to support high-risk, low-frequency incidents. These include apparatus assigned to hazardous materials response and technical rescue functions, including high-angle rescue. A regional hazardous materials trailer is also maintained as part of this capability.

Other support vehicles are assigned to specific functional areas within the organization, including training, fire prevention, and command. Command vehicles are typically assigned to senior officers and are used to support incident management and coordination.

The fleet also includes boats and utility terrain vehicles (UTVs), which provide capability for water-based response, rescue and recovery operations, and off-road access in areas not accessible by conventional apparatus.

In addition to motorized units, the fire service maintains a number of non-motorized assets, including approximately 12 trailers. While these assets were not evaluated as part of this review, they support a range of operational functions, including hazardous materials response, incident command, rehabilitation, and the transport of boats and UTVs.



8.3. Lifecycle and Replacement

At a system level, the apparatus fleet presents increasing pressure related to asset age and the concentration of replacement requirements.

Replacement planning is heavily concentrated in the near term. A total of 27 units, representing approximately 21 percent of the fleet, are scheduled for replacement in 2025. Additional replacements are projected in the years immediately following, creating a clustering of capital requirements within a relatively short timeframe.

This concentration introduces a material capital planning challenge. Fire apparatus represent high-cost, long-lived assets, and the simultaneous replacement of multiple units limits the municipality's ability to distribute expenditures over time and align investment with broader strategic priorities.

While replacement timelines are identified for many units, there is no consistent, system-wide lifecycle management framework governing apparatus renewal. Replacement decisions appear to be influenced by a combination of age, condition, and local considerations, rather than a standardized approach based on risk, utilization, or service requirements.

As a result, the municipality has limited ability to forecast long-term capital needs, prioritize replacement across the system, or coordinate fleet renewal in a way that supports operational optimization. This condition reinforces the need for a more structured and integrated lifecycle management approach.

8.4. Operational Alignment

The current configuration and deployment of apparatus across the municipality are not consistently aligned with service demand, staffing capacity, or a defined regional deployment strategy.

The distribution of apparatus reflects a model in which most stations maintain both a pumper and a tanker, regardless of local demand or proximity to neighbouring stations. In more remote areas, this approach supports operational requirements by ensuring that both fire attack and water supply capability are available during initial response. However, in areas where stations are clustered, it may also result in overlapping capacity.

Analysis of the pumper fleet indicates that the number of units exceeds operational requirements, with approximately 1.3 pumpers per station and an overall capacity exceeding requirements by approximately 20 percent, or up to 30 percent when reserve apparatus are considered.

This level of redundancy provides limited additional operational benefit while increasing lifecycle and maintenance costs. In clustered areas, multiple stations operate similar apparatus in close proximity, further contributing to duplication of capability.

The current approach to apparatus deployment reflects a lack of a clearly defined, data-driven strategy, including the absence of a SOC framework to align apparatus distribution with response performance, staffing requirements, and community risk. The distribution of apparatus has largely evolved through local decision-making, resulting in a system that effectively blankets the region with similar apparatus configurations rather than aligning resources with demand, risk, or response requirements.

A key issue is the misalignment between apparatus and staffing. In several instances, stations operate multiple apparatus despite limited staffing availability, particularly within the volunteer system. This creates situations where apparatus cannot be fully crewed, reducing their operational effectiveness.

Effective response depends on both apparatus and personnel. The deployment of a single fully staffed apparatus is operationally more effective than multiple partially staffed units, highlighting the need to align apparatus allocation with staffing capacity.

Overall, the current fleet reflects a system that prioritizes local availability of apparatus but does not consistently optimize for efficiency, effectiveness, or sustainability at a regional level.

8.5. Sample Cluster-Based Apparatus Assessment

As discussed in Chapter 7, several areas within CBRM contain clusters of fire stations located in relatively close proximity to one another. These clusters provide an opportunity to evaluate apparatus requirements at a broader operational level rather than solely on a station-by-station basis. This approach is particularly important under a future single AHJ model, where apparatus can be planned, deployed, and replaced as part of a coordinated regional fleet.

The following sample assessments are preliminary apparatus-only screens. They are intended to illustrate the type of analysis that should be completed as part of a broader Fire Master Plan and fleet rationalization process. They do not represent final recommendations to remove, relocate, replace, or close any apparatus or station. Final decisions would require additional analysis of response data, travel time, staffing and turnout, hydrant coverage, apparatus utilization, unit condition, maintenance cost, facility condition, community risk, and adopted LOS/SOC requirements.

8.5.1. New Waterford Area Cluster

A preliminary apparatus-only review was completed for the New Waterford area cluster, consisting of New Waterford, New Victoria, Scotchtown, and South Bar. Based on available fleet information, the cluster includes approximately 13 apparatus across four stations, as summarized below in Table 8-2. It should be noted that internal apparatus inventory records have inconsistencies, and movement of apparatus since the time of analysis may result in different inventory within the cluster; this analysis is based only on the records provided during the review.

Table 8-2 Inventory of Apparatus Maintained in the New Waterford Cluster Area Stations

Apparatus Type	Count	General Observations
Pumpers	5	One pumper in New Victoria, two pumpers in New Waterford, one pumper in Scotchtown, and one pumper in South Bar.
Tankers	3	One tanker each in New Victoria, Scotchtown, and South Bar.
Brush Trucks	3	Two brush trucks in New Waterford and one brush truck in South Bar.
Rescue	1	One rescue apparatus located in Scotchtown.
Hose Truck	1	One hose truck located in New Waterford, with fleet notes indicating no current need for replacement.
Total	13	Apparatus distributed across four stations within the cluster.

This preliminary screen indicates that the New Waterford cluster contains a significant concentration of suppression and water supply apparatus. In particular, the presence of five pumpers across four stations suggests that the cluster should be reviewed for potential pumper duplication before future replacement decisions are made. This does not mean that a pumper should be removed from service based solely on count; however, it does indicate that the current allocation should be tested against adopted LOS and SOC requirements, travel time, staffing availability, incident demand, water supply needs, and future deployment models.

The timing of replacement reinforces the need for a cluster-based review. Several units within the cluster are identified for near-term replacement, including pumpers, a rescue unit, and the New Waterford hose truck. If these units are replaced automatically on a like-for-like basis, CBRM may reinvest in the existing decentralized fleet configuration before confirming whether that configuration aligns with the future regional service model.

The New Waterford hose truck is a specific example of a unit that should be reviewed before replacement. Available fleet notes identify this apparatus as having no current need for replacement. On that basis, the unit appears to be a candidate for non-replacement, repurposing, or removal from the replacement plan unless a current operational requirement is confirmed.

Other apparatus types require further analysis before conclusions can be reached. The Scotchtown rescue unit does not appear duplicative within the cluster based on apparatus type alone, as it is the only rescue apparatus identified in the New Waterford area. Tanker requirements should be evaluated in relation to hydrant coverage, water shuttle needs, travel time, incident demand, and SOC-defined water supply objectives. Brush truck distribution should also be assessed in relation to wildland/interface risk, seasonal demand, off-road access requirements, and the availability of similar units in adjacent areas.

For the New Waterford cluster, the preliminary apparatus-only assessment identifies the following matters for further review:

- Whether the cluster requires five pumpers, or whether equivalent or improved service could be achieved through fewer standardized pumpers, improved reserve coverage, and resource-based deployment.
- Whether the New Waterford hose truck should be replaced, repurposed, or removed from the replacement plan.
- Whether tanker distribution aligns with hydrant coverage, rural water supply needs, and SOC-defined water supply requirements.
- Whether the Scotchtown rescue unit remains the appropriate rescue resource for the cluster, based on incident demand and specialty service expectations.
- Whether brush truck distribution aligns with wildland/interface risk and operational need.
- Whether near-term replacement decisions should proceed immediately or be deferred pending the Fire Master Plan, LOS/SOC framework, and regional fleet strategy.

8.5.2. Sydney-Area Cluster

A second priority area for future review is the Sydney-area cluster, including Sydney #1, Sydney #2, Grand Lake Road, Mira Road, Sydney River, Coxheath, and Westmount. This cluster differs from the New Waterford example because it includes the career core of the system and several apparatus that likely support broader regional functions, including aerial, rescue, command, and support capability.

Based on available fleet information, this cluster includes approximately 25 apparatus across seven stations, including nine pumpers, four tankers, two rescue apparatus, one aerial apparatus, one brush truck, five support or command vehicles, and three trailer or boat-related assets. Several pumpers assigned to surrounding stations are identified for near-term replacement, including units in Coxheath, Grand Lake Road, Mira Road, and Westmount.

The preliminary apparatus issue in this cluster is not whether Sydney's core career stations should be reduced. Rather, the key question is whether the surrounding station apparatus complement remains appropriate when considered in relation to Sydney's core response capability, travel time,

staffing availability, incident demand, hydrant coverage, and future resource-based dispatch. The presence of multiple pumpers in close proximity to the career core suggests that future replacement should not proceed automatically on a like-for-like basis until the cluster is evaluated against adopted LOS and SOC requirements.

This cluster may also be relevant to future station location and deployment planning. If CBRM considers relocation, consolidation, or new station siting options in the broader Sydney area, apparatus decisions should be integrated with that analysis. Replacement of surrounding pumpers, tanker placement, rescue coverage, and reserve fleet requirements should be assessed as part of a coordinated regional deployment model rather than as isolated station-level decisions.

8.5.3. Summary Implications

Together, these sample cluster assessments demonstrate the value of evaluating apparatus at the cluster and system level. The New Waterford area illustrates potential duplication and near-term replacement pressure within a smaller clustered station environment. The Sydney-area cluster illustrates a different issue: the need to evaluate surrounding station apparatus in relation to the career core, regional response capability, and future resource-based dispatch.

In both cases, the key issue is not whether a specific apparatus should be removed based on count alone, but whether future replacement and deployment decisions should continue on a like-for-like basis. Before major apparatus purchases are approved in clustered areas, CBRM should assess whether the existing fleet configuration aligns with the future LOS/SOC framework, staffing capacity, water supply requirements, station roles, and regional deployment model.

APPARATUS DECISION FRAMEWORK

Framework for Reviewing Apparatus Replacement and Fleet Rationalization

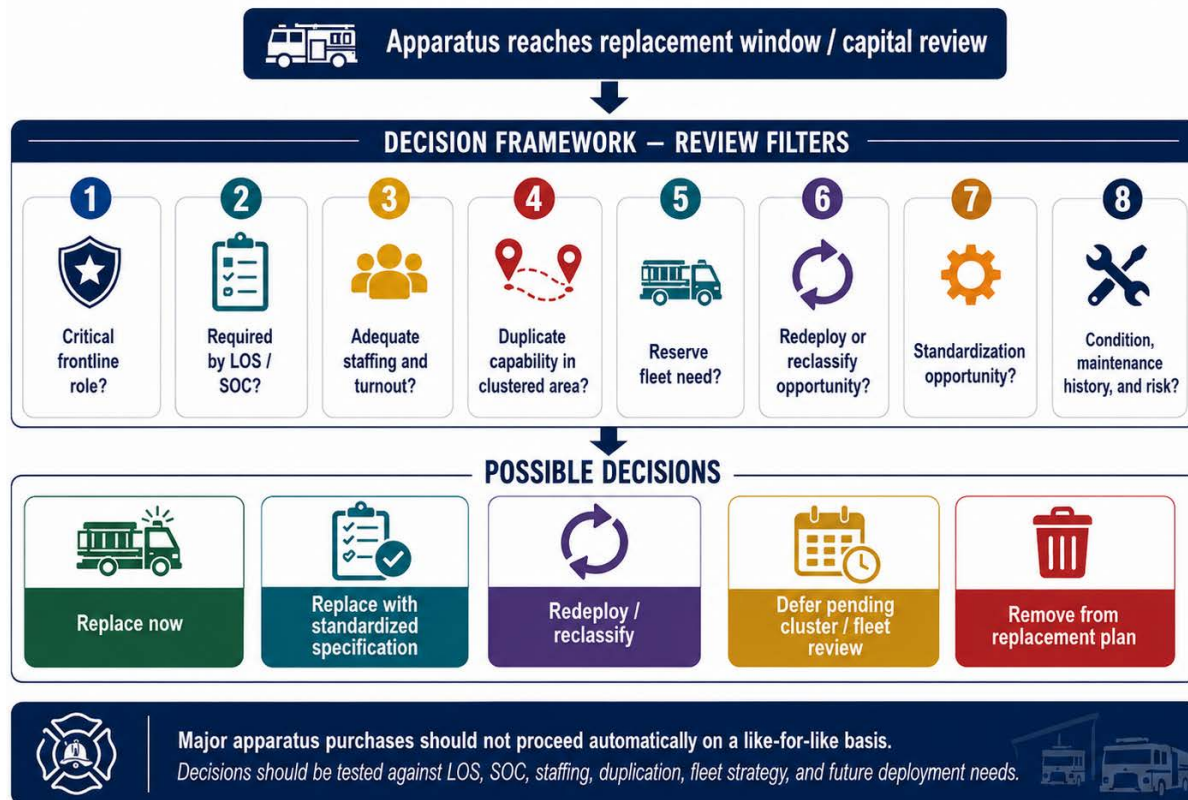


Figure 8-2 Apparatus Decision Framework

8.6. Fleet Rationalization and Strategic Deployment Opportunities

The transition to a single AHJ creates an opportunity to manage apparatus as a coordinated regional fleet rather than as a collection of station-based assets. This is a significant shift from the current model, where apparatus distribution largely reflects historical local decision-making and the expectation that each station maintains a broad range of local capability.

Under a regional fleet model, apparatus decisions should be based on the role of each station within the broader response system, not simply on maintaining similar apparatus at every location. In some rural or remote areas, maintaining local fire attack and water supply capabilities may remain operationally necessary due to long travel distances, limited access to neighbouring stations, and non-hydranted conditions. In clustered urban and suburban areas, however, there may be opportunities to reduce duplication by evaluating apparatus at the cluster level rather than station-by-station.

This approach does not mean that apparatus should be removed without analysis. However, it does mean that future apparatus purchases should be tested against the future service model before replacement decisions are finalized. Where multiple stations operate similar apparatus in close proximity, CBRM should assess whether the same or improved response capability could be

achieved with fewer units, different apparatus types, improved reserve coverage, resource-based dispatch, or by relocating apparatus to more strategic positions.

Fleet rationalization should consider the following factors:

- Adopted LOS and SOC requirements
- Station role and response district
- Incident demand and call type by area
- Travel time and geographic coverage
- Staffing availability and ability to crew apparatus
- Water supply requirements and hydrant availability
- Specialty service requirements
- Apparatus condition, age, and lifecycle status
- Maintenance cost and reliability
- Reserve fleet requirements
- Opportunities for standardization and bulk procurement

This analysis is particularly important given the concentration of near-term replacement needs. Replacing apparatus on a like-for-like basis before completing a regional fleet strategy may result in the municipality reinvesting in the existing decentralized model rather than building the fleet required for the future unified service. Conversely, deferring all replacement until the Fire Master Plan is complete may increase operational risk where frontline apparatus are already at or beyond useful service life.

Accordingly, CBRM should take a balanced approach. Near-term replacement of critical frontline apparatus should proceed where operational risk is high, but purchases should be based on standardized specifications and should preserve flexibility for future redeployment. At the same time, any non-critical or duplicative replacements, particularly in clustered areas, should be reviewed against anticipated LOS, SOC, station optimization, and resource-based dispatch requirements before being approved.

A unified AHJ would allow apparatus to be shifted, redeployed, standardized, and replaced based on system-wide need. Over time, this creates the potential for cost savings, capital cost avoidance, reduced maintenance complexity, improved interoperability, and more effective use of the municipality's fleet investment.

The need for cluster-based fleet review is closely linked to apparatus standardization and procurement. As apparatus are replaced, redeployed, reclassified, or removed from the replacement plan, CBRM should move toward standardized specifications and centralized



purchasing. This will improve interoperability, reduce maintenance complexity, support bulk purchasing, and ensure future apparatus investments align with the regional service model rather than reinforcing historical station-by-station allocation.

8.7. Standardization and Procurement

The apparatus fleet is characterized by significant variability in manufacturers, specifications, and procurement practices.

The fleet includes a wide range of apparatus manufacturers across all apparatus types. Within the pumper fleet alone, there are at least seven different manufacturers represented. This level of variation is consistent with a system that has evolved through independent and locally driven apparatus acquisition over time.

While this approach reflects strong local decision-making, it also introduces operational and maintenance challenges. Variability in apparatus design, controls, and components can create unfamiliarity during multi-station or mutual aid responses, particularly when personnel are required to operate equipment from different manufacturers. In addition, maintaining a diverse fleet increases maintenance complexity and cost, as it requires broader parts inventories and specialized knowledge across multiple vehicle platforms.

Procurement practices reflect the decentralized nature of the fire service. While municipal fleet services are responsible for apparatus procurement, there is evidence of a disconnect between operational requirements and procurement processes. In addition, local fire associations continue to acquire apparatus outside of municipal systems.

These practices contribute to inconsistency in apparatus specifications and introduce potential long-term financial risk. Apparatus and equipment acquired outside of municipal procurement processes may, over time, become the responsibility of the municipality, creating additional fiscal obligations.

The current cycle of apparatus replacement presents an opportunity to improve standardization and better align procurement with operational needs through a more coordinated and integrated approach.

8.8. Technology and Innovation

Advancements in fire apparatus technology continue to play an increasingly important role in fleet capability, operational effectiveness, and firefighter safety. Technological change within the fire service is occurring at an accelerated pace, with new systems offering measurable improvements in safety, efficiency, and incident performance. As a result, apparatus suitability is increasingly influenced not only by mechanical condition and age, but also by the presence or absence of modern safety and operational features.

Contemporary fire apparatus may incorporate a wide range of safety and performance enhancements. These include integrated in-cab communication and hearing protection systems, electronic stability control, advanced airbag and occupant restraint systems, automatic emergency

braking, and collision avoidance technologies. Additional features such as all-wheel drive systems, automatic tire chains, advanced LED scene and warning lighting, on-board power generation, and GPS-enabled navigation and tracking systems further enhance operational capability.

From a health and safety perspective, newer apparatus increasingly incorporate cab air filtration systems and decontamination features designed to reduce firefighter exposure to contaminants. Advances in digital technology, including on-scene communication and reporting systems, also contribute to improved situational awareness and coordination during emergency operations.

Collectively, these technologies contribute to reduced collision risk, enhanced firefighter protection, improved situational awareness, and more efficient incident operations.

In addition to vehicle-based systems, advancements in suppression technology continue to influence operational effectiveness. High-efficiency nozzles (HEN), including adaptive smooth-bore and adjustable nozzle designs, enable higher fire flows at lower operating pressures. This improves heat absorption and fire knockdown capability while reducing strain on pumps, hose lines, and personnel.

These technological developments highlight the growing role of capability-based considerations in evaluating apparatus suitability. Even where apparatus remain mechanically functional, differences in safety systems, efficiency, and operational performance may influence their alignment with current industry practices and expectations.

8.9. Key Findings

The apparatus fleet within CBRM provides a high level of operational capability and is generally well equipped to support current service delivery. However, several structural challenges and associated risks are evident.

Fleet Size, Duplication, and Cost Exposure

The overall size and composition of the fleet suggest a potential for redundancy in key areas, particularly with respect to pumper apparatus. The number of units relative to station distribution, call volume, and access to mutual aid indicates that pumping capacity may exceed operational requirements in some parts of the system.

While redundancy can enhance system resilience, particularly in a geographically distributed service area, excessive overlap among pumping and water-supply apparatus may diminish operational benefit while increasing lifecycle, maintenance, and capital costs. This condition poses a potential fleet-oversizing risk that may affect overall system efficiency and long-term sustainability.

Immediate Replacement Pressure

A significant portion of the fleet is approaching the end of its service life, with replacement requirements concentrated in the near term. This clustering of replacement needs creates a material capital exposure, limiting the municipality's ability to phase expenditures and plan effectively over the long term. The combination of fleet size and replacement timing introduces sustainability pressures that will require careful management.

Lifecycle Management Practices

The absence of a consistent, system-wide lifecycle management framework constrains the ability to prioritize replacement and align investment with operational need. Replacement decisions are not consistently guided by standardized criteria, contributing to variability in lifecycle practices and increasing the likelihood of reactive or uncoordinated capital planning.

Apparatus Not Aligned with Staffing or Deployment

Apparatus deployment is not consistently aligned with staffing capacity, service demand, or a defined regional response strategy. In several cases, stations maintain multiple apparatus that cannot be fully staffed, reducing their operational effectiveness. This misalignment highlights the importance of considering both apparatus availability and personnel capacity in evaluating system performance.

Lack of Standardization Increases Cost and Complexity

The fleet is characterized by a high degree of variability in apparatus types, manufacturers, and specifications. This lack of standardization increases operational complexity, training requirements, and maintenance demands, and can introduce challenges during multi-station or mutual aid responses.

Decentralized Procurement Creates Financial Risk

Procurement practices contribute to this variability. While apparatus acquisition is formally managed through municipal processes, there is evidence of continued apparatus and equipment purchases occurring outside of these systems by local fire associations. Over time, these unapproved or externally acquired assets may become the responsibility of the municipality, creating potential long-term financial obligations and increased fiscal risk.

Fleet Composition and Capability Balance

The composition of the fleet reflects a strong emphasis on suppression and water supply capability, with less consistency in the provision and modernization of rescue and specialty apparatus. This imbalance may limit operational flexibility and affect the system's ability to respond to a broader range of incident types.

Fleet Reflects Local Allocation Rather Than Regional Deployment

The current configuration of the fleet reflects a reliance on apparatus-based solutions to address service delivery challenges, particularly in relation to water supply and access. This approach increases fleet complexity and cost and may not fully address underlying system design considerations such as infrastructure, deployment strategy, or regional coordination.

Technological Obsolescence

Ongoing advancements in apparatus technology introduce an additional consideration. Mechanically sound apparatus may not incorporate modern safety, efficiency, and communication systems, contributing to a form of technological obsolescence over time.

Overall, the apparatus fleet reflects a system that has developed incrementally rather than through a coordinated, long-term strategy. While it provides strong local capability, it is not fully aligned

with a regional, data-driven service delivery model and presents a series of interrelated risks related to efficiency, sustainability, and long-term planning.

The municipality is currently facing a concentrated wave of apparatus replacement requirements, with a significant portion of the fleet reaching end-of-life within a compressed timeframe. Without near-term investment, the risk of frontline apparatus failure, escalating maintenance costs, and reduced operational reliability will continue to increase. Deferring replacement will not eliminate these costs, but rather shift them forward, often at a higher total lifecycle cost and with greater operational risk.

The development of a defined LOS and SOC framework will be essential to establishing a long-term apparatus replacement and deployment strategy. These frameworks should identify the type, number, location, and function of apparatus required to meet adopted service expectations across the municipality. However, the need for improved planning should not be used as a reason to defer all apparatus replacement. Several frontline units are approaching or have exceeded expected service life, and continued delay may increase the risk of apparatus failure, escalating maintenance costs, and reduced operational reliability.

CBRM should therefore proceed with a two-track approach. First, the municipality should address critical near-term replacement needs where apparatus condition, age, reliability, or operational importance creates unacceptable risk. These purchases should be based on standardized specifications and should be made with future redeployment flexibility in mind. Second, the municipality should initiate a regional fleet rationalization process, aligned with the Fire Master Plan, LOS, SOC, resource-based dispatch, and station optimization analysis. This process should determine where apparatus should be maintained, replaced, redeployed, reduced, or reclassified based on system-wide need rather than local historical allocation.

Under a single AHJ, CBRM will be better positioned to manage apparatus as a regional fleet. This would allow the municipality to place apparatus in strategic locations, reduce unnecessary duplication in clustered areas, improve reserve coverage, standardize specifications, support bulk purchasing, and align capital investment with response performance and community risk. Over time, this approach provides an opportunity to reduce lifecycle costs while improving fleet reliability, interoperability, and operational effectiveness.



9. Training and Operational Capability

9.1. Overview of Training Systems and Frameworks

Training and operational capability are foundational to the delivery of fire services and directly influence the ability of personnel to safely and effectively respond to the range of incidents identified in the Community Risk Assessment.

Within CBRM, training is generally aligned with NFPA standards, which are widely recognized as the industry benchmark for firefighter training, certification, and competency development. These standards establish job performance requirements, skill verification processes (i.e. skill sheets), and knowledge-based exams for a wide range of fire service roles.

The engagement indicated that departments operating under the AHJ of CBRFES are utilizing these standards to guide training activities and ensure that firefighters are trained to an appropriate level. However, certification is not universally required across the system, with mandatory certification primarily limited to career personnel.

At the system level, training activities are supported through a combination of:

- Local department-based training
- Informal and formal training schedules (daily, weekly, monthly, and annual maintenance training)
- Recently established centralized training oversight

In January 2026, CBRFES established a new Training Division to support the coordination, delivery, and standardization of training across departments. This represents a significant step toward improving consistency in training practices and developing a more structured, system-wide approach.

9.2. Training Certification and Qualification Levels

The engagement indicated that career firefighters within CBRM are trained to a defined minimum standard, with all career personnel certified to at least NFPA Firefighter Level II. In addition, career officers and firefighters have achieved a range of advanced certifications, including:

- Pro-Board Officer Levels I through IV
- Instructor certifications
- Safety Officer qualifications

This reflects a strong level of capability within the career component of the system.

For volunteer and composite departments, training expectations are guided by formal policy and standard operating guidelines. The *Volunteer Fire Service Establishment & Qualifications Policy* (amended March 6, 2018) establishes minimum performance and certification requirements for firefighters, officers, and specialized roles, including:

- Firefighter Level I certification within one year of appointment

- Incident Command System (ICS) training requirements
- Progressive qualification requirements for officers and chief officers

This policy establishes a baseline framework for training and certification and reflects an intent to align with recognized industry standards. However, as identified through the engagement, the consistent application, validation, and enforcement of these requirements varies across departments.

9.3. Variability in Training Delivery and Implementation

While training frameworks and minimum standards are in place, the engagement indicated that their implementation varies significantly across the municipality.

Departments outside of the direct AHJ of CBRM highlighted considerable variability in training practices. Many departments are not following a consistent training standard or schedule, and training is often based on in-house expertise that may or may not align with recognized standards or current best practices.

This decentralized approach to training limits opportunities for interdepartmental coordination and reduces the ability to standardize firefighter training and incident response. As a result, operational practices may differ across departments, affecting interoperability, response consistency, and overall system performance.

The engagement also identified that departments would benefit from greater support in scheduling and delivering training aligned with established standards. A more coordinated approach would not only improve consistency in training delivery but also reduce the administrative and liability burden currently carried by individual department leadership.

A consistent theme identified during the engagement was the limited availability of recruit training. Many new members expressed a willingness to participate in formal training programs but identified access to courses as a significant barrier. This limitation affects the ability of departments to develop and maintain a consistent level of operational capability across the system.



9.4. Training Records, Documentation, and Standardization

Training records within the system are supported through the records management software used by CBRM, which includes a standardized training report form intended to capture key information such as:

- Training topics and associated NFPA standards
- Participants and attendance
- General training activity details

While this provides a baseline level of documentation, there is an opportunity to improve the consistency and depth of training records.

Similarly, there is an opportunity to strengthen the structure and consistency of training delivery and documentation by using standardized lesson plans. Best practice in fire service training includes the development of comprehensive lesson plans for each training session, including:

- Defined learning objectives
- Job Performance Requirements (JPRs)
- NFPA-aligned skills and competencies
- Instructor assignments and safety considerations
- Evaluation criteria to confirm whether participants have met the required standards

In many departments, training documentation is limited to general records of participation rather than detailed lesson plans that clearly define training outcomes and performance expectations. This limits the ability to verify competency, track skill development, and ensure consistency in training delivery across the system.

The newly established Training Division presents an opportunity to develop a centralized library of standardized lesson plans that can be utilized across all departments. This would support consistency in training delivery, reduce the administrative burden on individual departments, and promote alignment with recognized standards.

9.5. Specialty Services and Technical Rescue Capability

The engagement identified specific concerns related to training and operational capability in the area of specialty services, including:

- Water and ice rescue
- High-angle rescue
- Vehicle extrication

An operational policy identifies the departments within CBRM that provide these services; however, the policy does not clearly define the training requirements necessary to safely deliver them. In the context of technical rescue operations, where tasks are highly specialized and risk-sensitive, clearly defined and consistently applied training standards are critical.

As noted during the engagement, some departments identified as providing specialty rescue services may not be trained to a consistent or established standard. This creates a disconnect between identified service capability and actual operational readiness, which may introduce risk at both the responder and system level.

Technical rescue operations require specialized knowledge, skills, and equipment that differ significantly from general firefighting functions. Without standardized training requirements, certification expectations, and verification of competency, there is an increased risk of:

- Inconsistent operational capability
- Reduced interoperability between departments
- Elevated safety and liability concerns

The engagement also identified challenges related to coordination and interoperability. Specialty response often requires assistance from other departments that provide the same service, rather than simply relying on adjacent stations. In this context, consistent training standards and joint training exercises are essential to ensure that personnel from different departments can operate effectively together during complex or large-scale incidents.

In addition, opportunities exist to improve the documentation and oversight of specialty services, including equipment checks, training records, and operational readiness. A more coordinated approach to training and validation would support continuity of operations and improve confidence in the system's ability to deliver these services safely and effectively.

Overall, the findings indicate that while specialty services are being provided across the municipality, there is a need for greater standardization, coordination, and oversight to ensure that these services are delivered consistently and in alignment with recognized best practices.

9.6. Key Findings – Training and Operational Capability

The review of training systems, certification frameworks, and operational practices identified the following key findings:

- Training within CBRM is generally aligned with NFPA standards; however, certification requirements are not consistently applied across all departments.
- Formal policy frameworks establish minimum training and qualification expectations; however, these function as baseline requirements and are not consistently implemented or aligned with defined service expectations across the system.
- Training delivery varies across departments, with differences in access to training, scheduling, and alignment with recognized standards, resulting in inconsistent levels of operational capability across the system.
- Limited availability of recruit training presents a barrier to developing and maintaining operational capacity.
- Training documentation and lesson planning are not consistently standardized, limiting the ability to verify competency, track skill development, and ensure consistent training delivery across the system.

- Specialty rescue services are not consistently supported by defined training standards, creating potential gaps in operational capability, interoperability, and safety.

9.7. Implications for Service Delivery

The findings of this chapter reinforce that training and operational capability are critical factors influencing the LOS delivered across the municipality.

TRAINING AND OPERATIONAL CAPABILITY ALIGNMENT

How training systems influence consistent fire service delivery



While frameworks, policies, and standards exist, they are not consistently implemented or aligned with defined service expectations. As a result, operational capability varies between departments, contributing to differences in service delivery, interoperability, and response effectiveness.

The establishment of a centralized Training Division provides a strong foundation for improving consistency, coordination, and oversight. However, further work is required to ensure that training standards are clearly defined, consistently applied, and aligned with the risk and demand conditions identified in the Community Risk Assessment.

A more coordinated and standardized approach to training will be essential to supporting a differentiated, risk-based LOS framework and ensuring that personnel across the system are equipped to safely and effectively deliver the services required by the community, including meeting SOC-defined performance expectations related to response time, staffing, and effective response force.

10. Financial Sustainability and Capital Planning

The financial review assessed the current funding, budgeting, and financial management framework supporting fire service delivery within CBRM. The review considered the 2025 approved operating budget, fire service property tax information, available capital planning information, and supporting documentation provided by municipal finance staff and fire service leadership.

The purpose of this review was to understand how fire services are currently funded, how expenditures are organized and monitored, and whether the existing financial framework is positioned to support long-term sustainability, capital renewal, and a potential transition to a unified regional fire service model.

10.1. Methodology

The financial review was completed through an examination of the 2025 approved fire service operating budget, supporting budget reports, fire service property tax information, and available documentation related to capital planning and asset replacement. Information was provided by CBRM finance staff and fire service leadership, with follow-up clarification obtained through discussions with fire service representatives.

The review focused on understanding the current fire service budget structure, revenue and taxation framework, operating expenditure profile, capital planning practices, reserve funding, and financial accountability mechanisms. The analysis was intended to identify financial conditions that may affect the sustainability of the current service model and the municipality's ability to support future fire service modernization.

10.2. Observations

The following are detailed observations regarding CBRM's fire revenue and expenditure budgets and the regional fire property tax information. The intent is to identify what CBRM is budgeting for and to provide comments on the content of the budget amount. The 2025 approved budget was used in this analysis, and the comments will also be based on it.

10.2.1. General Comments on Budget

CBRM's fire service operating budget is detailed, well organized, and supported by accessible financial information. Fire service leadership demonstrated a strong working knowledge of the annual budget, including the structure of cost centres, major expenditure categories, and supporting budget information.

Overall, the fire budget provides a clear basis for monitoring annual operating expenditures. However, as discussed later in this chapter, the operating budget does not fully capture long-term capital requirements, reserve needs, or the broader financial implications associated with apparatus replacement, facility renewal, and transition to a unified regional fire service model.

CBRM's fire department budgets \$0 in revenue and total expenses of \$14,256,649. The fire services are funded by property taxes, and the tax revenues are budgeted in the property tax cost centre, not in the fire cost centres.

CBRM's expense budget is \$187.9M million. At present, the fire department's direct expense budget accounts for approximately 7.6% of this total. This percentage is notably lower than the typical municipal range, which usually falls between 9% and 12%.

CBRM oversees the annual property tax collections from its eight member communities to fund regional fire services. Each community maintains distinct individual property tax rates; however, these rates have not changed since their inception in 1995. Consequently, revenue growth for the fire service is exclusively dependent on annual increases in property assessments.

Regional fire services are funded through four distinct tax rates applied to residential and commercial properties within each of the eight member communities for both fire protection and hydrants. In 2025, these property taxes generated \$6.5M from hydrants and \$13.2M from fire services, resulting in a total fire tax revenue of \$19.7M. This total exceeded the direct fire department budget by \$5.5M. These surplus funds are allocated to corporate administrative functions, including finance, human resources, administration, and taxation, as well as other supporting departments like public works that facilitate fire service operations.

CBRM does not include capital expenditures within its operational budget. No capital vehicle acquisitions are planned for the 2025 or 2026 fiscal years. While fire service leadership has formally proposed the vehicle replacement requirements to the Council, these requests have not received funding approval. Consequently, a significant backlog exists of vehicles that have exceeded their operational lifespan and require replacement. Currently, there is no approved capital plan to address these critical vehicle needs.

At present, no fire-specific reserves have been established, and there are no documented plans for regular contributions to support future capital requirements. Consequently, CBRM would be required to rely on incurring debt or reallocating funds from other existing reserves to finance future capital acquisitions.

10.2.2. Budget Structure Observations

The fire department budgets within 14 fire cost centres. These cost centres track the transactions of various operations. The cost centres cover Career and Composite fire halls, administrative support budgets, volunteer fire halls, and vehicle repairs. The breakdown of the cost centres are :

- Career and Composite fire halls
 - Sydney
 - North Sydney
 - Glace Bay
 - New Waterford
- Administrative support cost centres
 - Fire administration
 - Fire training
 - Fire prevention
 - Hazmat
 - EMO

- Mechanical
- Volunteer Fire Halls
 - Volunteer departments
 - Sydney Mines (no staff)
 - Dominion (no staff)
 - Louisbourg (no staff)

The fire department's budget represents 7.6% of CBRM's overall budget of \$187.9M.

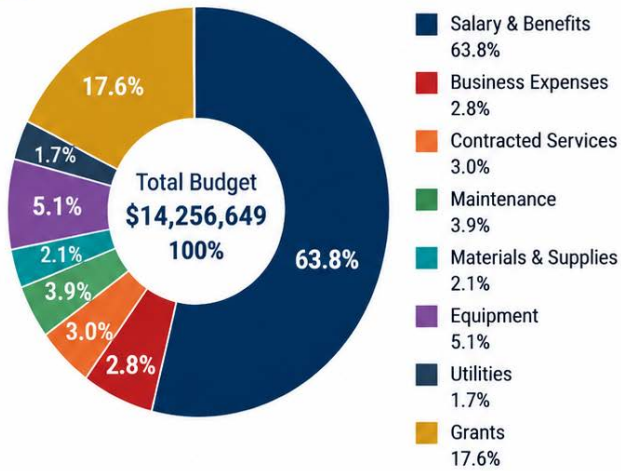
This percentage is lower than the typical municipal range, which usually falls between 9% and 12%. It is important to highlight that debt, capital, and reserve allocations for fire services are currently budgeted elsewhere or entirely unbudgeted. Including these components would result in a higher percentage of the total municipal budget being allocated to fire services.

The 2025 fire service operating budget is summarized in Figure 10-1. Salary and benefits represent the largest share of the budget at 63.8 percent, reflecting the staffing costs associated with career, composite, administrative, training, prevention, emergency management, and mechanical support functions. Grants to volunteer departments represent the second-largest category at 17.6 percent. The remaining budget is distributed across equipment, maintenance, contracted services, business expenses, materials and supplies, and utilities.



2025 SUMMARY BUDGET

Total Budget (Expenses)



CATEGORY	% OF BUDGET	AMOUNT (\$)
Salary & Benefits	63.8%	9,096,664
Business Expenses	2.8%	401,073
Contracted Services	3.0%	434,797
Maintenance	3.9%	554,853
Materials & Supplies	2.1%	293,290
Equipment	5.1%	733,910
Utilities	1.7%	238,773
Grants	17.6%	2,503,289
TOTAL EXPENSES	100%	14,256,649
NET		14,256,649

Figure 10-1 2025 CBRM Fire Services Budget Summary

This distribution provides a useful overview of current operating expenditures; however, it should be interpreted in the context of the broader financial findings discussed in this chapter. The annual operating budget does not include the full extent of future capital requirements, including major apparatus replacement, facility renewal, reserve contributions, and other lifecycle asset management needs.

The detailed 2025 operating budget is also organized across multiple fire service cost centres and functional areas, including career and composite stations, volunteer departments, fire administration, training, prevention, emergency management, hazmat, and mechanical services. Figure 10-2 summarizes the total operating budget by cost centre/function and illustrates the relative scale of each area within the overall fire service budget.

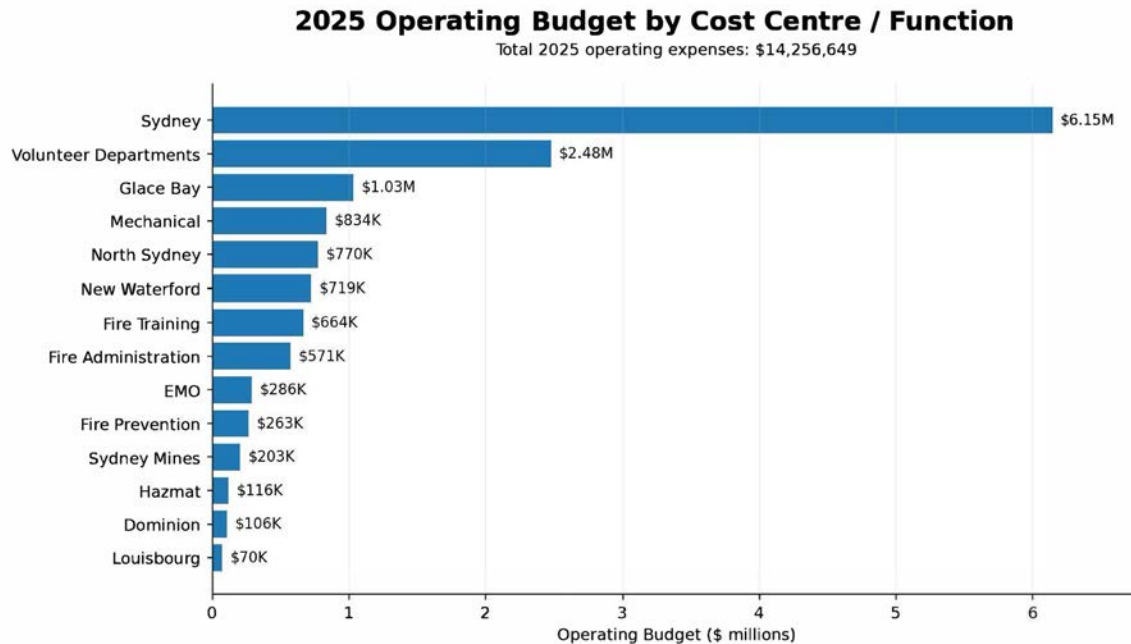


Figure 10-2 CBRM Fire Services Operating Budget by Cost Centre/Function

The distribution demonstrates that the largest share of operating expenditure is concentrated in the Sydney cost centre, followed by Volunteer Departments, Glace Bay, Mechanical Services, North Sydney, and New Waterford. This reflects the combined cost of career staffing, volunteer department support, station operations, fleet maintenance, and centralized support functions required to sustain the current service model.

The full 2025 operating budget by cost centre and expenditure category is provided in Appendix A.

10.2.3. Revenue

CBRM does not budget for any fire revenues other than property taxes which are budgeted for and accounted for in the finance cost centre.

10.2.4. Expenses

CBRM budgets \$14,256,649 in operational expenses across 14 cost centres within eight summarized budget line items. Salary and benefits represent the largest expenditure category at \$9,096,664, or 63.8 percent of total operating expenses. Grants represent the second-largest category at \$2,503,289, or 17.6 percent of total operating expenses. The remaining expenditures are distributed across equipment, maintenance, contracted services, business expenses, materials and supplies, and utilities. This distribution is generally consistent with fire service budgeting, where staffing costs are typically the largest operating expense.

10.2.5. Salary and Benefits

CBRM budgets \$9,096,664 in salary and benefits. This amounts to 63.8% of all expenses.

- Salary & wages - \$7,251,998. The majority of this budget is contained within the 4 fire halls that have full-time staff.

- Sydney - \$4,592,099
- North Sydney, Glace Bay and New Waterford all have salary budgets of \$477,485 each.
- Full-time salaries are budgeted in support cost centres for fire leadership and mechanical staff.
 - EMO - \$192,112
 - Fire Administration - \$230,196
 - Fire Training - \$299,095
 - Fire Prevention - \$180,650
 - Mechanical - \$195,389
- Benefits - \$1,799,040. These are the employee benefits for the staff listed above that include EI, CPP, WCB and extended benefits.
- Misc. Benefits - \$45,626. This is the WCB costs for former town volunteers.

10.2.6. Business Expenses

The business expenses have an annual budget of \$401,073, which accounts for 2.8% of all expenses. Budgeted costs in this section include:

- Training & Education - \$237,200. The majority of this budget is within the fire training cost center. This budget funds all firefighter training, certificates and guest speakers.
- Travel & Conferences - \$60,000. This budget is larger than previous years. More concentration on certifications and training.
- Memberships & Dues - \$10,800. This budget funds all federal and provincial memberships and annual dues.
- Advertising - \$1,500. This is for advertising for fire bans and fire prevention programs.
- Telecommunications- \$29,655. The funds mobile and land line phones and internet services. The budget is spread across the 4 fire stations.
- Telephone & fax-\$41,348. The budget funds all land lines and cell phones.
- Publications & Subscriptions - \$600. This is an allowance budget for the annual fees of publications.
- Promotion - \$27,300. This funds the fire prevention program and supplies for children.
- Licenses & Permits - \$18,825. This funds the annual radio licence fees

10.2.7. Contracted Services

The contracted services budget is \$434,797, which is 3.0% of total expenses. Budgeted costs in this section include:

- Professional Services - \$12,500. This is an allowance budget for comfort centres during disasters.
- Contracts & Agreements - \$124,250. This budget covers the Bell Mobility Radio Trunked Mobile Radio (TMR) fees, pest control, elevator maintenance, waste bins, and forklift repair.
- Leases - \$298,047. This budget funds building leases, training facility lease, photocopiers and leased maintenance bays at Cape Breton University.

10.2.8. Maintenance

The maintenance budget is \$554,853, which is 3.9% of total expenses.

- Building Maintenance is broken into 3 separate account codes (Building/facility maintenance, Building/facility repair, and building renovations). The total budget for building maintenance is \$104,853. They are planning on combining this budget into one account. These funds are used to maintain all facilities.
- Vehicle / Equipment maintenance - \$450,000. CBRM fire department leases mechanical bays at the university and this budget funds all vehicle maintenance, including contracted vehicle repairs.

10.2.9. Supplies & Materials

The utility budget is \$293,290, which is 2.1% of total expenses. Budgeted costs in this section include:

- Office Supplies - \$11,500
- Computer Hardware - 11,500. Increased due to provincial record management systems.
- Computer Software - \$35,500. Fire Q and record management and paging systems
- Gasoline / Diesel - \$91,665. Fuel is purchased using public works fueling stations and some use of gas stations.
- Vehicle / Equipment general supplies - \$23,000. For tools and shop supplies.
- Operational Materials / Supplies - \$50,500. Consumable supplies
- Uniforms - \$69,625. As per collective agreement for station wear and dress uniforms.

10.2.10. Equipment

The equipment budget is \$733,910, which is 5.1% of total expenses. Budgeted costs in this section include:

- Office Equipment - \$9,500. Small office equipment and the cost of copies for photocopying is included here.
- Vehicle / Equipment replacement - \$50,500. Small vehicle replacements such as SUVs are funded from this account. Typically vehicle replacement is budgeted within a capital budget
- Operational Equipment - \$619,560. This is a significant budget that funds the replacement of existing equipment and the purchase of new equipment. All fire station and apparatus equipment are funded here including turnout gear, SCBA systems, hoses, nozzles, pumps, generators, extraction equipment, helmets, gloves, boots, axes, pry bars etc.
- Maintenance Equipment - \$50,000. Equipment used to maintain the fleet.
- Communication Equipment Lines - \$4,350. This budget funds repeaters (radios and alarms)

10.2.11. Utilities

CBRM budgets for utilities at all fire halls, including water supply at the volunteer halls. The total budget is \$238,773 which is 1.7% of total expenses.

- Heat - \$98,000
- Electrical - \$100,773

- Water - \$40,000

10.2.12. Grants

The budget for Grants totals \$2,503,289, representing 17.6% of overall expenditures. These funds are distributed to volunteer fire departments in two installments throughout the year. A critical observation is the lack of financial reporting requirements once these grants are issued; volunteer fire departments may utilize the funds for any purpose without coordination on equipment, supplies, or maintenance. Consequently, fire service leadership exercises no oversight or control over this substantial portion of the department's budget.

10.3. Strategic Alignment and Financial Implications

The financial review reinforces several of the broader system-level findings identified throughout this report. While the current fire service budget is detailed and well administered, the overall financial model reflects the same decentralized structure that affects governance, infrastructure, apparatus, training, and service delivery. As a result, CBRM does not yet have a fully integrated financial framework to support long-term fire service planning, lifecycle asset management, or transition to a unified regional fire service model.

A key issue is that current operating budgets do not provide a complete picture of long-term fire service financial exposure. Major capital requirements, including apparatus replacement, facility renewal, contamination-control upgrades, technology improvements, and future reserve contributions, are not fully reflected in the annual operating budget. This creates a risk that the apparent affordability of the current model may be understated, particularly as aging apparatus and facility needs become more immediate.

The absence of a dedicated fire capital reserve and approved long-term capital plan is a significant sustainability gap. As identified in the apparatus and infrastructure chapters, CBRM is facing substantial lifecycle renewal pressures. Without a formal reserve strategy, defined contribution policy, and multi-year capital plan, future investment decisions may become reactive, debt-dependent, or subject to deferral. This increases the risk of higher lifecycle costs, reduced operational reliability, and continued reinvestment in assets that may not align with the future service model.

The financial review also reinforces the need for improved transparency and accountability in relation to funding provided to independently operated departments. Volunteer fire departments play a critical role in service delivery and should continue to be supported. However, public funding should be accompanied by consistent budgeting, reporting, and accountability requirements. A standardized grant accountability framework would improve transparency, support better coordination of equipment and maintenance expenditures, and help ensure that municipal funding is aligned with adopted service expectations.

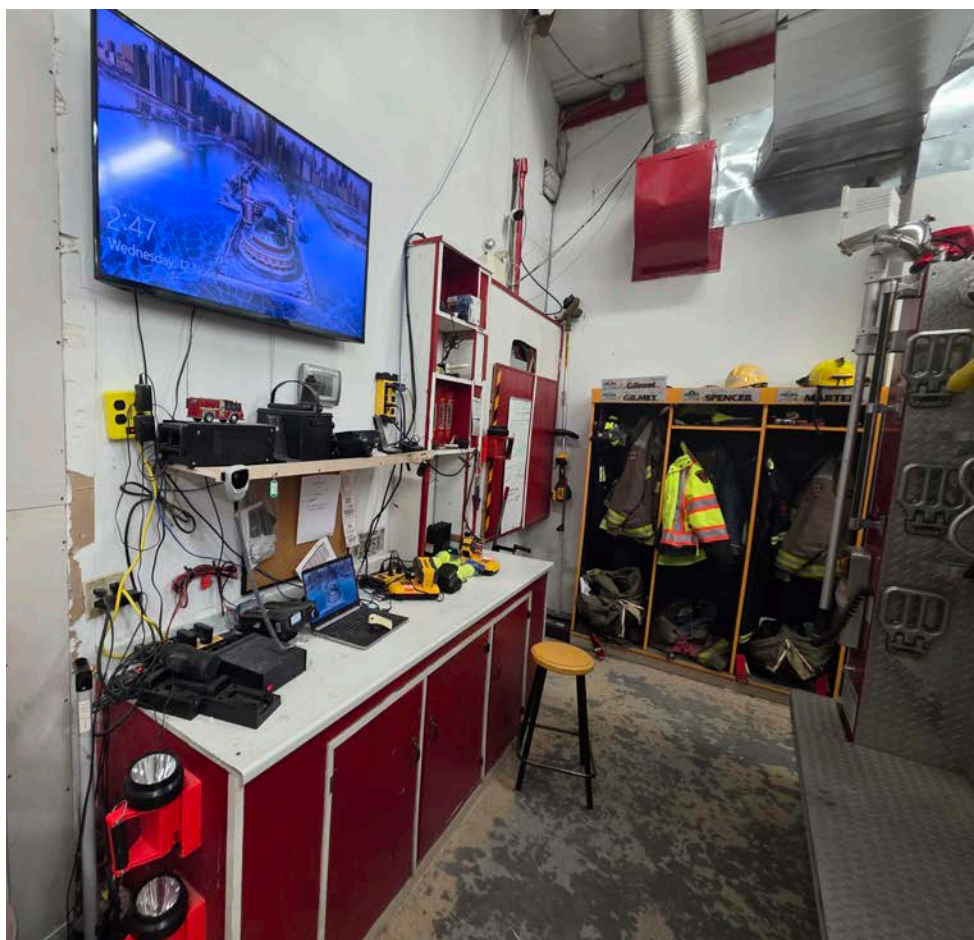
The legacy fire taxation model is another important consideration. Existing rates reflect historical arrangements rather than a current, risk-based, service-level-driven funding model. As CBRM moves toward a single AHJ, taxation and funding arrangements should be reviewed to determine whether they remain equitable, transparent, and aligned with the cost of delivering fire services

across the municipality. Any movement toward a standardized regional fire rate should be carefully planned, supported by financial modelling, and phased as required to manage impacts on taxpayers.

From a strategic perspective, the transition to a single AHJ should not be framed primarily as a short-term cost-reduction exercise. In the near term, implementation will likely require additional investment in management capacity, data systems, training coordination, fleet planning, infrastructure assessment, financial controls, and transition support. However, a unified model creates the conditions necessary to manage costs more effectively over time. These opportunities include coordinated capital planning, apparatus rationalization, station cluster review, standardized procurement, improved reserve planning, and more consistent financial oversight.

Accordingly, financial sustainability should be treated as a core component of implementation. The Fire Master Plan should include a detailed financial implementation strategy that aligns service levels, staffing, infrastructure, apparatus, reserves, taxation, and operating budgets. This strategy should identify immediate funding requirements, long-term capital needs, potential cost avoidance opportunities, and the financial implications of the phased transition to a unified fire service.

Overall, the financial findings support the broader conclusion of this review: CBRM requires a coordinated, transparent, and data-informed framework for managing fire services as a regional municipal system. Strengthening financial governance and capital planning will be essential to ensuring that future decisions are affordable, defensible, aligned with Council-approved service expectations, and sustainable over the long term.



11.Key Issues, Findings, and Future Service Direction

11.1. Overview

This chapter brings together the findings of the preceding analysis and establishes a clear direction for the future of fire service delivery within the CBRM. The review identified a series of interrelated structural, operational, and strategic challenges that collectively define the current state of the system. While each issue has been examined individually in prior chapters, the broader conclusion is that these conditions are not isolated deficiencies, but rather the result of a system that has evolved incrementally over time without a unified, long-term strategy.

These findings are further supported by stakeholder engagement conducted with career and volunteer firefighters, fire service leadership, and municipal representatives, which consistently identified similar concerns related to governance, consistency, training, and system coordination.

At present, fire service delivery within CBRM reflects a decentralized model in which individual departments operate with a high degree of autonomy. This structure has supported strong local engagement and community-based service delivery, particularly within the volunteer system. However, it has also resulted in variability in governance, service levels, training, and operational practices across the municipality. As the system has grown in scale and complexity, these variations have become increasingly difficult to manage within the existing framework.

A central theme emerging from both the technical analysis and stakeholder engagement is the need to transition toward a more integrated and coordinated model of service delivery. This direction reflects the realities of modern fire service delivery, where effective response depends not only on local capability, but on the ability to coordinate resources, standardize practices, and align service delivery with risk and demand across an entire region. A unified structure would establish clear lines of authority and accountability, enable consistent policy implementation, and support a more strategic approach to deployment, training, and resource management.

At the same time, the analysis confirms that the current system is not yet positioned to support immediate integration under a single AHJ. Limitations in governance, administrative capacity, data systems, and operational standardization pose significant barriers to rapid transformation. As a result, while the need for a unified model is clear, the pathway to achieving it must be carefully considered.

Accordingly, this chapter not only identifies the key issues affecting the current system but also establishes the strategic direction for future service delivery and frames the transition required to achieve it. The findings presented herein support a move toward a single, integrated fire service, implemented through a phased approach that allows the municipality to build the necessary systems, capacity, and organizational alignment over time.

11.2. Key System-Level Issues



The preceding chapters have identified a consistent set of challenges affecting fire service delivery across CBRM. While these issues vary in form, they are interconnected and largely stem from the same underlying condition: a decentralized system that has evolved over time without a unified structure, clearly defined service expectations, a formal SOC framework, or coordinated planning framework. These system-level issues are not only evident in the technical analysis, but were consistently reinforced through stakeholder engagement, where participants described similar challenges related to coordination, consistency, and the ability to operate effectively as a unified system.

This lack of uniformity is reflected across all aspects of the system, including governance, LOS, infrastructure, apparatus, training, and operational practices. As a result, service delivery is not consistent across the municipality, and the ability to manage performance, allocate resources strategically, and plan for the long term is limited.

Viewed collectively, these findings do not represent isolated gaps, but rather a system that is not currently structured to operate as a coordinated municipal service. The following sections summarize the key issues that define this condition and influence the effectiveness, efficiency, and sustainability of fire service delivery within CBRM.

11.2.1. Governance and Authority Fragmentation



A defining issue within the CBRM fire service is the absence of a single, clearly established AHJ. Rather than operating as a unified municipal service, fire protection is delivered through a collection of independently managed departments, each exercising varying levels of control over service delivery, staffing, procurement, and operations.

This structure limits the municipality's ability to establish, formally adopt, and consistently enforce policies, procedures, and operational standards across the system. It also constrains coordination between departments and reduces the effectiveness of resource deployment at a regional level. As a result, the authority and applicability of policies and operational guidelines are not clearly defined at a system level, contributing to variability in how procedures are implemented and enforced.

As service demands, operational complexity, and financial pressures continue to increase, the limitations of this model become more pronounced. The absence of a unified governance framework is therefore not only an administrative concern, but a fundamental constraint on system performance and long-term sustainability.

Stakeholder engagement further highlighted the operational impacts of this structure, including challenges related to communication, decision-making, and trust in the consistency of direction across the system. Addressing this issue is central to improving consistency, efficiency, and overall service delivery across the municipality.



Figure 11-1 Why a Single AHJ is Required

Strategic Direction

To address governance fragmentation and establish a coordinated fire service model, the following strategic direction is required:

- Establish a single AHJ through a Council-approved bylaw that defines governance, authority, and responsibility for LOS, training standards, and service delivery across the municipality
- Implement a phased integration model to transition departments under the AHJ in a structured and manageable manner
- Develop a comprehensive Fire Master Plan to guide long-term decision-making related to deployment, infrastructure, apparatus, and staffing

- Establish a formal policy framework and governance structure to support the development, approval, and enforcement of operational procedures and guidelines across all departments
- Strengthen organizational capacity and leadership structure to support system-wide planning, oversight, and implementation of a unified service model, including the phased organizational capacity model outlined in Section 10.3
- Establish a formal process for the regular review and updating of the Community Risk Assessment to ensure that LOS, deployment, and resource planning remain aligned with current and emerging risks



11.2.2. Absence of a Defined Level of Service

CBRM does not currently operate under a formally defined, municipality-wide LOS or supporting SOC framework. Instead, service expectations are established locally by individual departments, resulting in variability in response capability, staffing, and operational practices across the system.

In the absence of a clearly defined LOS, the municipality lacks a consistent basis to determine how quickly resources should respond, what level of capability should be delivered, and how performance should be measured or evaluated against defined response performance standards. This limits the ability to align resources with risk and demand, evaluate system effectiveness, or provide clear accountability to Council and the public.

Without a defined and consistently applied LOS, this objective cannot be achieved. Instead, service delivery is influenced by local capacity and resource availability, rather than a coordinated, risk-informed framework.

These findings align with feedback from frontline personnel and leadership, who identified variability in expectations and response capability as a key concern affecting both operational effectiveness and confidence in the system. Establishing a standardized LOS is therefore a critical step in supporting a more consistent, measurable, and integrated approach to fire service delivery across the municipality.

Strategic Direction

To establish consistency, accountability, and alignment between service delivery and community risk, the following strategic direction is required:

- Define and adopt a Council-approved LOS framework that establishes clear expectations for response performance, staffing, and service capability across the municipality
- Develop a differentiated LOS model that reflects the distinct risk profiles, demand patterns, and operational environments (urban, suburban, rural, and remote) within CBRM
- Establish measurable performance benchmarks and targets, aligned with recognized standards, to support system-wide accountability and continuous improvement
- Align deployment, staffing, training, and infrastructure planning with the defined LOS, ensuring that resources are allocated based on risk and demand rather than local capacity alone

- Implement ongoing performance measurement and reporting to monitor service delivery, identify gaps, and support evidence-based decision-making

11.2.3. Infrastructure and Asset Management Challenges



The current fire service infrastructure model reflects a decentralized system of ownership, management, and investment. The majority of fire stations are owned and maintained by individual departments or associations, with varying approaches to maintenance, capital planning, and long-term sustainability.

At a system level, there is no consistent framework to assess facility condition, prioritize investment, or align infrastructure with service delivery objectives. As a result, the municipality has limited ability to manage fire service infrastructure as a coordinated asset base.

A central challenge within this model is the need to balance community-based considerations with operational requirements. Fire stations and associated community halls play a significant role within their communities, serving not only as emergency response facilities, but also as gathering places and focal points for local identity. Volunteer firefighters and community members are often closely connected to these facilities, with a strong interest in their continued presence and viability.

At the same time, effective fire service delivery requires that infrastructure decisions be informed by risk, demand, and performance considerations, including travel time, incident distribution, and the ability to assemble an effective response. These factors are not currently integrated into a consistent, data-driven planning framework.

This creates an inherent tension between maintaining local presence and aligning infrastructure with operational requirements. While the existing network provides broad geographic coverage, it has not been developed through a coordinated strategy that balances these considerations at a system level. Engagement with firefighters and community stakeholders also emphasized the importance of balancing operational requirements with the role of fire stations as community assets, reinforcing the need for a structured and transparent approach to future infrastructure decisions.

Addressing this issue will require a more integrated approach to infrastructure planning, supported by improved data, standardized evaluation processes, and a framework that allows both community impact and operational performance to be considered in future decision-making.

Strategic Direction

To support a more coordinated, sustainable, and operationally effective infrastructure model, the following strategic direction is required:

- Develop a comprehensive, data-informed infrastructure strategy to guide long-term decisions related to station location, function, and investment across the municipality
- Undertake a formal evaluation of all fire service facilities to assess condition, operational suitability, and alignment with service delivery requirements
- Establish a centralized asset management framework to support consistent standards for maintenance, lifecycle planning, and capital investment

- Align infrastructure planning with LOS, risk, and demand, including consideration of travel time, station clustering, and response capability
- Incorporate community impact and volunteer sustainability into infrastructure decisions, recognizing the role of fire stations and community halls as critical local assets

11.2.4. Apparatus and Fleet Pressures



The current apparatus and fleet model reflects a decentralized approach to procurement, ownership, and deployment. Apparatus acquisition decisions have largely occurred at the local department level, resulting in a diverse fleet with varying specifications, capabilities, and replacement timelines.

At a system level, there is limited visibility into how apparatus are utilized across the municipality. While the fleet provides broad operational capability, the absence of comprehensive, standardized data limits the ability to assess deployment effectiveness, confirm alignment with incident demand, or support coordinated fleet planning.

This creates a challenge in balancing local investment and decision-making with the need for a more coordinated, system-wide approach to fleet management. Departments have historically acquired and maintained apparatus to meet local needs and expectations, often through a combination of municipal funding and community-driven efforts. As a result, apparatus are closely tied to local identity and operational independence.

At the same time, a modern fire service model requires that fleet composition, distribution, and replacement planning be aligned with risk, demand, and staffing capacity across the entire system. Without consistent data and a unified planning framework, it is not currently possible to determine whether apparatus are optimally deployed or to strategically plan for future capital investment, including alignment of apparatus deployment with SOC-defined response performance and staffing requirements.

This creates an inherent tension between maintaining local control over apparatus and advancing toward a coordinated, regionally aligned fleet strategy. Addressing this issue will require improved data collection and analysis, greater standardization, and a structured approach to lifecycle planning and capital investment.

The current decentralized governance structure also limits the municipality's ability to manage apparatus as a coordinated regional fleet. Under a single AHJ, apparatus deployment could be optimized across station boundaries, reducing duplication in clustered areas and aligning resources with actual service demand. Over time, this approach presents a significant opportunity to reduce overall fleet size and redirect capital and operating savings toward the planned replacement of aging frontline apparatus.

Strategic Direction

To address current limitations in fleet visibility, coordination, and long-term planning, the following strategic direction is required:

- Establish a centralized fleet management framework to support coordinated planning, procurement, and lifecycle management across the municipality
- Develop a data-informed approach to apparatus deployment, aligned with incident demand, staffing capacity, and defined LOS expectations
- Standardize apparatus types and specifications over time to improve interoperability, training consistency, and maintenance efficiency
- Implement a formal lifecycle and capital replacement strategy to support long-term financial planning and sustainability
- Transition from locally driven acquisition to system-level planning, while recognizing and managing the role of existing community investment in apparatus

11.2.5. Financial Sustainability and Capital Planning Gaps



The financial review identifies financial sustainability as a system-level issue affecting the future fire service model. While CBRM's fire operating budget is detailed and well administered, the broader financial framework does not yet provide a complete basis for long-term capital planning, lifecycle renewal, reserve funding, or transition to a unified regional fire service.

Key gaps include the absence of an approved long-term fire service capital plan, no dedicated fire capital reserve, reliance on historical fire taxation arrangements, and limited standardized accountability requirements for funding provided to independently operated departments. These gaps affect the municipality's ability to plan for apparatus replacement, facility renewal, equipment modernization, technology needs, and the financial requirements associated with implementation of a single AHJ.

Addressing these issues will be essential to ensuring that future fire service decisions are affordable, transparent, and aligned with Council-approved service expectations. Financial planning should therefore be integrated directly with the Fire Master Plan, LOS and SOC framework, infrastructure strategy, fleet strategy, and phased implementation roadmap.

Strategic Direction

To strengthen financial sustainability and align funding with the future fire service model, the following strategic direction is required:

- Develop a long-term fire service capital plan that integrates apparatus, facilities, equipment, technology, and lifecycle renewal requirements.
- Establish a dedicated fire capital reserve and formal contribution policy to support planned capital renewal.
- Review the fire service taxation model to assess equity, transparency, and alignment with future service requirements under a single AHJ.
- Implement standardized budgeting, reporting, and accountability requirements for municipal funding provided to independently operated departments.
- Align major financial decisions with the Fire Master Plan, LOS, SOC, infrastructure strategy, regional fleet strategy, and implementation roadmap.

- Identify cost avoidance and reinvestment opportunities through apparatus rationalization, station cluster review, procurement standardization, and coordinated asset management.

11.2.6. Staffing and Operational Capacity Variability



The CBRM fire service benefits from a large and dedicated volunteer workforce, supported by career and composite staffing. This model reflects the geographic scale of the municipality and the strong community-based foundation of the fire service. Volunteer firefighters play a critical role in sustaining local response capability and are a central strength of the current system.

At the same time, staffing capacity is not solely defined by the number of personnel within the system, but by the ability to consistently assemble an effective response. Availability and turnout can vary by time of day, location, and individual circumstances, which affects the reliability of system-level response.

This creates a challenge in balancing a community-based volunteer model with the need for predictable and consistent response performance. While the current system provides broad coverage, it does not consistently operate within a structured framework that ensures the timely assembly of sufficient personnel to meet defined response expectations.

In the absence of a coordinated deployment model and clearly defined staffing benchmarks, the system relies heavily on local capacity and informal coordination between departments. This can limit the ability to consistently achieve an ERF and introduces variability in service delivery across the municipality.

In addition to front-line staffing considerations, the long-term sustainability of the fire service is also dependent on leadership capacity and continuity. The current system does not include a formalized, system-wide approach to succession planning, creating potential risks related to leadership transition, institutional knowledge retention, and organizational resilience. As the municipality advances toward a more integrated service model, the ability to identify, develop, and support future leaders will become increasingly important to ensuring effective governance, operational oversight, and continuity of service delivery.

Stakeholder feedback consistently reinforced these challenges, particularly with respect to variability in availability, the sustainability of volunteer staffing, and the ability to consistently assemble an effective response. Addressing this issue will require a more structured approach to staffing and deployment, supported by clearly defined expectations, improved coordination between stations, and alignment with a broader LOS framework.

Strategic Direction

To improve the consistency, reliability, and effectiveness of emergency response across the municipality, the following strategic direction is required:

- Establish clear staffing benchmarks aligned with the defined LOS, including target response capacity and ERF expectations

- Develop a coordinated, system-wide deployment model that supports multi-station response and reduces reliance on informal or ad hoc arrangements
- Enhance integration between career, composite, and volunteer resources to support consistent response capability across all operational environments
- Support volunteer recruitment, retention, and participation as a critical component of system capacity, particularly in rural and lower-demand areas
- Align staffing models with demand, risk, and station roles, ensuring that personnel resources are distributed and utilized to support consistent service delivery
- Establish a structured succession planning and leadership development framework to support continuity, organizational resilience, and the transition to a coordinated, system-wide fire service model

11.2.7. Training and Standardization Gaps



The ability to advance toward a more coordinated and integrated fire service is fundamentally dependent on consistent training and operational capability across the system. While training frameworks and standards are generally aligned with recognized best practices, their implementation varies across departments.

In the absence of consistent training standards, certification requirements, and validation of competency, differences in operational practices can emerge between departments. This affects interoperability, coordination, and the ability to safely and effectively operate within a multi-station response environment.

As identified in previous sections, improvements in governance, LOS, deployment, and coordination require a foundation of standardized training. Without this, the system cannot reliably support coordinated response, shared responsibilities, or consistent service delivery across the municipality.

In a coordinated fire service model, standardized training must be supported by a clearly defined operational framework. This is typically achieved through formally adopted Standard Operating Guidelines (SOGs), which establish consistent procedures, define response expectations, and support alignment between training and operational practice.

Within the current system, the absence of a formally adopted and consistently implemented SOG framework limits the municipality's ability to standardize operations, align training with defined service expectations, and ensure consistent application of procedures across departments. These gaps were widely identified during engagement, with participants noting inconsistencies in training access, delivery, and expectations across departments.

Strategic Direction

To support consistent operational capability and enable a coordinated, system-wide response model, the following strategic direction is required:

- Develop, formally adopt, and implement standardized Standard Operating Guidelines (SOGs) across all departments, aligned with defined LOS expectations and supported by training, competency validation, and ongoing review
- Establish and enforce standardized training and certification requirements aligned with defined LOS expectations for all personnel across the municipality
- Strengthen centralized training coordination and oversight to ensure consistent delivery, scheduling, and access to training across all departments
- Implement standardized training documentation and competency validation processes to support verification of skills, performance, and operational readiness
- Define and standardize training requirements for specialty services, ensuring that identified capabilities are supported by consistent certification, equipment, and operational readiness
- Improve access to recruit training and ongoing professional development to support workforce sustainability and maintain system-wide operational capacity

11.2.8. Data, Records, and System Visibility



The ability to manage, evaluate, and improve fire service delivery across CBRM is limited by the availability and consistency of data within the current system. While information exists at the local level, there is no standardized, system-wide approach to data collection, records management, or performance measurement.

This lack of consistency reduces overall system visibility and limits the municipality's ability to assess performance, align resources with demand, or support data-informed decision-making. It also constrains long-term planning related to infrastructure, apparatus, staffing, and service delivery. These limitations are particularly evident in the area of response performance measurement, where the absence of consistent data related to call processing, turnout, travel, and total response time restricts the ability to evaluate LOS or assess performance against defined SOC-based response benchmarks.

Advancing toward a more integrated and coordinated fire service requires a foundation of reliable, system-wide data. Without consistent records and performance measurement, it is not possible to confirm alignment with risk and demand or support effective evaluation and continuous improvement.

Addressing this issue will require the development of standardized data systems, consistent reporting practices, and the integration of analytics into service planning and decision-making.

Strategic Direction

To enable effective system management, performance measurement, and data-informed decision-making, the following strategic direction is required:

- Implement a standardized, system-wide records management system (RMS) to support consistent data collection, reporting, and analysis across all departments
- Establish a performance measurement framework aligned with the defined LOS, including consistent tracking of call processing, turnout, travel, and total response times, as well as staffing and operational outcomes

- Develop data analytics capability to support risk assessment, deployment planning, and resource allocation at a municipal level
- Standardize data governance, reporting practices, and data quality requirements to ensure accuracy, consistency, and usability of information across the system
- Integrate data systems into ongoing planning and decision-making processes, enabling continuous improvement and evidence-based management

11.3. Recommended Future Service Model and Transition Approach

The findings of this review clearly indicate that a transition toward a unified fire service under a single AHJ is necessary to address the structural, operational, financial, and governance challenges identified throughout this report. Based on this analysis, several service delivery models were considered to determine the most appropriate path forward for CBRM.

11.3.1. Consideration of Service Delivery Models

Several service delivery approaches were considered in the context of the issues identified in this review.

Maintaining the current model with incremental improvements would not address the underlying governance, coordination, standardization, and financial sustainability challenges. While minor gains could be achieved, the core structural limitations would remain, including fragmented authority, inconsistent financial accountability, limited capital planning, and continued difficulty aligning investment with system-wide service priorities.

An enhanced coordination model, based on stronger interdepartmental agreements, could improve interoperability in certain areas. However, without a single AHJ, this approach would not resolve issues related to accountability, consistency, or system-wide planning.

Full and immediate amalgamation under a single authority would address governance challenges; however, given the current state of the system, this approach presents significant risks. These include organizational disruption, limited administrative capacity to manage the transition, and the potential for negative impacts on volunteer participation and community support.

A phased approach to regionalization provides the most practical and sustainable pathway forward. This model allows for the gradual integration of governance, policies, and operations, while building the systems, capacity, and alignment required to support a fully unified fire service.

The establishment of an AHJ does not require immediate operational consolidation. A phased approach can be adopted in which governance authority is established first, while existing departments continue to operate under current structures during a multi-year transition period. This approach enables the municipality to establish accountability, policy direction, and system-wide standards early in the process, while allowing time for operational alignment, resource integration, and organizational change to occur in a structured and manageable manner.

11.3.2. Recommended Future State

The recommended future state for fire service delivery within CBRM is a unified, regionally integrated fire service operating under a single AHJ.

This model would establish centralized leadership under one Fire Chief, and:

- Centralized governance and accountability
- A clearly defined and differentiated LOS
- A formal Standards of Cover framework
- Coordinated deployment and response across all stations
- Resource-based dispatch and deployment aligned with incident type, risk, geography, staffing, apparatus capability, and specialty service requirements
- Standardized training, policies, and operational practices
- A data-informed approach to planning, performance measurement, and continuous improvement
- Coordinated financial planning, capital prioritization, reserve planning, and funding accountability aligned with the future service model

Under this model, fire services would be managed as a single, integrated system rather than a collection of independent departments. This would enable more effective alignment of resources with risk and demand, improved operational coordination, and greater consistency in service delivery across the municipality.

A key feature of the future model should be the transition from response practices based primarily on legacy station boundaries toward resource-based dispatch and deployment. Under a resource-based model, the appropriate resources are dispatched based on the nature of the incident, the required response capability, the closest and most appropriate available apparatus, specialty service needs, and the effective response force required to safely manage the event. This approach would support more efficient use of personnel and apparatus, improve coordination between stations, and provide a stronger foundation for evaluating future station configuration, apparatus deployment, and staffing requirements.

The implementation of resource-based dispatch and deployment is closely tied to governance reform. In the absence of a single AHJ, this model would require formal automatic aid or mutual aid agreements that authorize cross-boundary deployment and establish clear operational expectations between departments. Under a single AHJ, these response models could be established and managed directly through municipal policy, dispatch protocols, and the Standards of Cover framework.

At the same time, this future state must recognize and incorporate the strengths of the current system, particularly the commitment of volunteer firefighters and the strong connection between fire departments and their communities. Importantly, this direction is broadly aligned with the concerns and priorities identified through stakeholder engagement, providing a foundation for advancing change with a clear understanding of current challenges and system needs. Maintaining this engagement will be critical to the long-term success of any transition.

Delivering this future state will require more than a change in governance authority. It will require a corresponding organizational structure with sufficient capacity to manage the expanded responsibilities associated with a unified regional fire service. The following section outlines a phased organizational capacity model to support implementation.

11.3.3. Organizational Capacity Required to Support the Future Model

Establishing a single AHJ is a necessary governance step; however, governance authority alone will not create an integrated or sustainable fire service. To be effective, the AHJ must be supported by an organizational structure with sufficient capacity to manage operations, training, logistics, fleet, facilities, records, performance measurement, fire prevention, emergency management, volunteer support, and community risk reduction across the full municipality.

The current fire service management structure is not resourced to assume full responsibility for the administration, oversight, and coordination of up to 34 stations, a large volunteer workforce, a significant apparatus fleet, multiple facilities, and an expanded operating and capital budget. Under the current decentralized model, many administrative, operational, equipment, facility, and member-management functions are carried out at the local department level by volunteer chiefs and department leadership. If CBRM assumes AHJ authority across the system, many of these responsibilities will shift to the municipal fire service and will require dedicated administrative, operational, financial, logistics, and asset management capacity.

As a result, the transition to a unified AHJ should include a phased organizational capacity plan. This plan should distinguish between the critical short-term capacity required to initiate and manage the transition and the target operating structure required to sustain a mature, integrated regional fire service.

Phase 1 – Critical Transition Capacity

Phase 1 should focus on the immediate management and administrative capacity required to establish AHJ authority, develop common standards, support departments through the transition, and begin implementing the systems required for a unified service. The following structure represents the minimum functional capacity that should be considered during the first stage of implementation.

The roles identified below are intended to describe the functional capacity required during Phase 1 and should not be interpreted as final job titles, finalized ranks, or a reduction in existing leadership positions. The appropriate rank, classification, reporting relationship, and staffing model for each function should be confirmed through implementation planning, municipal HR review, collective agreement considerations, and budget approval. In many cases, these functions would likely require senior operational authority and may appropriately be assigned at the Deputy Chief level or equivalent. Current Deputy Chiefs could therefore be transitioned into appropriate Phase 1 functional roles as part of the implementation process, based on experience, capacity, operational requirements, and the final organizational design approved by CBRM.

Table 11-1 Description of Key Functions / Potential Senior Lead Roles in Phase 1 to Support Transition to Single AHJ

Phase 1 Critical Transition Function / Potential Senior Lead Role	Purpose During AHJ Transition	Why It Is Needed Immediately
Director of Fire Services / Fire Chief	Leads AHJ implementation and provides accountability to CAO and Council.	Establishes clear authority, direction, and ownership of the transition.
Operations and Deployment Function / Senior Lead	Develops interim deployment models, response districts, automatic aid/resource-based dispatch concepts, and incident command consistency.	Needed to move from local response practices toward coordinated regional operations.
Training and Professional Standards Function / Senior Lead	Establishes minimum training requirements, priority SOGs, competency validation, recruit training access, and training records standards.	Needed to create operational consistency before full integration.
Administration and Implementation Function / Senior Lead	Coordinates policy development, implementation planning, reporting, interdepartmental coordination, and transition workplans.	Needed because AHJ transition is a major organizational change project.
Logistics and Fleet Transition Function / Coordinator	Builds the apparatus, PPE, equipment, testing, maintenance, inventory, and procurement baseline.	Needed to understand what assets exist, where duplication exists, and what must be standardized.
RMS and Performance Function / Coordinator	Supports RMS implementation, response data quality, LOS/SOC reporting, and performance measurement.	Needed because future deployment, staffing, and capital decisions depend on reliable data.
Volunteer and Station Liaison Function	Supports communication with station chiefs and members, volunteer engagement, onboarding, change management, and issue resolution.	Needed to protect volunteer sustainability and maintain trust during transition.

The distinction between Phase 1 and Phase 2 is important. Phase 1 is not intended to represent the final organizational structure of the fire service. It identifies the critical transition capacity required to establish AHJ authority, stabilize the change process, develop common standards, improve data, and support departments through implementation. Phase 2 represents the target operating structure required once CBRM is managing fire services as a unified regional system. In Phase 2, the same core functions continue, but they mature into formal divisions or branches with dedicated staff, defined responsibilities, performance reporting, and ongoing service delivery accountability.

Phase 2 – Target Operating Structure

As the fire service progresses toward full integration, CBRM should move toward a more complete target operating structure organized around defined functional branches. This structure would

allow the municipality to manage fire services as a single regional system while maintaining local station leadership and volunteer participation.

At a mature stage, the target structure should include the following functional branches under the Director of Fire Services / Fire Chief:

Table 11-2 Description of Key Branches/Functions in Phase 2 to Support Transition to Single AHJ

Phase 2 Target Branch	Mature-State Responsibilities	Examples of Positions / Capacity That May Be Required
Operations and Deployment Division	Manages regional response operations, resource-based dispatch, SOC implementation, district coordination, incident command support, operational readiness, and station performance.	Deputy Chief Operations; District/Regional Operations Chiefs; Duty Officers; Station Chiefs.
Training and Professional Standards Division	Manages recruit training, annual training programs, officer development, certification, competency validation, specialty service training, SOGs, and training records.	Deputy Chief or Training Chief; Training Officers; Specialty Training Leads; Station Training Officers.
Fire Prevention and Community Risk Reduction Division	Manages inspections, public education, pre-incident planning, fire investigation coordination, risk-based prevention programs, and community risk reduction.	Deputy Chief/Manager Prevention; Fire Prevention Officers; Public Education Officer; Fire Investigation Coordinator.
Emergency Management and Inter-Agency Coordination	Manages municipal emergency planning, all-hazards preparedness, exercises, continuity planning, provincial/federal coordination, and public safety partner integration.	Emergency Management Coordinator/Manager; Planning/Exercise Support; Liaison Roles.
Logistics, Fleet, and Facilities Division	Manages PPE, equipment, hose, tools, inventory, quartermaster functions, apparatus lifecycle, maintenance coordination, procurement standards, facility condition, contamination-control upgrades, and capital planning.	Logistics Manager; Quartermaster; Fleet Coordinator; Facilities Liaison; Equipment Technician support.
Administration, Data, Finance Support, and Performance	Manages RMS, records, response performance reporting, LOS/SOC dashboards, budget coordination, financial reporting support, grant accountability, data quality, policy tracking, analytics, and Council reporting.	Administrative Supervisor; RMS/Data Analyst; Performance Analyst; Finance/Budget Support.
Volunteer Coordination and Member Support	Manages recruitment, retention, onboarding, recognition, communications, station liaison, leadership development, and volunteer sustainability.	Volunteer Coordinator; Recruitment/Retention Officer; Member Support/Station Liaison.

The following conceptual organizational model illustrates the proposed future-state structure. It is intended to show the major functional branches required to operate a unified regional fire service, rather than prescribe final job titles/ranks, reporting details, or staffing levels. The final structure may combine or separate these functions depending on budget, collective agreement requirements, municipal department support, and implementation priorities. Some branches may be led by Deputy Chiefs or equivalent senior officers, while others may be managed through civilian, technical, administrative, or shared municipal positions. However, each function must be clearly assigned and resourced.



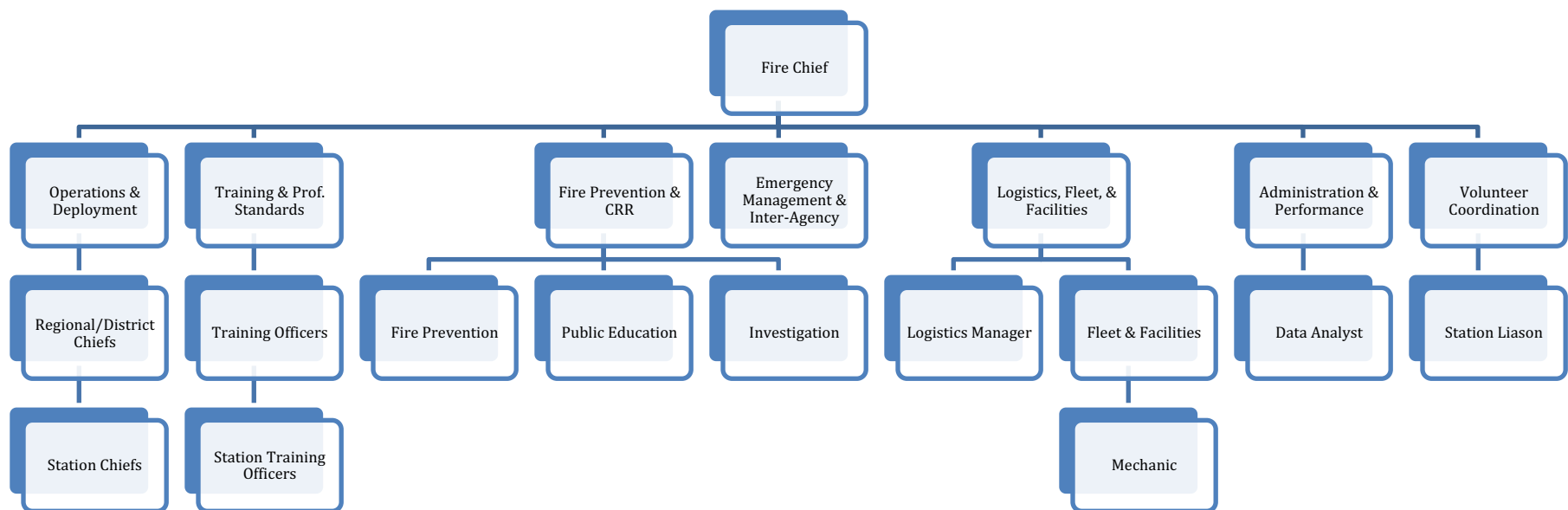


Figure 11-2 Conceptual Future-State Organizational Model

The exact number of positions required should be confirmed through the Fire Master Plan, collective agreement review, and municipal budget process. However, based on the size of the system, the number of stations, the scale of the volunteer workforce, the apparatus inventory, and the administrative responsibilities currently distributed across local departments, the existing management structure is materially under-resourced for full AHJ implementation. Council should therefore understand that assigning AHJ authority will require corresponding investment in management, administration, logistics, training, fleet, facilities, data, and volunteer-support capacity.

11.3.4. Path Forward

Achieving this future state will require a structured and deliberate implementation process. The transition to a unified fire service under a single AHJ is complex and must be approached in a phased and methodical manner to ensure success. Moving too quickly would introduce unnecessary risk to operations, organizational stability, and community support. Stakeholder engagement also highlighted the importance of a phased and transparent approach, particularly in maintaining trust, supporting volunteer participation, and ensuring that change is implemented in a way that reflects both operational requirements and community considerations.

A phased approach allows the municipality to establish governance and policy foundations, build administrative, operational, and financial capacity, develop data systems and performance frameworks, and progressively align infrastructure, apparatus, staffing, and capital investment with system-wide objectives. It also provides the time and structure necessary for staff to assume new responsibilities in a manageable way, supporting effective planning, prioritization, and execution at each stage of the transition.

As part of this transition, CBRM should progressively move toward resource-based dispatch and deployment as a core element of the future Standards of Cover. This should not be implemented as an isolated dispatch change, but as part of a broader governance and operational framework that includes defined LOS expectations, standardized response protocols, consistent training, reliable apparatus and staffing data, and clear authority to deploy resources across station boundaries. In the near term, this may involve identifying priority response types or geographic clusters where automatic aid and resource-based dispatch can be piloted. Over time, this approach should become the standard operating model for the unified fire service.

At the same time, the transition must address several key barriers that are central to the current system. Fire departments across CBRM have made significant investments in apparatus and equipment over time, often through a combination of municipal funding and community-driven efforts. These assets are closely tied to local identity and represent a substantial commitment by both departments and the communities they serve. As a result, the transfer and integration of apparatus into a unified system will require a fair, transparent, and well-defined process, including clear treatment of ownership, funding history, future replacement responsibility, and accountability for municipally supported assets.

Similarly, the integration of community halls with fire stations introduces an additional layer of complexity. These facilities are not only operational spaces, but also serve as gathering places and important contributors to community life. Their continued role within their communities must be carefully considered, and future arrangements should support ongoing community use wherever possible.

To support this transition, the municipality should engage the Province of Nova Scotia to provide mediation services to assist with negotiations related to the transfer of apparatus, equipment, and associated assets, including financial considerations associated with ownership, replacement responsibility, and future municipal funding arrangements. A structured mediation process will help ensure transparency and consistency, demonstrate good faith to all parties, and allow fire service leadership to remain focused on broader implementation priorities. This approach is consistent with emerging provincial direction and provides a practical mechanism to address one of the most sensitive aspects of regionalization.

A phased model provides the necessary framework to manage these challenges in a collaborative and deliberate manner, allowing time for engagement, negotiation, and alignment while maintaining operational continuity. It also enables the municipality to monitor progress, evaluate impacts, and make adjustments as required throughout the transition.

This phased pathway forms the basis of the Implementation Strategy and Roadmap outlined in the following chapter.



12. Implementation Strategy

12.1. Overview

This report provides a structured, phased roadmap to support the transition from the current decentralized system to a coordinated regional fire service model under a single AHJ. The roadmap is designed to establish foundational governance, policy, and financial planning frameworks; build operational consistency and capacity; and enable long-term system optimization through data-driven planning, lifecycle asset management, and coordinated investment. The roadmap is structured as a five-year transition plan, supported by ongoing lifecycle renewal and continuous improvement beyond the initial implementation period.

This approach recognizes that the core governance, organizational, operational, and planning changes required to establish a unified fire service should occur within a defined and accountable timeframe. At the same time, certain capital-intensive elements, including major facility renewal, station construction, apparatus replacement, and long-term asset management, will continue beyond the five-year horizon through regular municipal capital planning.

The purpose of this roadmap is therefore not to suggest that all fire service modernization will be complete within five years. Rather, it establishes that the transition to a single AHJ, defined LOS and SOC framework, coordinated deployment model, regional fleet strategy, and supporting organizational capacity should be substantially advanced within that period. Longer-term work should be managed as part of ongoing capital planning, performance measurement, and continuous improvement rather than as an extended delay in implementation.

This implementation approach is directly informed by both the technical findings of this review and the input received through stakeholder engagement, which emphasized the need for a phased, transparent transition that maintains operational stability, supports volunteer sustainability, and builds trust across the system.

The transition to a unified fire service under a single AHJ represents a significant organizational change that must be carefully planned and executed. The findings of this review indicate that while the direction toward a regional, integrated service model is clear, the current system does not yet have the governance structure, administrative capacity, data systems, or level of standardization required to support immediate full operational integration.

As a result, the implementation strategy must be structured, phased, and aligned with the municipality's ability to build the necessary foundations while maintaining service continuity.

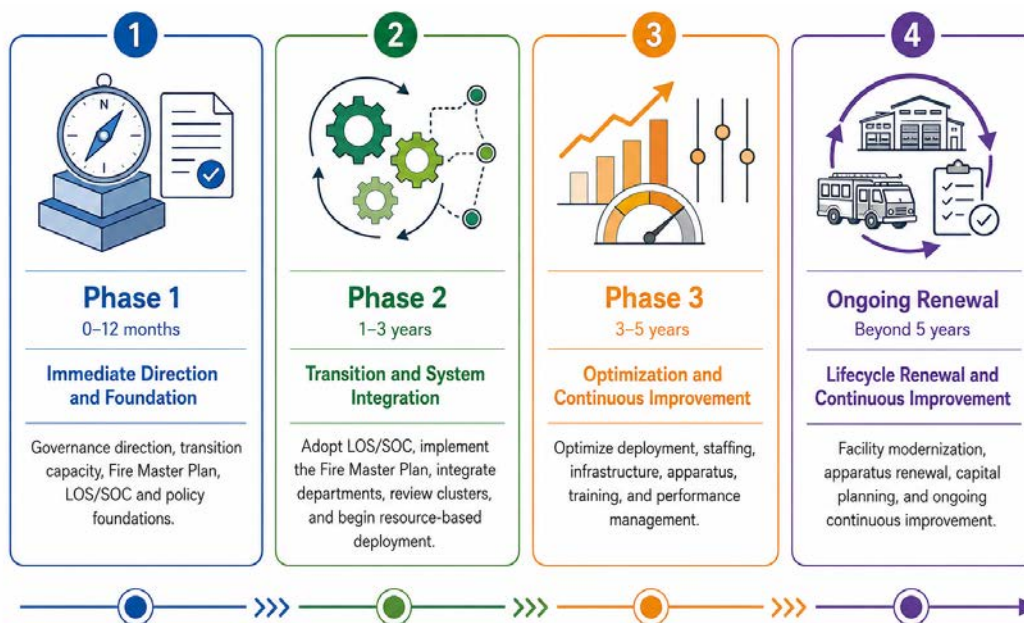
A phased approach provides the framework to manage this transition in a deliberate and sustainable manner, including the financial planning, reserve development, capital

prioritization, and accountability mechanisms required to support implementation. It allows for the progressive alignment of governance, policies, infrastructure, apparatus, staffing, and training systems, while also supporting the people and communities that form the core of the fire service.

Achieving this transition will require coordinated involvement across multiple municipal functions, including Building and Maintenance, Human Resources, Health and Safety, Finance, Procurement, and Asset Management. These departments will play key roles in supporting implementation through policy development, workforce planning, infrastructure management, financial oversight, capital planning, procurement standardization, and lifecycle asset management.

This approach also recognizes that key elements of the current system, particularly apparatus ownership, community-based infrastructure, and volunteer participation, are closely tied to local identity and will require careful engagement and transition planning. The integration of these elements cannot be achieved through a single action, but rather through a series of coordinated steps supported by clear communication, defined processes, and ongoing evaluation.

The implementation strategy is therefore structured around three phases:



This phased model also provides the flexibility to monitor progress, evaluate impacts, and make adjustments as required. It allows the municipality to manage risk, maintain operational stability, and ensure that each stage of the transition is supported by the appropriate level of capacity and readiness.

CBRM FIRE AND EMERGENCY SERVICES FOUNDATIONS FOR TRANSITION



A key component of this strategy is the use of structured processes to support complex elements of the transition, including the integration of apparatus, equipment, and infrastructure. In particular, the use of mediation services, in collaboration with the Province of Nova Scotia, may be an important tool to support fair and transparent negotiations related to asset transfer and ownership, while maintaining trust with local departments and communities.

Overall, this implementation strategy reflects a practical and accountable pathway toward a unified fire service, recognizing both the urgency of addressing current system limitations and the need to proceed in a measured and sustainable manner.

12.2. Phase 1 – Immediate Direction and Foundation (0-12 Months)



Phase 1 focuses on establishing the governance, policy, and system foundations required to support a unified fire service. During this phase, governance authority is established while existing operational structures remain in place, allowing the municipality to build the planning, standards, and data systems required for integration without disrupting current service delivery.

This phase should be treated as the decision and mobilization stage of implementation. The objective is to establish Council direction, create the organizational capacity required to manage the transition, initiate the Fire Master Plan, and put interim decision controls in place so that near-term infrastructure and apparatus decisions do not reinforce the existing decentralized model before the future service model is confirmed.

Key Actions:

- Establish a single AHJ through a Council-approved bylaw defining governance, accountability, and authority over service delivery
- Establish a transition governance structure, including clear reporting to the CAO and Council, to oversee implementation and monitor progress.

- Confirm the interim organizational capacity required to support AHJ implementation, including leadership, administration, training, logistics/fleet, RMS/performance, and volunteer/station liaison functions.
- Initiate a comprehensive Fire Master Plan and complete priority components required to inform early implementation decisions, including CRA validation, LOS/SOC development, station location analysis, deployment modelling, fleet strategy, infrastructure strategy, and financial implementation planning.
- Begin development of a municipality-wide LOS and Standards of Cover framework, including differentiated service levels, response performance objectives, and effective response force expectations aligned with community risk
- Establish interim capital decision criteria requiring major apparatus and station investments to be reviewed against anticipated LOS/SOC direction, priority cluster analysis, fleet rationalization, station optimization, and future redeployment flexibility before approval.
- Develop an initial fire service financial implementation framework, including estimated transition costs, immediate capital pressures, reserve requirements, and operating budget implications associated with AHJ implementation.
- Establish a dedicated fire capital reserve policy and identify an initial contribution strategy to support apparatus, facility, equipment, and technology renewal.
- Begin review of the fire service taxation model to assess equity, transparency, revenue stability, and alignment with future service requirements under a single AHJ.
- Develop interim grant accountability requirements for municipal funding provided to independently operated departments, including standardized budget submissions, expenditure reporting, and year-end financial reporting.
- Identify priority station and apparatus clusters for detailed review, including clustered areas where relocation, consolidation, modernization, apparatus redeployment, or replacement deferral may warrant further analysis.
- Review near-term apparatus replacement requirements and distinguish between critical frontline replacements, non-critical replacements, potential non-replacements, and units requiring further rationalization before purchase approval.
- Develop priority standardized policies, procedures, and operational guidelines required to support AHJ implementation, including an implementation sequence for broader system-wide adoption
- Establish centralized training coordination and implement consistent training and certification requirements aligned with defined service expectations
- Implement a standardized records management system (RMS) and performance measurement framework to support data-informed decision-making
- Begin development of resource-based dispatch and deployment concepts, including identification of priority incident types or geographic areas where automatic aid or coordinated deployment may be piloted.
- Initiate formal engagement and communication processes with departments to support transition planning and build alignment

- Engage the Province of Nova Scotia to establish a mediation process to support future negotiations related to apparatus, equipment, and infrastructure integration

12.3. Phase 2 – Transition and System Integration (1-3 Years)



Phase 2 focuses on the gradual integration of departments and the alignment of resources and operations with system-wide planning. This phase transitions the fire service from a decentralized model toward coordinated service delivery under the AHJ. By the end of this phase, CBRM should have adopted the core planning frameworks required to guide regional deployment, including the Fire Master Plan, LOS, SOC, priority cluster reviews, and regional fleet strategy.

Key Actions:

- Implement phased integration of fire departments under the AHJ, including governance, administrative, and operational alignment
- Establish and implement a formal cycle for the periodic review and updating of the Community Risk Assessment, including integration with performance data, development trends, and emerging risk profiles
- Complete and begin implementing the Fire Master Plan, including a coordinated deployment model, defined response districts, priority station cluster analysis, and long-term infrastructure and fleet strategies aligned with the adopted LOS and SOC.
- Adopt and operationalize the LOS and SOC framework, including differentiated service expectations for urban, suburban, rural, and remote areas.
- Formalize multi-station response and automatic aid structures to support consistent response capability across the municipality
- Begin implementation of resource-based dispatch and deployment, including pilot applications in priority clusters or incident types where coordinated deployment can improve response performance or resource utilization.
- Complete targeted station cluster reviews in priority areas, including assessment of station location, station function, travel time, staffing availability, community impact, facility condition, apparatus needs, and opportunities for relocation, consolidation, modernization, repurposing, or closure.
- Transition to a centralized fleet management model, including lifecycle planning, standardization of apparatus, and alignment with demand and staffing capacity, with particular focus on reducing duplication in clustered areas, reviewing non-critical like-for-like replacements, and supporting redeployment or reclassification of apparatus based on system-wide need.
- Implement the fire service financial strategy, including multi-year capital planning, reserve contributions, lifecycle replacement forecasting, and integration of operating and capital budget requirements with the Fire Master Plan.
- Implement a standardized grant accountability framework for departments receiving municipal funding, including annual budgets, financial reporting, audit or review requirements, and alignment of expenditures with approved service expectations.

- Advance review of the fire service taxation model and develop options for Council consideration, including any required transition approach for moving toward a more consistent and transparent regional funding model.
- Align procurement, fleet replacement, facility investment, and equipment purchases with centralized financial controls and approved capital prioritization criteria.
- Establish standardized apparatus specifications and centralized procurement practices to support interoperability, maintenance efficiency, bulk purchasing, and future redeployment flexibility.
- Advance infrastructure planning and facility evaluation, aligning station roles and investment decisions with operational requirements and community considerations
- Expand and standardize training programs, including recruit training, certification requirements, and specialty service capability
- Explore and implement a coordinated fire investigation model, including potential joint approaches with policing partners, to support consistent origin and cause determination and integration with prevention activities
- Operationalize data systems and analytics, integrating performance measurement into planning, deployment, and decision-making
- Continue mediation processes to support the structured integration of apparatus, infrastructure, and associated assets
- Develop and implement a structured leadership development and succession planning framework, including identification of key roles, competency development, and pathways to support continuity and organizational capacity
- Continue to build the target organizational structure required to support the unified AHJ, including operations, training, prevention, emergency management, logistics, fleet, facilities, administration, finance, data, performance, and volunteer-support functions.

12.4. Phase 3 – Optimization and Continuous Improvement (3-5 Years)



Phase 3 focuses on substantially completing system integration and optimizing fire service delivery based on performance, risk, and demand. At this stage, the fire service operates as a unified, data-informed system with the capacity to continuously improve and adapt.

Key Actions:

- Continue and substantially complete the integration of departments under the AHJ, including governance, administration, operational standards, reporting, and performance management.
- Refine and optimize deployment, staffing, and response models based on performance data and evolving community risk
- Expand resource-based dispatch and deployment from pilot applications to a standard operating model across the municipality, supported by the adopted SOC framework and reliable response data.

- Implement station optimization decisions arising from priority cluster reviews, including station role changes, relocation, modernization, consolidation, repurposing, or closure where supported by LOS/SOC analysis, community impact assessment, and Council direction.
- Implement the approved infrastructure and fleet strategies, including apparatus redeployment, reclassification, reserve fleet planning, standardized replacement, facility lifecycle planning, and reinvestment of efficiencies achieved through rationalization.
- Refine long-term financial planning based on implementation results, including reserve adequacy, lifecycle replacement forecasts, realized efficiencies, operating budget impacts, and future capital funding requirements.
- Achieve full standardization of training, policies, and operational practices across the system
- Embed a mature performance management and analytics framework to support continuous monitoring and improvement
- Enhance community risk reduction, prevention, and public education programs using data-driven planning
- Continue to strengthen organizational capacity in operations, training, prevention, logistics, fleet, facilities, administration, performance measurement, emergency management, and volunteer/member support.
- Report regularly to Council and the public on implementation progress, service performance, financial impacts, capital implications, and realized efficiencies.
- Continuously evaluate and adjust service delivery models to respond to changing conditions and emerging risks

12.5. Ongoing Lifecycle Renewal and Continuous Improvement



While the core transition to a unified regional fire service should be substantially advanced within the five-year implementation roadmap, fire service modernization will require ongoing lifecycle renewal and continuous improvement beyond that period. This ongoing work should not be viewed as an extension of the implementation timeline, but as part of normal municipal asset management, capital planning, performance reporting, and service review.

Certain elements of fire service modernization will necessarily continue beyond the initial transition period due to their scale, cost, and dependency on long-term capital planning. These include major station construction or renovation, apparatus lifecycle replacement, facility contamination-control upgrades, fleet standardization, technology modernization, and continued refinement of deployment models as community risk, development patterns, and service demand evolve.

Ongoing work should include:

- continued facility renewal, modernization, and lifecycle planning;

- apparatus replacement and fleet standardization through the approved regional fleet strategy;
- periodic review and updating of the Community Risk Assessment, LOS, and SOC;
- ongoing performance reporting to Council and the public;
- continued refinement of resource-based dispatch, response districts, and deployment models;
- regular review of staffing, training, volunteer sustainability, and succession planning;
- continued investment in prevention, public education, emergency management, and community risk reduction; and
- reinvestment of efficiencies achieved through station optimization, apparatus rationalization, procurement standardization, and improved asset management.
- ongoing review of fire capital reserve contributions, reserve adequacy, and long-term funding requirements; and
- continued review of the fire service taxation model to ensure funding remains aligned with adopted LOS, SOC, risk, demand, and asset renewal requirements.

By separating ongoing lifecycle renewal from the core transition roadmap, CBRM can maintain a clear and accountable implementation timeline while recognizing that fire service improvement is a continuous municipal responsibility. This approach ensures that the transition to a single AHJ does not become an open-ended process, while also allowing the municipality to manage long-term capital needs, reserve funding, lifecycle renewal, and financial accountability in a disciplined and financially sustainable manner.

Appendix A

Detailed Budget Worksheet

CRBM Fire Services

2025 Operating Budget

Description		Hazmat	EMO	Fire Administration	Fire Training	Fire Prevention	Sydney	North Sydney	Glace Bay	Sydney Mines	Dominion	New Waterford	Louisburg	Volunteer Departments	Mechanical	Total	
		Under sydney fire						No staff									
		Ran by careeri						no staff									
Revenue		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Member tou Ind. Reserve		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total Revenue		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Expense																	
6000	Salary and Wages	-	192,112	230,196	299,095	180,650	4,592,098	477,485	477,485	-	-	477,485	-	130,003	195,389	7,251,998	
6010	Benefits	-	45,926	50,506	73,117	46,033	1,134,393	124,209	124,209	-	-	124,209	-	28,273	48,165	1,799,040	
6011	Misc. Benefits	-	-	-	-	-	-	8,473	8,971	6,978	6,728	7,000	7,476	-	-	45,626	
Total Salary & Benefits		-	238,038	280,702	372,212	226,683	5,726,491	610,167	610,665	6,978	6,728	608,694	7,476	158,276	243,554	9,096,664	
6020	Training & Education	-	4,000	3,000	178,000	12,000	-	-	-	-	-	-	-	37,700	2,500	237,200	
6030	Travel / Conferences	7,500	6,000	15,000	3,000	5,000	4,000	1,000	2,000	1,000	1,000	3,000	1,500	7,500	2,500	60,000	
6040	Memberships / Dues and fees	-	1,000	8,000	-	-	750	200	-	-	-	-	-	600	250	10,800	
6080	Advertising	-	-	1,000	-	-	-	-	-	-	-	-	-	500	-	1,500	
6110	Telephone / Fax	-	3,000	5,000	-	1,655	14,000	3,000	993	5,900	2,500	2,400	1,900	-	1,000	41,348	
6120	Publications / Subscriptions	-	-	600	-	-	-	-	-	-	-	-	-	-	-	600	
6150	Meeting Expenses	-	1,000	-	1,000	500	500	-	-	-	-	-	-	500	-	3,500	
6170	Promotion	-	1,000	-	-	7,000	4,000	2,000	2,000	2,000	2,000	2,000	1,300	4,000	-	27,300	
8130	Licenses / Permits	-	1,000	-	-	-	1,500	-	825	-	-	500	-	15,000	-	18,825	
Total Business Expenses		7,500	17,000	32,600	182,000	26,155	24,750	6,200	5,818	8,900	5,500	7,900	4,700	65,800	6,250	401,073	
8100	Professional Services	-	10,000	1,000	-	-	1,500	-	-	-	-	-	-	-	-	12,500	
8110	Contracts / Agreements	500	2,000	-	-	-	23,000	6,000	6,750	2,500	-	4,000	2,500	72,000	5,000	124,250	
8120	Leases	-	5,047	146,700	51,000	-	2,500	800	500	500	1,000	-	-	-	90,000	298,047	
Total Contracted Services		500	17,047	147,700	51,000	-	27,000	6,800	7,250	3,000	1,000	4,000	2,500	72,000	95,000	434,797	
7030	Building / Facility Maintenance	-	-	-	-	-	20,000	15,000	10,000	6,000	4,800	6,000	3,000	-	5,000	69,800	
7040	Building / Facility Repair	-	-	-	-	-	10,000	-	9,953	5,000	600	2,500	2,000	-	-	30,053	
7060	Building / Facility Renovations	-	-	-	-	-	5,000	-	-	-	-	-	-	-	-	5,000	
7500	Vehicle / Equipment Maintenance	-	-	-	-	-	-	-	-	-	-	-	-	-	450,000	450,000	
Total Maintenance		-	-	-	-	-	35,000	15,000	19,953	11,000	5,400	8,500	5,000	-	455,000	554,853	
6050	Office Supplies	-	1,500	2,500	1,000	500	3,000	250	1,000	-	-	500	250	500	500	11,500	
6130	Computer Hardware	-	3,000	3,000	-	1,500	1,500	-	-	-	2,500	-	-	-	-	11,500	
6140	Computer Software	-	-	35,000	-	500	-	-	-	-	-	-	-	-	-	35,500	
7505	Gasoline / Diesel	-	4,500	4,500	1,665	3,000	42,000	6,000	7,100	4,400	2,000	2,500	2,000	4,500	7,500	91,665	
7560	Vehicle / Equipment General Supplies	3,000	-	-	-	-	-	-	-	-	-	-	-	-	20,000	23,000	
8010	Operational Materials / Supplies	-	1,500	1,500	2,500	500	12,000	5,000	5,000	2,500	2,000	5,000	2,000	11,000	-	50,500	
8090	Uniforms / Clothing	-	1,000	1,000	1,000	1,500	45,825	2,550	2,550	2,550	2,550	2,550	2,550	2,000	2,000	69,625	
Total Materials and Supplies		3,000	11,500	47,500	6,165	7,500	104,325	13,800	15,650	9,450	9,050	10,550	6,800	18,000	30,000	293,290	
6060	Office Equipment	-	1,500	2,000	1,500	-	2,000	250	-	-	-	-	250	1,500	500	9,500	
7530	Vehicle / Equipment Replacement	-	-	-	-	-	-	500	-	-	-	-	-	50,000	-	50,500	
8000	Operational Equipment	104,760	1,000	-	50,000	3,000	130,000	50,000	79,600	60,000	40,000	25,200	22,000	50,000	4,000	619,560	
8020	Maintenance Equipment	-	-	-	-	-	10,000	-	-	-	-	-	-	40,000	-	50,000	
8040	Communication Equipment Lines	-	-	-	-	-	4,350	-	-	-	-	-	-	-	-	4,350	
Total Equipment		104,760	2,500	2,000	51,500	3,000	146,350	50,750	79,600	60,000	40,000	25,200	22,250	141,500	4,500	733,910	
7000	Heat	-	-	-	-	-	20,000	12,000	34,000	9,500	5,000	10,000	7,500	-	-	98,000	
7010	Electrical	-	-	-	1,500	-	53,245	5,000	12,828	8,200	10,000	6,500	3,500	-	-	100,773	
544	Water	-	-	-	-	-	10,000	5,000	4,000	3,500	1,000	1,000	5,000	10,500	-	40,000	
Total Utilities		-	-	-	1,500	-	83,245	22,000	50,828	21,200	16,000	17,500	16,000	10,500	-	238,773	
8150	Grants / Subsidies to Organizations	-	-	60,000	-	-	-	45,600	240,000	82,000	22,282	37,000	5,500	2,010,907	136	2,503,289	
Total Grants		-	-	60,000	-	-	-	45,600	240,000	82,000	22,282	37,000	5,500	2,010,907		-	2,503,289
Total Operating Expenses		115,760	286,085	570,502	664,377	263,338	6,147,161	770,317	1,029,764	202,528	105,960	719,344	70,226	2,476,983		834,304	14,256,649
Net		115,760	286,085	570,502	664,377	263,338	6,147,161	770,317	1,029,764	202,528	105,960	719,344	70,226	2,476,983	834,304	14,256,649	