TOWN OF STONY PLAIN

AGENDA ITEM NO.: 9.1

TOWN OF STONY PLAIN
COUNCIL AGENDA
REQUEST FOR DECISION

PUBLIC SESSION

COUNCIL MEETING DATE: ***January 13, 2020***

ITEM DESCRIPTION OR TITLE

Fire Services Master Plan Presentation

RECOMMENDATION

That Council accepts the Fire Services Master Plan as information.

STRATEGIC PLAN

TOWN OF STONY PLAIN

AGENDA ITEM NO.: 9.1

BACKGROUND

In 2019 the Town of Stony Plain engaged Behr Integrated Solutions Inc. to complete a Fire Services Master Plan for the Stony Plain Fire department. The plan will provide recommendation areas that will guide the future growth and development of the Department.

Behr Integrated Solutions Inc. used a combination of methodologies to gather the information required to complete the Master Plan report:

- Interviews
- Document review
- Operational observation
- Statistical analysis

The report recommends 16 areas of action for improvement, each with a low, medium or high level of focus and completion rating. The 16 recommendations include actions in the following areas:

- Staffing considerations
- Administrative efficiencies
- Bylaws and procedures
- Operations

The 16 recommendations include 1 long term, 4 intermediate and 11 short term priority actions. 11 recommendations are administrative in nature and can be completed utilizing existing resources, 5 recommendations will be evaluated and will require additional resources and will be captured in future corporate planning for consideration.

Behr Integrated Solutions Inc. will complete and deliver a final report to the Town that captures any amendments or additional information. Administration will develop an implementation plan and required corporate plan initiatives as timing and staff and financial resources permit.

COMMUNICATIONS

The presentation will serve as the public communication related to the Master Plan.

PUBLIC PARTICIPATION

Additional public participation is not required as the implementation of the report recommendations is completed.

IMPLICATIONS OF DECISION

TOWN OF STONY PLAIN

AGENDA ITEM NO.: 9.1

FINANCIAL IMPLICATIONS

Operating:	_____	Capital Cost:	_____
Budget Available:	_____	Budget Available:	_____
Unbudgeted:	_____	Unbudgeted Costs:	_____
Source of Funds:	_____	Source of Funds:	_____

POLICY AND/OR LEGISLATIVE IMPLICATIONS

ATTACHMENTS

1. 2019 Fire Services Master Plan completed by Behr Integrated Solutions Inc.

TOWN OF STONY PLAIN

AGENDA ITEM NO.: 9.1

REVIEWED AND APPROVED FOR SUBMISSION TO COUNCIL

PREPARED BY: _____
MANAGER/ADMINISTRATOR

FINAL REVIEW: _____
GENERAL MANAGER

_____
TOWN MANAGER

TOWN OF STONY PLAIN
FIRE DEPARTMENT MASTER PLAN

Final Draft, January 7, 2020

Presented to:

Town of Stony Plain

Submitted by:

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BEHR Integrated Solutions

PREFACE

This Plan serves as the Town of Stony Plain's (ToSP) Fire Department Master Plan (FDMP). The primary motivation for developing this Plan is to assist ToSP and the Stony Plain Fire Department (SPFD) in establishing a long-term strategy. The strategy is based on community safety, risk assessment, corporate priorities and Council approved budget allocations. The FDMP will be used as a tool to evaluate and forecast immediate and future emergency service needs of the community.

ACKNOWLEDGEMENTS

Behr would like to specifically acknowledge the leadership, diligence and continuous improvement focus of Fire Chief Trevor Mistal. While there are several challenges for the ToSP and the Stony Plain Fire Department, Chief Mistal remained positive in his efforts to enhance the department and public safety for the community and its citizens. SPFD firefighters are dedicated and engaged in all facets of their community. Fire Department pride is evident around the fire hall.

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ACRONYMS / ABBREVIATIONS

AHJ	Authority Having Jurisdiction	MDS	Minimum Duty Strength
ASP	Area Structure Plan	MFR	Medical First Response
CAD	Computer-Aided Dispatch	MOU	Memorandum of Understanding
CAO	Chief Administration Officer	MVC	Motor Vehicle Collision
DG	Dangerous Goods	NBC	National Building Code
ECC	Emergency Communications Centre	NFPA	National Fire Protection Association
EM	Emergency Management	OHS	Occupational Health and Safety
EMD	Emergency Medical Dispatch	POC	Paid-On-Call/Volunteer Firefighter
EMS	Emergency Medical Services	PPE	Personal Protective Equipment
EMT	Emergency Medical Technician	PSAP	Public Safety Answering Point
EOC	Emergency Operations Center	QMP	Quality Management Plan
ERF	Effective Response Force	SOC	Standards of Cover
FF	Firefighter	SPFD	Stony Plain Fire Department
FTE	Full-time Equivalent	SWOC	Strengths Weaknesses Opportunities and Challenges/Constraints
GIS	Geographic Information System	SOG	Standard Operating Guidelines
HIRF	High Intensity Residential Fires	SOP	Standard Operating Procedures
HR	Human Resources	ToSP	Town of Stony Plain
IAFC	International Association of Fire Chiefs	WCB	Workers' Compensation Board
KSA	Knowledge, Skills and Abilities	WEP	Work Experience Program

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EXECUTIVE SUMMARY

Introduction

Today's fire and emergency services are continually being challenged by budget constraints, rising call volumes, and increasing and unusual risks against a backdrop of expectations to do more with less. The demand for emergency response and management services has expanded, causing the role to shift and for services to diversify. Failing to address these challenges leaves both the community and its responders vulnerable.

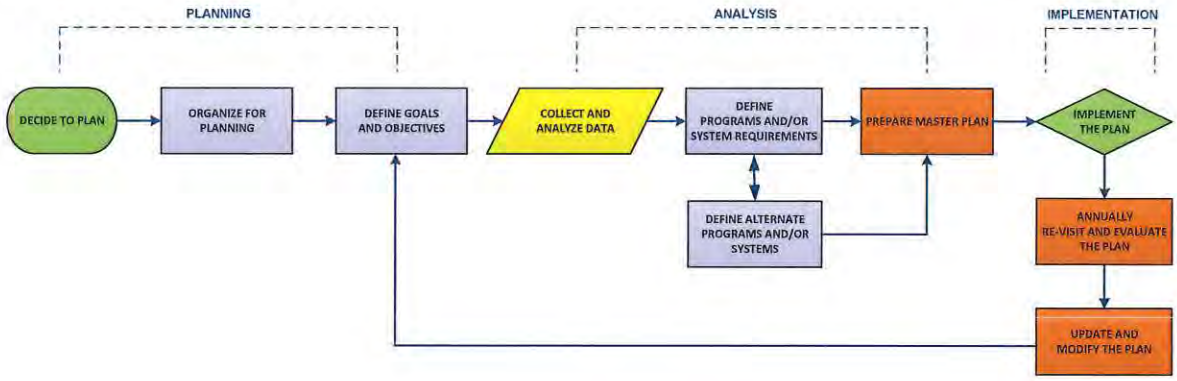
Effective management of an emergency services department requires a clear understanding of risk and the ability to administer an appropriate response to manage the risks. The primary focus of this project was to review the current state of the Stony Plain Fire Department (SPFD) and provide recommendations in the form of a Fire Department Master Plan (FDMP) that will assist the Town of Stony Plain (ToSP) in developing long-term strategies for its emergency services. This Plan aligns with the direction of the community in a planned incremental approach. It supports long term growth while building on Council's strategic goals such as good governance and safe community.

This FDMP should be considered an essential priority. It should be evaluated on an annual basis and updated as required to reflect any changing risks and circumstance of the community. The recommendations/options contained in this plan may be considered critical requirements for public, firefighter and community safety.

Emergency Services Master Planning Process

The following diagram illustrates the process used to complete and our recommendation to maintain this Plan.

Figure 1: Master Planning Process



Department Overview

Stony Plain Fire Department (SPFD) has been proudly serving their community for since 1908. The men and women of the department have dedicated their time to fulfill the mission statement by using training, technology and commitment in providing exceptional service to the citizens of Stony Plan. SPFD is a proud department that values their past, embraces the present and looks forward to the challenges of the future.

Statistics from the 2019, the Municipal Census show ToSP with a growing population of 17,842 which is an increase of approximately 16% over the 2011 population. Continued growth of the community is projected to occur in step with the greater Edmonton region. As communities grow both in population and geographic size, it becomes challenging for existing services to keep pace with the growth and increasing demands. The fire service is particularly challenged to continue to provide the level of service required as a result of increased call volumes, increased complexity of incidents, and increased geographical coverage. This can be further exacerbated as these increasing service demands place pressure on a volunteer/paid-on-call fire service and their resources.

SPFD responds out of one centrally located station that contains its headquarters as well as their front-line fire station. SPFD is considered a primarily POC composite fire service relying on minimal full-time staff supported by POC staff who respond from their respective dwellings or place of employment when needed. It is important to note that the SPFD is a well led, managed and resourced POC composite fire service.

Just as most fire services throughout Canada have advanced through time, SPFD has adapted to the increasing and diverse service needs of the community by increasing specialized training on new skills and equipment. Today's SPFD is required to provide a much broader array of emergency responses in comparison to the traditional fire response. SPFD services include a competent response to motor vehicle collisions, medical first response, dangerous goods spills/releases, industrial response, rail, highway and wildland urban interface responses. Along with emergency response, SPFD performs fire inspections, pre-fire planning, public education and fire prevention public service, as well as other charitable activities within their community.

SPFD has reciprocal agreements for emergency response through a contractual agreement with Parkland County and Spruce Grove when required. Parkland County responses account for an average of 47% of their call volume (2013–2019). Responses into Spruce Grove have been negligible with an average of 2% of their total call volume. These percentages have been relative steady for the previous four years and place a significant demand on the SPFD. Emergency dispatch services are provided to SPFD through the Parkland County Emergency Communications Centre (Public Safety Answering Point (PSAP).

While volunteer and paid-on-call fire services have a long valued service history with their respective communities throughout North America, there may be a point in time where increasing demands for service and community growth necessitates a transition towards a hybrid full-time/volunteer staffing model, typically referred to as a composite service delivery model. SPFD reached this point in 2012 when it became necessary to address staffing shortfalls with the

hiring of four full-time firefighters over the next three years to serve Monday to Friday during normal work hours. This initiative has satisfactorily addressed the response shortfall experienced during weekday responses as indicated by the superior response times during those times. However, SPFD continues to rely on the availability and quick response of the POC firefighters for evenings, weekends and holidays as well as supplementing normal daytime responses. With the continued growth of ToSP, there will be a time when a further evolution to a career full-time department will become necessary. Careful monitoring of service levels through the analysis of response times and other factors will support proper planning for the transition. Growth in the department can be implemented incrementally and planned in a way that it should not be a surprise to the elected officials of ToSP.

Community and Risk Overview

ToSP has a typical mix of residential, commercial, light industrial and institutional land use for a town with a population of just under 18,000 people and is a significant transportation hub with the rail corridor and Highways 16, 627 and 779. These factors combined with the limitations of a primarily paid-on-call (POC) composite fire service and the projected growth within the community are risk factors that need to be given due consideration as part of ToSP's overall emergency response strategy. Specifically, these risk factors include:

- Industrial and commercial activities
- Transportation corridors
- Wildland urban interface
- Limitations of a primarily volunteer fire service
- Growth projections
- Responses into Parkland County

Since 2012, SPFD has made enhancements towards known industry 'leading practices', recognized codes and standards such as the Alberta Building Code Limiting Distance and Fire Department Response regulation (also known as the high intensity residential fire (HIRF) requirements), the Code of Practice for Firefighters, National Fire Protection Association (NFPA), and other accrediting bodies such as the Commission on Fire Accreditation International (CFAI). These enhancements include:

- weekday full-time staffing to address a response shortfall
- installation of traffic pre-emption system
- revised operational guidelines with an initial response of four firefighters
- detailed collection and analysis of response statistical data

SPFD must also compare themselves with other emergency service departments to establish goals and benchmarks such as the comparative analysis included in this report.

Summary of Observations and Recommendations

The following recommendations are drawn from findings presented throughout the report. A timeframe within 0-48 months has been assigned to each recommendation, recognizing that the start and completion of any recommendation is based on annual corporate priorities and Council approved budget allocations.

Observation 1: *The GoA requires municipalities to regulate the development, construction and fire protection requirements through the application of Alberta Building Code (ABC) and the Alberta Fire Code (AFC). As discussed, it is useful to develop and maintain a property risk profile to identify high-priority risks and develop risk management strategies. The SPFD has an impressive pre-fire plan program as part of the 'IamResponding' notification system. However, the ToSP or SPFD have no formal process for the collection and identification of structures in the community for the purpose of assessing/managing structural inventory risks. SPFD is accredited for the Fire Discipline under the Alberta Safety Codes Act with all full-time staff qualified as Safety Codes Officers (Fire/Building).*

In 2013, the ToSP enacted a Uniform Quality Management Plan (UQMP) applicable to Building, Gas, and Electrical and Fire disciplines. The Fire Chief has confirmed that UQMP audits conducted by the Province confirm the SPFD is compliant. Fire and life safety inspections are provided by SPFD on a "request or complaint basis" since 2012. SPFD staff report there has been an informal move towards cyclical fire and life safety inspections for higher risk structures.

Reference: Section 3.3, Structural Fire Risk Analysis, p. 15

> ***Recommendation #1: Develop a comprehensive a Structural Risk Inventory Program and establish a cyclical Fire Inspection Program for higher risk fire and Life safety occupancies***
>
> ***Suggested completion: 24-36 months***
>
> *It is recommended that an inventory of all building structures be classified, documented, and maintained using the Alberta Building Code Major Occupancy Classification system. It is important that an inspection of all higher risk structures be conducted and evaluated in terms of the risk assessment/management matrix as described in Section 3.2, Figure 4 (p. 14). This will aid in the long-term planning of response resources (personnel and equipment) and standard operating guidelines. Furthermore, it is recommended that the Fire Chief establishes a Fire and Life Safety Bylaw that includes a cyclical inspection program that focusses on the higher risk fire and life safety risk occupancies. This ongoing assessment allows the community to be well positioned to assess the impact of future growth and the changing risk profile of the community.*

Observation #2: *SPFD does not have an established Standards of Cover policy that provides a comprehensive series of benchmarks that define an affordable, acceptable and appropriate level of service for the ToSP.*

Reference: Section 3.3, Structural Fire Risk Analysis, p. 15

Recommendation #2: Develop a Standards of Cover policy defining service levels for ToSP

Suggested completion: 0-24 months

It is recommended that SPFD undertake a comprehensive risk analysis of the community and develop a Standard of Cover (SOC) to effectively manage risks. The SOC is used to establish performance benchmarks for existing levels of service, while providing opportunities for continuous improvement at the same time. This would also provide a well-articulated description of services to be provided to the community with the full understanding and endorsement of the ToSP Council.

Benefits of completing an SOC include ensuring that SPFD has a clear understanding of the scope of overall risk for the community while enabling them to identify the resources and response capabilities necessary to adequately address those risks. Further, a SOC ensures SPFD has a safe and effective response force for all emergencies including fire suppression, emergency medical services and specialized response situations.

Observation 3: *On average since 2015 SPFD responds to 47% of their total call volume outside of ToSP into Parkland County. Given the ToSP's growth projections combined with the limitations of a POC composite service, SPFD may not have the capacity to continue responding in the County in order to avoid future system shortfalls. As such, a detailed review of the MOU is considered strategically critical.*

Reference: Section 3.4.6 Response into Parkland County, p. 22

Recommendation #3: Conduct a comprehensive operational impact and financial review of the Parkland County MOU

Suggested completion: 36-48 months

The Fire Chief should conduct an impact analysis of the County's call volume to include the total time, number of staff and sequential/coincidental calls for service while deployed to emergencies. The County pays the ToSP for these services, however, a comprehensive review of the agreement should be undertaken that includes the Fire Chief's impact analysis from an operational perspective. In addition, a detailed financial analysis should be conducted to determine if the ToSP is adequately compensated for the services provided to the County. This review should include considerations such as a base rate for 24 hour/7 days per week service availability, administrative overhead, proportional costs based upon usage, and provide the ToSP with a cost benefit analysis to ensure that the ToSP is compensated appropriately (considering both costs and risks).

Observation #4: *The Parkland County ECC average call processing time is 120.3 seconds. The Alberta Fire Commissioner's office has deemed call processing time as part of the fire department's receipt of notification when applying the ABC Limiting Distance and Fire Department's 10-minute response regulation. Leading industry practices for Emergency Services Communication Systems NFPA 1221 indicate an optimum call processing time of 79 seconds (call-answered, verification and processing). Upon review of the SPFD response statistics it was determined that there is inconsistent utilization of pre-alerts as part of the fire department notification protocols.*

Reference: Section 4.2.2 Effective Response Force (ERF), p. 28

Recommendation #4: Enhance fire department receipt of notification protocols

Suggested completion: 12-24 months

It is recommended the Fire Chief working closely with the Parkland ECC develop enhanced receipt of notification protocols that include consistent use of pre-alerts and other procedures that reduce the current 120.3 seconds fire department notification process.

Observation 5: *NFPA 1710 applies to full-time fire departments and establishes an enroute (chute) time of 60 seconds for medical responses and 80 seconds for all other calls for service. The chute time refers to the time increment begins at the end of dispatch time until travel to the scene begins. It includes the time taken for the firefighters in the station to don their PPE (if required), assemble in the apparatus, and/or commence the travel time. The weekday average chute time is 115 seconds for 2018 and 2019.*

A further review of responses to structural fire calls for 2013 - 2019 shows an average of 15.5 firefighters responding. However, the data provided did not include the time it took to get the minimum of 15 firefighters on-scene.

Reference: Section 4.2.2 Effective Response Force (ERF), p. 28

Recommendation 5: Review chute time protocols

Suggested completion: 0-12 months

It is recommended the Fire Chief working closely with the weekday full-time staff review the chute time protocols to determine if any efficiencies can be implemented. This recommendation is not intended to infer that the full-time staff are not responding expeditiously and would focus on current station protocols as the opportunity to reduce the chute time.

Observation #6: *SPFD has SOPs and SOGs for the bulk of their operations. Maintaining current SOGs/SOPs is a labour-intensive undertaking for most departments. Discussion with the Fire Chief confirms the struggle with keeping these essential polices and guidelines current.*

Reference: Section 4.2.3 Firefighter Safety and Code of Practice, p. 30

Recommendation #6: Establish an efficient and effective SOP/SOG review and updating procedure

Suggested completion: 6-24 months

It is recommended the Fire Chief establishes a review procedure that maintains SOPs/SOGs up to date and includes an accountability process to ensure all staff review the documents on a recurring basis to ensure their understanding and compliance. This is considered an essential requirement to comply with the Code of Practice.

Observation # 7: *SPFD maintains an extensive amount of data captured from all their activities. This information is maintained in several separate excel spread sheets that were developed in-house and appears to have been doing a satisfactory job of providing SPFD administration the necessary information to analyze their performance against informal objectives.*

Reference: Section 4.3.1 Historical Response Data, p. 34

Recommendation #7: Procure a records management and data tracking software package

Suggested completion: 12 -24 months

It is recommended SPFD procure an appropriate record, data tracking, and performance measuring software for collection and analysis of performance objectives. In addition, develop a data reporting process such as a dashboard and/or written report to monitor the quarterly or annual performance of SPFD against formally approved objectives such as the SOC.

Observation #8: *During our interviews with the Deputy Chiefs and staff, a prevalent theme emerged regarding the increasing volume of administrative and management responsibilities combined with emergency response during weekday hours. Aspects such as maintaining a training plan, recording and documentation of certifications and training activities, SOPs and SOGs development and review, and completing additional activities such as pre-fire plans, inventory management, fleet and equipment management, OHS program, POC recruitment, etc. require significant time to undertake.*

The current practice of relying on one of the Deputy Fire Chiefs for emergency responses during weekday hours is affecting the Deputy Chiefs capacity to lead and manage the SPFD efficiently and effectively.

Reference: Section 5.2.3.4 Deputy Fire Chief: Operations, p. 52

> ***Recommendation #8: Establish a full-time daytime Fire Lieutenant position and administrative support capacity for SPFD***
>
> ***Suggested completion: 12-36 months***
>
> *It is recommended that one Fire Lieutenant position be established as full-time with the responsibilities to supervise the dayshift firefighters, support operations and emergency responses, training, and coordinate Safety Codes activities (fire inspections, prevention and investigations). Furthermore, it is recommended that the ToSP establish administrative support capacity of 20 hours per week for the SPFD.*

Observation #9: *SPFD has taken advantage of recruitment opportunities in the community. There is no ideal number of POC firefighters that will guarantee there are enough firefighters available for every response. As previously stated, approximately 33% of the SPFD POCs are consistently active and participate in the bulk of training sessions and responses. This is indicative of the POC firefighter limitations and cannot be interpreted as a performance shortfall for any of the SPFD POC firefighters. There is a balance of the availability of POC firefighters and the cost to train and maintain each firefighter. A key component is that each POC firefighter is doing their share of training and responding.*

Reference: Section 5.3.1 Recruitment, p. 55

> ***Recommendation #9: POC training and emergency response consistency***
>
> ***Suggested completion: 6-12 months***
>
> *It is recommended that the Fire Chief working closely with the POC Officers negotiate training and practice attendance and emergency response availability policies. POC Captains would be empowered to monitor their crew members and ensure POC firefighters understand and comply with the expectations of response, training and other needs.*

Observation #10: *SPFD POC turnover rates have been manageable, with approximately 2-3 firefighters leaving each year. There is however a projection that in the next 3-5 years several experienced members are planning on leaving the service through resignation or retirement. This places an increased emphasis on training and development to ensure there are qualified individuals to effectively and safely lead their respective crews in challenging and hazardous conditions.*

The loss of more senior and experienced personnel is leading to a junior and less experienced firefighter complement for SPFD. Given this demographic shift, exploring opportunities to retain this experience in some capacity will serve the SPFD well.

Reference: Section 5.3.3 Retention, p. 57

> ***Recommendation #10: Research retention opportunities and succession planning of senior members***
>
> ***Suggested completion: 0-12 months***
>
> *It is recommended that the Fire Chief researches opportunities to retain senior and/or retiring members in non-operational roles, such as coaching, mentoring and administrative roles. In addition, to ensure enough firefighters are trained and ready to assume Officer roles and other promotional opportunities, it is recommended that the Fire Chief establishes a sustainable succession plan.*

Observation #11: *Feedback from the Fire Chief, Deputy Fire Chiefs and firefighters indicate that a formal promotional process is being established and developed into a policy soon. The current process has not been transparent and has created some frustration amongst potential officers.*

Reference: Section 5.3.4 Advancement and Promotion, p. 58

> ***Recommendation #11: Fire Chief establishes a transparent and comprehensive promotional policy***
>
> ***Suggested completion: 12-24 months***
>
> *The Fire Chief working with the POC and full-time Officers develops a comprehensive promotional policy that includes transparent and measurable criteria. Criteria such as attendance at practice sessions and emergency responses, teamwork and leadership, technical competence, and commitment to SPFD for community events could be considered.*

Observation #12: *Given the increased initial and on-going training requirements for front-line firefighters, training resources should be concentrated on those individuals who are willing and able to commit to the NFPA 1001 curriculum and attendance expectations. There may be other areas within the SPFD that could utilize individuals, both active and new, who would be able to contribute in a positive way towards the goals of the service.*

Identifying and declaring the level of service in the SOC that the SPFD will provide to their community will assist in maximizing the training requirements for their staff.

Reference: Section 5.4 Training, p. 59

Recommendation #12: Develop Scope of Practice or Level of Service document

Suggested completion: 12-24 months

It is recommended the Fire Chief identifies areas or responsibilities that would benefit SPFD, but not necessarily require the full NFPA 1001 journeyperson certification. Such areas or responsibilities may increase public participation in the service, as well provide an avenue for active members who may not wish or be able to continue in the full firefighter scope of practice.

Observation #13: *Currently the ToSP has only one bylaw related to the fire service. Bylaw 2236/PS/05 prohibits and controls open burning within the corporate limits of the ToSP. The volume of fire alarm activations utilizes a considerable amount of fire department resources and this substantiates a proactive prevention and enforcement program.*

Reference: Section 6.1 Community Service Consideration, p. 65

Recommendation #13: Enact a Fire and Life Safety Bylaw

Suggested completion: 12-24 months

It is recommended the Fire Chief develop a Fire and Life Safety Bylaw. Provisions within this bylaw would include, but not be limited to regulations for fireworks, open burning, fire alarm activations, building and occupancy fire protection equipment, functioning smoke alarms, construction fire safety plans, fire safety and evacuation plans, cyclical fire safety inspection, special events, commercial cooking and mobile food vendors, damaged or vacant structures that pose a public safety hazard, etc. This bylaw would also include enforcement criteria such as penalties for recurring fire alarm activations, and fees and permits for other fire service-related functions identified above.

Observation #14: *As MFR requests often require the call for POC firefighters, the impact on SPFD can be significant if not closely monitored. Interviews conducted with staff indicate that MFR calls are not overwhelming the response system capacity. They believe this type of medical first response is extremely important to the community and feel they can contribute significantly to life-threatening calls. The SPFD medical first response program is deemed relatively low cost, highly valued and effective service for the ToSP.*

Reference: Section 6.2.4 Medical First Response (MFR), p. 68

> ***Recommendation #14: Closely monitor the use of mutual aid calls for Medical First Responder Program***
>
> ***Suggested completion: 12-24 months***
>
> *It is recommended that SPFD works closely with AHS to ensure their medical first service is utilized in the most effective and efficient manner. Changes may be required to the MFR program if this service impacts the SPFD's response capabilities and the POC firefighter's availability to respond.*

Observation #15: *The SPFD informally considers the ToSP Public Works & Utilities Department to be an emergency response support agency for confined space and basic trench collapse rescue operations that are not ToSP worksites.*

Reference: Section 6.2.7 Technical Rescue, p.71

> ***Recommendation #15: Formally establish ToSP Public Works & Utilities as an emergency response agency for technical rescue operations***
>
> ***Suggested completion: 12-24 months***
>
> *It is recommended that SPFD and the Public Works & Utilities Department establish an interdepartmental agreement that clearly identifies the respective roles and responsibilities for any technical rescue operations that occur within the town.*

Observation #16: *Life cycle replacement for any of the SPFD apparatus is identified in the Parkland County Agreement as a 20-year life cycle. The ToSP does not have a formal policy for the apparatus owned by ToSP. The NFPA indicates that changes, upgrades and fine-tuning to NFPA 1901 have been truly significant, especially in the area of safety. Fire departments should seriously consider the value, or risk, to fire fighters of keeping fire apparatus more than 15 years old in first-line service.*

Reference: Section 7.2.1 Apparatus and Light Duty Vehicles, p. 91

Recommendation #16: Life cycle replacement policy for fire apparatus

Suggested completion: 24-36 months

It is recommended that as part of the ToSP SOC and the Parkland agreement, the Fire Chief include the life cycle replacement criteria for all emergency response vehicles.

Implementation Costs and Timeframe of Recommendations

Most of the recommendations presented in this report are achievable using existing staff or members' time and will therefore not pose significant additional costs to the Town or the County. Other recommendations regarding staffing, database management, and software will have associated costs. Costs are estimates based on the comparable costs incurred by other departments.

Notes:

- *'Cost Neutral' refers to the use of internal staff through a normal workday schedule. Additional costs may apply if overtime is required.*
- *Undertaking of these cost neutral recommendations are contingent upon the staffing increases identified in this Plan.*
- *Recommendations identified as 0-24 months are critical priorities.*

To assist with the prioritization and implementation of the various recommendations three criteria where utilized: human resources, apparatus and equipment, and facility. A color coding of red for immediate short term, yellow for intermediate, and green for longer term has been applied to these criterions.

Short Term	Intermediate	Long Term
0 - 24 months	24 - 36 months	36 - 48 months

	Recommendation	'20	'21	'22	'23	Source	Est. Cost	Comments
1	*Develop a comprehensive a Structural Risk Inventory Program and establish a cyclical Fire Inspection Program for higher risk fire and Life safety occupancies*		●	●		*Staff Time*	*Cost Neutral*	
2	*Develop a Standards of Cover policy defining service levels for ToSP*	●	●			*Staff Time*	*Cost Neutral*	
3	*Conduct a comprehensive operational impact and financial review of the Parkland County MOU*			●	●	*Staff Time*	*Cost Neutral*	

	Recommendation	'20	'21	'22	'23	Source	Est. Cost	Comments
4	Enhance fire department receipt of notification protocols	●	●					
5	Review chute time protocols	●				Staff Time	Cost Neutral	
6	Establish an efficient and effective SOP/SOG review and updating procedure	●	●			Staff Time	Cost Neutral	
7	Procure a records management and data tracking software package	●	●			Third party provider	$10k per year	Cost dependent on software module content
8	Establish a full-time daytime Fire Lieutenant position and administrative support capacity for SPFD	●	●	●		Municipal budget	Lt: $60-75K per year Admin: $20K per year	Estimated base rate, does not include corporate costs and benefits
9	POC training and emergency response consistency	●				Staff Time	Cost Neutral	
10	Research retention opportunities and succession planning of senior members	●				Staff Time	Cost Neutral	
11	Fire Chief establishes a transparent and comprehensive promotional policy	●	●			Staff Time	Cost Neutral	
12	Develop Scope of Practice or Level of Service document	●	●			Staff Time	Cost Neutral	
13	Enact a Fire and Life Safety Bylaw	●	●			Staff Time & Municipal Solicitor	$20K one-time cost	Legal support and review required

	Recommendation	'20	'21	'22	'23	Source	Est. Cost	Comments
14	Closely monitor the use of mutual aid calls for Medical First Responder Program	●	●			Staff Time	Cost Neutral	
15	Formally establish ToSP Public Works & Utilities as an emergency response agency for technical rescue operations	●	●			Staff Time	Cost Neutral	
16	Formally established life cycle replacement for emergency response apparatus		●	●		Staff Time	Cost Neutral	

Summary

In creating this Plan, we analyzed several factors to determine the effectiveness and efficiency of the Stony Plain Fire Department (SPFD). We evaluated the operational and administrative aspects of the department, as well as the ability of the department to work as a cohesive unit.

Additionally, we evaluated the agreements and relationships with the neighboring communities of Spruce Grove and Parkland County. We then reviewed SPFD's response data and its current resources and assessed their alignment with both existing and projected risks and levels of demand. It is important to note that the SPFD is a well managed and resourced POC composite fire service. Several enhancements have been made since 2012 such as full-time firefighters for weekday response coverage, and the implementation of the Safety Codes Fire Discipline Unified Quality Management Plan including fire inspections.

There are several aspects of the department along with recommendations in this Plan that need to be considered in order to improve operational effectiveness and efficiencies. Key among the proposed recommendations is the establishment of a Standards of Cover Policy, and an operational impact and financial analysis of the agreement with Parkland County. Completing these recommendations will provide the Town of Stony Plain and the Stony Plain Fire Department with information necessary to incrementally plan for any additional resource requirements should the growth projections for the Town of Stony Plain be realized.

During a thorough review of SPFD's services, we identified 16 observations and recommendations for consideration. Although each recommendation has a corresponding timeframe, it is important to note this Plan needs to be re-visited on a regular or annual basis in order to stay pace with the dynamic activities and economy of the community. Implementation of the recommendations outlined in this Plan will better position SPFD to mitigate community risk factors, accommodate community growth and activity, while maintaining both excellent community relationship and value for money.

SECTION 1
INTRODUCTION

1.1 Project Background and Significance

Across Canada, all levels of government are facing strong demands for effective and efficient fiscal management. To meet these demands, elected officials are relentlessly looking for ways to reduce and avoid costs while still maintaining and increasing value in the delivery of services for their citizens. This environment has generated the need for communities to adopt more business-like approaches for delivering public safety services.

Senior fire and emergency service leadership, along with their municipal leadership realize they need to be proactive and examine all aspects of the service delivery systems and look for innovative efficiencies and effectiveness.

1.2 Project Scope

The goal of this project was to review the Town Stony Plain's (ToSP) existing means of fire and emergency services delivery and develop a comprehensive and fiscally responsible Fire Department Master Plan (FDMP). The outcomes are based on in-depth analysis of operations and services provided to the community using applicable legislation, and 'industry-leading' practices and standards.

This FDMP includes unbiased documented evidence and recommendations that will determine an appropriate service delivery model along with strategic priorities, action plans, timelines, resources and financial implications to position ToSP's Fire Department to effectively and efficiently deliver emergency services to the community.

1.2.1 Project Purpose

This FDMP will provide a systematic and comprehensive approach to evaluating risk and the Stony Plain Fire Department's (SPFD) capabilities within the community. Additionally, the SPFD will help formulate and communicate strategic direction and highlight opportunities for improved service delivery. Since various members of Council and Town staff participated in developing the FDMP, it will also provide an objective basis to support decision-making with respect to community emergency service needs.

1.2.2 Project Objectives

This FDMP provides the results of the in-depth analysis done on SPFD's operations and the services they provide to the community. It is to be used to determine satisfactory service delivery and position ToSP to be more effective and efficient in the delivery of emergency services through current and future challenges. This document identifies current and anticipated risks as well as applicable legislation, 'industry-leading' practices and relevant standards.

This document will serve as the ToSP's blueprint for effective and efficient fire services and identifies:

- how SPFD delivers fire and rescue services, including an investigation of underlying issues, budgets, human resources, service delivery protocols, bylaws, etc.
- how fire and emergency response services are delivered, with a view to ensuring existing efficiencies continue and effectiveness is documented and areas which require improvement are identified.
- administratively, what is and what is not working in fire and emergency response service delivery.
- needs, opportunities, and concerns with a view to requirements for streamlined and effective services for residents and safety of emergency responders, financial efficiencies, proper infrastructure, fair compensation and rewards for emergency responders, etc.
- all areas including staffing, station location, vehicles and apparatus (new and replacement cycles), vehicle and apparatus maintenance, other equipment, administration, training, mechanical, fire prevention, emergency planning and public education.
- any financial implications.

1.3 Project Approach

Our activities included an assessment of SPFD's internal operations and its services, an evaluation of any previous studies done, a review of current and future risks and recommendations for control and mitigation. Using available data that included benchmark information, comparable community analyses[1], and stakeholder interviews with community personnel, we analyzed the services provided by SPFD, both mandated and discretionary.

Our analysis considered the following areas:

- Total area of review
- Population and future growth
- Financial resources and constraints
- Economics
  - Tourism
  - Agriculture
  - Construction
  - Manufacturing
  - Utilities
  - Industrial activity
- Multi-jurisdictional requirements and cooperation
- Impacts of Government legislation
- Support services – dispatch, maintenance

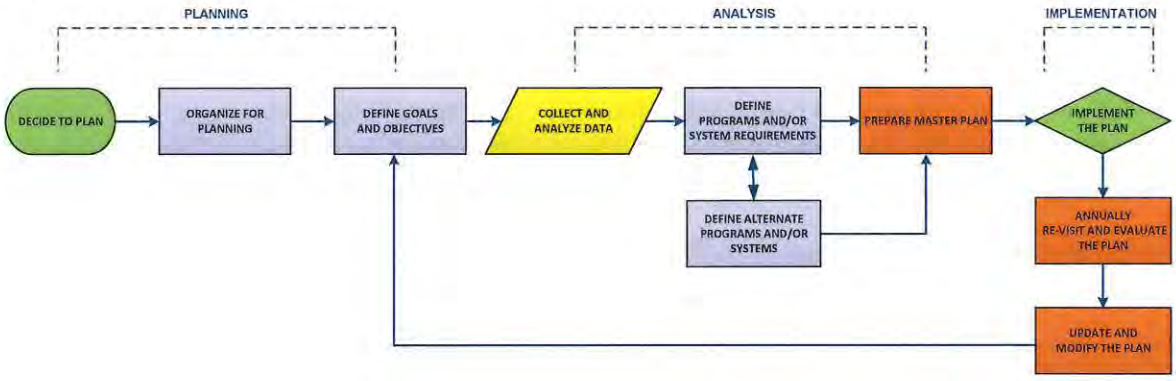
[1] *See Section 1.3.2, Community Comparable Analysis, p. 3*

- Service delivery models
- Current and future development impact on risks and response
- Community risk factors
- Apparatus and equipment requirements and inventories
- Building space requirements
- Staffing
- Administration
- Department structure, duties and workload
- Bylaws, policies and procedures
- Reporting structure and requirements
- Fire prevention & public education
- Community emergency management
- Training
- Succession planning

1.3.1 Emergency Services Master Planning Process

The following diagram illustrates the process we used to complete this plan and our recommendation to maintain it.

Figure 1: Master Planning Process



1.3.2 Community Comparable Analysis

A community comparable analysis was also conducted to analyze industry benchmarks and assess the relative strengths and weaknesses of the recommendations in this document.

Each community identified for comparable analysis was asked to complete a questionnaire regarding call volumes, budgets, per-capita costs, number of fire stations, population, response area, and staffing levels. We used 2014 – 2018 information for the purposes of this review, in order to get common information from each community.

1.4 Standards and References

This plan considers the following references and standards:

- Alberta Occupational Health and Safety, 2017
  - Firefighter Code of Practice
- Municipal Government Act, July 1, 2018
- National Fire Protection Association's (NFPA) Standards and Guidelines
- Alberta Building and Fire Codes, 2014
- Alberta Safety Codes Act, 2017
- Service provisions from similar communities

1.5 Targeted Interviews and Consultative Process

Targeted interviews were part of the data and information collection process. Participants were asked questions related to their areas of purview and expertise. An interview guide was used to conduct the interviews. This was used to promote an open discussion about community, risks, general concerns related to SPFD, and SPFD operations including strengths, weaknesses, opportunities, challenges, and anticipated changes.

Table 1: Targeted Interview List

No.	Name	Job Title
1	Tom Goulden	CAO
2	Jen Boleski	GM Corporate Services
3	Karl Hill	GM Community and Protective Services
4	Trevor Mistal	Fire Chief
5	Nolan Jespersen	Deputy Chief Training
6	Sabastian Fuhr	Deputy Chief Operations
7	Jon Schultz	Firefighter (FT)
8	Josh Hewitt	Firefighter (POC)
9	Matt Fournier	Firefighter (POC)
10	Paul Nichols	Firefighter (POC)
11	Sander Van Ingen	Lieutenant (POC)

Note: *Interview Guide is available in Appendix C*

1.6 Study Considerations

The following factors that affected both the assessment and effective mitigation of risk were considered and assessed:

Municipal Specific Considerations

- Total area of review
- Population and future growth
- Community risk factors
- Community demographic information
- Development and Area Structure Plans
- Multi-jurisdictional requirements and cooperation
- Current and future development impact on risks and response
- Financial resources and constraints
- Impacts of Government legislation
- Bylaws affecting the emergency services
    - Economic factors
    - Tourism
    - Construction
    - Industrial activity
    - Utilities
    - Retail businesses and other services
    - Agriculture
- Buildings and structures concentrating on high risk demands, including business, assembly occupancies, etc.
- Municipal Emergency Management Plans

Department Specific Considerations

- Geographic and physical boundaries for response
- Fire Department Annual Reports
- Fire service focused reports previously conducted
- Budgets – previous, current and proposed
- Current staff rosters with qualifications
- Fire station
- Support services – dispatch, maintenance
- Department structure, duties and workload
- Service delivery models
- Apparatus and equipment inventory, and future needs
- Building space requirements
- Operation staffing and administrative needs
- Long range planning

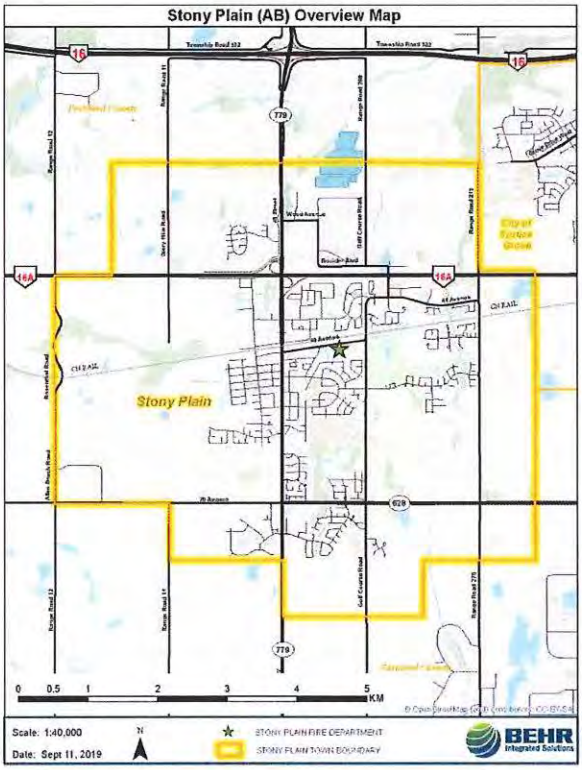
- By-Laws, policies and procedures
- Reporting structure and requirements
- Fire prevention & public education
- Emergency core service response
- Health and wellness
- Training and recruitment records and standards
- Succession planning
- GIS mapping data
- Prevention programs such as Inspections, Education and Enforcement
- Records and data management
- Emergency services standard operating guidelines and procedures

SECTION 2
COMMUNITY PROFILE

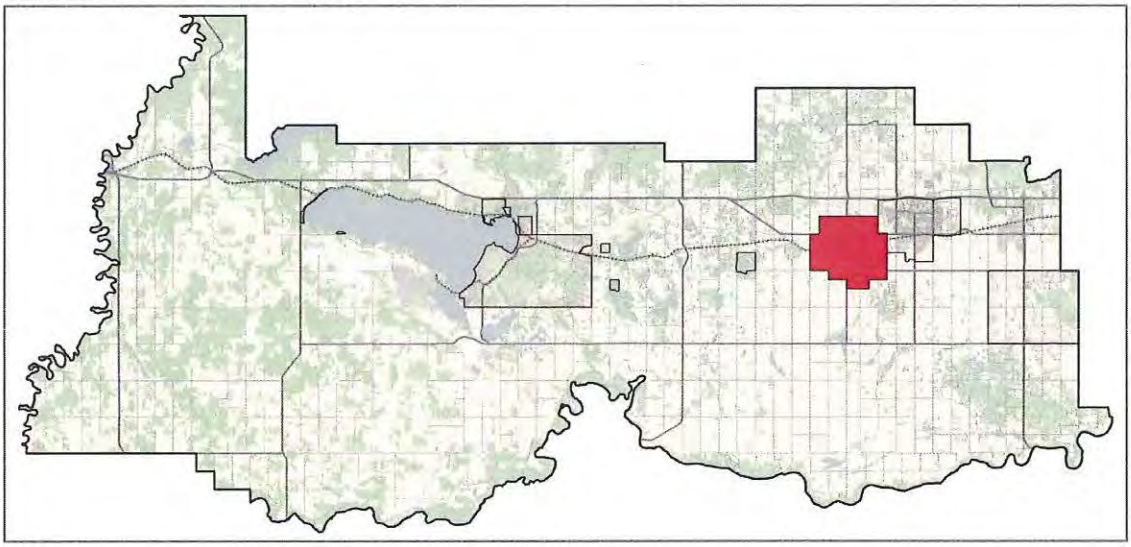
2.1 Community Overview

The Town of Stony Plain is located approximately 41 kilometres west of Edmonton along Highway 16A and is surrounded by Parkland County. It serves as the commercial centre for the surrounding district.

Map 1: ToSP Overview Map



Map 2: Parkland County – ToSP Map



2.2 Economy

ToSP's location along the Highway 16A and adjacent to the Highway 16 transportation corridor, and CNR's mainline, has supported this municipality in becoming a regional centre to neighbouring communities providing services, amenities, education and healthcare to meet the needs of those living in the area.

2.2.1 Economic Indicators

Although agriculture and food production are the primary industries in ToSP, there are several thriving commercial and light industries that support employment in the area. ToSP's location along the Highway 16 transportation corridor and the CNR mainline has supported the municipality in becoming a regional center to neighboring communities providing services, amenities, education and healthcare to meet the needs of nearly 70,000 living in the area. The Westview Health center and North-Central Co-op are the largest employers with over 1100 employees combined.

2.3 Growth Projections

Statistics from the 2019 ToSP Municipal Census show ToSP with a growing population of 17842 which is a growth of approximately 16% over the 2011 population. Municipal growth rates that are sustained for several years over 2% will result in challenges for all services provided by a municipality. The municipality's fire protection capabilities, emergency response requirements and resource commitments are measured against risks for fire and other emergencies which have a direct implication as the result of community growth and development.

Table 2: Historical Population Growth, 2011 - 2019[2]

Year	Actual Population	Increase	Annual % Growth
2001	9,589		15.89%
2003	10,544	955	9.96%
2006	12,363	1,819	17.25%
2010	14,177	1,814	14.67%
2011	15,051	874	6.1%
2015	16,127	1,076	13.75%
2016	17,189	1,062	6.59%
2019	17,842	653	3.65%

[2] *2019 Municipal Census Demographic Report*

2.3.1 Community Demographics

ToSP continues to represent a younger community with a median age category of 38 years old and 57% of the population in the 20-64-year-old working age group. 16% of residents are over the age of 65 and 27% below the age of 20. This is indicative of a family-oriented community where the aging population choose to stay.

Figure 2: ToSP Age Characteristics (Statscan 2016)

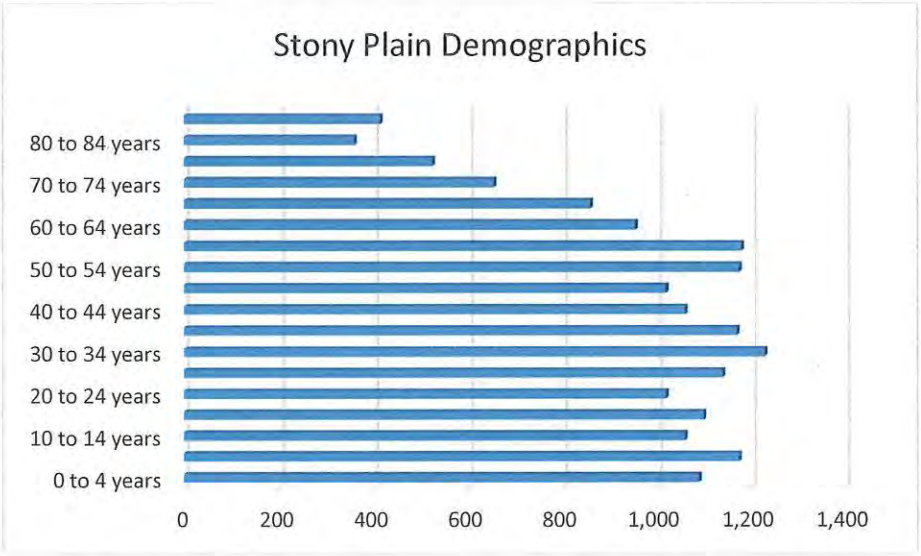
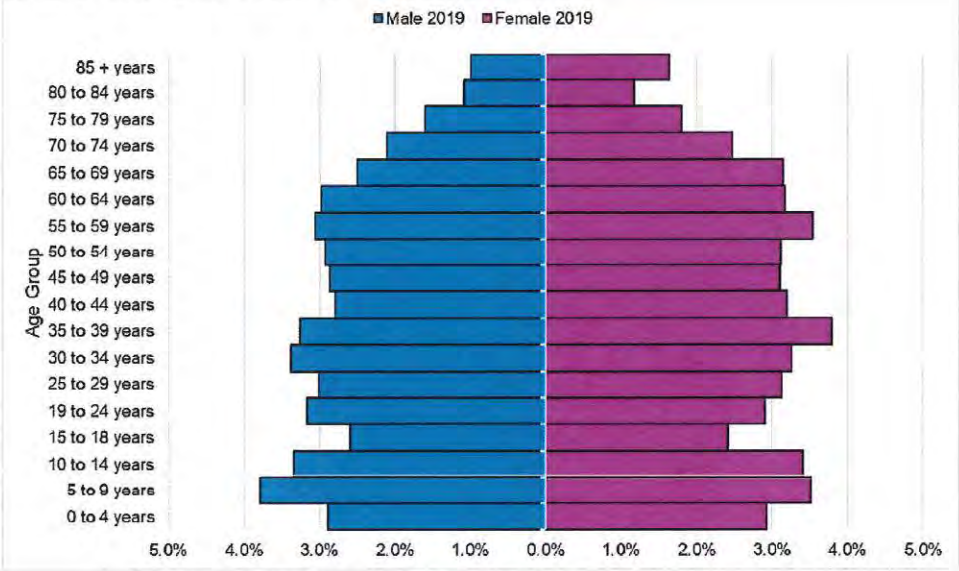


Figure 3: ToSP Gender and Age Characteristics[3]



[3] *2019 Municipal Census Demographic Report*

2.4 Community Planning and Development

The ToSP has a typical mix of residential, commercial, light industrial and institutional land use for a town with a population of just under 18,000 people and is a significant transportation hub with the rail corridor and Highways 16, 627 and 779. These factors combined with the limitations of a primarily paid-on-call (POC) composite fire service and the projected growth within the community are risk factors that need to be given due consideration as part of the ToSP's overall emergency response strategy. Specifically, these risk factors include:

- Industrial and commercial activities
- Transportation corridors
- Wildland urban interface (WUI)
- Limitations of a primarily volunteer fire service
- Growth projections
- Responses into Parkland County

SECTION 3
COMMUNITY RISK OVERVIEW

3.1 Community Risk Assessment

A community risk assessment identifies inherent risks and associates them with the fire protection and other emergency service needs necessary to effectively, and efficiently manage them. The overall purpose of conducting risk assessments is to establish an immediate, short-term and long-range general strategy for the delivery of emergency services.

Risk Evaluation

- *Identify the existing risks and assign a value to specific risks based on quantitative and qualitative data*
- *Identify management strategies for high priority risks*
- *Predict future risks*

Conducting a risk assessment is the first step towards establishing a strategic plan to manage community risks based upon local needs and circumstances. The results are used to assist the municipality in making informed decisions regarding the allocation of prevention and emergency response.

Every municipality has common and unique challenges when it comes to the safety of its citizens. Municipalities have a fundamental and legislative responsibility to conduct community risk assessments in order to provide effective public and private property protection. In general, the needs and circumstances of a community are relative to a municipality's economic situation, geography, population, fixed assets (including structures) and overall service delivery.

3.1.1 Challenges

As mentioned, every municipality has unique challenges contributing to the overall risk profile of the community. Some examples of specific challenges that may impact community risks include:

- Fire/rescue service model and response capacity
- Population and demographics
- Population growth rate
- Industry types
- Economy
- Rate of development and annexation of lands
- Transportation corridor types
- Typography
- Weather
- Historical Response Data

3.1.2 Risk Management

Image 1: Risk Management Process

Municipalities require a process to identify high priority risks which should be actively managed. The fire risk management processes include the assessment of the likelihood of the frequency and consequence of specific risks and identifying the resources necessary to pre-emptively mitigate or respond to the event. The challenge in risk management for all levels of government is finding the best balance of investment to adequately manage high priority risks to a reasonable standard. Local governments are charged with most of this responsibility. Elected officials and policy makers are the Authority Having Jurisdiction (AHJ) who ultimately determine the amount of investment and level of service required to manage risk to an acceptable level within their jurisdiction.

The ToSP and SPFD should consider the following Risk Evaluation Matrix to categorize fire and rescue service risks using probability and consequence as a method of assigning risk to individual properties. All commercial, institutional, industrial and assembly properties in the ToSP can be reviewed and then assigned to one of four risk categories seen on Risk Evaluation Matrix, Figure 4 (p. 14).

3.2 Risk Evaluation vs. Service Levels

The evaluation of fire or rescue risks must account for the frequency and severity of emergency event types. The risk is quantified by analyzing historical, current and projected data to develop appropriate levels of service necessary to manage these risks. The level of fire service required to safely manage high priority risks is determined by considering the distribution and concentration of resources.

> ***Distribution*** *refers to the number of fixed resources, such as fire stations, that are placed throughout the community. Distribution varies depending on factors related to the number of incidents and types of calls for service in the defined area.*
>
> ***Concentration*** *refers to the assembling of resources, such as work force and equipment, needed to effectively respond to an incident in each area within the community. It must also identify the availability of additional response resources including the reliability and time of arrival of a secondary responding unit.*

When determining risks, decision-makers must also understand the relationship between the of an event occurring and the consequence or impact it may have on the community.

Probability – The probability of a risk, or event type, is the determined likelihood that an event will occur within a given time period. The probability is quantified by considering the frequency of event type data. An event that occurs daily is highly probable and therefore higher risk. An event that occurs only once in a century is assessed as a lower risk as it may never occur.

Consequence – There are three types of consequences when considering possible fire/rescue response requirements:

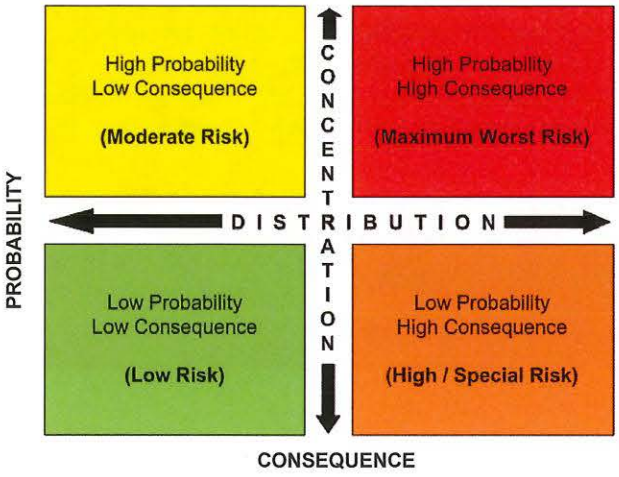
- **Life-Safety Impact:** Life-safety risk for victims and responding emergency personnel are the highest order of consequence when considering the risk associated with specific event types. Events with a high likelihood of injury/death occurring and even a moderate probability of occurring require close examination to ensure adequate resources required to safely rescue or protect the lives of occupants from life-threatening are accessible to respond. Incidents that risk life-safety include motor vehicle accidents, extreme weather, flooding, fire, release of hazardous materials, medical emergencies, and all types of rescue situations.
- **Economic Impact:** Events with high negative impact on the local economy are devastating to a municipality. For example, the fire loss of a large employer's property or key public infrastructure in smaller municipalities can be difficult to recover from. Therefore, providing adequate response capacity necessary to manage these types of events must be considered.
- **Environmental Impact:** Negative environmental consequences resulting in irreversible or long-term damage to the environment must also be considered in the analysis. Events with risk of negatively impacting water, soil and air quality are also likely to impact life safety as well as the economy and therefore must be considered.

Community impacts like the loss of historic buildings, recreation facilities or community infrastructure, are identified but do not affect how resources are deployed. The identified risks can be placed into one of four categories in the risk evaluation matrix as seen in Figure 4. As discussed, the categorization process of certain event types can be used to identify high priority risks that can be managed, and the necessary service levels required to safely manage these events.

The adopted service level goals help to determine the necessary concentration and distribution of preparation, prevention and emergency response resources. The challenge for ToSP Council and the SPFD is to find the balance between all identified risks as well as the impact of growth projections (as discussed in Section 2), and the funding to support acceptable levels of service for fire prevention and response based on the distribution and concentration of those resources.

The following matrix (Figure 4) is divided into four quadrants of risk, each of which poses different requirements for the commitment of resources to be managed safely.

Figure 4: Risk Evaluation Matrix



Different quadrants of the risk matrix need different response requirements.

Table 3: Risk Inventory (SAMPLE)

Low Risk = Low Probability and Low Consequence

This category is limited to areas or incidents having a low probability of fire risk and low consequence for the potential for loss of life or economic loss. Some low risks include:

- Outdoor fire pits
- Non-structure lightning strikes
- Vacant land
- Parks without structures
- Isolated structures such as sheds

Moderate Risk = High Probability and Low Consequence

Most responses fall under this category. Moderate risks include:

- Motor vehicle collisions
- Carbon monoxide detection (emergency medical co-response)
- Monitoring/local alarms
- Vehicle fires
- Dangerous goods incidents with small quantities of a known product (20 litres or less), outdoor odours (natural gas or unknown)
- Miscellaneous explosions
- Emergency standbys
- Smoke
- Odours
- Fires:
  - garbage
  - detached garages
  - single or multi-family residential fires
  - small non-residential buildings less than 600 square meters

High Risk = Low Probability and High Consequence

There are very few properties/responses that are considered high probability, high consequence. These properties are categorized as large properties, over 600 square meters, without adequate built-in fire protection systems, or that has large concentrations of people or has a significant impact on the local economy. High risks include:

- Commercial, industrial warehouse
- Dangerous goods incidents with large quantities of known products (75 litres or more), unknown products or large exposure
- Hospitals, care homes, institutions
- Derailments & transportation of dangerous goods
- Bulk fuel storage facility fire/explosion

Maximum Risk = High Probability and High Consequence

This category of risk can be generally categorized as properties over 600 square meters that have high economic value in the form of employment or are not easily replaceable, or natural disasters occurring in highly populated areas, creating high life and property loss potential and strains on the department and other agency resources. Damage to properties in this category could result in temporary job loss or permanent closure of the business. Such properties are highly regulated or possess built-in fire protection systems. Some maximum risks include:

- Wildland fires
- Weather related events (floods, tornadoes, serve storms etc.)
- Large vehicle accidents, pileups, derailments
- Quantities of known products (+500-1000 litres), indoor natural gas odour
- Explosions or substation electrical fires
- Confirmed natural gas leak

3.3 Structural Fire Risk Analysis

Analyzing structural fire risk in a community requires all building stock to be inventoried and evaluated. This inventory identifies the number of single and multi-family residential households, places of assembly (including schools, churches, hospitals, personal care homes, etc.), as well as all mercantile, commercial and industrial occupancies. In so doing, each building is assigned into low, moderate, high or maximum risk categories of the risk matrix.

The previous section explains that risk is based on the probability of an emergency occurring in a specific structure/facility/event etc., and the consequence of such an emergency in terms of impact. The probability/consequence matrix values can then be used to assist in determining the level of risk and the types of prevention, mitigation or response strategies needed should an event occur.

Large scale or special demand buildings such as hospitals, schools, recreation centres, care homes and multi-residential structures must be constructed and operated in accordance with Alberta Building and Fire Codes. The risk for structures like these is assessed against the response capabilities of the fire department.

As new residential, commercial and industrial buildings are added to the community inventory, it is important that emergency services be involved early in the planning and development process. This provides an opportunity to review and evaluate the impact on services and provide recommendations that would serve to mitigate new risks.

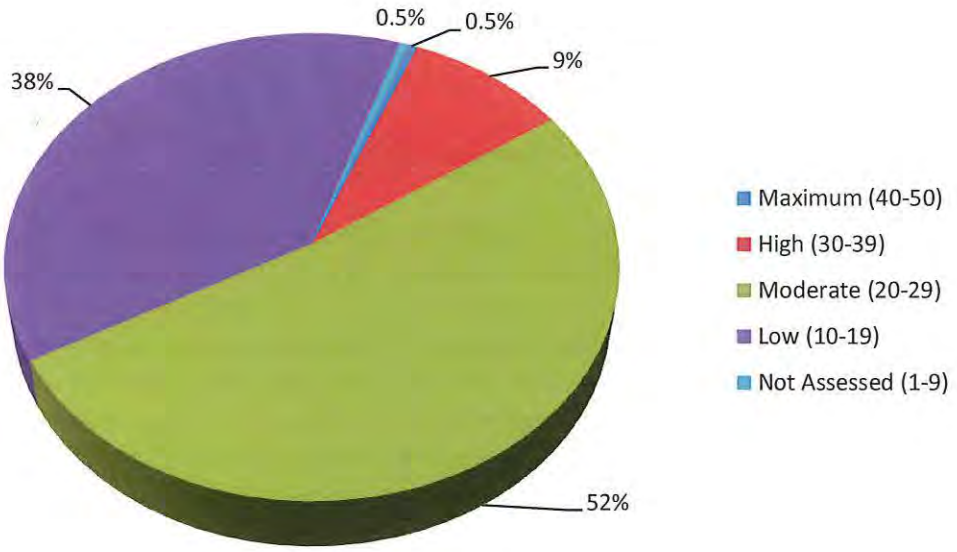
The following tables and graphs are provided as samples to illustrate how the risk profile for the ToSP can be developed. Table 4. summarizes the risk ratings for properties/buildings that contain commercial, industrial or high-risk occupancy properties.

Table 4: Property Fire Risk Summary (SAMPLE)

Risk Designation/Rating	Risk Score Total	Count	Percentage
Maximum	40 – 50	3	0.5%
High	30 - 39	53	9 %
Moderate	20 – 29	293	52 %
Low	10 – 19	216	38 %
Not Assessed	1 – 9	3	0.5%
Total		568	100%

The following sample graph displays a summary of the risk ratings for properties/buildings that contain commercial and industrial businesses and or occupancy type locations. It is provided as an example of how to assess and assign a structural fire risk rating to any given building and is based upon the major occupancy classifications provided in table above. For example, an industrial facility with large quantities of dangerous goods and hazardous processes would be assigned a maximum risk rating

Pie Chart 1: Estimated percentages of structures of varying risk levels (SAMPLE)



These samples are provided to illustrate how to assess and assign a fire risk rating to any given building based upon the occupancy classifications. For example, an industrial facility with large quantities of dangerous goods and hazardous processes would be assigned a maximum risk rating.

It is critical to use careful planning and consider alternative solutions when managing risk because the ability to increase the distribution of resources and or add resource capacity is always limited. Spending large amounts of time and resources to manage a risk with low frequency/low consequences will have limited impact and make a minimal improvement to community safety. When planning for emergency services, the planning process includes a detailed review of the frequency of events and their potential consequence(s) to ensure prevention and response efforts maximize life safety and minimize negative consequences for high priority events.

Table 5: ToSP Structure Inventory

Property Type	Total
Assembly (theatres, hotels convention centres, public facilities with high occupancies etc.)	16
Institutional (schools, hospitals, care homes etc.)	41
Residential (houses)	5875
Businesses, Mercantile	933
Restaurants	36
Industrial	NA
Total (not including industrial properties)	6901

The property counts provided in Table 5. are estimates based on data provided by the ToSP staff. Residential properties are reported to make up 85% of all properties in the ToSP. Maintaining and updating property data is of value for several reasons. This data will become the baseline for identifying high risk properties and developing cyclical inspection and preplanning programs. This information will also be used to formulate the risk management strategies for the high-risk occupancies, including identifying the adequate response resources to safely manage fire events in the high-risk properties. Further, property risk analysis data combined with event/response data then becomes the basis for establishing service levels and a Standards of Cover (SOC) document.

Observation 1: *The Government of Alberta (GoA) requires municipalities to regulate the development, construction and fire protection requirements through the application of Alberta Building Code (ABC) and the Alberta Fire Code (AFC). As discussed, it is useful to develop and maintain a property risk profile to identify high-priority risks and develop risk management strategies. The SPFD has an impressive pre-fire plan program as part of the "I am Responding" notification system. However, the ToSP or SPFD have no formal process for the collection and identification of structures in the community for the purpose of assessing/managing structural inventory risks. SPFD is accredited for the Fire Discipline under the Alberta Safety Codes Act with all full-time staff qualified as Safety Codes Officers (Fire/Building).*

In 2013, the ToSP enacted a Uniform Quality Management Plan (UQMP) applicable to Building, Gas, and Electrical and Fire disciplines. The Fire Chief has confirmed that UQMP audits conducted by the Province confirm the SPFD is compliant. Fire and life safety inspections are provided by MFD on a "request or complaint basis". Since 2012 and the SPFD staffing report there has been an informal move towards cyclical fire and life safety inspections for higher risk structures.

Recommendation #1: Develop a comprehensive a Structural Risk Inventory Program and establish a cyclical Fire Inspection Program for higher risk fire and life safety occupancies

Suggested completion: 24-36 months

It is recommended that an inventory of all building structures be classified, documented, and maintained using the Alberta Building Code Major Occupancy Classification system. It is important that an inspection of all higher risk structures be conducted and evaluated in terms of risk assessment/management matrix as described in Section 3.2, Figure 4 (p. 14). This will aid in the long-term planning of response resources (personnel and equipment) and standard operating guidelines. Furthermore, it is recommended that the Fire Chief establishes a Fire and Life Safety Bylaw that includes a cyclical inspection program that focusses on the higher risk fire and life safety risk occupancies. This ongoing assessment allows the community to be well positioned to assess the impact of future growth and the changing risk profile of the community.

Since 2012, SPFD has made enhancements towards known industry 'leading practices', recognized codes and standards such as the Alberta Building Code Limiting Distance and Fire Department Response (also known as the high intensity residential fire (HIRF)) requirements, the Code of Practice for Firefighters, National Fire Protection Association (NFPA), and other accrediting bodies such as the Commission on Fire Accreditation International (CFAI). These enhancements include:

- weekday full-time staffing to address a response shortfall
- installation of traffic pre-emption system
- revised operational guidelines with an initial response of four firefighters
- detailed collection and analysis of response statistical data

SPFD must also compare themselves with other emergency service departments to establish goals and benchmarks such as the comparative analysis included in this report.

The summary of the risks analyzed should be combined in a newly developed SOC. The SOC provides:

- an assessment of the ToSP's service environment including risks
- a description of the service delivery model designed to respond to the unique characteristics of the community and to manage the risks identified with the resources available through prevention, preparedness, and emergency response.
- emergency response benchmarks and/or performance targets for the SPFD
- a basis for evaluating performance that addresses both current and future service demands for the ToSP, including benchmark projections to identify when or if the need to transition from a primarily POC service to an enhanced composite department is required

SPFD's response time goals need to reflect a continuous process of examining performance trends, industry standards, and the unique fire and emergency response service needs of the community, such as rapid growth. The SOC development process identifies benchmarks that will consider risks and demands for service against available resources and current response/event data. This combination of data will define SPFD's performance expectations, assist in evaluating performance expectations, identify gaps and guide service improvements.

An important outcome with establishing a SOC is to obtain Council's understanding of the various risk factors and the endorsement of the service levels and response time benchmarks. This provides the Fire Chief with the basis for a business plan and accountability framework that should be measured to balance available resources and a level of service that is affordable, acceptable, and appropriate for the citizens of the community.

Observation #2: *SPFD does not have an established Standards of Cover policy that provides a comprehensive series of benchmarks that define an affordable, acceptable, and appropriate level of service for the ToSP.*

Recommendation #2: Develop a Standards of Cover policy defining service levels for the ToSP

Suggested completion: 0-24 months

It is recommended that SPFD undertake a comprehensive risk analysis of the community and develop a Standard of Cover (SOC) to effectively manage risks. The SOC is used to establish performance benchmarks for existing levels of service, while providing opportunities for continuous improvement at the same time. This would also provide a well-articulated description of services to be provided to the community with the full understanding and endorsement of ToSP Council.

Benefits of completing an SOC include ensuring that SPFD has a clear understanding of the scope of overall risk for the community while enabling them to identify the resources and response capabilities necessary to adequately address those risks. Further, a SOC ensures SPFD has a safe and effective response force for all emergencies including fire suppression, emergency medical services and specialized response situations.

3.4 Community Risk Analysis Overview

Along with the ongoing assessment of building risk in the community, the SOC would also incorporate unique community risk factors. The following risk factors should be considered as part of the overall analysis of risk and ability to respond in ToSP:

- Transportation corridors
- Limitations of a primarily POC composite fire service
- Growth projections
- Industrial and commercial activities
- Wildland urban interface fires
- Responses into Parkland County

3.4.1 Transportation Corridors

Two major transportation corridors cross ToSP in an east/west orientation. Highway 16A travels through ToSP across the town's north side while the CN Rail operates a segment of rail that travels through the centre of ToSP. Although the probability is relatively low, both modes of transportation pose the risk of a large-scale event involving the release of hazardous materials or explosive/flammable materials and affecting the life safety of large numbers of people. The consequences of these types of events could be extraordinary and as a result must be considered in the risk analysis.

Additionally, motor vehicle collisions (MVC) make up approximately 15% of the annual emergency responses of SPFD and therefore are highly probable. The majority of MVCs are assessed as moderate risk with low consequence. There is potential for larger incidents involving multiple casualties and increased consequences.

The rail line poses at least two additional risks. One, increased rail traffic increases the likelihood in blocking north/south traffic flow and delaying emergency response. Delays in travelling to the fire station and in response have occurred and are therefore likely to continue. Furthermore, a rail event near the fire station may make access to the station impossible given its proximity to the rail line. Although the probability of this occurring is low, this type of event could render the SPFD unable to respond.

3.4.2 Limitations of a Primarily Paid-On-Call (POC) Fire Service

SPFD utilizes a primarily POC/composite fire service delivery model. During the interviews with the Chief Officers and staff it became apparent that SPFD has a very professional and committed team of POC members. The limitations of a POC service as discussed in Section 4 include that many of the POC firefighters are employed outside of *ToSP* and are somewhat limited in their ability to leave their place of employment to respond. Further, increasing demands for fire/rescue services in ToSP make it more challenging for POCs to maintain a work life balance and their commitment to the SPFD. This is a trend many municipalities with POCs and volunteer fire services are trying to manage. Discussions during the interviews indicate that response time delays and reduced numbers of firefighters responding frequently occur during evenings and on weekends.

3.4.3 Population Growth

As referenced in Section 2.3 Growth Projections (p. 8), ToSP has experienced significant growth in population since 2016. Growth typically carries two direct impacts on fire service performance. One, as the population increases the demands for service increase in a correlating fashion. Additionally, as development occurs and road networks expand, travel times to the fringes will also increase. Specific types of developments, such as increases in seniors or assisted living facilities, generate a disproportionately large risk as the demand for medical services increase and in the event of fire, mobility/cognitive issues put this population at a much higher risk of injury or death. As ToSP continues to grow, the changing risks associated with growth must be considered.

This Master Plan provides the framework for ToSP to assess the impact of the growth rate on emergency services performance.

3.4.4 Industrial and Commercial Activities

Industrial and commercial buildings pose challenges to emergency services because of the size of the facilities, hazardous processes and products in the building, and the amount of personnel on site. Although both the Alberta Building and Fire Codes address fire suppression requirements for each classification, these properties can be taxing for an emergency response as they require substantially more resources, specifically, more personnel,

apparatus and water to manage safely. While these types of events are relatively infrequent, they can have significant economic and environmental impacts on a community. The ToSP does not maintain a complete database of industrial properties, making it somewhat difficult to assess the risk of current or future growth in this sector. This should be addressed as part of the structural risk inventory previously recommended.

Like most municipalities in Alberta, a large-scale commercial/industrial facility would quickly outstrip the SPFD's fire response capacity. Mutual aid or other support agreements between agencies are an essential component in developing a strategy to manage these types of events. ToSP is a member of the Capital Regional Emergency Preparedness Partnership (CREPP) agreement that pools regional resources and responses to major events. In a major event, SPFD would be the sole response for the first 20 to 30 minutes before resources from CREPP (Parkland County, St. Albert or Edmonton) could arrive on scene.

3.4.5 Wildland Urban Interface

Wildland urban interface has become an emerging issue in communities where large amounts of vegetation (fuel loads) are present. This concern requires considering the need for adequate water distribution, construction setbacks from vegetation and wildland fire training. Response statistics for wildfires are relatively low in ToSP with 62 outside fires occurring since 2015. Outside fires to Parkland County where SPFD responded were 164 during the same period.

3.4.6 Responses into Parkland County

SPFD has a Memorandum of Agreement (MOU) agreement with Parkland County to provide fire services within the area defined as District 3 in the County and other mutual aid areas. The MOU contains cost recovery schedules for the SPFD. This includes:

- Based Staffing Costs for full-time staff
- Fighter training, standby and nighttime coverage costs
- Firefighter insurance
- Cost of living allowance
- Operations and Capital cost allocations and life cycle replacement for shared apparatus, and
- Response costs including a fee schedule

Also included in this MOU is the staffing and response time capabilities that SPFD will endeavour to achieve. These staffing and response time capabilities are the rural and remote categories identified in NFPA 1720 (see Table 7, p. 27).

There is a significant draw on SPFD resources for response to emergency calls into Parkland County, with an average of 47% of total call volume over the 2015-2019 time periods. Among the challenges with this MOU is when SPFD responds outside of ToSP, it may leave the community vulnerable for sequential and coincidental calls for service within ToSP or other response areas. In addition to the recommendation below to conduct an operational and financial analysis, this agreement must be closely monitored to ensure that the operational

and financial interests of the Town and County are understood. Cost & resource sharing is typically efficient and effective for both parties but may not be viable as risk and costs escalate.

Observation 3: *On average since 2015, SPFD responds to 47% of their total call volume outside of ToSP into Parkland County. The growth projections for ToSP combined with the limitations of a POC composite service may create challenges in the future for SPFD with responses into the County and result in a system shortfall. As such, a detailed review of the agreement is considered strategically critical.*

Recommendation #3: Conduct a comprehensive operational impact and financial review of the Parkland County MOU

Suggested completion: 36-48 months

The Fire Chief should conduct an impact analysis of the County's call volume to include the total time, number of staff and sequential/coincidental calls for service while deployed to emergencies. The County pays the ToSP for these services however, a comprehensive review of the agreement should be undertaken that includes the Fire Chief's impact analysis from an operational perspective. In addition, a detailed financial analysis should be conducted to determine if the ToSP is being adequately compensated for the services provided to the County. This review should include considerations such as base rate for 24 hour/7 day per week service, administrative overhead, proportional costs based upon usage, and provide the ToSP with a cost benefit analysis to ensure that the ToSP is compensated appropriately, considering costs and risks.

SECTION 4
RESPONSE STATISTICS AND PERFORMANCE STANDARDS

4.1 Response and Service Categories

Response and service categories provide a method of capturing the diverse types of emergencies and service type responses requested of the fire service. These response/service categories, if too broad, make it difficult for the Fire Chief to determine trends or evaluate risks. Analyzing the volumes and performance data of each response type will assist in monitoring that their SOC are met. These response/service categories can be further broken down to identify specific call types which would assist in identifying trends and risks. For example, the fire suppression category encompasses all types of fire related responses. If this category is further expanded to identify responses such as kitchen or stove-top fires, chimney fires and minor fires (i.e. dumpster fires), the Fire Chief could develop specific prevention programs that target the recurring types such as cooking safety or promote chimney cleaning and maintenance as part of the public education program.

Capturing accurate time stamps for each response is a necessity to allow for the Fire Chief to analyse the actual performance criteria against required standards, whether those by NFPA or those set by the jurisdiction in their SOC or similar approved document. It is common practice to capture important benchmarks achieved on the fire scene as well as other emergency scenes. ToSP dispatch services are provided through the Parkland County Emergency Communications Centre utilizing the Priority Dispatch System, identifying specific protocol determinants for each type of emergency received. SPFD response data is initially collected by Parkland County and forwarded to the SPFD.

SPFD maintains an extensive record of all activities, including emergency and non-emergency requests. Detailed information includes:

- Type of incident
- Time stamps within the incident
- Number of personnel responding/on-scene
- Time of day
- Day of week
- Train delay if encountered
- Cancelled in station or enroute
- Inspections
- Fire investigations

This amount of data available allows SPFD administration to review their performance against set objectives. This information is managed in several excel spreadsheets maintained by the Fire Chief.

Table 6: SPFD Incident Types (2013-2018)

Residential Structure Fire	Smoke Alarm Activation
Industrial/Commercial Fire	CO Detector Activation
Vehicle Fire	Smoke Investigation
Grass/Rubbish Fire	Citizen Assist
Medical Aid	Elevator Rescue
MVC	Hazmat
Mutual Aid	Miscellaneous
Utility (Power/Gas)	Mutual Aid to Spruce Grove

4.2 Industry Standards

The most widely accepted standards for the fire service are developed by the NFPA. Several decades of research have resulted in the NFPA establishing industry benchmarks for operation and firefighter safety. The use of industry standards, such as those offered by the NFPA, does not limit a local government's flexibility to develop levels of service based upon local conditions and economic realities. Rather, the use of these standards as a guide, along with Alberta Building Code Limiting Distance and Fire Department Response (aka HIRF) requirements, Safety Codes Legislation and the Alberta Firefighter Code of Practice, can allow SPFD to establish levels of service that optimize service delivery within its fire service budget requisitions while maintaining firefighter and public safety.

NFPA has done considerable research in developing the recommended standards and ensuring they reflect the primary value of life-safety in emergency response. The NFPA's Standard 1720: Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Volunteer Fire Departments, provide clear performance standards for departments to ensure effective measurement and reporting of activities.

Alternatively, most Canadian municipalities choose to develop a performance standard based on their specific risk factors, organizational capacity and economic conditions. This type of performance standard is acceptable as there is no legislated or regulated obligation for a community to have a fire service in Alberta. In this case, the responsibility to understand community expectations and to determine an appropriate level of investment in fire service rests with ToSP's Mayor and Council.

The NFPA sets standards for intervention time, and although these are not requirements, they are widely accepted as industry best practices. They therefore provide a good standard by which departments can measure their performance and set targets. NFPA's Standard 1720 provide a basis to evaluate the SPFD's service effectiveness. Table 7 contains an excerpt from NFPA Standard 1720 that identifies the recommended minimum staff to respond (ERF), and response time based on demand zone (fire protection area) and demographics.

To comply with NFPA 1720, this table may be used by the authority having jurisdiction (AHJ) to determine staffing and response time objectives for structural firefighting, based on a low-hazard

occupancy such as a 2000 ft² (186 m²), two-story, single-family home without basement and exposures and the percentage accomplishment of those objectives for reporting purposes as required. It is important to note that the application of NFPA 1720 includes medical first response and other specialized operations (response services) provided by volunteer/POC fire departments. The table below has been extrapolated to include "all calls for service".

Table 7: Staffing and Response Time

Demand Zone	Demographics	Minimum Staff to Respond	Response Time (minutes)	Meets Objective (%)
Urban Area	>1000 people/mi²	15	9	90
Suburban Area	500-1000 people/mi²	10	10	80
Rural Area	<500 people/mi²	6	14	80
Remote Area	Travel distance >8 mi	4	Directly dependent on travel distance	
Special Risks	Determined by AHJ	Determined by AHJ based on risk	AHJ	

- *A jurisdiction can have more than one demand zone*
- *Minimum staffing includes members responding from the AHJs department and automatic aid*
- *Response time begins upon completion of the dispatch notification and ends at the time interval shown in the table*

Table 7 also includes a percentile objective for volunteer services to meet the recommended standards. In the case of urban or suburban areas, the objective would be to respond to all calls for service in 90% or 80% of the time within 9 and 10 minutes, respectively. Based upon NFPA 1720 in Table 7, ToSP would be categorized as an urban area with a recommended response/travel time of nine minutes from notification and 15 firefighters in 90% of all responses within ToSP boundaries.

4.2.1 Intervention Time

Intervention time is defined as the time between the fire department receiving notification of an emergency and commencing assistance at the scene of the emergency. Increased intervention time can have two important impacts on a landowner:

- decreased survivability for trapped victims
- increased loss in the event of an emergency
- building design restrictions
- higher property insurance premiums

Table 8: Intervention Time Defined

Intervention Time Urban:
Population >1000 people/mi²

Time Values

Notification		Intervention Time			
		Enroute Time			
Discovery	Emergency Call	Dispatch Time (Call Handling)	Assembly or Chute Time	Total Response (Including Travel)	Set-up
Time Unknown		Included	Included Min. Staffing 15	540 sec @ 90%	120 sec
Time indirectly manageable		*Time directly manageable*			

Reflex time

Response time begins upon completion of the dispatch notification and ends at the time interval shown in the table.

Upon assembling the necessary resources at the emergency scene, the fire department shall have the capability to safely commence an initial attack within 2 minutes 90 percent of the time.

Discovery: This is the time between the start of the emergency and when a person or an engineered system has detected the incident.

Emergency Call: This is the period between discovery and the actual notification of emergency services. The initial call is taken at the Parkland County E (ECC).

Dispatch Time/Notification: This is the time required to extract the necessary information from the caller to allow the proper response to be initiated. The dispatcher identifies the correct fire location and initiates the dispatch by paging the SPFD.

Assembly (Chute) and Travel Time: This is the time from when Dispatch notifies the firefighters by pager until the first vehicle leaves the station and arrives on scene. NFPA 1720 establishes that response time begins upon completion of the dispatch notification and ends at the time interval shown in Table. 8 and when the assigned vehicle arrives on scene. ToSP's population density would be categorized as urban; therefore, the response system capacity would be a minimum of 15 firefighters arriving within nine minutes in 90 percent of all calls for service. Once a vehicle leaves the station, it must negotiate the best route between that point and the location of the emergency. Factors to consider for travel time are driver skill, weather, traffic, topography, road conditions and vehicle capabilities.

Setup Time: This is the time it takes (on site) to evaluate the necessary actions, position the required resources, and commence the intervention. In the case of a fire, completing size-up, assigning the necessary tasks and deploying resources can provide delays on scene. A well-trained crew can minimize these delays while providing a safe, successful response. The recommended standard for this increment is two minutes. It is important to note that setup time is not a time increment for determining the ABC's limiting distance and fire department

response time (HIRF) and has not been considered in the response statistics analysis or theoretical mapping criteria.

There are two variable portions of the total intervention time for POC service models. The first being the assembly or chute time. The availability of firefighters to respond is variable depending upon the time of day, month, year etc. The second variable is the response travel time, which is primarily a function of the distance from the station to the incident, but is also influenced by several other factors, including but not limited to:

- The size of the response zone
- Distance to the emergency
- The layout and footprint of the community (route widths and alternatives)
- Impediments, such as weather or time of day (traffic jam)
- Transportation system (including roadways, bridges, underpasses, overpasses, railway, major highways, construction road surface, detours, etc.)

Response and travel time identified in Table. 8, Intervention Time Defined (p. 27) have been further defined as enroute and total response times. These increments are of importance for this analysis and are defined as:

- ENROUTE TIME: The time from the fire department notification (ECC call answering) to the arrival of minimum responders to the Fire Station
- TOTAL RESPONSE TIME: The time from completion of the fire department notification that includes enroute and travel time

It is important to note that the response time statistics are averages from the data provided. The procurement of a records and data management system is essential to determine the 90th percentile of actual responses with the HIRF requirements. *(See recommendation 7, p. 40)*

Table 9: SPFD Average Response Time (2018-2019)

Dispatch process time averaged over day and night	2018			2019		
*Time in seconds (rounded to nearest second)	Day	Evening	Average	Day	Evening	Average
Call process to Dispatch*	120	120	120	120	120	120
Dispatch to Enroute*	126	351	263	105	384	297
Enroute to on-scene*	184	190	187	216	201	209
Dispatched to on-scene*	310	541	575	441	705	626
Call received to on-scene*	430	661	575	441	705	626
Total response time (in minutes)	7:10	11:00	9:35	7:24	11:48	10:24

4.2.2 Effective Response Force (ERF)

In addition to the call volume statistics for SPFD, an analysis of the ERF was conducted. The initial response to an incident is currently averaging 9-10 firefighters. SPFD has recently adjusted the staffing of the initial response from a minimum of six to four firefighters. This was done to reduce the wait time at the station to achieve a properly staffed company of a minimum of four firefighters (including a qualified Officer and qualified Operator). However, consideration should be taken for each type of call for optimal deployment of staff and apparatus utilizing a critical task analysis. The SPFD critical task analysis which indicates response protocols including staffing levels for the various emergencies is included in Section 6.4 (p. 72).

As previously indicated, NFPA 1720 recommends that volunteer/POC fire services in an urban area have an ERF of 15 firefighters arriving on scene within nine minutes of notification in 90% of all calls for service. Based on the 2018 and 2019 data, responses within ToSP averaged 10.0 minutes. The average included a call-taking time of 120 seconds and a time of 7 minutes 31 seconds from SPFD notification to on-scene. Additional data would be required to determine the current 90th percentile and as such the procurement of a records and data management systems has been recommended. The average ERF for these responses was 9-10 firefighters. While this does not meet the recommended NFPA 1720 ERF, the following factors that are deemed as offsets for the response system shortfall:

- mutual aid agreement with Parkland County and Spruce Grove provide proximity resources to augment the SPFD initial response
- average 10-minute response time with 9-10 firefighters is considered very well from a primarily POC composite fire service and complies with suburban area NFPA 1720 recommended ERF
- recent installation of the traffic pre-emption system should improve response times

Observation #4: *The Parkland County ECC average call processing time is 120 seconds. The Alberta Fire Commissioner's office has deemed call processing time as part of the fire department's receipt of notification when applying the ABC Limiting Distance and Fire Department's 10-minute response regulation. Leading industry practices for Emergency Services Communication Systems NFPA 1221 indicate an optimum call processing time of 79 seconds (call-answered, verification and processing). Upon review of the SPFD response statistics it was determined that there is inconsistent utilization of pre-alerts as part of the fire department notification protocols.*

Recommendation #4: Enhance fire department receipt of notification protocols

Suggested completion: 12-24 months

It is recommended the Fire Chief working closely with the Parkland ECC develop enhanced receipt of notification protocols that include consistent use of pre-alerts and other procedures that reduces the current 120 seconds fire department notification process.

Observation 5: *NFPA 1710 applies to full-time fire departments and establishes an enroute (chute) time of 60 seconds for medical responses and 80 seconds for all other calls for service. The chute time refers to the time increment begins at the end of dispatch time until travel to the scene begins. It includes the time taken for the firefighters in the station to don their PPE (if required), assemble in the apparatus, and/or commence the travel time. The weekday average chute time is 115 seconds for 2018 and 2019.*

A further review of responses to structural fire calls for 2013 - 2019 shows an average of 15.5 firefighters responding. However, the data provided did not include the time it took to get the minimum of 15 firefighters on-scene.

Recommendation 5: Review chute time protocols

Suggested completion: 0-12 months

It is recommended the Fire Chief working closely with the weekday full-time staff review the chute time protocols to determine if any efficiency can be implemented. This recommendation is not intended to infer that the full-time staff are not responding expeditiously and would focus on current station protocols as the opportunity to reduce the chute time.

4.2.3 Firefighter Safety and Code of Practice

In 2006, the Alberta Municipal Affairs and Housing, Alberta Fire Commissioner's Office and Employment, Immigration and Industry Workplace Health and Safety Ministry staff developed an information bulletin that clarified the responsibilities of an employer in providing a safe work environment for emergency operations and fire service. This document explains several areas of the Occupational Health and Safety Code of Alberta and the expectations for a municipality or employer with respect to setting a clear understanding of what fire services will be provided and to what standard.

The Government of Alberta has prescribed minimum standards for fire service with regards to Occupational Health and Safety. Part 2 in the code outlines the planning process to ensure safety for firefighters and efficiency of operation.

Part 2: Hazard Assessment, Elimination and Control

(1) Each employer must determine exactly what emergency service(s) the fire department will be authorized to provide and identify the level or standard to which each service will be performed. This includes response to structural fires, wildland fires, and various rescue situations including technical rescue, dangerous goods and chemical, biological, radiological and nuclear (CBRN) incidents among others.

(2) Once these decisions have been made, this service level determination is usually committed to writing in the form of a bylaw, policy or guideline. The employer must then clearly communicate to firefighters what is expected from them as workers when responses are made. The means of communicating and maintaining this information

is through the collection of guidelines, (commonly referred to as standard operating procedures, or guidelines (SOPs or SOGs) and policies which describe the authorized activities of the fire service and how the activities are to be performed as required by (1) above. These documents form the basis of the written plan.

SPFD does not have a SOC policy that indicates what type of services will be provided in various situations. Key points relevant to levels of service for SPFD are the current staffing resources and understanding the resources needed to safely and effectively manage the event. The Code of Practice for Firefighters clearly outlines the requirements that firefighters must have appropriate policies and guidelines as to what resources will be deployed to an emergency incident. The following excerpt applies:

(3) The guidelines and policies required in (2) must include:

(a) Identification of the standard firefighting functions or evolutions expected of firefighters based on the emergency services to be offered, including functions or evolutions that must be performed simultaneously;

(b) The minimum number of firefighters required to safely perform each identified firefighting function or evolution;

(c) The specific worker safety rules, procedures, first aid, and medical attention services for firefighters to be followed at each type of emergency incident;

(d) The number and types of firefighting vehicles, equipment and firefighters required for the initial response to each type of emergency incident to which firefighters might reasonably be expected to respond. This includes policies or procedures to be followed when minimum staffing or equipment levels cannot be met;

e) A guideline or policy on the minimum training a firefighter must be given before being considered competent to perform certain emergency operation functions identified above;

(f) A detailed description of the incident management system to be followed at an emergency incident; and,

(g) A detailed description of the personnel accountability system to be used at each emergency incident.

Observation #6: *SPFD has SOPs and SOGs for the bulk of their operations. Maintaining current SOGs/SOPs is a labour-intensive undertaking for most departments. Discussion with the Fire Chief confirms the struggle with keeping these essential polices and guidelines current.*

Recommendation #6: Establish an efficient and effective SOP/SOG review and updating procedure.

Suggested completion: 6-18 months

It is recommended the Fire Chief establishes a review updating procedure that maintains SOPs/SOGs up to date and includes an accountability process to ensure all staff review on a recurring basis to ensure understanding and compliance. This is considered an essential requirement to comply with the Code of Practice.

4.2.4 Alberta Building Code Limiting Distance and Fire Department Response (HIRF) Requirements

As part of its commitment to addressing High Intensity Residential Fires (HIRF) in Alberta, the GoA recently amended its building and fire codes to:

- make homes safer from the spread of fire
- provide more time for occupants to escape
- provide appropriate time for firefighters to respond when there is a fire

High-intensity residential fires involve rapid heat release and fire spread beyond the point of origin that usually involve adjacent buildings (defined by the HIRF Working Group I). Typically, these fires include early exposure to large amounts of combustible materials. HIRFs can occur in any of the following groupings:

- occupied residential buildings
- unoccupied residential buildings (under construction)
- a mix of occupied and under-construction residential buildings

The intent behind the requirement is that when fire suppression staff cannot respond to a fire in less than a ten-minute total response time, buildings must be located farther away from the property line or provided with additional fire protection, such as non-combustible siding, no side-yard windows and sprinkler systems. Additional fire protection measures slow the spread of fire by either containing it or suppressing it and giving the fire department additional time to arrive before the fire spreads out of control or becomes a high intensity residential fire.

The Alberta Building Code specifies a '10-minute' total response time must be achieved for 90 percent of the incidents. The definition of 'total' response time is the time from when a fire department receives the notification of an emergency to the time when a fire department vehicle is capable of beginning fire suppression activities (typically a pumper truck with hoses and a crew) arrives at the scene of incident.

Additionally, where a fire department is unable to respond to a fire within 10 minutes more than 90% of the time, buildings must have greater protection from exposure fires. This can be achieved by two approaches. One approach is to increase the setbacks for new construction along adjacent property lines. Another approach is to reduce the likelihood of fire extension by improving the rated fire resistive design for exposed walls and unprotected openings, as well as the installation of residential sprinklers. This will have a direct impact on ToSP's Municipal Development Plan and Area Structure Plans should the development projections contained in these plans be attained.

Table 10: SPFD HIRF Type Calls Average Intervention Time 2013-2019

Averages in seconds (rounded to the nearest second)	2013	2014	2015	2016	2017	2018	2019
Pre-alert	n/a	83	87	74	87	72	48
Call received to page	163	145	163	153	149	123	134
Chute time	304	261	244	270	258	244	278
Enroute time	178	205	12	188	196	190	190
Dispatched to on-scene*	646	611	590	611	603	558	603
Total intervention time*	646	695	676	685	690	629	651
Average # Firefighters	11	12	11	11	12	10	11
Average Daytime FF's	9	8	9	10	10	9	9
Average time in minutes: seconds	10:46	11:34	11.16	11.25	11.30	10.29	10.50

Note: *The above table includes all responses to structures requiring a full response. The difference between dispatched to on-scene and total intervention time is due to the inconsistent use of pre-alerts*

When only calls to a building or structure that require a full response, SPFD are arriving on scene with a fire suppression capable apparatus on average of 667 seconds or 11 minutes and 6 seconds from notification in the Parkland County ECC with an average of 11 firefighters responding. Further, when the data only includes structure fires it shows an average firefighter response over the 2013-2019 period of 15.5 firefighters.

As previously recommended, the Fire Chief working with the Parkland County ECC needs to reduce the call processing time as much as possible to aid in extending the area that can be reached within 10 minutes. The theoretical mapping included within this Plan will show the area of coverage within town that can be reached within the prescribed 10 minutes of the ABC regulation (or HIRF).

4.3 Response Statistics

Emergency response statistics provide an extremely valuable source of information for several purposes. A careful and ongoing assessment of captured response data will aid the Administration in identifying:

- Critical response effectiveness
- Community trends
- Assessing current community risks
- Evaluating the effectiveness and compliance with National and Provincial Codes
- Evaluating the effectiveness and compliance with local bylaws
- Opportunities for preventative programs
- Identify possible efficiencies and deficiencies
- Recommendation for service level standards
- Future resource needs (Operational and Capital)
- Public education

Historical event call data for the period of 2015-2018 was analyzed and identified several basic categories of call types for SPFD:

- Fires (all categories)
- Fire alarm activations
- Emergency medical assistance (Mutual Aid)
- Motor vehicle incidents (MVI)
- Rescues
- Hazardous materials (or dangerous goods)
- Miscellaneous, i.e. electrical, standbys, smoke odors, police assist, train derailment, etc.

These categories become the basis for assessing the levels of service by analysing the current community risks and emergency response resource capability to effectively control and mitigate damage to life and property for each type of event. To obtain an appropriate level of service standard, all stakeholders must understand the risk and be open to recognizing the need for a safe and effective response.

Each type of event requires an identified amount of properly trained and equipped staff to safely and effectively complete necessary tasks, either consecutively or cumulatively in a timely manner. For this reason, the levels of service link directly to the resource model (facilities, equipment and staffing) availability.

To make informed recommendations on what level of service SPFD can perform safely and effectively, an evaluation of recent and current response data including event types, response times, and staffing availability of typical daily demands for service was completed.

The importance of capturing accurate and complete data on emergency and other service-related events cannot be overstated. With regular analysis of this data, the Administration can be proactive to the needs of their community.

4.3.1 Historical Response Data

SPFD's emergency call volume has remained relatively consistent over the last four and a half years.

- 2015-2019 Town Responses = 53.35% of total call volume
- 2015-2019 County of Parkland Responses = 46.65% of total call volume

Table 11: SPFD Call Types 2015-2019

Stony Plain Fire Department Responses						
Response Types	2015	2016	2017	2018	2019*	Total
Residential Structure Fire	10	13	19	16	9	67
Medical Assist	29	37	56	66	47	235
Industrial/Commercial Fire	5	3	4	1	2	15
Wildland	14	13	13	13	9	62
Vehicle Fire	5	4	4	6	4	23
MVC	43	39	31	43	26	182
Hazmat/Dangerous Goods			7	11	6	24
Mutual Aid	25	13	23	10	5	76
False Alarms	97	94	114	114	66	485
Utility Response	4	7	10	10	5	36
Citizen Assist	13	12	20	18	3	66
Other	12	10	2	1	0	25
Total * 2019 to September	257	245	303	309	182	1296

Pie Chart 2: SPFD Town Responses

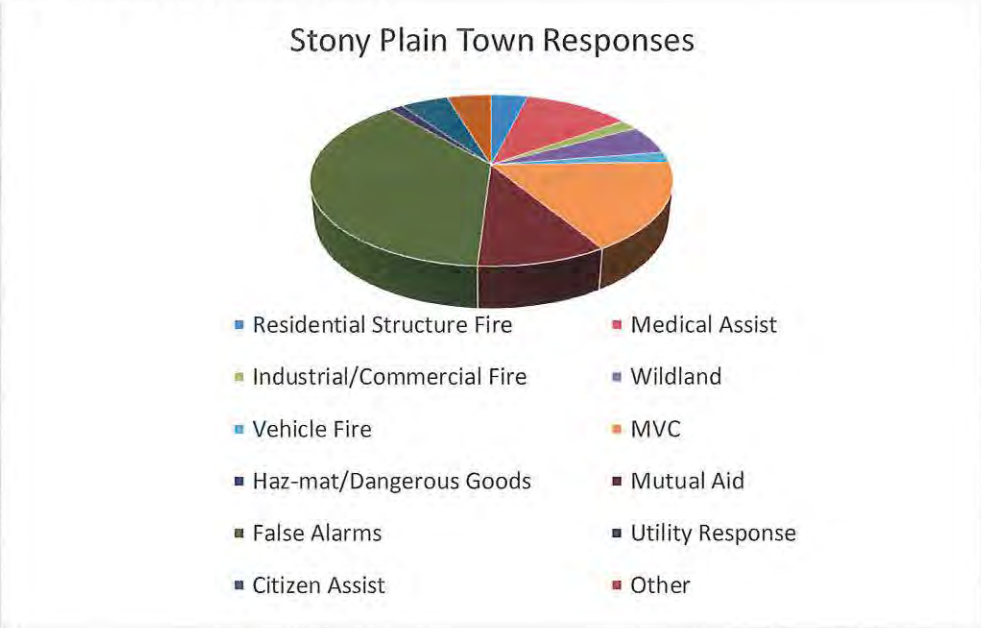
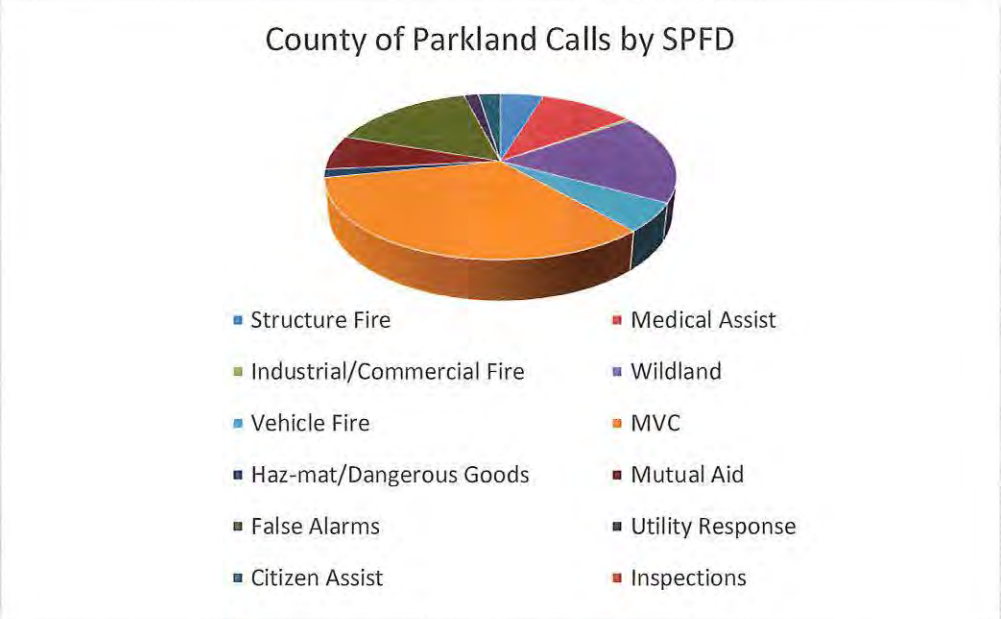


Table 12: Parkland County Call Types (2015-2019)

Parkland County Responses						
Response Types	2015	2016	2017	2018	2019	Total
Structure Fire	12	12	15	12	3	54
Medical Assist	26	23	24	18	12	103
Industrial/Commercial Fire	1	2	5	1	1	10
Wildland	44	43	22	38	17	164
Vehicle Fire	14	13	22	14	4	67
MVC	84	79	97	78	43	381
Hazmat/Dangerous Goods	4	2	5	5	2	18
Mutual Aid	17	24	24	18	9	92
False Alarms	40	41	26	48	28	183
Utility Response	4	2	10	7	1	24
Citizen Assist	6	0	15	10	6	37
Inspections	0	0	0	0	0	0
Total	252	241	265	249	126	1133

Pie Chart 3: Parkland County Calls by SPFD



The call data that is collected by SPFD provides valuable information that can be compiled and analyzed to develop ongoing or annual reports that detail the performance against approved standards. These can be in the form of written reports and/or dashboards. This information will assist SPFD Administration to make necessary adjustments in their service delivery. This information can also be provided to the ToSP Administration and Council where necessary.

Below is an example of a dashboard report that can be generated utilizing the information captured by a records management software.

Image 2: Sample Emergency Services Dashboard[4]

	Sept	YTD	Property Value
Total Dollar Loss	$ 20,000	$ 1,807,100	$ 24,774,025
Suspicious Fire	5	66	

	Sept Actual	Mthly Budget	Mth%	YTD Actual	YTD Budget	YTD%
Total	$ 1,462,500	$ 835,283	175.1%	$ 13,129,246	$ 10,026,860	130.9%
OT	$ 110,689	$ 31,051	357.1%	$ 788,343	$ 325,558	242.2%

	Sept	YTD	Targets
Training Hours	990	8,709	8,175
Avg Turnout Times - Fire Emergency	00:01:55	00:01:53	00:01:20
Avg Turnout Times - 1st Med Resp	00:01:10	00:01:31	00:01:00
Pre-plans entered	15	15	

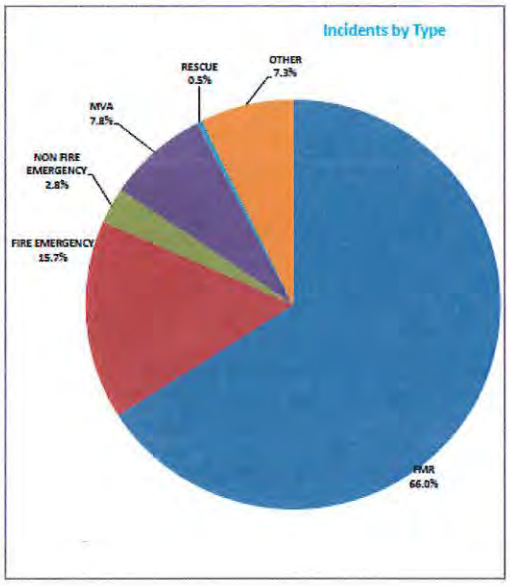
OT By Cost Centre	2014	2015	Difference
Suppression	$ 427,326	$ 732,551	$ (295,224)
Dispatch	$ 66,118	$ 35,210	$ 12,909
Prevention, Training & Admin	$ 33,065	$ 20,582	$ 12,483
All Departments	$ 518,510	$ 788,343	$ (269,833)

Dispatch	Sept	YTD	Projected	YTD %
Dispatch Incidents	2,631	23,256	32,234	72.1%
911 Call Volume	365	6,365		
			Targets	
% 911 Calls answered < 15 sec	99%	99%	95%	
% 911 Calls answered < 40 sec	100%	100%	99%	

Inspections	Current Mth Completions	Current Assigned Mth	YTD	YTD Targets
Total Inspected Properties	378	334	3761	3007
Fire Prevention Consults	53		450	
A Shift	38	40	314	317
B Shift	42	43	310	311
C Shift	34	35	317	320
D Shift	36	39	301	313
Inspectors	228	177	2319	1746

Public Education	Events	Attendees
	150	8,030

Incidents by Type	Sept	YTD	Proposed	YTD %
1ST RESP - MEDICAL ASSIST	535	5,220		
1ST RESP - <<WAIT FOR POLICE>>	1	98		
1ST RESP - CARDIAC	7	84		
FMR	543	5,402		
ALARM	75	622		
BURNING COMPLAINT	19	207		
SMOKE	7	106		
STRUCTURE FIRE	6	68	116	76%
MINOR FIRE	8	80		
WILDFIRE/GRASS/BRUSH/OUTDOOR	3	67		
CAR FIRE	8	45	64	70%
RECHECK	2	40		
CHIMNEY FIRE	0	20		
OVEN/POT ON STOVE	0	6		
EXPLOSION	0	3		
FIRE EMERGENCY	128	1,284		
CARBON MONOXIDE ALRM	7	72		
GAS/OIL SMELL/SPILL	8	54		
NATURAL GAS LEAK	5	44		
POWER/TEL/CABLE LINE DOWN	2	30		
AIRCRAFT STANDBY/INCIDENT	0	15		
PROPANE LEAK / SMELL	1	12		
HAZARDOUS MATERIAL	1	4		
BOMB THREAT	-	-		
NON FIRE EMERGENCY	24	231		
MVA/EXTRICATION	53	389		
MVA	47	250		
MVA	100	639		
LAKE/MARINE RESCUE	5	34		
RESCUE - STALLED ELEVATOR	0	3		
RESCUE - HIGH ANGLE	0	1		
RESCUE - BUILDING COLLAPSE	-	-		
RESCUE - ICE	-	-		
RESCUE - SWIFT WATER	-	-		
RESCUE	6	38		
PUBLIC SERVICE	27	204		
ASSIST OTHER AGENCY	28	139		
BURNING PILE INSPECTION	0	121		
NEEDLE PICK UP	11	95		
CONFINED SPACE ENTRY	0	36		
YE - EOC ACTIVATION	0	4		
FLOOD ASSESSMENT	0	2		
RESCUE - LOCK-IN	0	1		
WATER PROBLEM (IN STRUCTURE)	-	-		
OTHER	56	598		
Grand Total	857	8,190	9,810	84%



[4] *Source: City of Kelowna Fire Services*

Observation # 7: *SPFD maintains an extensive amount of data captured from all their activities. This information is maintained in several separate excel spread sheets that were developed in-house and appears to have been doing a satisfactory job of providing SPFD administration the necessary information to analyze their performance against informal objectives.*

Recommendation #7: Procure a records management and data tracking software

Suggested completion: 12 -24 months

It is recommended SPFD procure an appropriate record, data tracking, and performance measuring software for collection and analysis of performance objectives. In addition, develop a data reporting process such as a dashboard and/or written report to monitor the quarterly or annual performance of SPFD against formally approved objectives such as the SOC.

4.3.2 Paid-On-Call Firefighters: Challenges and Limitations

A major concern for the majority of POC and volunteer fire services is the availability of firefighters to respond to initial calls for assistance, as well as ensuring an appropriate ERF for all types of emergencies. SPFD previously identified this issue, particularly during the normal work week daytime hours, where paid-on-call firefighters are working their full-time job or otherwise unavailable. This issue is not unique to SPFD, as many POC composite fire departments face the challenge of maintaining an effective firefighting complement to consistently meet the demands of their community.

A change to the SPFD staffing model was made in 2012, where two full-time firefighters were hired, and an additional full-time firefighter was hired in 2013 and 2014 respectively to employ a compliment of four full-time firefighters available for weekday hours. This initiative has for the most part alleviated the concern of POC firefighter availability and limitations during these hours. The response data provided serves to validate the effectiveness of this change and has enhanced the SPFD overall response system capability.

SPFD currently relies on one of their two Deputy Fire Chiefs to fill the role of the Officer on their first out apparatus during the daytime hours. While this does provide an effective weekday response capability, it has created some administrative and management challenges that are discussed in Section 5.

The ability of the SPFD to effectively assemble an initial response during evenings/weekends and holidays continues to be a challenge. The time for firefighters to travel to the station for deployment is averaging a respectable 6 minutes, but significantly adds to the total response time objectives. Individual firefighter response times can be affected by time of day, traffic, rail delays, weather and other issues outside of their control. The increasing commitment required of POC firefighters may be a major impediment for some of the members of SPFD.

As call volumes increase and other department obligations increase, it is not uncommon that individual firefighters become somewhat selective on the calls they respond to.

Advancements in notification processes have improved information out to the responders but have the unintended consequence of allowing the firefighter to be somewhat selective to the types of calls they respond to. SPFD has implemented a modern emergency notification program (IamResponding[5]) to page out firefighters for response via their personal cell phones.

There are no criteria that establishes the number of POCs required that is appropriate for any given population or call volume. Rather, the key is to monitor the level of participation of each member's participation in responses and training requirements. Typically, 33% of the members are consistently active and participate in the bulk of training sessions and responses amongst POC fire services like SPFD. This is indicative of the POC firefighter limitations and cannot be interpreted as a performance shortfall for any of the SPFD POCs that cannot be as active as they would perhaps like to be. SPFD administration recognizes this and consciously encourages a proper life balance through wellness, spousal and fitness programs, and other initiatives that balance department commitments and the POC's availability.

Legislative requirements for training and certifications have increased significantly over the last number of years for firefighters. In a recent FUS article[5] the following was identified as some of the challenges/limitations of a volunteer/paid-on–call emergency response system:

Volunteerism Down

Roughly 80% of fire departments in Canada are staffed by volunteers. That means that when a building is on fire, there will be several extra minutes in total response time as firefighters need to travel from their homes or places of work to the fire hall before suiting up and responding to the fire scene with an engine.

In years past, before the digital age, participating as a volunteer on the local fire department was a fun way to be part of the local community. It seems, however, that people's lives have become busier and volunteering on the local fire department is seen more as a second job than a way to be part of the community.

This is exacerbated by businesses that historically were very supportive of volunteer fire departments, but that in recent decades have pulled their support. In fact, more and more businesses are advising their employees that they are not allowed to leave while on shift. This may be understandable since businesses are focused on producing their own financial results, which are unlikely to benefit from having employees called away in the middle of shifts, leaving their posts unmanned.

There are many factors that have resulted in the downward trend in volunteer firefighting, including location economics. Firefighters often do not live and work in the same town. In Vancouver, for example, few firefighters can afford to live in the city, so they have homes in cities like Coquitlam, Maple Ridge or Surrey, which may result in their place of residence being farther away from the fire station.

[5] *www.iamresponding.com*

An interesting side note is that many insurers assume large cities are 100% career fire forces, but this is not the case. More and more cities are looking to reduce their overhead by cutting fire department budgets and fire departments are turning to volunteer or paid on-call models to maintain some level of fire protection.

The biggest factor in reduced volunteerism seems to be apathy. More people are assuming that they do not need to contribute as someone else will. When it comes to public fire protection, however, this can have very serious consequences. A lack of standards for training firefighters has been identified as a serious problem.

There are several standards for training firefighters, but they are expensive and time-consuming to implement. The result is that most communities do not implement them. In fact, a recent study for British Columbia firefighters found it was not economically feasible to train firefighters to the minimum National Fire Protection Association Standard Level 1. For volunteer fire departments, this is a big problem, and for the communities that they serve, there is a significant liability exposure in having emergency responders who are not certified Level 1 firefighters responding to very dangerous incidents on behalf of the community. This is beyond the serious risk to firefighters themselves.[6]

The Fire Chief needs to get the cooperation from his officers to provide significant oversight of their assigned platoons to ensure that all the POC firefighters always recognise and accept the level of commitment expected of them in the goal of providing safe and effective fire response. There is a point in the growth of a community where reliance on a POC firefighting complement alone is insufficient for the actual and potential risks that exist. It is our opinion that ToSP is not at this point in their assessed risk factors and growth that warrants a full-time firefighter department.

Over the next five years, a continuous review of the response statistics as identified in this report is crucial in validating the effectiveness of their service in terms of public and firefighter safety. Should the response statistics over the next five years or less indicate that SPFD response performance is not meeting the service levels set by ToSP's Council in the SOC as previously recommended, the transition to an enhanced composite department with additional full-time staff would be required.

[6] *Reference: https://www.canadianunderwriter.ca/features/far-from-standard/*

4.4 Response Time Maps

The more strategically located a station is in a community and the more direct the travel routes are between the stations and different parts of the community, theoretically, the lower the response times will be from that fire station. Response times typically refer to the combination of call handling, enroute and response/travel time.

4.4.1 Theoretical Response Time

Response travel time is a product of the distance that must be traveled between the station and the incident and the speed travelled to the incident. The more centrally located a station is in a community and the more direct the travel routes between the stations and different parts of the community, the lower the theoretical response times will be from that fire station. ToSP's fire station is centrally located and well positioned within the community.

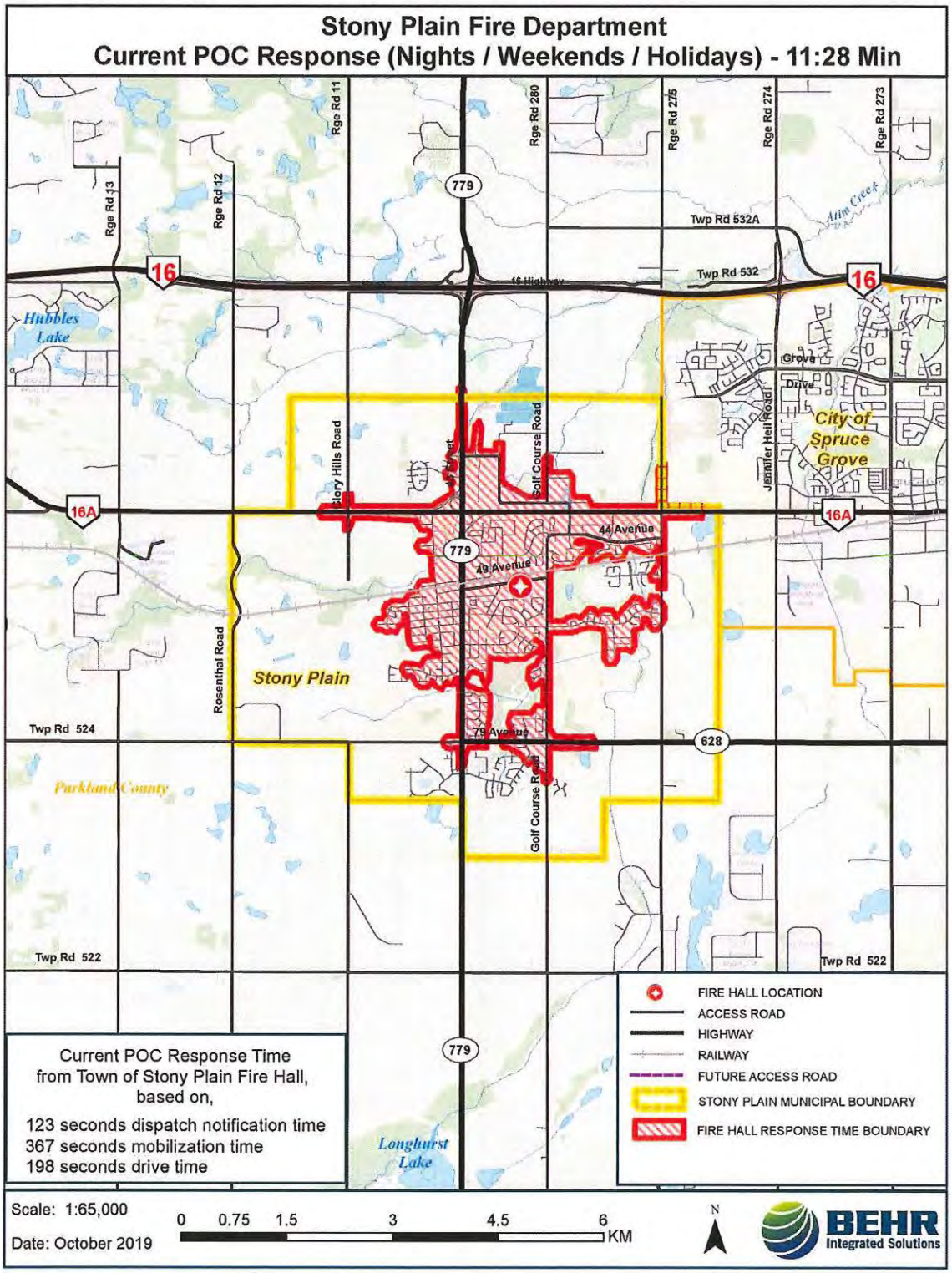
The Stony Plain Fire Protection Local Service Area is 35.61 km^2 or 13.75 sq. /mi with a population of approximately 18,000. Based upon NFPA 1720, this community would be categorized as urban area with a recommended response/travel time of nine minutes from notification. Given the assessed risk factors identified in this review regarding industrial and commercial activities, transportation corridors, urban wild-fire interface, water distribution systems for firefighting and distance from neighboring communities, it was considered prudent to examine a nine and 10-minute response time standard.

The following theoretical response maps indicate SPFD response capacity based upon the current response system average performance as derived from the response statistics:

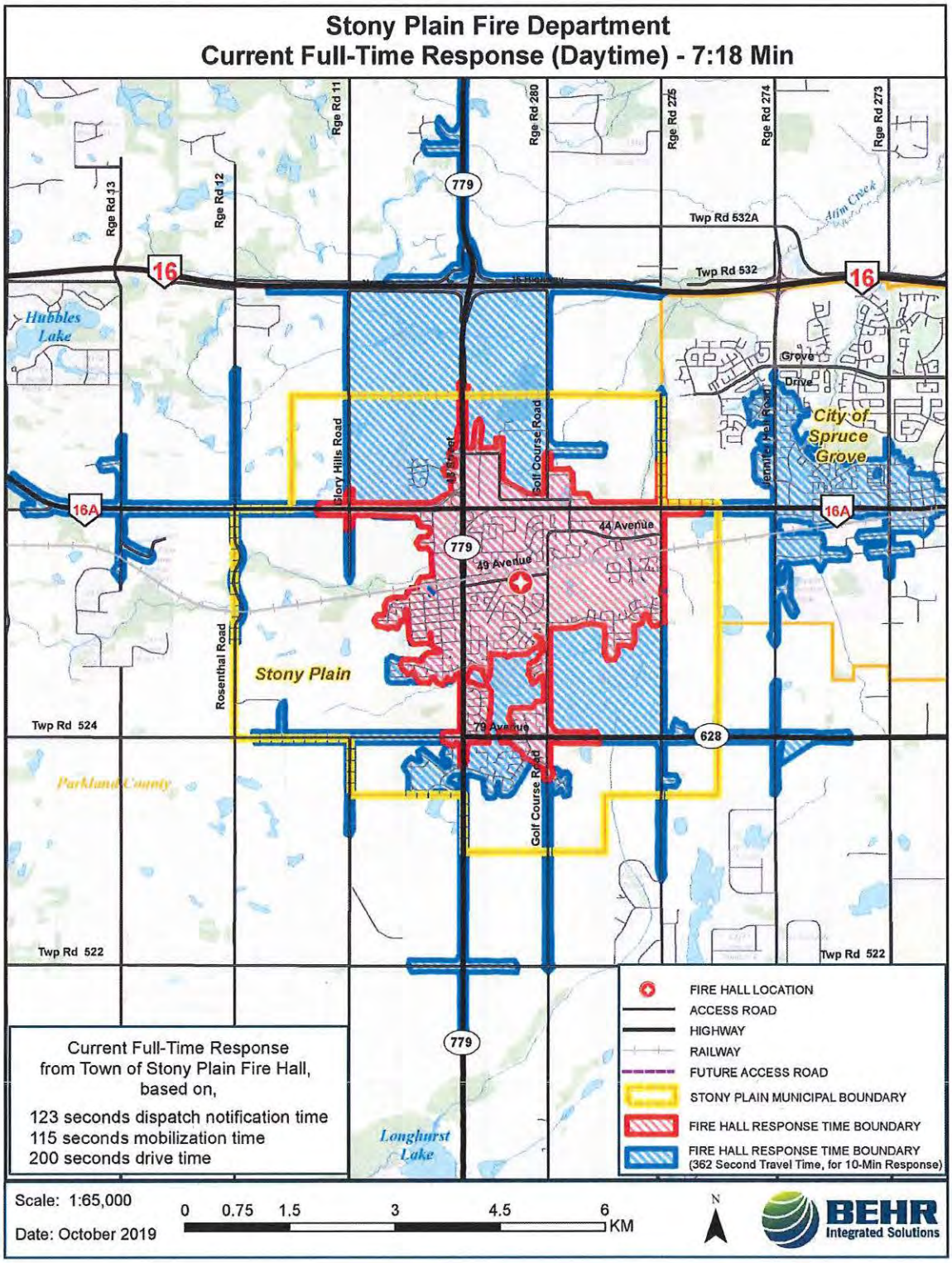
- Map 1: Nights/weekends and the primarily POC response capabilities
- Map2: Weekdays and the full-time firefighter response capabilities
- Map 3: Transition to full-time 24/7 showing the response capabilities with HIRF, NFPA 1710, and 1221 compliance

Note: *NFPA is an industry best practice guideline only, and not a requirement. Theoretical response mapping methodology is available in Appendix D, p. 101.*

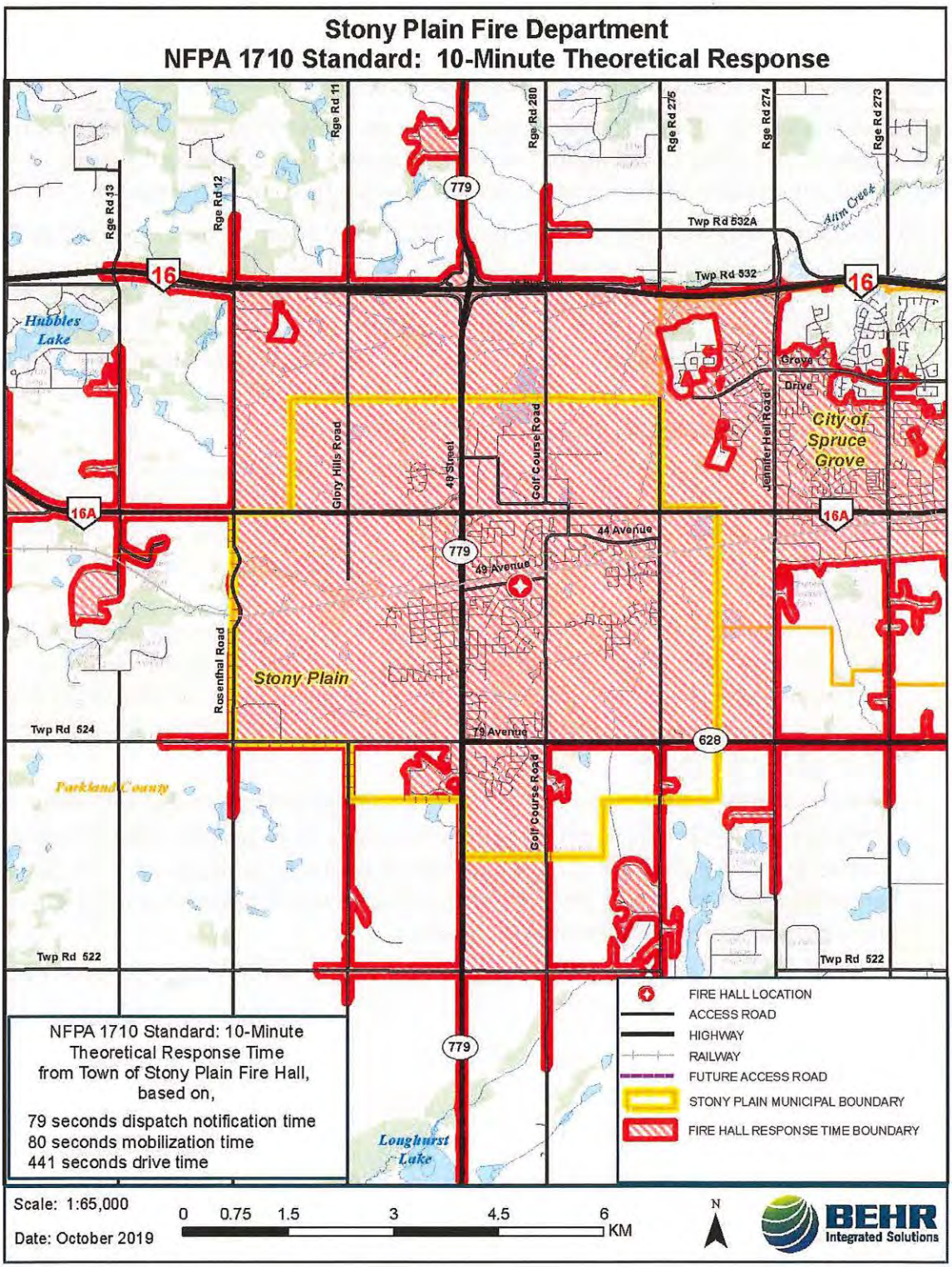
Map 3: SPFD Current POC Average Response – 11:28 Minutes



Map 4: SPFD Current Full-Time Average Response – 7:18 Minutes



Map 5: 10 Minute Theoretical Response and Transition to Full-Time (NFPA 1710)



4.5 Emergency Response Deployment System Capabilities

Current response statistics indicate a normal call volume for a community of similar size and risks. The rail network though the middle of ToSP adds to the complexity and potential resource requirements that can be anticipated for an emergency within ToSP.

As indicated in Section 4.1 (p. 24), the response statistics provided do not include the level of data necessary to validate the occurrence of coincidental and sequential responses. The response data does show relatively consistent fire responses over the last four years.

Based on industry recommended practices (HIRF, NIST[7] and NFPA), SPFD's current ERF has the critical task capability to handle one single-family residential fire. This capability assumes the minimum initial ERF of four (officer plus three firefighters) is not predisposed at other emergencies such as an EMS call or responding to Parkland County or Spruce Grove and that the initial response does not exceed 10 minutes. The following factors contribute to the response system limitations:

- **SPFD is dependent on the response of POC firefighters**

  As previously identified, the timeframe required to assemble an effective company of qualified firefighters has been, and continues to be a challenge for SPFD, particularly in evening, weekend and holiday hours This is not to lay blame on any system or individual, but rather focus on the universal challenge facing volunteer fire services in today's society.

  The ability to attract and retain volunteer or paid-on-call firefighters will be a challenge going forward, particularly with the anticipated retirements of senior members. The turnover rate of the paid-on-call firefighters has been attributed to the high demands required for training and emergency responses amidst their full-time jobs, family and personal responsibilities.

- **Volume of emergency response dispatches to Parkland County and Spruce Grove**

  On average, SPFD is dispatched to approximately forty seven percent (47%) of their total call volume to Parkland County and two percent (2%) into Spruce Grove. The financial advantage appears to be supportive of these agreements; however, a comprehensive review of the agreement should be undertaken.

[7] *https://www.nist.gov/*

- **Physical division of Spruce Grove and ToSP, divided by the CN Railway twin tracks**

  Interviews conducted have indicated concern over the physical barrier to emergency responses in the north area of ToSP. This issue is often compounded by the frequent operational requirements of CN on their rail lines that can block both responses to the north by the apparatus, as well as responding firefighters to the station from the north. The SPFD Fire Hall is built on the south side of the tracks and the Spruce Grove Fire Hall is on the north side.

  To partially mitigate this challenge, there is an informal understanding as part of the Mutual Aid Agreement between the Spruce Grove Fire Department and SPFD to support each other if the train is blocking the crossings in either community.

- **Simultaneous event capacity**

  The SPFD has little capacity to effectively and safely respond to two or more simultaneous events. Reliance on availability of apparatus from Spruce Grove and Parkland County in these instances is necessary. This issue is not unique to SPFD.

- **Significant amount of EMS Mutual Aid calls**

  Requests for medical first response and assistance for EMS is a valuable service provided by SPFD. These types of calls have averaged at 16.5% of total call volume over the past seven years, however, are steadily increasing to 25% for 2019 to date. Care must be taken to ensure that this requests for this service is within accepted guidelines.

SECTION 5
DEPARTMENT PROFILE

5.1 Department Overview

Stony Plain Fire Department (SPFD) has been proudly serving their community for since 1908. The men and women of the department have dedicated their time to fulfill the mission statement by using training, technology and commitment in providing exceptional service to the citizens of ToSP. SPFD is a proud department that values their past, embraces the present and looks forward to the challenges of the future.

Statistics from the 2019 ToSP Municipal Census (conducted from May 1 through June 12, 2019) show ToSP with a growing population of 17,842 which is a growth of approximately 16% over the 2011 population. Continued growth of the community is projected to occur in step with the greater Edmonton region.

As communities grow both in population and geographic size, it brings challenges for existing services to keep pace with the growth and increasing demands. The fire service is particularly challenged to continue to provide the level of service required as a result of increased call volumes, increased complexity, and increased geographical coverage. This can be further exacerbated as these increasing service demands place pressure on a volunteer/paid-on-call fire service and their resources.

SPFD responds out of one centrally located station that contains its headquarters, as well as their front-line fire station. SPFD is considered a primarily POC composite fire service relying on minimal full-time staff supported by POCs who respond from their respective dwellings or place of employment when needed.

Just as most fire services throughout Canada have evolved, SPFD has adapted to the increasing and diverse service needs of the community through increased specialized training and equipment. Today's SPFD delivers emergency response to much more than the traditional fire response. This includes a competent response to motor vehicle collisions, medical first response, dangerous goods spills/releases, industrial response, rail, highway, and WUI issues. Along with emergency response, SPFD performs fire inspections, pre-fire planning, public education and fire prevention public service, as well as other charitable activities within their community.

SPFD has reciprocal agreements for emergency response through a contractual arrangement with Parkland County and Spruce Grove when required. Parkland County responses account for an average 47% of their call volume (2013 – 2019). Responses into Spruce Grove have been negligible with an average of 2% of their total call volume. These percentages have been relative steady for the previous four years and place a significant place demand on the SPFD. Emergency dispatch services are provided to SPFD through the Parkland County Emergency Communications Centre (Public Safety Answering Point (PSAP)).

While volunteer/paid-on-call fire services have long valued service history with their respective communities throughout North America, there may be a point that necessitates a transition

towards a hybrid full-time/volunteer, typically referred to as a composite service delivery model. SPFD identified this point in 2014 when it became necessary to address shortfalls with the hiring of four full-time firefighters to serve during weekday, normal work hours. This initiative has satisfactorily addressed weekday response shortfalls as indicated by the superior response times during those times but continues to rely on the availability and quick response of the POC firefighters for evenings, weekends and holidays as well as supplementing normal daytime responses. With the continued growth of the ToSP community, there will be a time when a further evolution to a career full-time department will become necessary. With careful analysis of response times and other factors, the transition can be carefully planned and will not be a surprise to the elected officials of ToSP but rather such growth can be identified and implemented incrementally.

5.1.1 Mission and Vision

Town of Stony Plain Mission Statement

A strong and vibrant community where we respect our heritage, embrace the present and are excited about the future

Stony Plain Fire Department's Mission

Community, Commitment, Compassion

5.2 Human Resources

The heart of any organization is its people. SPFD is classified as a 'composite' service with minimal full-time staff, supplemented by POC firefighters who together can provide fire/rescue, emergency medical response, as well as responding to other emergency situations in ToSP and surrounding communities in either a lead or support role.

The Fire Chief and two Deputy Fire Chiefs are primarily responsible for leadership, administration, management oversight, and ancillary obligations for SPFD. The four full-time firefighters are primarily responsible for weekday response to emergencies, conducting fire inspections, pre-fire planning and public education.

The POCs are expected to respond when available any time of the day or night. These POC firefighters are remunerated for emergency response at an average amount compared to similar communities (see Comparative Compensation Analysis, Appendix E, p.110)

All staff are required to live in the ToSP; however many have their regular work obligations out of town which provides challenges for POC firefighter response, particularly during regular weekday work hours.

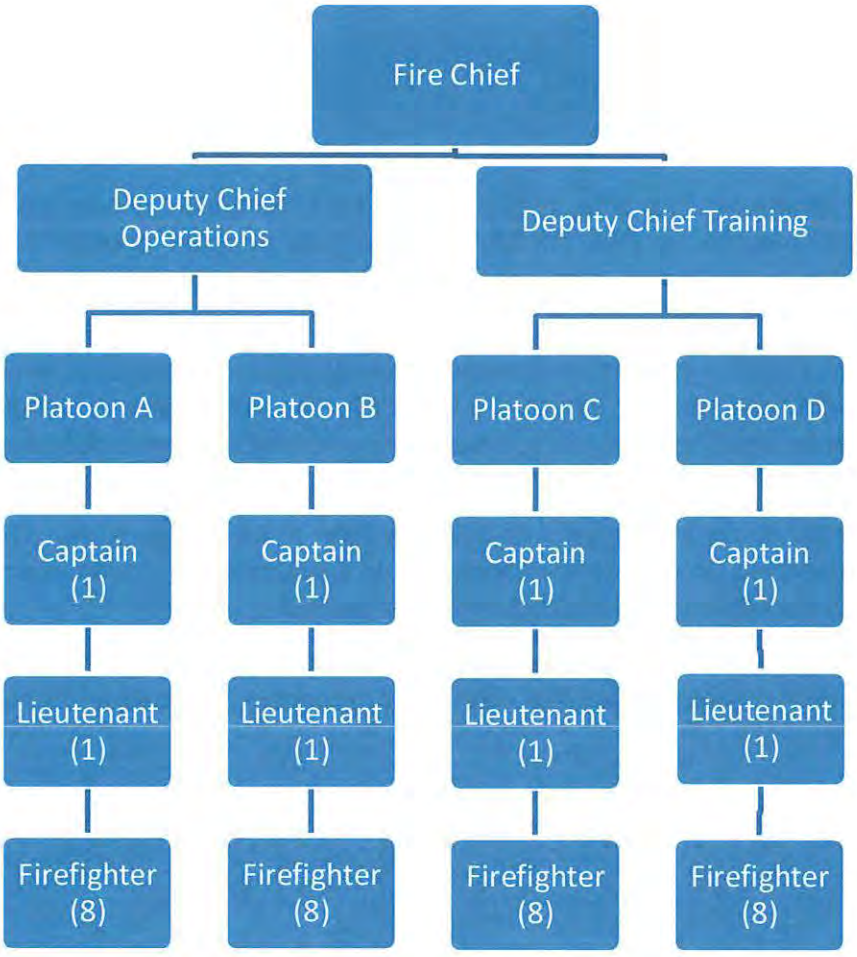
5.2.1 Staffing Complement

Stony Plain Fire Department currently consists of the following staff to deliver emergency services:

- One Fire Chief – (Permanent full-time)
- Two Deputy Chiefs – Operations and Fleet Services, and Training and Logistics (Permanent full-time)
- Four Firefighters (Permanent full-time)
- Four Captain Firefighters (POC)
- Four Lieutenant Firefighters (POC)
- 36 Firefighters (POC)

SPFD has an average staffing level of 40 paid-on-call firefighters, which varies given the recruitment and retention challenges with volunteer/POC firefighters.

Image 3: SPFD Command Structure (2018)



5.2.2 Department Leadership and Management

Effective and efficient leadership and management starts at the top to guide an organization towards success. Elected officials are relentlessly looking for ways to effectively manage and avoid costs while still increasing value in the delivery of services for their citizens. This environment has generated the need for communities to adopt more business-like approaches for delivering public safety services. Modern emergency services now require the development of business approaches such as:

- conducting regular market (external) analysis
- developing performance measures and objectives for core services including emergency response, fire prevention, public education and health and safety
- regularly monitoring and reviewing performance to determine effectiveness
- ensuring value for service

An effective organizational structure must promote and support strong, effective leadership, sound business management and continuity, and effective communication with opportunities for staff development. In some cases, this may require a shift from the historical approach of maintaining current systems to a focus on creating a future for the department that is responsive to change and is sustainable and efficient.

Emergency service leaders have also had to adopt a more business-like approach to leading and managing their departments. Along with their municipality's senior administration, they need to be proactive and examine all aspects of their service delivery systems to look for innovative efficiencies and effectiveness.

5.2.3 SPFD Administration Positions

5.2.3.1 Fire Chief

The Fire Chief is responsible for the planning, organizing, coordinating, directing and maintaining of programs, operations, facilities and infrastructure primarily utilized by the Stony Plain Fire Department, as well as the provision of contracted fire services to neighboring municipalities. As required, the Fire Chief will represent ToSP regionally, provincially, and nationally in matters relating to fire and associated emergency services.

The Fire Chief's responsibilities include:

- Managing the development and implementation of comprehensive fire prevention/education/inspection programs for the community
- Managing the development and implementation of fire training programs for the department in relation to service levels approved by Council
- Completing fire inspections and investigations as necessary
- Managing the development and implementation of department specifications and standard operating procedures for the provision of fire and related emergency service delivery

- Leads the preparation and administration of the fire services budget
- Responding to and assuming command of resources and operations for emergency response as required. This position authorizes and coordinates fire response/requests in accordance with mutual aid agreements with neighboring communities as required.
- Performing other duties, as required

5.2.3.2 Deputy Chief Core Duties

The Deputy Chief of Training and the Deputy Chief of Operations will be expected to support and work together to accomplish the required tasks to maintain a safe, productive and healthy work environment.

Deputy Chiefs' responsibilities include:

- Responding to emergency situations and work under IDLH conditions with full PPE
- Coordinating and/or delivering NFPA Firefighter and Officer training courses
- Maintaining training records and coordinate future program planning
- Participating in emergency and non-emergency department activities
- Providing leadership, mentor and support all Department members as required
- Coordinating and completing fire inspections as established and requested
- Coordinating and preparing pre-plans for fire suppression and response
- Coordinating and maintaining inventories of fire department equipment and supplies
- Conducting fire investigation and cause determination as assigned
- Incident command and/or the ability to step into any role at an emergency scene
- Assisting with policy development and recommendations pertaining to fire services
- Providing leadership and support of the overall management of health & safety within the department
- Maintaining relationships with mutual aid partners in the region and participate in activities that will cultivate and improve safety and efficient operations
- Performing all other related duties as assigned

5.2.3.3 Deputy Fire Chief: Training

This position will assist the Fire Chief in all aspects of firefighter and Officer training, administration and coordination of Department policies. He or she will be responsible to coordinate/facilitate the Department's training activities and maintain a variety of records. The position will actively respond to fire calls and will act as Incident Commander on occasion. A flexible work week may be required to meet the availability of paid on call personnel. Participation in after-hours emergency responses, training sessions and the 'Chief on-call' rotation will be required to meet the Fire Department's response

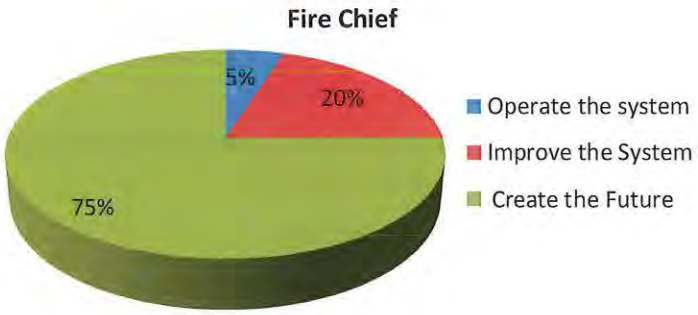
requirements. During the absence of the Fire Chief, this position may be designated as 'Acting Chief'.

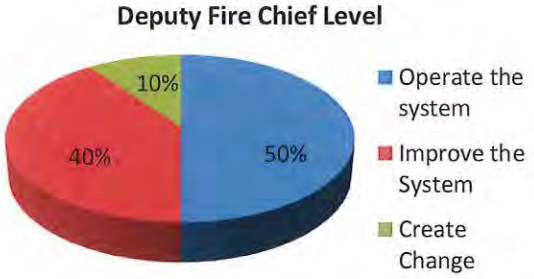
5.2.3.4 Deputy Fire Chief: Operations

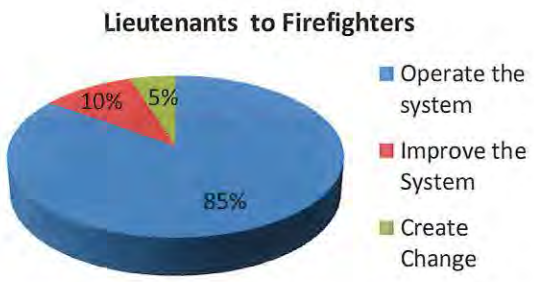
This position will assist the Fire Chief in administration and coordination of Department suppression/rescue activities. He or she will be responsible for maintaining inventories and coordinating the purchase of equipment and supplies. This position will actively respond to fire calls and will act as incident commander on occasion. Flexible work week may be required to meet the availability of paid on call personnel. Participation in after hours, 'Chief on Call' rotation will be required to meet the Fire Department's response requirements. During the absence of the Fire Chief, this position may be designated as 'Acting Chief'.

The following theoretical images suggest how to allocate leadership time to effectively manage a department:

Pie Chart 4: Fire Service Time Management[8]







When compared to similar sized departments, SPFD is operating with an appropriate number of leadership positions. The community growth projections, risk factors, POC attrition, and increasing management demands with maintaining a primarily POC

[8] *Sergeant, Chase, (2006) 'From Buddy to Boss, Effective Fire Service Leadership', PennWell, Tulsa OK*

composite service will require additional operational and administrative staff capacity. The Chief Officers should be focusing most of their time on improving the current system and creating change to meet future challenges. In our opinion there is a shortfall with operational level supervision/management. The addition of administrative support would lessen the workload for the SPFD leadership positions and create capacity for the Fire Chief and Deputies to undertake and complete fire service management and strategic level requirements including those recommended in this FDMP. The comparative community analysis (Table 30, p. 86) indicates that most of the fire services have established administrative support.

Observation #8: *During our interviews with the Deputy Chiefs and staff, a prevalent theme emerged regarding the increasing volume of administrative and management responsibilities combined with emergency response during weekday hours. Aspects such as maintaining a training plan, recording and documentation of certifications and training activities, SOPs and SOGs development and review, completing pre-fire plans, inventory management, fleet and equipment management, OHS program development, POC recruitment, etc. require significant time to undertake.*

The current practice of relying on one of the Deputy Fire Chiefs for emergency responses during weekday hours is limiting the Deputy Chiefs capacity to lead and manage the SPFD efficiently and effectively.

Recommendation #8: Establish a full-time daytime Fire Lieutenant position and administrative support capacity for SPFD

Suggested completion: 12-36 months

It is recommended that one Fire Lieutenant position be established as full-time with the responsibilities to supervise the dayshift firefighters, support operations and emergency responses, training, coordinate Safety Codes (fire inspections, prevention and investigations). Furthermore, it is recommended that the ToSP establish administrative support capacity of 20 hours per week for the SPFD.

5.2.4 SPFD Non-Administrative Positions

5.2.4.1 Captain Firefighter: Paid-On-Call

The Captain Firefighter is a front-line firefighter responsible to the Fire Chief and is required to demonstrate high-level knowledge and competence regarding all aspects of fire and rescue operations. Responsibilities include leading a team of firefighters in both emergency and non-emergency situations. This position is required to make rapid decisions under difficult conditions while considering the safety of their staff in the constant analysis of risk versus reward, and the potential consequences of such decisions. This position will be required to assume an incident command role until relieved where necessary by a higher-ranking position within SPFD.

Captains may be assigned specific portfolios by the Fire Chief in such areas as PPE, equipment, training programs, or others as deemed necessary by the Fire Chief.

5.2.4.2 Lieutenant Firefighter: POC

The Lieutenant Firefighter position assists with or assumes operational leadership roles for the safe and effective oversight of emergency operations. Lieutenants will be assigned to individual crews by incident command to safely and effectively lead teams of firefighters to complete assigned tasks. The Lieutenant may be required to act as incident commander at emergency incidents until relieved by a higher authority.

Lieutenants are assigned specific portfolios by the Fire Chief in such areas as PPE and equipment maintenance, training program delivery, and other assignments as deemed necessary by the Fire Chief.

5.2.4.3 Firefighter – Full-time and POC

Responsible to the operating Officer for performing fire suppression, rescue, and dangerous goods control functions, fire prevention and related duties. The firefighter shall participate in the Department's Occupational Health and Safety Program and comply with all departmental standards, policies and procedures.

5.2.4.4 Recruit Firefighter – POC

Responsible to the lead Training Officer or on-scene immediate supervisor for performing limited fire suppression and dangerous goods control functions under close supervision, as well as fire prevention and related duties. The Recruit Firefighter shall not be a member of an interior attack team and is not permitted to wear SCBA or work on ladders, except for training evolutions. At the discretion of the supervising Officer, the Chief or Deputy Chief, they may be permitted to support other emergency roles where proper training has been obtained. The Recruit Firefighter shall comply with all Departmental standards, policies and procedures.

5.3 Remuneration, Recruitment, Selection, Retention, Advancement, and Promotion

SPFD Administration attempts to select and retain the best individuals possible for any available position. Both the recruitment and retention of both full-time and POC firefighters remain a high priority. Again, this issue is not unique to SPFD, as most communities that rely on volunteers and/or POC firefighters to provide the necessary level of response are faced with significant challenges in recruiting new firefighters and retaining the firefighters they have.

The current rate of volunteer/POC firefighters leaving ToSP is manageable with a loss of 1-2 per year, however they do anticipate several senior members retiring or otherwise leaving the service in the next few years.

5.3.1 Remuneration

A comparative analysis of the total compensation and benefits of SPFD members was conducted against other non-unionized departments. These community departments included the towns of Hinton, Edson and Morinville, as well as the cities of Fort Saskatchewan, Beaumont and Parkland County. These departments were chosen for comparison, as they are similar in size and geographic proximity.

The analysis shows that wage pay scale and call-out rates for SPFD paid-on-call firefighters and duty officers would be characterized as being within the top third of collected peer data. Similarly, the salaries and perquisites such as vacation entitlement, additional incentive day and standby on-call rates for the Chief and Deputy Chief would also be defined as being in the top third of collected peer data. The salaries and related pay items such as pay steps and overtime rates for full-time firefighters ranks within the middle third of mean of collected peer data. While not applicable in many instances, the group benefits packages offered by SPFD is on the basic end of the comparative scale.

Note: *Please refer to Appendix E, Comparative Communities Pay Scale Analysis, Page 110*

5.3.2 Recruitment

Personnel recruitment is a key function of all emergency service agencies. The community places a tremendous amount of faith in their fire personnel, trusting them to provide the highest level of service when the public is most vulnerable. As such, the process used to select personnel should be very comprehensive.

The reasons for candidates seeking positions in a volunteer/paid-on-call fire department depend on the individual, but are typically identified as:

- The desire to contribute to the community
- Status
- Brotherhood/sisterhood
- Continuing education
- Seeking qualifications/experience towards full-time firefighter positions

Experience within the emergency services industry has shown that relaxing the requirements for entry-level positions is not the answer for recruiting any employee. Instead, most departments have had the greatest success when qualified applicants are encouraged to apply. This process often involves targeted advertising and promotional campaigns aimed at demonstrating the benefits, as well as the personal satisfaction of becoming part the fire service. Existing firefighters should be encouraged to participate in any such campaign.

Firefighting opportunities are advertised through the ToSP website, as well as word-of-mouth from existing members.

Minimum Recruitment Requirements:

- 18 years age or older
- Alberta Class 5 driver's license with 6 or less demerits
- Provide a current criminal records check (vulnerable sections check)
- Ability to communicate in English under stress
- Live in ToSP

SPFD conducts their recruitment program once per year starting in September (main recruitment drive) with intake commencing January. During this recruiting campaign, they typically attract over 20 applicants. The process selects 5-10 recruits of which a 75% typically complete the program and become part of the firefighter pool.

There are some firm requirements for recruitment for SPFD. One is that SPFD firefighters are required to reside in ToSP. This is a necessary requirement to ensure a safe and timely response is achievable. Some services have a relaxed residency requirement, particularly when an individual is employed in the response area and is available to leave their employ when requested.

A concept that may have some merit for SPFD is to recruit individuals that do not wish to or are unable to fulfill all the obligations of a 1001 firefighter. There are several functions within the service that may be able to be accomplished effectively and safely outside the role of a front-line firefighter. If certain roles could be identified by SPFD Administration, there may also be opportunity for some of the current retiring or past members to continue to contribute.

Recruitment of firefighters in a volunteer/paid-on-call service can be challenging. SPFD acknowledged these challenges and initiated several recruitment and public relations initiatives to attract suitable candidates. Interviewees have indicated that to date the recruitment of new POC firefighters has been quite successful, with a waiting list of interested candidates.

Observation #9: *SPFD has taken advantage of recruitment opportunities in the community. There is no ideal number of POC firefighters that will guarantee there are enough firefighters available for every response. As previously stated approximately 33% of the SPFD POCs are consistently active and participate in the bulk of training sessions and responses. This is indicative of the POC firefighter limitations and cannot be interpreted as a performance shortfall for any of the SPFD POCs. There is a balance of the availability of POC firefighters and the cost to train and maintain each firefighter. A key component is that each POC firefighter is doing their share of training and responding.*

Recommendation #9: POC training and emergency response consistency

Suggested completion: 6-12 months

It is recommended that the Fire Chief working closely with the POC Officers negotiate training and practice attendance and emergency response availability policies. POC Captains would be empowered to monitor their crew members and ensure POC firefighters understand and comply with the expectations of response, training and other needs.

5.3.3 Selection

Potential candidates for volunteer/paid-on-call firefighter positions go through an internal selection process requiring applications to be submitted on-line to SPFD Administration for consideration. Candidates must submit a criminal records/vulnerable section check along with a driver abstract prior to commencing any training.

Candidates will do a written test covering:

- Reading comprehension
- Mechanical aptitude
- Demonstrate an ability to understand instructions and direction
- Understanding of the SPFD profile
- SPFD panel interview

Candidates will do a physical test consisting of:

- Job related physical testing
- Must provide a medical clearance from a physician to perform firefighting operations

SPFD Administration will conduct a final review and applicant scoring and if successful will be provided with a letter of offer and be provided with a ToSP orientation.

Most volunteer/POC fire services do not impose a physical fitness evaluation or completion of the NFPA 1001 journey-person qualifications in 12 months. The minimum standards include confirmation from their physician that they are medically fit to perform the duties of a volunteer firefighter, willingness to participate in training, ability to respond to emergencies day or night on a consistent basis and living near the fire station.

The increasing costs and time commitment to train recruit firefighters is quite significant which validates the need for a comprehensive selection process. SPFD has a good selection process with several opportunities to both assess the candidate, as well as provide much needed exposure of expectations for the candidates.

5.3.4 Retention

SPFD typically loses 2-3 firefighters per year to resignation or retirement. This has led to a decrease in average years of service which now has 50% of their current firefighter complement at less than five years of SPFD service and an overall average of 7.5 years of experience. The training costs, compensation, equipment (including PPE), consumables and staff time for each paid-on-call firefighter is estimated to be $15-20K. These costs must be given due consideration when evaluating the long-term viability of the current response system and the move to an enhanced full-time service combined with a paid-on-call contingent.

The typical reasons for both the decreased interest in applying for a volunteer/paid-on-call firefighter position and ongoing retention issues include:

- Increased demands of Department time obligations
- Low call volume
- Family obligations
- Primary work obligations
- Childcare
- Physical move out from the community
- Increased training demands up to NFPA 1001 and other requirements
- Occupational and safety requirements
- Full-time/career firefighter opportunities
- Low compensation provided

Observation #10: *SPFD POC turnover rates have been manageable, with approximately 2-3 firefighters leaving each year. There is however a projection that in the next 3-5 years several experienced members are planning on leaving the service through resignation or retirement. This places an increased emphasis on training and development to ensure there are qualified individuals to effectively and safely lead their respective crews in challenging and hazardous conditions.*

The loss of more senior and experienced personnel is leading to a junior and less experienced firefighter complement for SPFD. Given this demographic shift, exploring opportunities to retain this experience in some capacity will serve the SPFD well.

Recommendation #10: Research retention opportunities of senior members and succession plan

Suggested completion: 0-12 months

It is recommended that the Fire Chief researches opportunities to retain senior and/or retiring members in non-operational roles, such as coaching, mentoring, and administrative roles. In addition, to ensure enough firefighters are trained and ready to assume Officer roles and other promotional opportunities, it is recommended that the Fire Chief establishes a sustainable succession plan.

5.3.5 Advancement and Promotion

Once a recruit commences training with SPFD, they are placed on a minimum of 12 months probation and subject to all performance and conduct expectations as contained in SPFD Policy. Recruit firefighters are carefully managed by the Captains and Lieutenants with direction from administration throughout their probationary period. Recruit firefighter advancement to full firefighter status will occur in conjunction with policy.

The following positions are filled through assessment and appointment:

- Fire Chief- Appointed by Director of Community & Protective Services
- Deputy Fire Chief Operations – Appointed by the Fire Chief
- Deputy Fire Chief Training – Appointed by the Fire Chief
- Captains – Appointed by the Fire Chief and Deputy Fire Chiefs
- Lieutenants – Appointed by Fire Chief and Deputy Fire Chiefs

Observation #11: *Feedback from the Fire Chief, Deputy Fire Chiefs and firefighters indicate that a formal promotional process is being established and developed into a policy soon. The current process has not been transparent and has created some frustration amongst potential officers.*

Recommendation #11: Fire Chief establishes a transparent and comprehensive promotional policy

Suggested completion: 12-24 months

The Fire Chief working with the POC and full-time Officers develop a comprehensive promotional policy that includes transparent and measurable criteria. Criteria such as attendance at practice sessions and emergency responses, teamwork and leadership, technical competence, commitment to SPFD for community events etc.

5.4 Training

Training and competency refer to the specific programs within a fire department, which exist to support the services SPFD provides. A prepared and competent workforce reduces risk and safely optimizes service delivery. An effective workforce-training program will align the growth and development of personnel to the organization's mission and goals.

Training and education program activities are identified by assessing the knowledge, skills and abilities (KSA) needed for the firefighters to perform their duties as outlined in the department's SOGs and Procedures. Additionally, Occupational Health and Safety (OHS) has increased the formal requirements for training and maintaining records of that training with compliance to OHS regulations, Firefighter Code of Practice, and applicable NFPA standards. When firefighters are competently trained and possess the KSAs for the services they are expected to provide, they reduce risk and increase both their own safety and the safety of the public they serve.

A significant challenge that has been identified in interviews, is the increasing volume and complexity of training required. A revised training curriculum has been recently developed to ensure the necessary training is completed and tracked. Currently the Deputy Chief responsible for training uses the *'I am Responding'* program to track training records which is working well.

The projected POC attrition, public service expectations, and increased complexity of emergency situations will require SPFD to expand their training programs and scheduling to ensure their firefighters are qualified for all critical tasks assigned. SPFD has recognized the need for the methodical development of training that encourages members to plan their future growth within the organization. SPFD training addresses core competencies as well as unique or specialized training that are required for the safe performance of duties. SPFD has recently committed to enroll each of their officers in an industry recognized Incident Command training program. This program requires extensive online and practical scenario training.

Members are also encouraged to develop and demonstrate leadership as they serve SPFD. The current training curriculum is considered effective and consistent with NFPA and other applicable standards. Provinces including Alberta are focussing on training standards for both career and

volunteer/POC fire services in attempts to standardize the training and qualifications required to serve as a firefighter. NFPA 1001 is the widely recognized firefighter standard that many provinces and municipalities base their qualifications on. For smaller communities that have POC services with lower call volumes or limited risk, it is extremely difficult to train their firefighters to this standard. The cost and time commitments combined with the travel to acquire the necessary training creates a prohibitive trend with volunteerism and has led to service level-based competencies.

As an example, British Columbia (BC) has enacted the 'Structural Firefighters Competency and Training Playbook' through the Office of the Fire Commissioner. This document is applicable to all fire services personnel in BC. This Playbook sets out the competencies required for specific service levels and the respective training and operational requirements that must be met by each fire department. Each AHJ is required to declare the level of service that they will accept for their community. The AHJ is normally the Council or Board of the applicable local government. The rationale for this approach is to establish service levels through policy that include the KSAs for the firefighters. The three levels of service are:

- Full-Service Operations Level Firefighter
    - Allows activities that are undertaken by firefighters and officers trained in the full spectrum of competencies outlined in NFPA 1001
- Interior Operations Level Firefighter
    - Include entry into simple structures for the purpose of control and/or extinguishment of fires
- Exterior Operations Level Firefighter
    - Firefighting activities restricted to the control and/or extinguishment of fire from a position external to the building or object in question

In comparison, Alberta OHS Code 2006 includes a 'Code of Practice for Firefighters' which details the Code as it relates to the operations of Fire Departments in Alberta. This code establishes the minimum standards that a fire service must comply with.

Training of firefighters is addressed in Part 1 of the OHS Code under the definition of 'competent' and in Section 15 of the OHS Regulation under 'Safety Training'.

Three characteristics are used to describe a worker as competent:

(1) Adequately qualified
(2) Suitably trained
(3) Sufficient experience to safely perform work without supervision or with only a minimal degree of supervision

Furthermore, the Code of Practice includes the following:

(1) Each employer must determine exactly what emergency service(s) the fire department will be authorized to provide and identify the level or standard to which each service will be performed. This includes response to structural fires, wildland fires, and various

rescue situations including technical rescue, dangerous goods and chemical, biological, radiological and nuclear (CBRN) incidents among others.

(2) Once these decisions have been made, this service level determination is usually committed to writing in the form of a bylaw, policy or guideline. The employer must then clearly communicate to firefighters what is expected from them as workers when responses are made. The means of communicating and maintaining this information is through the collection of guidelines, (commonly referred to as standard operating guidelines).

SPFD maintains a comprehensive schedule for required training of both the incumbent staff as well as recruits progressing through the required training. Regular training dates are scheduled throughout the calendar year with the expectation that at least 50% of the training sessions are attended. Regular training sessions are routinely conducted by the Fire Chief, Deputy Fire Chief or qualified instructors.

SPFD utilizes the training facility that is in Spruce Grove. The location of this facility affords training opportunities while only somewhat delaying response coverage to the community. The Fire Chief is in the process of formalizing a significant investment into this training facility and entering into a formal partnership agreement. This facility allows the necessary training for NFPA requirements including:

- Live fire training
- Proper apparatus staging
- Search and rescue
- Hose operations
- Rapid intervention team (RIT)
- Crew coordination
- Vehicle extrication
- Simple dangerous goods response
- Other firefighter core competencies

A limitation to the existing training facility is the need to take their apparatus outside their jurisdiction for such training. SPFD has built and maintained some unique training aids that are kept and maintained at their fire station, allowing for valuable adhoc training.

Observation #12: *Given the increased initial and ongoing training requirements for front-line firefighters, training resources should be concentrated on those individuals who are willing and able to commit to the NFPA 1001 curriculum and attendance expectations. There may be other areas within the SPFD that could utilize individuals, both active and new, who would be able to contribute in a positive way towards the goals of the service.*

Identifying and declaring the level of service in the SOC that the SPFD will provide to their community will assist in maximizing the training requirements for their staff.

Recommendation #12: Develop Scope of Practice or Level of Service document

Suggested completion: 12-24 months

It is recommended the Fire Chief identifies areas or responsibilities that would benefit SPFD, but not necessarily require the full NFPA 1001 journeyperson certification. Such opportunities may increase public participation towards the service and provide an avenue for active members who may not wish to, or be able to, continue in the full firefighter scope of practice.

5.4.1 Industry Recommended Qualifications

The following section outlines industry recommended training standards. Training for these qualifications should be provided for members in the respective roles. Training courses outside of these standards would be provided at the discretion of the Chief of Training subject to the Fire Chief's approval.

Deputy Chief and Fire Chief

- NFPA 472 Dangerous Goods Operations
- NFPA 1001 Firefighter (Level 2)
- NFPA 1002 Pump Operator
- NPFA 1021 Fire Officer (Level 2)
- NFPA 1041 Instructor (Level 1)
- NFPA 1403 Standard on Live Fire Training Evolutions
- NFPA 1521 Incident Safety Officer

Captain(s)

- NFPA 472 Dangerous Goods Operations
- NFPA 1001 Firefighter (Level 2)
- NFPA 1002 Pump Operator
- NPFA 1021 Fire Officer (Level 1)
- NFPA 1041 Instructor (Level 1)
- NFPA 1403 Standard on Live Fire Training Evolutions
- NFPA 1521 Incident Safety Officer

Lieutenant(s)

- -NFPA 472 Dangerous Goods Operations
- NFPA 1001 Firefighter (Level 2)
- NFPA 1002 Pump Operator
- NPFA 1021 Fire Officer (Level 1)
- NFPA 1041 Instructor (Level 1)

Firefighter

- NFPA 472 Dangerous Goods Operations
- NFPA 1001 Firefighter (Level 1)
- NFPA 1002 Driver/Pump Operator
- NFPA 1006 Vehicle extrication Level 1

Operator

- NFPA 472 Dangerous Goods Operations
- NFPA 1001 Firefighter (Level 1)
- NFPA 1002 Driver/Pump Operator
- NFPA 1002 Aerial Operator
- NFPA 1006 Vehicle extrication Level 1

Training Officer

- NFPA 1041 Instructor (Level 1)
- All Qualifications required to instruct firefighters and recruits
- NFPA 1403 Standard on Live Fire Training Evolutions

Safety Officer

- NFPA 1521 Incident Safety Officer

5.5 Health and Wellness

The active pursuit of employee/member health and wellness is extremely important to an organization. The benefits include:

- Decreased absenteeism
- Decrease in injuries during normal duties
- Decreased WCB premiums
- Employee career longevity
- Improved work/home balance
- Career longevity

The ToSP Council and Administration have embraced the pursuit of their employees' health and wellness through programs and incentives including the adoption of a Health and Safety Management System including:

- Joint Worksite Health and Safety Committee
- Wellness allowance
- Trans Alta Tri Leisure corporate membership
- 24/7 Employee Assistance Program
- Family discounts at Town of Stony Plain facilities (golf course & swimming pool)
- Employee $300 Health and Wellness Allowance reimbursement to promote activity

SECTION 6
CORE SERVICES

6.1 Community Service Considerations

The structure and development of a fire department must be in response to the needs of the citizens and the community. Foresight and consistent risk analysis within the community assist in emergency planning that will impact preparedness and response. Fortunately, many citizens will never have to call on the services provided by of their fire department. However, when the emergency occurs, expectations are high with respect to the services provided.

SPFD provides a variety of emergency response services. The level of these services should be based on a policy decision approved by Council such as the Standards of Cover (SOC) policy previously identified in Section 3.4 (p. 20). This policy establishes the standards for the department to assess and guide its response capacity. SPFD's principal functions based on 2015-2019 response statistics include:

- Fires (all categories)
- Fire alarm activations
- Emergency medical assistance (Mutual Aid)
- Motor vehicle incidents (MVI)
- Rescues
- Hazmat (dangerous goods)
- Miscellaneous, i.e. electrical, standbys, smoke odors, police assist, train derailment, etc.
- Fire prevention, including public education, fire inspections and investigations
- Emergency management program and Emergency Operations Centre (EOC)

False alarm (fire alarm activation) responses make up a large percentage of SPFD's call volume. During the period 2015-2019 the combined Town and Parkland County responses to this type of call was 668. It is not uncommon for many services to become apathetic to these calls and assume that they are false in nature with a minimal response. This is an undesirable practice, as alarms are quite often the first alert to a fire. Rather it would be advisable to treat these calls as a fire until the first arriving apparatus can determine that it is not the case. Many initiatives can be implemented to minimize the frequency of false alarms.

Observation #13: *Currently the ToSP has only one (1) bylaw related to the fire service. Bylaw 2236/PS/05 prohibits and controls open burning within the corporate limits of the ToSP. The volume of fire alarm activations utilizes a considerable amount of fire department resources and this substantiates a proactive prevention and enforcement program.*

Recommendation #13: Enact a Fire and Life Safety Bylaw

Suggested completion: 12-24 months

It is recommended the Fire Chief develop a Fire and Life Safety Bylaw. Provisions within this bylaw would include, but not limited to regulations for fireworks, open burning, fire alarm activations, building and occupancy fire protection equipment, functioning smoke alarms, construction fire safety plans, fire safety and evacuation plans, cyclical fire safety inspection, special events, commercial cooking and mobile food vendors, damaged or vacant structures that pose a public safety hazard, etc. This bylaw would also include enforcement criteria such as penalties for recurring fire alarm activations, and fees and permits for other fire service-related functions identified above.

6.2 Core Service Specifics

As indicated in Section 3.1 (p. 11), the Fire Chief should complete a Community Risk Assessment and SOC policy for Council approval. This policy is based upon the risk assessment framework, observations, recommendations and options contained in this report. The SOC identifies benchmarks for each service level output and identifies the achievable performance measures within the allocated resources.

6.2.1 Structural Fire Suppression

Although structural fires may appear to be a lesser significant portion of SPFD total response, they are considered the most hazardous of responses and require significant resources to safely and effectively manage.

- Fire suppression encompasses a wide range of tactics for the control and extinguishment of fires originating from several sources.
- SPFD is equipped and properly trained to respond to fires that originate within or outside a structure, allowing safe and effective rescue and suppression tactics for the control and extinguishment of fires.
- SPFD maintains a modern fleet of emergency response vehicles and equipment along with a primarily POC/composite firefighter staffing to be available for emergency response. The POC firefighters may be called upon anytime during the day or night seven days a week.

During the interview process, several SPFD staff members expressed concern over the inability and/or declining numbers of the POC contingent available to respond, particularly during nights, weekends, and holidays. During the normal weekday hours, full-time staff provide the initial response however, POC firefighter response is declining.

Recently SPFD revised the fire apparatus response policy to require only four firefighters (one Officer and three firefighters) from six (one Officer and five firefighters). This was done to reduce the wait time at the station required to achieve a properly staffed engine company. As previously recommended in Section 5.3.3 (p. 57), the Fire Chief needs to establish a more structured POC firefighter response policy that includes a monitoring function to track and address challenges.

Structure fires that require entry into the building for fire suppression and rescue require many critical tasks to occur simultaneously for the safety of both the victims and the firefighters. Each of these tasks may require one or more companies of firefighters to safely and effectively accomplish them. Without enough companies of firefighters on scene, entry may be delayed until some of these tasks are completed.

A detailed critical task analysis is included in Section 6.4 (p. 71) for the routine SPFD calls of service. For example, a typical low hazard house fire requires these tasks to be initiated in close coordination:

- Command and size-up
- Securing and distribution of the water supply
- Ventilation
- Search and rescue
- Fire attack
- Rapid intervention team (RIT)
- Exposure protection
- Salvage
- Overhaul

Complex incidents may require one or more companies to accomplish each task. Simpler incidents may have these tasks completed by one company. As indicated for ToSP, NFPA 1720 recommends a minimum of fifteen (15) staff respond to an urban area low hazard occupancy within nine minutes from the time of notification.

Note: *A low hazard occupancy example is a 2000 ft^2. two-storey, single family home without a basement and exposures.*

6.2.2 Industrial Firefighting and Response

ToSP has a minimal amount of industrial sites/activities/companies within the community. SPFD would be requested to respond in times of emergency. In some cases, industrial sites may have a specifically trained emergency response teams with varying degrees of training, equipment and expertise.

Industrial fires pose unique challenges and risks to firefighters. Many facilities contain quantities of dangerous goods and chemicals. These facilities typically have larger footprints and multiple bays or divisions. Fires in these types of facilities can get out of control very fast and may lead to a more defensive strategy of containment.

Response and access to these types of facilities can be challenging due to the response distance and physical barriers commonly found in these areas. Confirmed working fires in industrial facilities usually require extensive firefighter resources, both initially and during the containment and extinguishment phase. It is further emphasized that when the Fire Chief

completes the community fire risk assessment that it includes detailed response protocols based upon the respective risk factors contained in each site. SPFD currently has limited industrial response capabilities and is specific to industrial operations within the town. An inventory of Class A and B foam is stored onsite at the firehall As previously identified in Section 3.4.4, in a major event SPFD would be the sole response for the first 20 to 30 minutes before resources from CREPP (Parkland County, Spruce Grove, St. Albert or Edmonton) could arrive on scene.

The water supply that may be required to extinguish industrial fires may be well beyond the capacity of the water system and require shuttling of water or relay pumping to the site. The Fire Chief has indicated that a Fire Underwriter's Survey (FUS) is currently underway and the analysis will include an assessment of the water supply available for firefighting in ToSP industrial sites.

6.2.3 Motor Vehicle Collisions

Vehicle collisions with/or without trapped persons can pose unique hazards to both the victims and responders. SPFD has the training and capability to respond to emergencies involving vehicles ranging from small passenger cars to transport/commercial vehicles. In addition, they have the training and equipment to perform motor vehicle incident (MVI) response and extrication.

ToSP is serviced by Highway 16A with significant light to heavy vehicle traffic. Emergency responses to vehicle incidents (Town: 182, County: 381) have accounted for 23% of SPFD responses for the 2015-2019 period. The ToSP and Parkland County agreement provides cost recovery for responses into District 3. As recommended in Section 3.4.6 (p. 22) the review of this agreement should include MVC responses, among other types of calls, to determine proportional costs based upon usage.

Vehicle extrication requires specialized training and equipment. Extra resources and close coordination with other emergency services is necessary for the safety of both victims and responders. Weather conditions and time of year also contribute significantly to both the severity of the incident and the effectiveness of the response.

Many of modern vehicles have added risks to firefighters, such as airbag deployment and hybrid vehicles. Vehicle collisions or events involving transport vehicles often pose the additional challenge of involving dangerous goods or requiring heavy equipment to manage.

Note: *All SPFD firefighters are trained and competent in vehicle firefighting and extrication.*

6.2.4 Medical First Response (MFR)

Medical first response is a valuable service that SPFD provides to their community in support of Alberta Health Services EMS. While the number of staff required and duration of each call is usually smaller, the number of response requests demonstrates the value of this service.

Through policy, SPFD maintain all firefighters to a minimum level of CPR Health Care Provider and Standard First Aid with enhanced skills. Data provided by SPFD statistics (2015-2019) indicate that the combined total (Town: 235 and County: 103) represents 13% of SPFD's total

call volume. Requests for this service ranges from life threatening (Delta and Echo category) to lower risk calls, including lift assists.

Many fire services in Alberta have similar agreements with AHS with the goal of enhancing the life-safety to their citizens. They provide MFR to their community, either as a primary EMS provider or in support of the AHS.

It is important that the MFR service provided by SPFD is intended to provide an enhanced level of pre-hospital care in ToSP and Parkland County and is not a replacement for inadequate resources from AHS or Spruce Grove EMS. Fire services that participate in the MFR service are intended to be for the high acuity emergencies such as Delta and Echo category calls.

Observation #14: *As MFR requests often require POC firefighters, the impact on SPFD can be significant if not closely monitored. Interviews conducted with staff indicate that MFR calls are not overwhelming the response system capacity. They believe this type of medical first response is extremely important to the community and feel they can contribute significantly to life-threatening calls. The SPFD medical first response program is deemed a relatively low cost, highly valued and effective service for* ToSP.

Recommendation #14: Closely monitor the use of mutual aid calls for Medical First Responder Program

Suggested completion: 12-24 months

It is recommended that SPFD works closely with AHS to ensure their medical first service is utilized in the most effective and efficient manner. Changes may be required to the MFR program if this service impacts the SPFD's response capabilities and the POCs availability to respond.

6.2.5 Wildland Urban Interface Firefighting (WUI)

ToSP is surrounded by large farmland areas, which poses an insignificant WUI threat to the community. None the less interface fires can occur and require a quick response from SPFD. Wildland responses in ToSP during the period 2015-2019 indicate a total call volume of 62, whereas calls into Parkland County were 164 for the same period.

6.2.6 Dangerous Goods (DG) Response

Response capabilities should align with service levels defined in the NFPA 472: Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents service level matrix. It essentially requires that departments without advanced hazmat training take only a limited role in hazmat response.

- The first level involves an operational awareness of hazardous materials that enables emergency response crews to operate and respond safely. This level entails a primarily defensive response where crews may limit the spread of the leaking materials by diking and damming the flows. I t does not involve donning protective

suits to enter the contaminated zone to stop the flow of hazardous materials or conducting decontamination.

- The second level requires a more advanced hazardous materials response capability that involves considerably more technical training and equipment. This level is referred to as a 'technician level,' with crews trained to don protective suits, enter the hot zone to stop the flow of the product, and establish a decontamination zone for responders and equipment.

SPFD trains to and maintains the NFPA 472 Awareness level for all staff, which allows for a dangerous goods response limited to identification, isolation and containment of dangerous goods products. There are 35 firefighters trained and equipped for defensive DG operations. Offensive tactics, advanced or specialized services would be requested from the City of Edmonton, a product manufacturer or private contractor.

Given the training and equipment required to achieve the second level of hazardous materials response, a department must carefully consider whether this level of response is necessary for the protection of the community. Over the last four years, SPFD has experienced 42 responses that could have been classified as DG incidents, but no mutual aid requests for higher level responses were required. These could be considered minor to moderate level events in terms of community risk and impact.

Many fire departments which have significant dangerous goods products passing through their community partner with carriers and producers or government to assist with advanced training and response equipment to offset the often-costly expenditures necessary to safely handle these types of emergencies.

6.2.7 Technical Rescue

Specialized rescue operations are unique situation tasks that require specialized equipment and training with constant monitoring to ensure the equipment and response expertise meets the necessary requirements and that all the members' skills meet the competency level required. SPFD maintains training and equipment for more basic technical rescue to the types of potential rescue situations anticipated within their community.

- Vehicle extrication
- Surface (static) water rescue
- Surface ice rescue
- Trench rescue/confined space rescue (SPFD support role for ToSP Utilities)
- High angle rescue (if accessible with Ladder 3 only, otherwise not equipped))

Note: *These specialized areas require extensive equipment and training to be maintained to ensure preparedness in the event of an emergency.*

The response statistics provided by SPFD do not categorize technical rescues. There may have been instances where a component of technical rescue was required along with other types of emergency responses. The procurement of a data management system that includes an enhanced level of detail for responses will capture technical rescue activities.

Local fire departments are often requested to respond to industrial sites in the event of a rescue situation that is beyond the site's Emergency Response Team (ERT) capabilities. Many fire departments have worked together with industry and government to assist with funding for equipment and training to a mutual benefit. Often local fire departments will be invited to actively participate in emergency exercises conducted by local industry or agencies, which is beneficial for all parties.

Given the difficulty, equipment and specialized training necessary to safely handle these types of emergency responses, it is prudent that enough firefighters are trained. SPFD trains all their firefighters to the minimum level for the services provided and detailed above. The ToSP Public Works & Utilities department are trained and equipped for situations that they may encounter at their worksites (confined space rescue, basic trench collapse). SPFD has participated in joint training exercises with Public Works & Utilities and would be a support agency if required.

Observation #15: *The SPFD informally considers the ToSP Public Works & Utilities Department to be an emergency response support agency for confined space and basic trench collapse rescue operations that are not ToSP worksites.*

Recommendation #15: Formally establish ToSP Public Works & Utilities as an emergency response agency for technical rescue operations

Suggested completion: 12-24 months

It is recommended that SPFD and the Public Works & Utilities Department establish an interdepartmental agreement that clearly identifies the respective roles and responsibilities for any technical rescue operations that occur within the town.

6.2.8 Natural Gas and Electrical

SPFD's role in these types of emergencies usually involves an identification and isolation of the hazard, while working very closely with experts in these areas to ensure a safe resolve. The response statistics provided did not specifically identify any natural gas or electrical responses. Incidents of this nature are statistically tracked as "Utility" calls. While these are a relatively small percentage of total call volume, these types of calls require close coordination with Utility providers and are typically labour intensive.

6.2.9 Citizen Assist

Calls of this nature are usually of a lesser severity; however, they are also of high importance to the citizens involved. These types of calls are usually more of a customer service or public relations nature. SPFD total call volume (Town: 66 and County: 37) during the period 2015-2019.

6.3 Emergency Management Program and EOC

The Alberta Emergency Management Act legislates that all Municipalities are responsible for managing the first response to an emergency event. They are compelled to establish and have approved emergency response plans and programs. In ToSP, this program is led and managed by the Chief Administrative Officer within the provisions of Emergency Management Program Bylaw 2533/PS/15. The Director of Emergency Management (DEM) is the Community and Protective Services Manager with the Fire Chief filling the role of Deputy DEM. Fire Department staff provides the Operations Chief role for EOC activations. The EOC is in Town offices with the backup in the training room of the Fire Station. Alterative EOCs are identified in Spruce Grove and Parkland County Offices. There is an EOC familiarization course scheduled for December 2019.

ToSP actively participates in emergency management activities through their partnership in the CREPP.

6.4 Critical Task Analysis

A fire company is defined as the team of firefighters assigned to a fire apparatus. A comprehensive report issued by the National Institute of Standards and Technology identifies the optimum number of members for a fire company necessary for the most effective completion of the over 22 essential fire ground tasks at a typical single-family house fire. On average, a four-member crew operating on a structure fire completed all the tasks on the fire ground seven minutes faster (nearly 30%) than the two-person crews. The four-person crews completed the same number of fire ground tasks 5.1 minutes faster on average (nearly 25%) than the three-person crews.

On the medium-hazard residential structure fire, adding a fifth person to the crews did not decrease overall fire ground task times. However, it should be noted that the benefit of a five-member crew was not documented. NFPA recommends that for a standard single-house residential fire that a minimum 16 firefighters are required for a full alarm assignment. The tables below depict the typical critical tasks that need to be performed at the various FFD response types.

SPFD has completed a detailed critical task analysis. The table below identifies the number of firefighters required for optimum and minimum capacity based upon the apparatus' operational role. Firefighting apparatus responding with less than two members are restricted to only respond without emergency lights or sirens.

Table 13: SPFD Apparatus Optimum Staffing Capacity

Apparatus Call Sign	Description	Optimum Min/Max Staffing Capacity
Engine 3 (E3)	Class 'A' Pumper	Min 4 – Max 6
Ladder 3 (L3)	Quint Articulating Ladder	Min 4 – Max 6
Engine 3-1 (E3-1)	Class 'A' Pumper	Min 4 – Max 5
Rescue 3 (R3)	Heavy Rescue	Min 4 – Max 6
Tanker 3 (T3)	3000 gal. Tender	Min 1 – Max 2
Squad 3 (S3)	Bush Truck	Min 2 – Max 5
Rapid Deployment Unit (RDU)	Rehab/Command Trailer	Rehab/Command Trailer
Car 3, Truck 3, Unit 3	Officer Vehicles	Officer Vehicles

Response policies and guidelines are based on optimum minimum numbers; in some responses the optimum numbers may not be available initially due to lack of trained responders. When this occurs, the fallback is to request mutual aid assistance in order to safely conduct/complete the operation. The order in which an apparatus departs the station is based upon the available staffing and qualifications of the firefighters. Typically, the engine will be the initial response with the ladder, rescue and tanker following depending upon the incident and available staff. On confirmed or suspected structure fires, Spruce Grove Fire Department is automatically dispatched. Parkland County is also available for mutual aid as well; however, there is a delayed response.

Table 14: Low Risk (no exposures): Garbage, Vehicle – private, Grass, Investigate (external), monitoring alarm (w/o confirmation)

Initial Deployment	No. FF	Task Assignment	Comments
Engine	4	Incident Command, safety, establish perimeter, pump operation, 2 FF with hand line, forcible entry, battery disconnect, product containment.	First out minimum 4, may go with 6 depending on responders.
Total Personnel	4		

Table 15: Low Risk (no exposures): Shed, Detached Garage

Initial Deployment	No. FF	Task Assignment	Comments
Engine	4	Incident Command, safety, establish perimeter, engine operation, 2 FF with hand line, forcible entry.	
Ladder	4	Perimeter Control, safety, water supply, RIT.	Automatic aid for all confirmed working fires
Total Personnel	8		

Table 16: Moderate Risk (with exposures): Grass/Wildland

Initial Deployment	No. FF	Task Assignment	Comments
Bush Truck	4	Incident Command, safety, establish perimeter, engine operation, two FF with hand line, brooms.	
Water Tender	2	Water Supply	
Engine	4	Manpower for operations	
Deputy or Fire Chief	1	Overall command based on incident size	Parkland may supply Chief Off if in County
Total Personnel	11		

Table 17: Moderate Risk: Attached Garage, Single Family Residential (Detached/Duplex)

Initial Deployment	No. FF	Task Assignment	Comments
Engine	4	Incident Command, safety, establishes perimeter, engine operation, forcible entry, search and rescue and/or suppression.	
Ladder	4	Ventilation, utilities, search and rescue and/or suppression.	Auto MA from Spruce Grove
Rescue	4		Dependent upon available responders.
2nd Engine	4	Water supply, laddering, RIT.	
Deputy or Fire Chief	1	Overall Incident Command, safety, accountability, resource management.	If available
RDU & Pickup truck		Rehab, Command area, protection from elements	
Total Personnel	12		

Table 18: High Risk: Commercial, Industrial, Strip Mall, Warehouse, Mid-Rise Residential

Initial Deployment	No. FF	Task Assignment	Comments
Ladder	4	First Officer assumes Incident Command and forms attack team with second officer and four FF. Two driver/pump operators establish exterior water connections, water supply, pump operation.	Command tactics and transfer is based on available responding Officers and crew experience
Engine/3rd Engine	6	Primary Search and Rescue	Auto MA from Spruce Grove
Rescue	4		Available manpower dependant
3rd Engine	4	Exposure protection/RIT	MA from Parkland County
Deputy and Fire Chief	1	Overall Incident Command, safety, accountability, resource management.	If available
RDU & Pickup	2	Rehab, Command area, protection from elements	
Total Personnel	15		

Table 19: Moderate Risk: FMR Emergency, Vehicle vs. Pedestrian

Initial Deployment	No. FF	Task Assignment	Comments
Rescue	4	Incident Command, safety, patient assessment, CPR, AED, oxygen, patient packaging	
Engine	4	Traffic Management	
Total Personnel	8		

Table 20: Moderate Risk: Motor Vehicle Crash (1-3 private vehicles)

Initial Deployment	No. FF	Task Assignment	Comments
Rescue	4	Incident command and size-up, safety, establish outer perimeter, pump operation, 2 FFs prepare hand line.	
Engine	4	Establish inner perimeter, triage patients, patient care, extrication, patient packaging.	
Tanker	2		May respond depending on availability and location
Total Personnel	8		

Table 21: Moderate Risk: Surface Water, Swift Water or Ice Rescue, Animal Rescue

Initial Deployment	No. FF	Task Assignment	Comments
Engine	4	Officer of first engine on scene assumes command, size up, scene safety and communications. 1 FF victim contact. 2 FFs shore rescue if possible or Safety team for water rescue team activity.	
Rescue	4	Officer of rescue team is the sector officer, supervise and safety. 3 FFs prepare equipment for rescue.	
RDU & Pickup		Rapid Deployment Unit is equipped with power and heat and can be used for changing clothing, pet care etc. and general protection from the elements	
Total Personnel	8		

Table 22: Low Risk: Carbon Monoxide Alarm, small spill cleanup, investigates smell, needle removal

Initial Deployment	No. FF	Task Assignment	Comments
Engine	4	Incident Command, scene safety, establishes isolation perimeter, air monitoring, ventilation, or cleanup.	4 gas handheld detectors, would not be considered for public air monitoring
Total Personnel	up to 4		

Table 23: Moderate Risk: Small Quantity (<20 ℓ) of known product (gasoline, anti-freeze), open space natural gas smell or odor from unknown source

Initial Deployment	No. FF	Task Assignment	Comments
Rescue	4	Site management and control identify problem.	
Engine	4		
Spill response Unit	2	• Hazard and risk evaluation • Selection of personal protective equipment • Information management and resource coordination • Implement response objectives • Decontamination and clean-up operations • Terminate the incident	Pickup truck with Overpack drum available from station MA from Edmonton Hazmat if required
Deputy or Fire Chief	1	Overall Incident Command, safety, accountability, resource management.	If available
Total Personnel	11		

Table 24: Special Risk: Quantities (between 20 and 75 ℓ) of known product (gasoline, anti-freeze), natural gas leak, indoor natural gas smell or odor

Initial Deployment	No. FF	Task Assignment	Comments
Rescue	4	• Site management and control	
Spill Response Unit	3	• Decontamination of FF personnel	
Ladder	4	• Manpower and scene control • Safety and emergency decontamination	
Dangerous Goods response from alternate agency		• Identify problem • Selection of personal protective equipment • Implement response objectives • Decontamination and clean-up operations • Terminate the incident	Product Carrier ERAP MA through CREPP Edmonton Hazmat
Deputy and Fire Chief	1	• Hazard and risk evaluation • Information management and resource coordination	If available
Total Personnel	**12**		

Table 25: High Risk: Large Quantity (>75 ℓ) of known product, known hazardous product, unknown substance, large exposure, or train derailment

Initial Deployment	No. FF	Task Assignment	Comments
Rescue	4	• Site management and control	
Engine	4		
Hazardous Materials response from alternate agency	4	• Identify problem • Selection of personal protective equipment • Implement response objectives • Terminate the incident	
Rescues, ladder and tower	6	• Decontamination and clean-up operations	
Deputy and Fire Chief	2	• Hazard and risk evaluation • Information management and resource coordination	Parkland County sends a Chief if incident is in their jurisdiction
RDU & Pickup truck		• Rehab, Command area, protection from the elements	
Total Personnel	+20		

Notes:

- *This critical task list could be duplicated for County calls. Coincidental and sequential calls for service occur often. In this case decisions are made based on risk and need. MA is activated regularly with the Regional Partners.*
- *100% of SPFD members are trained to NFPA 472 Awareness level as a minimum, 87% are trained to NFPA 472 Operations.*
- *SPFD has limited equipment to mitigate chemical releases, major spills or deal with hazardous goods. Typical responses would be dealing with gasoline/diesel and anti-freeze.*
- *SPFD has decontamination kits and four gas monitors on three front line apparatus (E3, R3 and L3).*
- *Large chemical releases/spills not involving the listed materials would be coordinated with the product carriers ERAP or mutual aid requests through CREPP to activate Edmonton Hazmat.*
- *Response would be E3/R3 depending on the information provided. Mutual aid if required and whatever additional apparatus/staff are available may be requested.*

6.5 Fire Prevention and Public Education Program

As departments increase their emphasis on fire prevention activities, communities are seeing a significant reduction in fire-related losses. In Canada alone, deaths caused by fire have been reduced over the last 100 years from 3500 deaths per year to 330 (or 1/100,000) each year. This trend in fire losses has plateaued over the last 20 - 25 years, unlike other more frequent response services such as EMS. Fire prevention is a key component of risk management and has gained a higher profile in how departments are allocating their resources as departments have come to recognize the return on investment in fire prevention activities.

Over time, effective fire prevention programs are reducing types of emergency responses in direct proportion to the resources committed to the program. However, the level of resources must be carefully chosen in order to be cost-effective. Goals must be set and then evaluated regularly to ensure the best value. Currently, there are few industry benchmarks or standards for prevention and public education programming. It is important that departmental benchmarks be established and then reviewed annually against community risk levels and available resources. Data collection and analysis will determine the effectiveness of these programs and their impact on the overall reduction of losses.

Fire prevention activities, public education programs and active involvement in the community are all important efforts that departments are focusing on to reduce the number of emergencies. SPFD has an established public education program that delivers comprehensive awareness in fire prevention and life safety. In each of the last three years, on average 1000 citizens have participated in the in-house public education program. Activates include:

- Annual Fire Prevention and Emergency Preparedness week activities
- Station tours
- Fire and life safety inspections upon request

- Open burning and firework safety/permits
- Attending community events

The main objective of fire prevention programs is to realize an annual measurable reduction in the severity and number of incidents that result from fire. Statistics should be gathered and analyzed in order to identify trends and irregularities, record, track and report information related to inspections, hazardous occupancies, fire-related damage and loss, complaints and other relevant information. The Office of the Alberta Fire Commissioner maintains a fire incident database and provides trend analysis for the Province and initiates specific prevention campaigns based upon leading fire causes. Examples include cooking safety, smoke alarm maintenance, and fire prevention.

As identified in Recommendation 7 (p. 40), the procurement of a records and data system will provide the capability to track the various incident types to include a broader range of types of response and service categories. With this information, the Fire Chief can identify local trends, and which associated prevention initiatives or enforcement activities would help to reduce their occurrence.

6.6 Fire Prevention Inspections

The Alberta Building Code (ABC) and the Alberta Fire Code (AFC) are based upon the National Model Building and Fire Code of Canada. The Alberta Codes set out the technical provisions regulating activities related to:

- the construction, use or demolition of buildings and facilities
- the condition of specific fire and life-safety elements of buildings and facilities
- the design or construction of facilities related to certain hazards
- the protection measures for the current or intended use of buildings

In all cases, it is the owner or owner's agent's responsibility to comply with the Codes. Several municipalities enact local bylaws such as a 'Fire and Life-Safety Bylaw' that clarify and/or emphasize the requirements of the applicable Codes and provide the authority for enforcement. SPFD is accredited under the Safety Codes Act for the Fire Discipline and has established a UQMP to guide their Fire Prevention program.

The AFC identifies regular inspections for fire alarm and sprinkler systems, updated fire and emergency evacuations plans, unobstructed means of egress and other fire life-safety systems based upon the Major Occupancies Classifications and other criteria contained in the AFC. The AFC does not legislate the frequency or cycle for fire inspections as this is left to the authority having jurisdiction.

The full-time staff conducts the fire inspections as part of their routine duties. All full-time SPFD staff are a minimum of Basic Safety Codes Officers. As the community grows, a dedicated Fire Prevention position may need to be considered. In our opinion, the interim approach is the establishment of a full-time Lieutenant position in Operations as recommended. This position would have the capacity to manage the fire inspection and safety codes program. As previously

identified in Section 3.3 (p. 15), fire inspections are completed upon a request or complaint basis. Since 2012, fire prevention inspection program has significantly improved with the SPFD's informal goal to complete inspections on all higher life risk occupancies on an annual basis. This includes apartments, schools, public assemblies, seniors' homes.

The continuous growth in the town emphasizes the need for close coordination between the SPFD, Planning and Development, and the Building Department. The operational and administrative enhancements recommended (full-time lieutenant position and Administrative support) contribute significantly toward Safety Code compliance for all disciplines and the development of safe community areas.

6.6.1 Pre-Fire Plans

The SPFD has an impressive pre-fire plan program as part of the 'I am Responding' notification system. Pre-Fire Plans are accessible electronically by the responders. As noted in Section 3, the SPFD does not have a risk inventory of all structures in the ToSP. This inventory would also serve as the basis to enhance formal pre-fire plan process. Pre-fire plans include information regarding the construction type, occupancy, building status, emergency contacts, utility shutoffs, fire suppression and detection systems, exposure information, water supply availability, access problems and any other hazards.

6.7 Mutual Aid and Other Service Agreements

ToSP's proximity to neighbouring communities and fire services is of great potential benefit. Communities closely located together can share resources and/or respond to major events for support and response coverage. It is our understanding that mutual aid is utilized on a recurring basis by the SPFD.

In addition to the CREPP, ToSP has Mutual Aid Agreements with Spruce Grove and Parkland County. These agreements contain provisions for mutual aid assistance in the event of fire situations beyond the capabilities of each service.

6.8 Municipal Comparatives

Comparing the SPFD to that of similar communities is a good way to identify benchmarks or trends. It must be noted that all communities have different attributes such as risk factors and community profile. For this reason, the comparative community analysis should be used as a base reference that is not intended to be replicated in ToSP. These benchmarks include budgets, performance, effectiveness and efficiencies.

For the purposes of this municipal comparator review, we used 2014–2018 information in order to get common information from each community. Although fire and emergency services ultimately have the same goal of protecting life and property, each community has its unique features in how to accomplish their goals.

Therefore, there are no ideal or identical comparatives for the ToSP. Our main criteria for collecting information were:

- Population
- Budgets
- Department size
- Type (Full-time, Part-time or Combination)
- Department staffing
- Number of firehalls
- Call volume
- Call types

Table 26: Participating Municipal Comparatives

Community	Province	Population	Land Area (KM^2)
Stony Plain	AB	17,842	35.6
Beaumont	AB	19,236	10.5
Camrose	AB	20,000	42.5
Sylvan Lake	AB	15,320	15.62
Brooks	AB	14,000	19.22
Squamish	BC	20,000	100
Swift Current	SK	18,500	30.3

6.8.1 Budgets

Department budgets are of specific concern to most communities. In some instances, budgeting for fire and emergency services make up a considerable portion of a community's operating budget. We evaluated the budgets for each community, and it is important to note that each is unique in how each municipality allocates their budgets.

Each community factors in overall community profile and risk factors. The SPFD's cost per capita is slightly above the $87.96 average of the comparable communities however, it can't stress enough that no two communities are the same in this regard.

Table 27: Participating Municipal Comparatives Budget Ranking

Community	Population	Municipal Budget	Department Operating Budget	Cost per capita	Percentage of Municipal Budget
Stony Plain	17,842	$42.7M	$1.728M	$97	4%
Beaumont	19,236	$46.27	$1.068M	$61.87	2%
Camrose	20,000	$54.53M	$1.6M	$80	3%
Sylvan Lake	15,320	$43M	$1.1M	$71.80	2.56%
Brooks	14,000	$30.2M	$861,820	$61.56	2.85%
Squamish	20,000	$52M	$1.95M	$97.50	4%
Swift Current	18,500	$61.87	$2.7M	$146	4%

6.8.2 Department Profile

Department profile, staffing models and levels of service are based on community risk, risk tolerance and the ability for a community to pay for, and sustain desired service levels.

Table 28: Participating Municipal Comparatives Department Profile

Community	Department Type	No. of Firehall
Stony Plain	Composite	1
Beaumont	Composite	1
Camrose	Composite	1
Sylvan Lake	Composite	1
Brooks	Composite	1
Squamish	Composite	2
Swift Current	Composite	1

Table 29: Participating Municipal Comparatives Department Profile – Organizational Structure

Municipality	Total Staff	Fire Chief (FT)	Deputy Chief (FT)	Support Staff (FT)	Full-time Firefighter (FT)	Paid-On-Call Firefighter
Stony Plain	51	1	2		4	44
Beaumont	45	1	1	1 FPO/FF, 1 ATO/FF 1 Admin Asst.		40
Camrose	45	1	2	1 Admin Asst.		41
Sylvan Lake	35	1	1	.5 Admin Asst.		33
Brooks	34	1	1			32
Squamish	59	1	1	1 Admin Asst.	7	48
Swift Current	36	1	2	1 Admin Asst.	16	16

Full-time (FT) Part-time (PT)

6.8.3 Response Data

For the purposes of this municipal comparator analysis, we used 2014–2018 information in order to compare common respond data from each community. As previously indicated each municipal fire service collects response data differently. To the extent possible information provided by the various comparative communities was extrapolated into the two following categories as described in Table 31.

Table 30: Examples of Incident Types for Statistical Analysis

INCIDENTS BY TYPE		
EMS Related Calls		
Call Types	Pre-Hospital Care: Alfa, Bravo Charlie Delta Echo	
	Lift Assist	
	False Alarms	
Fire Related Calls		
Fire Emergency	Alarm Burning Complaint Structure Fire Minor Fire Smoke	Car Fire Re-check Wildfire – Grass, Brush, Outdoor Oven/Pot on Stove Explosion
MVI (Motor Vehicle Incident, a.k.a. MVC (Motor Vehicle Collision)	Extrication	No Extrication
Rescue	Stalled Elevator Lake/Marine Rescue High Angle	Swift Water Building Collapse Ice
Hazmat/Dangerous Good	Highway Incident Rail Incident	Industrial Incident Resident Incident
Non-Emergency	Carbon Monoxide Gas/Oil Smell/Spill Power/Telephone/Cable Line Down Natural Gas Leak	Aircraft Standby Incident Bomb Threat Hazardous Materials Propane Leak/Smell
Other	Inspection Burning Pile Inspection Assist Other Agency Public Service	Needle Pick-up Flood Assessment Water Problem (in structure)

Note: *Description and category names may not be common terminology in all jurisdictions.*

There is no standard for categorizing incidents so it must be understood that statistics are only a general reference when comparing fire departments. For example, in Table 32. Squamish and Swift Current have different protocols for attending medical calls and as such this data was not applied to determine the following averages:

- SPFD's 5-year average call volume at 273 calls per year for service is within the average for the Alberta comparative communities
- SPFD's 5-year average for fire calls at 227 per year is well above the average for the Alberta comparative communities
- SPFD's 5-year average 41 medical responses per year is slightly above the average for the Alberta comparative communities

As previously recommended, the procurement of a records management and data tracking program would be required to accurately interpret why the SPFD has an above average fire call volume.

Table 31: Participating Municipal Comparatives Response Call Volume

Community		Stony Plain (AB)	Beaumont (AB)	Camrose (AB)	Sylvan Lake (AB)	Brooks (AB)	Squamish (BC)	Swift Current (SK)
Total Call Volume	2014	224	232	197	247	389	728	828
	2015	273	148	210	296	407	746	731
	2016	257	170	171	285	410	685	672
	2017	303	197	158	373	451	795	716
	2018	309	264	170	335	411	702	672
Fire Related Calls	2014	205	22	182	183	188	-	390
	2015	224	14	192	178	175	194	294
	2016	220	18	161	189	193	192	339
	2017	247	85	144	248	165	-	383
	2018	243	117	143	238	155	221	361
EMS Related Calls	2014	19	52	15	36	4	-	438
	2015	29	22	18	54	14	338	437
	2016	37	40	10	35	16	335	333
	2017	56	47	14	73	21	-	333
	2018	66	106	27	79	18	282	311
Comments								

SECTION 7
ASSETS AND FACILITIES

7.1 SPFD Infrastructure

Infrastructure refers to fire stations and other fixed assets or facilities that SPFD occupies and uses.

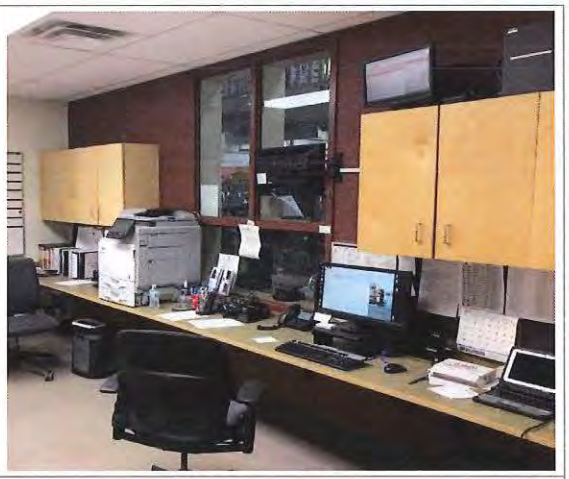
7.1.1 Fire Station Overview and Analysis

SPFD operates out of one (1) fire station that is centrally located within ToSP. This facility houses the administration and operations for SPFD. Through conducted interviews and a tour of the facility, it is obvious that this facility has been serving the needs of SPFD for current operations. There is no need or plans for expansion of the facility currently.

Address:	4000 - 49 Ave Stony Plain AB		
Use:	Fire and Rescue Response services, Fire Prevention, Inspection, Investigation, Training, Medical First Response, Emergency Management		
Bays:	7 drive through bays	Units:	8
Comments:	This facility serves as the hub for all apparatus and light-duty units and response personnel. This facility also has capabilities for soft-skills and light duty training. House training capabilities with training/meeting room. The establishment of a full-time service delivery model will require renovations to support the additional staff and 24/7 service functions		


STONY PLAIN
FIRE
HALL


4000-49 AVENUE

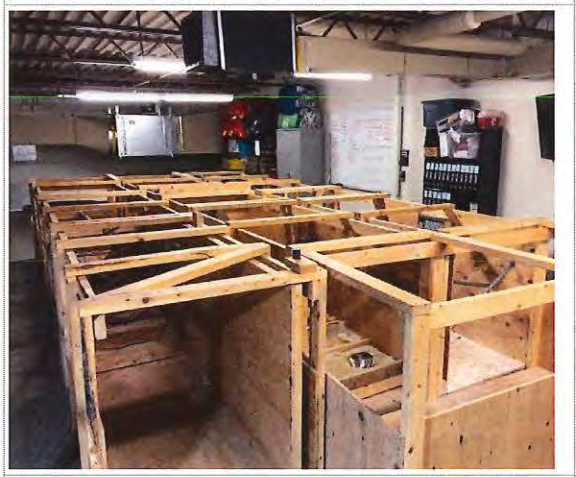



FIRE RESCUE

7.1.2 Training Facilities

SPFD can do some onsite 'hands-on' training as well as classroom-based training at the fire hall.





Along with onsite training capabilities at the SPFD firehall, the department also has the availability of a modern training facility located in nearby Spruce Grove. This facility contains the necessary training props and equipment that serves as the primary training ground where SPFD firefighters, ranging from recruits to senior officers, attend courses and training to maintain their core competencies. SPFD is fortunate to have the use of this type of training facility and given their location in relation to other training facilities in the province, it proves to be a very cost-effective method of training SPFD firefighters. A formal partnership is close to completion which will see the ToSP make an investment to expand the resources/equipment at this site and become a true partner in the facility.

Several structures are located at the facility, including a sea-can structure, two (2) burn areas and various LPG props.

Image 4: Spruce Grove Training Facility

7.2 Equipment

7.2.1 Apparatus and Light Duty Vehicles

Apparatus and light-duty vehicles are typically the largest asset expenditures for any department. Purchasing and managing these assets requires strong fiscal responsibility to endure public and council scrutiny. Currently, SPFD has several million dollars invested in vehicles and equipment. The lifespan of apparatus varies depending on its type and use.

In the case of SPFD, there is a cost sharing arrangement with Parkland County on a Tanker, Squad, Rescue and two Engines. Parkland County also provides regular fleet maintenance and Commercial Vehicle Inspections (CVIP) for cost shared apparatus. Discussions with the Fire Chief indicate that the cost sharing agreement for shared apparatus is working very well. Because of the current arrangement, fleet maintenance seems to be a non-issue currently. There are also asset management programs and capital reserve programs with the ToSP and Parkland County as part of the life cycle replacement plan.

Current Underwriters Laboratories of Canada (ULC[9]) and NFPA 1901: Standard for Automobile Firefighting Apparatus Standards recommend using apparatus on the front line for up to 15 years, then as a backup for another 4-5 years. Of course, this timeline is dependent on the frequency of use, scheduled maintenance and budgets.

Replacement lifecycles for Fire Department vehicles are proposed to be generally consistent with lifecycles recommended by the Fire Underwriter's Survey (FUS) body reporting to the Canadian General Insurance (CGI). In addition to maintenance of a current fleet capable of reliably providing service, meeting insurance guidelines favourably impacts municipal insurance ratings.

Table 32: Fire Apparatus Service Schedule (Fire Insurance Grading)

Apparatus Age (Yrs.)	Major Cities [3]	Medium Sized Cities [4]	Small Communities[5] and Rural Centres
0 – 15	First Line Duty	First Line Duty	First Line Duty
16-20	Reserve	2nd Line Duty	First Line Duty
20-25[1]	No Credit in Grading	No Credit in Grading or Reserve[2]	No Credit in Grading or 2nd Line Duty[2]
26-29[1]	No Credit in Grading	No Credit in Grading or Reserve[2]	No Credit in Grading or Reserve[2]
30+	No Credit in Grading	No Credit in Grading	No Credit in Grading

[1]All listed fire apparatus 20 years of age and older are required to be service tested by recognized testing agency on an annual basis to be eligible for grading recognition (NFPA 1071).

[2]Exceptions to age status may be considered in a small to medium sized communities and rural centres conditionally, when apparatus condition is acceptable, and apparatus successfully passes required testing.

[3]Major Cities are defined as an incorporated or unincorporated community that has:
- *a populated area (or multiple areas) with a density of at least 400 people per square kilometer; AND*
- *a total population of 100,000 or greater.*

[4]Medium Communities are defined as an incorporated or unincorporated community that has:
- *a populated area (or multiple areas) with a density of at least 200 people per square kilometer; and/or*
- *a total population of 1,000 or greater.*

[5]Small Communities are defined as an incorporated or unincorporated community that has:
- *no populated areas with densities that exceed 200 people per square kilometer; AND*
- *does not have a total population in excess of 1,000.*

- Engines: 16-20 years frontline (FUS & NFPA), but can be reduced due to high usage
- Rescue Truck: 15 years frontline (NFPA) but can be reduced due to high usage

[9] *Underwriters Laboratories of Canada (ULC) is an independent product safety testing, certification and inspection organization. www.canada.ul.com*

In addition, the National Fire Protection Association Standard (NFPA) 1901: Standard for Automotive Fire Apparatus recommends the following:

D.1 General

To maximize fire fighter capabilities and minimize risk of injuries, it is important that fire apparatuses be equipped with the latest safety features and operating capabilities.

In the last 10 to 15 years, much progress has been made in upgrading functional capabilities and improving the safety features of fire apparatus. Apparatuses more than 15 years old might include only a few of the safety upgrades required by the recent editions of the NFPA fire department apparatus standards or the equivalent Underwriters Laboratories of Canada (ULC) standards. Because the changes, upgrades, and fine tuning to NFPA 1901 have been truly significant, especially in the area of safety, fire departments should seriously consider the value (or risk) to fire fighters of keeping fire apparatus more than 15 years old in first-line service. It is recommended that apparatus more than 15 years old that have been properly maintained and that are still in serviceable condition be placed in reserve status; be upgraded in accordance with NFPA 1912; and incorporate as many features as possible of the current fire apparatus standard (See Section D3 of Standard). This will ensure that, while the apparatus might not totally comply with the current editions of the automotive fire apparatus standards, many of the improvements and upgrades required by the current editions of the standards are available to the fire fighters who use the apparatus. Apparatuses that were not manufactured to the applicable NFPA fire apparatus standards or that are over 25 years old should be replaced.

Observation #16: *Life cycle replacement for any of the SPFD apparatus is identified in the Parkland County agreement as a 20-year life cycle. The ToSP does not have a formal policy for the apparatus owned by ToSP. NFPA 1901 indicates that changes, upgrades, and fine-tuning to NFPA 1901 have been truly significant, especially in the area of safety, fire departments should seriously consider the value (or risk) to fire fighters of keeping fire apparatus more than 15 years old in first-line service.*

Recommendation #16: Life cycle replacement policy fire apparatus

Suggested completion: 24-36 months

It is recommended that as part of the ToSP SOC and the Parkland agreement that, the Fire Chief include the life cycle replacement criteria for all emergency response vehicles.

The array of apparatus and equipment is deemed adequate for the type of service the department provides and there are no foreseeable issues. The following tables summarize SPFD's current apparatus and light-duty equipment.

Vehicle Description		
Unit Number:	**Ladder 3**	
Year/Make:	2013 Pierce Sky Arm Ladder	
Type:	Quint	
Pump Capacity:	6053 LPM. @ 1000 kPa 4206 LPM @ 1350 kPa 3028 LPM @ 1700 kPa	
Tank Capacity:	1360 imp gal (Water) 135 liter (Foam) Husky 12 Class A foam system	
Usage:	Primary second-out apparatus on all emergencies with-in Town boundaries. Can be used in Parkland County on discretion. 100% Town owned	
Unit Number:	**Engine 3**	
Year/Make:	2009 Rosenbauer Custom Engine	
Type:	Type 1 Engine	
Pump Capacity:	6000 LPM @ 1000 kPa 4219 LPM @ 1350 kPa 3019 LPM @ 1700 kPa	
Tank Capacity:	4545 liter (water) 135 liter (foam) Foam Pro Class A foam system	
Usage:	Primary first-out Engine on all emergencies within Town or County boundaries. Joint purchase between SP & PC.	

Vehicle Description		
Unit Number:	**Engine 3-1**	
Year/Make:	1999 Superior International Engine	
Type:	Type 1 Engine	
Pump Capacity:	6000 LPM @ 1000 kPa 4900 LPM @ 1350 kPa 3500 LPM @ 1700 kPa	
Tank Capacity:	4545 liter (Water) 135 liter (Foam) Foam Pro Class A/B. foam system	
Usage:	Back up apparatus, can be used in Town or County. Training apparatus. Has been deployed to large wildland responses in past. Joint purchase between SP & PC. **Will be replaced in Spring 2020.**	
Unit Number:	**Rescue 3**	
Year/Make:	2015 Ft Garry Spartan Heavy Rescue	
Type:	Heavy Rescue	
Pump Capacity:	n/a	
Tank Capacity:	n/a	
Usage:	Primary first out apparatus on MVC and other rescue responses. Joint Purchase between SP & PC.	
Unit Number:	**Tanker 3**	
Year/Make:	2004 Freightliner Tender	
Type:	Freightliner Tender	
Pump Capacity:	350 gpm Kohler Pro 25 pump	
Tank Capacity:	13630 liters	
Usage:	Water supply for all fires in Parkland County. Joint purchase between SP & PC	

Vehicle Description		
Unit Number:	**Squad 3**	
Year/Make:	2015 Ford F550 Wildland Unit	
Type:	Type 5 Wildland Engine	
Pump Capacity:	350 gpm Honda GX630 pump Foam Pro foam system	
Tank Capacity:	1136 liter (Water) 45 liter (Foam)	
Usage:	Wildland response in Town or County. Joint purchase between SP & PC	
Unit Number:	**Car 3**	
Year/Make:	2013 Dodge Durango	
Type:	SUV Special Service	
Pump Capacity:	n/a	
Tank Capacity:	n/a	
Usage:	Fire Chief Command Vehicle. 100% Town owned	
Unit Number:	**Truck 3**	
Year/Make:	2017 Dodge Ram 4X4	
Type:	Dodge 1500 Special Service	
Pump Capacity:	n/a	
Tank Capacity:	n/a	
Usage:	On Call Deputy Chief Command vehicle. 100% Town owned	
Unit Number:	**Unit 3**	
Year/Make:	2016 Dodge Ram 4X4	
Type:	Dodge 1500 Special Service	
Pump Capacity:	n/a	
Tank Capacity:	n/a	
Usage:	On call POC Officer vehicle. 100% Town owned	

Vehicle Description		
Unit Number:	**Unit 3-1**	
Year/Make:	2005 Dodge Ram 4x4	
Type:	Dodge 1500	
Pump Capacity:	n/a	
Tank Capacity:	n/a	
Usage:	Station utility vehicle. 100% Town owned **Will be replaced in 2020**	
Unit Number:	**Rapid Deployment Unit (RDU)**	
Year/Make:	2017 18' enclosed trailer	
Type:	Haulmark enclosed trailer	
Pump Capacity:	n/a	
Tank Capacity:	n/a	
Usage:	Rehab unit for operations and training. Deployment support trailer for gear and supplies if assisting other municipalities. 100% Town owned	
Unit Number:	**ATV 3**	
Year/Make:	1999 Honda Fourtrax	
Type:	400cc 4X4 ATV	
Pump Capacity:	n/a	
Tank Capacity:	n/a	
Usage:	Wildland incidents, EMS incidents where patient is located remote or off road with 6' Tub trailer. Joint purchase between SP & PC.	

7.3 Ancillary Equipment

Equipment needed for field response operations such as vehicle extrication tools, hand tools and blowers are current and adequate for the needs of SPFD. The ancillary equipment is designed and maintained to meet the department's current core service, goals and objectives. As the response needs change or grow, additional equipment to match the service must be considered.

7.4 Personal Protective Equipment

SPFD personnel are supplied with the latest NFPA, NIOSH and CSA approved Personal Protective Equipment (PPE) including turnout or bunker gear, gloves, helmets, boots and any specialized gear for specific rescue and EMS operations. The PPE provided is current, adequate and designed to meet the department's goals and objectives.

7.5 Specialized Operations Equipment

Sometimes an effective and efficient response to an incident requires equipment designed for a specific purpose. SPFD responds with specialized equipment to incidents involving Motor Vehicles, DG incidents, Low Angle Rescue, Confined Space, Ice Rescue and Water Rescue (standing water only). The equipment appears to meet the goals and objectives of the department and requires no further action at this this time.

7.6 Asset Management

The ToSP and the County have asset management programs and processes in place to identify and track assets and replacement plans. The ToSP and the County conduct regular partnership meetings where shared assets are life cycles are reviewed and allocations to capital reserves are confirmed. The next anticipated apparatus replacements are due in 2020. A replacement for Engine 3-1 is currently under construction with an expected delivery of late spring 2020.

7.7 Equipment and Apparatus Maintenance

The ToSP conducts equipment and apparatus maintenance for their dedicated fleet. For SPFD this includes the Ladder and general-purpose vehicles such SUVs, pick trucks, and ATV. Shared apparatus and vehicles are maintenance in accordance with the Parkland County agreement. The Parkland County Maintenance Division completes the bulk of the work and contracts out to local business that have specialized service for fire apparatus that requires an Emergency Vehicle Technician (EVT).

SECTION 8
SUMMARY

In creating this Plan, we analyzed several factors to determine the effectiveness and efficiency of the ToSP Plain Fire Department (SPFD). We evaluated the operational and administrative aspects of the department, as well as the ability of the department to work as a cohesive unit.

Additionally, we evaluated the agreements and relationships with the neighboring communities of Spruce Grove and Parkland County. We then reviewed SPFD's response data and its current resources and assessed their alignment with both existing and projected risks and levels of demand. It is important to note that the SPFD is a well managed and resourced POC composite fire service. Several enhancements have been made since 2012 such as full-time firefighters for weekday response coverage, and the implementation of the Safety Codes Fire Discipline Unified Quality Management Plan including fire inspections.

There are several aspects of the department along with recommendations in this Plan that need to be considered in order to improve operational effectiveness and efficiencies. Key among the proposed recommendations is the establishment of a Standards of Cover Policy, and an operational impact and financial analysis of the agreement with Parkland County. Completing these recommendations will provide the ToSP and the Stony Plain Fire Department with information necessary to incrementally plan for any additional resource requirements should the growth projections for ToSP be realized.

During a thorough review of SPFD's services, we identified 16 observations and recommendations for consideration. Although each recommendation has a corresponding timeframe, it is important to note this Plan needs to be re-visited on a regular or annual basis in order to stay pace with the dynamic activities and economy of the community. Implementation of the recommendations outlined in this Plan will better position SPFD to mitigate community risk factors, accommodate community growth and activity, while maintaining both excellent community relationship and value for money.

APPENDIX 'A'
GLOSSARY OF TERMS

Apparatus	Any vehicle provided with machinery, devices, equipment or materials of the Fire Department for firefighting as well as equipment used to transport firefighters or supplies.
Assembly Time	From the time the notification sounds in the fire station until the first vehicle leaves the station. In a full-time department this is expected to be within 80 seconds but for volunteer departments the time to collect a response crew can vary widely depending on location and time of emergency as well as all the factors that impact travel time.
Chute Time	See Assembly Time
Dangerous Goods	This term is synonymous with the terms hazardous materials and restricted articles. The term is used internationally in the transportation industry and includes explosives and any other article defined as a combustible liquid, corrosive material, infectious substances, flammable compressed gases, oxidizing materials, poisonous articles, radioactive materials, and other restrictive articles.
Discovery	This is the time between the start of the emergency and when someone or an engineered system has detected the incident.
Dispatch Time	This is the time required to extract the necessary information from the caller to allow the proper response to be initiated. The dispatcher identifies the correct fire location and initiates the dispatch by paging the appropriate fire station.
Emergency Call	This is the period between discovery and the actual notification of emergency services.
Emergency Communications Centre (ECC)	A facility dedicated to service receives calls, processes them and then dispatches emergency units to the correct location in the appropriate time-period.
Emergency Operations Centre (EOC)	The protected sites from which civil officials coordinate, monitor, and direct emergency response activities during an emergency or disaster.
Emergency	Any occasion or instance that warrants action to save lives and to protect property, public health and safety. A situation is larger in scope and more severe in terms of actual or potential effects.
Fire Chief	The person responsible for the efficient management of the Fire Department and the condition of all buildings, Apparatus and Equipment under the Fire Chief's control.
Fire Suppression	The application of an extinguishing agent to a fire at a level such that an open flame is arrested; however, a deep-seated fire will require additional steps to assure total extinguishment.

Hazard Analysis	A document, which identifies the local hazards that have caused, or possess the potential to adversely affect public health and safety, public and private property, or the environment.
Impact	The effect that each hazard will have on people such as injury and loss, adverse effects on health, property, the environment and the economy.
Incident	A situation that is limited in scope and potential effects.
Intervention Time	The time from fire reporting to the point where the first arriving pumper, or other apparatus providing comparable functions, arrives at the fire scene and directs an extinguishing agent on the fire.
Mutual Aid Agreement	An agreement between jurisdictions to assist each other during emergencies by responding with available manpower and apparatus.
National Fire Protection Association	The National Fire Protection Association (NFPA) is an internationally recognized trade association established in 1896 that creates and maintains standards and codes for usage and adoption by local governments to reduce the worldwide burden of fire and other hazards. This includes standards and guidelines to which many fire departments utilize to carry on day-today operations.
Response	Those measures undertaken immediately after an emergency has occurred, primarily to save human life, treat the injured, and prevent further injury and losses. They include response plan activation, opening and staffing the EOC, mobilization of resources, issuance of warnings and direction, provision of aid, and may include the declaration of a State of Local Emergency.
Risk	The chance or likelihood of an occurrence based on the vulnerability and known circumstances of a community.
Setup Time	This is the time necessary on site to evaluate the necessary actions, position the required resources and commence the intervention. In the case of a fire; completing size-up, assigning the necessary tasks and deploying resources can provide delays on scene. A well-trained crew can minimize these delays while providing a safe, successful response.
Standard Operating Guidelines (SOG)	A written organizational directive that establishes or prescribes specific operational or administrative methods to be followed routinely, which can be varied due to operational need in the performance of designated operations or actions.
Standard Operating Procedures (SOP)	A written organizational directive that establishes or prescribes specific operational or administrative methods to be followed routinely for the performance of designated operations or actions.
Travel Time	Once a vehicle leaves the station, it must negotiate the best route between that point and the location of the emergency. Factors to consider for travel time are driver skill, weather, traffic, topography, road conditions and vehicle capabilities.

APPENDIX 'B'
LIST OF FIGURES, MAPS, IMAGES, AND TABLES

APPENDIX 'C'
INTERVIEW GUIDE

General	
1.	Do you think the public feels they are getting value for their tax dollars?
2.	What would you perceive the public understanding of the fire department's services and capabilities?
Risks	
3.	What do you believe to be the greatest risks to your community? (Fire, Explosion, MVC, Natural Disasters)
4.	How do you see levels or types of risk changing? (Future development, Industry, loss of response resources)
5.	Do you believe the community is adequately protected? If not, why?
6.	Based on the economic growth of the community, do you feel the department can keep up to the current and future demands?
7.	Are there any plans for annexation?
8.	What plans has the community adopted for alternate risk reduction strategies for fire and rescues? (fire sprinklers, increased life-safety inspection, etc.).
Response	
9.	Has Senior Management and Council established clear levels of service expectations? (Performance standards, core service expectations, etc.).
10.	Is the department involved in the planning of new communities in the event of an emergency?
11.	What performance/service outputs are you tracking (turnout times, response times, call volume, dispatch, fire inspections, public education, etc.)? Do you see areas for improved efficiency or effectiveness?
12.	How do you see the department's demands for service growing in the future?
13.	Do you believe the department's current response model, in terms of time and manpower, adequate?
14.	What do you believe are ideal effective staffing levels for response?
15.	In your opinion, are medical responses over tasking the emergency response system capacity? If so, are there any situations or examples that come to mind?
16.	In your opinion, is the current response system sustainable? Why or why not?
Staffing, Recruiting and Retention	
17.	How effective is your current recruiting program? Could it be improved?
18.	Do you feel the department is adequately staffed for response?
19.	Do you feel the department is adequately staffed for administration or support?
20.	Does/has the department experienced a high rate of turnover? If so, why and what can be done to change this?

Training
21. Do you feel the current level of training is adequate for the service expectations?
22. How many weeks does a recruit spend at orientation before they go to the floor?
23. In your opinion, are there deficiencies in the department's recruit training and incumbent training program? (scheduling, course delivery (online, classroom))
24. What improvements, if any, would you like to see based on your experience with training overall?
Equipment
25. Do you feel the department is adequately resourced? (light duty and heavy apparatus, lose equipment and consumables)
26. Does the department have an apparatus life-cycle program?
27. Is there a reserve fund for apparatus purchases?
Asset Management and Maintenance
28. What performance measures are in place related to asset maintenance and management (vehicles, equipment & infrastructure)?
29. Are there deficiencies in the current asset management program?
30. Does the current vehicle fleet provide the capacity/capability necessary to meet the demands and types of responses and risks?
31. What improvements would you suggest?
Infrastructure and Facilities
32. In your opinion, is the current station functional in meeting the operational requirements of the department?
33. Do you feel the current station location provide adequate geographic coverage?
34. What other facilities (i.e. training, dispatch) does the department have? Do they meet industry design standards and the department's specific needs?
35. Is there future for additional facilities? (Training, Firehall, etc.).
36. Has a multi-use facility been considered? (Fire + Police, Fire + EMS, Fire + EOC, etc.).
Technology
37. Has the department kept pace with leading technology/practices? (Records management, Auto & Mobile CAD, Predictive Modeling, training systems, critical task analysis, dynamic and risk-based deployments etc.).
38. Is the department using emergency vehicle traffic signal pre-emption during response (i.e. Opticom)? Why or why not?

APPENDIX 'D'
THEORETICAL RESPONSE MAPPING METHODOLOGY

Response travel times are directly influenced by station location and can be varied based upon a cost/risk analysis and the development of performance targets.

Base Data Layers Requested

- Hydrology
- Single Line Road/Transportation Network
- Railways
- Municipal Boundaries
- Parks
- Projection File
- Orthophoto (GeoTIFF, Mr.SID), if available
- Emergency Services Locations

Data Formats

- Preference of ESRI Shapefiles

Purpose of Files

A. Hydrology
   i. Identify needs for response to water locations (if dependant on a water response unit).
   ii. Can be identified and analysed with the rail network to locate spill contaminations, as well as containment for overland flow & flooding to water spills.
   iii. Locations of bridge crossings which can convert to varying incidents, as MVC/MVA, spill contaminants, etc.
   iv. Assists in the definition of the map for locational awareness by others
   v. Completes the map

B. Single Line Road/Transportation Network
   i. Used to determine response times from emergency locations to determine a network based on road speeds.
   ii. Roads are created into a network for response

C. Railways
   i. Identified risk areas for impeding response time when crossing a roadway or proximity to municipal areas will also determine the response and apparatus used for a derailment response or other rail emergency or risks, such as chemical spill evacuations.

D. Municipal Boundaries

i. Identifies the limits to response for mutual aid and responsibilities when overlaps occur within a response area. Also identifies sub areas for specific mapping and identification of municipal and regional response zones. Provides information for gap analysis for future state locations or refinement of locations.

E. Parks

i. Identifies the potential risk areas due to accessibility issues for tracts of land, as well as constraints and opportunities for new locational analysis for or against new stations within a municipality. Ability to determine development of new locations due to proximity. Parks are identified as local, regional, provincial, and national.

F. Projection File

i. To ensure that we have the same data set up as being used by the Municipality or Client, measurements (both distance and time) and spatial location are correct when determining analysis.

G. Orthophoto (GeoTIFF, Mr.SID), if available

i. We typically do not use the ortho on the output maps, but the analysis sometimes needs clarification of what is on the ground and we use it to quickly ground truth locations and information needed prior to asking clients for clarification, or to substantiate clarification of an area.

ii. Is a nice to have, yet hard to use, as it takes up a lot of memory/space and is difficult to ship/transfer.

H. Emergency Services Locations

i. Identify the actual location rather than a theoretical location based on an address match to ensure that the data location is as correct as possible and no mis-locations are identified on the initial running of the theoretical response times.

ii. Locations may be moved from within a parcel to the front of the parcel whereby it touches the road network. Ensures the response from the station is captured. There are no corrections made to the movement of station to time, as it is typically within 50 metres.

Theoretical Response Zone

A. Assumptions

i. Weather is average – no storms, rain, snow etc.

ii. Roadway segments contain a node/junction at intersections

- If not available, road network needs to be cleaned and fixed

iii. Roadways need to sometimes extend beyond some municipalities

iv. Emergency responders are trained on response vehicles

v. Response vehicles are in good condition

vi. Roads are dry and in good condition

vii. Left turns are not reduced by a time %

viii. Road speeds are provided by client, if not
- Road class table used to populate speeds based on road classification
- Road speeds are reduced from the posted sign, typically no more than 5%

ix. Traffic volume is average, there is no congestion or there is a free-flowing lane to be used

x. Rail crossings are free to cross and do not impede response

xi. Time of day is based on an average time from 9 am – 9 pm

xii. Opticoms (or similar product for traffic light manipulation) are present to allow for free moving response

xiii. Intersections of roads are not reduced (the roads are reduced from other project limits and averaged over time for generality of best fit)

xiv. School zones are not adjusted unless identified, then changes to road net are made

B. Response Time

i. Customized response based on Emergency Services Input

ii. Response time includes in 80% of all calls for service
- Total drive time along roads (determined above by road speeds) with:

iii. Variances are identified and are tweaked based on known data or other trends

C. Response Polygons

i. Identify general area of response from the outer most limits driven

ii. Also identify response zones for mutual aid

iii. Identify gaps in response

iv. Aid in the development of Fire Zones for response

v. Assist in the identification of new stations
- Also identifies needs to move stations to another location, as required

Additional Analysis

A. Out of Scope Analysis (needs further discussion with client)

i. Transition from project to operationally based
- Specific distance and travel
- Based on time of day
- Based on time of year
- Call volume
- Call types
- Modeling
- Scripting for batch work

B. Data Availability
   i. When data is available from clients is detailed enough, it is used
   ii. Not all data is detailed enough, and assumptions are made
C. Analysis
   i. Additional analysis can be performed (as reduction of road speeds to an intersection)
      - For above example, identification of intersections can be complex, and data not always available:
        - Stop Sign
        - Three Way Stop
        - Yield
        - Lights
        - Flashing Light
   ii. Tends to be time consuming
      a. Clients not willing to engage cost of this project
      b. Levels of data may not be accessible
      c. Missing detail
      d. Usually is a one-off project and new data is typically not leveraged

APPENDIX 'E'
COMPARATIVE COMMUNITIES PAY SCALE ANALYSIS

POC PAY SCALE	Stony Plain	Hinton	Morinville	Edson	Parkland County	Fort Saskatchewan	Beaumont
Firefighter							
Level 1 FF	$26.75= 100% (5 yrs. + required training)	$18 per hour - $1.00 after first year increase, then $1.00 after 3 years, and $1.00 after every 5 years after that.	$ 15.35	$ 15.00	$28.86 Firefighter (1001 level 2)	43.13 (100%)	$ 24.36
Level 2 FF	$24.08= 90% (4 yrs. + required training)	N/A	$ 16.45	$ 15.00	$23.51 Firefighter (1001 level 1)	38.82 (90%)	$ 22.33
Level 3 FF	$21.40= 80% (yrs. 2&3 + ongoing training)	N/A	$ 17.54	$ 15.00	$16.03 Firefighter (Probie/ no 1001)	34.50 (80%)	$ 20.30
Level 4 FF	$18.73=70% (yr. 1 + ongoing training)	N/A	$ 19.74	$ 15.00	$15.15 Junior Firefighter (16-18 yrs. old)	30.19 (70%)	$ 18.27
Level 5 FF	N/A	N/A	$ 21.93	N/A	N/A	N/A	N/A
Level 8 FF	N/A	N/A	$ 22.37	N/A	N/A	N/A	N/A
Level 10 FF	N/A	N/A	$ 23.25	N/A	N/A	N/A	N/A

Officer							
Engineer	N/A	N/A	N/A	N/A	$ 31.00	N/A	N/A
Training Officer/ Pay	N/A		$ 27.85		$37.40 Senior TO, $35.26 ATO	45.29 (105%)	N/A
Lieutenant	N/A	$ 24.00	$ 24.12	$ 16.00	$ 33.13	No positions	$ 27.41
Captain	N/A	$ 28.00	$ 27.85	$ 17.00	$ 35.26	No positions	$ 30.45
Assistant/ Deputy Chief	N/A	N/A	$ 31.14	$ 20.00	$ 37.40	53.05 (123%)	N/A
Benefits							
	VFIS Insurance, Life ADD and WCB	N/A	N/A	Town WCB coverage, EFAP	EAP, Life, VFIS, AD&D	VFIS Insurance, Subsidized Rec Passes for City Facilities	VFIS Insurance Benefits
Call-Out							
Minimum for call out	1.5 hrs.	1 hour minimum per call out. Then hour for hour	2 Hours	1 hour	2 hours	2 hours	3 hours at rate of pay
Minimum night call-out	2 hrs. (23:00-07:59)	N/A	Same		No difference	No Difference	3 hours at rate of pay

Standby / On Call							
Duty Officer	$50/ 12 hr. shift = $450 week + call wage when called out and personal use of FD vehicle.	$150 per weekend - from Friday night at 5pm to Monday morning at 7am	N/A	$45/day	2 hours of pay per day on call	$60 a week - Not continued 2020	N/A
Summer Standby	May to Sept. Guarantee response of 5 members. $50/ shift= $200 per weekend or $300/ long weekend. DO gets this rate on top of regular DO rate	$60 per weekend Saturday and Sunday from May 1 to Sept 30	N/A	Weekends throughout the year - FF $30/day; Duty Officer $45/day	N/A	N/A	32.99/day (+ 3 hours call out per call)

Practices and Training							
Practice Night	2-3 hrs. of pay	Every Tuesday night from 7pm-9pm - paid for 2 hours	Volunteer	1hr	Regular pay	Regular Rates	3 hours at rate of pay
Attendance Expectation	Nothing formalized	25% for shift workers and 50% for non-shift workers	N/A	70% training attendance, 25% call-out, 100% weekend coverage	50% of Practice	50%, not enforced at this time	50% of practices /quarter. 15% of calls / quarter
Additional Training	No pay	8 additional weekends a year - Friday night from 7 - 10pm, Saturday and Sunday 7 hours per day	Volunteer		35 hrs. of pay/ correspondence course 1001, blue card is 50 hrs. of pay	Regular Rates	Saturdays - voluntary

CAREER PAY SCALE	Stony Plain	Hinton	Morinville	Edson	Parkland	Fort Saskatchewan	Beaumont
Firefighter							
Hours/ week	40	No Career Firefighters	No Career Staff	No Career Staff	40	2184/ year	40 hours / week - Mon-Fri 08:30-16:30 Hrs.
FF Salary Range	$70,795 - $90,071	N/A	N/A	N/A	$70,110 - $87,640	$65,935- 94,196	32.34-42.20
Unionized?	No	N/A	N/A	N/A	No	No	No
Officer Salary Range	None	N/A	N/A	N/A	None	same as above	none
Pay steps	8 total	N/A	N/A	N/A	4	None, fixed rate	10 step system
Overtime rate	1.5 wage	N/A	N/A	N/A	1.5 X or bank time	1.5 times	1.5 hourly rate
Uniforms and PPE	Provided	N/A	N/A	N/A	Provided	Provided	provided. 4 uniforms 1 set of PPE
Benefits/ LAPP	Life Insurance, AD&D, LTD, Ext Health, Dental, EFA, LAPP	N/A	N/A	N/A	3 weeks VL, Full package, LAPP	Blue cross package and LAPP yes, subsidized rec passes	LAPP
Training Pay	EDO 1 day every 2 weeks	N/A	N/A	N/A	straight exchange of hrs.	regular rate	Hourly rate. Our full-time staff are required to attend Tuesday night volunteer training. They are paid 1.5xwage/hour
Lieutenant							
	N/A	$54,000 to $66,000 (M-F)	N/A	N/A	N/A	N/A	N/A

Captain							
	N/A	$63,000 to $75,000 (M-F)	N/A	N/A	N/A	N/A	N/A
Hours	N/A	40/ Week	N/A	N/A	N/A	N/A	N/A
Unionized?	N/A	no	N/A	N/A	N/A	N/A	N/A
Officer Salary Range	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Vacation	N/A	3 weeks	N/A	N/A	N/A	N/A	N/A
Pay steps	N/A	6 steps	N/A	N/A	N/A	N/A	N/A
Overtime rate	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Uniforms and PPE	N/A	All Provided	N/A	N/A	N/A	N/A	N/A
Benefits/ LAPP	N/A	LAPP	N/A	N/A	N/A	N/A	N/A
Training Pay	N/A	Same as there hourly rate	N/A	N/A	N/A	N/A	N/A

Assistant Chief Wages					NONE		
Hours						2184	
Wage	N/A	N/A	N/A	N/A	N/A	49.86- 58.69 (under review and may increase in 2020)	N/A
Pay Steps	N/A	N/A	N/A	N/A	N/A	6	N/A
Vacation Days	N/A	N/A	N/A	N/A	N/A	start with 3 weeks	N/A
Additional Incentive Days	N/A	N/A	N/A	N/A	N/A	none	N/A
Overtime	N/A	N/A	N/A	N/A	N/A	1.5 times	N/A
Standby/ On Call	N/A	N/A	N/A	N/A	N/A	none	N/A

Assistant Chief Wages					NONE		
Benefits	N/A	N/A	N/A	N/A	N/A	Blue cross package and LAPP yes, subsidized rec passes	N/A
Compensation for extra hours	N/A	N/A	N/A	N/A	N/A	overtime rate	N/A

Deputy Chief Wages							
Hours	40	40 (M-F)	40	40	2015= 7.75/ day and every other Friday off (EDO)	1950	40
Wage	$91,004 - $115,782	$84,000- $96,000	N/A	N/A	$102,660 - $128,320	$102,072.59 max grid, annual salary	38.39.35 - 51.34/hr.
Pay Steps	8 total	6 steps	N/A	N/A		6	10 steps
Vacation Days	3-6Weeks	3 weeks	N/A	N/A	3 weeks	start with 3 weeks	3 weeks
Additional Incentive Days	5 mgmt. days	5 flex days	N/A	N/A	5 mgmt. days	Can be approved for EDOs and four annual Time off in lieu days	1 week in Lieu of OT
Overtime	N/A	N/A	N/A	N/A	N/A	N/A	Some scheduled training is returned as time off in Lieu

Deputy Chief Wages							
Standby/ On Call	$50/shift 1 of 3 weeks	1 hr./night (M-F), 2 hr./day on the weekend - rotate every second weekend w/fire chief as on-call and rotate every third week with captain, chief and deputy during the week.	N/A	N/A	2 hrs. pay/ day	N/A	N/A
Benefits	Life Insurance, AD&D, LTD, Ext Health, Dental, EFA, LAPP	Sunlife	N/A	N/A	full package, LAPP	Blue Cross and LAPP, subsidized rec passes	LAPP
Compensation for extra hours	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Fire Chief		Protective Services Mgmt./Fire Chief					
Hours		35 Hour flex week		40/ week	2015= 7.75/ day and every other Friday off (EDO)	1950	
Wage	$115,581 - $147,051	$112,000 - $124,000	$66.919 per hour (Step 7)	$98,000.00	$124,200 - $155,250	$154,561.34 max grid, annual salary	44.56 - 61.23 / hr.
Pay Steps	8 total	6 steps	Band 9 -7 steps			6	10

Fire Chief		Protective Services Mgmt./Fire Chief					
Vacation Days	4 weeks	4 weeks	23		3 weeks	start with 3 weeks	3 weeks
Additional Incentive Days	5 mgmt. days	5 flex days	Birthday off with pay, 21 hours of Special Leave		5 mgmt. days	Can be approved for EDOs and four annual Time off in lieu days	2 weeks in lieu of OT
Overtime	N/A	N/A	1.5X		N/A	N/A	N/A
Standby/ On Call	N/A	1 hr./night (M-F), 2 hr./day on the weekend - rotate every second weekend with the dep. chief as chief on-call and every third week with captain and deputy.	No		N/A	N/A	N/A
Benefits	Life Insurance, AD&D, LTD, Ext Health, Dental, EFA, LAPP	Sunlife	Yes, employer paid		full package, LAPP	Blue Cross package and LAPP yes, subsidized rec passes	LAPP
Compensation for extra hours	N/A	N/A	No (other than OT pay)		N/A	N/A	N/A
					Dir. Emergency Mgmt.		

APPENDIX 'F'
POWERPOINT PRESENTATION

END OF ITEM

TOWN OF STONY PLAIN