



Hastings Highlands Fire Department Station Structure Review

Proposal

Deputy Fire Chief

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Table of Contents

Table of Contents	2
1.0 Executive Summary	3
2.0 Project Definition	4
2.1 Preamble	4
2.2 Background information	4
2.3 Issue to be Addressed	6
2.4 Business Objective.....	6
2.5 Opportunities and Limitations	6
2.6 Option Identification & Selection.....	7
2.7 Scope, Impact and Interdependencies.....	10
2.8 Outline Plan (Option #2).....	11
3.0 Key Stakeholders	12
4.0 Human Resources.....	12
4.1 Human Resources Pool.....	133
4.2 Human Resources Summary	13
5.0 FINANCE.....	14
5.1 Financial Appraisal.....	14
5.2 Operating Budget Projections/Implications.....	14
5.3 Capital Budget Projections/Implications.....	15
5.4 Lifecycle Management Plan	15
5.5 Financial Roll-up	16
6.0 Summary	17
7.0 Assumptions	17

1.0 Executive Summary

The business case presented within this document has been developed to assist in determining the best solution for the realignment of the Hastings Highlands Fire Service. This realignment is necessary to right size the Fire Services delivery model currently being provided within the municipality. The projected benefits of this “Right Sizing” are the reduction of both the Operational and Capital funds as well as the Human resources required to operate the Fire Service within Hastings Highlands.

As identified and referenced throughout the body of this business case and after fully examining the various options available, option #2 is the best option to maintain fire services within Hastings Highlands and that option is to reduce (right size) the number of active fire stations thereby reducing the associated costs as well as the number of firefighters required. This reduction can and will be completed in a way that will continue to provide acceptable levels of fire service coverage (to standard¹) to our entire municipality. Even with this base change in service delivery, we as a municipality will be faced with ever increasing costs for all services that will increasingly make it difficult, if not impossible to manage fiscally without significant limitations on new programs, up to and including reductions to existing programs.

From the complete review of our current fire service delivery model as well as in concert with the comprehensive Fire Services Report authored by the EMG (Emergency Management Group), we fully reviewed the risks/benefits of multiple fire service delivery models (i.e. 2, 3, 4, 5 & 6 station), although our primary focus throughout this business case showcases the 3 versus 6 station models. It is apparent that the best fit for Hastings Highlands in terms of Fiscal and Human resources is to adopt Option #2, a 3 Station Fire Services Delivery Model. This model will allow for acceptable levels of coverage and will continue to maintain or improve the levels of service currently being provided throughout the municipality², with the added benefit of reducing the overall fiscal load by approximately \$16.6M over 10 years.

¹ [NFPA \(National Fire Prevention Association\)](#) and [FUS \(Fire Underwriters Survey\)](#) standards

²Including any Automatic Aid coverage agreements. i.e. Madawaska Valley

2.0 Project Definition

2.1 Preamble

The following business case is developed in reference to and supported by the Fire Service Review conducted by EMG (Emergency Management Group) and is poised to support the restructuring of the Hastings Highlands Fire Department to best utilize the currently available Physical Facilities, Equipment, Apparatus as well as Human Resources. While keeping budget limitations and available human resources to realistic levels in concert with the size of our Municipal catchment area and funding base.

2.2 Background information

Hastings Highlands Fire Department provides fire and emergency services to over 966 Sq/Km of Urban, Rural and Forested areas within the Municipality, with an average population density of 4.5/km². Wildland fire suppression of inaccessible forested areas within the Municipality are managed through the Ministry of Northern Development, Mines, Natural Resources and Forestry. (NDMNRF)

We currently operate with 6 Stations, (3 of which are currently inactive due to facility building deficiencies and staffing levels) responding to 95 (2023 data) calls for service annually with a compliment of 31 personnel, of which 24 are active.

The existing fire service delivery model and locations were in place previous to the amalgamated (January 1, 2001) township structure which consisted of 5 small municipal fire departments with a total of 6 stations, each developed in an area, and to a size best suited to provide emergency response to the population centres within their specific former township, being the United Townships of Bangor, Wicklow and McClure, Township of Herschel and Township of Monteagle. (see Fig. 1)

Original Fire Station & Township Layout



Fig. 1

2.3 Issue to be Addressed

The current Fire Service delivery model is ineffective, inefficient, and prohibitive in terms of cost and human resources. This is largely due to the excessive number of physical fire stations throughout the municipality.

The change from individual townships into one combined municipality provides an (untapped) opportunity to consolidate the previous fire department resources, including 6 stations, numerous pieces of apparatus, equipment, and human resources into a centralized, cost effective and efficient system.

2.4 Business Objective

The goal is to reorganize the existing fire services assets (i.e. stations, apparatus, equipment and staffing) to best service and meet the needs of the Municipality, stakeholders and non-developed areas (i.e. forests) rationalized based upon the physical size, population (inc. population density) and available funding base.

The goal is to optimize the current Fire Service delivery model and reduce both operational as well as capital requirements, while maintaining acceptable levels of service coverage to stakeholders.

The solution is to reorganize the current Fire Service delivery model, reduce the overall number of Fire Stations as well as relocate an existing Fire Station.

2.5 Opportunities and Limitations

The **opportunities** of this project far outweigh the limitations. They include:

- Cost savings through efficiencies:
 - Reduction in physical facility assets and associated operating costs:
 - Insurance (building/property Ins.)
 - Property and Building Maintenance (lawn maintenance, snow removal, pest control, day-to-day maintenance and repairs)
 - Utilities (heat, hydro, telephone & data)
 - Equipment & Supplies (i.e. office, garage, washrooms, etc.)

- Reduction in rolling stock assets and associated operating costs:
 - Insurance (vehicle)
 - Vehicle Maintenance, Annual Safety Certification, Pumper Testing, etc.
 - Licensing, fuel, oil & consumables
 - Weekly checks, washing, inventory, documentation

- Reduced working capital (Long-Term):
 - Physical facilities
 - Apparatus
 - Capital Equipment (i.e. SCBA, washer/extractors, dryers, etc.)
 - Decrease in the level of funding required for maintaining adequate reserves for renewal.

- Reduction in required/optimal number of firefighters and associated operating costs:
 - PPE (bunker gear, etc.)
 - Two-way radios and pagers
 - Training costs
 - Station meetings/practices

The **limitations** of this project largely remain with community perception, that consolidating stations equates to reduced coverage. This may be significantly mitigated through the development and roll-out of a comprehensive communications plan.

2.6 Option Identification & Selection

Two primary options will be explored for this proposal including:

Option #1:

Maintain status quo, being the existing Fire Service delivery model of 6 stations brought up to National Fire Protection Association (NFPA) standards for staffing, training, apparatus, equipment and facilities over a 10-year period. Replacing 3 stations, as well as renovating 3 stations.

Option #1

Original Fire Station Location with 10 Min. Response Time

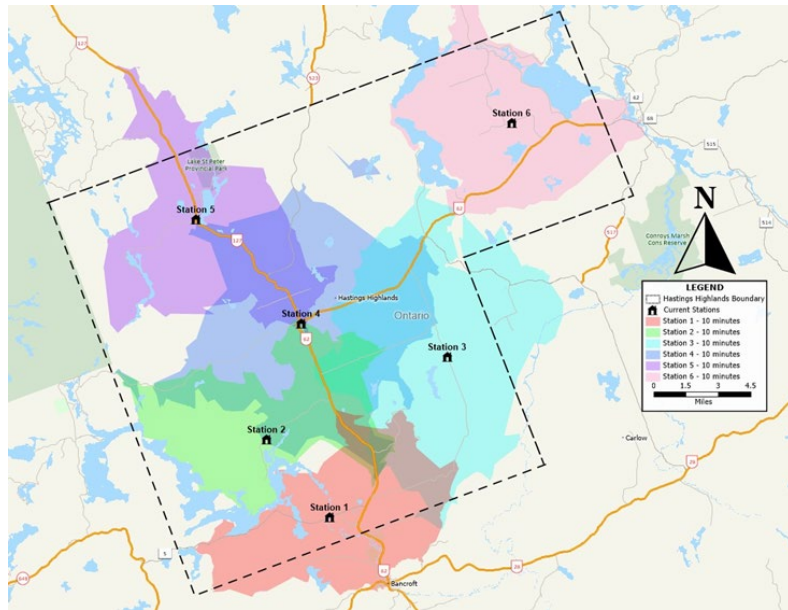


Fig. 2

Option #2:

Restructure existing Fire Service delivery model reducing to 3 stations, relocating 2 stations, brought up to National Fire Protection Association (NFPA) standards for staffing, training, apparatus, equipment and facilities over a 10-year period. (see Fig's. 3 & 4)

Options for reorganization include:

- Reduction in physical fire stations
- Relocation of existing fire stations
- Staffing alignment to number of stations
- Human resources alignment
- Reduction in apparatus & equipment
- Reduction in required Officers

Current Active Fire Station Locations (with 10 Min. Response Time)

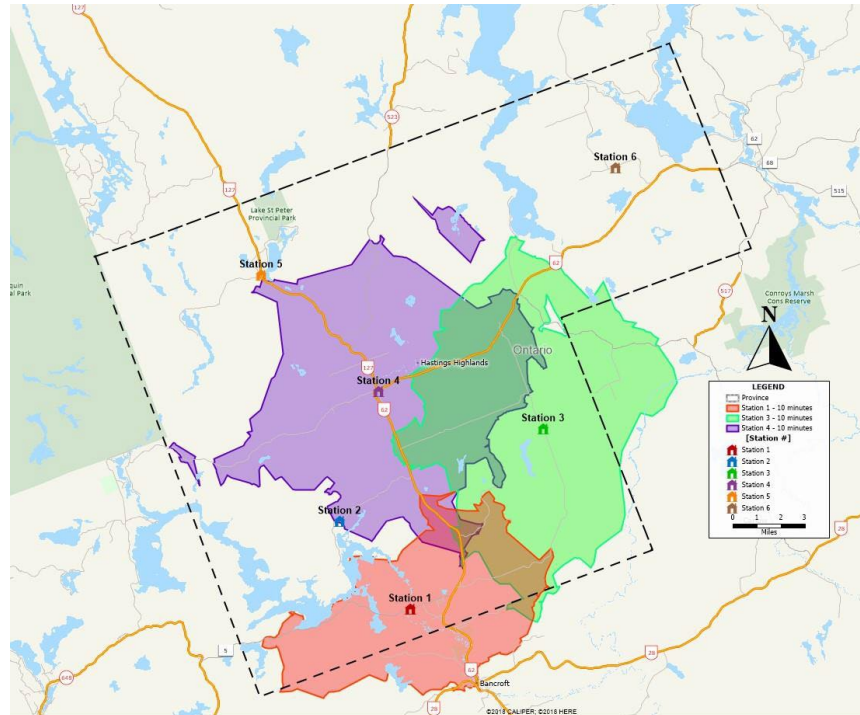


Fig. 3

Option #2 Proposed Fire Station Relocations (with 10 Min. Response Time)

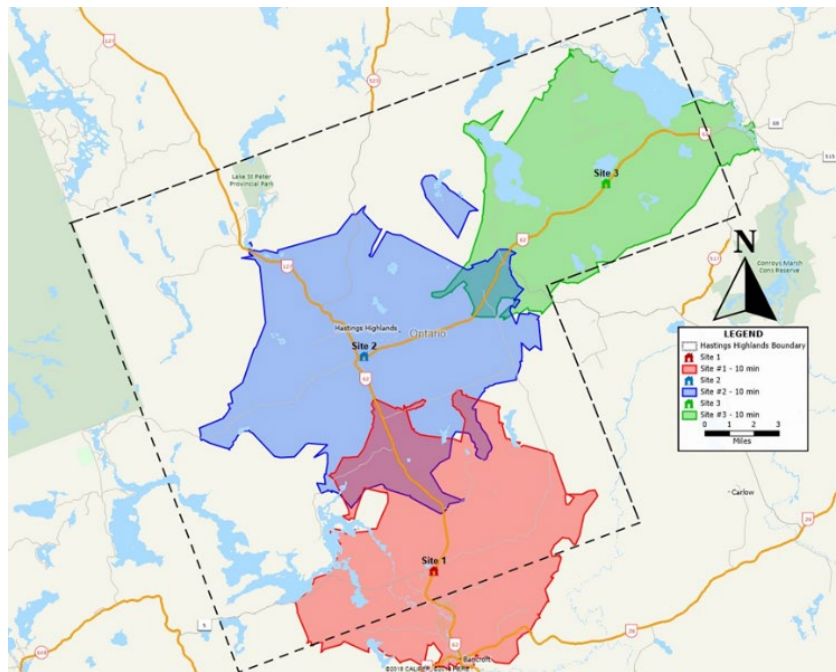


Fig. 4

2.7 Scope, Impact and Interdependencies

The scope of this project will encompass all of Hastings Highlands, although as we will be beginning with the formal closure of 3 currently inactive stations the impact or repercussions are anticipated to be minimal (actively controlled through communications to the affected stakeholders). The interdependencies have largely been identified and corrective action is already in place to mitigate the lack of service coverage for these stations (identified for closure). These mitigations were required as the noted stations fell into inactivity and gaps in service were identified. The station inactivity is largely due to reduced staff numbers, although this was also exasperated by the closure of Station #5 in Lake St. Peter due to station structural and safety concerns. Our planning activities as well as the information provided in the “Hastings Highlands, Fire Service Review” authored by “Emergency Management Group” have provided information assist in mitigating any gaps in service delivery.

2.8 Outline Plan (Option #2)

The implementation of this plan (Option #2), post council approval, will be to:

- Communicate the closure of the three subject stations including stations 2, 5 & 6 through radio, print and social media
- Update of our HH Website, to reflect the removal of stations 2, 5 & 6 from active service
- Disconnect Telephone and Internet services at station #'s 2, 5 & 6
- Consolidate the apparatus and equipment and liquidate unnecessary surplus
- Remove fire station signage from station #2 and temporarily utilize as a storage garage
- Remove fire station signage from station #6 and maintain as a heated storage garage for back-up service apparatus and equipment that requires heated storage
- Remove all HHFD equipment and apparatus from temporary fire station in the Lake St. Peter community centre
- Install a locked security enclosure for HHFD Radio (repeater) equipment located in Lake St. Peter community centre
- Create capital plan to renew/replace aging apparatus that meets NFPA/FUS standards
- Create 5-year capital plan to relocate station #3 to Hwy 62 N/E of Maple Leaf as per "Hastings Highlands, Fire Service Review" authored by "Emergency Management Group" as accepted by Council for information on July 19, 2023. *Res.(326-2023)* Current plan is to redevelop existing municipal property
- Create 10-year capital plan to redevelop and or relocate station #1 into close proximity to Hwy 62 in Birds Creek Current plan is to redevelop existing municipal property

3.0 Key Stakeholders

Key stakeholders included in supporting this business case include:

- Hastings Highlands Council
- Senior Leadership Team
- Firefighters
- Residents/Businesses/Organizations
- Fire Department Administration Team
- Municipal Staff

4.0 Human Resources

Hastings Highlands Fire Department is currently operating with a compliment of 31 firefighters of which 7 are inactive for various reasons and are not available for any related duties. We anticipate 4 of the 7 inactive firefighters will be returning to full duties and as such for further calculation in the document, 28 existing firefighters will be used.

The operational level of staffing required to meet the minimum standard³ is 15 firefighters/station.

NFPA Staffing Requirements

	Option #1	Option #2
Number of Stations	6	3
Staffing Required	90	45
Net New FF's	62	17

³ [NFPA/FUS](#) Standards

4.1 Human Resources Pool⁴

Hastings Highlands has a population of 4,385 residents, of which 1,020 are between the ages of 20 – 50 yrs. If we factor in the number of previous firefighters and our projected response level of 10%, we anticipate up to 91 prospective firefighters from our catchment area.⁵

Also, of note over the next 5 years we can anticipate an approximate 65% reduction in the 20 – 50 yr. group.

4.2 Human Resources Summary

The available human resources pool for potential Firefighters within Hastings Highlands is significantly limited and as such, it is strongly recommended to limit the physical number of stations to keep those Fire Stations operating within the standard of 15 firefighters per station.

Option #1 would require the initial recruitment of an additional 62 firefighters and an annual attrition requiring an additional 10 firefighters, versus Option #2 which would require the initial recruitment of an additional 17 firefighters and an annual attrition requiring an additional 5 firefighters. Note: The initial cost to outfit and train a new firefighter is \$29,304.00 for the first year and \$5,082.00 for subsequent years, please refer to the table below for more impact information.

Also of note, there is a severe shortage of Volunteer firefighters throughout Ontario as well as across the country. Many municipalities are finding it very challenging to recruit adequate numbers to meet the base service needs.⁶

Projected HHFD Staffing Cost Inc. Attrition⁷

	Option #1	Option #2
# of Stations	6	3
Costs yr1	1,959,135	640,464
Costs yr2	699,606	349,803

⁴ [Data extrapolated from Stats Canada 2016 Census](#)

⁵ 10% is assumed

⁶ [CAFC \(Canadian Association of Fire Chiefs\)](#)

⁷ Based on 2023 Call Data and a 60% response rate

5.0 FINANCE

5.1 Financial Appraisal

The 3 versus 6 fire station model is expected to reduce both the operational as well as capital costs to operate the fire service on an ongoing basis. Further the reduction to 3 stations will also allow for an attainable optimal staffing level in all operational stations in consideration of the relatively low municipal population base.

5.2 Operating Budget Projections/Implications

The projected capital requirements for operating 6 versus 3 stations is exponentially more expensive and is largely driven by the initial cost of training and equipping the required new firefighters as well as the overall annual costs associated with an incrementally large number of firefighter positions as will be demonstrated by the table below.

Operational Cost Projections Option #1		
Stations	6	
Period	Yr. 1	Yr. 2
HR Costs	378,071	367,763
Training	1,112,814	242,872
Apparatus/Facilities/Equip.	591,194	258,124
Total	2,082,078	868,759

Operational Cost Projections Option #2		
Stations	3	
Period	Yr. 1	Yr. 2
HR Costs	186,708	183,882
Training	359,968	121,436
Apparatus/Facilities/Equip.	238,562	226,136
Total	785,238	531,454

5.3 Capital Budget Projections/Implications

The projected capital requirements for operating 3 versus 6 stations is relatively straight lined, an analysis of the current vehicle life cycle and more importantly were the specific vehicles are in their expected lifecycle was undertaken in review of the data both the station service models (3 & 6) are heavily weighted in terms of cost in the initial year as most of the vehicle (excluding Pumpers) are all at, or past their end of service lifespan⁸.

As can be seen from below the required capital over 10 years jumps from \$8.6M for the 3-station model to \$17.2M for the 6-station model.

Please see the table below for detailed cost impacts:

Option #1 Capital Budget Projections/Implications				
6 Station Model	Current	5Yrs	10yrs	Total
Apparatus	6,260,000	500,000	90,000	6,850,000
Facilities	5,400,000	2,250,000	2,700,000	10,350,000
Total	11,660,000	2,750,000	2,790,000	17,200,000

Option #2 Capital Budget Projections/Implications				
3 Station Model	Current	5Yrs	10yrs	Total
Apparatus	2,335,000	750,000	90,000	3,175,000
Facilities	0	2,700,000	2,700,000	5,400,000
Total	2,335,000	3,450,000	2,790,000	8,575,000

5.4 Lifecycle Management Plan

Lifecycle management is a critical requirement for any long-term service to ensure adequate resources are available to replace/renew assets as they approach the end of their lifecycle. As the size, number and costs of assets increase so does the overall capital replacement cost and the amount of operational dollars required to maintain the associated Asset Management Plan.

Each type of asset (i.e. apparatus, building, equipment, etc.) has a different lifecycle and as such, a different frequency of replacement. The table below represents the variance in lifecycle management cost between a 3 and 6 station fire service delivery model.

⁸ As per [NFPA/FUS](#) standards

Option #1 Annual Renewal Cost (non-Indexed)

6 Station Model	
Apparatus	409,500
Facilities	324,000
Equipment	38,050
Total	771,550

Option #2 Annual Renewal Cost (non-Indexed)

3 Station Model	
Apparatus	225,750
Facilities	162,000
Equipment	21,189
Total	408,939

5.5 Financial Roll-up

The tables below demonstrate the overall financial (both Capital and Operating) impact of Options #1 versus Option #2 over a 10-year cumulative period.

10 yr. Cumulative Financial Impact Option #1	
6 Station Model	
Operating	9,900,909
Capital	17,200,000
Reserve Transfers	7,715,500
Total	34,816,409

10 yr. Cumulative Financial Impact Option #2	
3 Station Model	
Operating	5,568,323
Capital	8,575,000
Reserve Transfers	4,089,390
Total	18,232,713

6.0 Summary

In conclusion, after completing a comprehensive assessment and analysis, we confirm that the municipality does not have the available funding capacity to deliver services meeting the legislative requirements in keeping with council's direction, within Establishing and Regulating a Fire Department, Bylaw 2020-012, (e.g.) Level of Service Bylaw) based on the existing 6 station model (Option #1).

Therefore, the recommendation is for council to proceed with Option #2, being a 3-station service delivery model, which will allow HHFD to operate efficiently and within its means in keeping with legislative requirements and council established levels of service. This approval will be subject to council approving a long-term operating and capital financial strategy (10 -15yr. Plan)

7.0 Assumptions

Every effort has been made to keep the valuations expressed within this document as accurate as possible, although due to factors beyond our control some base assumptions have been used in the preparation of this document. Assumptions not specifically captured within this section will be subsequently identified with a superscript numeral which will correspond to a notation for clarification at the bottom of the page as applicable.

- Costing of apparatus, facilities & equipment based on current market, not indexed for inflation, etc.
- Attrition rates were set based upon an 12-year average
- Attrition rates, anticipated increase and decreases in age range for FF's
- 10% assumed to be willing to be Volunteer FF's
- Response Rates for FF were set at 60% based upon extrapolation
- [NFPA](#) and [FUS](#) Standards were used for standards reference
- Automatic Aid Agreement with Madawaska Valley Fire Department to provide initial response coverage to the North Eastern extent of the municipality