Executive Summary

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Background

The City of Greater Sudbury was formed on January 1, 2001, with the amalgamation of Sudbury, Capreol, Nickel Centre, Onaping Falls, Rayside-Balfour, Valley East and Walden, as well as many unincorporated townships. This resulted in the creation of the Greater Sudbury Fire Services Department – a combination of seven distinct fire departments from these former communities. A year prior to this change, land ambulance services were transferred to municipalities from the Ontario government on a 50/50 cost sharing basis.

Since 2000, several reports and studies related to the delivery of fire and paramedic services have been prepared. These reports have provided information and recommendations on how to move forward in a more strategic manner. In August 2014 Council adopted the Emergency Services Strategic Plan which identified the need to optimize resources with a vision towards a *One City, One Service* approach to the delivery of Fire and Paramedic Services in the City of Greater Sudbury.

Following the municipal election, a motion was passed directing staff to prepare a report on the optimization of fire and paramedic services, stations and service levels. This resulting report details the evidence-based analysis that was completed, and outlines a series of recommendations to address the gaps and needs that were identified as part of the review.

The Fire and Paramedic Services Optimization team provided numerous updates to Council throughout the process and held several employee and public information sessions, which included a presentation followed by a Question and Answer period.

The goal of the Optimization Plan is ultimately to make the community safer, over the course of a number of years that is dependent on implementation decision points to be made by Council and taking into account the priorities and financial position of the City of Greater Sudbury.

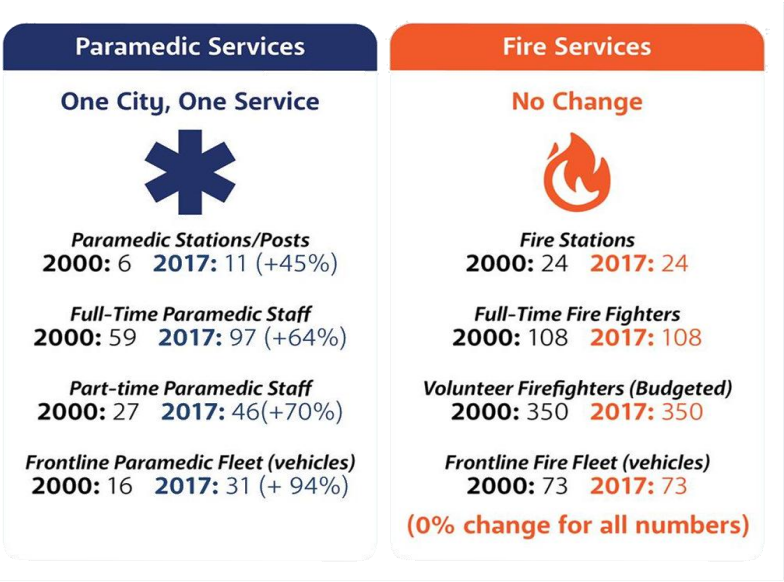
Guiding Principles

The analysis provided for Council's consideration respects five guiding principles that reflect the continuous focus on services, risk and cost as identified in both the Emergency Services Strategic Plan and Corporate Strategic Plan. These are:

1. A service-based systemic approach to planning and delivering Fire and Paramedic Services to achieve a consistent level of service and response throughout the city
2. Standardize response criteria to align with community needs and risks
3. Responsive, long-term decision-making for a service delivery model that aligns actual costs and taxation
4. Minimize risk to staff, the public, property and municipality by maintaining meaningful participating, competent, skilled responders
5. Protect the City of Greater Sudbury's economy and reputation

Context for the Delivery of Emergency Services

The figure below shows the state of Paramedic and Fire Services in 2000 and in 2017.



As part of the transfer of paramedic services, the Ministry of Health and Long-Term Care continued to set regulatory frameworks through the Ambulance Act, regulations and provincial standards. After assuming the service, the City of Greater Sudbury established a performance-based paramedic service model focused on a higher quality, reasonably priced service. Paramedic Services is required to report their response time performance on an annual basis not only to City Council, but to the Province through the Ministry of Health and Long-Term Care.

Over the past 16 years, Paramedic Services has continued to evolve their service delivery model through regular review and analysis of performance metrics, followed by implementation of improvements over time resulting in the achievement of a sophisticated and well-performing service that has continuously optimized towards a *One City One Service* model. Paramedic Services has evolved to meet the changing demands of the service and responds to nearly 90% of the population in a timely manner, making them one of the top ten response time performers in the province.

Fire service delivery is partly regulated by the province under the Fire Protection and Prevention Act. This legislation directs municipalities to provide fire education and fire prevention service, and provides the opportunity for Council to establish standards for fire suppression delivery in their community to address local risks and needs. These service levels are typically based on guidelines and standards established primarily by the National Fire Protection Association (NFPA), an internationally recognized authority on best practices for fire department operations. Fire Services are evaluated by the insurance industry through the Fire Underwriters Survey (FUS), who establish residential and commercial grades based on the ability of the department to prevent and control fires that may occur in a community.

While Paramedic Services has grown and evolved over the years, Fire Services has not evolved its delivery of fire services since amalgamation. The number of staff, stations and trucks has remained identical, and the service has maintained relatively the same scope of work, with the same seven different service models adopted at amalgamation.

Risk

Progressive communities choose to proactively identify, understand and assess the potential risks that exist and how they can be addressed by fire and paramedic services to help plan and deliver the service. The Auditor General (AG), in collaboration with staff, produced an enterprise risk assessment for both Fire and Paramedic Services.

For Paramedic Services, 54 overall risks were identified for analysis: eight related to reputation, 22 related to operations, 18 related to finance, and six connected to legal and regulatory issues. Of the 54 risk items identified by the AG's Office, 39 of them are currently mitigated to an acceptable level by way of the people, process, and system/technology. Of the remaining 15 risk items, five pertain to station location and functionality and cannot be further mitigated outside of investments in stations. These are identified as part of the proposed Optimization Plan.

In Fire Service, there were 60 identified risks including: 12 related to reputation, 23 for operations, 16 related to finance, and nine connected to legal and regulatory issues. Thirty-nine of these are currently mitigated to an acceptable level. The remaining 21 items require either: public acceptance of the risks at the current level(s) by the community or additional mitigation at an acceptable risk level by whatever means are deemed appropriate by Fire Services and/or Council.

Challenges for Fire and Paramedic Service Delivery

An analysis of the current delivery models for Fire and Paramedic Services identified a number of challenges.

- In Paramedic Services, the location, physical size and station design were identified as significant barriers to a more flexible vehicle deployment and harmonious station environment for staff. Management for both Fire and Paramedic Services is located at the Headquarters in Azilda, which is removed from the majority of on-duty employees. As a result, there is a significant loss of service hours and a disconnect between administration and support functions to those delivering front-line services.
- Paramedic Service call volumes continue to increase as the baby boomer generation ages. Seniors over the age of 65 now represent more than 15.5 % of city's population and this number is expected to climb to 19% by 2021. The projected call volumes would suggest high priority call volumes to increase by 37%, while all calls, including non-urgent, will increase by 20%. In consideration of these call volumes there are opportunities to improve non-urgent call volumes through the optimization process, as well as through work with the provincial government and other health care stakeholders, to ultimately increase service capacity for emergency calls.
- Other needs identified as part of the optimization of paramedic services included a full-time scheduler and an additional Equipment Vehicle Technician (EVT). It is important to recognize however, that additional paramedics and vehicle hours will likely be needed over the coming years if service demands exceed our paramedic response capacity.

- Paramedic Services will continue to come to Council through the budget process, as needed, to adjust service provision in response to the rapidly changing operating environment in which they work.

Fire Services faces numerous challenges, some of which are quite significant and pose significant financial risk.

- The Establishing and Regulating By-law is the by-law municipal Council approve to define the fire response service level for the community. In the current by-law, there is an unclear understanding of the service level expectations for fire suppression services in the City of Greater Sudbury. Generally, the focus of service level decisions reflects three aspects of performance: service scope ("What services will be provided?"), service response ("What resources will be deployed when a call for service is made?") and service responsiveness ("What is the expected response time?"). In Greater Sudbury, the expectations of fire service response and responsiveness are not clearly established and the approved scope of service does not match community needs.
- Fire Services only protects about 70% of the value of the properties in the city in a timely manner, based on industry best practices. Further, fire services are delivered inconsistently across the city, as well as within each service delivery area (career, composite, volunteer). For example, some remote and rural areas receive a significantly delayed response, even within the same area rating taxation.
- Greater Sudbury Fire Services offer some specialized response for hazardous material, trench rescue and confined space emergencies, however they fall short of what would be expected in a community of our size and with the hazards that exist in our resource-based industrial economy.
- Greater Sudbury Fire Services operates and maintains 24 fire stations, eight of which are cohabitated with Paramedic Services. These stations were located to protect the individual communities that existed prior to amalgamation and have not been adjusted to protect the entire City of Greater Sudbury. Some stations are not located in a strategic manner so as to respond to the level of risk that exists in an area. As well, with the current 24 fire station model, the City does not have enough vehicles to maintain the service level it currently offers.
- The average age of Greater Sudbury's fire stations is 44 years and minimal investment has been made to maintain and repair stations to support their ability to reach or exceed their recommended life cycle of 50 years. In 2014, the CCI Engineering Group completed an analysis and prepared a report that identified a required investment of $20.4 million to address deficiencies related to the structures and their mechanical systems. Further, many of the stations are non-compliant with applicable health and safety regulations for dual gender operations, such as separate sleep quarters and shower areas. The amount identified in the report completed by the CCI Engineering Group does not address improvements to size and configurations that are needed to meet legislative requirements. The Red Deer Lake Station in Wahnapitae is currently closed due to structural failure and firefighters are being deployed using a From Home Response model pending the completion of the optimization project.

- Current staffing does not provide enough resources to complete fire prevention and education duties recommended in NFPA industry guidelines, such as inspections and fire safety programming, which puts our community at risk of experiencing an increased number of incidents, delays in interior attack for structures where specific hazards are unknown, and endangering firefighters who may respond to high risk occupancies unknowing that hazards may exist.
- The current training model for volunteer firefighters provides instruction one night per week at each station. In 2016, the overall average for attendance at paid training by all volunteers was 66.2%. Frequent training can help to ensure skill and ability is at its finest levels, especially in those areas where call volume is low and infrequent and practical application is intermittent. Furthermore, volunteer firefighter incident attendance is neither guaranteed nor consistent in volunteer serviced areas. While many volunteer firefighters maintain an excellent attendance record, the overall average attendance at incidents was 32.1% in 2016. Poor participation and delayed response in volunteer protected areas poses a high risk for the occurrence of large damaging incidents in some areas of the city. This is especially true in those areas where significant population and commercial growth have occurred in recent years such as the Chelmsford, Garson, Lively and Valley East communities.

Cost and Taxation

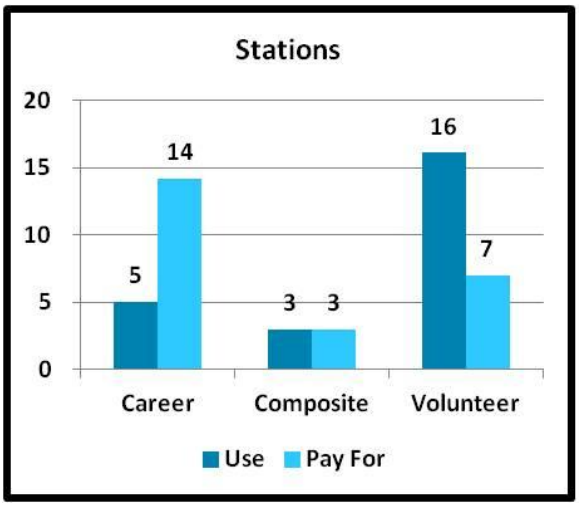
With respect to the costs and funding of Fire Services, a large shortfall exists for the replacement of aging vehicles and major equipment as well as repairs and renewals to old stations that are reaching the end of their life cycles and many of which are showing signs of impending failure. The current service delivery model of all 27 emergency services stations requires an investment of $135 million over the next 20 years for the renewal of stations. The current fire fleet would require $47.2 million over the next 20 years to replace front-line vehicles (fire trucks) and major equipment, but if the current funding model were to continue, the service would receive $31.1 million, resulting in a shortfall of $16.1 million.

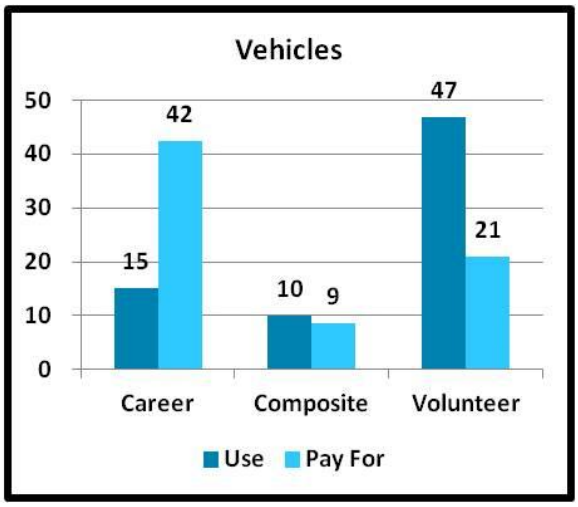
Added to these financial pressures are the unique costs associated with the employment of emergency responders. Presumptive legislation results in a staffing cost for firefighters (career and volunteer) to cover WSIB claims associated with workplace related illnesses or injuries such as cancer, heart injury or post-traumatic stress disorder and paramedics to cover WSIB claims associated with post-traumatic stress disorder. The funding for this expense is allocated below the recommended rates resulting in a shortfall of nearly $1.4 million.

At amalgamation a policy choice was made to establish a unique approach to charging taxes for a small number of services, including fire services. The taxation for fire services is based on level of service (career, composite or volunteer) and the associated firefighter wages. During the analysis, it was found that the rates established at the time of amalgamation did not appropriately align with the use of resources such as stations, vehicles and major equipment (base costs).

There is a significant difference between the use of resources (stations and vehicles) and the taxation that is charged to residents and businesses in both the career and volunteer rated areas as demonstrated below.

Ultimately, the boundaries and model established at amalgamation no longer reflect the service being received or the cost being paid. Several options are provided as part of the optimization model to re-align area taxation, at Council's discretion.





Proposed Optimization Model

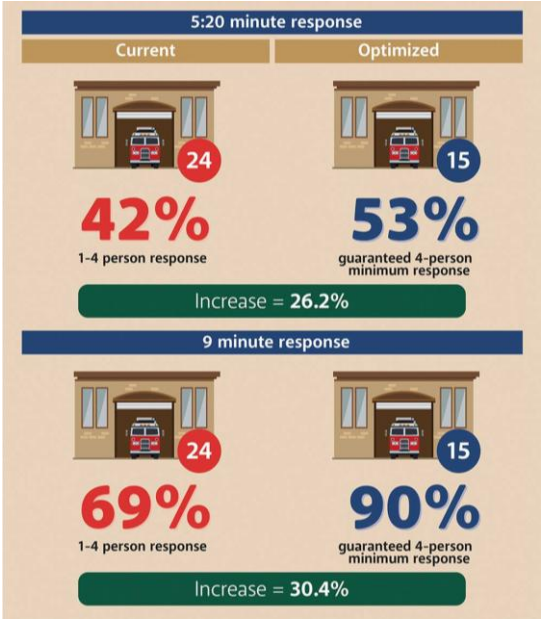
The optimized model is a deeply interconnected system that focuses on community safety and where solutions work together to create a highly functional and effective system. The recommendations being made as part of an optimized model for the delivery of emergency services are designed to be implemented over the course of seven to ten years – or less or more, at Council's discretion. Maintaining the current service delivery model will incur higher costs in the long term, and may not address the risks and needs of the community.

Service Standards for Fire Response

The first step towards optimizing emergency services is to establish service level standards. These are already in place for Paramedic Services, thanks to both regulations and legislation, and Council direction. Fire Services does not have established service standards. Several factors need to be considered when establishing service levels, including risk to life and property, hazards and population demographics. The standards recommended through the optimization analysis are:

- Dispatch time of 60 seconds or less, 90% of the time, for all fire beats;
- Chute time under 1:20, 90% of the time for career stations (inclusive of the career portion of composite stations) and under 5:00, 90% of the times for volunteer stations; and
- Differentiated response times based on urban, suburban, rural and remote designations.

The figure below shows the current fire response numbers, compared with anticipated response numbers of a fully optimized service model:



Stations

The Fire and Paramedic Services Optimized Model reduces the number of stations required in the provision of emergency response from 27 to 17 strategically located buildings that are best able to respond to the risks and needs of the entire city. This decrease in the number of stations will reduce the overall average age of stations to just 19 years, down from the current average age of 44, and will help ensure that buildings meet the modern needs and legislative requirements for both services. These stations will be appropriately staffed through the use of both career and volunteer firefighters.

Renovations, rebuilds, or new builds for stations over the years will address issues related to age, size, configuration, environmental impact and legislative requirements and also align service delivery more effectively with identified community risks. Further, these new builds represent a much needed investment in Fire and Paramedic Services infrastructure that will reduce the capital gap and long-term costs.

As part of optimization, it is recommended that the emergency service Headquarters currently located in Azilda be eventually relocated to the city core, near Notre Dame, Lasalle and Maley Drive. This move would result in a number of benefits, including but not limited to, a reduction in ambulance hours by 4,000 per year (which equates to nearly one full ambulance shift per day which could be redeployed to other areas of the community), and a significantly more effective emergency response in the event of a community incident. It is important to note that the location of Headquarters is the cornerstone of the Optimization Plan: other station locations and sizes are modeled on a Headquarters located in the city core.

Staffing

The optimized model relies on a greater number of career firefighters while still maintaining a core group of meaningfully participating volunteers. These changes, as noted above, align with the changes in numbers of stations and the need to ensure quick response in high risk areas (densely populated areas, or those with a concentration of industrial activity). The decrease in stations and equipment and correlating increase in staffing will actually improve service.

The proposed move from 108 career and 350 volunteer firefighters to 166 and 135 respectively aligns staffing with service and risk. This model allows for a guaranteed immediate response of four full-time firefighters – which is what is minimally required to effectively combat fires – with additional resources deployed from the volunteer force for larger incidents. It allows Fire Services to minimize staffing costs, while ensuring that the required number of firefighters are available to effectively fight a fire upon initial arrival at an emergency scene. This composite model is highly effective in delivering a timely response to denser suburban areas of the city and where there is significant risk identified due to vulnerable occupancies, and commercial and industrial activities.

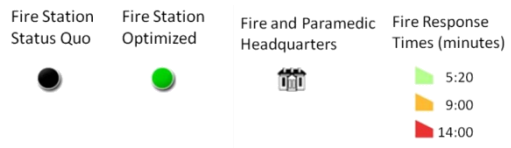
The Collective Bargaining Agreement for volunteer firefighters states that they have full discretion as to whether or not they attend an incident and no minimum attendance ratios have been established. Given the advances of technology and availability of cellular service even in more rural areas, an optimized service would greatly benefit from implementing modern advanced technology that allows firefighters to register their availability and/or quickly indicate their intention to respond to a call upon being notified.

A final modification recommended as part of optimization is the conversion of the firefighter training model to a more flexible and equitable format. The new format would allow volunteer firefighters to participate in training more frequently, alongside career firefighters, and would be designed to cater to community risks and hazards.

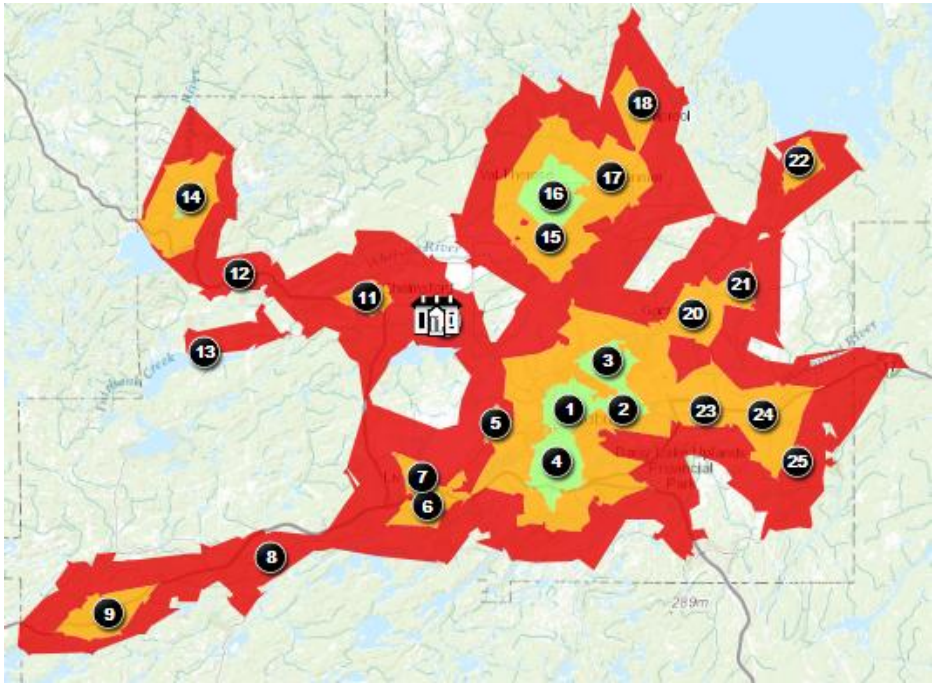
Vehicles and Equipment

The reduction in the overall number of stations will also enable the decrease in the number of fire trucks from 73 to 48 and a further decrease in the associated equipment required to deliver fire services. These changes all aim to help reduce the capital gap while increasing service delivery. As a result of these long-term changes, the cost to replace the number of vehicles and major equipment over a full 20-year lifecycle would be reduced from $47.2 million to $36.2 million.

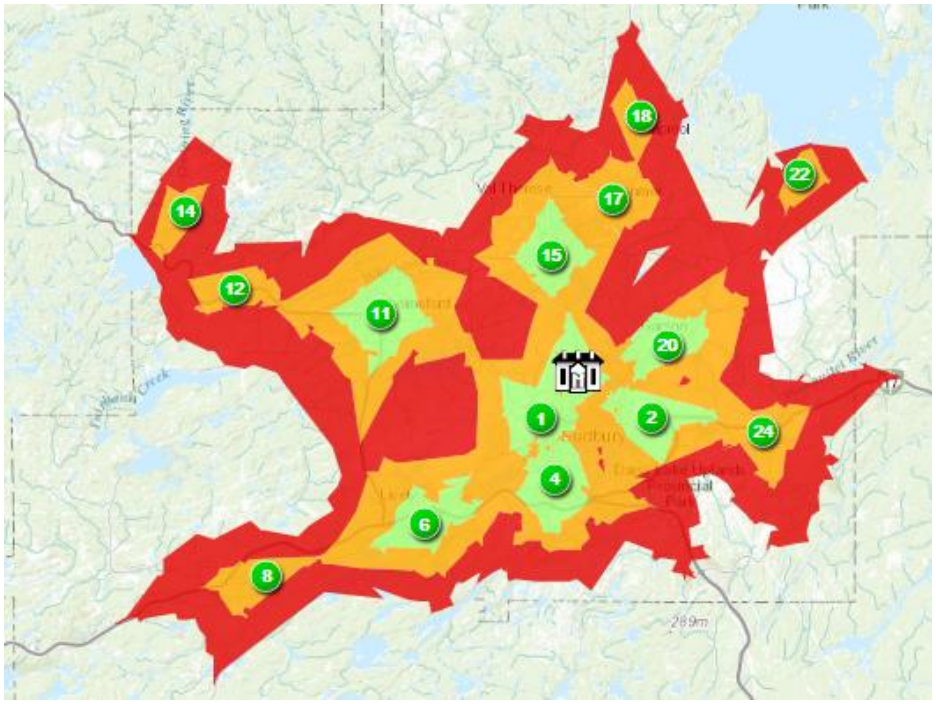
Ultimately, the recommendations of the Optimization Plan will result in a transformed model for the delivery of emergency services. The current and proposed optimized, maps detailing fire response times are as follows:



Current



Optimized



Costs

Three approaches to funding for emergency services are outlined in the optimization report. These relate primarily to Fire Services, as the funding model for Paramedic Services is a 50/50 cost-sharing model with the Province. The three approaches, broadly speaking, are:

- Current (Status Quo): This model represents no changes to the current delivery models, staffing or funding.
- Current (Status Quo) Fully Funded: This model represents no changes to the current delivery model or staffing but addresses funding shortfalls related to presumptive legislation and capital requirements for stations, vehicles and major equipment.
- Optimized: This model represents an optimized Fire Service that is fully funded.

Community Safety Department Operating Budget Impacts			
	Current Budget	**Current Budget if Fully Funded**	**Optimized**
2016 Operating Budget (starting point for analysis)	$35,448,187	$35,448,187	$35,448,187
Revenues:			
Provincial Grants and Subsidies		($856,956)	($716,497)
Total Revenue	**$0**	**($856,956)**	**($716,497)**
Expenses:			
Salaries and Benefits			$8,409,775
Materials - Operating Expenses			($17,806)
Energy Costs			($137,457)
Purchased/Contract Services			($12,500)
Debt Costs / Insurance and Taxes		$7,302,387	$5,191,594
Contribution to Reserve - Presumptive Legislation		$1,370,574	$950,730
Contribution to Reserve and Capital		$1,006,739	$521,139
Internal Recoveries			($781,943)
Total Expenses	**$0**	**$9,679,700**	**$14,123,532**
Net Total	**$0**	**$8,822,744**	**$13,407,035**
Revised Operating Budget	**$35,448,187**	**$44,270,931**	**$48,855,221**
2027 Operating Budget (with increases equalized over 10 years and a 3% annual inflation)	**$49,068,581**	**$58,057,116**	**$63,470,150**

Phased Implementation

The proposed optimization model is recommended for implementation over the course of seven to ten years, but this can be adjusted based on Council's choices. Decision points will be brought forward to Council for consideration, and where there is a funding implication, a business case will be presented during the annual budget process. Ultimately, City Council will decide if and when each stage will proceed based on the priorities, issues and risks identified.

Conclusion

Ultimately, the Optimization Project has concluded that Paramedic Services provides a level of service which consistently and effectively addresses the community's risks, and does so with a reasonable, fully-funded budget. Fire Services does not provide a level of service that sufficiently addresses community risks and operates within a budget that does not reflect actual costs. Fire Services operates a 30-year-old tradition-based model that does not function in a consistent and effective manner, or address growing community risks. Furthermore, that the current fire service model is not adequately funded only adds to the ineffective response system and creates additional risks for critical service delivery interruptions. Continued operation of a Fire Service model that is confirmed to be ineffectively designed and maintained, and improperly funded represents a significant risk to the community.

Staff believe that the *One City One Service* Optimized Model for the delivery of emergency services will result in a consistent, and consistently better, level of service to the entire community. While many believe that the service delivered currently reflects a standardized response – in terms of staffing, timing, and more – this is not the case. The recommendations provided will address the issues identified as part of the analysis.

Optimization proposes a phased-in transformation of stations and locations, proper alignment and delivery of services to address the risks that exist in the community, and a phased-in transformation of the staffing profile to achieve the desired result of improved community safety. Embedded within these changes are costs that, over time, will create a fair taxation model that appropriately funds proper service delivery. This model realizes opportunities for cost avoidance and, where necessary, invests in infrastructure and staffing that best serves not only today's residents, but those of the future as well.

At the heart of optimization is public safety. From fire response times, enhanced risk mitigation and improved medical tiered response, to strengthened employee well-being and improved health and safety, the Optimized Plan is expected to bring about significant benefits to the community and organization alike.