

**3. OTTAWA PARAMEDIC SERVICE REVIEW
EXAMEN DU SERVICE PARAMÉDIC D'OTTAWA**

COMMITTEE RECOMMENDATIONS

That Council:

- 1. Receive this report for information;**
- 2. Approve that the following growth pressures be incorporated into the 2017 draft budget:**
 - a. the addition of 12.00 FTEs with an estimated operating budget requirement of \$840,000, and a pre-commitment of the 2018 Draft Budget of \$495,000 due to the annualization of 12 FTEs, to address the projected 2016 growth (reduced from 14.00 FTEs as part of the service review) and the purchase of 4 emergency response vehicles with an estimated capital budget requirement of \$260,000, with the growth portion of \$220,000 to be funded from the Development Charges and the non-growth portion of \$40,000 to be funded from the City-wide Reserve Fund;**
 - b. the addition of 12.00 FTEs with an estimated operating budget requirement of \$810,000, and a pre-commitment of the 2018 Draft Budget of \$495,000 due to the annualization of 12 FTEs, to address the projected 2017 growth (reduced from 13.00 FTEs as part of the service review) and the purchase of one emergency response vehicle with an estimated capital budget requirement of \$200,000, with the growth portion of \$170,000 to be funded from the Development Charges and the non-**

growth portion of \$30,000 to be funded from the City-wide Reserve Fund.

3. Approve that the following growth pressures be incorporated into the 2018 draft budget:
 - a. the addition of 14.00 FTEs with an estimated operating budget requirement of \$940,000, and a pre-commitment of the 2019 Draft Budget of \$590,000 due to the annualization of 14 FTEs, and the purchase of one emergency response vehicle with an estimated capital budget requirement of \$200,000, with the growth portion of \$170,000 to be funded from the Development Charges and the non-growth portion of \$30,000 to be funded from the City-wide Reserve Fund.

RECOMMANDATIONS DU COMITÉ

Que le Conseil :

1. reçoives ce rapport à titre d'information;
2. accepte que les pressions exercées par la croissance suivantes soient incluses dans le budget préliminaire de 2017 :
 - a. l'ajout de 12,00 ETP avec une exigence liée au budget de fonctionnement estimée à 840 000 \$ afin de faire face à l'augmentation prévue en 2016 (réduite de 14,00 ETP à 12,00 ETP dans le cadre de l'examen du Service), et l'engagement préalable dans le budget préliminaire 2018 de 495 000 \$ en raison de l'annualisation de 12 ÉTP, et à l'achat de quatre véhicules d'intervention d'urgence avec une exigence liée au budget des immobilisations estimée à 260 000 \$; la portion de ces coûts liée à la croissance, soit 220 000 \$, sera financée à même le compte des redevances d'aménagement, tandis que

les 40 000 \$ non liés à la croissance seront financés à même le fonds de réserve de la Ville;

- b. l'ajout de 12,00 ETP avec une exigence liée au budget de fonctionnement estimée à 810 000 \$ afin de faire face à l'augmentation prévue en 2017 (réduite de 13,00 ETP à 12,00 ETP dans le cadre de l'examen du Service), et l'engagement préalable dans le budget préliminaire 2018 de 495 000 \$ en raison de l'annualisation de 12 ÉTP, et l'achat d'un véhicule d'intervention d'urgence avec une exigence liée au budget des immobilisations estimée à 200 000 \$; la portion de ces coûts liée à la croissance, soit 170 000 \$, sera financée à même le compte des redevances d'aménagement, tandis que les 30 000 \$ non liés à la croissance seront financés à même le fonds de réserve de la Ville.**

- 3. accepte que les pressions exercées par la croissance suivantes soient incluses dans le budget préliminaire de 2018 :**
 - a. l'ajout de 14,00 ETP avec une exigence liée au budget de fonctionnement estimée à 940 000 \$, et l'engagement préalable dans le budget préliminaire 2019 de 590 000 \$ en raison de l'annualisation de 14 ÉTP, et l'achat d'un véhicule d'intervention d'urgence avec une exigence liée au budget des immobilisations estimée à 200 000 \$; la portion de ces coûts liée à la croissance, soit 170 000 \$, sera financée à même le compte des redevances d'aménagement, tandis que les 30 000 \$ non liés à la croissance seront financés à même le fonds de réserve de la Ville.**

DOCUMENTATION / DOCUMENTATION

1. Acting General Manager's Report, Emergency and Protective Services, dated 13 October 2016 (ACS2016-EPS-GEN-0005).

Rapport du Directeur général par intérim, Services d'urgence et de protection datée le 13 octobre 2016 (ACS2016-EPS-GEN-0005).

2. Extract of draft Minutes, Community and Protective Services Committee, 20 October 2016

Extrait de l'ébauche du procès-verbal, Comité des services communautaires et de protection, le 20 octobre 2016.

**COMMUNITY AND PROTECTIVE
SERVICES COMMITTEE
REPORT 18
26 OCTOBER 2016**

25

**COMITÉ DES SERVICES
COMMUNAUTAIRES ET DE
PROTECTION
RAPPORT 18
LE 26 OCTOBRE 2016**

**Report to
Rapport au:**

**Community and Protective Services Committee
Comité des services communautaires et de protection
20 October 2016 / 20 octobre 2016**

**and Council
et au Conseil
26 October 2016 / 26 octobre 2016**

**Submitted on October 13, 2016
Soumis le 13 octobre 2016**

**Submitted by
Soumis par:**

**Anthony Di Monte, Acting General Manager / Directeur general par intérim,
Emergency and Protective Services / Services d'urgence et de protection**

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**Ward: CITY WIDE / À L'ÉCHELLE DE
LA VILLE**

File Number: ACS2016-EPS-GEN-0005

SUBJECT: Ottawa Paramedic Service Review

OBJET: Examen du Service paramédic d'Ottawa

REPORT RECOMMENDATIONS

That the Community and Protective Services Committee recommend that Council:

- 1. Receive this report for information;**
- 2. Approve that the following growth pressures be incorporated into the 2017 draft budget:**
 - a. the addition of 12.00 FTEs with an estimated operating budget requirement of \$840,000, and a pre-commitment of the 2018 Draft Budget of \$495,000 due to the annualization of 12 FTEs, to address the projected 2016 growth (reduced from 14.00 FTEs as part of the service review) and the purchase of 4 emergency response vehicles with an estimated capital budget requirement of \$260,000, with the growth portion of \$220,000 to be funded from the Development Charges and the non-growth portion of \$40,000 to be funded from the City-wide Reserve Fund;**
 - b. the addition of 12.00 FTEs with an estimated operating budget requirement of \$810,000, and a pre-commitment of the 2018 Draft Budget of \$495,000 due to the annualization of 12 FTEs, to address the projected 2017 growth (reduced from 13.00 FTEs as part of the service review) and the purchase of one emergency response vehicle with an estimated capital budget requirement of \$200,000, with the growth portion of \$170,000 to be funded from the Development Charges and the non-growth portion of \$30,000 to be funded from the City-wide Reserve Fund.**
- 3. Approve that the following growth pressures be incorporated into the 2018 draft budget:**
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purchase of one emergency response vehicle with an estimated capital budget requirement of \$200,000, with the growth portion of \$170,000 to be funded from the Development Charges and the non-growth portion of \$30,000 to be funded from the City-wide Reserve Fund.

RECOMMANDATIONS DU RAPPORT

Le Comité des services communautaires et de protection recommande que le Conseil :

- 1. reçoive ce rapport à titre d'information;**
- 2. accepte que les pressions exercées par la croissance suivantes soient incluses dans le budget préliminaire de 2017 :**
 - a. l'ajout de 12,00 ETP avec une exigence liée au budget de fonctionnement estimée à 840 000 \$ afin de faire face à l'augmentation prévue en 2016 (réduite de 14,00 ETP à 12,00 ETP dans le cadre de l'examen du Service), et l'engagement préalable dans le budget préliminaire 2018 de 495 000 \$ en raison de l'annualisation de 12 ÉTP, et à l'achat de quatre véhicules d'intervention d'urgence avec une exigence liée au budget des immobilisations estimée à 260 000 \$; la portion de ces coûts liée à la croissance, soit 220 000 \$, sera financée à même le compte des redevances d'aménagement, tandis que les 40 000 \$ non liés à la croissance seront financés à même le fonds de réserve de la Ville;**
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estimée à 200 000 \$; la portion de ces coûts liée à la croissance, soit 170 000 \$, sera financée à même le compte des redevances d'aménagement, tandis que les 30 000 \$ non liés à la croissance seront financés à même le fonds de réserve de la Ville.

3. accepte que les pressions exercées par la croissance suivantes soient incluses dans le budget préliminaire de 2018 :

- a. l'ajout de 14,00 ETP avec une exigence liée au budget de fonctionnement estimée à 940 000 \$, et l'engagement préalable dans le budget préliminaire 2019 de 590 000 \$ en raison de l'annualisation de 14 ÉTP, et l'achat d'un véhicule d'intervention d'urgence avec une exigence liée au budget des immobilisations estimée à 200 000 \$; la portion de ces coûts liée à la croissance, soit 170 000 \$, sera financée à même le compte des redevances d'aménagement, tandis que les 30 000 \$ non liés à la croissance seront financés à même le fonds de réserve de la Ville.**

EXECUTIVE SUMMARY

At its meeting of December 9, 2015, City Council approved a Service Review Program that included several department specific operational reviews including the Paramedic Service.

In keeping with the review framework adopted by Council each review is being conducted by a multi-stakeholder team with a mix of operational, financial, and process review expertise. The high level objectives of each Service Review is to provide actionable recommendations that will provide cost savings (efficiencies) and/or result in service improvements or outcomes (effectiveness/response times).

The specific objectives of the Ottawa Paramedic Service were to outline:

- The current challenge in meeting response time targets
- Past, present and planned actions to improve the efficiency and effectiveness of the service; and

The estimated growth funding investment required to meet response time targets while identifying how growth funding will be partially offset by administrative efficiencies.

The Paramedic Service is highly regulated and operates under a framework that is governed by the Ministry of Health and Long Term Care (MOHLTC) pursuant to a stringent certification process that is undertaken every three years.

In 2001, City Council approved the Paramedic Deployment model, developed by Fitch & Associates, which has been subject to regular review and refinement since amalgamation.

“The deployment model recommended was a mix of station based (geographic) and mobile deployment points. This method of deployment is a true reflection of a tiered-response model that allows all the resources available to respond predictably to areas where historically medical calls originate. This permits the paramedic service to maximize resources and provide better coverage that complements the availability of other first-responders (Fire, Police) at the lowest possible cost.”

“The efficiency of the model was also developed around matching supply of paramedics with demands for service. The recommended design developed peak load staffing when the system experienced more calls rather than have the same number of units available at all hours.”

Fitch & Associates, Ottawa Paramedic Service Review, Performance Review, October 2004 (Ref N°ACS2004-CPS-OPS-0008)

The Ottawa Paramedic Service has provided regular reports to Committee and Council respecting the performance of its Service Delivery Model including annual reports outlining performance trends, mitigation strategies and associated financial impacts.

From 2001 through 2012, the Paramedic Service’s key response time standard was focussed on response to Priority 4 “life threatening” calls which provided for a 90th percentile response time in both the high-density (urban) and low-density (rural) areas of the City as set out below:

Response Times - Priority 4 “Life Threatening” Calls	
High Density	Low Density
8:59 (90% of the time)	15:59 (90% of the time)

In September of 2012, Council approved a new Annual Response Time Performance Plan for 2013 based on changes to the Ambulance Act of Ontario.

As noted in the 2012 report, the new standards did not change service levels but rather the way response time information is reported to the MOHLTC. Historical response time standards were measured solely on a paramedic’s response to the scene, not taking into account how sick the patient was upon arrival of paramedics or the other community resources available to respond to cardiac arrest patients. Those community resources include all fire response vehicles and marked police cars equipped with defibrillators as well as the more than 900 defibrillators placed in municipal buildings, arenas, libraries, community centres and private sector buildings that are managed by the Paramedic Service as part of its Public Access Defibrillation program.

The new standard specifically established the response time for the most acutely ill patients and Council sets the percentage of time the target will be achieved. The new standard was established to ensure that Ontario municipalities would be measuring response times for the most critical patients.

The new standards set a single community response time target for sudden cardiac arrest patients (within six minutes) and CTAS Level 1 (most critical) patients (within eight minutes) for the entire City.

The Ottawa Paramedic Service worked with Paramedic Services from other comparable Ontario municipalities to determine appropriate percentile rank targets for the new response time standards. All the Services agreed to the percentile rank target of 75% for CTAS Level 1 for a paramedic to arrive on-scene as set out in the following table.

Response Time Standards		
Category	Target Time (minutes)	Percent Rank Target
CTAS I	8 Minutes*	75%
*Response times dictated by the <i>Ambulance Act</i> of Ontario. Percent Rank set by Council.		

The key drivers for service demand in Ottawa are population growth, an aging population (where currently, patients 55 years and over represent 57% of the total response volume) and increases in the number of visitors to the Nation's Capital.

In addition to service demand, the most significant challenge faced by the Ottawa Paramedic Service is the provision of service over a large geographic area. Ottawa, at nearly 2,800 square kilometres, is four times larger than the City of Toronto (with Toronto having 1.67 paramedics per square kilometre while the City of Ottawa has .15 paramedics per square kilometre).

City Council has recognized the impacts of population growth and aging demographics on the demand for paramedic services, as well as the challenges of geography, and has approved significant investment in the Ottawa Paramedic Service since amalgamation to ensure that the Ottawa Paramedic Service has been appropriately staffed to meet its Council approved response times.

Between 2001 and 2011 the Ottawa Paramedic Service increased its paramedic staffing from 337 FTEs to 529 FTEs in recognition of the 160% increase in call volume that had occurred over that time frame.

There has been no increase in Paramedic staffing since 2011 with the exception of the 12 FTEs approved by Council in March 2016.

Current Challenge of Meeting Response Time Standards

Between 2011 and 2015 response volumes have increased from 108,331 to 133,965 (an increase of 23.7%) which represents an increase of 70 more responses per day.

The Ottawa Paramedic Service met all response time standards in 2013. Increased response volumes in 2014 and 2015, however, resulted in the Service not meeting the Council approved percentile target for Sudden Cardiac Arrest (defibrillator at patient's side) for 2014 and 2015 or the CTAS Level 1 (life threatening) calls for 2015.

Response Time Performance					
Category (Acuity)	Target Time (minutes)	Council Approved Percentile Rank	2013	2014	2015
Sudden Cardiac Arrest	6:00	65%	73.5%	63.0%	63.7%
CTAS 1	8:00	75%	83.6%	79.5%	72.5%

During the development of the Paramedic Service Review, in recognition of these recent response time trends, a motion was tabled at Council in February 2016 citing concern that increasing response volumes were resulting in rural resources being deployed to the urban core where demand is greatest thereby creating a greater reliance on surrounding municipalities to respond to the City's rural wards. At its meeting of March 23, 2016, Council approved the addition of 12 paramedics in 2016 to improve response times and mitigate against the number of rural resources being deployed to meet the concentration of calls in the urban core.

Past Present and Future Improvements

The Ottawa Paramedic Service has, over the years, identified opportunities and implemented mitigation strategies in an effort to offset the increase in service demand and to optimize the paramedic time on the road, which in turn maximizes the availability of paramedics to respond to calls.

Examples of these efficiencies and optimizations include:

- **Centralized Shift Start Station:** The Paramedic Service uses Equipment and Supply Technicians to sanitize and process medical equipment and vehicles at the Paramedic HQ to maximize paramedic resource availability. On average the Paramedic Service deploys 70 ambulances every 24 hours. If paramedics were required to perform a 30 minute vehicle check-off at the beginning of every shift this would create 35 hours of lost time daily. As a result, 12,755 hours are returned to the community annually by utilizing Equipment Supply Technicians.
- **Paramedic Response Units (PRUs):** Rapid Response Units are single responder units staffed by a Primary Care Paramedic which arrive on scene and initiate patient care for the highest priority calls. A transport unit (ambulance) is subsequently dispatched to provide transport, as required. This allows the PRU responder to downgrade or cancel the transport unit, freeing up the paramedic crew (ambulance) to respond to the next emergency call. In 2015, PRUs were able to provide an additional 9,586 hours of coverage representing annual savings of \$837,000. In 2015, PRU's attended 13,313 responses and reached the patient in eight (8) minutes or less, 86% of the time.
- **Off-Load Nurse Pilot Program:** The Program is fully funded by the Ministry of Health and Long Term Care and allows paramedics to transfer the care of a patient to the designated off-load nurse within the hospital's emergency department in an effort to expedite the return of paramedic back on to the road. In 2015, the Ottawa Paramedic Service returned 26,581 hours (the equivalent of 36 FTEs) back to the community.

Internal efficiencies, in the form of Service Ottawa initiatives and staff rationalization has resulted in a reduction of seven (7) FTEs over the past five years.

As of December 31, 2015, the Paramedic Service was comprised of 599 Full-time Equivalents (FTEs). 522 of those FTEs are made up of the Commanders, Superintendents, Paramedics, Equipment Supply Technicians and administrative support for Operations and Technical Support (vehicle preparation, training and development and quality assurance) which is funded 50/50 with the Province. 77 of the

FTEs are Commanders, Superintendents and Communications Officers who staff the Ambulance Communications Centre which is funded 100% by the Province. Only 2.3% of Operations staff represent administrative positions.

Recognizing the need to improve response time standards, the Service Review team worked to identify further opportunities for efficiencies in the Branch as part of the 2016 review. The following three FTEs have been identified to partially offset growth requirements:

- One Full Time Continuous vacant Paramedic Superintendent will be re-invested from the Training Division to the Operations Division (1.00 FTE).
- One Advanced Care Paramedic performing the duties of Hospital Liaison Officer as support to the Off-Load Nurse program will be returned to front-line operations (1.00 FTE).
- One support staff position that is scheduled for retirement in early 2017 will be re-invested into the Operations Division as part of front-line service delivery (1.00 FTE).

Growth Requirements & Efficiency Offsets

The efficiency initiatives implemented to date, although successful, are not sufficient to meet the increased service demand and call volume that is estimated to occur over 2016, 2017 and 2018 (5.9% per year based on trends over the past 5 years).

Despite the service optimization and efficiencies cited above, paramedic FTE growth is required to help the Service meet the legislated and Council approved response time standards and ensure positive patient outcomes.

Accordingly, this report recommends the addition of 24 FTEs be incorporated into the 2017 draft budget (12 FTEs to support 2016 growth and 12 FTEs to support 2017 growth), including associated vehicles, with an additional 14 FTEs (and associated vehicles) be incorporated into the 2018 draft budget.

Given the three (3) FTE efficiencies cited above, a total of 41 FTEs will be deployed to support frontline service including 36 Paramedics and 5 support staff (2

Superintendents for Operations, 1 Superintendent for Training/Professional Standards and 2 Equipment and Supply Technicians).

Subject to approval of the investments outlined in this report, the Paramedic Service is confident that all targeted response times will improve for the balance of the term of Council including response times in the rural areas of the City.

Should Council adopt the recommendations outlined above, the first 24 paramedics would be hired in June 2017 and operational and on the street by August 2017.

SOMMAIRE

Dans le cadre de sa réunion du 9 décembre 2015, le Conseil municipal a approuvé un Programme d'examen des services comprenant plusieurs examens opérationnels propres aux différents services, dont le Service paramédic.

Respectant un cadre adopté par le Conseil, chaque examen est réalisé par une équipe de plusieurs intervenants combinant différentes expertises en matière d'évaluation opérationnelle, financière et procédurale. Les grands objectifs de chaque examen de service sont de formuler des recommandations réalisables qui permettront des économies de coûts (efficacités) ou qui entraîneront une amélioration des services ou des résultats (efficacité/délais d'intervention).

Les objectifs précis de l'examen du SPO étaient de passer en revue :

- les difficultés actuelles d'atteindre les cibles en matière de délai d'intervention;
- les mesures passées, actuelles et prévues pour améliorer l'efficacité et l'efficacité du service;
- le financement de la croissance estimée pour atteindre les délais d'intervention ciblés, tout en déterminant comment ce financement sera en partie compensé par des efficacités administratives.

Le Service paramédic est très réglementé et fonctionne dans un cadre gouverné par le ministère de la Santé et des Soins de longue durée (MSSLD) conformément à un processus de certification rigoureux réalisé tous les trois ans.

En 2001, le Conseil municipal a approuvé le modèle de déploiement des paramédics, élaboré par Fitch & Associates, qui a été examiné et peaufiné sur une base régulière depuis la fusion.

« Le modèle de déploiement recommandé était constitué d'un mélange de points de déploiement à partir des stations (géographique) et de déploiement mobile. Cette méthode de déploiement est l'image même d'un modèle d'intervention hiérarchisée qui permet à toutes les ressources disponibles d'intervenir de manière prévisible dans les secteurs d'où proviennent habituellement les appels pour des services médicaux. Cela permet au service paramédic de maximiser les ressources et de fournir une meilleure couverture qui complète la disponibilité des autres premiers répondants (service des incendies, police), et ce, au coût le plus bas possible. »

« L'efficacité de ce modèle découle du fait qu'il a été élaboré en faisant correspondre les effectifs du service paramédic aux demandes de services. La conception recommandée propose un nombre accru d'employés quand le réseau reçoit un grand nombre d'appels au lieu d'un nombre constant d'unités disponibles en tout temps. »

Fitch & Associates, Examen du Service paramédic d'Ottawa, examen du rendement, octobre 2004 (N^o réf : ACS2004-CPS-OPS-0008)

Le Service paramédic d'Ottawa présente, sur une base régulière, au Comité et au Conseil des rapports sur le rendement de son modèle de prestation de services, ce qui comprend des rapports annuels qui rendent compte des tendances en matière de rendement, des stratégies d'atténuation et des répercussions financières y étant associées.

De 2001 à 2012, la norme relative délai d'intervention clé pour le Service paramédic se concentrait sur la réponse aux appels de priorité 4 (où la vie de personnes est en jeu) indiquant un délai d'intervention dans le 90^e rang-centile pour les secteurs à forte densité de population (urbains) et à faible densité de population (ruraux) de la ville, comme il est indiqué ci-dessous :

Délais d'intervention – Appels de priorité 4 où la vie des personnes est en jeu	
Forte densité de population	Faible densité de population
8 min 59 (90 % des cas)	15 min 59 (90 % des cas)

En septembre 2012, le Conseil a approuvé un nouveau Plan de rendement annuel concernant les délais d'intervention pour 2013, lequel reposait sur les modifications apportées à la *Loi sur les ambulances de l'Ontario*.

Comme l'indiquait le rapport de 2012, les nouvelles normes n'ont pas modifié les niveaux de service, mais plutôt la façon dont les données sur les délais d'intervention étaient rapportées au MSSLD. Traditionnellement, les normes en matière de délai d'intervention tenaient compte seulement du temps requis aux paramédics pour se rendre sur les lieux, sans tenir compte de l'état du patient à leur arrivée ni des autres ressources communautaires pouvant intervenir en cas d'arrêt cardiaque. Ces ressources communautaires comprennent tous les véhicules de lutte contre les incendies et les voitures de police identifiées équipés de défibrillateurs, ainsi que plus de 900 défibrillateurs installés dans des édifices publics, des arénas, des bibliothèques, des centres communautaires et des immeubles du secteur privé et que gère le Service paramédic dans le cadre de son Programme de défibrillateurs accessibles au public.

La nouvelle norme définit le délai d'intervention spécifiquement pour les cas les plus aigus et le Conseil établit la proportion des cas où la cible sera atteinte. La nouvelle norme a été établie pour faire en sorte que les municipalités de l'Ontario mesurent les délais d'intervention liés aux cas les plus critiques.

Les nouvelles normes établissent une cible unique quant au délai d'intervention pour les arrêts cardiaques soudains (en moins de six minutes) et les cas de niveau 1 selon l'ÉTG (les plus critiques; en moins de huit minutes) à l'échelle de la ville.

Le Service paramédic d'Ottawa collabore avec les services paramédics d'autres municipalités comparables de l'Ontario afin d'établir des cibles appropriées en matière de rangs-centiles pour les nouvelles normes relatives au délai d'intervention. Tous les

services ont accepté comme cible communautaire un 75^e rang-centile pour les cas de niveau 1 selon l'ÉTG, comme l'indique le tableau suivant.

Normes en matière de délai d'intervention		
Catégorie	Délai cible (minutes)	Rang-centile cible
Niveau 1 selon l'ÉTG	8 minutes*	75 ^e
*Délais d'intervention dictés par la <i>Loi sur les ambulances</i> de l'Ontario. Rang-centile établi par le Conseil.		

Les principaux moteurs de la demande de services à Ottawa sont la croissance de la population, le vieillissement de la population (actuellement, les personnes de 55 ans et plus représentent 57 % du volume total des interventions) et l'augmentation du nombre de visiteurs dans la capitale nationale.

Outre la demande de services, la plus grande difficulté que rencontre le Service paramédic d'Ottawa est l'étendue du territoire à couvrir dans la prestation des services. Couvrant près de 2 800 km², Ottawa est quatre fois plus étendue que la ville de Toronto (cette dernière compte 1,67 paramédic par km² alors qu'Ottawa en a 0,15 par km²).

Le Conseil municipal est conscient des conséquences de la croissance et du vieillissement de la population sur la demande des services paramédics, ainsi que des défis que pose la situation géographique; il a donc approuvé un investissement substantiel dans le Service paramédic d'Ottawa depuis la fusion afin que ce dernier compte suffisamment d'effectifs pour respecter les délais d'intervention approuvés par le Conseil.

De 2001 à 2011, le Service paramédic d'Ottawa a augmenté ses effectifs, les faisant passer de 337 ÉTP à 529 ÉTP, pour répondre à l'augmentation de 160 % du volume des appels observée pendant cette période.

Les effectifs du Service paramédic n'ont pas été augmentés depuis 2011, exception faite des 12 ÉTP que le Conseil a approuvés en mars 2016.

Difficulté actuelle de respecter les normes en matière de délai d'intervention

De 2011 à 2015, le nombre des interventions est passé de 108 331 à 133 965 (une hausse de 23,7 %), ce qui représente 70 interventions de plus par jour.

Le Service paramédic d'Ottawa a respecté toutes les normes de délai d'intervention en 2013. Toutefois, en raison de l'augmentation des interventions en 2014 et en 2015, le Service n'a pas pu atteindre le rang-centile cible approuvé par le Conseil pour les arrêts cardiaques soudains (défibrillateur au côté du patient) en 2014 et en 2015 ni pour les cas de niveau 1 selon l'ÉTG (vie en jeu) en 2015.

Rendement en matière de délai d'intervention					
Catégorie (état)	Délai cible (minutes)	Rang-centile approuvé par le Conseil	2013	2014	2015
Arrêt cardiaque soudain	6 min 00	65 %	73,5 %	63,0 %	63,7 %
CTAS 1	8 min 00	75 %	83,6 %	79,5 %	72,5 %

Pendant la préparation de l'examen du Service paramédic, en raison de ces récentes tendances dans le délai d'intervention, une motion a été déposée au Conseil en février 2016 citant les craintes voulant que l'augmentation du nombre d'interventions entraîne un déplacement des ressources rurales vers les quartiers urbains où la demande est plus élevée, créant ainsi une dépendance accrue envers les municipalités environnantes pour répondre aux demandes dans les quartiers ruraux de la ville. À sa réunion du 23 mars 2016, le Conseil a approuvé l'ajout de 12 employés paramédics en 2016 pour améliorer le délai des interventions et compenser les ressources du milieu rural déployées pour répondre à la concentration des appels en milieu urbain.

Améliorations passées, présentes et futures

Avec les années, le Service paramédic d'Ottawa a cerné les possibilités et mis en œuvre des stratégies de compensation pour répondre à l'augmentation de la demande de services et pour optimiser le temps passer par les paramédics sur la route, ce qui

permet en retour de maximiser la disponibilité des paramédics pour répondre aux appels.

Voici quelques exemples d'efficacités et d'optimisations :

- Station de début de quart centralisée : Le Service paramédic fait appel à des techniciens en approvisionnement pour stériliser et entretenir le matériel médical et les véhicules au Quartier général du Service paramédic afin de maximiser la disponibilité des ressources paramédics. En moyenne, le Service paramédic déploie 70 ambulances toutes les 24 heures. Si les paramédics devaient soumettre leur véhicule à une vérification au début de chaque quart, il y aurait une perte de temps de 35 heures par jour. Le recours à des techniciens en approvisionnement pour cette tâche permet donc de remettre chaque année 12 775 heures de services sur le territoire.
- Unités d'intervention du Service paramédic : Le programme d'intervention rapide est constitué d'unités d'intervenant unique qui envoient un paramédic de soins primaires sur les lieux pour entreprendre les soins au patient pour les appels les plus prioritaires. Une unité de transport (ambulance) est par la suite affectée pour transporter le patient, au besoin. Ainsi, l'intervenant du programme d'intervention rapide peut repousser ou annuler le transport, permettant à l'équipe de paramédics (ambulance) de répondre au prochain appel d'urgence. En 2015, les unités d'intervention rapide ont pu fournir 9 586 heures de couverture additionnelles, ce qui représente des économies annuelles de 837 000 \$. En 2015, les unités d'intervention rapide ont participé à 13 313 interventions et sont arrivées au chevet du patient en huit (8) minutes ou moins dans 86 % des cas.
- Programme pilote de prise en charge par le personnel infirmier : Ce programme est entièrement financé par le ministère de la Santé et des Soins de longue durée et il permet aux paramédics de transférer les soins d'un patient au personnel infirmier désigné dans le service des urgences de l'hôpital et de reprendre la route plus rapidement. En 2015, le Service paramédic d'Ottawa a pu remettre 26 581 heures (l'équivalent de 36 ÉTP) à la communauté.

Les efficiences internes, sous la forme d'initiatives de Service Ottawa et de rationalisation du personnel, ont entraîné une réduction de sept (7) ÉTP depuis cinq ans.

Au 31 décembre 2015, le Service paramédic comptait 599 équivalents temps plein (ÉTP), dont 522 étaient des commandants, des surintendants, des paramédics, des techniciens en approvisionnement et des employés de soutien administratif pour offrir des services de soutien opérationnel et technique (réparation de véhicules, formation et perfectionnement, et assurance de la qualité) qui sont financés à parts égales avec la Province. Soixante-dix-sept (77) des ÉTP sont des commandants, des surintendants et des agents de communications qui travaillent au Centre intégré de répartition des ambulances, lequel est entièrement financé par la Province. Seulement, 2,3 % du personnel des opérations occupe des postes administratifs.

Étant consciente des besoins d'améliorer les normes en matière de délai d'intervention, l'équipe d'examen des services s'efforce de définir d'autres possibilités d'efficiences dans le Service dans le cadre de l'examen de 2016. Les trois ÉTP suivants ont été définis pour compenser en partie les besoins liés à la croissance :

- Un poste permanent à temps plein vacant de surintendant des paramédics sera muté de la Division de la formation à la Division des opérations (1,00 ÉTP).
- Un paramédic de niveau avancé occupant un poste d'agent de liaison en milieu hospitalier dans le cadre du programme de prise en charge par le personnel infirmier retournera aux opérations de première ligne (1,00 ÉTP).
- Un poste d'employé de soutien dont l'employé doit partir à la retraite au début de 2017 sera muté dans la Division des opérations dans le cadre de la prestation de service de première ligne (1,00 ÉTP).

Besoins en matière de croissance et compensations liées à l'efficience

Les mesures d'efficacité mise en œuvre jusqu'à maintenant, bien qu'elles soient efficaces, ne suffiront pas à répondre à l'augmentation de la demande de services et du volume des appels prévue pour 2016, 2017 et 2018 (5,9 % par année selon les tendances observées depuis 5 ans).

Malgré l'optimisation du service et les mesures d'efficience citées plus haut, une augmentation des ÉTP s'impose pour permettre au Service de respecter les normes en matière de délai d'intervention dictées par la loi et approuvées par le Conseil et d'assurer des dénouements positifs pour les patients.

En conséquence, on recommande dans le présent rapport d'ajouter 24 ETP dans le budget préliminaire de 2017 (12 ETP pour appuyer la croissance de 2016 et 12 pour appuyer celle de 2017), y compris les véhicules s'y rattachant, et 14 autres ETP (et les véhicules s'y rattachant) dans le budget préliminaire de 2018.

En raison des trois (3) ÉTP cités plus haut, un total de 41 ÉTP seront déployés pour fournir des services de première ligne, dont 36 paramédics et 5 employés de soutien (2 surintendants aux opérations, 1 surintendant à la formation/normes professionnelles et 2 techniciens en approvisionnement).

Sous réserve de l'approbation des investissements cités dans ce rapport, le Service paramédic est convaincu que tous les délais d'intervention ciblés seront améliorés pour le reste du mandat du Conseil, y compris les délais des interventions dans les secteurs ruraux de la ville.

Si le Conseil devait adopter les recommandations formulées plus haut, les 24 premiers paramédics seraient recrutés en juin 2017 et travailleraient sur la route d'ici au mois d'août 2017.

BACKGROUND

At its meeting of December 9, 2015, City Council approved the Service Review Program that included reference to several department specific operational reviews including the Paramedic Service.

As outlined in "Budget Challenge and Service Reviews – Information Supplemental to the 2016 Budget Estimates" report (ACS2015-CMR-OCM-0032), the Service Review Program Office was established utilizing existing resources within the Corporate Business Services Branch of the City Manager's Office responsible for coordinating the Service Review Program in accordance with the Service Review Framework adopted by Council.

In recognition of the direction to conduct the reviews within existing resources and to avoid any prolonged delays in implementation, staff proposed leveraging existing processes, best practices and utilizing staff that are trained in these methodologies and processes to complete the reviews. In developing the framework and methodology, staff considered previous Council-directed and implemented processes. The core of each service review is a service delivery option analysis, leading to a number of possible solutions (Internal As Is, Internal Re-engineer, Managed Competition, Contract, P3, Other).

As per Council's direction, each review is being conducted by a multi-stakeholder team with a mix of operational experience, financial and process review expertise.

During the development of the Paramedic Service Review, a motion was tabled at the Council meeting of February 24, 2016 (for consideration at the March 23, 2016 meeting of Council) citing concern that increasing response volumes were resulting in rural resources being deployed to the urban core where demand is greatest thereby creating a greater reliance on surrounding municipalities to respond to the City's rural wards.

That motion recognized the review of paramedic services presently underway but cited the immediate need for paramedic resources to mitigate the current situation.

The motion called for the approval of:

the addition of twelve (12) paramedics in 2016, with the part-year budget requirement of \$780,000 to be funded from the City's Provision for One-time and Unforeseen; and

the purchase of four (4) emergency response vehicles at an estimated cost of \$260,000, with the growth portion of \$220,000 to be funded from the Development Charge Paramedic Services account as identified in the Development Charges Background Study, and the non-growth portion of \$40,000 to be funded from the City-wide Reserve Fund.

At its meeting of February 25, 2016, the Community and Protective Services Committee (CPSC) approved the following direction to staff:

That staff provide as much information as possible with respect to the correct number of additional paramedics that would be required to meet 2015 growth and 2016 growth to date, and that this be provided to Council prior to Council consideration of motion(s) to set any new staff level.

The Acting General Manager of Emergency and Protective Services released a memo dated March 18, 2016 in response to this direction (Document 1) confirming that the City's ability to meet the Council established response times, given the 2015 growth in call volume would be addressed with the addition of twelve (12) paramedics and four (4) emergency response vehicles, as outlined in the motion that was approved by Council at its meeting of March 23, 2016.

Paramedic Service Review Methodology: Objectives and Scope

The Ottawa Paramedic Service review is aligned with the Community and Protective Services Committee. The Service Review team managed this review using the aforementioned established practices for conducting service reviews, with elements of the City's business case approach. The Service Review also followed established guidelines under the City's Project Management Policy and Framework.

OBJECTIVES

The high level objectives of each Service Review are to identify and provide actionable recommendations that will provide cost savings, mitigate future cost increases (efficiency), and/or result in service quality gains or outcomes (effectiveness/response times).

The objective of the Ottawa Paramedic Service Review was to perform the following:

1. Describe the current challenge in meeting the following response time targets:
 - a. 8 minutes 75% of the time to have a paramedic arrive on-scene for a patient categorized as CTAS 1; and
 - b. 6 minutes 65% of the time for the community target for the arrival of a person trained and qualified to provide defibrillation for sudden cardiac arrests.

2. Past, present and anticipated future actions to improve the efficiency and effectiveness of the paramedic service; and
3. Detail the estimated growth funding investment required to meet the response time targets and demonstrate how growth funding would be partially offset by administrative efficiencies.

SCOPE

For the purposes of this review, the Ottawa Central Ambulance Communications Centre (OCACC) was deemed to be out of scope as it is 100% funded by the Ministry of Health and Long Term Care with a prescribed staffing formula based on the volume of calls, as defined by a contract with the City. With the exception of the OCACC, the remainder of the Ottawa Paramedic Service was in scope for this review.

The review was conducted concurrently with key Ottawa Paramedic Service staff and subject matter experts to assess current state and identify gaps. The current state analysis provided a clear picture of the history of the operation and how it has evolved to its current service delivery model today. The gap analysis included an examination of Ottawa Paramedic Service operations against a series of data sources, including the Municipal Benchmarking Network Canada (formerly Ontario Municipal Benchmarking Initiative); legislative and budgetary parameters; and the current organizational complement and structure. Future state design considerations were conducted through a series of modelling scenarios and analysis conducted by CAE Consulting with support work undertaken by City subject matter experts, such as Finance, Corporate Programs and Business Services and the examination of key variances in the City's performance when compared to other municipalities' practices, including Durham Region, York Region, City of Hamilton, Peel Region and the City of Toronto.

Based on this comparison, the Ottawa Paramedic Service examined operations for ways to best serve the goals of the service with the fewest negative impacts on patient outcomes. It was determined that the internal as-is and re-engineer options were the most appropriate ways forward to improving response times.

Ottawa Paramedic Service Overview

In 2001, the new City of Ottawa assumed responsibility for the delivery of paramedic services as defined by the Ambulance Act of Ontario. The Ministry of Health and Long Term Care funds 50% of land ambulance services and 100% of the cost for the Ottawa Central Ambulance Communications Centre (OCACC).

The Ottawa Paramedic Service provides out of hospital emergency care regulated by the Province within the parameters of practices pertaining to medicine, which include but is not limited to initiating rapid triage, stabilizing a patient's condition, transporting to hospitals and medical rehabilitation. The Service also facilitates both emergency and non-emergency transfers between medical facilities. The Ottawa Paramedic Service operates a unit that undertakes special event and emergency planning, while ensuring continuation of essential services. Specialty services such as marine paramedics for waterways, tactical paramedics for police operations, and bike paramedics for highly populated, special events are deployed throughout the City of Ottawa on an as needed basis. In addition, the Ottawa Paramedic Service delivers, on a full cost recovery basis, public education and injury prevention programs for City staff and stakeholders, manages all medical equipment purchases for the City of Ottawa, and oversees the Public Access Defibrillator (PAD) program. These defibrillators are strategically placed throughout City facilities, in private buildings and in Paramedic, Police Service, Fire Services and OC Transpo's Transit Safety vehicles to help meet legislated and Council approved community response time targets for sudden cardiac arrests, where performance is measured for having a defibrillator at the patient's side.

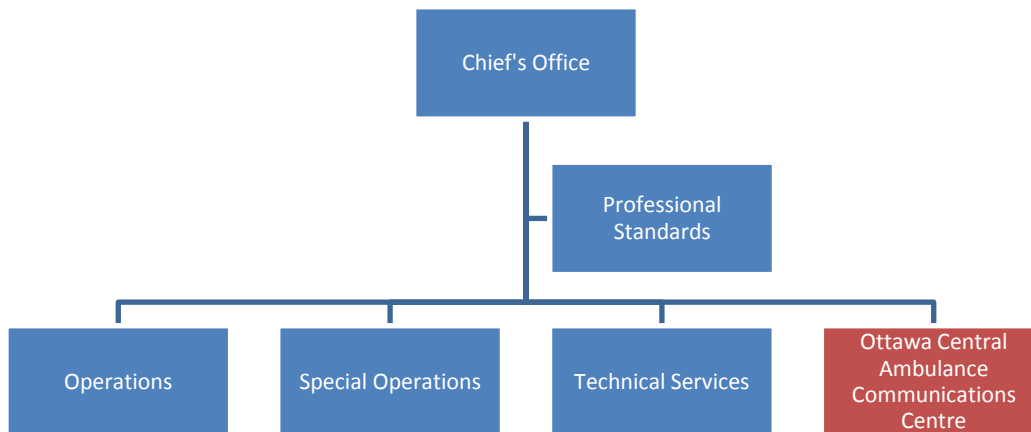
The Paramedic Service is highly regulated and operates under a framework that is governed by the Ministry of Health and Long Term Care (MOHLTC). Currently the Ministry is responsible for setting ambulance, emergency response vehicles, equipment and patient care standards, and for monitoring and ensuring compliance with those standards. To ensure compliance, the MOHLTC completes a prescribed certification process every three years with all land ambulance operators required to meet all of the quality requirements set out in legislation and standards, as described in Document 2.

The Ottawa Paramedic Service organizational structure is designed to ensure compliance to the MOHLTC standards. The senior management team of the Ottawa

Paramedic Service (Chief, Deputy Chiefs and Commanders) leads a team of Paramedics, Communications Officers, Equipment and Supply Technicians and critical Support Staff.

The chart below provides an overview of the organizational structure of the Ottawa Paramedic Service. Worthy of note, the analysis throughout this document was based as of September 30, 2016 and does not contemplate any potential changes resulting from the corporate realignment.

Chart 1: Organizational Structure of the Ottawa Paramedic Service



OPERATIONS

The MOHLTC provides a cost-sharing grant to fund one-half of the cost for the Operations Division. This Division is primarily responsible for front-line service delivery, which includes rapid triage, treatment and stabilization of patients, transport to hospitals and medical rehabilitation.

SPECIAL OPERATIONS

The majority of the Special Operations Division is embedded in regular operations and responds to regular calls for service daily. The MOHLTC provides a cost-sharing grant to fund one-half of the cost. The members of this Division are called upon to respond to events that require their specialized skills and equipment (i.e. police operations, waterways and highly populated events). This Division is part of the emergency

planning group and works closely with the Office of Emergency Management (OEM) to support planned events, such as providing full cost recovery coverage to festivals, Ottawa Senators hockey games and Canada Day festivities. Further the Division plans for unplanned / large scale emergencies and the recovery of such events.

TECHNICAL SERVICES

The MOHLTC provides a cost-sharing grant to fund one-half of the cost for this Division, which includes the following three units:

1. The Logistics Unit is primarily responsible for the efficient and effective preparation of a fleet of 135 emergency response vehicles, which includes ambulances, paramedic single response vehicles and support units. The Logistics section ensures that the fleet of vehicles meets the legislative requirements set out in the vehicle and equipment standards including deep cleaning, disinfecting and ensuring all vehicles are equipped with the medical equipment and supplies. The Equipment and Supply Technicians are also responsible for operating specialized medical equipment / vehicles and bringing them to an emergency situation when required. Further, this Unit provides inventory control and critical support during sustained events.
2. The Training and Development Unit is responsible for providing the continued medical education of all paramedics, a requirement as part of the MOHLTC certification process. Also, the Unit is responsible for the reintegration of staff following long term absences from the workplace (greater than 90 days) as well as the testing of emerging technologies or new advancements / practices within the field of medicine.
3. The Quality Assurance and Clinical Program Unit assess the quality and performance of all clinical programs in accordance with the legislated documentation standards. The Unit works collaboratively with the Base Hospital Program to ensure that all patient care and documentation standards are met.

OTTAWA CENTRAL AMBULANCE COMMUNICATIONS CENTRE

The MOHLTC provides a grant to fund the full cost of the operation and is therefore out of scope for this review. This Division is primarily responsible for call-taking and dispatch services to over 10,000 square kilometers of Eastern Ontario, including the United Counties of Prescott Russell and the United Counties of Stormont, Dundas and Glengary. The Division includes a section for Performance Management that is responsible for training and there are two support staff for administrative duties that include: quality assurance, records management and reporting.

PROFESSIONAL STANDARDS

The MOHLTC provides a cost-sharing grant to fund one-half of the cost for the Professional Standards section. This unit works closely with the Ministry of Health Investigations Unit to ensure the quality of service provided and investigates complaints in accordance with the regulations set out in the Act. Also, the Division includes support staff that performs the following functions:

1. completes the documentation mandated by the MOHTLC certification process
2. schedules all staff within the Paramedic Service to ensure the business continuity of a 24/7 operation
3. responds to all media inquiries

The table below provides an overview of the 599.00 FTEs within the Paramedic Service, as of December 31, 2015.

Table 1: FTEs within the Ottawa Paramedic Service

	50/50 Funded	100% MOHLTC Funded	% of Paramedic Service
Management	5.00	1.00	1%

Commanders	10.00	2.00	2%
Superintendents (All Divisions)	46.00	10.00	9%
Advanced Care Paramedics	191.00	N/A	70%
Primary Care Paramedics	226.00	N/A	
Communications Officers	N/A	61.00	10%
Equipment Supply Technicians (includes: Biomedical Engineer, Warehouse Coordinator)	34.00	N/A	6%
Non-Uniform / Administrative (includes: Shift Schedulers, Analysts, Admin. Assistants)	10.00	3.00	2%
FTE Total	522.00	77.00	100%

With respect to non-uniform / administrative positions, it is important to recognize that with the exception of the City of Hamilton, which is a significantly smaller city both in population and geography, the Ottawa Paramedic Service has the smallest percentage of administrative staff to paramedics as noted in Table 2 below.

Table 2: Human Resources – Municipal Comparators*

	Toronto	York	Peel	Ottawa	Durham	Hamilton
Population	2,808,503	1,144,760	1,365,000	951,727	656,055	545,850
Paramedics	1,074.00	502.00	493.00	417.00	264.00	238.00
Administrative Staff	25.00	17.00	18.00	10.00	10.00	4.50
Administrative %	2.3%	3.3%	3.6%	2.3%	3.7%	1.9%

**Does not include the staffing resources of the Central Ambulance Communications Centres (100% MOHLTC funded)*

Deployment Model

The City of Ottawa uses an advanced Deployment model developed by Fitch & Associates that was approved by the former Region of Ottawa Carleton and subsequently endorsed by the new City of Ottawa which has been subject to regular review and refinement since amalgamation.

“During the original system design consultation, a number of different models were explored and the outcome was the selection of a high performance dynamically deployed Medical Services model to meet the needs of local residents.”

“The deployment model recommended was a mix of station based (geographic) and mobile deployment points. This method of deployment is a true reflection of a tiered-response model that allows all the resources available to respond predictably to areas where historically medical calls originate. This permits the paramedic service to maximize resources and provide better coverage that complements the availability of other first-responders (Fire, Police) at the lowest possible cost.”

“A single report station in urban areas was recommended as it allows for efficient use of supervisory staff, vehicle maintenance and support staff. It minimizes movement during the shift period while allowing for maximum coverage and improved response times.”

“The efficiency of the model was also developed around matching supply of paramedics with demands for service. The recommended design developed peak load staffing when the system experienced more calls rather than have the same number of units available at all hours.”

Fitch & Associates, Ottawa Paramedic Service Review, Performance Review, October 2004 (Ref N°ACS2004-CPS-OPS-0008)

Ottawa Paramedic Service – Chronology of Reports since Amalgamation

The Ottawa Paramedic Service has, since amalgamation, provided regular reports to Committee and Council respecting the performance of its Service Delivery Model. The

Ottawa Paramedic Service reports annually on performance trends, mitigation strategies and associated financial impacts. The Semi-Annual Performance Report to Committee and Council supplements the Annual Reports through the provision of more timely information.

In 2001, Council approved the Fitch & Associates Deployment Model which had been approved by the former Regional Council in the previous year. In 2002, Council received the Year 1 System Design Review that cited the importance of City operation of dispatch which, at that time, had been operated by the Sisters of Charity of Ottawa Health Service with funding from MOHLTC. In May of 2002, Council approved a motion directing staff to submit a proposal to the MOHLTC to operate the Ottawa Central Ambulance Communication Centre (CACC). Ottawa was selected as the successful proponent and assumed responsibility of the CACC in November 2002 with full funding from the Ministry.

In 2003, Council received the Year 2 System Design Reviews. That report highlighted the importance of a new single report to work station in the urban area to allow, per the Fitch design, for the efficient processing of vehicles and paramedic resources to maximize coverage and improve response times. At its meeting of January 28, 2004, Council approved a report authorizing the design, construction, financing and operation of a 100,000 square foot Ottawa Paramedic Service Headquarters facility located in the Ottawa South Business Park as part of a P3 initiative.

Later in 2004, Fitch & Associates were retained to review the original model's features and assumption in the context of 3.5 years operating experience as well as recommendations emanating from a Coroner's report received in that year. That report, resulted in the hiring of 52 FTEs within the Paramedic Service including the immediate hiring of 14 FTEs to facilitate meeting of targeted response times.

The Paramedic HQ was ready for occupancy in December 2005 to provide a 24/7 facility for the centralized processing of all urban emergency vehicles and equipment.

Annual reports were received in 2005, 2006 and 2007. In 2008, the Ottawa Paramedic Service worked with CAE Professional Services (a world leader in providing simulation, modelling technologies for the aviation industry) as part of a pilot project endorsed and

supported by the Ministry of Health and Long Term Care to develop a predictive tool for assessing resource requirements under a range of different operating scenarios. The Trends Report included a 2009 to 2011 investment plan comprised of the hiring of 40 paramedics plus growth for each of the 2009, 2010 and 2011 budget years. Hiring of 65 (40+25) was proposed for 2009. Annual reports, including a Ministry of Health and Long Term Care (MOHLTC) Certification Report, were received in 2009, 2010 and 2011.

In 2012, Council approved the City's new Annual Response Time Performance Plan for the City of Ottawa based on changes to the Ambulance Act of Ontario. As noted in the 2012 report, the Ottawa Paramedic Service was not proposing to change its current service levels but rather the way it reports response time information to the MOHLTC. The legislative requirements represented a fundamental change in the response time reporting methodology. Historical response time standards were measured solely on a paramedic's response to the scene, not taking into account how sick the patient was upon arrival of paramedics or the other community resources that are available to respond to sudden cardiac arrest patients.

Under the Ambulance Act, the newly legislated response time performance plan set a single response time target to sudden cardiac arrest and CTAS Level 1 patients for the entire City. The new standard specifically established the response time for the most acutely ill patients (within eight minutes) and Council sets the percentage of time the target will be achieved. The new standard was established to ensure that Ontario municipalities would be measuring response times for the most critical patients.

Accordingly, Council was tasked to establish its own response time standards based on the degree of illness upon paramedic arrival for CTAS Level 2, 3, 4 and 5 patients. Under the regulation, a community response time target was created (six minutes) with the municipality required to report the percentage of time that a person trained and qualified to provide defibrillation has arrived on scene for sudden cardiac arrest patients (i.e. police, fire and/or member of the public).

The City and the Ottawa Paramedic Service have taken a leadership role by providing public access defibrillators in all municipal buildings, arenas, libraries and community

centres. The Paramedic Service manages over 900 defibrillators in the public and private sector in Ottawa.

In a review of existing reporting guidelines and best practices, the Ottawa Paramedic Service organized and worked with the eight (8) largest comparable Paramedic Service providers in Ontario (City of Toronto, the Region of Durham, the City of Hamilton, Niagara Region, Halton Region, York Region, the Region of Peel and the City of Ottawa) to gain consensus on a common response time performance plan.

As noted in the 2012 report, the recommended response time standards were aligned with the Service's current performance based system design and, based on existing call volumes, there were no anticipated changes to current service levels.

The Ottawa Paramedic Service has provided annual reports to the Community and Protective Services Committee (CPSC) each year since the new response time standards were approved.

Details on all Paramedic Service reports approved or received since amalgamation is attached as Document 3.

DISCUSSION

Current State Analysis

The demand for paramedic services continues to grow. The key drivers for service demand in Ottawa are population growth, an aging population (where currently, patients 55 years and over represent 57% of the total response volume) and an increase to the number of visitors to the Nation's Capital.

The most common indicator for measuring service demand is Response Volume. Response Volume is defined by the total number of paramedic resources required to respond to an incident (i.e. a vehicular collision may require two ambulances to respond in order to transport two patients).

Table 3 demonstrates the Response Volume and the annual percentage growth over the last five years.

Table 3: Response Volumes

Year	Responses (Actual)	Percent Growth
2011	108,331	N/A
2012	120,898	11.6%
2013	119,292	-1.3%
2014	127,883	7.2%
2015	133,965	4.7%
Total Increase	25,634	23.7%

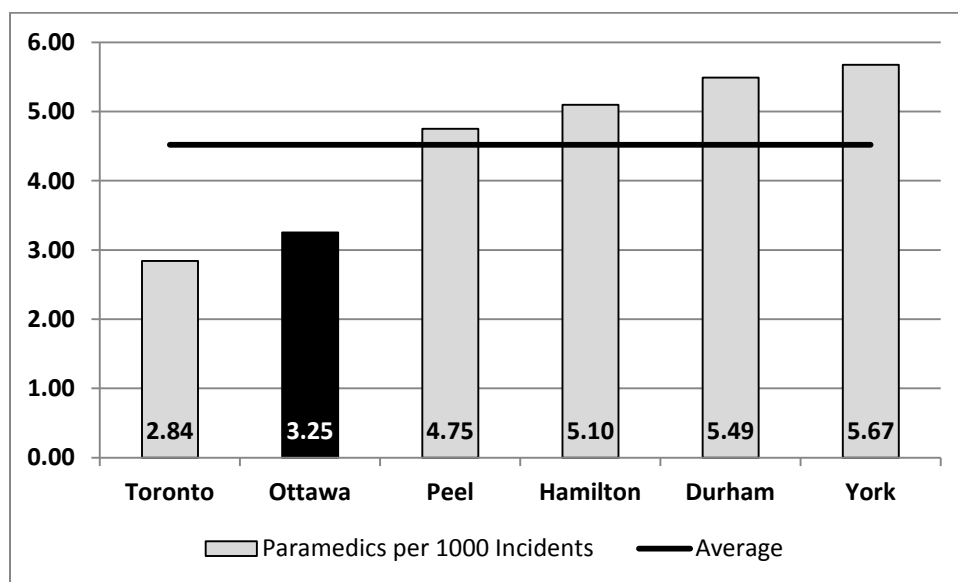
A 23.7% total increase in response volume since 2011 represents a 5.9% average annual increase. Prior to March 2016, Council's last growth investment in the Service was in 2011. Since that time, the total annual response volume has increased by 25,634, which represents 70 more responses each day based on the 5.9% average annual increase, the Service is projecting response volumes to be at approximately 141,890 by the end of 2016.

As part of this review, the Ottawa Paramedic Service profiled five Ontario municipalities that have similar response time targets. Each municipality has slightly different system dynamics and procedures. It is important to note that one of the most significant challenges faced by the Ottawa Paramedic Service is the provision of service over such a vast geographic area. Ottawa, at nearly 2,800 square kilometres is more than twice as large as the other cities profiled, and four times larger than the City of Toronto.

When compared to other Ontario municipalities, the Ottawa Paramedic Service has one of the lowest numbers of paramedics per 1,000 population and the fewest paramedics per call resulting in the highest number of calls serviced per paramedic. This clearly demonstrates that the service is efficient but has reached the point where it is no longer able to meet performance targets.

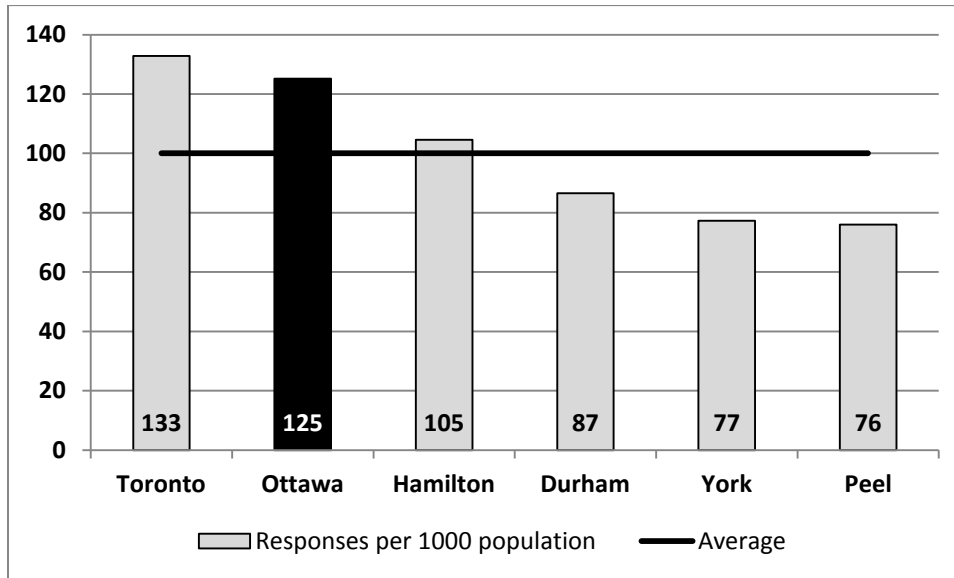
As noted in Graph 1 below, in 2014 the average number of paramedics per 1,000 responses across the municipal comparators was 4.52. The City of Ottawa had the second fewest paramedics per 1,000 responses with a rate of 3.25, which indicates that Ottawa has fewer paramedics to handle the response volume. In 2014, each paramedic in Ottawa responded to an average of 308 calls a year, which is greater than the average for the municipal comparators of 223 calls a year. Despite Ottawa having the largest geographical area, it has the second fewest paramedics for responses only to the City of Toronto, which has the smallest geographical area to cover.

Graph 1: Number of Paramedics per 1,000 responses



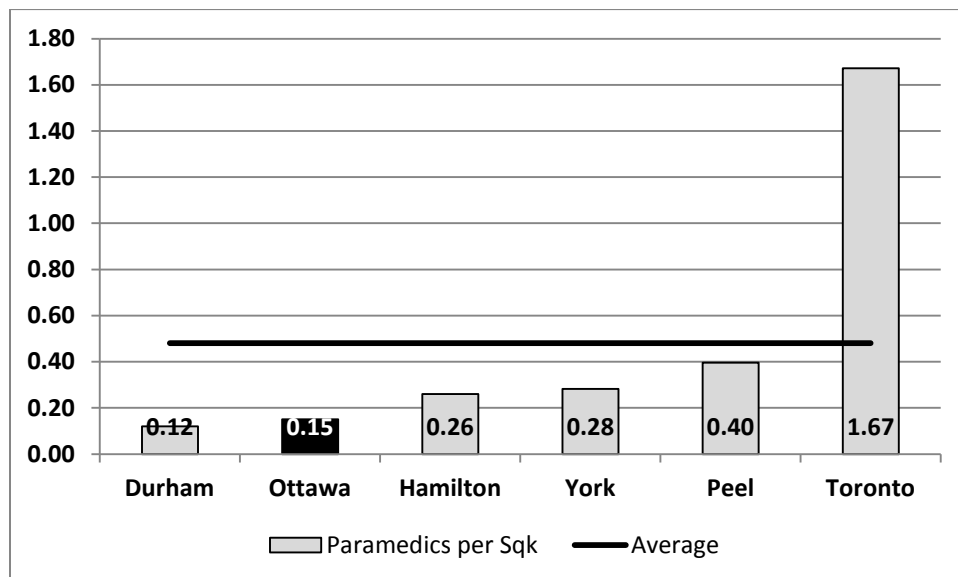
As noted in Graph 2 below, in 2014 the average number of responses per 1,000 population across the municipal comparators was 100. The City of Ottawa had the second highest at 125 with Toronto being the highest. This indicates that 1 out of every 12.5 people in Ottawa required a paramedic response in 2014.

Graph 2: Number of responses per 1,000 population



The City of Ottawa has the largest geographical coverage area of the five municipal comparators and is one of the largest urban centres in Canada. As noted in Graph 3 below, the City of Ottawa has 0.15 paramedics per square kilometre, the second fewest of the comparison group.

Graph 3: Number of Paramedics per Square KM



Further, paramedic performance has also been impacted by systemic performance constraints including hospital off-load delays and call-taking triage tool shortcomings. In addition, Federal government initiatives also impact service demand (e.g. Canada Day, North American Leadership Summit, etc.).

Objective #1 - Current Challenge of Meeting Response Time Standards

Prior to 2013, response time performance was set at the 90th percentile for both urban (at 8 minutes and 59 seconds) and rural (at 15 minutes and 59 seconds). However, as noted above, in 2013 new provincial legislation came into effect which provided that municipalities set response time targets city-wide with percentile rank targets using the Canadian Triage and Acuity Scale (CTAS) for each acuity category based on the patient's severity. CTAS Levels range from 1 – 5, where CTAS Level 1 is the most critical (i.e. life threatening).

The Ottawa Paramedic Service worked with Paramedic Services from other comparable Ontario municipalities to determine appropriate percentile rank targets for the new response time standards. All the Services agreed to the percentile rank target of 65% as a community target for the arrival of a person trained and qualified to provide

defibrillation for sudden cardiac arrest and 75% for CTAS Level 1 for a paramedic to arrive on-scene.

The City of Ottawa, through Council, set the response time targets as outlined in Table 4 below.

Table 4: Response Time Targets

Category (Acuity)	Target Time (minutes)	Council Approved Percentile Rank
Sudden Cardiac Arrest	6:00*	65%
CTAS 1	8:00*	75%
CTAS 2	10:00	75%
CTAS 3	15:00	75%
CTAS 4	20:00	75%
CTAS 5	25:00	75%

*Mandated by provincial regulations

Despite the Ottawa Paramedic Service having met all the response time standards in 2013, increased response volumes in 2014 and 2015 resulted in the Service not meeting the Council approved percentile target for Sudden Cardiac Arrest (defibrillator at patient's side) for 2014 and 2015. As well, as noted in Table 5 below, the Service was under the response time Council approved percentile for the year 2015 for patients categorized as CTAS Level 1, which are the most critical patients (i.e. life threatening).

Table 5: Response Time Performance

Category (Acuity)	Target Time (minutes)	Council Approved Percentile Rank	2013	2014	2015
Sudden Cardiac Arrest	6:00*	65%	73.5%	63.0%	63.7%
CTAS 1	8:00*	75%	83.6%	79.5%	72.5%
CTAS 2	10:00	75%	85.5%	82.9%	80.8%
CTAS 3	15:00	75%	95.4%	93.5%	91.9%
CTAS 4	20:00	75%	98.7%	98.0%	96.4%
CTAS 5	25:00	75%	99.6%	99.2%	97.6%

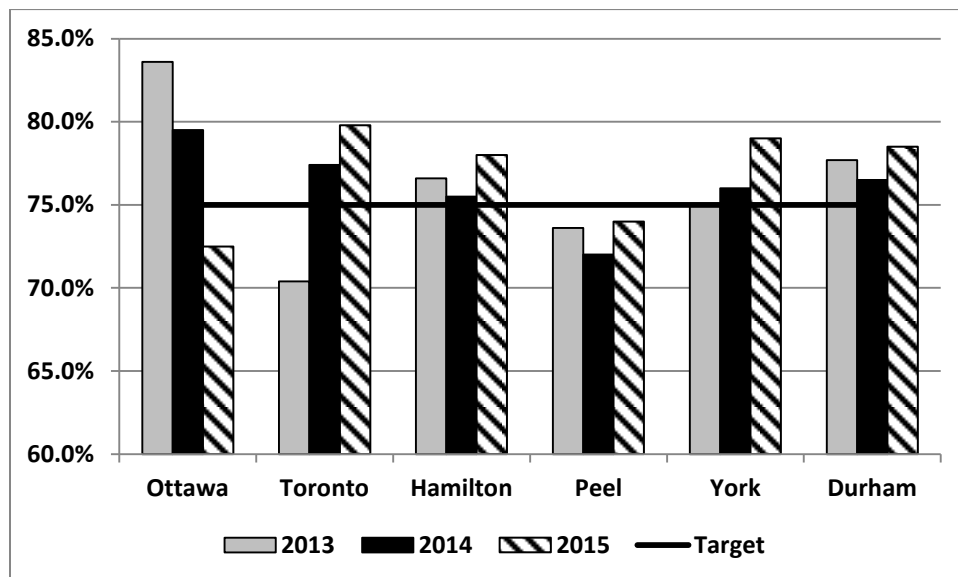
*Mandated by provincial regulations

Another mechanism to objectively determine how the system is performing is to compare performance to that of other communities. Table 6 and Graph 4 below, show that Ottawa's CTAS 1 response time performance has eroded to 72.5% over the past three years, a decrease of 11.1 percentage points, which is the lowest amongst the municipal comparators.

Table 6: CTAS 1 Response Time Performance – Municipal Comparators

	Ottawa	Toronto	Hamilton	Peel	York	Durham
2013	83.6%	70.4%	76.6%	73.6%	75.0%	77.7%
2014	79.5%	77.4%	75.5%	72.0%	76.0%	76.5%
2015	72.5%	79.8%	78.0%	74.0%	79.0%	78.5%

Graph 4: CTAS 1 Response Time Performance*



* Improved performance for all municipal comparators noted above are directly related to investments made by each specified municipality.

Table 7 below demonstrates the percentage of distribution by CTAS Level over the last three years. CTAS 1 totals 1% of response volume and less than 40% of response volume is categorized as CTAS 1 and CTAS 2 combined. The mandate is to arrive to the patient's side in the legislated response time. Due to the increased volume of CTAS 3, 4 and 5 (greater than 60% of total volume) the system is under pressure to attend to those calls while meeting the CTAS 1 and Sudden Cardiac Arrest standards.

Table 7: Percentage of Call Volume by CTAS Level

CTAS DISTRIBUTION			
Acuity Category	2013	2014	2015
CTAS 1 (includes SCA)	1.0%	0.9%	0.9%
CTAS 2	35.9%	33.9%	33.9%

CTAS DISTRIBUTION			
CTAS 3	45.2%	46.6%	45.1%
CTAS 4	12.2%	12.3%	12.5%
CTAS 5	5.1%	5.8%	7.0%
No CTAS	0.5%	0.5%	0.6%

Objective #2 - Past, Present and Future Improvements for Effectiveness and Efficiencies

The primary mandate of the Ottawa Paramedic Service is to arrive to the patient’s side in the legislated response time. Since amalgamation response volumes continue to increase. Since 2011, the increase in response volume is equal to an additional 70 responses per day and continues to grow. The Ottawa Paramedic Service has, over the years, identified opportunities and implemented mitigation strategies in an effort to offset this increase in service demand and to optimize the paramedic time on the road, which in turn maximizes the availability of paramedics to respond to calls.

The Ottawa model is considered a best practice within the industry and, accordingly, staff primarily looked at opportunities to re-engineer and fine-tune its service delivery model as described in the following two sections: 1) Service Optimization and 2) Effectiveness and Proposed Efficiencies.

Service Optimization

PARAMEDIC RESPONSE UNIT

The Ottawa Paramedic Service Rapid Response Unit (PRU) is a single responder unit staffed by a Primary Care Paramedic. The primary function is to provide a first paramedic responder capacity, arriving on scene and initiating patient care for the highest priority calls (code 4’s). A transport unit (ambulance) is subsequently dispatched to provide transport, as required. This allows the PRU responder to

downgrade or cancel the transport unit, thereby allowing the paramedic crew (ambulance) to respond to the next emergency call. The PRU also allows continual coverage, as it does not transport patients to hospital and is immediately available upon clearing a call.

By utilizing a PRU model, in 2015 the Paramedic Service was able to provide an additional 9,586 hours of coverage in comparison to a model that simply utilizes ambulances. This represents a total annual savings of \$837,000 in operating costs if the same amount of coverage were to have been provided with an ambulance. Also, worthy of note, the capital cost of a PRU is one third the cost of an ambulance. In 2015, PRU's attended 13,313 responses, reaching the patient in eight (8) minutes or less, 86% of the time.

The Ottawa Paramedic Service continues to work with CAE Consulting to determine the optimal coverage ratio of PRUs to conventional ambulances in order to obtain the best possible response time performance without impacting the Service's ability to transport patients to hospital. Worthy of note, in 2015, 70% of responses required that the patient be transported to the hospital.

TARGETED ENGAGEMENT DIVERSION (TED) PROGRAM

The Paramedic Service is at the cutting edge of a pilot program, the first of its kind in Ontario, where the purpose of the Targeted Engagement Diversion Program (TED) is to identify vulnerable, homeless individuals who suffer from substance abuse issues as well as severe and persistent mental illness and as a result, frequently use 9-1-1 services. The Program outlines a process for paramedics transporting specific homeless patients to a specialized clinic as an alternative to the emergency department. In 2015, more than 200 patients were transported to the Shepherds of Good Hope rather than to an emergency department.

As a result, the Paramedic Service saved approximately 290 unit hours from being in offload delay at the hospital, which were utilized back in the community. These hours would be the equivalent of 0.5 FTEs in cost avoidance.

SPECIAL OPERATIONS

The Ottawa Paramedic Service Special Operations Section administers special teams of paramedics including a Bike Unit, Tactical Unit, Chemical, Biological, Radiological, Nuclear, and Explosive (CBRNE) Unit and a Marine Unit. All members of these teams are embedded into regular operations and function as on-road paramedics. They are available to respond with their specialized skills and equipment and are able to respond to the Nation's Capital for incidents of worldly significance.

The cost savings recognized at the inception of these specialty teams rest in the fact that not all paramedics are members of the Special Operations Division. Savings are realized in not having to train, outfit and equip all paramedic staff; only 8% of paramedics are members of these specific teams.

PARAMEDIC HEADQUARTERS CENTRALIZED SHIFT START STATION

The Ottawa Paramedic Service uses specialized technicians (Equipment and Supply Technician) to sanitize and process medical equipment and vehicles to maximize paramedic resource availability. The Paramedic Headquarters centralized shift start station is considered a leading practice in the industry as a result of its ability to maximize paramedic time on the road and is being duplicated across the province.

On average the Paramedic Service deploys 70 ambulances every 24 hours. If paramedics were required to perform a 30 minute vehicle check-off at the beginning of every shift this would create 35 hours of lost time daily. As a result, 12,755 hours are returned to the community annually by utilizing Equipment Supply Technicians.

HEART SAFE CITY

The Ottawa Paramedic Service also recognizes the importance of proactive approaches to decreasing response volume.

Automated External Defibrillators (AEDs) have been placed in over 900 public buildings, Police, Fire and OC Transpo security vehicles since 2001. Ottawa Paramedic staff manages this program, including the procurement and maintenance of the PADs. Since its inception, the Public Access Defibrillator program has directly contributed to

bystanders saving 116 lives. In an effort to strengthen the “chain of survival”, the Ottawa Paramedic Service’s Community Medicine Team teaches First Aid, CPR and AED courses to City staff and stakeholders throughout the year. The Ottawa Paramedic Service is the City of Ottawa’s Centre of Expertise for the management and operation of this cost recovery program.

OFF-LOAD NURSE PILOT PROGRAM

The Off-Load Nurse Pilot Program is fully funded by the Ministry of Health and Long Term Care and allows paramedics to transfer the care of a patient to the designated off-load nurse within the hospital’s emergency department in an effort to expedite the return of paramedic resources to the community, thus increasing availability to respond to other medical emergencies. In 2015, the Province committed \$1,500,000 for the 2014/15 fiscal year to continue the pilot project and the Ottawa Paramedic Service returned 26,581 unit hours back to the community as a result of the program. These hours would be the equivalent of 36 FTEs in cost avoidance.

COMMUNITY PARAMEDICINE PARTNERSHIP WITH WEST CARLETON FAMILY HEALTH TEAM

The three Community Paramedics working with the West Carleton Family Health Team are an integral part of a collaborative team and are responsible for conducting proactive home visits to high needs patients. The aim of the pilot program is to reduce the impact of high needs patients on health services and to decrease the frequency by which they call 9-1-1, while improving patient’s quality of life.

This initiative has proved successful and the Ministry of Health and Long Term Care has extended the funding for the pilot program until October 2017.

Effectiveness and Proposed Efficiencies

Internal efficiencies, in the form of Service Ottawa initiatives and staff rationalization has resulted in seven FTEs over the past five years. With the exception of City Council’s recent investment, Council last invested in Ottawa Paramedic Service growth in 2011. The growth at that time did align with the increase in service demand and the FTEs approved by Council were specific to front line paramedics.

There are functions associated with managing and maintaining a paramedic service that fall within the responsibilities of Equipment and Supply Technicians, Superintendents and critical support staff. The growth in the number of paramedics and vehicles impacts this workload, much of which is specific to the Ministry of Health certification requirements for paramedic certification, vehicle and employee training files. FTEs were not allotted to these critical areas of the Service. As a result, the Ottawa Paramedic Service has leveraged the current complement of these positions to absorb any previous growth, which has resulted in a high span of control.

The efficiency initiatives implemented to date, although successful, have not managed to meet the increased service demand and call volume. Recognizing the need to improve response time standards, the Service Review team worked to identify further opportunities for efficiencies in the Branch.

The Ottawa Paramedic Service recognizes that some growth will be offset through FTE efficiencies. However, any efficiency offsets will be modest in order to avoid impacts to front line service delivery and the requirements set out by the Ministry of Health and Long Term Care. The following three FTEs have been identified as potential offsetting efficiencies:

- To further support front-line service demand, one Full Time Continuous vacant Paramedic Superintendent will be re-invested from the Training Division to the Operations Division (1.00 FTE).
- The Service has an Advanced Care Paramedic performing the duties of Hospital Liaison Officer. This position is linked to the Off-Load Nurse funding through the Ministry of Health and administers the program. This Advanced Care Paramedic will be returned to front-line operations to perform traditional paramedic duties (1.00 FTE).
- The Service has identified one support staff position that is scheduled for retirement in early 2017. Upon retirement, this position will be re-invested into the Operations Division as part of front-line service delivery (1.00 FTE).

Objective #3 – Growth Requirements & Efficiency Offsets

GAP ANALYSIS

The Ottawa Paramedic Service has focussed greatly on improving response times and the programs / initiatives listed above outline these continued efforts. Despite these efficiencies, the Service continues to experience a gap in the provision of service in responding to the most critical patients. As a result, paramedic FTE growth is required to help the Service meet the legislated and Council approved response time standards and ensure positive patient outcomes.

Table 5 below outlines the growth FTE requirements through the remainder of this Term of Council. The chart assumes that the response volume increases by 5.9% annually and also utilizes a five-year average time on task (per call), which was 1 hour 12 minutes and 35 seconds.

Staff has identified the number of FTEs required to meet the projected response volume increase by forecasting the additional workload hours. According to the calculations, 13.1 FTEs are required for 2016, 13.9 for 2017 and 14.7 for 2018. Staff has rounded down these projections to the closest twelve as it takes 12 FTEs to operate one emergency response vehicle (ambulance) 24 hours a day, 7 days a week.

Table 8: Growth FTE Requirement

Year	Projected Response Volume	Projected Response Volume Growth	Additional Workload (Hours)	Paramedics	Support Staff	Total Gross FTEs	Offsetting Efficiencies	Total Net FTEs
2016	141,890	7,925	9,587	12.00	2.00	14.00	(2.00)	12.00
2017	150,284	8,394	10,154	12.00	1.00	13.00	(1.00)	12.00
2018	159,174	8,890	10,754	12.00	2.00	14.00	-	14.00
Total				36.00	5.00	41.00	(3.00)	38.00

Table 8 above also includes support staff that would be required to sustain current supervisory and support staff ratios. As a result, the need for the following 5.00 FTEs was also identified: 2 Superintendents for Operations, 1 Superintendent for Training/Professional Standards and 2 Equipment and Supply Technicians. Staff has identified 3.00 FTEs to help offset this ask.

To identify the capital requirement, the Paramedic Service contracted CAE Consulting to conduct additional analysis to determine the most efficient and effective use of paramedic resources with respect to the utilization of Paramedic Response Units (PRUs) vis-à-vis patient transport requirements (where an ambulance is required). The results of this analysis concluded that the most beneficial way to maximize the operating resources is to add four (4) PRUs in 2016, one (1) ambulance in 2017 and one (1) ambulance in 2018.

Risk Analysis

Given the increase in response volumes, there are other performance indicators, in addition to response time performance, that point to a system under pressure, such as rural implications and surrounding municipalities.

The Land Ambulance Act of Ontario mandates that the closest ambulance to a patient must respond to the call and is not subject to jurisdiction. As such, paramedic resources are not static / fixed and constantly move around the city based on need.

As a result of increasing response volumes, designated rural resources are required to respond to the urban core where demand is the greatest. Consequently, this creates a greater reliance on surrounding municipalities who are then required to respond to the City's rural wards with longer response times.

RURAL IMPLICATIONS

The rural implications have been addressed in the Risk Analysis section of this report.

CONSULTATION

There was no consultation required as part of this report.

COMMENTS BY THE WARD COUNCILLOR(S)

Not applicable to this City-wide report.

ADVISORY COMMITTEE(S) COMMENTS

There are no comments from any Advisory Committees associated with this report.

LEGAL IMPLICATIONS

The City of Ottawa has an obligation pursuant to Subsection 6(1)(b) of the *Ambulance Act* “for ensuring the proper provision of land ambulance services in the municipality in accordance with the needs of persons in the municipality.” In discharging this responsibility, the City must “ensure the supply of vehicles, equipment, services, information and any other thing necessary for the proper provision of land ambulance services in the municipality in accordance with this *Act* and the regulations.” The determination of what constitute the “needs of persons in the municipality” is left to City Council and is effectively determined by Council’s establishment of the response time standards required by the regulations to the *Ambulance Act*, which are referenced earlier in this Report. The discretion in City Council to make this decision as to ambulance service standards acknowledges its policy-making role in balancing the service expectations of residents in the municipality with the cost of providing a particular level of ambulance service, “bearing in mind the budgetary restraints imposed and the availability of personnel and equipment”, to use the phrase articulated by the Supreme Court of Canada.

Where the City fails to meet service standards that have been established by Council in its policy-making role, the City is exposed to the risk of claims alleging failure in meeting the duty of care to persons who have suffered injury or loss. Given the nature of the service provided by paramedics and the potential consequences of failing to meet a duty of care, the value of such claims can be significant. In order to mitigate against the risk of such claims where there is evidence that the service standard can no longer be met with the resources available, the courts have recognized that a public authority ought to either move to lower the service standard in accordance with its policy-making role – subject, of course, to any statutory minimum service standard – or, alternatively,

allocate the resources necessary to ensure that the standard can be met. This Report recommends the latter approach as the appropriate one in the circumstances.

RISK MANAGEMENT IMPLICATIONS

There are risk implications. These risks have been identified and explained in the report and are being managed by the appropriate staff.

ASSET MANAGEMENT IMPLICATIONS

There are no asset management implications associated with this report.

FINANCIAL IMPLICATIONS

As identified in the recommendations of the report.

ACCESSIBILITY IMPACTS

There are no accessibility impacts associated with this report.

ENVIRONMENTAL IMPLICATIONS

There are no environmental implications associated with this report.

TECHNOLOGY IMPLICATIONS

There are no technology implications associated with this report.

TERM OF COUNCIL PRIORITIES

There are no impacts on the Term of Council Priorities associated with this report.

SUPPORTING DOCUMENTATION *(Distributed separately and held on file with the City Clerk.)*

Document 1 – March 18, 2016 Memo to Council in response to the direction to staff with respect to Paramedic Staffing Requirements

Document 2 – MOHLTC Certification Requirements

Document 3 – Chronology of Council Approvals and Paramedic reports since amalgamation

Document 4 - Cardiac Arrest Survivability Data from Base Hospital

DISPOSITION

The Emergency and Protective Services Department will action any direction received as part of consideration of this report.