

The County of Peterborough

Joint Services Steering Committee

To: Chair and Members of Committee

From: Randy Mellow, Chief of Paramedics

Date: June 11, 2015

Purpose

The purpose of this report is to update the Joint Services Steering Committee on performance issues related to Land Ambulance Service delivery and to discuss the proposed Peterborough County/City Paramedic (PCCP) Service 10 Year Facility and Resource Master Plan.

Recommendation

That Joint Services Steering Committee receive the report and recommend utilization of reserve funds to enable the issuance of an RFP in the fall of 2015.

Financial Impact

Approximately \$80,000.

Overview:

The number one priority of Peterborough County/City Paramedic Service (PCCP) is to provide the best possible prehospital clinical care to the residents and visitors of Peterborough County and City and to do so in the most effective and efficient method possible. In order to achieve this, PCCP administration continually analyses paramedic service call volumes, response times and patient outcomes. Additionally, factors such as patient and population demographics and health care system pressures such as Ambulance Offload Delays are examined in order to evaluate current and future deployment needs.

Recent statistical analysis, as presented in the 2014 PCCP Year End Performance Report – January 21, 2015 has served to illustrate demonstrable trends related to paramedic service response volumes, patient demographics and predicted trends.

Call Volume Trends:

In 2014 PCCP witnessed a significant increase in patient responses and transports (Figure 1). Emergent (Code 4-life threatening) responses has increased by 6% while Urgent (Code 3 - serious) response has increased by 9.6%. There was an overall increase of 6.6% for all responses including incident standby calls.

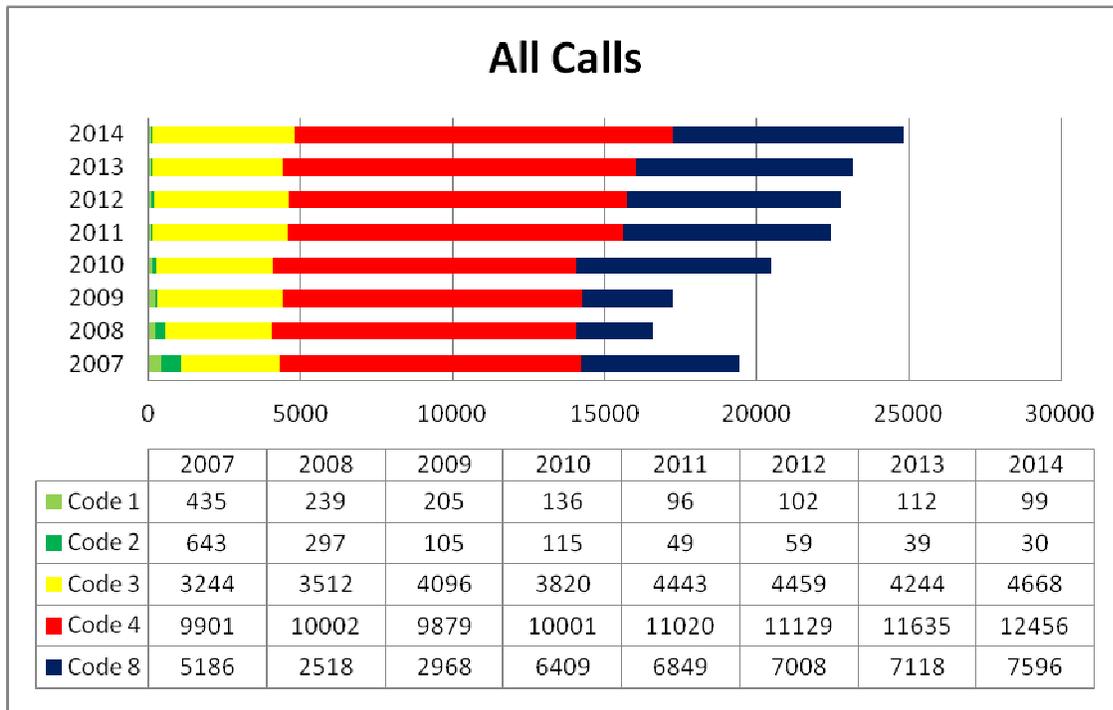


Figure 1

On examining demand for service through a more detailed retrospective review of patient care and transport call volumes (Codes 1-4), an overall year over year call volume increase of approximately 4% (3.93%) has been realized. (Figure 2)

Based on this trend, it could be predicted that the demand for paramedic response could increase from the present 17,253 responses in 2014 to an estimated 26,560 responses in 2025. This represents an approximate 54% increase in demand for service.

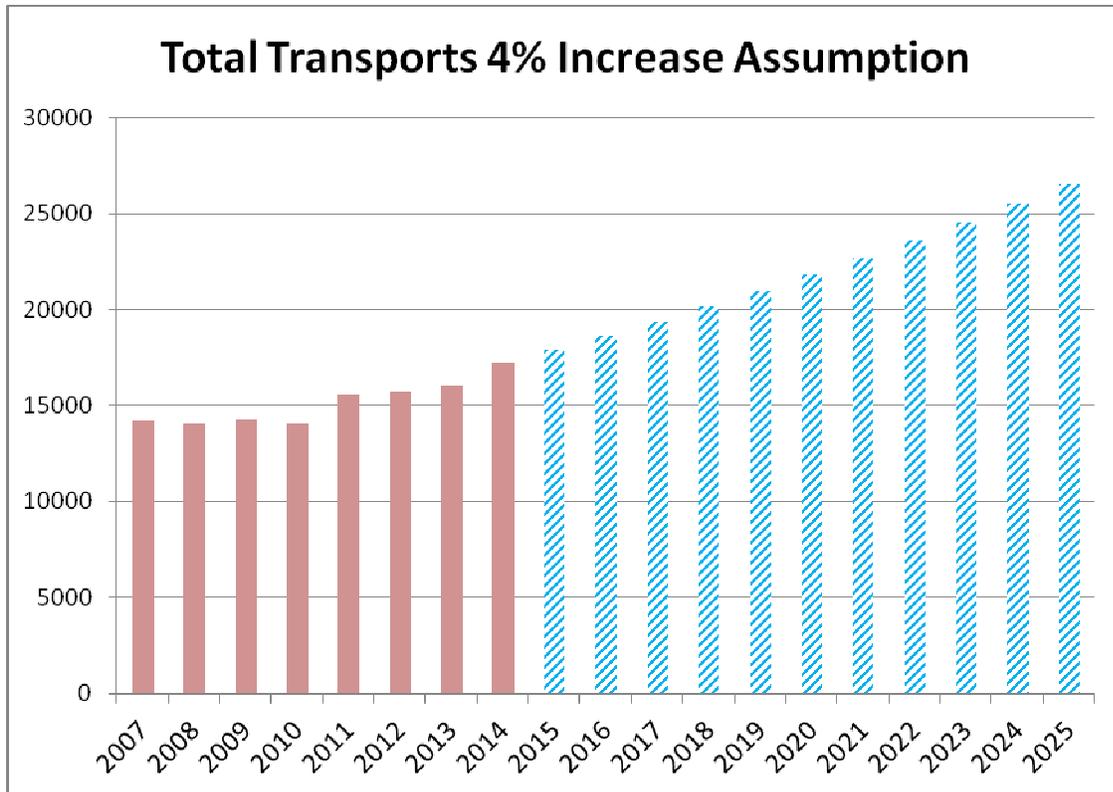


Figure 2

Response Time Performance:

Prior to 2013 Paramedic Service Response Time performance was assessed and reported base on 90th percentile response time achievement. Subsequently, response time performance reporting requirements changed through legislative requirements to a system based on response time targets focussed on patient medical acuity. Figure 3 below illustrates the current Response Time Performance Plan as approved by Council as well as the performance achieved over the prior 2 years.

Despite a significant increase in call volume, PCCP realized improvements to response times to high acuity calls and was successful in achieving 5 of the 6 targets included in the new provincially mandated response time plan in 2014. The individual target that was not met was missed by 2% or a total of 4 responses which exceeded the established target.

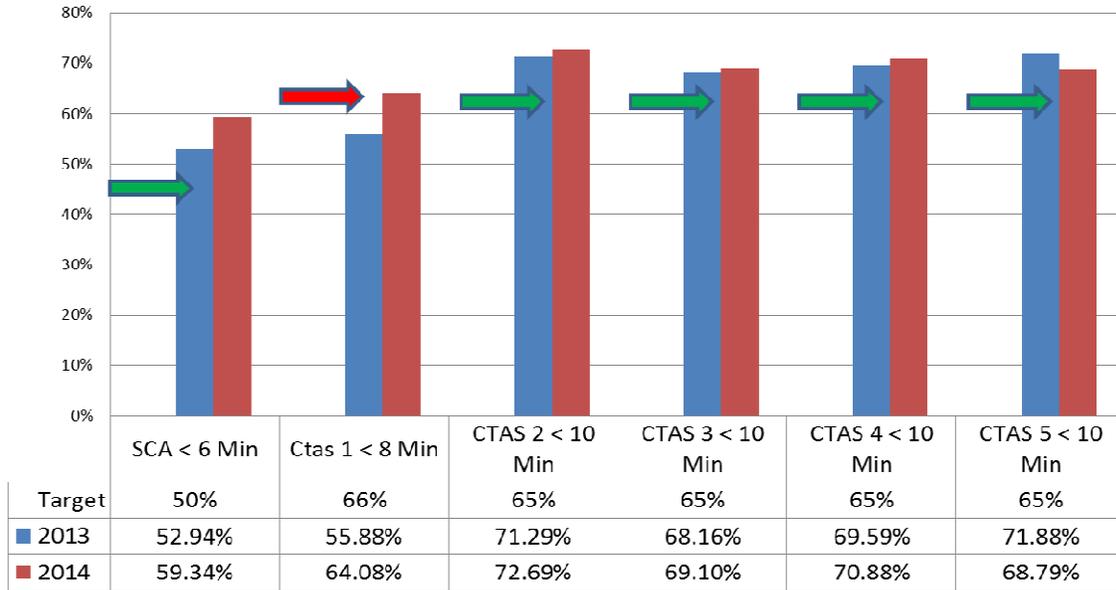


Figure 3

In order to perform a more detailed analysis of response time trends, the traditional and more familiar 90th Response Time Data is compared to both call volume trends as well as paramedic staffing hours in Figure 4 below.

Paramedic Staffing Hours:

As the graph in Figure 4 demonstrates, during the period leading up to and inclusive of 2007/8 the Paramedic Services in Peterborough County were witness to lengthening response times. A number of factors such as increasing call volume and ambulance offload delay were surmised as factors associated with this increase. In response, through support of County Council, paramedic staffing increases were approved and implemented on a graduated basis.

Figure 4 provides demonstration of the apparent effect and correlation of the staffing hours and call volume to the 90th response time. Where the rate of call volume increase was met with an equivalent staffing hour increase, a resultant stabilization or decrease in response time was realized. Conversely, response times have risen sharply as staffing hours have remained relatively unchanged over the past 2 years while experiencing significant call volume increase.

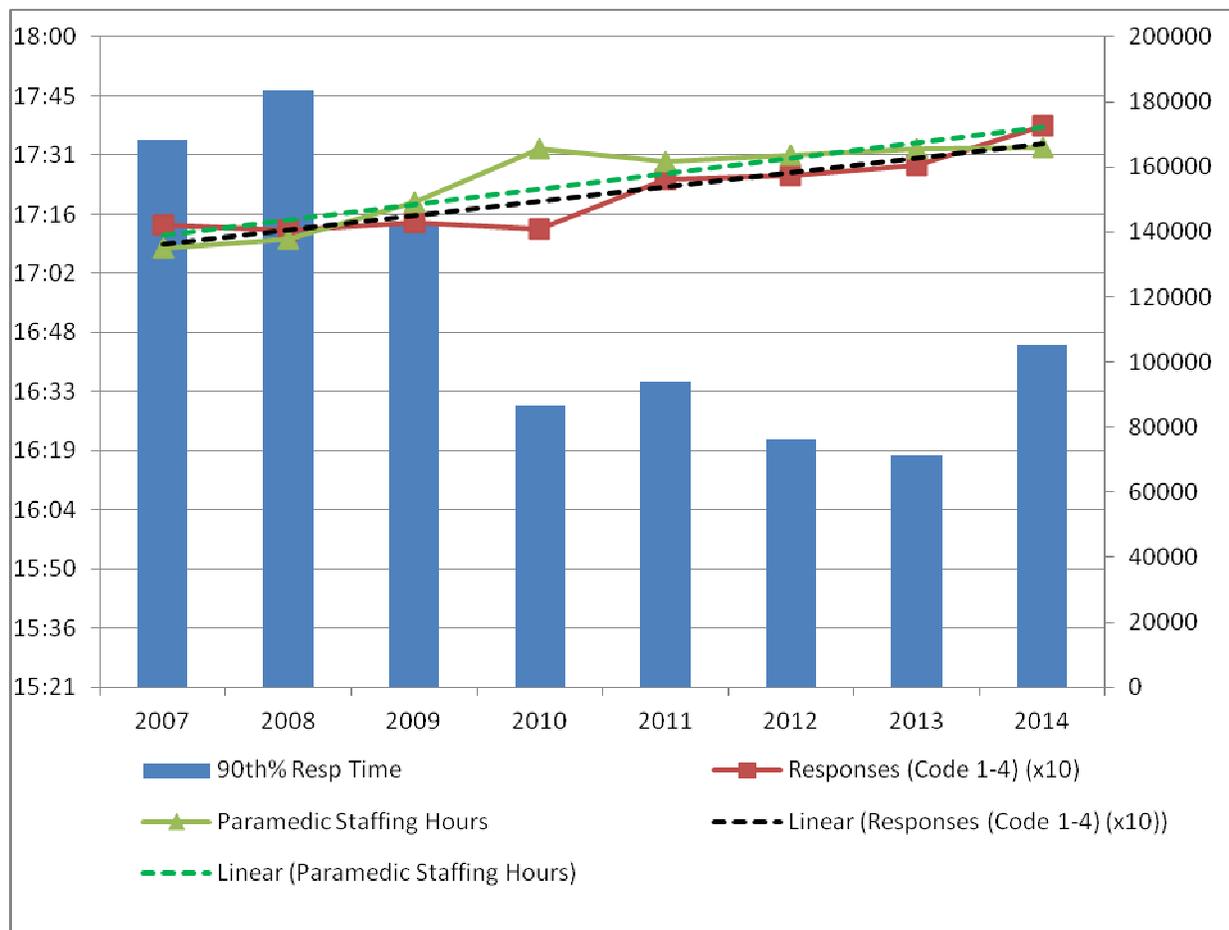


Figure 4

Given current available data and trends as demonstrated above, it can be predicted that PCCP paramedic staffing would need to increase at a rate of 3.1% per year in order to maintain current Council endorsed performance targets in light of increasing call volume. This would equate to approximately 24 additional full time paramedic positions by 2025. In support of the staffing, capital requirements such as vehicles, equipment and additional stations would be required.

Other Paramedic Service Performance Factors:

Offload Delay Pressures

Ambulance Offload Delay has been a significant and persistent factor adversely effecting PCCP operations since approximately 2005. The Operations Division continues to oversee the provincially funded Offload Nurse Program in partnership with the Ministry of Health and Long Term Care and Peterborough Regional Health Center (PRHC). This initiative allows paramedics to transfer the patient to the offload nurse in order to return to the community faster and be available to

respond to the next request for service. In 2014, the Province committed \$450,600 2014/15 fiscal year for the continuance of the pilot project.

PCCP experienced considerable increases in average daily ambulance offload delays in each month of 2014. This occurred despite equal Offload Nurse staffing hours as compared to the previous year. (Figure 5)

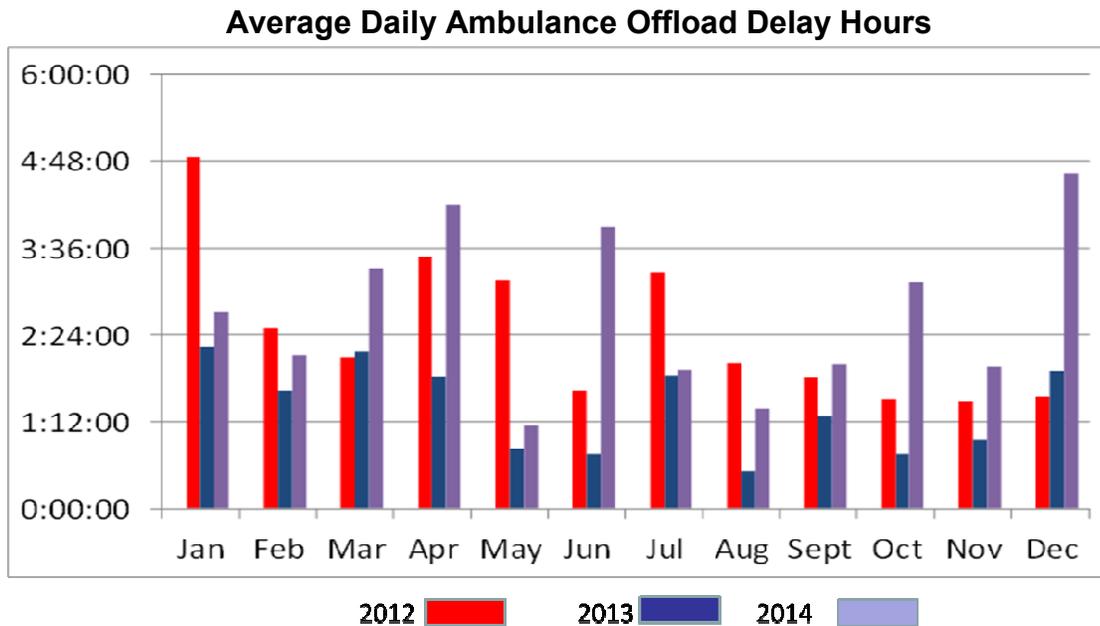


Figure 5

Patient Demographics

It has been frequently recognized that the Peterborough Region is home to a disproportionate number of residents over the age of 65. As expected, this statistic is reflected in the demographics of the patients who received paramedic services in 2014 (Figure 6). Paramedic responses for persons over the age of 65 represent greater than 50% of the total responses. Given the predicted growth of the percentage of the population aged within this age group, it is easily surmised that the call volume increase witnessed over the past 5 years will continue at equal or greater rates of growth well into the foreseeable future.

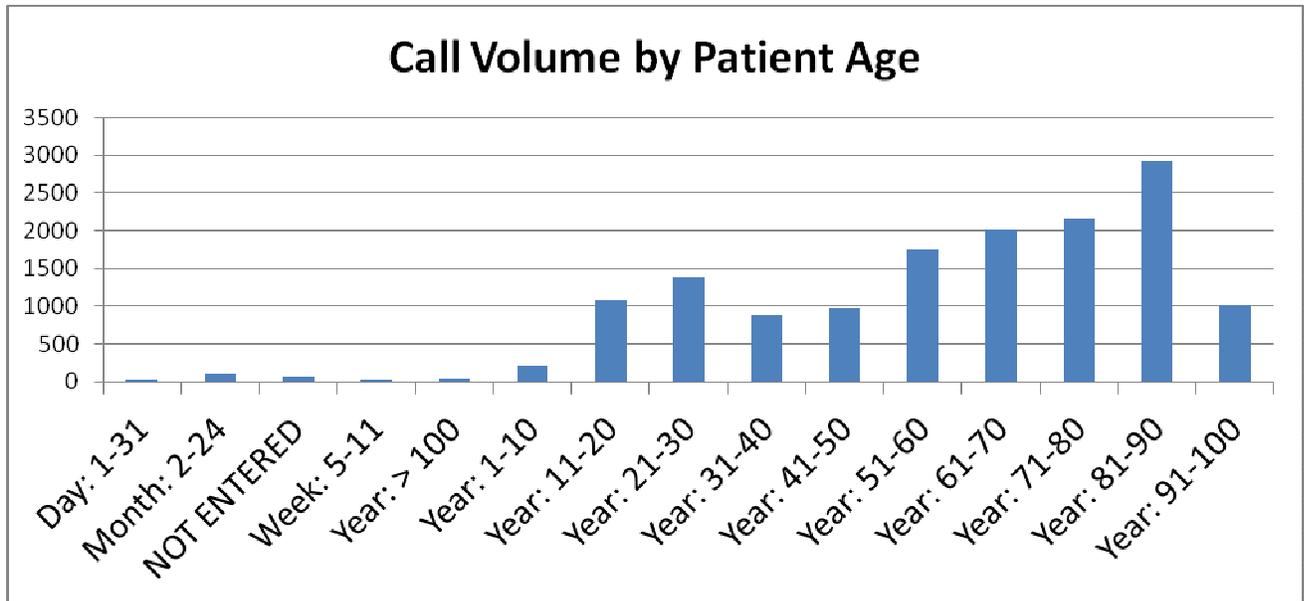


Figure 6
(Source: PCCP Patient record database)

Population Growth and Demographics

Demand for paramedic response or call volume can be associated to a number of factors. Those factors include population demographic composition such as age and health status as well as economic determinants and regional growth and infrastructure. Figure 7 demonstrates an apparent correlation of call volume to population growth.

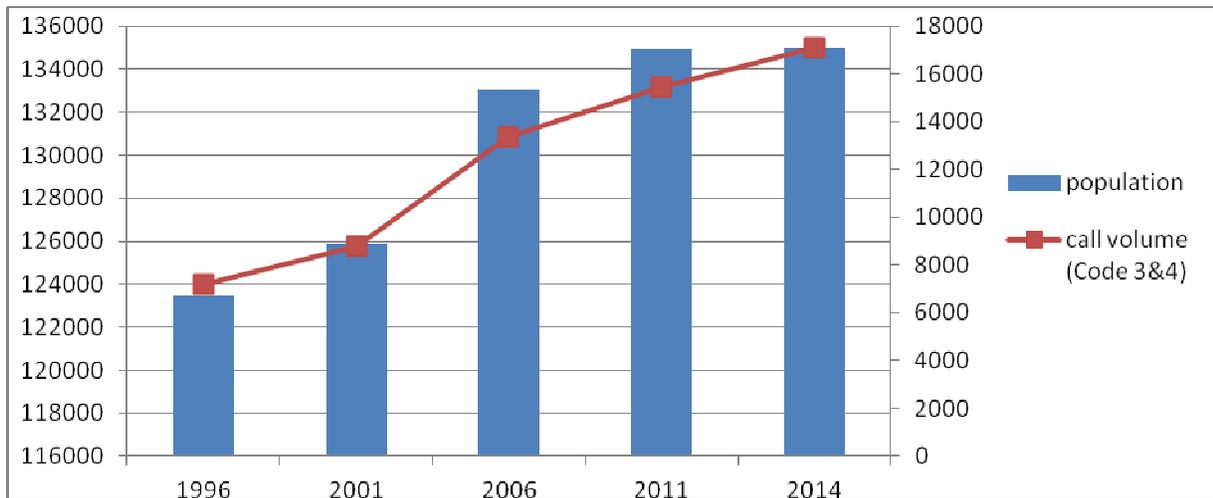


Figure 7
(Source: Stats Can & MOH ADRS/ADDAS database)

While population growth can be assumed to be correlated to call volume growth, resource planning cannot be based solely on that assumption. As Figure 8 demonstrates, the Peterborough region can expect a significant and disproportionate growth in the more senior age groups. As demonstrated above in Figure 6, this portion of the population demographic accounts for a significantly higher portion of paramedic responses. Therefore this predicted growth is likely to disproportionately increase the demand for paramedic services.

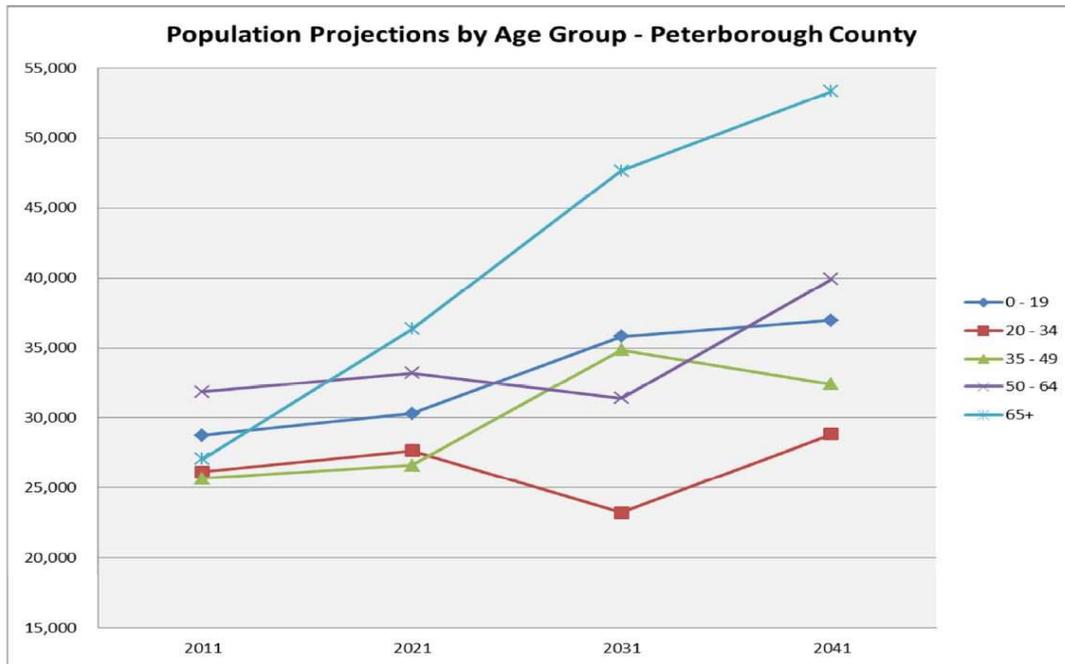


Figure 8

(Source: Peterborough 2014 – Peterborough Social Planning Council)

Current or potential developments within the County, City and the broader region may prove to be significant drivers of future population and employment growth in the Peterborough region. A brief example of these projects might include:

- Expansion of Municipal water and sewer to accommodate growth in Millbrook
- Current planned Millbrook subdivision including 351 units
- Major residential plans in City of Peterborough
- Highway 407 extension
- Peterborough Airport growth
- Peterborough – Toronto Commuter Railway

While the exact scale and degree to which these developments may ultimately influence the growth of the Peterborough region is currently unknown, it is prudent to consider the impact of these potential drivers as a component of future facility and resource needs analysis.

Summary:

PCCP remains committed to continual analysis of performance and seeks system improvement opportunities. Throughout 2015 the department will continue to examine response statistics, system pressures and where necessary adjust deployment in order to continue to deliver paramedic services that meet the needs of the residents and stakeholders of the community.

Unfortunately, this planning process of establishing resource needs based on historical trends can be described as a reactive process at best. Through this process, demand must first exist prior to resource planning being developed. As such, this reactive process most often results in sub-optimal performance and an inability to strategically plan to meet impending future needs.

In keeping with the goals of the County Strategic Plan, there is a need for a more detailed and wholesome analysis in order to best prepare the County, City and PCCP to meet those future challenges. Such analysis would include not only retrospective data analysis but would also analyse drivers of service demand such as demographic composition, health status, economic determinants and public expectation. Analysis of these growth factors will not only provide for a much more effective and strategic approach to resource planning but will also provide City and County Councils with a more informed position to logically approve and implement the legislatively required Response Time Performance Plans.

In order to address this need for analysis and to provide a strategic tool to align resource requirements with patient demand and ensure optimal investments in capital projects, PCCP Administration is recommending that a Request for Proposal be issued for a comprehensive Paramedic Services 10 Year Resources and Facilities Master Plan.

Financial Implications:

As this project is both timely and appropriate recognizing the increasing call volumes and increasing demand for service over time, a funding strategy that enables the study process to commence in advance of the next budget cycle is preferred. To that end, it is recommended that the RFP be issued in October of 2015 with project completion in early 2016, and that the study be paid for from Reserves

The utilization of reserves will allow both funding partners to contribute and for the study to commence in a timely manner to ensure that we can identify necessary resource requirements and budget appropriately in 2016 and future years.

Respectfully submitted,
Original signed by

Randy Mellow, Chief of Paramedics