

April 23, 2019

Ms. Kimberley Kitteringham
City Clerk
City of Markham
101 Town Centre Boulevard
Markham, ON L3R 9W3

Dear Ms. Kitteringham:

Re: 2018 Paramedic Response Time Performance Plan Final Results

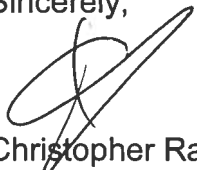
Regional Council, at its meeting held on April 18, 2019, adopted the following recommendations of Committee of the Whole regarding "2018 Paramedic Response Time Performance Plan Final Results":

1. The Regional Clerk circulate this report to the Clerks of the local municipalities for their information.
2. The Regional Chair write to the Minister of Health and Long-Term Care requesting the Ministry move quickly to modernize the technology in the Georgian Central Ambulance Communication Centre for improved efficiency of call handling and paramedic services responses.

The original staff report is enclosed for your information.

Please contact Chris Spearen, Chief and General Manager (A) at 1-877-464-9675 ext. 74709 if you have any questions with respect to this matter.

Sincerely,



Christopher Raynor
Regional Clerk

Attachment

The Regional Municipality of York

Committee of the Whole
Community and Health Services
April 4, 2019

Report of the Commissioner of Community and Health Services

2018 Paramedic Response Time Performance Plan Final Results

1. Recommendations

1. The Regional Clerk circulate this report to the Clerks of the local municipalities for their information.
2. The Regional Chair write to the Minister of Health and Long-Term Care requesting the Ministry move quickly to modernize the technology in the Georgian Central Ambulance Communication Centre for improved efficiency of call handling and paramedic services responses.

2. Summary

This report informs Council of Paramedic Services Response Time Performance Plan results.

Key Points:

- Paramedic Services exceeded all response time targets in 2018 (local municipal fire services helped Paramedic Services to exceed target response times for sudden cardiac arrests)
- Demand for York Region's Paramedic Services continues to increase each year
- Improvements in transfer of care times have helped paramedics to manage an increasing volume of calls while continuing to meet response time targets
- Implementation of the Province's new dispatch technologies in the Georgian Central Ambulance Communication Centre would facilitate more efficient use of resources, better value for money and has the potential to improve response times
- As the Region's population grows and ages, continued implementation of the Paramedic Services Master Plan is essential for response time performance

3. Background

Council established a response time performance plan in 2012

Regulation 257/00 under the *Ambulance Act* requires upper-tier municipalities that operate land ambulance services to have response time performance plans. In September 2012, Council adopted the *York Region Emergency Medical Services Response Time Performance Plan 2013*, which identified targeted response times from Dispatch to arrival on scene.

Response times are based on the Canadian Triage Acuity Scale (CTAS), a five-level tool used to assess the severity of a patient's condition and the need for timely care. CTAS level 1 is the most severe (resuscitation) and CTAS level 5 is the least severe (non-urgent). The Ministry of Health and Long-Term Care (the Ministry) sets the response times for Sudden Cardiac Arrests and CTAS level 1. The *Ambulance Act* permits each municipality to set its own response times for CTAS levels 2-5.

The Region reports response time performance each year

Under Regulation 257/00, the Region must report the following performance measures to the Ministry annually:

- The percentage of times that anyone equipped to provide defibrillation to sudden cardiac arrest patients arrived on scene within six minutes
- The percentage of times that an ambulance crew arrived on scene for CTAS 1 patients within eight minutes
- The percentage of times that an ambulance crew arrived on scene for CTAS 2, 3, 4 and 5 patients within the response time targets set by the Region

Response Time Performance results are posted on the Ministry's public website and reported annually to Council. York Region Paramedic Services has met or exceeded its response time targets every year since 2013.

4. Analysis

York Region Paramedic Services exceeded response time targets in 2018

Paramedic Services exceeded response time targets for each category in 2018, despite a 6.1 per cent increase in demand from 2017. Table 1 of Attachment 1 provides details of the targets and the response by Paramedic Services.

Despite exceeding all targets for 2018, response time performance decreased slightly from 2017 for sudden cardiac arrest and CTAS levels 1, 2 and 4. Increased urbanization, particularly in the Region's southern corridors and centres, may be a contributing factor to the decreases. Paramedic Services continues to explore strategies such as increasing access to public access defibrillators in the community for further improving response times

to sudden cardiac arrests. It has also created a Sudden Cardiac Arrest Registry and improved data collection processes for improved accuracy of reported response times.

Local municipal fire services helped Paramedic Service to exceed target response times for sudden cardiac arrests

Under Regulation 257/00, the response time to sudden cardiac arrests is measured based on the arrival on scene of any person equipped to provide any type of defibrillation. Accordingly, the response times for local municipal fire services arriving at sudden cardiac arrests with defibrillation equipment were included in the overall performance result. Paramedic Services appreciates the contributions of local municipal fire services in helping to exceed the response time targets for sudden cardiac arrests.

Demand for the Region's Paramedic Services increased 89 per cent between 2001 and 2018 compared to a 64 per cent increase in population over that same period

Incident demand on Paramedic Services increased from 37 incidents per 1,000 residents in 2001 to 70 incidents per 1,000 residents in 2018. Demand is projected to rise to 75 incidents per 1,000 residents by 2021. Details are provided in Figure 1, Attachment 1.

Two factors contribute to increased demand:

- Overall population growth
- The needs of the Region's aging population

Over the next 10 to 20 years, use of Paramedic Services per capita will continue to increase due to the need for paramedic care by older adults living with multiple medical complexities. Increases in demand put pressure on the Region's Paramedic Services resources.

Hospital transfer of care times have been below the 30 minute target since 2014

Transfer of care time refers to the time between when paramedics arrive at a hospital and when a patient is transferred from the paramedics' care to the hospital's care. In January 2015, by way of the *Hospital Memorandum of Understanding Update 2014*, York Region withheld \$1.3 million of hospital funding related to poor transfer of care performance, and Council redirected it to fund initiatives to improve off-load delays. As a consequence, York Region Paramedic Services has been in a better position to work with local hospitals to improve transfer of care times, resulting in a decrease in the average transfer time (see Figure 2 of Attachment 1).

Since 2014, the average transfer times have been below the Region's target of 30 minutes. In 2018, the average transfer of care times were 18 minutes for Mackenzie Health, Richmond Hill, 22 minutes for Markham-Stouffville Hospital and 23 minutes for Southlake Regional Health Centre. Improved transfer of care times have in part, enabled paramedics to manage an increasing volume of calls while continuing to meet response time targets.

Provincial implementation of new dispatch technologies would further improve response times

In early 2018, the Ministry of Health and Long Term Care invested in new medical dispatch technologies as part of its strategy to transform Ontario's Emergency Health Services. These technologies include a Computer Aided Dispatch platform, a Medical Priority Dispatch System, and other system improvements.

York Region Paramedic Services was selected as the "proof of concept" service for a mobile data application that connects the Computer Aided Dispatch platform to both the in-vehicle tablet and the paramedics' iPhones. Prior to this, all communication was via the radio network which was plagued with reliability issues and required paramedics to re-input data into a navigation device. This new application provides paramedics with automatic information updates, real time data and navigation. The application was successfully deployed and is now being used in all York Region ambulances, saving time and reducing errors.

Under the previous provincial government, the new technologies were implemented in the Toronto and Niagara Ambulance Communications Centres. The Georgian Central Ambulance Communication Centre which serves York Region was scheduled to receive the new systems in spring 2019. The current provincial government has not yet confirmed the implementation schedule but work is continuing.

The new dispatch system will improve the way calls are triaged, resulting in efficiencies

The current dispatch system has only one emergency classification, meaning that for many cases the level of response may be beyond what the emergency warrants. The new Medical Priority Dispatch System provides a new medical triage algorithm to enable better differentiation and triage of emergencies and ensure that the patient receives the most urgent care in the appropriate time frame with the resources available. The algorithm guides dispatchers to ask key questions to categorize the call by chief complaint and determine the level of the patient's condition, ranging from minor to immediately life-threatening. The new system will also provide an evidence-based platform for more targeted use of other agencies, helping to reduce the overuse of other first responders. Changing the way that calls are dispatched provides the opportunity to become more efficient, realize better value for money, and achieve improved response times.

Continued implementation of the Paramedic Services Master Plan is vital for response time performance

In September 2012, Council approved the *York Region Emergency Medical Services 10-Year Resources and Facilities Master Plan*. This plan identified optimal station locations, staffing and vehicle requirements over the next 10 years to meet the needs of the Region's growing population. It is based on factors such as population trends, roadway development and travel time. The plan was updated in 2016 and extended to 2026 to ensure that accurate

long-term planning informed business and capital plans. The plan will be updated again with the 2020 census to consider and address the Region's needs beyond 2026.

Two paramedic stations are under construction and four are in the design stage. Eight more stations will be built over the next four years, three of which will be replacements. This will increase the number of stations from 22 to 27.

Acquiring land and building the planned paramedic response stations are essential for response time performance. Staff are working to procure land parcels but land availability is limited and taking more time to procure than expected. Delays in building new stations could impact future response time performance.

5. Financial

York Region Paramedic Services were managed within the 2018 Council approved budget of \$78.5 million gross and \$36.6 million net tax levy, excluding corporate and departmental support costs.

6. Local Impact

All local municipalities continue to receive reliable and responsive Paramedic Services. Paramedic Services will continue to work with municipal fire services to respond to sudden cardiac arrests and other critical patient conditions to provide the best possible emergency response and optimize the use of resources. Staff recommend this report be shared with local municipalities for their information.

7. Conclusion

In 2018, York Region Paramedic Services exceeded all response time targets. This success was achieved in part with the assistance of local municipal fire services in responding to sudden cardiac arrests, and Paramedic Services' work with local hospitals to keep average transfer of care times below 30 minutes. As the Region's population continues to grow and age, the demands on Paramedic Services will increase not only in numbers of calls, but in the complexity of services required.

Future response time performance depends on two critical elements:

1. Ongoing implementation of the Paramedic Services 10-year Master Plan, updating the Master Plan in 2020 to consider and address the Region's needs beyond 2026
2. Implementation of the Province's new dispatch technology for the Georgian Central Ambulance Communication Centre

For more information on this report, please contact Chris Spearen, Chief and General Manager (A), 1-877-464-9675 ext. 74709. Accessible formats or communication supports are available upon request.

Recommended by: **Katherine Chislett**
Commissioner of Community and Health Services

Approved for Submission: **Bruce Macgregor**
Chief Administrative Officer

March 21, 2019
Attachment (1)
9095576

2018 YORK REGION PARAMEDIC SERVICES RESPONSE TIME PERFORMANCE PLAN FINAL RESULTS

This attachment provides details on the following Paramedic Services performance results for 2018:

- Response times
- Demand for York Region's Paramedic Services
- Transfer of care times

Paramedic Services exceeded all response time targets in 2018

Response times for sudden cardiac arrests and Canadian Triage Acuity Scale (CTAS) Levels 1 to 5 are based on the CTAS, a five level assessment tool used to determine the severity of a patient's condition and the need for timely care. CTAS level 1 is the most severe (resuscitation) and CTAS level 5 is the least severe (non-urgent).

The Ministry sets the response times for Sudden Cardiac Arrests and CTAS level 1. The *Ambulance Act* permits each municipality to set its own response times for CTAS levels 2 to 5.

Table 1 provides the 2018 response time targets and actual performance for sudden cardiac arrests and each CTAS level. The table lists the response time set for each level, the targeted percentage of responses for achieving response times and the Region's actual performance in 2018. 2017 response time results are provided for comparison.

As shown in Table 1, Paramedic Services exceeded response time targets for each category in 2018, despite a 6.12 per cent increase in demand from 2017. For example, the targeted response time for CTAS 1 is to arrive within eight minutes 75 per cent of the time. In 2018, the Region exceeded this target by arriving within eight minutes 76 per cent of the time, as compared to 78 per cent of the time in 2017.

Table 1
2018 Response Time Performance

Category and Examples	Target response time from Dispatch to arrival on scene	Targeted percentage to meet response times (%)	2018 Performance (%)	2017 Performance (%)
Sudden Cardiac Arrest Absence of breathing, pulse	Community Target: Arrival of any person equipped with an AED within 6 minutes Set by the Ministry	60%	63%	66%
CTAS 1 - Includes sudden cardiac arrest or other major trauma	8 minutes Set by the Ministry	75%	76%	78%
CTAS 2 - Chest pain, stroke, overdose	10 minutes Set by York Region*	80%	84%	85%
CTAS 3 - Moderate pain or trauma	15 minutes Set by York Region*	90%	92%	92%
CTAS 4 - Minor trauma, general pain	20 minutes Set by York Region*	90%	95%	96%
CTAS 5 - Minor ailments, repeat visits	25 minutes Set by York Region*	90%	98%	98%

***Note:** In September 2012, Council adopted the *York Region Emergency Medical Services Response Time Performance Plan 2013*, which identified targeted response times from Dispatch to arrival on scene.

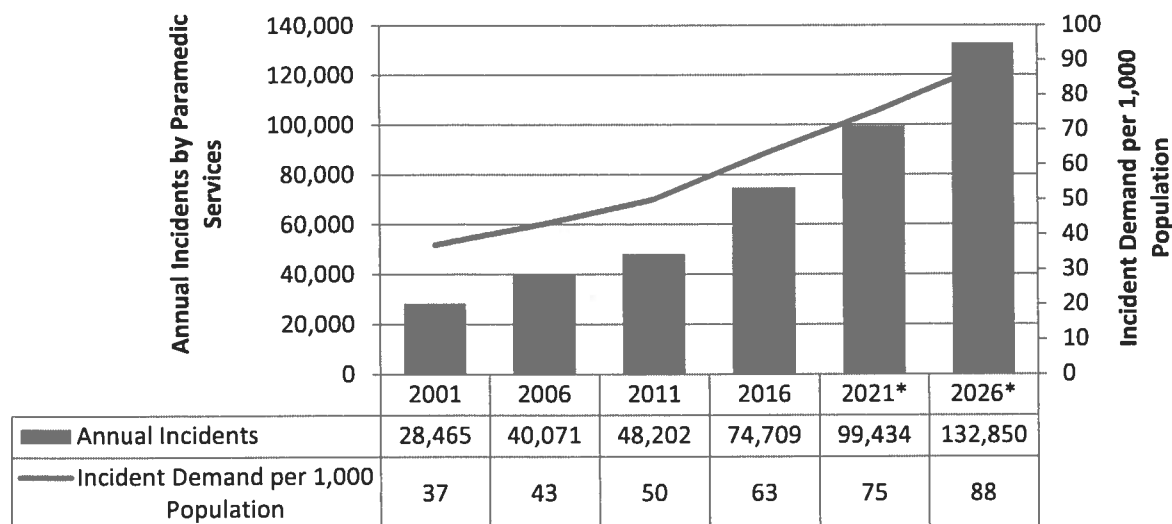
Response time performance decreased slightly in 2018 from 2017 for sudden cardiac arrests and CTAS levels 1, 2 and 4. Increasing demand, vehicular traffic and increased urbanization, particularly in the Region's southern corridors and centres, may be a factor impacting response times for Paramedic Services.

Demand for Paramedic Services continues to increase

As shown in Figure 1, the incident demand per 1,000 residents has increased from 37 incidents per 1,000 residents in 2001 to 63 incidents per 1,000 residents in 2016, with an average annual growth rate of 5 per cent.

In 2018, York Region Paramedic Services responded to 83,204 incidents, a 6.1 per cent increase from 78,407 incidents in 2017. The increasing number of incidents each year is on pace with the projected growth shown in Figure 1 and is expected to result in an estimated 99,400 incidents in 2021.

Figure 1
Paramedic Incident Demand per 1,000 Residents, 2001-2026



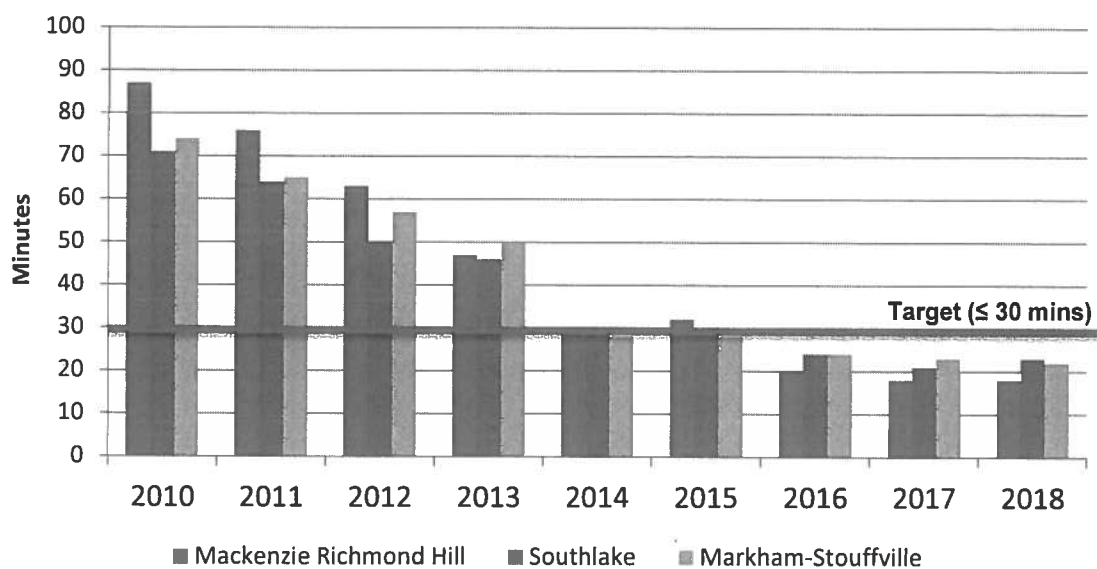
*Predicted based on Paramedic Services 10 Year Resources and Facilities Master Plan

Two factors contribute to the increased demand: overall population growth and the needs of the Region's aging population. According to 2016 Statistics Canada Census data, seniors (65 years and older) accounted for 14.6 per cent (161,925) of York Region's population, compared to 11.7 per cent (120,935) in 2011. This increase of 33.9 per cent is higher than the growth rate for children, youth and adults of working age. By 2031, one in five York Region residents will be 65 years or older.

Hospital transfer of care times were below the target of 30 minutes in 2018

As displayed in Figure 2, the average time taken to transfer patients to York Region hospitals has decreased at all three York Region hospitals since 2010, and has dropped below the Region's target of 30 minutes since 2014. In 2018, the average transfer of care times was 18 minutes for Mackenzie Health, Richmond Hill, 22 minutes for Markham-Stouffville Hospital and 23 minutes for Southlake Regional Health Centre.

Figure 2
Average Transfer of Care Time by York Region Hospital



Source: York Region Paramedic Services Ambulance Dispatch Reporting System

Summary

In 2018, York Region Paramedic Services exceeded all response time targets while managing increasing demand for services from a growing and aging population. This success was achieved in part with the assistance of local municipal fire services in responding to sudden cardiac arrests and Paramedic Services' collaboration with local hospitals to keep average transfer of care times below 30 minutes.

Future response time performance depends on several critical elements: ongoing implementation of the Paramedic Services 10-year Master Plan, updating the Master Plan in 2020 to consider and address the Region's needs beyond 2026 and implementation of the Province's new dispatch technologies for the Georgian Central Ambulance Communication Centre and health system improvements.