EDMONTON POLICE SERVICE

REPORT TO THE EDMONTON POLICE COMMISSION

DATE: **2019 July 05**

SUBJECT: **2019 Q2 Reporting of EPS Response Time and Dispatch Call Volumes**

RECOMMENDATION:

1. That this report be received for information as a regularly scheduled report to the Edmonton Police Commission.

INTRODUCTION:

The Edmonton Police Commission receives semi-annual statistical reporting regarding EPS dispatch call levels and police response times. This reporting originated by EPC request, and has been taking place since late 2013.

For this reporting period, the scope of reporting includes:

- 2009-2018 annual, and 2019 Jan-June statistics for dispatch calls and response times patrol metrics
- Figures broken down by priority level 1 through 5
- City-wide, and patrol division results
- Two recent or upcoming developments in patrol that will have linkages to patrol response times

The EPS is in the midst of revamping its strategic planning cycle, most notably with the development of a new 3-5 year Strategic Plan. With this new strategic plan, along with other associated plans (e.g., business plans, policing bureau plans), there will be a need to revamp what performance measures are to be focused on, and how this is provided to the EPC for their analysis, understanding, and oversight.

As such, in the future the EPS will be engaging the EPC to discuss what their performance reporting requirements are, and how EPS can provide fewer, but more meaningful and comprehensive performance reports to the EPC. When those discussions take place, the EPS will wish to specifically discuss what the needs are of the EPC for dispatch call and response time data, and whether this information can be consolidated with other reporting planned for the EPC.

CONCLUSION:

For review, consideration, and discussion.

ADDITIONAL INFORMATION ATTACHED:

- Attachment 1 – Statistical Reporting: Dispatch Call Volume & Response Times, 2019 Q2

Written by: Advisor, Cal SCHAFER,
Strategy & Performance Branch, Value & Impact Division

Reviewed By: Director, Lori SOLON
Strategy and Performance Branch, Value & Impact Division

Approved by: A/ Deputy Chief, Chad TAWFIK
Corporate Services Bureau

Chief of Police: _____

Date: _____

Edmonton Police Service

Statistical Reporting: Dispatch Call Volume & Response Times, 2019 Q2

Prepared by:

Cal Schafer – Advisor,
Strategy & Performance Branch,
Value & Impact Division

Date: July 5, 2019

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Executive Summary

The following report provides the latest statistical results to the Edmonton Police Commission for two of EPS's core metrics, that being Dispatch Call Volume and Response Time Performance. Dispatch Call Volume measures calls generated by the public which receive an on-scene police response, and as such is a useful workload indicator of patrol. Likewise, Response Time Performance measures the percentage of the time that this workload is responded to within a targeted amount of time.

This report provides annual data from 2009 to 2018, as well as the first six months of 2019 (January-June). Summary observations are as follows:

Dispatch Call Volume

- Dispatch Call Volume has increased by 3.7% Year-to-Date (YTD), compared to the same period in 2018. This corresponded to 3,046 additional calls. Dispatch Call Volume was 81,498 YTD 2018, and 84,544 YTD 2019.
- All other things being equal, Dispatch Call Volume should be expected to rise about 2% annually due to anticipated city population growth.
- The recent and long-term growth in Dispatch Call Volume has been in low or non-urgent P4 and P5 calls.

Response Time Performance

- 70.1% of **Priority 1** calls were responded to within 7 minutes YTD, compared to 72.5% in the same period in 2018. This latest result is within the range experienced over the last five years.
- 95%+ of **Priority 2** and **Priority 3** calls are responded to within targeted time YTD (12 and 17 minutes, respectively).
- 68.2% of **Priority 4** calls were responded to within 40 minutes YTD.
- 49.3% of **Priority 5** calls were responded to within 3 hours YTD, compared to 53.8% in the same period in 2018.

Patrol Division Response Times

- For P1 response times, South West and South East are the most challenged in meeting the 7 minute target (at 41 and 62% of the time, respectively). Downtown is the only division that consistently meets the 7 minute target.
- Response Time Performance can vary significantly across patrol divisions; depending on the division, P1 response time targets are meet 41-86% of the time, while P5 response time targets are meet 37-57% of the time.

Significance of Results

- EPS is challenged in meeting its response time targets, especially when it comes to responding to "non-urgent" priority 5 calls. While the public safety consequences of not meeting low or non urgent calls are minor, they do nonetheless inconvenience the public and risk impacting their perceptions of the EPS.
- Slower than ideal response times is a consequence of a very high call workload environment that patrol is tasked with responding to. Addressing response times in the long-run will ultimately require addressing the root-causes that are generating these calls for service. "Reducing policing demand" will be one of the key focuses for EPS as it develops and implements its newest organization Strategic Plan.

Purpose of Report

The purpose of this report is to provide to the Edmonton Police Commission the latest available data for two primary metrics for EPS patrol: Dispatch Call Volume and Response Time Performance. This reporting is provided to the EPC semi-annually, and has taken place since late 2013.

The scope of this reports includes:

- Dispatch Call Volume and Response Time Performance data
- City-wide results, and patrol-division results
- A breakdown of results by each priority level (1-5)
- Summary details for two patrol-related organizational initiatives that have linkages with improving response times in the future.

Measure Definitions

Dispatch Call Volume

Dispatch Call Volume measures calls made by the public that are classified with a priority level from 1-5, which are dispatched to EPS patrol and receive an on-scene police response. This is a core indicator of the workload that patrol faces, and is by far the strongest determinant impacting the availability of patrol to quickly respond to policing emergencies.

Response Time Performance

Response times are measured as the time it takes for EPS to dispatch, travel, and arrive on-scene to an event. Response Time *Performance* measures the percentage of the events where this occurs within a targeted amount of time, which varies depending on the priority level of the call.

Timely responses to high-risk policing emergencies are desirable because they have the potential to reduce or prevent harm to victims or property, increase the odds of successfully locating and apprehending a fleeing criminal suspect, and may result in better collection of evidence for follow-up investigation. It should be stressed that these benefits are highly dependent on the circumstances of a given policing event, and are more relevant for high-risk and high-urgent calls. The majority of policing events EPS respond to can be considered "low-urgent" or "non-urgent", and the time it takes for us to arrive to these events is more of a matter of subjecting a caller to being inconvenienced while waiting.

As well, it should be recognized that quick police responses are simply one outcome of many which are desirable when responding, controlling, and resolving the policing emergencies that callers depend on us for.

EPS has established timed targets specific for each of its Priority 1 – 5 levels. A brief description of each priority level, and the associated response time target, is shown in Figure 1.

Figure 1

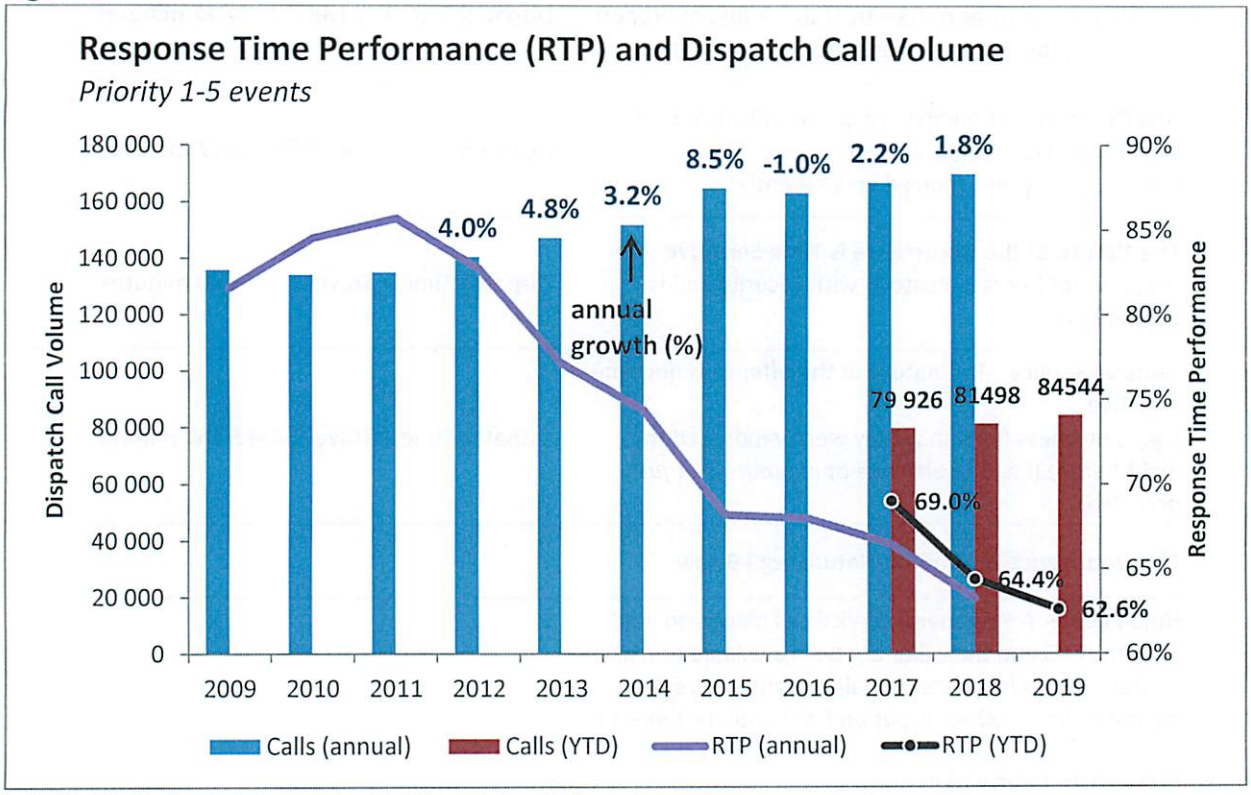
Priority Code	Definition/Example	Response Time Performance Target (80% of the time)
0	**Officer in Distress / Officer Needs Assistance**	
1	**In Progress Person At Risk** - Response will likely prevent or reduce harm to a person e.g., assault with a weapon *in progress*	Dispatch Time + Travel Time ≤ **7 minutes**
2	**In Progress Property At Risk** - Immediate response will likely prevent or reduce the further loss of property e.g., a neighbor observing an auto theft *in progress*	Dispatch Time + Travel Time ≤ **12 minutes**
3	**Just Occurred** - Immediate response will increase the likelihood of locating a suspect e.g., mischief that occurred very recently	Dispatch Time + Travel Time ≤ **17 minutes**
4	**The Nature of the Occurrence is Time Sensitive** e.g., a shoplifter is in-custody with security and is cooperative	Dispatch Time + Travel Time ≤ **40 minutes**
5	**General Service** - The nature of the offence is not time sensitive e.g., a business finds that they were vandalized the night before (i.e., the absence of *in progress* or *just occurred*)	Dispatch Time + Travel Time ≤ **180 minutes**
6	**The Occurrence is Minor in Nature** (eg.) Bylaw	
7	**Hold Event** – A P5 general service call placed on hold until the EPS and the caller are both available to make contact. e.g., a business vandalism right before the business closes, which is put on-hold until next morning	
9	**Broadcast** - Information only	

City-wide Results

Priority 1 – 5

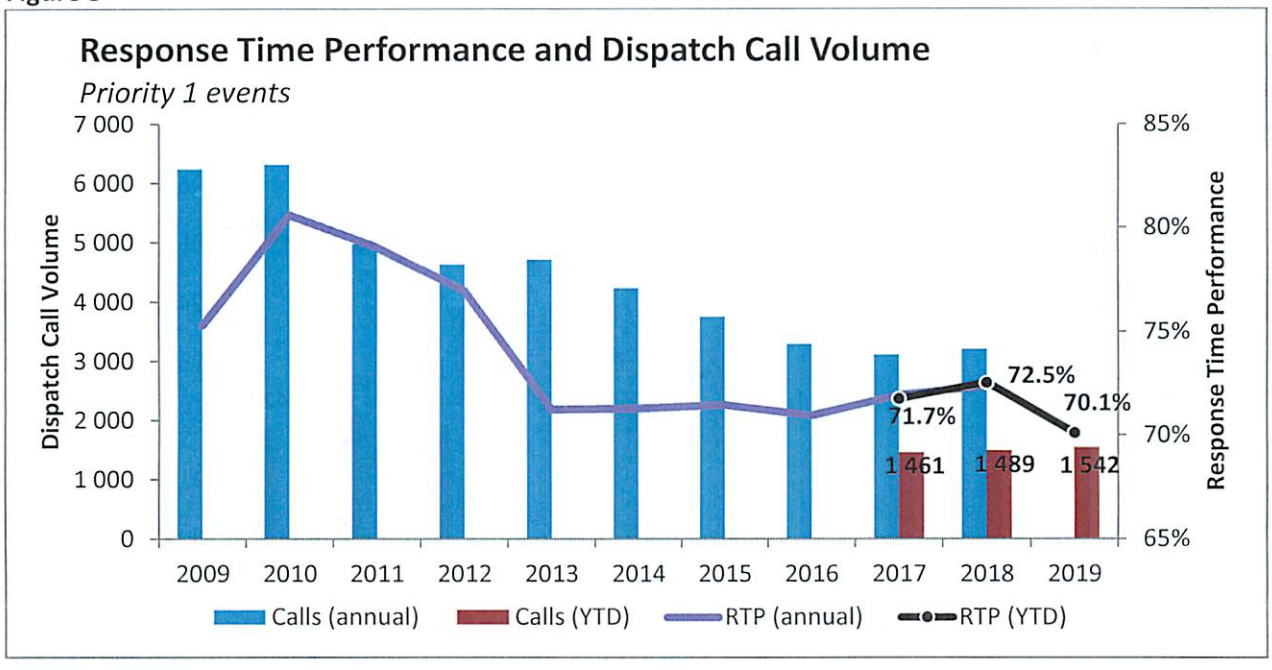
- Overall Dispatch Call Volume (P1-P5) increased **3.7%** for the first six months of 2019, compared to the same period in 2018. This corresponded to 3,046 additional calls.
- Overall Response Time Performance (P1-P5) fell to **62.6%** YTD 2019, compared to **64.4%** YTD 2018.
- Overall Response Time Performance is driven by response time trends in in P4 and P5 call categories, as these calls make up more than 90% of total call volume.

Figure 2



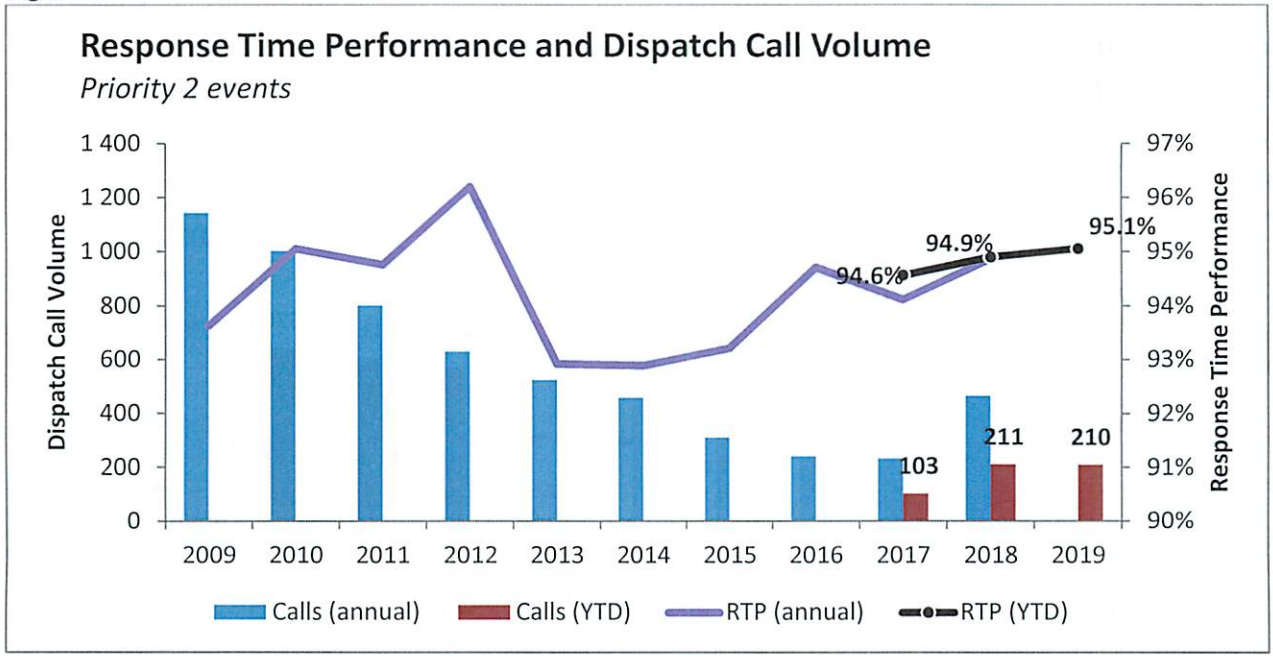
- P1 calls increased **3.6%** YTD 2019, compared to YTD 2018.
- P1 Response Time Performance fell to **70.1%** YTD 2019, compared to **72.5%** YTD 2018.

Figure 3



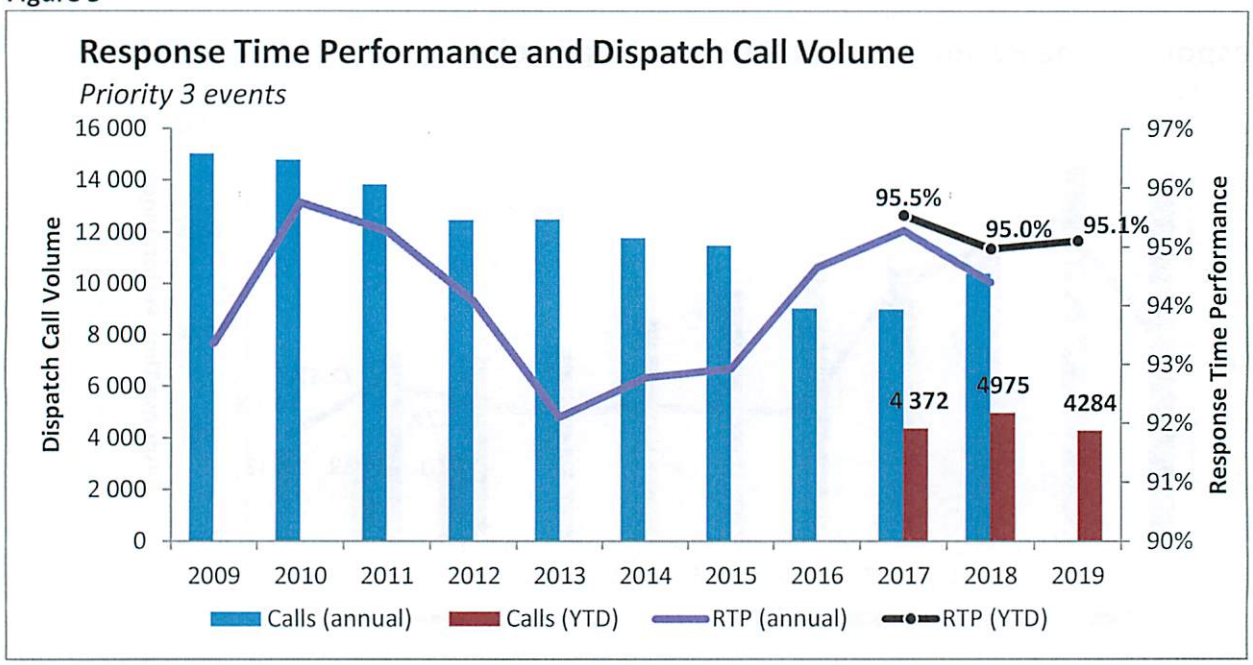
- P2 calls decreased **0.5%** YTD 2019, compared to YTD 2018.
- P2 Response Time Performance increased slightly to **95.1%** YTD 2019, compared to **94.9%** YTD 2018.

Figure 4



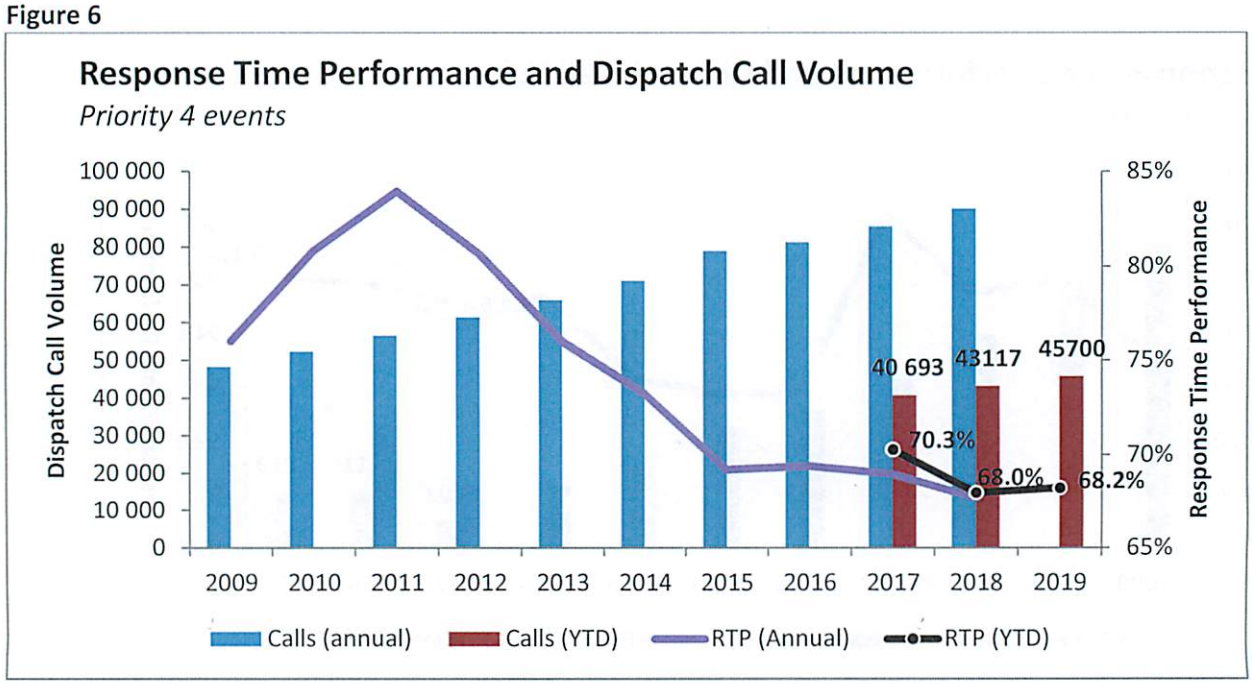
- P3 calls decreased **13.9%** YTD 2019, compared to YTD 2019.
- P3 Response Time Performance fell to **95.1%** YTD 2019, compared to **95.0%** YTD 2018.

Figure 5



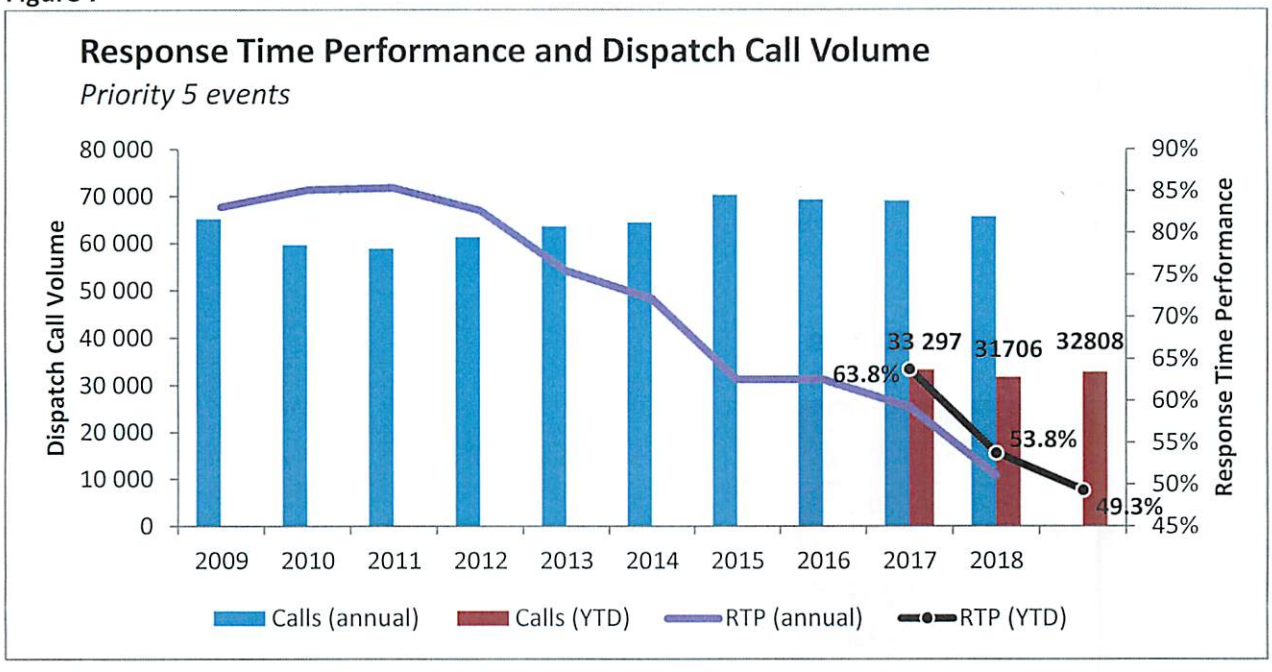
- P4 calls increased **6.0%** YTD 2019, compared to YTD 2019.
- P4 Response Time Performance increased slightly to **68.2%** YTD 2019, compared to **68.0%** YTD 2018.

Figure 6



- P5 calls increased **3.5%** YTD 2019, compared to YTD 2019.
- P5 Response Time Performance fell to **49.3%** YTD 2019, compared to **53.8%** YTD 2018.

Figure 7



Patrol Division Response Time Results

Beyond city-wide results, response times can further considered for each of EPS's six patrol divisions. When staffing for each division is balanced against the unique call workload, call complexity, and unique geographic challenges for each division, response times can be expected to be consistent throughout the city. When large and persistent deviations in response times span across divisions, it warrants consideration and discussion if patrol resources need to be reallocated more equitably.

In summarized form, Figure 8 displays, by each priority level, the Response Time Performance for each division, covering the YTD 2019 period.

Figure 8

Response Times Performance (%), YTD 2019

	P1	P2	P3	P4	P5
Downtown	86	100	98	74	57
North East	77	94	95	66	42
North West	71	93	96	70	53
South East	62	97	94	72	61
South West	41	88	90	65	43
West	78	100	97	61	37

Green: ≥ 80% of events met timed target
Orange ≥ 70%
Red: < 70%

Observations:

- Downtown Division is generally the least challenged in its response times. It is the only division meeting the P1 Response Time Performance target, and is the closest to meeting the 80% target across other priority levels
- South West division can be considered the most challenged in meeting response times across all levels, especially for P1 calls.
- Divisions like North East and West have relatively quick P1 response times, but are more challenged with P4 and P5 response times.

The following next five figures provide 2009 to 2019 (YTD) Response Time Performances for each patrol division, per priority level.

Figure 9

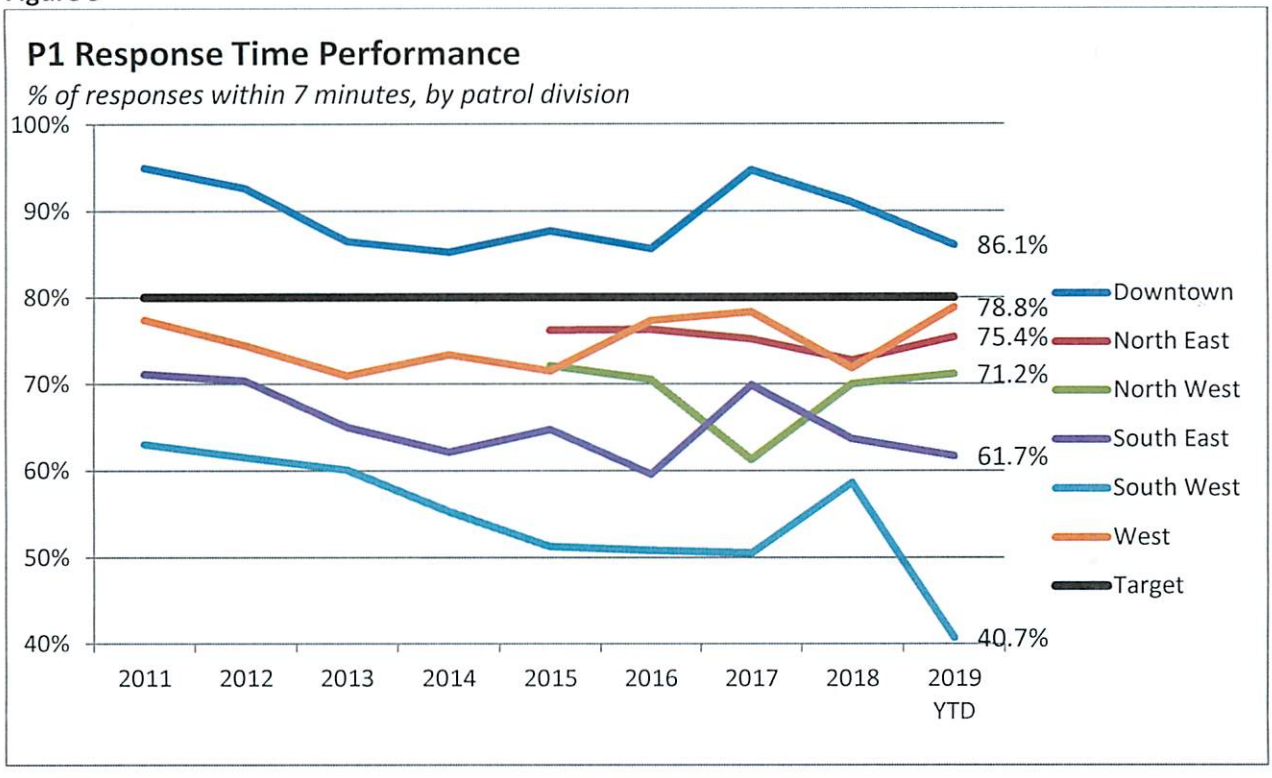


Figure 10

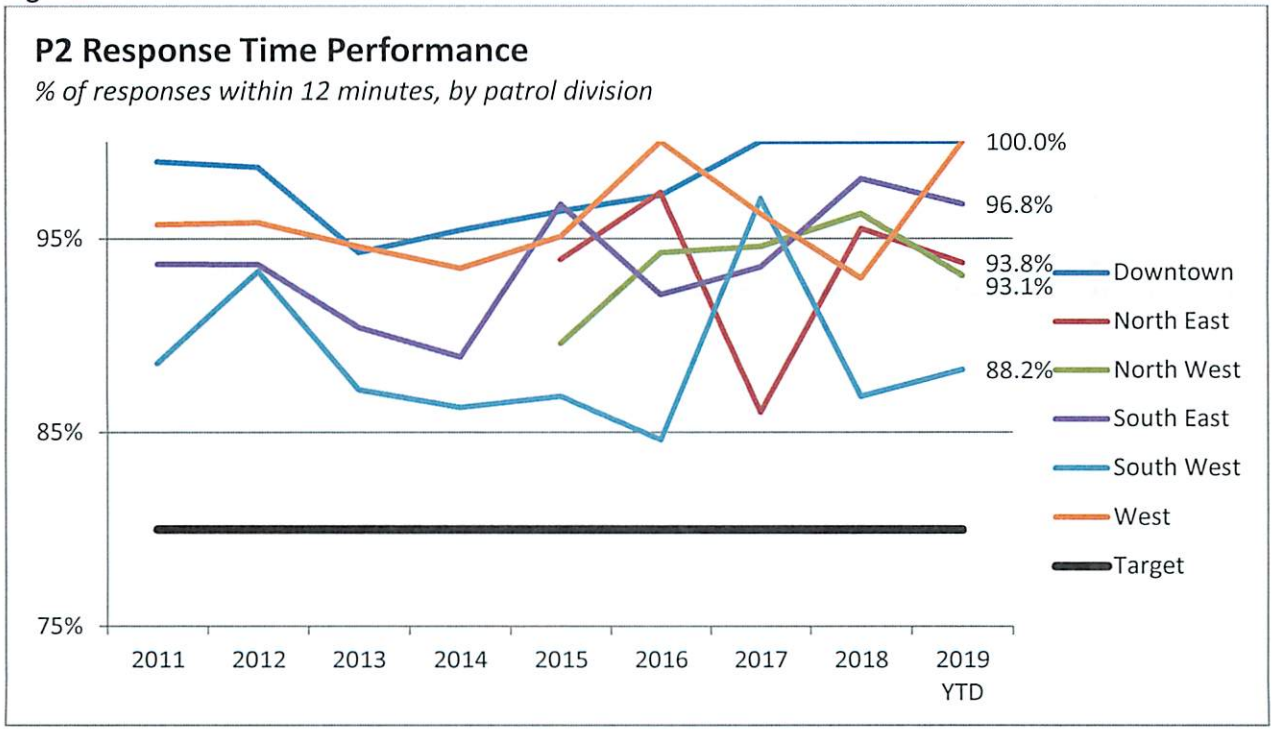


Figure 11

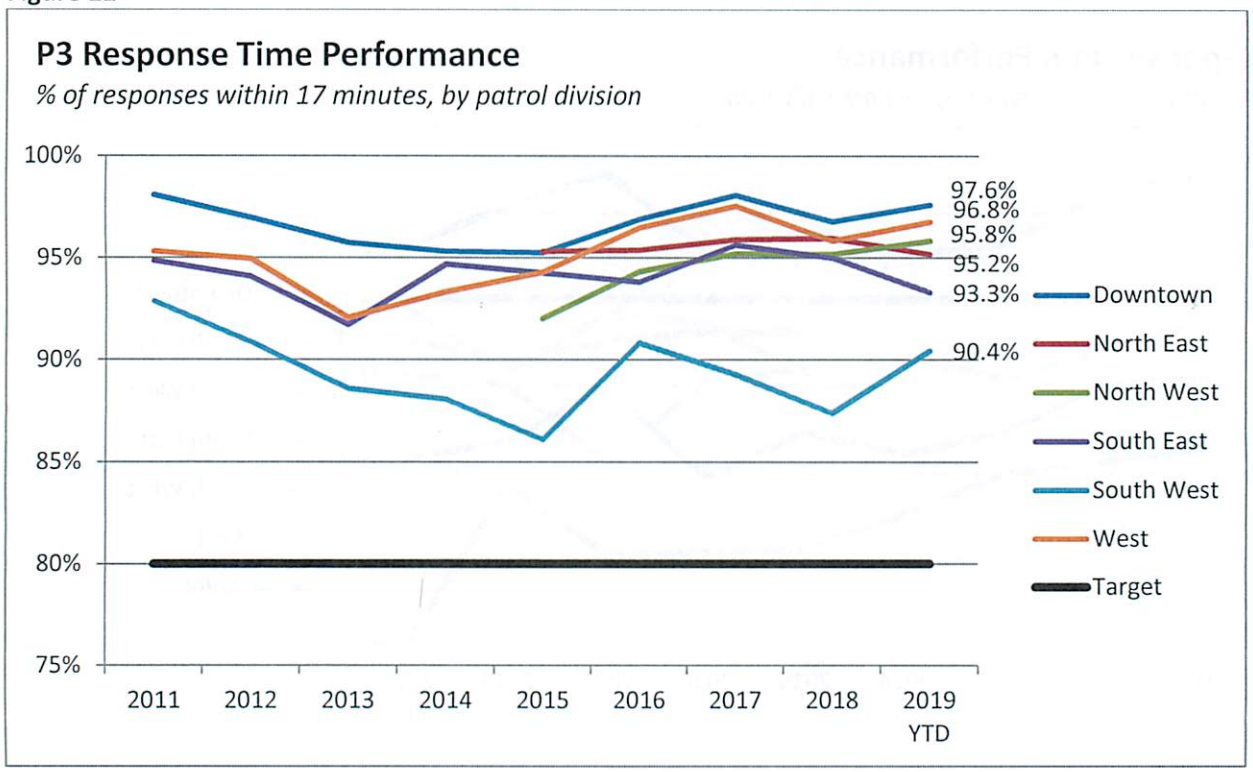


Figure 12

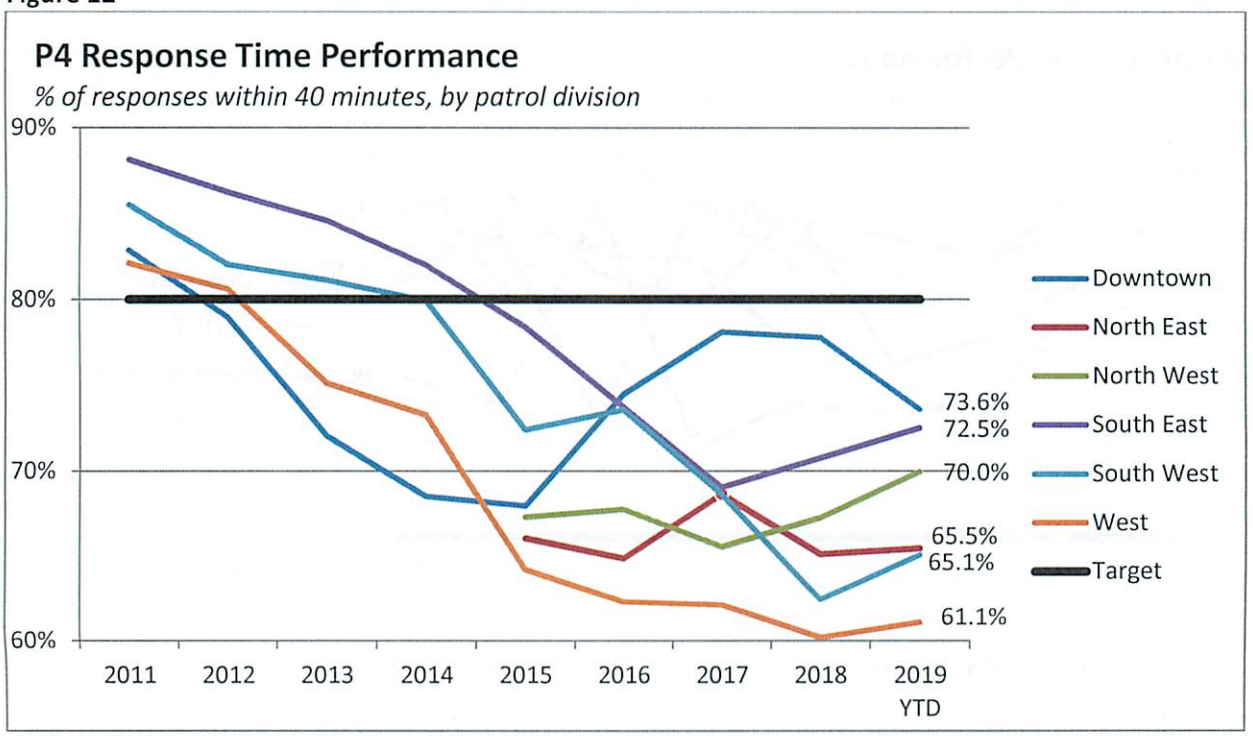
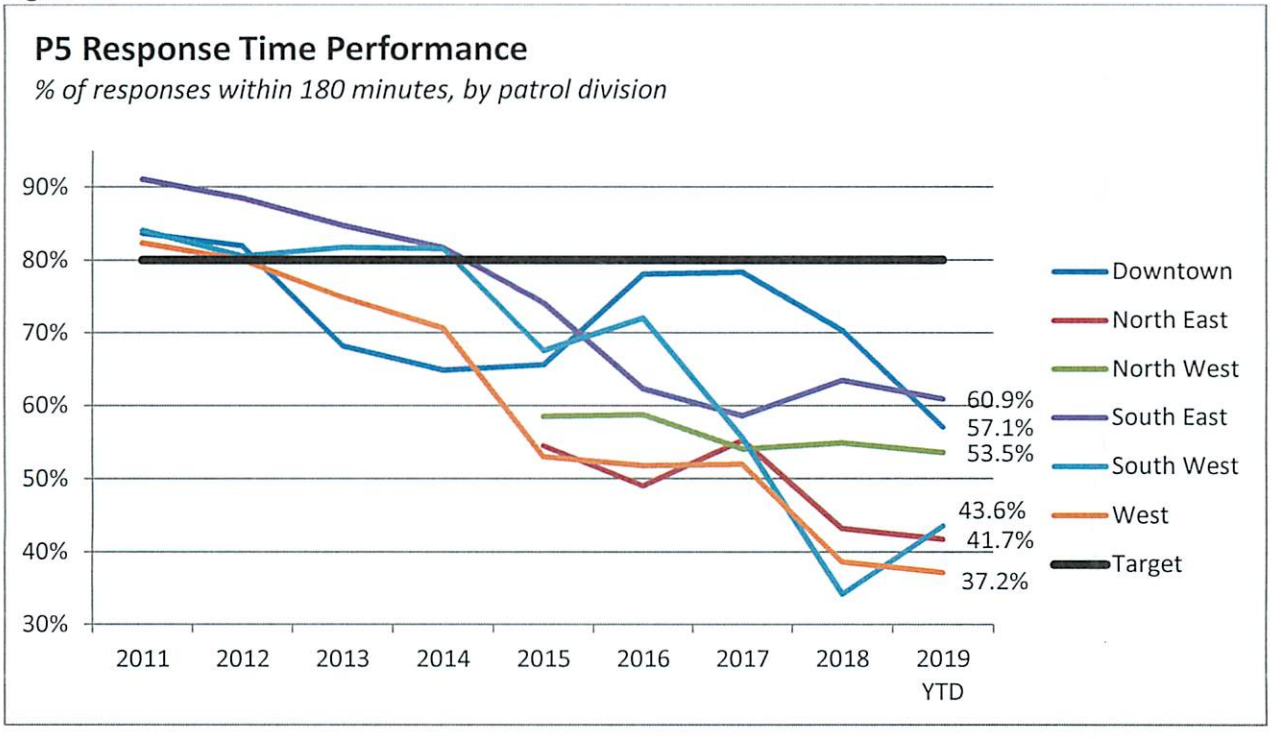


Figure 13


P5 Response Time Performance
% of responses within 180 minutes, by patrol division
90%
80%
70%
60%
50%
40%
30%
2011
2012
2013
2014
2015
2016
2017
2018
2019 YTD
60.9%
57.1%
53.5%
43.6%
41.7%
37.2%
Downtown
North East
North West
South East
South West
West
Target

Recent Patrol Division Developments

As has been provided in previous reports to the EPC, summary details are provided here regarding recent patrol-related developments that have direct or indirect implications for patrol workload, response times, or more generally the effectiveness of patrol.

1. 10 Patrol Squad Pilot & Evaluation

EPS operates from an 8-squad model per patrol division. For each patrol division, four-squads work daily (4 shift "watches"), with each squad having a span of control of one Sergeant to 11-12 Constables.

Since January 2019, SW and SE Divisions have been piloting a 10-squad model. Intended benefits are:

- Improved Span-of Control; more, but smaller squads, will provide supervisors (Sergeants) better oversight, guidance, and training of constables under their command
- Allows five daily squad start times rather than four; providing more opportunity to stagger patrol squad overlaps during peak daily crime
- Improved sleep hygiene for members transitioning from midnight shifts to 2nd watch shifts.

Evaluation results of the 10-squad pilot model is anticipated for completion in August 2019. These results will soon after be brought forward to our Community Policing Bureau to discuss learnings from the pilot, and appropriateness for city-wide deployment.

2. Statistical Modelling Enhancements for Patrol

When EPS makes patrol decisions about the appropriate patrol division and district boundaries, the equitable distribution of patrol resources across divisions, and optimal patrol shift schedules, it is informed by a mathematical queuing model routinely referred to in the EPS as MPP (Managing Patrol Performance).

The EPS has partnered with a Macewan Professor in Statistics (former EPS employee) to bring about several improvements to our in-house model, as well as conduct statistically modelling under a number of scenarios of interest for the police executive. Central questions that have been analyzed and modelled are:

- Is patrol resourcing currently distributed equitably across divisions?
- Are there alternative patrol shift start times that would better match the daily pattern of crime, and thus improve response times?
- If EPS were to adopt a 10-squad model city-wide, what would be the optimal shift schedule?

This research has been completed, and these research findings and implications will be brought forward to patrol divisions and the police executive in September or October for discussion and decision-making. This research will address part of a City Auditor recommendation regarding our patrol staffing model.

Conclusion

EPS faces ongoing challenges in meeting its response time targets, especially when it comes to responding to "non-urgent" priority 5 calls. The public safety consequences of these non-urgent calls are relatively minor, but they do nonetheless inconvenience the public and stress their patience as they wait for our response.

The challenge with response times is a consequence of a very high workload that patrol is subject to, which has been further strained as crime & disorder in the Edmonton area has increased over the last several years. As such, there is no silver bullet for fixing response times.

One short-term solution would be to simply direct more of EPS's budget towards patrol with more boots on the street. This would be of limited effectiveness, for while we would have more capacity to react to emergencies quicker, it would do little to nothing to address why these high numbers of calls are occurring in the first place, and to stop them from happening in the future.

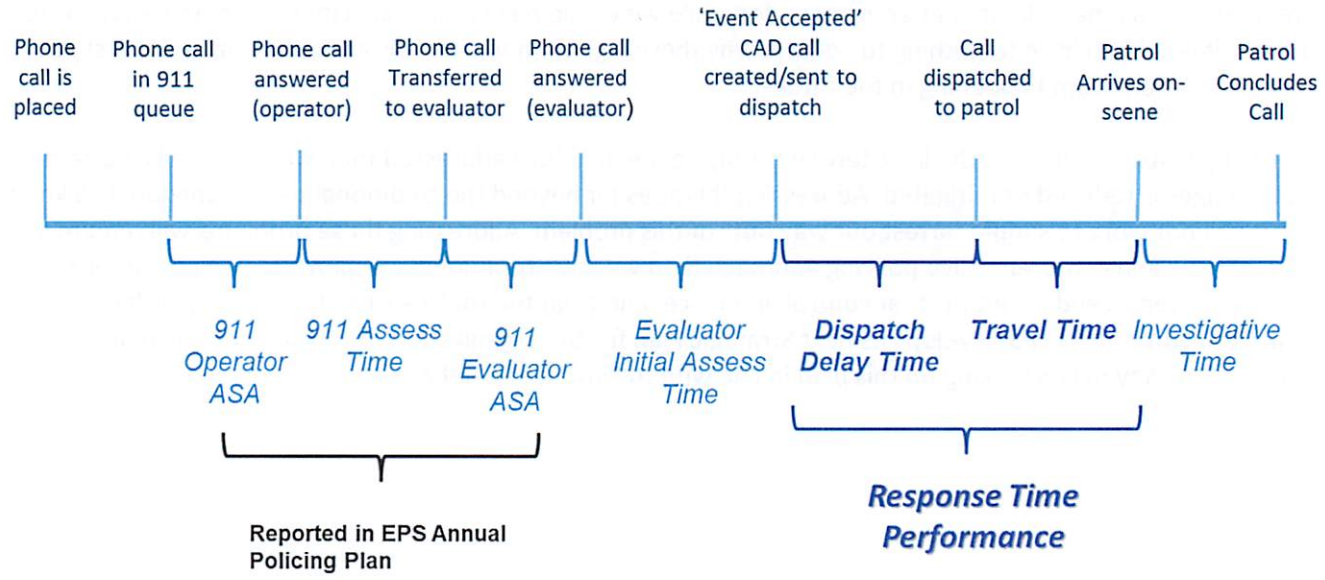
Improving response times in the long-term will only be meaningfully addressed then when the policing demand EPS manages is reduced or mitigated. Addressing this goes far beyond the traditional patrol function. EPS knows that it will not work to simply "arrest our way out" of this problem. Addressing these problems will require a more holistic and comprehensive policing approach than we have traditionally deployed, with new proactive policing strategies and programs that control, influence, and treat the root-causes of crime & disorder in the Edmonton context. As EPS develops its next Strategic Plan for the organization, "reducing policing demand" will be one of the key pillars making up this plan in line with the vision of Chief McFee.

Appendix

Work Flow for 911 Emergency Calls

Figure 14 shows the primary stages that take place from intake of a police 911 call, to the point of patrol arriving on-scene and concluding the call. Correspondingly, this shows the starting point for when response times are calculated, and what aspects of the call fall outside of that calculation.

Figure 14



Measuring Methodology for Dispatch Call Volume and Response Time Performance

The counting of Dispatch Call Volume, as reported here, includes or excludes calls (CAD events) based on the following attributes:

Calls included	Calls excluded
• Priorities 1-5 codes • On-view calls (calls with less than 30 second response times) • A police unit arrived on-scene	• Pre-empted calls (an on-route police unit was redirected and did not arrive on-scene) • Follow-up calls (follow-up investigations beyond the initial on-scene response) • Traffic Stops • Priority 0 (officer in distress), 6 (bylaw), 9 (general information)

Likewise, the calculation of response times is based on the criteria of Dispatch Call Volume, with the following additional restrictions (*italicized)*:

Calls included	Calls excluded
• Priorities 1-5 codes • A police-unit arrived on-scene	• Pre-empted calls (an on-route police unit was redirected and did not arrive on-scene) • Follow-up calls (follow-up responses beyond the initial response, for investigative purposes) • Traffic Stops • Priority 0 (officer in distress), 6 (bylaw), 9 (general information) • *On-view calls (calls with less than 30 second response times)* • *Calls where the final priority level was more urgent than the original*