NOTE REGARDING NEXT STEPS AND IMPLEMENTATION

This Service Efficiency Study provides advice and recommendations to the City Manager and was conducted in consultation with the Agency. The Study identifies actions and directions that could result in more efficient and effective service delivery, organizational and operational arrangements and associated savings.

The City Manager will work closely with senior management to determine which of the actions are feasible and can be implemented, implementation methods and timeframe and estimated savings. In some cases, further study may be required; in other cases the actions may not be deemed feasible. Implementation will be conducted using various methods and may be reported through annual operating budget processes or in a report to Council or an applicable Board, where specific authorities are necessary. In all cases, implementation will comply with collective agreements, human resource policies and legal obligations.

Preliminary estimated savings have been identified in the study by year where possible. In some cases savings have been included in the 2012 budget submission. Achievement of these savings is highly dependent on the viability of these actions as determined by senior management, timeframes, and other implementation considerations.

City of Toronto

Toronto Police Service: Service Efficiency Study

Final Report to City Manager

October 26, 2011

Ernst & Young

Quality In Everything We Do

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Executive Summary

Executive Summary
Background

- In July 2011, Ernst & Young LLP ("EY") was selected by the City of Toronto (the "City") (reporting to the City Manager) to conduct a service efficiency study with respect to certain operations of the Toronto Police Service ("TPS").
- EY has prepared this final report (the "Final Report") pursuant to our engagement letter dated July 26, 2011 with the City of Toronto (the "Engagement Letter"). This Final Report provides the City Manager with our analysis for his consideration based on the information received and discussions held as of the date of this Final Report.
- In preparing this Final Report, EY has been provided with and, in making comments herein, has relied upon unaudited financial information and projections prepared by the Toronto Police Service and discussions with representatives and management of the Toronto Police Service and the City. EY has not audited, reviewed or otherwise attempted to verify the accuracy or completeness of such information and, accordingly, EY expresses no opinion or other form of assurance in respect of such information contained in this Final Report. Some of the information referred to in this Final Report consists of forecasts and projections. An examination or review of the financial forecast and projections, as outlined in the Canadian Institute of Chartered Accountants Handbook, has not been performed. Readers are cautioned that, since these projections are based upon assumptions about future events and conditions, the actual results will vary from the projections, even if the assumptions materialize, and the variations could be significant.

Executive Summary
Scope

- The scope of this Final Report is limited to the six areas of analysis which were identified by the City Manager pursuant to the terms of the Engagement Letter:

Part A: Staffing Level

- Review the number of police officers and total staff (including civilians) per capita in relation to relevant service demand factors

Part B: Shift Schedule

- Review studies and research on alternate structures and policies pertaining to shift schedules
- Assess options in shift schedules in terms of achieving cost savings and improving efficiencies
- Address related implementation issues and strategies

Part C: Call Taking and Dispatch

- Review the TPS dispatch function for potential operational efficiencies as well as opportunities for service coordination and sharing options with dispatch functions in EMS and Fire Services

Part D: Emergency Management

- Review potential operational efficiencies and opportunities with corresponding emergency management functions
- Address appropriate roles, coordination and procedures in relation to the various functions

Part E: Towing and Pounds Management

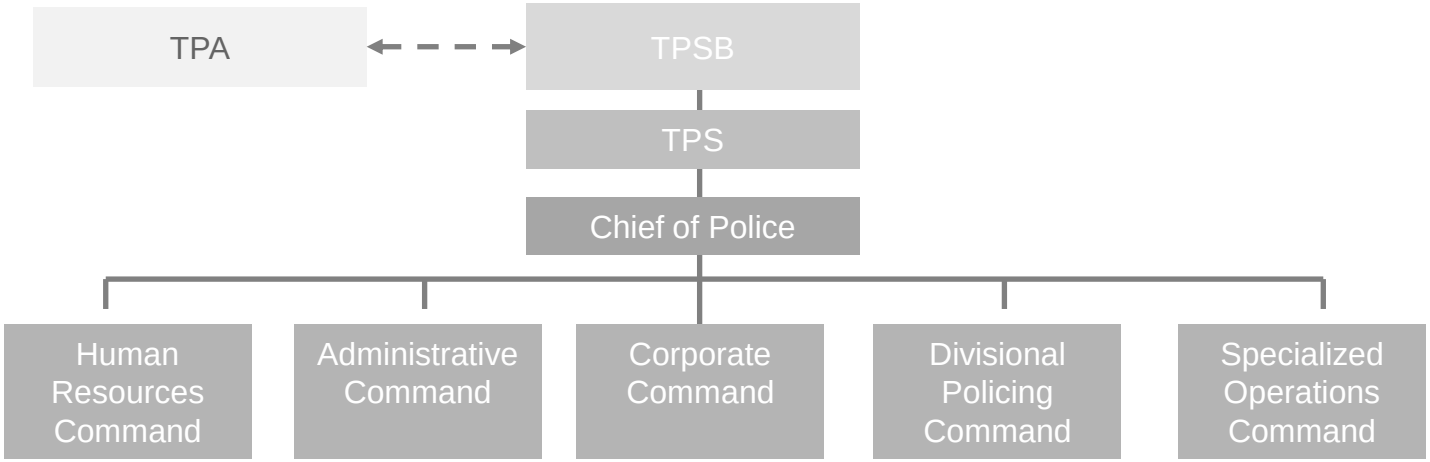
- Review potential operational efficiencies of the internal function and contracted activities
- Review potential opportunities to transfer management of towing and pound contracts to the City

Part F: School Crossing Guard Program

- Review the school crossing guard program for potential operational efficiencies and opportunities to transfer responsibility for program management to the City and/or school boards or other method of delivery

Executive Summary
Organizational Chart[1]

- As established by the *Police Services Act*, the Toronto Police Services Board ("TPSB") is responsible for the provision of adequate and effective police services in the municipality. The TPSB, in consultation with the Chief of Police, determines the priorities for police services and establishes policies for the effective management of the TPS. The TPSB negotiates collective bargaining agreements and labour contract issues with the Toronto Police Association ("TPA").
- The TPS is led by the Chief of Police and is organized into five specific Command areas: Human Resources Command, Administrative Command, Executive Command, Divisional Policing Command, and Specialized Operations Command. Each of these Command areas is led by a Deputy Chief, with the exception of Administrative Command, which is led by a civilian Chief Administrative Officer. The TPS is responsible for the operational execution of the policies set by the TPSB vis-à-vis the legislative requirements of the *Police Services Act*, other legislated requirements and the contractual commitments of the collective bargaining agreements.
- The TPA represents the interests of its members in collective bargaining and labour contract administration.



[1] *Represents TPS' organization chart at the commencement of EY's engagement. EY understands that the TPS subsequently reorganized some of its divisions, effective September 1, 2011.*

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Executive Summary
Police Services Act

- The *Police Services Act* ("PSA") is provincial legislation that governs the conduct of police officers in Ontario. The TPS' operational and governance framework is based on the PSA.
- The PSA states that in providing adequate and effective police services, a municipality shall be responsible for providing all the infrastructure and administration necessary for providing such services.
- TPS needs to maintain a "level of strength" (i.e. staffing level) on a daily basis to achieve the following five key areas of police service under the PSA:
  - Crime prevention;
  - Law enforcement;
  - Assistance to victims of crime;
  - Public order maintenance; and
  - Emergency response.
- The cost of certain TPS sworn officers is shared, to varying extents, with the Province on the condition that uniform establishment is maintained at a contractually agreed level[2].
- A reduction in force complement other than through attrition is subject to the approval of the Ontario Civilian Police Commission pursuant to the PSA.

[2] *TPS 2011 Environmental Scan.*

Executive Summary
Summary of Opportunities Identified

- The following service efficiency opportunities were identified by EY as part of our analysis:

Ref. #	Service Efficiency Opportunity	First Budget Year Impact	Barrier	Potential benefit[3]	Page #
1	Staffing Levels: Call handling time	2013	Reduce proactive policing to 40%	up to $10.1 million	40
2	Staffing Levels: Shift schedule	2015	Collective bargaining agreements	up to $35.1 million	40
3	Staffing Level: Civilianization of certain duties	2013	Training, recruitment, and reduced flexibility	up to $3.7 million	46
4	Staffing Level: Span of control analysis	2013	Collective bargaining agreements	up to $2.2 million	49
5	Call Taking and Dispatch: Adjustments to call taking standards	2013	Collective bargaining agreements	$300k to $400k	61
6	Call Taking and Dispatch: Consolidating dispatch desks	2013	Collective bargaining agreements	$500k to $650k	66
	Total			**up to $52.1 million**	

The opportunities identified in the Executive Summary are described in greater detail later in this Final Report. These opportunities represent the result of the analysis which EY was able to complete in accordance with the scope of this engagement and subject to the limitations outlined earlier in this Final Report. The opportunities noted herein have been identified for the City Manager's review and consideration.

[3] *Estimated savings before accounting for applicable benefits and restructuring costs.*

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Potential Opportunities:

1. Any discussion which the City may wish to have with the TPSB and the Chief of Police should include due consideration of the level of police service required by the City as any reduction in police staff may have an impact on the level of service to the City. Such an analysis was outside of the scope of this Final Report; therefore, the analysis in this Final Report was based on assumption that the TPS would continue to provide the same level of service to the City of Toronto.
2. The City may wish to consider discussing some or all of the following opportunities with the TPSB and the Chief of Police:
   a) If the TPS were to adopt a staffing model in which 40% of a front line officer's time was spent on proactive policing, then based on an analysis of the number of calls handled by officers (reactive time) during 2010/2011 TPS could potentially reduce the complement of officers by 105 to 115 officers resulting in annual savings of between $9 to $10 million;
   b) If the collective bargaining agreements (collectively, the "CBA") could be renegotiated (expiry in 2014) to change the shift schedule for front line officers from a 10-10-8 shift schedule (28 hours per day, including four hours of overlap) to an 8-8-8 shift schedule (24 hours per day) and assuming a proactive policing rate of 40%, then TPS could potentially reduce the complement of front-line officers by approximately 300 officers resulting in annual savings of up to $25 million. On this basis, TPS could realize an additional $10 million in shift schedule cost savings if the balance of officers currently on the 10-10-8 shift schedule were (in addition to the foregoing front-line officers) moved to an 8-8-8 shift schedule;
   c) TPS has moved to civilianize certain positions occupied by police officers, and there appears to be additional roles which need to be reviewed in further detail to determine whether further civilianization is possible. Based on the analysis detailed herein, there may be as many 227 positions which could be civilianized. This could lead to annual savings up to $3.7 million based on the difference in the average wage of a police officer and a civilian employee at TPS;

Potential Opportunities (continued):

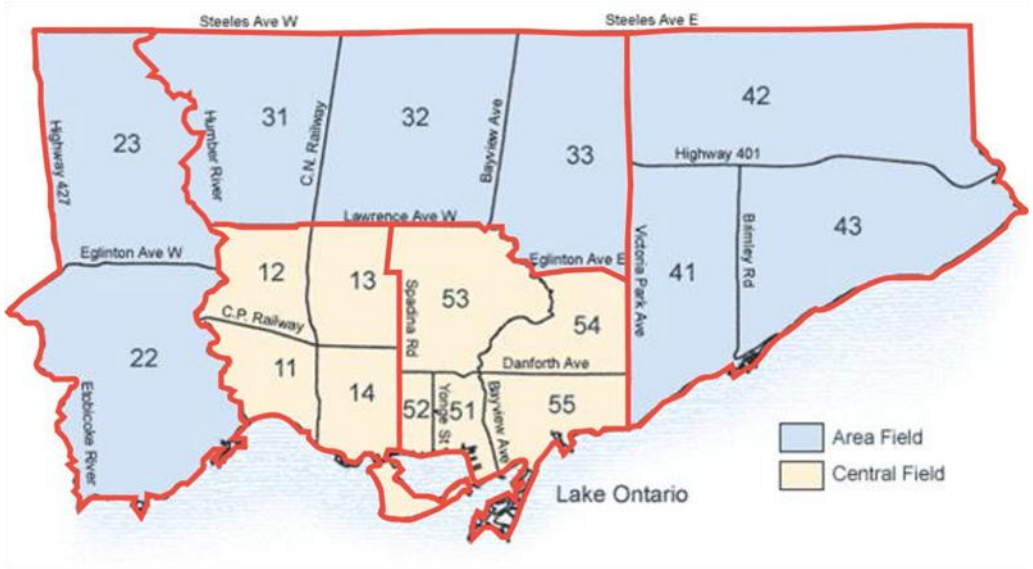
d) A span of control analysis is a technique for determining the number of supervisors which may be required. Based on the span of control analysis for the 17 divisions of the TPS, there were 7 divisions which appeared to have more supervisors than may be required and if the number of supervisors were brought in line with the study benchmark, then the potential savings would be approximately $2.2 million per year;

e) On average, call taking staff answer emergency calls within 2 seconds and non-emergency calls within 7 seconds. Based on our analysis of call volumes and TPS maintaining an emergency service level benchmark of 90% within 10 seconds waiting as a minimum standard for all calls, the number of call taking staff could be reduced with annual savings up to $400,000. This will result in longer wait times for 911 callers and the City may not wish to pursue this opportunity; and

f) Call dispatch staff for four divisions consistently handle less calls on average than the other divisional call dispatch staff. There may be an opportunity to consolidate the dispatch desks for these divisions with potential annual savings of $650,000.

Background

Background
Overview of TPS Operations



- Currently, the city is divided into two fields and 17 divisions:
  - Area Field encompasses the former Cities of North York, Scarborough and Etobicoke. It also includes portions of the cities of Toronto and York, and the Borough of East York.
  - Central Field encompasses the central portion of the City of Toronto.

<u>TPS 2011 Budget Highlights:</u>

- Net budget totals $930 million, of which salaries/benefits and premium pay total approximately $844 million and $43 million, respectively.
- Non-salary accounts total $113 million (before offsetting revenues).
- Direct staffing costs (including premium pay) account for 89% of TPS' gross budget (before offsetting revenues).
- TPS expects to receive $70 million in annual revenue in 2011 which partially offsets its operating budget.

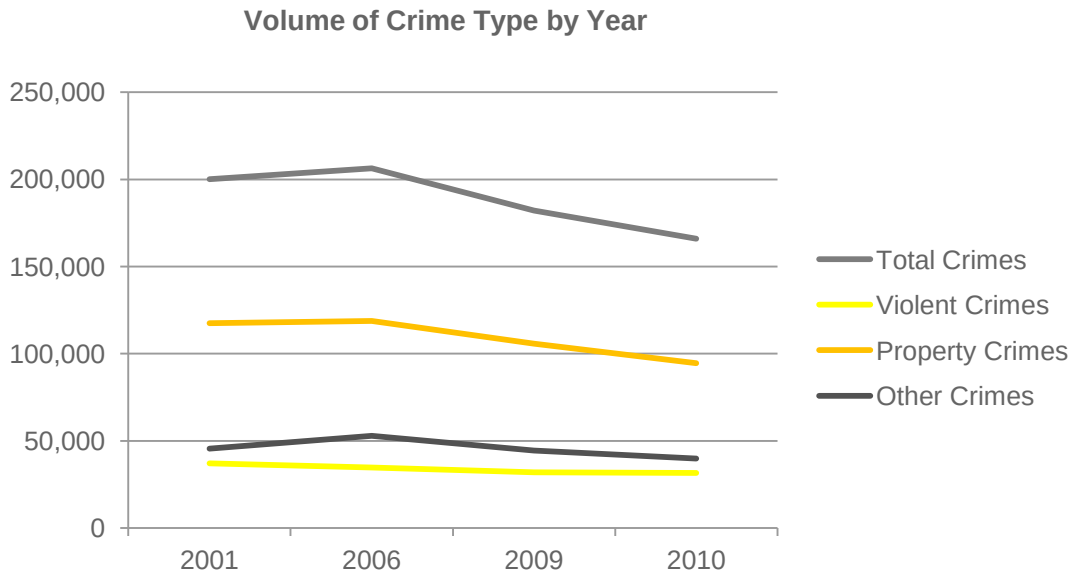
Background
Overview of TPS Operations

- TPS' mission statement: "We are dedicated to delivering police services in partnership with our communities to keep Toronto the best and safest place to be".
- According to 2007 to 2010 research data used in EY's benchmarking analysis (see pages 19-30), Toronto ranked, on average, as the 17th safest city (based on total number of violent and property crimes per 100,00 population) across 60 municipalities in North America and Australia, while having the 25th largest sworn officer establishment (based on total sworn officers strength per 100,000 population) amongst the group.
- Toronto's growing population and surrounding metropolitan areas have had a significant impact on traffic, crime and other policing trends in the city.
- EY notes the following statistics from 2010[4]:
  - 165,864 non-traffic *Criminal Code* offences occurred in the City of Toronto, representing a 9% decrease from 2009, a 20% decrease from 2006 and a 17% decrease from 2000;
  - Based on the number of crimes per 100,000 population, the overall rate of non-traffic *Criminal Code* offences dropped from 7,720 offences in 2001 to 5,860 offences in 2010;
  - Between 2009 and 2010, declines were experienced across all major crime categories, including an 11% decrease for property crime and an 11% decrease for other non-traffic *Criminal Code* offences; and
  - The total number of violent crimes decreased by 1% from 2009, 9% from 2006, and 15% from 2001.

[4] *TPS 2011 Environmental Scan.*

Background
Summary of Key Statistics[5] Provided by TPS

- Overall, crime in Toronto has decreased since 2001 by 17% with decreases in all major Criminal Code offence categories.
- The number of crimes per 1,000 of population has decreased over the past ten years:
  - 2001: 77.2
  - 2006: 75.7
  - 2009: 65.0
  - 2010: 58.6

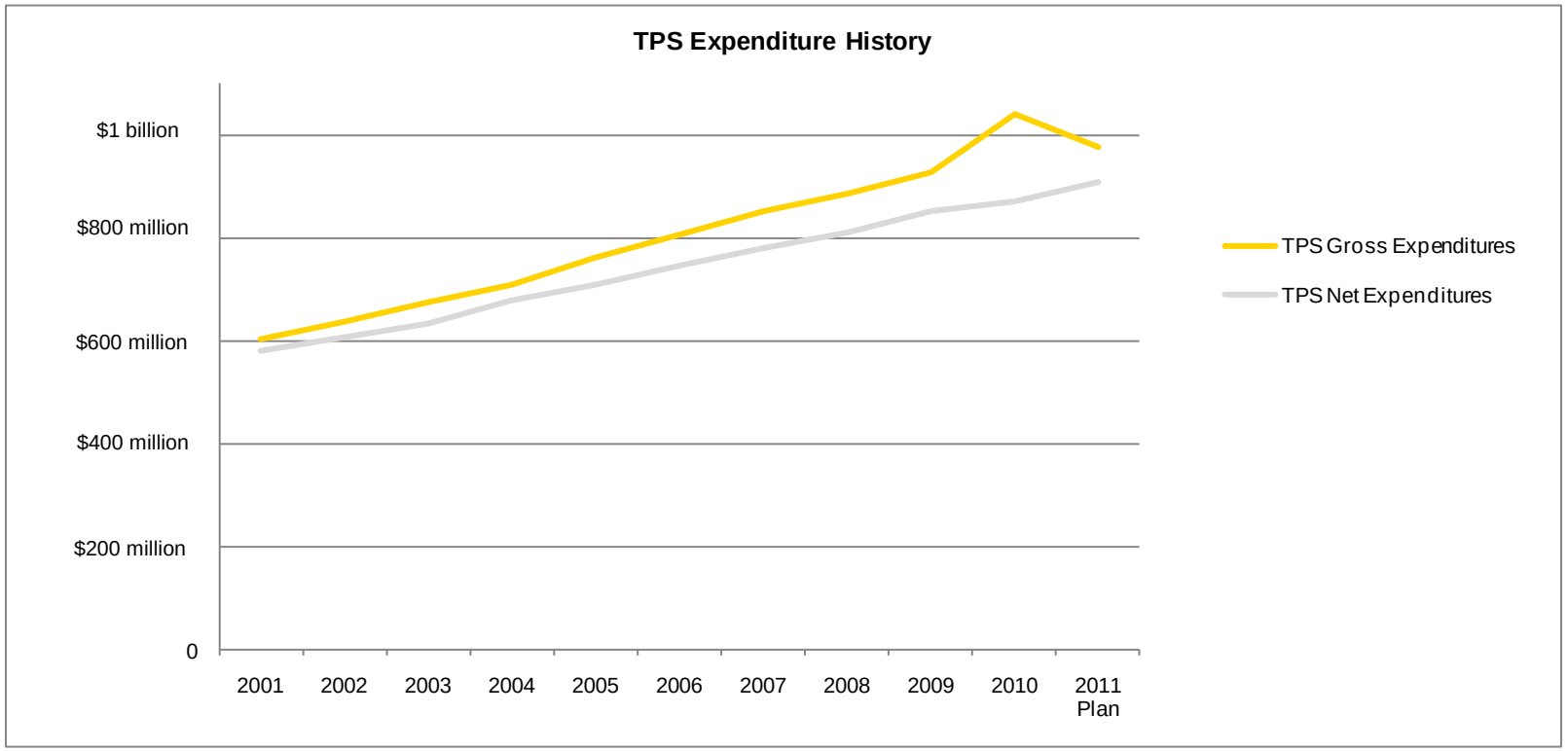


- Between 2009 and 2010, uniform strength decreased from 5,846 to 5,838 officers. Over the past ten years, uniform strength increased 11% from 5,264 officers, with an 9% increase in senior officers, a 9% increase in supervisory officers, and an 11% increase in police and cadets. As of December 31, 2010, the uniform establishment of the Toronto Police Service was 5,587 uniform police officers.
- Between 2009 and 2010, civilian strength also increased, albeit very slightly, from 1,951 to 1,954 members. Overall, civilian strength increased 13% over the past ten years (primarily due to an increase in the number of civilian court security officers required during this period).
- Over the past decade, police officers per 100,000 people has increased from 203 officers in 2001 to 206 officers in 2010.

[5] *TPS 2011 Environmental Scan.*

Background
Summary of Historical Expenditures for TPS

- The following graph provides a summary of actual gross/net expenditures for services related to police services in the City of Toronto over the past ten years:



Source: TPS data provided by the City.

Note: Net expenditures represent gross expenditures after offsetting revenues generated by the TPS.

Background
TPS Collective Bargaining Agreements

Highlights of the CBA:

- All uniform and civilian employees of TPS are governed by the collective bargaining agreement with TPA.
- A regular tour of duty for uniform employees consist of eight consecutive hours of work. Shift times (tours of duty) are limited to the following times (the "8-8-8 Schedule") unless modified by the Chief of Police:
  - First Tour - 12:01 a.m. - 8:00 a.m. – 8 hours
  - Second Tour - 8:00 a.m. - 4:00 p.m. – 8 hours
  - Third Tour - 4:00 p.m. - 12:00 midnight – 8 hours

- In or around 1983, Divisional and Traffic uniform members were assigned to work in accordance with a 5-week compressed work week cycle, whereby the following shift cycle (the "10-10-8 Schedule") and tours of duty would generally apply:
  - First Tour - 7:00 a.m. to 5:00 p.m. – 10 hours
  - Second Tour - 3:00 p.m. to 11:00 p.m. – 8 hours
  - Third Tour - 5:00 p.m. to 3:00 a.m. – 10 hours
  - Fourth Tour - 11:00 p.m. to 7:00 a.m. – 8 hours

- EY understands the 10-10-8 schedule was implemented by an Accord executed by TPA and the TPSB; this continues to take precedence over the original terms of the CBA.

Efficiency Assessment Approach

Efficiency Assessment Approach

- Our approach has included:
  - Interviews with key leaders and participants within TPS and other City units;
  - Tours of certain operations;
  - Review of various data provided by TPS;
  - Analysis of current and historical financial statement and budget data (as applicable and provided);
  - Documenting of observations and validation of facts; and
  - Recording of preliminary areas for potential efficiency savings.

Interviews

William Blair, Chief of Police
Tony Veneziano, Chief Administrative Officer
Kristine Kijewski, Director Corporate Services

Communications Services
- Elizabeth Byrnes, Superintendent
- Kimberly Wood, Senior Supervisor Operational Support

Corporate Planning
- Don Bevers, Manager Corporate Planning

Human Resources Management
- Aileen Ashman, Director of Human Resources

Public Safety and Emergency Management
- Bill Neadles , Staff Inspector

Finance
- Angelo Cristofaro, Director of Finance and Administration
- Elizabeth Hewner McGee , Manager Budgeting & Control
- Andrew Cernowski, Budgeting Analyst,

Traffic Services
- Early Wilty, Superintendent
- Gord Jones , Inspector
- Jill Miller , Corporate coordinator
- Paul Bainard, Sergeant
- Luisa Brown , Civilian Division Coordinator/CIB clerk

Fire Services
- Ron Jenkins , Deputy Fire Chief
- Daryl Fuglerud, Deputy Fire Chief, Operation
- Colin Booth , Division Chief Special Projects & Emergency Planning
- Vera Maute, Division Chief Communications

EMS
- Cindy Nicholson, Deputy Chief Program Development & Service Quality
- Gord MeEachen, Deputy Chief Central Ambulance Communications Centre
- Michael McCallion, Commander Special Operations Unit
- Arthur Graham, Commander Central Ambulance Communications Centre

Office of Emergency Management
- Loretta Chandler , Director
- Warren Leonard , Manager
- James Kilgour , Manager

Staffing Level: Benchmarking Study

Staffing Level: Benchmarking Study
Introduction

- As part of its Staffing Level analysis, EY benchmarked the TPS' staffing levels (sworn officers and civilians) across certain demand factors/metrics.
- The sample of cities used in our benchmarking studies were selected based on:
  - input received from the City Manager's office and TPS;
  - EY's research in compiling cities by demographic and crime trends; and
  - the availability of relevant statistical information for each city.
- EY acknowledges that no individual city in this study's sample set mirrors the unique nature of Toronto and the related challenges to policing that it brings; however, a broad sample does establish terms of reference with which to make useful observations.
- Note that the following study is meant to be a description of facts, patterns and changes and not a direct comparison of performance or efficiency. Utilization of these comparative benchmarking measures may not provide an appropriate evaluation of frontline staffing needs to measure the effectiveness of TPS' services. However, it does provide a perspective on where TPS ranks across a peer group of select cities.
- In conducting its benchmarking analysis, EY focused on collecting relevant data for all identified metrics in order to maximize its sample set for comparative purposes and reduce the impact of statistical outliers.

Staffing Level: Benchmarking Study
Introduction

- EY's first study spanned across **60 cities (the "Broad Group")** with the goal to review trends and patterns across a wider statistical sample to redress outliers unique to the police services in our sample. These cities are:
  - Australia: Adelaide, Brisbane, Melbourne, Perth, and Sydney;
  - Canada: Calgary, Halifax, Montreal, Toronto and Vancouver; and
  - USA: Albuquerque, Arlington, Atlanta, Austin, Baltimore, Boston, Charlotte-Mecklenburg, Chicago, Cleveland, Colorado Springs, Columbus, Dallas, Denver, Detroit, El Paso, Fort Worth, Fresno, Honolulu, Houston, Indianapolis, Jacksonville, Kansas City, Las Vegas Metro, Long Beach, Los Angeles, Louisville Metro, Memphis, Mesa, Miami, Milwaukee, Minneapolis, Nashville, New York, Oakland, Oklahoma City, Omaha, Philadelphia, Phoenix, Portland, Raleigh, Sacramento, San Antonio, San Diego, San Francisco, San Jose, Seattle, Tucson, Tulsa, Virginia Beach, and Washington.
- Next, EY studied a set of **15 cities (the "Peer Group")** that form a relatively cohesive group of municipalities in terms of crime profile (based on their rankings on the "Number of total violent and property crimes per 100,000 population" metric). These cities are:
  - Australia: Perth;
  - Canada: Calgary, Montreal, and Toronto; and
  - USA: Chicago, Fort Worth, Fresno, Las Vegas, Louisville, Omaha, Philadelphia, Phoenix, Portland, Sacramento, and San Francisco.

Staffing Level: Benchmarking Study
Introduction

- Based on discussions with the City Manager, TPS, and prior studies, we studied a separate set of **16 cities (the "Select Group")** that form a relatively cohesive group of municipalities in terms of various factors such as demographics, transient population, climate, geographical composition, etc. These cities are:
  - Australia: Melbourne and Perth;
  - Canada: Calgary, Halifax, Montreal, Toronto and Vancouver; and
  - USA: Atlanta, Boston, Chicago, Minneapolis, Philadelphia, Phoenix, Portland, San Francisco, Seattle and Washington
- For each police service in our study, EY obtained the following data points that have been established in previous academic studies as having relatively higher correlation to the overall police services strength size:
  - Population demographics;
  - Police Services Strength (including a breakdown between sworn officers and civilian personnel); and
  - Total number of violent and property crimes.
- For each of the three studies, we calculated the following metrics as a part of our benchmarking study (see "methodology" section for more details):
  - Total Police Services Staff per 100,000 Population
  - Total Sworn Officers Strength per 100,000 Population
  - Sworn Officer to Civilian Personnel Ratio
  - Total Violent and Property Crimes per Police Services Staff
  - Total Violent Crimes per Police Services Staff
  - Total Property Crimes per Police Services Staff
  - Total Violent and Property Crimes per Sworn Officer
  - Total Violent Crimes per Sworn Officer
  - Total Property Crimes per Sworn Officer

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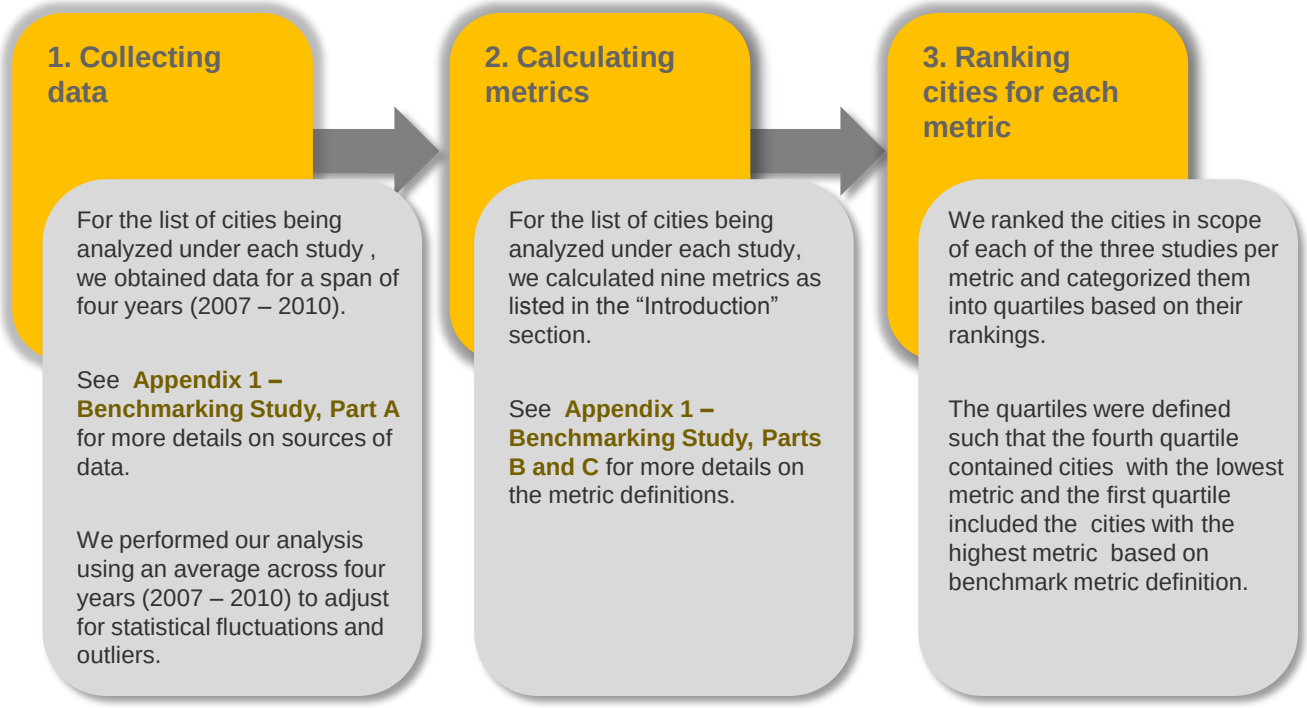
Staffing Level: Benchmarking Study
Methodology

- Presented below is a summary of the methodology used as a part of our benchmarking study:



- The next three slides summarize the results of our analysis for each of the three studies:
  - Study 1: 60 cities – the Broad Group;
  - Study 2: 15 cities – the Peer Group; and
  - Study 3: 16 cities – the Select Group.

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Staffing Level: Benchmarking Study

Opportunity Cost of Achieving First Quartile Performance (Broad Group)

Metric Name	Metric Description	Fourth Quartile	Third Quartile	Second Quartile	First Quartile	TPS's Performance
01. Total Police Services Strength per 100,000 Population	Total number of employees in the Police Services for every 100,000 citizens served. This metric is **inversely** proportionate to efficiency.	355.02	276.83		226.94	290.57
02. Total Sworn Officers Strength per 100,000 Population	Total number of sworn officers in the Police Services for every 100,000 citizens served. This metric is **inversely** proportionate to efficiency.	275.37	207.83		178.56	199.88
03. Sworn Officer to Civilian Personnel Ratio	The number of Sworn Officers for every Civilian employee in the police Service. This metric is **inversely** proportionate to efficiency.	5.30	3.32		2.66	2.20
04. Total Violent and Property Crimes per Police Services Staff	Total number of violent and property crimes per Police Services employee. This metric is **directly** proportionate to efficiency.	15.01	20.56		24.76	17.04
05. Total Violent Crimes per Police Services Staff	Total number of violent crimes per Police Services employee. This metric is **directly** proportionate to efficiency.	2.28	2.86		4.02	4.01
06. Total Property Crimes per Police Services Staff	Total number of property crimes per Police Services employee. This metric is **directly** proportionate to efficiency.	13.07	17.06		20.52	13.03
07. Total Violent and Property Crimes per Sworn Officer	Total number of violent and property crimes per sworn officer in the Police Service. This metric is **directly** proportionate to efficiency.	19.38	26.66		32.82	24.78
08. Total Violent Crimes per Sworn Officer	Total number of violent crimes per sworn officer in the Police Service. This metric is **directly** proportionate to efficiency.	2.96	3.74		5.33	5.83
09. Total Property Crimes per Sworn Officer	Total number of property crimes per sworn officer in the Police Service. This metric is **directly** proportionate to efficiency.	16.77	22.10		27.34	18.95

Median

TPS' current performance

Extent of metric performance required to achieve first quartile

Note: The distance between current performance and first quartile performance may not be comparable across metrics in the current graph due to the variance in scales from metric to metric

Staffing Level: Benchmarking Study

Opportunity Cost of Achieving First Quartile Performance (Peer Group)

Metric Name	Metric Description	Fourth Quartile	Third Quartile	Second Quartile	First Quartile	TPS's Performance
01. Total Police Services Strength per 100,000 Population	Total number of employees in the Police Services for every 100,000 citizens served. This metric is **inversely** proportionate to efficiency.	363.67		290.57	236.50	290.57
02. Total Sworn Officers Strength per 100,000 Population	Total number of sworn officers in the Police Services for every 100,000 citizens served. This metric is **inversely** proportionate to efficiency.	247.95		200.19	177.88	199.88
03. Sworn Officer to Civilian Personnel Ratio	The number of Sworn Officers for every Civilian employee in the police Service. This metric is **inversely** proportionate to efficiency.	3.35		2.95	2.21	2.20
04. Total Violent and Property Crimes per Police Services Staff	Total number of violent and property crimes per Police Services employee. This metric is **directly** proportionate to efficiency.	16.10		16.39	18.42	17.04
05. Total Violent Crimes per Police Services Staff	Total number of violent crimes per Police Services employee. This metric is **directly** proportionate to efficiency.	2.06		2.29	3.08	4.01
06. Total Property Crimes per Police Services Staff	Total number of property crimes per Police Services employee. This metric is **directly** proportionate to efficiency.	13.38		13.75	15.10	13.03
07. Total Violent and Property Crimes per Sworn Officer	Total number of violent and property crimes per sworn officer in the Police Service. This metric is **directly** proportionate to efficiency.	21.37		24.02	25.46	24.78
08. Total Violent Crimes per Sworn Officer	Total number of violent crimes per sworn officer in the Police Service. This metric is **directly** proportionate to efficiency.	2.77		3.12	4.27	5.83
09. Total Property Crimes per Sworn Officer	Total number of property crimes per sworn officer in the Police Service. This metric is **directly** proportionate to efficiency.	18.16		19.24	22.15	18.95

Median

TPS' current performance

Extent of metric performance required to achieve first quartile

Note: The distance between current performance and first quartile performance may not be comparable across metrics in the current graph due to the variance in scales from metric to metric

Staffing Level: Benchmarking Study

Opportunity Cost of Achieving First Quartile Performance (Select Group)

Metric Name	Metric Description	Fourth Quartile	Third Quartile	Second Quartile	First Quartile	TPS's Performance
01. Total Police Services Strength per 100,000 Population	Total number of employees in the Police Services for every 100,000 citizens served. This metric is **inversely** proportionate to efficiency.	395.57	316.85		273.70	290.57
02. Total Sworn Officers Strength per 100,000 Population	Total number of sworn officers in the Police Services for every 100,000 citizens served. This metric is **inversely** proportionate to efficiency.	315.58	235.30		204.61	199.88
03. Sworn Officer to Civilian Personnel Ratio	The number of Sworn Officers for every Civilian employee in the police Service. This metric is **inversely** proportionate to efficiency.	6.15	3.32		3.04	2.20
04. Total Violent and Property Crimes per Police Services Staff	Total number of violent and property crimes per Police Services employee. This metric is **directly** proportionate to efficiency.	12.07	19.03		23.34	17.04
05. Total Violent Crimes per Police Services Staff	Total number of violent crimes per Police Services employee. This metric is **directly** proportionate to efficiency.	2.29	2.91		4.02	4.01
06. Total Property Crimes per Police Services Staff	Total number of property crimes per Police Services employee. This metric is **directly** proportionate to efficiency.	9.14	15.87		19.16	13.03
07. Total Violent and Property Crimes per Sworn Officer	Total number of violent and property crimes per sworn officer in the Police Service. This metric is **directly** proportionate to efficiency.	14.92	25.43		29.41	24.78
08. Total Violent Crimes per Sworn Officer	Total number of violent crimes per sworn officer in the Police Service. This metric is **directly** proportionate to efficiency.	2.90	3.57		5.33	5.83
09. Total Property Crimes per Sworn Officer	Total number of property crimes per sworn officer in the Police Service. This metric is **directly** proportionate to efficiency.	11.24	20.45		25.98	18.95

Median

TPS' current performance

Extent of metric performance required to achieve first quartile

Note: The distance between current performance and first quartile performance may not be comparable across metrics in the current graph due to the variance in scales from metric to metric

Staffing Level: Benchmarking Study
Summary Results

Benchmark results:

- **Total Police Services Strength per 100,000 Population**
  - Toronto experienced an average of 290.6 police services staff per 100,000 population.
  - First quartile performers have at the most 227 (in the Broad Group), 237 (in the Peer Group), and 274 (in the Select Group) police services staff per 100,000 population.

- **Total Sworn Officers Strength per 100,000 Population**
  - Toronto experienced an average of 200 Sworn Officers Strength per 100,000 population.
  - First quarter performers have at least 179 (in the Broad Group), 178 (in the Peer Group), and 205 (in the Select Group).
  - Toronto ranked in the first quarter quartile amongst the Select Group.

- **Sworn Officers to Civilian Personnel Ratio**
  - Toronto experienced an average of 2 officers to one civilian personnel within its establishment.
  - First quartile performers have at least 3 (in the Broad Group), 2 (in the Peer Group), and 3 (in the Select Group) officers. to one civilian personnel.
  - Toronto ranked in the first quartile across all three studies.

Staffing Level: Benchmarking Study
Summary Results

Benchmark results (continued):

- **Total Violent and Property Crimes per Police Services Staff**
  - Toronto experienced an average of 17 violent and property crimes per police services staff.
  - First quartile performers have at least 25 (in the Broad Group), 18 (in the Peer Group), and 23 (in the Select Group) number of violent and property crimes per police services staff.

- **Total Violent Crimes per Police Service Staff**
  - Toronto experienced an average of 4 violent crimes per police service staff.
  - First quartile performers have at least 4 (in the Broad Group), 3 (in the Peer Group), and 4 (in the Select Group) violent crimes per police services staff.
  - Toronto ranked at or above the lowest metric point of the first quartile for all three studies.

- **Total Property Crimes per Police Services Staff**
  - Toronto experienced an average of 13 property crimes per police services staff.
  - First quartile performers have at least 21 (in the Broad Group), 15 (in the Peer Group), and 19 (in the Select Group) number of property crimes per police services staff.

Staffing Level: Benchmarking Study
Summary Results

Benchmark results (continued):

- **Total Violent and Property Crimes per Sworn Officer**
  - Toronto experienced an average of 25 violent and property crimes per sworn officer.
  - First quartile performers have at least 33 (in the Broad Group), 26 (in the Peer Group), and 30 (in the Select Group) number of violent and property crimes per sworn officer.

- **Total Violent Crimes per Sworn Officer**
  - Toronto experienced an average of 6 violent crimes per sworn officer.
  - First quartile performers have at least 5 (in the Broad group), 4 (in the Peer Group), and 5 (in the Select Group) violent crimes per sworn officer.
  - Toronto ranked in the first quartile across all three studies.

- **Total Property Crimes per Sworn Officer**
  - Toronto experienced an average of 19 property crimes per sworn officer.
  - First quartile performers have at least 27 (across 60 cities in Broad Group), 22 (across 15 cities in Peer Group), and 26 (across 16 cities in Select Group) number of property crimes per sworn officer.

Staffing Level: Benchmarking Study
Observations

- The purpose of any comparative metrics is to provide data that can stimulate thought-provoking discussions with key stakeholders in evaluating current performance and identifying opportunities for achieving efficiencies.
- Benchmarking ratios by themselves do not provide an authoritative evaluation of staffing needs given that they do not:
  - consider the seriousness of the workload levels of the jurisdictions being compared;
  - account for a jurisdiction's approach to alternative service delivery such as proactive policing, extent of civilianization, etc.;
  - consider the differences in service levels selected, or capabilities, which a jurisdiction may have for their law enforcement services;
  - account for the differences in staffing requirements to solve crimes;
  - account for topographical differences (i.e. square miles of a service area) and other response impediments, which can impact patrol staffing needs; or
  - consider other differences which have an impact on regular patrol staffing needs such as existence of special enforcement/support units as well as operational approaches.
- As such, benchmarking studies should be used as a guidance with respect to potential savings/efficiency improvements. Additional studies should be performed to supplement the benchmarking exercise to validate its results as well as identify means of realizing such savings/efficiencies.

Staffing Level: Call Handling & Shift Schedule

Staffing Level: Call Handling
Introduction

- TPS currently employs an allocation-based staffing model, which deploys officers across the force establishment based on pre-determined locations and times where policing should provide the most benefit to the communities of Toronto.
- EY applied a historical-driven staffing model (the "Historical-driven Model") to assess deployment levels and related opportunity costs to TPS. This model uses historical event volumes and handling time per event to forecast future event volumes in order to arrive at the number of officers that TPS should require.
- TPS does not appear to measure or utilize handling time as a key metric for staffing deployment in comparison to other police establishments. TPS noted concerns with the call handling time data captured within its systems. The data is intended to capture the full life cycle of the call for service, which should provide a solid foundation for the kind of analysis undertaken by EY.
- TPS noted a number of challenges related to officer use of the system. Examples include:
  - Officers heading into the station to complete reporting on a call for service and remaining logged in as on the call for service, the officer then becoming engaged in some other activity at the station for a time, then returning to finish the report, but forgetting to log off the call for service during the intervening period. This inflates the call handling time.
  - Officers going off shift and forgetting to log out of the call for service. Time accumulates against the call for service until a dispatcher notices the time accumulation and logs the officer out. This inflates the call handling time.
  - Officers working on reporting related to a call for service on a following day and forgetting to log back into the system against the call for service for the time used creating the report. This understates the call handling time.
- These process challenges will need to be addressed before this data can be completely relied upon.

Staffing Level: Call Handling
Approach & Steps

General Facts & Assumptions:

- The historical-driven model was applied to TPS' patrol officers, whose activities in responding to "citizen generated calls for service" are tracked by TPS' iCAD system. Calls for service represent the community generated workload required by patrol officers; this is otherwise referred to as "reactive policing".
- Any time spent by a police officer beyond reactive policing is assumed to be "proactive policing"; this time allows for crime mitigation activities by patrol officers (e.g. special monitoring of high-crime areas, etc). Various studies reviewed by EY have determined that police forces should dedicate 40% to 45% (the "Proactive Percentage Estimate") of every officer's workload to proactive policing.

Steps to arrive at Historical-driven Model results:

Step	Description
Step 1: Calculate Minimum Workload	► EY calculated total reactive policing time for TPS in 2010 by applying an annualized average handling time per call for service[6] to the total number of calls for service in 2010[6] (the "Minimum Workload").
Step 2: Calculate Total Workload	► The Minimum Workload was adjusted by each Proactive Percentage Estimate (i.e. 40% and 45%) to arrive at the total time required by each patrol officer to handle community generated workload in minutes (the "Total Workload Factor"). The Total Workload Factor was then converted into hours for comparable calculation and next step purposes.

6 *Provided by TPS.*

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Staffing Level: Call Handling
Approach & Steps

Steps to Arrive at Historical-drive Model results (continued):

Step	Description
Step 3: Calculate Net Officer Availability	► A net available time per patrol officer in hours is calculated on an annual basis after deducting certain "detractors"[7] (e.g. time off, vacation, sick leave, etc.) (the "Net Officer Availability").
Step 4: Estimate of Total Required Police Officers	► The Net Officer Availability is divided into the Total Workload Factor (under each Proactive Time Percentage Scenario) to arrive at the number of patrol officers required to handle each workload. This result is then adjusted by: ► an initial 5% increase to allow for unexpected yet necessary on-duty time for patrol officers (e.g. Police College and field training) and turnover effect; and ► an incremental 17% increase to factor in the additional deployment time applicable to a 10-10-8 shift schedule to arrive at the total number of patrol officers required to handle the Total Workload Factor under a 10-10-8 shift schedule deployment model (the "Total Police Officers Required").

[7] *See Appendix 2 – Shift Schedule, Part A.*

Staffing Level: Call Handling
Approach & Steps

Steps to Arrive at Historical-drive Model Results (continued):

Step	Description
Step 5: Estimate of Staffing Gaps	► The Total Police Officers Required is compared to the existing complement of patrol officers at TPS, being 2,063[8], to arrive at the following staffing gaps: ► Handling time gap (based on a 10-10-8 shift schedule); and ► Shift handling time gap (based on an 8-8-8 shift schedule).
Staffing Gaps: Any positive difference across both metrics denotes an excess in patrol officers for that applicable Proactive Percentage Estimate Scenario. Any negative differences denotes the inverse (i.e. An under-staffing of patrol officers).	
Step 6: Calculate Potential Cost Savings	► The above staffing gaps are monetized into potential cost savings (spending) under each Proactive Percentage Estimate scenario by multiplying each gap difference by the average cost per officer (being $88,250[9], as calculated by EY based on data provided by TPS).
Step 7: Calculate & Compare 2011 Results	► Steps 1 to 6 above are re-calculated for 2011 data using a 3-year average of calls for service, being 488,509 calls per annum.

[8] Provided by TPS.

[9] See Appendix 2 – Shift Schedule, Part B.

Staffing Level: Call Handling
Historical-Driven Model Results

Element		2010 @ 40% Proactive Time	2010 @ 45% Proactive Time	2011 (estimated using 3-year average) @ 40% Proactive Time	2011 (estimated using 3-year average) @ 45% Proactive Time
Community Generated Workloads					
Calls for Service	(A)	486,141	486,141	488,509	488,509
Handling Time per Call in minutes	(B)	178	178	178	178
Minimum Workload in minutes	(C)=(A)*(B)	86,435,790	86,435,790	86,856,820	86,856,820
Proactive Time Adjustment in minutes	(D)=Note 1	57,623,860	70,720,192	57,904,547	71,064,671
Total Workload Factor in minutes	(E)=(C)+(D)	144,059,650	157,155,982	144,761,367	157,921,491
Total Workload Factor in hours	(F)=(E)/60	2,400,994	2,619,266	2,412,689	2,632,025
Net Officer Availability	(G)=Note2	1,514	1,514	1,514	1,514
Total Patrol Officers Required Based on 8-8-8 Shift Model	(H)=(F)/(G)	1,586	1,730	1,593	1,738
Total Patrol Officers Required Given 5% Adjustment for Turnover, Academy and Field Training, etc. Based on 8-8-8 Shift Model	(I)=(H)*1.05	**1,665**	**1,816**	1,673	1,825
10-10-8 Shift Model Adjustment Factor (28 hours per 24 hour days)	(J)=Note 3	1.17	1.17	1.17	1.17
Total Adjusted Patrol Officers Required based on 10-10-8 Shift Model	(K)=(I)*(J)	**1,948**	**2,125**	1,957	2,135
Current Complement	(L)=Note 4	2,063	2,063	2,063	2,063
Opportunities:					
Total Staffing Gap Based on Call Handling	(M)=(L)-(K)	115	-62	106	-72
Average Cost Per Officer	(N)=Note 5	$ 88,250	$ 88,250	$ 88,250	$ 88,250
Gap Savings(Cost) on Call Handling	(O)=(M)*(N)	$ 10,150,217	$ (5,477,935)	$ 9,312,843	$ (6,391,435)

Notes:
1. Calculated as follows: [(C)/60%]*40% and [(C)/55%]*45%, respectively, under each scenario.
2. Calculated using data provided by TPS. See Appendix 2 for details.
3. Calculated as follows: 28/24=1.17
4. Calculated using data provided by TPS. Represents total PRU and CRU officers at TPS.
5. Calculated using 2011 budget data provided by TPS. See Appendix 2 for details.

Staffing Level: Call Handling

Summary of Results on Historical-Driven Model Results

Observations:

- Based on the data provided by the TPS and the preceding analysis, the total workload factor for patrol officers was between 2.40 million hours and 2.62 million hours in 2010, and is forecast to be between 2.40 million hours and 2.63 million hours in 2011. The year-over-year incremental difference is immaterial given that total annual calls for service have remained consistent over the last 3 years.
- Using an annualized, net availability standard in hours per patrol officer (1,514 hours as calculated in Appendix 2) and adding an additional 5% adjustment (based on comparable studies and analysis) to account for any non-field time spent by officers, EY estimates that the TPS required approximately 1,600 to 1,800 officers based on proactive policing rates of 40% and 45%, respectively.
- TPS generally appears to be over-staffed at a 40% proactive target by approximately 105-115 officers, and under-staffed at a target of 45% by approximately 60-70 officers.

Staffing Level: Shift Schedule
Historical-Driven Model Results

Element		2010 @ 40% Proactive Time	2010 @ 45% Proactive Time	2011 (estimated using 3-year average) @ 40% Proactive Time	2011 (estimated using 3-year average) @ 45% Proactive Time
Total Adjusted Patrol Officers Required based on 10-10-8 Shift Model	(A)=Note 1	1,948	2,125	1,957	2,135
Total Patrol Officers Required based on 8-8-8 Shift Model	(B)=Note 2	1,665	1,816	1,673	1,825
Total Staffing Gap Based on Shift Schedule	(C)=(A)-(B)	283	309	284	310
Average Cost Per Officer	(D)=Note 2	$88,250	$88,250	$88,250	$88,250
Cost Savings on Shift Handling Adjustment		$24,978,329	$27,249,086	$25,099,999	$27,381,817

Notes:
1. As calculated in Call Handling Workload schedule on page 36.
2. As calculated in Call Handling Workload schedule on page 36.

- When comparing TPS' existing patrol officers complement to the staffing gaps under the 8-8-8 shift model; TPS appears to be generally over-staffed at a 40% proactive target by up to 284 officers, and over-staffed by up to 310 officers at a 45% proactive target.

Staffing Level: Shift Schedule
Observations on Historical-Driven Model Results

Observations:

- EY has applied an expected range of proactive policing time of 40% and 45% to achieve the range of model results reported.
- A target of 40% proactive time was used in almost every policing study EY reviewed in its background research. The general view is that:
  - Less than 40% proactive time allows police insufficient time to impact the root cause of crime, to work with citizens and/or to anticipate crime; and
  - Greater than 45% in inefficient and not sustainable from a financial perspective.
- In addition to the 2,063 patrol officers, TPS has another 795 sworn officers who are subject to the 10-10-8 shift schedule yet whose workload factors are not tracked by iCAD data (given that their roles and responsibilities are not directly linked to dispatch response). Assuming their shift schedules can also be adjusted to an 8-8-8 shift model, TPS could achieve $10 million[10] in additional labour cost savings.

Total Additional Sworn Officers on 10-10-8 Shift Schedule		795
Total Adjusted Additional Sworn Officers Required if 8-8-8 Shift Schedule is applied		679
Total Staffing Gap Based on Shift Schedule		116
Average Cost Per Officer	$	88,250
Additional Cost Saving on Shift Handling Adjustment	$	10,194,014

- The maximum cost saving that could be achieved if TPS maintained a 40% proactive target and immediately adjusted its shift schedule to an 8-8-8 schedule (assuming the CBA allowed the change) would be $35 million (i.e. savings from shift schedule table on page 38 and table above)[10]. We note that this process would likely need to be undertaken over a longer period and that environmental pressures (i.e. safety consequences of terror threats, economic slowdown, etc) could significantly impact and defer such a plan. In addition, the existing CBA for sworn officers is not open for negotiation until 2014, hence any shift scheduling change process beforehand will have to be consensual and subject to any overriding provincial legislation governing such an undertaking.

[10] *Excluding benefits and severance restructuring costs to be calculated in accordance with the complement of patrol officers being reduced.*

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Staffing Level: Call Handling & Shift Schedule

Observations on Historical-Driven Model Results

Executive Summary Recommendation:

If the TPS were to adopt a staffing model in which 40% of a front line officer's time was spent on proactive policing, then based on an analysis of the number of calls handled by officers (reactive time) during 2010/2011 TPS could potentially reduce the complement of officers by 105 to 115 officers resulting in annual savings of between $9 to $10 million;

If the collective bargaining agreements (collectively, the "CBA") could be renegotiated (expiry in 2014) to change the shift schedule for front line officers from a 10-10-8 shift schedule (28 hours per day) to an 8-8-8 shift schedule (24 hours per day) and assuming a proactive policing rate of 40%, then TPS could potentially reduce the complement of front-line officers by approximately 300 officers resulting in annual savings of up to $25 million. On this basis, TPS could realize an additional $10 million in shift schedule cost savings if the balance of officers currently on the 10-10-8 shift schedule (in addition to the foregoing front-line officers) were moved to an 8-8-8 shift schedule.

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Staffing Level: Call Handling & Shift Schedule
Implementation

- The following implementation actions are recommended:
  - Confirm the proactive policing time target at 40%.
  - Confirm the target number of service calls based on historical trends.
  - Develop a project team to implement tighter discipline around time tracking to improve the reliability of the call handling time data.
    - This factor has a material impact on call handling staffing gap results and potential efficiency improvement.
    - This should be a key metric tracked by the TPS as a measure for demand-based planning and therefore should be considered in the performance assessment of district commanders and patrol officers themselves.
  - Once reliable handling time data is available, TPS should assess if their average handling time is higher than other Canadian cities and the benchmark average. This may require creating a second project team to assess the drivers of the handling time and if opportunities for improvement exist.
  - Replicate the demand-based analysis at the Division level, to determine overages and underages by division.
  - Adjust the staffing model to focus on forecast demand.
- Shift scheduling is subject to the CBA with the TPA. Collective bargaining matters are the responsibility of the TPSB.
- We understand that the TPSB and the TPA have a committee studying shift scheduling and that an analysis has been done by the TPSB on this issue. EY was not provided with this analysis. The TPSB needs to place increased emphasis on this committee and work with the TPA to resolve the shift scheduling practices at TPS.

Key Finding:

The calculation of TPS' call handling staffing gap and resulting headcount reduction using demand-based analysis is materially sensitive to the accuracy of TPS workload data relating to the number of service calls and average handling time per call.

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Staffing Level: Civilianization Study

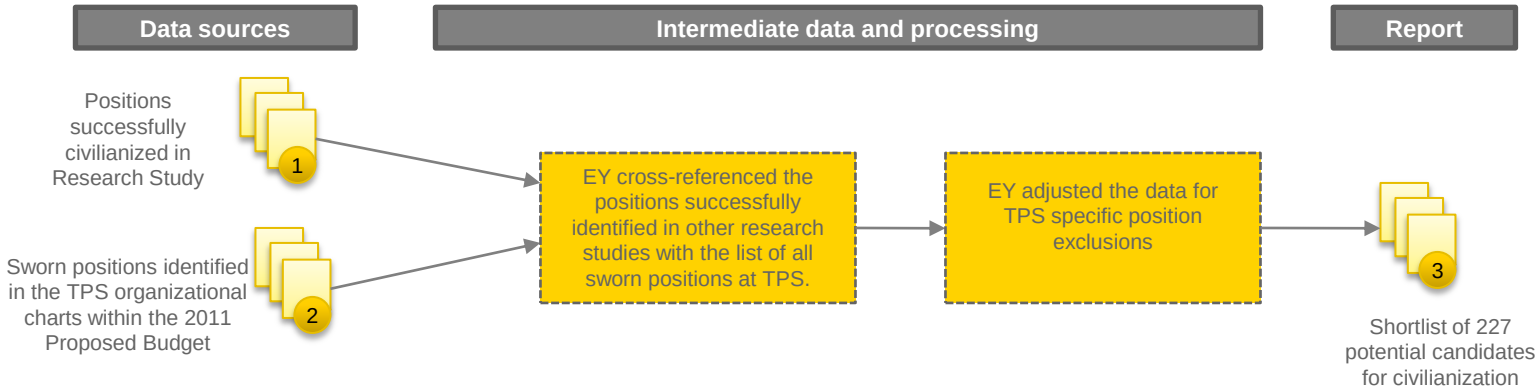
Staffing Level: Civilianization Study
Introduction

- Civilianization is a process of assigning police department work to non-sworn (civilian) employees who do not have the same range of responsibilities and do not require the authority or training of a police officer.
- EY understand that TPS has undertaken civilianization in prior years to streamline staff levels where it was evident that sworn officer involvement was not required.
- There may be a number of additional positions within the TPS that are currently occupied by sworn officers that could be filled by civilians (subject to legislative constraints under the PSA/other statutes and applicable collective bargaining agreement rights). Note, however, that further civilianization at TPS may require higher trained personnel and erode the wage savings.
- Based on a recent Canadian study[11] on civilianization, the following questions[12] were considered:
  - Is there a need for police powers of arrest?
  - Is there a legislated requirement for a police officer to fill the position?
  - Is there a need for a firearm when carrying out the duties of the position?
  - Is police training and experience critical to the performance of the unit/function?
- According to the study, roles for civilianization were successfully identified within the police service where answers to all four questions above were “no”.

[11] *Civilianization in the Vancouver Police Department, March 13, 2006.*
[12] *As condensed/summarized by EY.*

Staffing Level: Civilianization Study
Approach

- On the above basis, EY undertook the following process to arrive at a short-list of 227 positions[13] across 22 units that could potentially be replaced by specially-trained civilians:



[13] *See Appendix 3 – Civilianization, Part A for short-list details*

Staffing Level: Civilianization Study
Financial Impact Analysis

- EY met with TPS' Director of Human Resources Management department to review the shortlist containing 227 candidates for civilianization and attempt to confirm that all four questions applied to each position identified. The HR Director advised that due to the complexity of each position (e.g. rank, class, duties, etc.), it would be difficult to appropriately categorize positions based only on the filter of questions provided by EY.

Financial Impact Analysis[16]

- While EY acknowledges that the study being utilized for this analysis may not fully apply to all civilianization candidates being considered (e.g. those in which a position requires special investigative skills or those in which a legislated enforcement authority is required), if TPS was able to fully implement the shortlist of 227 civilianization candidates EY estimates a saving of approximately $3.7 million based on the following financial impact analysis:

Rank	Average Salary [14, 17]	Average Civilian [15, 17]	Differential	Units	Total Potential Cost Savings
Constable	$72,721	$64,681	$5,739	147	**$1,181,880**
Sergeant	$95, 874	$64,681	$28,892	73	**$2,277,089**
St. Sergeant	$105,623	$64,681	$38,641	7	**$286,594**
					$3,745,563[16]

[14] Based on 2010 salary data. Average salary does not include any benefits or premium pay.
[15] Does not account for any overtime or transfer related costs (training, hire, etc.).
[16] Assuming civilianization is not prohibited by collective bargaining agreements.
[17] Average salary calculations can be found at Appendix 3 – Civilianization, Parts B and C.

Staffing Level: Civilianization Study
Observations and Recommendations

More analysis needs to be undertaken to perform a complete assessment of civilianization at TPS. If the City Manager and/or TPS decide to undertake this analysis, it should be aware of the following views and challenges associated with civilianization:

- Civilianization may limit establishment flexibility.
- For certain highly specialized positions, the cost to recruit and retain on an individual basis may exceed that of a sworn officer.
- If collective bargaining agreement prohibits civilianization, the limitations should be resolved through a “meet and confer” process.

Executive Summary Recommendation:

TPS has moved to civilianize certain position occupied by police officers, and there appears to be additional roles which need to be reviewed in further detail to determine whether further civilianization is possible. Based on the analysis detailed herein, there may be as many 227 positions which could be civilianized. This could lead to savings up to $3.7 million based on the difference in the average wage of a police officer and a civilian employee at TPS.

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Staffing Level: Span of Control

Staffing Level: Span of Control
Analysis and Observations

Analysis

- According to one study[18], the traditional police department in United States had an average span of control of 8.4 officers to 1 supervisor. TPS is organized into 17 divisions for 2011, each of which has 5 response units with varying number of sergeants and constables.
- Based on EY's review of the organizational charts provided in TPS' 2011 Operating Budget Program Breakdown binder, the average field officer span of control ratio in each unit appears to be 6.79 constables to 1 sergeant.
- To arrive at the average span of control, the following assumptions were made:
  - The existing number of constables would stay constant: and
  - The number of sergeants can be reduced to meet a ratio below 8.4 : 1 (i.e. 8.4 constables for 1 sergeant)

Observations

- By increasing the span of control to 8.4:1 for 7 out of the 17 divisions, whose units' average span of control ratio ranked significantly less than average, EY was able to conceptually increase TPS span of control from 6.79 to 7.38. As a result, 23 sergeants were identified for de-layering out of the organization, providing an estimated $2.2 million[19] in annual cost savings.
- To validate and implement the expected annual savings, the following work remains:
  - Analyse span of control based on the new 2012 proposed organizational structure;
  - Exclude any operating policies (e.g. 3 road sergeants per platoon), anomalies or outliers for which existing span of control is required; and
  - Define roles and responsibilities by unit and evaluate de-layering parameters using consistent span of control methodology and assumptions.

[18] Glendale Police Staffing Study 2009, City of Glendale, Arizona.
[19] Based on 23 sergeants at average salary of $95,879 (before benefits, premium pay and restructuring costs).

Staffing Level: Span of Control
Analysis and Observations

Executive Summary Recommendation:

Based on the span of control analysis for the 17 divisions of the TPS, there were 7 divisions which appeared to have more supervisors than may be required and if the number of supervisors were brought in line with the study benchmark, then the potential savings would be approximately $2.2 million per year.

Staffing Level: Emergency Management

Staffing Level: Emergency Management
Introduction

- TPS' Public Safety and Emergency Management (PS&EM) unit has an authorized strength of 26 full-time staff (current actual is 22), who are primarily responsible for planning, liaison and administration of emergency management. The PS&EM unit is supported by an authorized strength of 400 cross-trained officers (also known as public safety unit officers or PSU officers) from divisions across TPS.
- In response to a special event, on-duty PSU officers are "called out" from their respective home divisions by the PS&EM unit and deployed to scenes, as required. EY understands that, on average, the PS&EM unit is able to call out an additional 25 to 30 on-duty PSU officers from the field; to the extent the number is insufficient for emergency response purposes, the PS&EM unit issues (subject to Command approval) a request for "call backs" to off-duty PSU officers within the TPS establishment.
- Whether a PSU officer is on or off duty, his home unit still bears all his costs (including any premium pay, if applicable).
- Based on the above, the PS&EM unit is nearly 100% variable with a majority of its costs being embedded within the divisions that it accesses to further augment its emergency response strength (i.e. a variable frontline staffing model).
- Premium pay is paid to PSU officers if they work beyond their regular shift hours. Premium pay is paid to off-duty PSU officers from the time the call-back is accepted. In this regard, premium pay for PSU officers is based on minimum deployment hours set out in the sworn officers' collective bargaining agreement.

Staffing Level: Emergency Management
Observations

- An overall cost report for all events was not readily available. Therefore EY requested and reviewed the costs of the following three emergency/special events as summarized below. Based on this sample data, premium pay (including in-lieu time) accounted for a significant portion of their total costs. However, assuming the overall premise that premium pay in relation to PS&EM events is excessive, EY is of the view that such costs could be reduced by increasing the number of on-duty PSU officers available across divisions through training investment.

			Regular		Premium Pay		Total	
Year	Event Name	Nature	Hours	Cost	Hours	Cost	Hours	Cost
2011	Caribana Parade & Island	Planned	8,348	$ 330,142	5,073	$ 195,228	13,421	$ 525,370
	% of Total		*62%*	*63%*	*38%*	*37%*		
2011	Caribana Yonge St.	Planned	7,787	$ 311,079	6,565	$ 248,086	14,352	$ 559,165
	% of Total		*54%*	*56%*	*46%*	*44%*		
2010	Tamil Protest	Unplanned	29,772	$ 1,134,313	25,997	$ 972,763	55,769	$2,107,076
	% of Total		*53%*	*54%*	*47%*	*46%*		

- The initial core training requirement for PSU officers is a 10-day group training course, which costs approximately $10,000 (including officer wages and equipment) per officer. Annual training investment thereafter equates to 32 “on-the-job” experience hours; no incremental cost to TPS if conducted while on-duty.
- EY was advised that in 2007/2008,TPS pooled together a full time force of approximately 60 officers (including the existing 22 PS&EM personnel), supported by additional PSU officers across divisions as required, to deal with PS&EM events. This “hybrid” approach utilized a lesser pool of variable staff and, according to the PS&EM unit inspector, served the PS&EM unit’s purpose efficiently and likely at a lower premium pay. We understand the hybrid model was abandoned in response to the provincially-funded Toronto Anti-Violence Intervention Strategy (“TAVIS”) initiative.

Staffing Level: Emergency Management
Observations and Recommendations

Observations (continued)

- Certain data was not readily available during this study to compare the costs of the existing variable front line staffing model with the hybrid approach, specifically:
  - Actual frontline policing cost in respect of PS&EM events for the period 2007 to 2010 inclusive;
  - Backfilling costs incurred by divisions for PS&EM units from 2007 and 2010; and
  - Allocation of time incurred by full time PS&EM unit staff in planning and monitoring events, and addressing frontline issues directly (by type of event).

Summary of Findings:

TPS should evaluate the cost versus benefit of training more PSU officers, which may reduce premium pay costs associated with PS&EM events and planning difficulties.

Under the hybrid model described above, a resulting decrease in premium pay may more than offset the fixed cost of retaining additional full-time PSU officers within the PS&EM unit. Assuming the required data is made available, a comparative cost analysis of the two models should validate the foregoing.

Call Taking and Dispatch

Communication Services – Call Taking and Dispatch
Overview

- The largest function within the Communication Services unit is the operation which focuses on answering emergency and non-emergency calls for the City of Toronto, as well as dispatching police officers across the 17 divisions.
- Emergency and non-emergency call takers:
  - The 911 and 808-2222 call takers handle approximately 1.7 million[20] inbound calls per year which are then routed to the dispatch desks, as required. Calls that do not require police assistance are either closed or routed to TFS and/or EMS for dispatching.
  - In addition to inbound calls, the call takers also make outbound calls in cases where the line was disconnected or dropped (i.e. due to mobile or VoIP calls), communicate the call with another authority (i.e. OPP, Peel Police, York Police, etc.), or follow up for additional information.
- Dispatch desk operators:
  - The dispatch desk handles approximately 2.8 million[20] tickets per year.
  - Tickets are issues/items that the dispatch desk needs to review, validate, and action. Tickets may become an event/occurrence once the officer is dispatched and a case is opened. Some tickets may be duplicate and closed by the dispatch desk. Other tickets may be combined as part of a bigger event (e.g. multiple tickets linked due to a riot during a special/public event).
  - Most tickets are generated by the dispatch desk operator; however, tickets can be generated by the field officers (i.e. police officer sighting an event) or other issues not related to regular field officers (i.e. parking tickets, special events).
- All operators are trained for both call taking and dispatching duties over the first year of operation.

[20] *Based on 2010 TPS data.*

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Call Taking
Background

- Receiving emergency (911) and non-emergency (808-2222) calls on a 24/7 basis is critical to TPS' public safety goals.
- The Erlang[21] model has been used as a standard methodology to analyse traffic-related operating models that share the following similar characteristics:
  - Each has "trunk" with limited bandwidth that handles some sort of traffic (e.g. highway lanes, fibre optic cables carrying data, agent answering calls);
  - Each has traffic load/volume that is random (i.e. at times the request volume is high and other times there is low or no requests); and
  - Each has traffic duration/length that is random (i.e. servicing a request can vary in duration/length as some may take longer than others).
- Erlang uses a probability distribution to estimate the number of incoming calls and call length based on historical data in a fixed period of time.
- The Erlang C Model is designed specifically for call centres. The model defines the probability that a call has to wait for service given the number of agents available and call volume/length.
- To analyse the efficiency of the call takers and identify minimum number of agents required, the Erlang C Model was applied to 2010 TPS call center data based on the following factors:
  - Call volumes;
  - Service level agreements ("SLA") (% of calls answered within an accepted wait time); and
  - Average call length.

[21] *Erlang: http://www.erlang.com/whatis.html.*

Call Taking
Approach and Analysis

Approach & Analysis

- The target Service Level Agreement (SLA) benchmarks set by the TPSB are as follows:
  - 90% of emergency calls answered within 10 seconds waiting; and
  - 80% of non-emergency calls answered within 20 seconds waiting.
- Toronto Police provided 2010 data[22] from Symposium[23] for call taking volumes, SLAs, and wait times
- Based on 2010 summary data, EY observed the following:

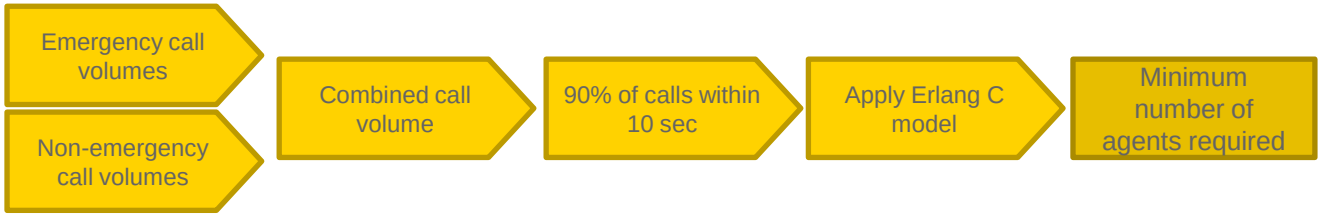
Call Type	Shift	Call Volume Received	Call Volume Answered	Avg % Service Level	Avg Call Waiting Time
Emergency	07:00-15:00	355,412	355,116	91.35%	0:02
	15:00-23:00	460,332	459,979	90.45%	0:02
	23:00-07:00	190,169	190,115	94.62%	0:02
	Total	**1,005,913**	**1,005,210**	**92.14%**	**0:02**
Non-Emergency	07:00-15:00	295,978	291,094	88.35%	0:06
	15:00-23:00	320,410	314,213	86.97%	0:08
	23:00-07:00	140,138	136,692	93.73%	0:05
	Total	**756,526**	**741,999**	**89.68%**	**0:07**

- On average, the service levels observed were above the target benchmark for both emergency and non-emergency calls (specially during night shifts)
- Given that the current non-emergency service levels are above the emergency benchmark of 90% within 10 seconds waiting, EY performed its analysis using the emergency SLA (90%, 10sec) as its minimum benchmark in the Erlang C. Model.

[22] Refer to Appendix 4 – Call Taking and Dispatch, Part A.
[23] Symposium Call Center Server is an intelligent call routing and management system using state-of-the-art architecture based on a client-server configuration.

Call Taking
Approach and Analysis

- To calculate the minimum number of agents, the following approach was taken:
  - Combine the emergency and non-emergency call volume provided by Communication services to arrive at a combined adjusted total call volume[24]
  - Assume the emergency SLA level (90% in 10 seconds)
  - Apply the Erlang C model based on the combined adjusted total call volume, the emergency SLA, and weighted average call waiting times[24]



- The results of the Erlang C Model were compared against the 2010 minimum staffing levels provided by the Communication Services based on high and low season
- To calculate the potential labour savings, the differences between the 2010 minimum staffing and 2010 Erlang minimum staffing level by each hour were observed

[24] See Appendix 4 – Call Taking and Dispatch, Part B for calculations by EY to arrive at these data points.

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Call Taking
Approach and Analysis

Observations

- Based on the Erlang C model, the following hourly minimum agents will meet the service level agreements of 90% of all calls answered within 10 seconds using the 2010 call volume data.

Time	High Season (April to September)						Low Season (October – March)					
	2010 Min Daily Staffing	2010 Min Weekly Hours	Fri-Mon	Tue-Thur	Weekly Hours	Weekly Hours Saved	2010 Min Daily Staffing	2010 Min Weekly Hours	Fri-Mon	Tue-Thur	Weekly Hours	Weekly Hours Saved
0:00	17	119	14	10	86	33	15	105	12	8	72	33
1:00	17	119	13	8	76	43	15	105	13	7	73	32
2:00	17	119	13	8	76	43	15	105	12	6	66	39
3:00	12	84	12	6	66	18	9	63	10	5	55	8
4:00	12	84	8	5	47	37	9	63	7	4	40	23
5:00	12	84	6	5	39	45	9	63	6	5	39	24
6:00	12	84	6	6	42	42	9	63	6	6	42	21
7:00	12	84	8	9	59	25	9	63	8	8	56	7
8:00	12	84	11	12	80	4	9	63	11	11	77	-14
9:00	12	84	14	14	98	-14	9	63	13	13	91	-28
10:00	15	105	14	15	101	4	12	84	14	14	98	-14
11:00	15	105	15	15	105	0	12	84	15	14	102	-18
12:00	17	119	17	16	116	3	15	105	16	15	109	-4
13:00	17	119	16	16	112	7	15	105	15	15	105	0
14:00	17	119	16	16	112	7	15	105	15	15	105	0
15:00	17	119	17	17	119	0	15	105	16	16	112	-7
16:00	17	119	18	17	123	-4	15	105	16	16	112	-7
17:00	17	119	18	17	123	-4	15	105	16	16	112	-7
18:00	17	119	17	17	119	0	15	105	15	16	108	-3
19:00	17	119	17	16	116	3	15	105	15	15	105	0
20:00	17	119	15	15	105	14	15	105	14	13	95	10
21:00	17	119	16	15	109	10	15	105	14	13	95	10
22:00	17	119	15	14	102	17	15	105	13	12	88	17
23:00	17	119	16	13	103	16	15	105	13	11	85	20
Total	**369**	**2583**	**332**	**302**	**2234**	**349**	**312**	**2184**	**305**	**274**	**2042**	**142**

Call Taking
Observations

- Based on the estimated labour hours saved per week, TPS could expect the following maximum labour cost savings:

Season (26 weeks)	Weekly labour hours saved	Yearly labour hours saved	Hourly operator cost range[25]	Expected annual savings
High	349	9,074	$25.52 - $31.29	$232K - $284K
Low	142	3,692		$94K - $116K
Total	**491**	**12,766**		**$326K - $399K**

- The potential labour cost savings above are based on the following assumptions:
  - All calls, regardless of the type, must meet the emergency SLA (90% in 10 seconds);
  - To optimize the call centre, the existing bargaining agreement is altered;
  - The shift schedule will be based on call volumes rather than the CWW (Compressed Work Week);
  - A mixture of part-time vs. full-time call takers can be used throughout the day;
  - Shift schedules can be adjusted based on seasonality (summer vs. winter) and week days (extended weekends vs. weekdays); and
  - Special event, call taker relievers, and dispatch scheduling is not affected by this analysis and should continue to be scheduled as required.
    - However, call taker relievers requirement should be further reviewed based on the future state shift patterns to minimize redundancy (i.e. from 5 relievers to 3-4 reliever).

[25] *Salary information from the 2011 C07 hourly band. Source: TPA Salary Ranges 2011 – 2014.*

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Call Taking
Issues and Risks

- The following items are documented to highlight issues or concerns as raised by the Communication Services group during validation of EY's approach and analysis:
  - The new staffing levels will reduce the emergency service levels from average of 92% of calls within 2 seconds to 90% of calls within 10 seconds. This means on average the citizens will experience longer waiting time after calling 911;
  - Year-to-date 2011 call summary volumes recently provided by TPS are higher by 10% compared to 2010 call volumes to date (Jan-Aug). This is significantly higher than the 3% increase from 2009 to 2010 during the same period;
  - The nature of the 911 calls are different than a normal call centre as they deal with citizen's safety and protection. According to TPS, the call takers' stress levels during peak hours are higher dealing with emergency calls which may require additional downtime; and
  - Rollout of new technologies (i.e. VoIP, 911 text messing for hearing impaired, etc.) adds complexity and increases servicing time and that may require additional agents.

Summary of Finding:

On average, call taking staff answer emergency calls within 2 seconds and non-emergency calls within 7 seconds. Based on our analysis of call volumes and TPS maintaining an emergency level of service as a minimum standard, the number of call taking staff could be reduced with annual savings up to $400,000. This will result in longer wait times for 911 callers and therefore the City may not wish to pursue this opportunity.

Dispatch Desks
Overview

- The second major group within Communication Services is the dispatchers communicating with field officers across the TPS establishment.
- Excluding special events, there are a total of 13 desks operated by dispatchers 24 hours a day/7 days a week

Desk #	Covered Division/Group
3	Divisions 22 & 23
6	Division 31
7	Divisions 32 & 33
10	Division 42
11	Division 43
12	Division 41
13	Division 52
15	Divisions 54 & 55
16	Divisions 51 & 53
17	Divisions 11 & 12
19	Division 13 & Highway Patrol
20	Division 14
4	Parking East & West

- The 13 desks cover all 17 divisions in addition to parking dispatch tickets.
- During peak hours of the day, an additional parking dispatch desk is added for a total of 14 desks. This desk is only open for approximately 8 hours per day. For the purpose of the analysis, the volume of parking dispatch was combined into a single desk for the full day.
- Each desk must have, at any given point, an operator managing the tickets and communicating with the field officer.
- Each dispatcher manages all tickets created by division(s)simultaneously during each shift (i.e. at any given point, a dispatcher is monitoring multiple tickets across his/her geography).
- Toronto Police provided EY dispatch ticket data[26] for calendar years 2008, 2009, and 2010.

[26] *See Appendix 4 – Call Taking and Dispatch, Part C for a list of data points provided by TPS.*

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Dispatch Desks
Approach and Assumptions

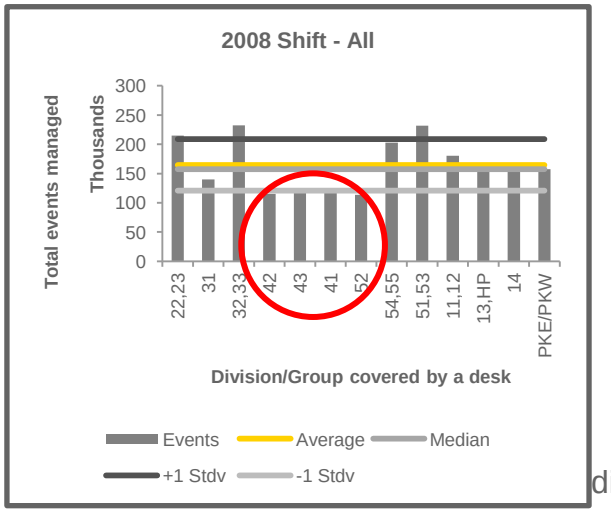
Approach and assumptions

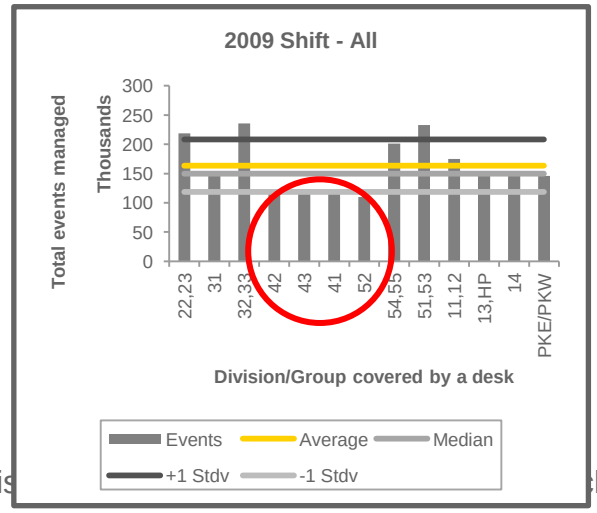
- The following generally describes the dispatcher's workload:
  - Dispatcher receives incoming tickets/events from the call takers (emergency/non-emergency calls);
  - Dispatcher communicates with the field officers using radio channel;
  - Dispatcher receives or makes phone calls to other dispatch desks, law enforcement agencies (i.e. OPP); and
  - Dispatcher communicates directly with surrounding dispatchers, covering neighbouring divisions, face-to-face.
- Given the nature of the dispatcher's activities and workload, it is very difficult to analyse efficiency
- No external studies of dispatch desks exist; hence, no benchmarks are available for comparison purposes
- There are a number of segregated systems that capture the above workload (iCAD[27], Genesis[28]) while other activities are not captured using any systems (phone calls, face-to-face)
- The iCAD data provided for each year was summarized by hours, months, division, and agency and then rolled up by dispatch desk shift schedule

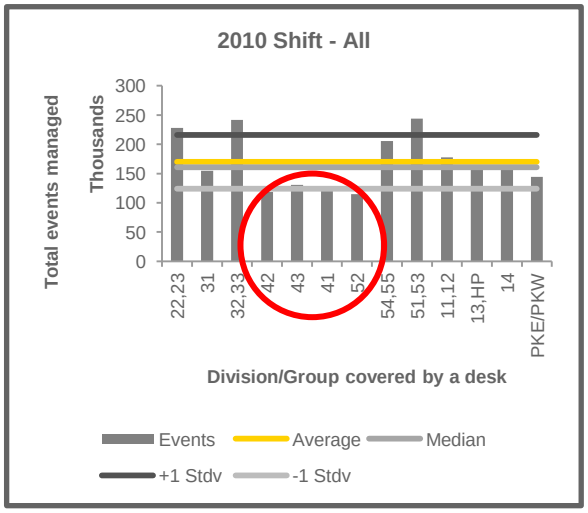
[27] *iCAD: Computer Aided Dispatch software.*
[28] *Genesis: Radio Communication Management software.*

Dispatch Desks
Observations

- Based on the dispatch data for 2008, 2009, & 2010[29], the following distribution tables can be extrapolated for each dispatch desk:







- Shift specific analysis produced similar distribution without any major anomalies.

[29] *See Appendix 4 – Call Taking and Dispatch, Parts D, E and F for shift specific details.*

Dispatch Desks
Observations

- Based on average ticket volumes being managed by each dispatch desk across the TPS establishment the dispatch desk for divisions 41, 42, 43, and 52 appear to be consistently handling lower ticket volumes than their peers.
- All of the dispatch desks responsible for two divisions (i.e. Divisions 22&23, Divisions 32&33, Divisions 51&53) are handling above average ticket volumes.
- The consolidation of the dispatch desks for Divisions 41, 42, 43 and 52 into 2 desks would allow for savings of 2 headcount from each applicable communication service platoon.
- The expected savings based on the consolidation would yield an annual savings of between $533,000 to $653,000 based on the calculation above.

Platoons	Headcount reduction	Annual salary range[30]	Expected annual savings
A	2	$53K - $65K	$107K - $131K
B	2		$107K - $131K
C	2		$107K - $131K
D	2		$107K - $131K
E	2		$107K - $131K
Total	**10**		**$533K - $653K**

[30] *Salary information from the 2011 C07 annual band. Source: TPA Salary Ranges 2011 – 2014.*

Dispatch Desks
Issues and Risks

- The following items are documented to highlight issues or concerns as raised by the Communication Services group during validation of EY's approach and assumptions:
  - Consolidating the desks may increase workload above acceptable levels.
  - The proposed consolidation will likely require re-grouping of other dispatch desks based on geographical proximity.
  - Radio talk time does not correlate directly per tickets and varies significantly between divisions.
    - There are a number of factors that may increase the radio talk time of a dispatcher. For example:
      - Divisions with higher number of foot patrol require higher talk time since the officers do not have access to Mobile Work Station (MWS). Therefore the dispatcher will need to communicate all the details over the radio.
      - The number of foot patrol officers can vary from division to division and within a division itself depending upon circumstances. Seasonality also impacts foot patrol as there will be more bike and mounted officers during the summer season.
      - Dispatch desks may conduct CPIC (Canadian Police Information Computer) checks and communicate it with the field officers over the radio which take longer processing time.
    - 2010, 2009, 2008 radio talk time data was not available to EY for its analysis of the dispatch desk.

Summary of Finding:

Call dispatch staff for four divisions handle less calls on average than the other divisional call dispatch staff. There may be an opportunity to consolidate the dispatch desks for these divisions with potential annual savings of $650,000.

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Emergency Management

Emergency Management
Introduction

- EY has reviewed the roles of and coordination between: the emergency management function within TPS, Emergency Medical Services (EMS) and Fire Services (TFS), and the City's Office of Emergency Management (OEM) in order to assess opportunities in co-location, coordination, and integration. The review was performed from the following perspectives:
  - The mitigation, preparedness and recovery phases – The focal point of these phases is primarily emergency management at the strategic level (including planning, prevention, training and exercise).
  - The response phase – This phase primarily deals the short term effects of an emergency. In this phase, response, resource coordination and communication are required at strategic, operational and tactical levels.
- OEM is primarily positioned at the strategic level, although it has certain operational duties in the response phase (e.g. the activation of the emergency operation centre). Relative to OEM, the other three emergency management functions operate more at operational and tactical levels, in relation to their own services' functions and responsibilities.
- The authorized strength of the four emergency management functions are summarized as follows:
  - OEM – 13 members and 3 assistants, including three secondees;
  - TPS – 26 members
  - TFS – 5 members
  - EMS – 4 members
- The existing structures of the City's emergency management units are in line with the Toronto Emergency Plan, and recommendations[31] made by PricewaterhouseCoopers in review of the City's emergency management structures in 2008 (the "2008 Study").
- TPS' emergency management structures generally deal with emergencies through leveraging its existing policing establishment vis-à-vis its Communication Services unit (for immediate short-term operational/tactical responses) and its Public Safety & Emergency Management unit (in respect of the emergency mitigation for planned and unplanned events and related strategic planning).

[31] *Note that some recommendations (e.g. the proposed secondment staffing model at OEM) have yet to be being fully implemented.*

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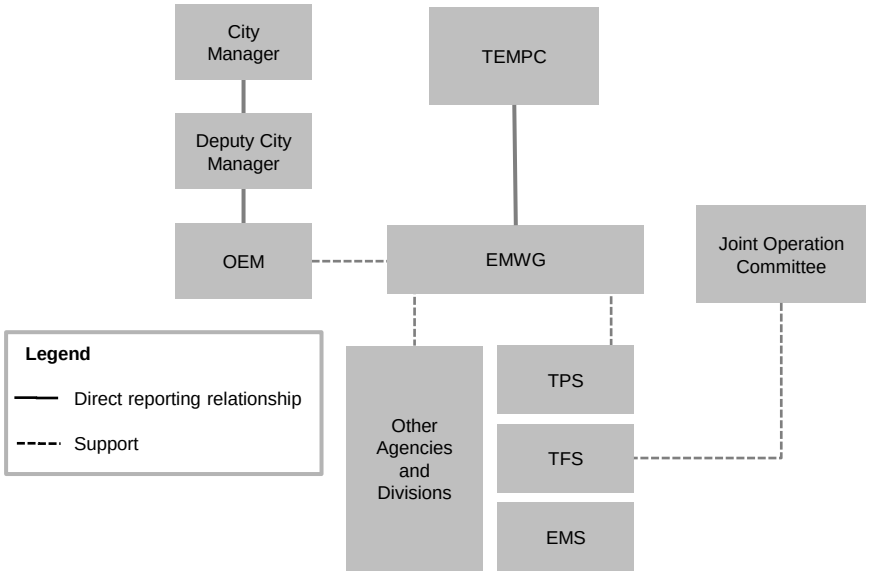
Emergency Management
Overview – Mitigation, Preparedness and Recovery Phases

The mitigation, preparedness and recovery phases

- The figure below depicts the City's emergency management governance structures in the mitigation, preparedness and recovery phases.
- The Toronto Emergency Management Program Committee (TEMPC), which consists of 27 senior executives and general managers from related agencies, boards, commissions and divisions including TPS, EFS and EMS (collectively hereinafter referred to as "Agencies and Divisions'), oversees the development and maintenance of the City's comprehensive strategic emergency program.
- OEM chairs and facilitates meetings of Emergency Management Working Group (EMWG), which is comprised of approximately 20 representatives (Director or Manager) from Agencies and Divisions, providing a forum for Agencies and Divisions to work collectively on planning, and emergency management program development.
- As a coordinating agency, OEM collaborates and coordinates with Agencies and Divisions to develop and maintain emergency management and business continuity programs, primarily at a strategic level.
- A joint operation committee, which comprises deputy chiefs from TPS, TFS and EMS, and the OEM director, meets every quarter (or as needed), to discuss common issues at both strategic and operational levels.
- TPS, TFS and EMS each have their own emergency management unit, which prepares strategic planning in relation to their own services' functions and responsibilities in addition to operational planning for planned and unplanned events.

Structure During Mitigation, Preparedness, and Recovery Phases



Emergency Management
Strategic Planning – Mitigation, Preparedness and Recovery Phases

The mitigation, preparedness and recovery phases (continued)

Observations – Strategic planning

- Strategic planning is performed at all of the emergency management functions: OEM, TPS, EMS, and TFS, notwithstanding varying perspectives, levels and scope for planning. Relative to OEM, the other three emergency management functions have a smaller strategic planning component.
- Some planning tasks are jointly performed by more than one agency. For example, TPS developed a database of critical infrastructure, and is teaming with OEM to develop plans in respect of the critical infrastructures in an emergency situation.
- EY noted positive feedback for the OEM secondment initiative, which was recommended by the 2008 Study to promote collaboration and coordination between Agencies and Divisions. However, this initiative has not been fully implemented due to various factors including budgetary constraints, since the secondees' home agencies bear all secondees' costs during their secondment at OEM. OEM used to have a secondee from EMS, which discontinued its participation due to budget concerns.
- When asked about potential pros and cons of further integration/consolidation of the strategic planning functions between the agencies, interviewees expressed concerns that a "conglomerate team" may cause challenges for planners to maintain ties with the services they represent, and apply industry expertise required for the strategic planning.
- OEM advised that agencies demonstrated varying degrees of staffing commitment to the annual exercise and training required by its emergency management program. We understand from the TPS that it remains fully committed to any OEM exercise, subject to TPS' operational and training constraints.

Emergency Management
Strategic Planning – Mitigation, Preparedness and Recovery Phases

The mitigation, preparedness and recovery phases (continued)

Summary Findings:

Restructuring the OEM secondment program will enhance the coordination across agencies, while balancing the budgetary concerns of participating agencies. The secondment program should consider a matrix reporting relationship to allow secondees to provide support to home agencies, as needed. This improvement will help engage related Agencies and Divisions in the city wide programs. Based on feedback received before the issuance of this Final Report, EY understands that the TPS has already taken the initiative to table a similar plan amongst the TPS, TFS, EMS and the OEM program that may address this finding.

Further integration of the strategic planning functions will be subject to the constraint of relevant collective bargaining agreements, and will not produce significant budget savings due to the limited budget associated with the existing structure.

Emergency Management
Meeting Frequency – Mitigation, Preparedness and Recovery phases

The mitigation, preparedness and recovery phases (continued)

Observations – EMWG & Joint Operation Committee

- EMWG is a critical platform for Agencies and Divisions to coordinate with each other and work collaboratively on the city-wide emergency management program.
- A review of EMWG meeting minutes shows that two-hour meetings of approximately 20 representatives were scheduled monthly except in summer months. Sub-group meetings were also held, as needed.
- Meetings of the joint operation committee (deputy chiefs from TPS, TFS and EMS, and the OEM director) are held on a quarterly basis (or as needed).
- EY noted no material concerns with regards to the existing mechanism.

Summary Finding:

The existing mechanism demonstrates appropriate collaboration and coordination between Agencies and Divisions.

Emergency Management
Overview – Response Phase

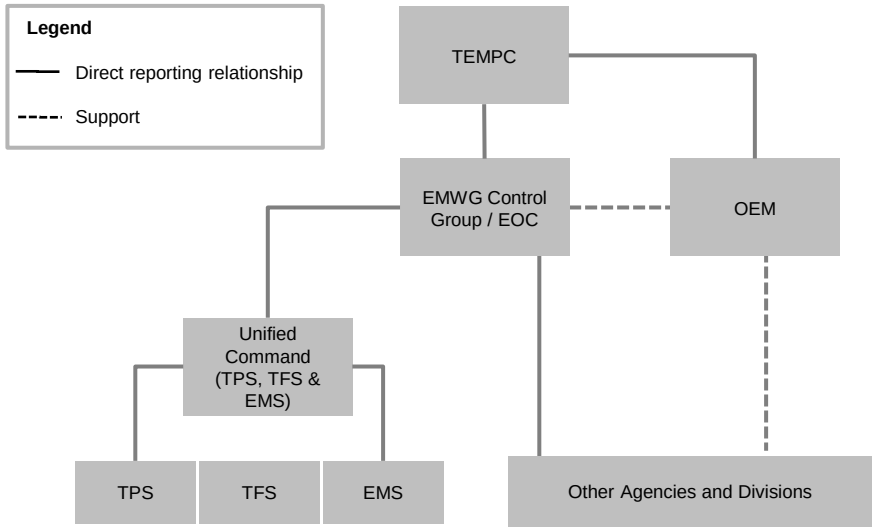
The response phase

- Most emergencies managed at the scene are considered routine operations, and require only tactical level response. For emergencies of greater magnitude, the emergency level will be escalated, requiring emergency management responses at all tactical, operational and strategic levels.
- The figure below depicts the City's emergency management governance structures in the response phase.

Tactical operational level

- When the 911 centre receives an emergency call, a primary agency is determined in accordance with "TPS Emergency Handling Procedure Chart", with other agencies being identified as Secondary, Secondary at Primary Request or Not Applicable.
- Site commanders from the primary and secondary agencies manage the event on site. There are two radio frequencies (known as the "Joint Emergency Services Channels" or JES Channels) reserved for commanders, who can use the frequencies to coordinate at the scene and determine which agency should take the lead as the situation evolves.
- Information and advice provided by the site commanders will precipitate the escalation of the emergency levels.

Structure During Response Phase



Emergency Management
Overview – Response Phase

The response phase (continued)

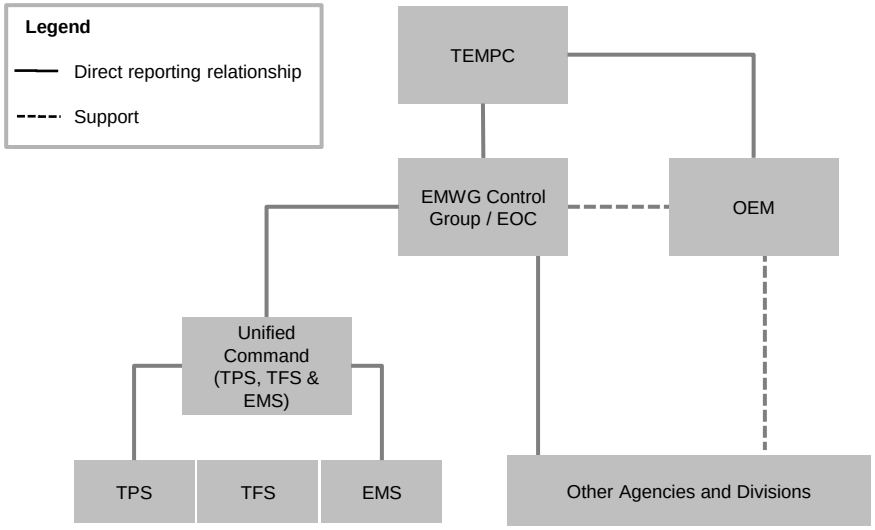
Operational/Strategic level

- If the emergency level is escalated to or above Level 2 (major incident), the EMWG Control Group (11 core members of the EMWG) can convene at a Emergency Operation Centre (EOC) that is maintained by OEM. The EOC will liaise between the tactical level of site response and the strategic emergency management provided by the TEMPC Control Group (16 core members of TEMPC).
- Each of TPS, TFS and EMS sends one representative commander to form a three-commander liaison committee (the Unified Command), which is a standing team to coordinate both operational and tactical issues on a day-to-day basis.

Strategic level

- The TEMPC Control Group will assume the role of strategic response, with assistance of the EMWG Control Group.

Structure During Response Phase



Emergency Management
Observations and Recommendations – Response Phase

Response phase

Observations – Overlap in Operational Response Level

- The commanders in the Unified Command rotate weekly and are not representatives in the EMWG Control Group/EOC.
- OEM was updating the City's Emergency Plan at the time of this study. EY was advised that, in the updated Emergency Plan, EOC has incorporated the previous concept of Joint Operation Centre and the EOC functions as the primary liaison between the tactical level of site response and the strategic level of response by the TEMPC Control Group. Accordingly, both the EMWG Control Group/EOC and the Unified Command have input at the operational response level, resulting in potential overlap and inefficiency.
- There is no official procedure as to the coordination between the two bodies in the event of emergency.

Summary Finding:

Operational response is critical to ensure tactical commanders receive necessary resources and support in a timely manner. The members of the Unified Command should have direct input in the operational/strategic decision making of the EOC.

Emergency Management
Observations and Conclusions – Response Phase

Response phase (continued)

Observations – Tactical Response Level

- Interviewees from each unit independently affirmed the effectiveness of the existing coordination and working relationship between the TPS, TFS, and EMS,
- The three agencies have taken several collaboration initiatives to date. Some examples:
  - Co-location of the three emergency services components (TPS, TFS and EMS) of the joint Chemical Biological, Radiation and Nuclear (CBRN) team;
  - The Joint Heavy Urban Search and Rescue (HUSAR) team led by TFS, which comprises members from all emergency services and Toronto Water, and members from the TPS' PS&EM and Police Dog Services; and
  - Cross training to members from other agencies. For example, EMS' PSU team members have taken the same defence training as police officers.
- The inter-agency coordination is documented as follows:
  - TPS 911 Handling Procedure Chart set outs the scheme for how an agency is determined to be Primary, Secondary, Secondary at Primary Request or Not Applicable for various incidents; and
  - Tiered Response Agreement entered between the Toronto Central Ambulance Communications Centre (CACC), EMS, TFS and TPS authorizes the activation of immediate response of more than one agency for medical assistance to those response determinants identified by the CACC within the Medical Priority Dispatch System (MPDS).

Summary Finding:

The existing mechanism of coordination and communication between TPS, TFS and EMS is well defined and should evolve in the right direction pursuant to the inter-agency coordination policies currently in place.

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Emergency Management
Coordination of Dispatchers

Overview

- The TPS' call centre triage 911 calls based on the nature of the call. An emergency call will be immediately transferred to EMS or TFS, if they are determined to be the primary agency in accordance to the TPS Emergency Handling Procedure Chart. A TPS dispatcher will stay on the radio only if TPS is the primary or secondary agency.
- Below is a summary of dispatch functions at TPS, TFS and EMS[32]. At all communication centres, staff are cross trained to take calls and dispatch.

	TPS	TFS	EMS
24/7 Dispatch Desks	13	6	7-8

Observations

- Representatives of TPS, TFS and EMS were interviewed by EY in regards to call taking and dispatch functions. Interviewees did not bring up significant issues in respect of the coordination between agencies.
- Interviewees commented on following differences between the dispatch functions:
  - *Different skill sets and training requirements.* For example, TFS dispatchers' training includes *Fire Services Act*, chain of command, special situations (e.g. mayday, trapped personnel), while EMS dispatchers need to know the best qualifications and ambulance/equipment that match the specific situations.
  - *Different operational requirements notwithstanding some similarities*. For instance, a TFS dispatcher will be dedicated to each case throughout the operation, acting like an extension of the commander. Facing a more fluid deployment of ambulances, EMS dispatchers' top priority in the pre-arrival stage is to identify and send the best ambulance to the scene. After the paramedics get the patient, EMS dispatchers may coordinate with hospitals to ensure a smooth offloading of patients.
  - *Different performance measures/indicators.* For example, for life threatening emergencies, EMS has an internal target for an ambulance to attend at the scene within nine minutes 90% of the time after the call is received. However, in measuring TPS' response/attendance efficiency, broader factors other than the response time need to considered.

[32] *Note that EMS' Communication Services, as part of the Ontario's Central Ambulance Communications Centers (CACC), is 100% funded by the Ministry of Health of Ontario.*

Dispatch Desks
Coordination with TFS and EMS

Observations (continued)

- The above differences stem from different configurations and technologies. For example, only EMS can send an electronic ticket to TFS (one way only), but both TPS and TFS cannot send e-tickets to other agencies. As a result, dispatchers have to use direct lines to call other agencies to provide updates or to escalate the emergency. This limitation causes inefficiencies and disadvantages:
  - Extra time in documentation and delay due to multiple tickets being updated in different agencies;
  - Documentation gap. For instance, EMS may not know the precise time when the first respondent with a defibrillator (if it is not EMS) got to the patient; and
  - Insufficient tracking and record of the communication between dispatchers from different agencies.
- With respect to the communication between dispatch systems, EY learned the following:
  - EMS' dispatch system is integrated with the Ontario's CACC dispatch system, while TPS' dispatch system is linked to OPP's;
  - An interface exists between the dispatch systems in TFS and EMS (through which EMS sends tickets to TFS), but TFS has not fully implemented the interface that will allow it to send tickets to EMS; and
  - There are preliminary discussions as to build a joint interface between TPS, EMS and TFS, or even a more advanced option to integrate different computer-aided dispatch systems.

Summary Finding:

A functional joint interface between the dispatch systems in TPS, EMS and TFS will fix the issues and inefficiencies as discussed above. The investigation in to the cost/benefit analysis of such investment is beyond the scope of this engagement.

Dispatch Desks
Coordination with TFS and EMS

Observations (continued)

- EY has been advised that the TFS/EMS (located in same building) and TPS' communication centres use each other as the potential backup sites; therefore, co-location is not an option to drive any further integration/coordination efficiencies or technology.
- During the tour of the facilities, EY did not notice the existence of large extra/unused space within each communication centre facilities. Accordingly, co-locating the dispatch functions will require the expansion of one existing facility, further limiting potential real savings.
  - Interviewees at TFS and EMS advised the communication centres are near or at full capacity. This information varies from EY's analysis of TPS' call centre under the scope of work for this engagement which found that further efficiencies and cost savings could be realised for TPS dispatch calls; however, based on the co-location discussion above and without a functional joint interface system between TPS, EMS and TFS, the opportunity for effective synergies between dispatch functions appears limited.

Summary Finding:

No significant opportunity was identified in co-locating or consolidating the dispatch functions.

Towing and Pounds Management

Towing and Pounds Management
Overview and Conclusion

1. Parking Enforcement

Overview

- A vast majority of this unit's operating cost is offset by a cost recovery fee of approximately $175,000 payable every quarter from six towing contractors.

Summary Finding:

Based on EY's preliminary analysis, the cost saving amount that may be realized is minimal. Given the foregoing and with the City Manager's approval, no further analysis was conducted under this portion of the engagement.

2. Investigation/Evidence

Overview

- This unit deals with:
  1) vehicles involved in major crime to protect the continuity of evidence; and
  2) vehicles containing evidence.
- The internal towing fleet has several towing trucks, and owns a pound facility located on Jane Street that operates 24/7.

Summary Finding:

EY understands that costs associated with this sub-unit are minimal considering that the cost to operate is absorbed by the Fleet Services Unit as part of its daily activities (i.e. no direct or stand-alone costs). With the City Manager's approval, no further analysis was conducted under this engagement.

School Crossing Guard Program

School Crossing Guard Program
Overview and Conclusion

Overview

- The Program currently has approximately 739 guards serving 599 crossing locations.
- The Program has no central management; rather, its daily operation is supervised separately at the division level by 14 divisional coordinators, which comprise 11 police constables and three civilian staff. All of the constables are estimated by TPS to spend 50% of their time on the Program.
- TPS estimated that the Program's total cost for 2011 is $7.3 million of salaries and benefits, majority of which belongs to crossing guards and coordinators.
- The total number of spares is currently very low due to low pay/high turnover and recruiting difficulties, causing more requests for police assistance. The estimated cost of policing time in 2010 was approximately $70,000.
- Civilianization of constables may be a viable option to realize labour savings.

Summary Finding:

Although the potential for labour savings in the program exists (through civilianization of policing time for spare guards and backfill), the amounts that can be realized were determined by EY to be minimal. With the City Manager's approval, no further analysis was conducted under this engagement.

For Further Consideration – Court time

Court Time
Court Attendance

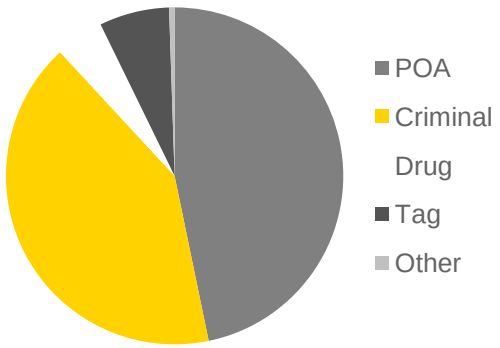
Introduction:

- TPS's total premium pay reflected in the 2011 budget is $43 million, of which 53% or $23 million is related to court attendance.
- Ancillary to the shift schedule analysis, the City requested an analysis of TPS premium pay caused by attendance in Court. Accordingly, EY has reviewed data for TPS court appearances related to testimony in order to identify efficiency improvement or cost saving opportunities.

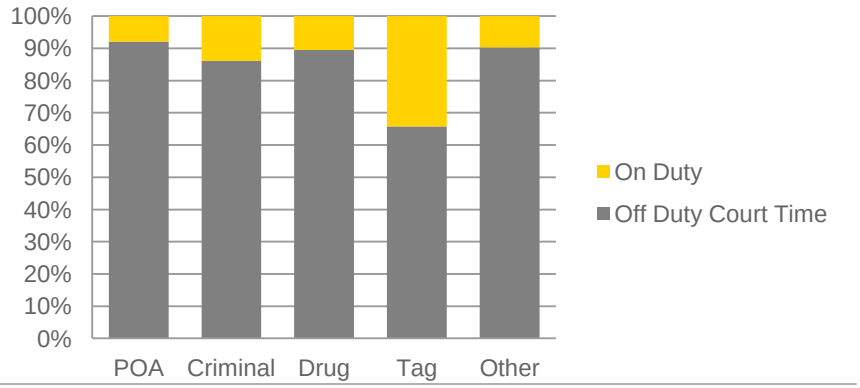
Overview:

- The two largest categories of court trials are Provincial Offences Act ("POA") and Criminal, which represent approximately 47% and 42% of the total 2010 volume, respectively. A summary of the number of 2010 court appearances by type is set out below.
- As shown in the chart below, most of the court appearances in 2010 were incurred by officers while off duty or overtime (hereinafter collectively referred to as "Off Duty"), causing premium pay (including lieu time). POA trials had the highest percentage of Off Duty court time (92%), followed by drug related court hearings (89%). Off Duty court appearances are relatively lower for tag court hearings, but still above 65%.

2010 Number of Court Appearances by Type

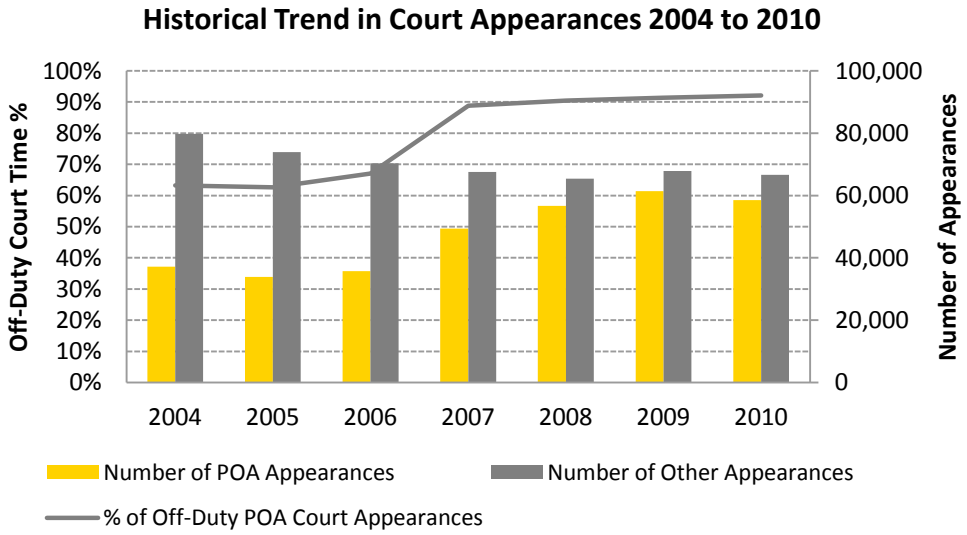


2010 Court Time: Off Duty vs. On Duty



Court Time
Court Attendance

- The high percentage of Off Duty court appearances for POA is primarily due to a staffing policy (implemented in 2006) which requires officers to attend POA court during off-duty hours. The policy aimed to decrease the acquittal rate due to police absence and reduce the impact of court attendance on operational staffing. Prior to this policy, officers had been only required to attend POA night court off-duty; however, as an example, 63% of police scheduled to attend day court were cancelled in 2003 due to operational requirements.
- As depicted in the chart below, POA court appearances showed a significant increase in not only the Off Duty portion (as compared to the On Duty portion) but also the total number of appearances, as a result of the aforementioned policy.
- TPS charges the City a fee to recover any additional premium pay cost due to the 2006 policy. In 2010, the chargeback was $6.8 million based upon 2010 court attendance cost in excess of that of 2003 (the base year). TPS calculated its 2010 court attendance cost by multiplying the number of Off Duty court hours by an overtime hourly rate of $58 (i.e. the standard hourly rate of $38.77 plus a 50% premium pay adjustment).



Court Time
Court Attendance

- TPS advised that higher fine revenue due to the reduced acquittal rate more than offset the increase in Off Duty hours, resulting a net benefit for the City. A detailed review of the City's POA fine income for the period 2003 to 2010 will be necessary to substantiate this net benefit.
- While TPS attempts to schedule members' attendance at POA court while they are Off Duty, the policy is not mandatory. One challenge is that court scheduling takes place several months in advance, and therefore officers' shifts may change before they actually attend court.
- Reasons that may prevent officers from attending court hearings include: various leaves, training, duty requirements, criminal court requirements (more stringent relative to other types of trials) and no evidence.
- Officers are required to obtain supervisor approval for not attending court hearings.
- TPS was not able to provide data that will permit EY to analyze officers' absences from court by reason.

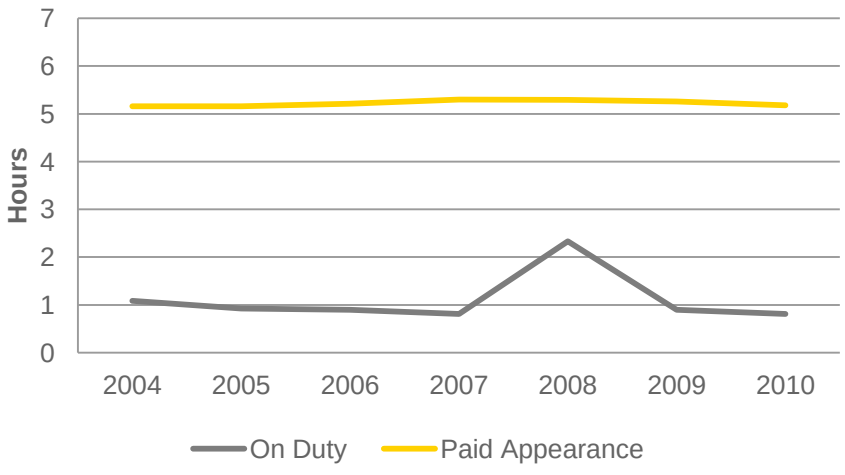
Key Finding:

TPS officers incur a significant amount of time attending Court while off-duty (mainly as a result of a staffing policy aimed to decrease the acquittal rate due to police absence and reduce the impact of Court attendance on operational staffing), which is paid at premium pay rates based on minimum work hours pursuant to the CBA.

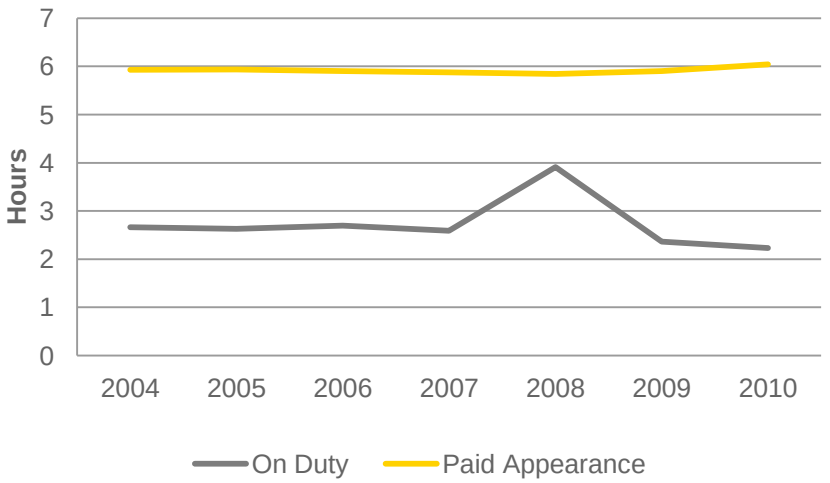
Court Time
Court Attendance

- A review of TPS' historical data between 2004 and 2010 indicates that officers, on average, spend above 5 hours per Off Duty court appearance, whereas average time for on duty court appearances is significantly shorter (see charts below).
- One driver for the much longer Off Duty appearances is the minimum four working hours as per the sworn officers' collective bargaining agreement.
- Other factors that require further review subject to our obtaining additional data/information include:
  - Existing court scheduling practice;
  - Control over officers' court time; and
  - Impact on the City's fine revenues as compared to the increase in the premium pay.

Average time for POA Court Appearance



Average Time of Other Court Appearance



Summary of Findings

Summary of Findings

- The following is a summary of findings by area of study under our scope of engagement:

Service Efficiency Opportunity	Potential benefit[33]	Recommendation/ Finding
Staffing Level: Call Handling & Shift Schedule	up to $45.2 million	See Notes 1 & 2
Staffing Level: Call Handling – Accurate workload data for demand-based planning	Unknown. More analysis required	See Note 3
Staffing Level: Civilianization on certain duties	up to $3.7 million	See Note 4
Staffing Level: Span of Control	up to $2.2 million	See Note 5
Staffing Level: Emergency Management	Not applicable; more data and analysis required	See Notes 6 & 7
Call Taking and Dispatch: Adjustments to call taking standards	$300k to $400k	See Note 8
Call Taking and Dispatch: Consolidating dispatch desks	$500k to $650k	See Note 9
Emergency Management	Not applicable; findings are policy and procedure focused	See Notes 10-15
Towing and Pounds Management	Not applicable; cost savings considered minimal based on data provided by TPS	See Note 16
School Crossing Guard Program	Not applicable; cost savings considered minimal based on data provided by TPS	See Note 16
Court Time	Unknown. More analysis required	See Note 17

[33] *Estimated savings before accounting for applicable benefits and restructuring costs.*

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Summary of Findings

Notes to table above:

1. If the TPS were to adopt a staffing model in which 40% of a front line officer's time was spent on proactive policing, then based on an analysis of the number of calls handled by officers (reactive time) during 2010/2011 TPS could potentially reduce the complement of officers by 105 to 115 officers resulting in annual savings of between $9 to $10 million.
2. If the collective bargaining agreements (collectively, the "CBA") could be renegotiated (expiry in 2014) to change the shift schedule for front line officers from a 10-10-8 shift schedule (28 hours per day) to an 8-8-8 shift schedule (24 hours per day) and assuming a proactive policing rate of 40%, then TPS could potentially reduce the complement of front-line officers by approximately 300 officers resulting in annual savings of up to $25 million. On this basis, TPS could realize an additional $10 million in shift schedule cost savings if the balance of officers currently on the 10-10-8 shift schedule (in addition to the foregoing front-line officers) were moved to an 8-8-8 shift schedule.
3. The calculation of TPS' call handling staffing gap and resulting staffing reduction using demand-based analysis is materially sensitive to the accuracy of TPS workload data relating to the number of service calls and average handling time per call. TPS should address the system and process concerns it is currently experiencing in calculating accurate workload data information. This should enable TPS to use such data as a key metric to measure police services demand and required staffing deployment which may, in turn, spur cost savings (in addition to those estimated in Note #1 above).
4. TPS has moved to civilianize certain roles previously performed by police officers, and there appears to be additional roles which need to be reviewed in further detail to determine whether it may be possible to transition the role from a police officer to a civilian. Based on the analysis detailed herein, there may be as many 227 positions which could be civilianized. This could lead to annual savings up to $3.7 million based on the difference in the average wage of a police officer and a civilian employee at TPS.
5. A span of control analysis is a technique for determining the number of supervisors which may be required. Based on the span of control analysis for the 17 divisions of the TPS, there were 7 divisions which appeared to have more supervisors than may be required and if the number of supervisors were brought in line with the study benchmark, then the potential savings would be approximately $2.2 million per year.

Notes to table above (continued):

6. TPS should evaluate the cost versus benefit of training more officers to become Public Safety Unit ("PSU") cross-trained which may reduce premium pay costs associated with Public Safety and Emergency Management ("PS&EM") events.
7. A comparable cost analysis should be undertaken by TPS to evaluate whether its existing PS&EM staffing model is more cost efficient if operated with a higher, full-time complement of PSU officers.
8. On average, call taking staff answer emergency calls within 2 seconds and non-emergency calls within 7 seconds. Based on our analysis of call volumes and TPS maintaining an emergency service level of benchmark of 90% within 10 seconds waiting as a minimum standard for all calls, the number of call taking staff could be reduced with annual savings up to $400,000. This will result in longer wait times for 911 callers and therefore the City may not wish to pursue this opportunity.
9. Call dispatch staff for four divisions handle less calls on average than the other divisional call dispatch staff. There may be an opportunity to consolidate the dispatch desks for these divisions with potential annual savings of $650,000.
10. The existing emergency management mechanism of co-ordination and communication between TPS, TFS, EMS and the Office of Emergency Management ("OEM") is well defined at both strategic and response levels and should evolve in the right direction pursuant to the inter-agency co-ordination policies and procedures currently in place.
11. The OEM's secondment program should be restructured to enhance co-ordination, while balancing the budgetary concerns of participating agencies.
12. Any integration of the strategic planning functions of emergency management will be subject to the constraints of the CBA and will not produce significant budget savings due to the limited budget associated with the existing structure.
13. Operational/strategic response is critical to ensure tactical commanders at TPS, TFS and EMS (collectively, the "United Command") receive necessary resources and support in a timely manner. The members of the Unified Command should have direct input in the operational/strategic decision making of the EOC.
14. A functional joint interface between the dispatch systems in TPS, EMS and TFS will fix certain operational issues and inefficiencies currently being experienced between these parties in jointly responding to emergency calls.

Notes to table above (continued):

15. The TFS/EMS communication centres (located in same building) and the TPS communication centre are currently used by each other as potential back-up sites and are each staffed with dispatchers with different skill sets, training requirements and operational standards; hence, labour consolidation and co-location is not an option to drive cost efficiency.
16. Based on EY's preliminary analysis, the cost saving amount that may be realized for this applicable service efficiency opportunity is minimal. Given the foregoing and with the City Manager's approval, no further analysis was conducted under this portion of the engagement.
17. The City Manager requested EY to conduct a preliminary review of TPS' service involvement in Court proceedings with a view to identify efficiency improvements and/or cost savings. TPS officers incur a significant amount of time attending Court while off-duty (mainly as a result of a staffing policy aimed to decrease the acquittal rate due to police absence and reduce the impact of Court attendance on operational staffing), which is paid at premium pay rates based on minimum work hours pursuant to the CBA. Although additional analysis is required, TPS and the City Manager should collectively re-assess the cost/benefit of the existing staffing policy for attendance at Court by TPS versus the level of convictions and related revenue being achieved.

Appendices

Appendix 1 – Benchmarking Study

Appendix 1 – Benchmarking Study
A. References

- For all non-U.S. cities, we obtained data pertaining to police services (crime stats and police force composition) from the respective police service's annual report (2007 – 2010) published on their websites or from the police services directly. Specific references to the polices services websites are as follows:
  - **Canadian cities**:
    - **Calgary**: http://www.calgarypolice.ca/news-reports.html
    - **Halifax**: http://halifax.ca/Police/index.asp
    - **Montreal**: http://www.spvm.qc.ca/en/documentation/publications-bilan-annuel.asp
    - **Vancouver**: http://vancouver.ca/police/about/publications/index.html
  - **Australian cities**:
    - **Adelaide**: http://www.sapolice.sa.gov.au/sapol/about_us/publications.jsp
    - **Brisbane**: http://www.police.qld.gov.au/services/reportsPublications/
    - **Melbourne**: http://www.police.vic.gov.au/content.asp?Document_ID=49
    - **Perth**: http://www.police.wa.gov.au/
    - **Sydney**: http://www.police.nsw.gov.au/about_us/publications
- For all Australian cities, EY obtained city-level demographics data from Australian Bureau of Statistics (http://www.abs.gov.au/AUSSTATS/abs@.nsf/web+pages/statistics?opendocument#from-banner=GT)
- For all Canadian cities, EY obtained city-level demographics data from Statistics Canada (http://www5.statcan.gc.ca/subject-sujet/theme-theme.action?pid=3867&lang=eng&more=0)
- For all US cities, data pertaining to city demographics, crime statistics, and police force composition was obtained from the Criminal Justice Information Services ("CJIS") website (http://www.fbi.gov/stats-services/crimestats)

Appendix 1 – Benchmarking Study
B. Metrics Definition

#	Metric Name	Metric Definition
1	Total Police Services Strength per 100,000 Population	Total number of employees in the Police Services for every 100,000 citizens served. This metric is **inversely** proportionate.
2	Total Sworn Officers Strength per 100,000 Population	Total number of sworn officers in the Police Services for every 100,000 citizens served. This metric is **inversely** proportionate.
3	Sworn Officer to Civilian Personnel Ratio	The number of Sworn Officers for every Civilian employee in the police Service. This metric is **inversely** proportionate.
4	Total Violent and Property Crimes per Police Services Staff	Total number of violent and property crimes per Police Services employee. This metric is **directly** proportionate.
5	Total Number of Violent Crimes per Police Services Staff	Total number of violent crimes per Police Services employee. This metric is **directly** proportionate.
6	Total Number of Property Crimes per Police Services Staff	Total number of property crimes per Police Services employee. This metric is **directly** proportionate.
7	Total Violent and Property Crimes per Sworn Officer	Total number of violent and property crimes per sworn officer in the Police Service. This metric is **directly** proportionate.
8	Total Number of Violent Crimes per Sworn Officer	Total number of violent crimes per sworn officer in the Police Service. This metric is **directly** proportionate.
9	Total Number of Property Crimes per Sworn Officer	Total number of property crimes per sworn officer in the Police Service. This metric is **directly** proportionate.

Appendix 1 – Benchmarking Study
C. Metrics Calculation

#	Metric Name	Metric Calculation
1	Total Police Services Strength per 100,000 Population	(Number of Police Services Employees * 100,000) / Respective City's Population
2	Total Sworn Officers Strength per 100,000 Population	(Number of Sworn Officers * 100,000) / Respective City's Population
3	Sworn Officer to Civilian Personnel Ratio	Number of Sworn Officers / Number of Civilian Personnel
4	Total Violent and Property Crimes per Police Services Staff	(Number of Violent Crimes + Number of Property Crimes) / Number of Police Services Employees
5	Total Number of Violent Crimes per Police Services Staff	Number of Violent Crimes / Number of Police Services Employees
6	Total Number of Property Crimes per Police Services Staff	Number of Property Crimes / Number of Police Services Employees
7	Total Violent and Property Crimes per Sworn Officer	(Number of Violent Crimes + Number of Property Crimes) / Number of Sworn Officers
8	Total Number of Violent Crimes per Sworn Officer	Number of Violent Crimes / Number of Sworn Officers
9	Total Number of Property Crimes per Sworn Officer	Number of Property Crimes / Number of Sworn Officers

Note: For the cities in scope of each of the three studies, EY used the average of data points obtained for a span of four years (2007 – 2010).

Appendix 2 – Shift Schedule

Appendix 2 – Shift Schedule

A. Net Available Time Per Patrol Officer

Element	Hours	Percent*	Source
Gross Hours Scheduled	2,044 *	100.00%	2010 Scheduled Hours and Detractors - Police Officers (PC - SSgt-DetSgt); Data Source: Downloaded TRMS data from ERMS; processed by CPN
Detractors			
Time Off	112	5.48%	
ADO	44	2.16%	
TOD	3	0.12%	
Vacation	158	7.75%	
IOD	12	0.59%	
Sick	48	2.34%	
Court (on-duty)	4	0.21%	
LHT	59	2.86%	
Training	90	4.40%	
Total Detractors	530		
Net Available Time per Officer	**1,514**		

*Based on information provided by TPS Corporate Planning.

Appendix 2 – Shift Schedule

B. Average Cost Per Sworn Officer

REDACTED

CONTAINS CONFIDENTIAL AND/OR PERSONAL INFORMATION

Appendix 3 – Civilianization

REDACTED

CONTAINS CONFIDENTIAL AND/OR PERSONAL INFORMATION

REDACTED

CONTAINS CONFIDENTIAL AND/OR PERSONAL INFORMATION

REDACTED

CONTAINS CONFIDENTIAL AND/OR PERSONAL INFORMATION

Appendix 4 – Call Taking and Dispatch

Appendix 4 – Call Taking and Dispatch
A. Summary of Call Taking Data Provided by TPS

- Toronto Police provided the following data* from Symposium:
  - Inbound call data (volume, agents, SLA, wait times) by emergency and non-emergency based on 15 minute intervals for 2010
  - Inbound average call length data based on 5 week cycles for 2010
  - Outbound call volume data based on 5 week cycles for 2010
  - Outbound call length data based on 5 week cycles for 2010
  - Service level benchmarks:
    - 90% of emergency calls answered within 10 seconds waiting
    - 80% of non-emergency calls answered within 20 seconds waiting
  - Minimum staffing levels for call takers, relievers, and dispatch desks for 2010

* Data provided via email from Kimberly Wood on 31/08/2011. Filename: 2010_s1dm703_call_stats.pdf (19.1MB).

Appendix 4 – Call Taking and Dispatch

B. Calculation of Inbound vs. Outbound Call Volumes and Servicing Times

- The outbound call volume were only available by a 5 week cycle compared to the inbound 15 min intervals for 2010
- To account for the outbound call efforts, the 15 min inbound call volumes were adjusted to account for the additional workload by 18% (volume of outbound / volume of inbound)

Call Type	2010 call volume	Percentage of outbound calls
Inbound	1,762,439 **Emergency**: 1,005,913 **Non-Emergency**: 756,526	18%
Outbound	319,249	

- In addition, the average call length was adjusted using a weighted average based on inbound and outbound call durations. The total service time includes the admin time after each call is processed.
- The quarterly adjusted average call durations are presented below to arrive at the total servicing time:

Call Type Avg Duration	2010 call volume	Weighted Average	Quarter 1 Jan-Mar	Quarter 2 Apr-Jun	Quarter 3 Jul-Sept	Quarter 4 Oct-Dec
Inbound	1,762,439	85%	91.37 sec	91.53 sec	88.00 sec	84.93 sec
Outbound	319,249	15%	40.93 sec	41.29 sec	40.78 sec	36.83 sec
Total	**2,081,688**	**100%**	**83.63 sec**	**83.83 sec**	**80.76 sec**	**77.55 sec**
% Not Ready (Admin Time)			17.92 sec	20.4 sec	21.08 sec	19.89 sec
Total Call Service Time			101.55 sec	104.23 sec	101.84 sec	97.44 sec

Appendix 4 – Call Taking and Dispatch

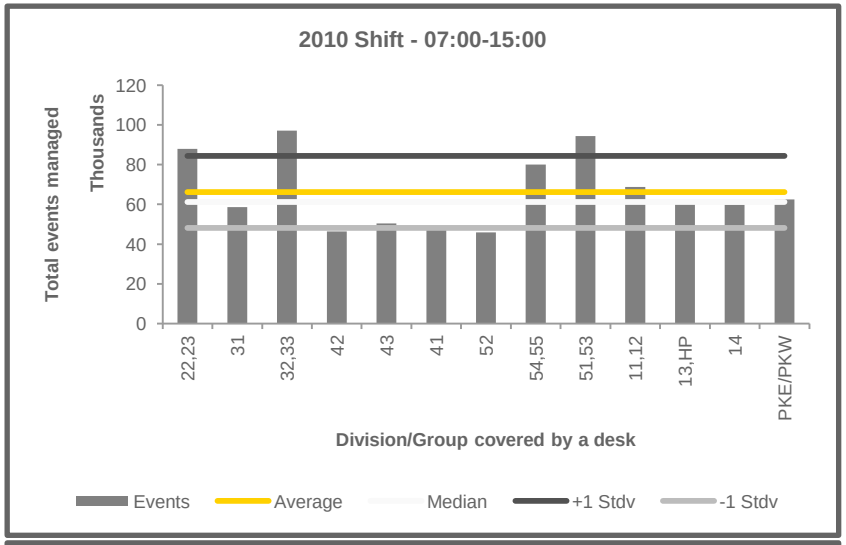
C. Summary of Dispatch Data Provided by TPS

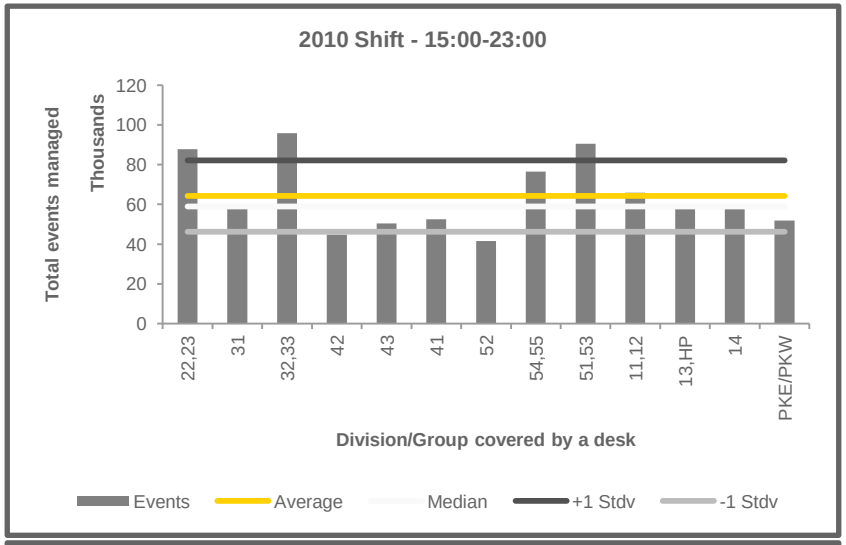
- Toronto Police provided the following information for dispatch[34, 35]
  - Tickets data from iCAD system for 2010, 2009, 2008 containing the following information on each event:
    - Date/Time
    - Source
    - Priority
    - Event type
    - Division/Group
    - Agency (i.e. Toronto Police, Parking Tickets, etc.)
    - Officer servicing time (travel, response, total)
    - Number of officers per event
    - Other data regarding the event
  - Dispatch desk coverage for division/groups/agency
  - Sample radio communication data

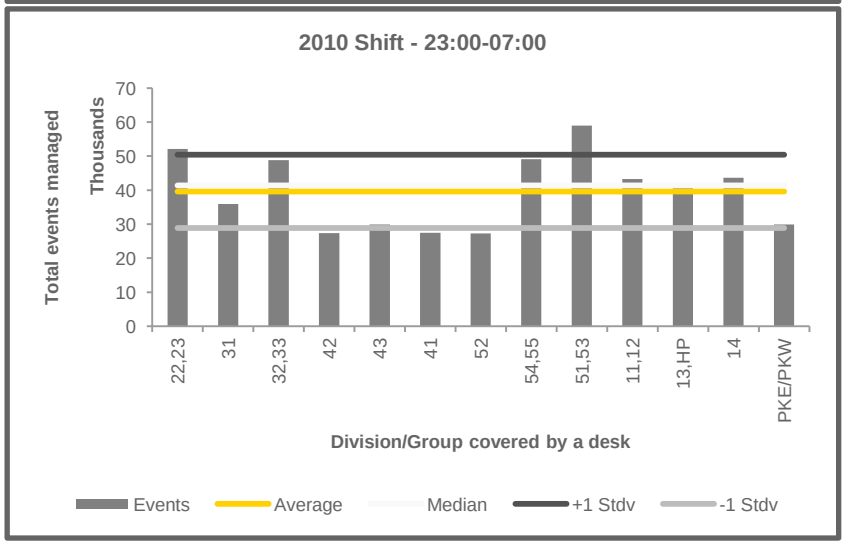
[34] 2010 data provided via DVD from Sandy Briell on 06/09/2011. Filename: ErnstAndYoung_2010.mdb (1.04G).
[35] 2008 and 2009 data provided via DVD from Sandy Briell on 09/09/2011. Filenames: ErnstAndYoung_2008.mdb (981MB) and ErnstAndYoung_2009.mdb (0.98G).

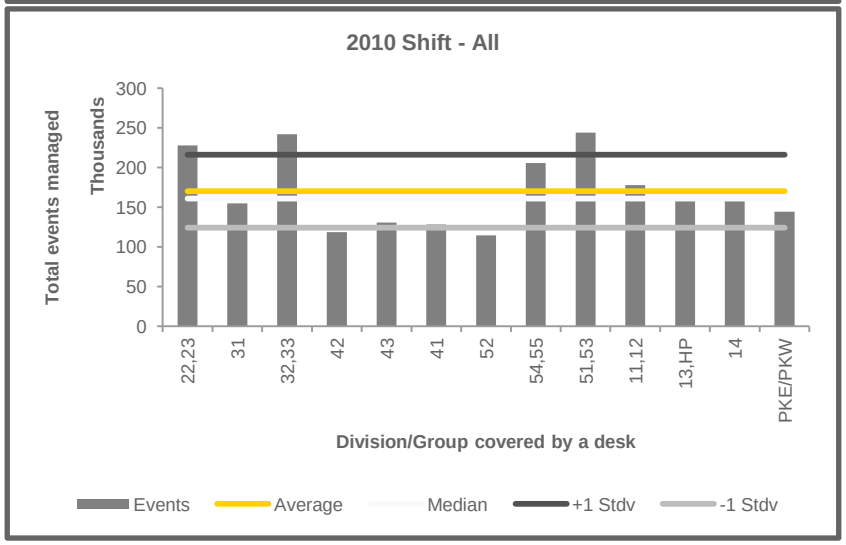
Appendix 4 – Call Taking and Dispatch

D. 2010 Tickets by Shift



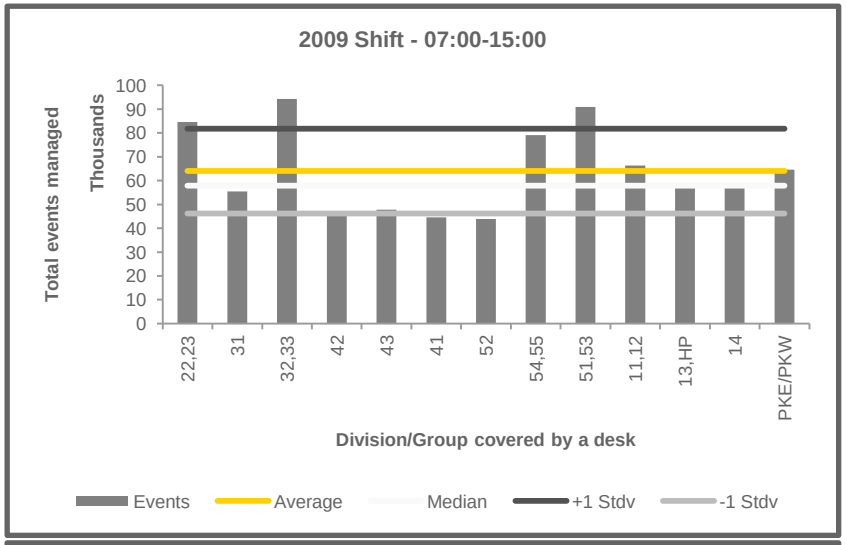


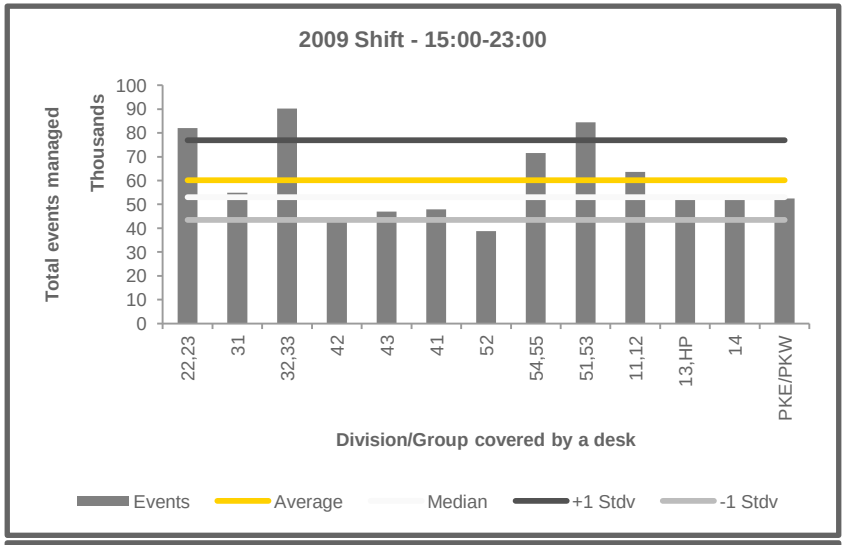


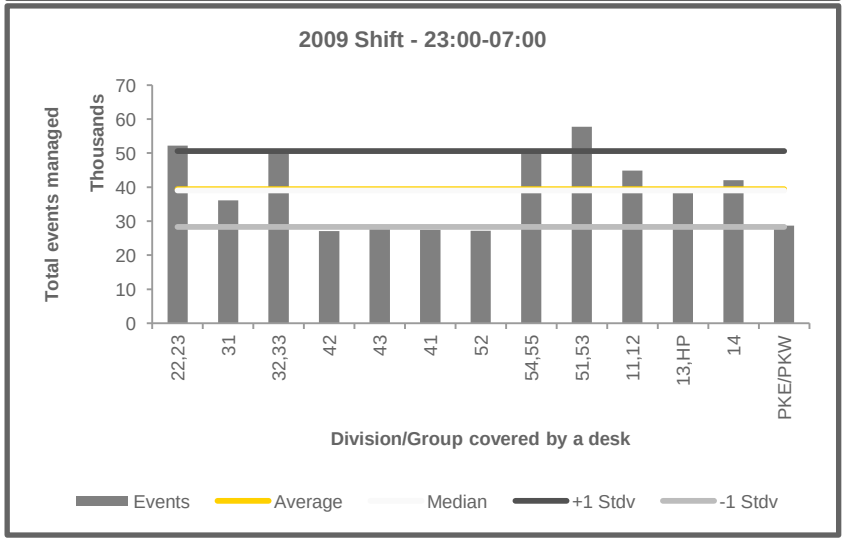


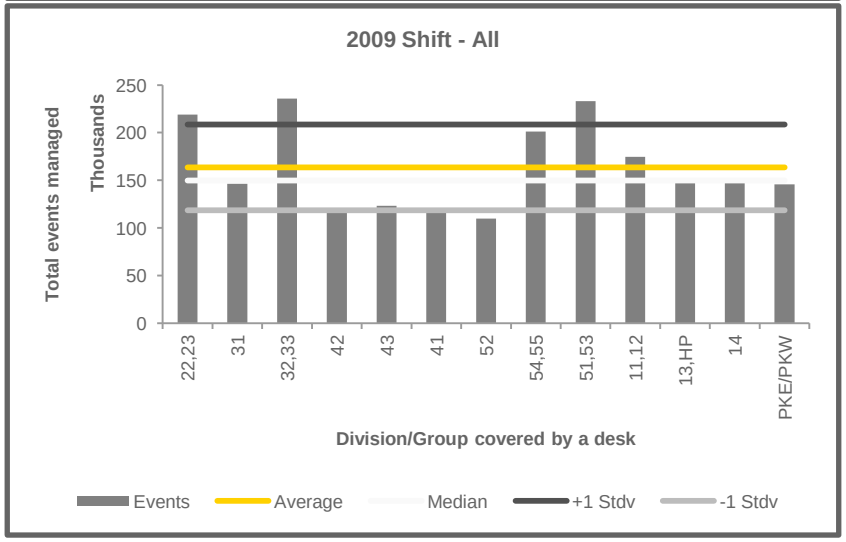
Appendix 4 – Call Taking and Dispatch

E. 2009 Tickets by Shift



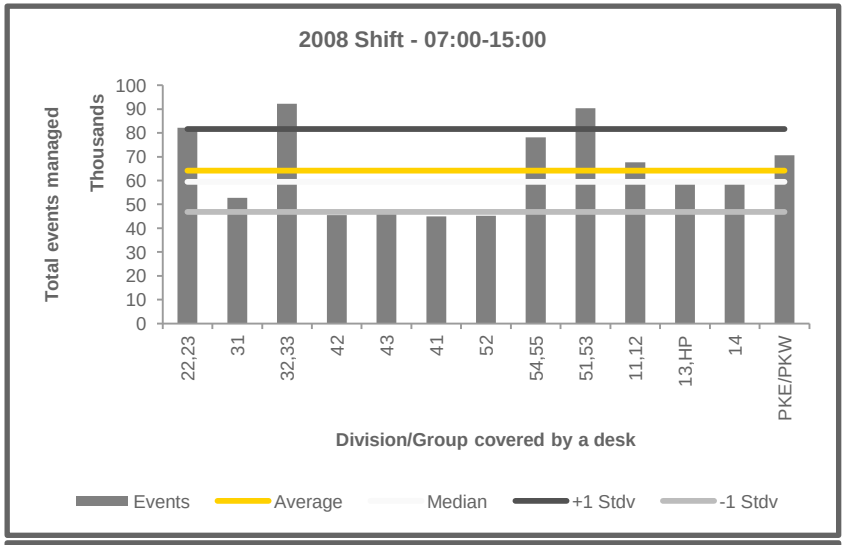


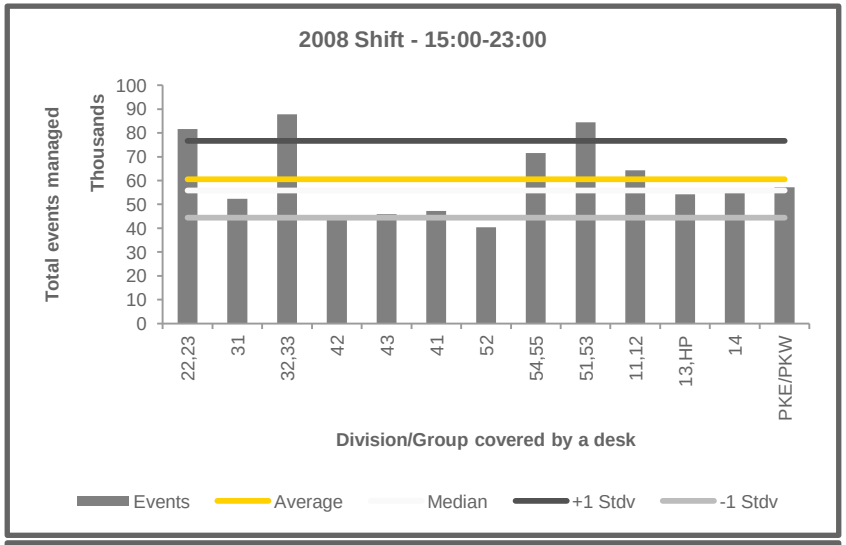


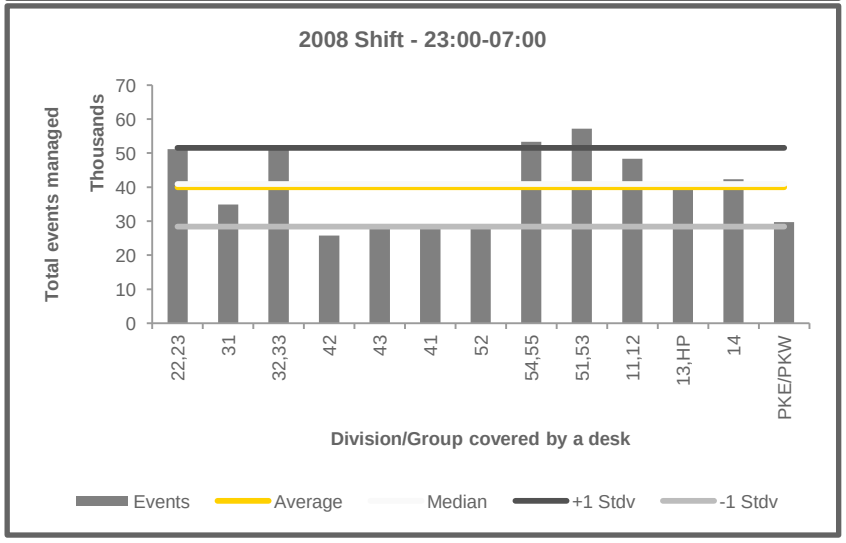


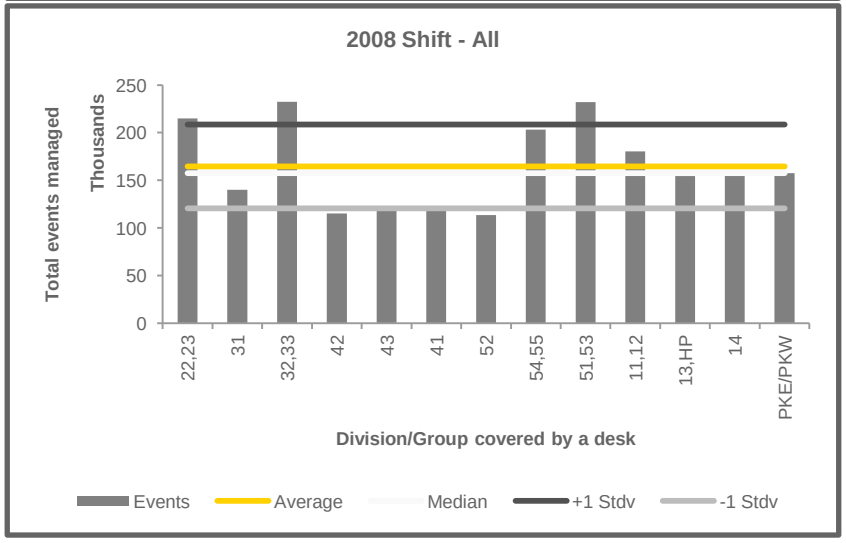
Appendix 4 – Call Taking and Dispatch

F. 2008 Tickets by Shift









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NOTE REGARDING NEXT STEPS AND IMPLEMENTATION

This Service Efficiency Study provides advice and recommendations to the City Manager and was conducted in consultation with the Agency. The Study identifies actions and directions that could result in more efficient and effective service delivery, organizational and operational arrangements and associated savings.

The City Manager will work closely with senior management to determine which of the actions are feasible and can be implemented, implementation methods and timeframe and estimated savings. In some cases, further study may be required; in other cases the actions may not be deemed feasible. Implementation will be conducted using various methods and may be reported through annual operating budget processes or in a report to Council or an applicable Board, where specific authorities are necessary. In all cases, implementation will comply with collective agreements, human resource policies and legal obligations.

Preliminary estimated savings have been identified in the study by year where possible. In some cases savings have been included in the 2012 budget submission. Achievement of these savings is highly dependent on the viability of these actions as determined by senior management, timeframes, and other implementation considerations.