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COMMITTEE REPORT

NO: P010 Committee DATE: **Sept 15, 2014**

POLICE COMMITTEE

TO: **Mayor & Council** DATE: **Sept 12, 2014**

FROM: **Bill Fordy, Chief Superintendent**
Officer in Charge Surrey RCMP FILE:

SUBJECT: **Surrey RCMP Service Delivery Reviews (Update)**

RECOMMENDATION

The Surrey RCMP recommends that the Police Committee receive this report as information.

INTENT

The purpose of this report is to provide an overview and update on two research projects currently underway that are examining different aspects of the Detachment service delivery model with a view to identifying opportunities to enhance policing and public safety.

BACKGROUND

In September 2012, RCMP "E" Division, Lower Mainland District initiated a pilot project to examine General Duty staffing needs. The goal of the project was to use information obtained from the Computer Aided Dispatch (CAD) System to measure General Duty (GD) workload and evaluate GD deployment practices. Surrey RCMP was one of four detachments participating in the pilot and will be the first to action same.

Since the onset of the pilot project, a great deal of effort has been invested in improving the accuracy of GD workload information, by reviewing data input practices and procedures, as well as "readying" existing data (i.e., ensuring data quality) to support a patrol staffing analysis using an internationally recognized computer program called Managing Patrol Performance (MPP).

In the summer of 2013, Chief Superintendent Fordy and Mayor Watts discussed the value of having an analysis of the Surrey Detachment service delivery model and its operations, and in fall of 2013, Dr. Irwin Cohen of the University of the Fraser Valley (UFV) was engaged to initiate a comprehensive analysis of the Surrey RCMP service delivery model. The objective of this independent examination of police operations was to assess the effectiveness and efficiency of the detachment and identify opportunities for improvement that would help inform future resourcing and deployment decisions.

The UFV research focused on a number of areas: Surrey Detachment Operations; Crime Reduction Strategies; Domestic Violence; Continuous Improvement Team; and Police Car Motor

Vehicle Accidents. UFV also conducted surveys among Surrey residents and business to gauge public perception of crime and safety, as well as Surrey RCMP performance.

DISCUSSION

General Duty Resource and Deployment Project

The MPP application utilizes the power of technology and computer modelling to analyze the dynamic nature of calls for service and the police patrol and call response (first responder) function. The application is based on queuing formulas developed by Dr. Richard Larson at the Massachusetts Institute of Technology (MIT) in the 1970's, and is used by major police agencies throughout North America, including Seattle, Los Angeles, Edmonton, Calgary, Waterloo and York Regional.

The MPP computer model application uses a series of patrol management report tables (input data files) that contain information on calls for service and time spent by patrol officers on various tasks in order to measure workload and staff time available to handle it. The analysis factors in information such as the call rates per hour, the priority of calls, the number of patrol members on duty (fielded units), the number of units dispatched to calls, the travel and on scene times for units dispatched, the size of the service area covered, officer availability, as well as operational objectives and performance targets relating to service delivery.

The MPP uses the input data to calculate a series of operational measures that are critical to aligning the number of patrol resources available with the number (and variability) of calls for service and service level expectations. These include time spent responding to calls for service and time dedicated to other operational demands/realities (e.g., administrative work, proactive enforcement and directed patrols, etc), the average number of units free, the percent of time units are busy, as well as the dispatch delay, travel and response time by priority of call.

Data quality is critical for an effective analysis using the MPP modeling application. The project team has been working diligently for more than a year to ensure the validity and reliability of information pulled from the computer aided dispatch (CAD) within the police records management system (PRIME), human resource management information systems (CARM/HRMIS), and administrative record systems.

Some of the data quality issues (e.g., those due in part to the human factors involved in its collection) have been addressed through awareness, training and accountability measures. However, these mitigation efforts do not address inconsistencies in past years data. They also do not address those issues that arise as a result of limitations relative to the records management system itself or established past practise and procedures. Efforts were made to remove anomalies and inaccuracies (i.e., "exceptions") in the data set. This was done by "scrubbing" the data using a set of business rules developed to account for errors in data coding and records that contain data that represent extreme circumstances and not typical calls (e.g., data outliers).

One data challenge the team has been working to overcome involves call prioritization standards and practices (priority code and dispatching rules). The Detachment discovered that it had relatively few Priority 1 calls, and a disproportionate share of Priority 2 calls, when compared to

similar sized police agencies across North America. This resulted largely from adherence to the national RCMP Call Priority Standards.

In response to this challenge, the project team examined the Priority 2 calls to determine if any of those could have been coded as Priority 1 based on the nature of the call (i.e., whether they involved a confrontation between victim and offender and thus a potential for serious harm or threat to life) and whether the actual response times to those types of calls might indicate the responding member treated them as a higher priority than what was actually assigned in the CAD (e.g., based on supplemental/circumstantial information relayed to them from the dispatchers over the radio or in the CAD file remarks). As a result of this analysis new priority response categories were created (Emergency, Urgent and Routine). Essentially this approach increased the number of high priority calls that will be included in the MPP modelling analysis (and may better reflect the true nature or priority of the call that was responded to).

The project team is also conducting a review of high volume call types (e.g., False Alarms, Abandoned 911) with a view to identifying ways to reduce calls for service, or at least gain efficiencies, through various tactics such as call diversion (alternate response) strategies or addressing underlying issues through regulatory instruments (Bylaws) and/or public education and awareness campaigns.

While Surrey is the first RCMP Detachment to adopt the MPP application, it is being adopted more broadly by RCMP EDIV, who will be expanding the project across the province to support resource decisions. The MPP application is currently being procured and will be available to Detachments for ongoing use in scenario simulations in support of resource and deployment analyses (e.g., to determine minimum staffing levels required to meet different performance objectives, to evaluate the impact of shift schedule changes on workload and service delivery, to establish patrol district boundaries, to assess the impact of anticipated growth and development within the City on future workload, etc).

UFV Research on Surrey RCMP Operations

Over the last year, the UFV research team has been conducting a series of formative evaluations of police practices within the context of the organizations structure and goals. The research has been both qualitative and quantitative in nature; methodologies have included semi-structured interviews, surveys, literature and file reviews, and comparative data analysis.

The research will produce a number of reports with recommendations specific to: human and financial resource allocation; technological and asset-based efficiencies; leadership, communication and accountability; and operational tactics and strategies in support of more effective crime reduction outcomes.

The UFV Operation review of the Detachment will complement the GD Resource and Deployment Project and provide for a holistic assessment of the Detachment's service delivery model.

SUSTAINABILITY CONSIDERATIONS

The Detachment Review projects will assist in achieving the overall objectives of the City's Sustainability Charter, and more specifically, creating a safe and secure environment for the City's residents, businesses and visitors. In particular, the project supports the Charter's goal to "Create a City that is, and is perceived as being safe and secure".

OTHER STRATEGIC CONSIDERATIONS

The Detachment review projects support two strategic priority areas within the Surrey RCMP 2013-2017 Strategic Framework, and the following objectives in particular:

1. Stewardship – leverage technologies and best practices to enhance operational effectiveness.
2. Capacity Building (Our People) – ensure efficient and effective deployment of human resources; provide a healthy, respectful workplace with opportunity for employee feedback; support and encourage employee wellness.

CONCLUSION

The two streams of research activity demonstrate the Detachment's commitment to continuous improvement and evidenced-based decision making (intelligence-led policing). The research streams complement each other and will provide a better understanding of pressures and performance gaps in terms of resource levels and deployment, and identify opportunities to enhance the Detachment's service delivery and crime reduction efforts. The results from the research and the final reports will be presented to Police Committee at the next meeting scheduled for October 6, 2014.

Chief Superintendent **Bill Fordy**
Officer in Charge (OIC)
Surrey RCMP

Attachments:
Appendix I – Presentation Deck

RCMP
ROYAL CANADIAN MOUNTED POLICE

Examining the Surrey RCMP: Service Delivery Model Reviews

Royal Canadian Mounted Police | Gendarmerie royale du Canada

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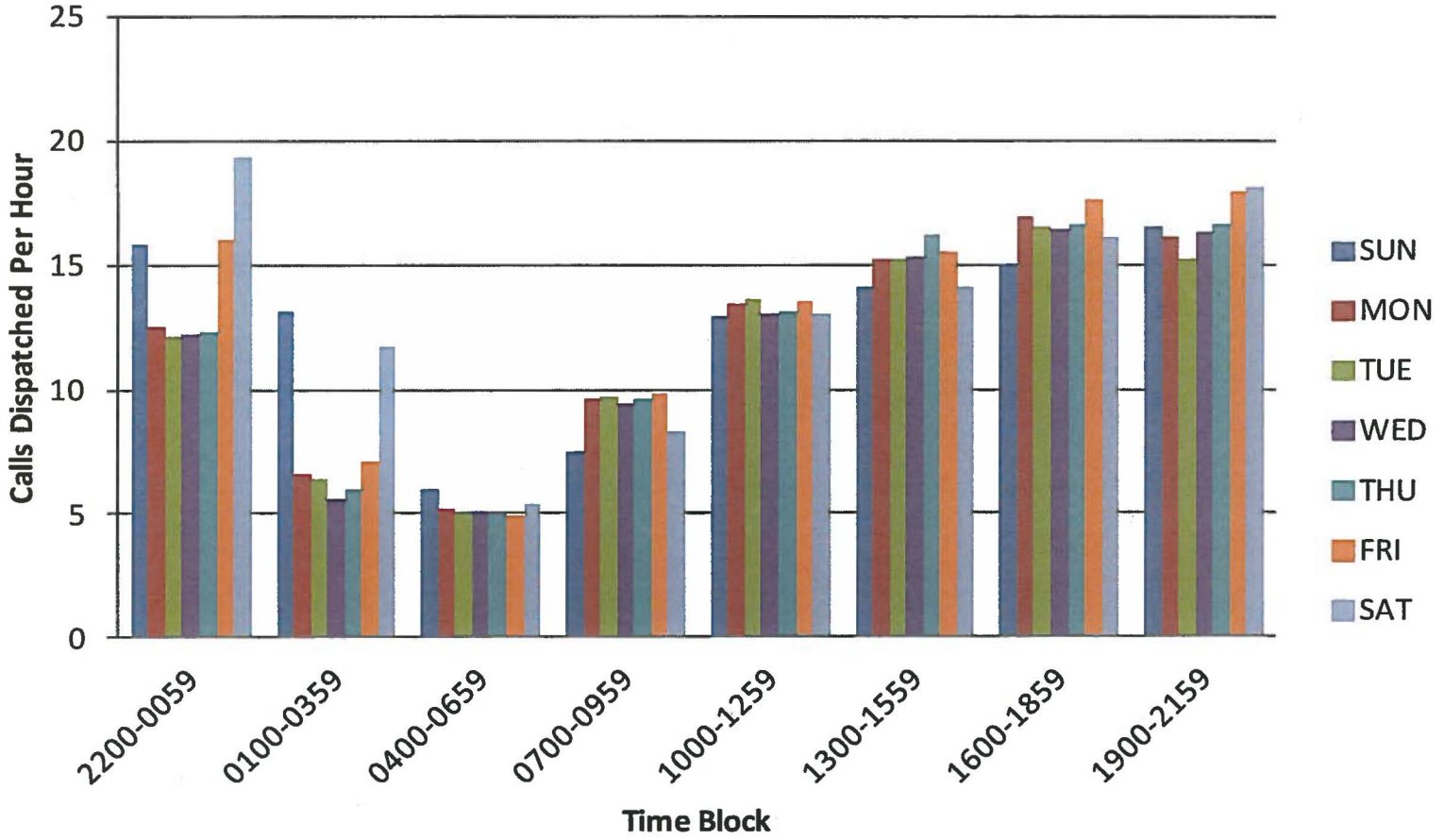
Measures of Police Workload and Service Levels

- Officers per thousand population in itself is not a measure of workload or service delivery.

- Policing is an increasingly labour intensive community service. Simply counting the number of calls for service does not allow for an examination of the call itself. Measuring and examining the time spent on investigating and resolving the calls for service from the general public is arguably a more accurate measure of the detachments effectiveness and resource needs. For instance, more severe offences require more significant resource allocation and take longer to investigate, resolve, or prosecute.

- Levels of reported crime do not take into account the significant number of non-criminal incidents police handle such as mental health and missing persons cases. Police files that are associated to a criminal offence comprise only 37.6% of dispatched calls for service.

Calls For Service - 2013



- During 2013, 108,389 calls from the public were dispatched which translates into 297 per day and is 1% higher than 2012.

Top 20 Dispatched Calls for Service (Surrey 2013)

Initial	Recommended	Dispatched as:						
Call Type	Priority	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5+	Total calls	Of Total
AB911	2	60	14627	107	11		14805	13.66%
ALARM	3	70	6620	33	4		6727	6.21%
DISTB	3	55	5803	364	4		6226	5.74%
CHECK	3	14	4144	623	5	1	4787	4.42%
SUSPP	3	14	3526	554	4		4098	3.78%
BNE	4	9	463	3203	17		3692	3.41%
ASSPFA	2	36	3104	454	72		3666	3.38%
SUSPC	3	29	2519	1011	8		3567	3.29%
BYLAW	4		183	3352	13		3548	3.27%
UNWANT	3	7	2776	671	1		3455	3.19%
THEFT	4	5	937	2282	94		3318	3.06%
MVI	3	14	2681	183			2878	2.66%
ASSGP	3	17	1619	1179	10		2825	2.61%
TRAFF	3	2	2255	528	23		2808	2.59%
ASLT	3	30	1827	834	5		2696	2.49%
THREAT	3	7	774	1722	3		2506	2.31%
SUSPV	3	7	1437	919	4		2367	2.18%
DRUGS	4		1086	562	74		1722	1.59%
MISSIP	3	7	1403	212	14		1636	1.51%
SHOPL	3	5	1437	53	2		1497	1.38%

Abandoned 911 Calls

Surrey AB 911 Calls - 2013				
Priority	**Created**	**Dispatched**	**Diverted**	**Percent**
P1	63	60	3	5%
P2	23,036	14,627	8,409	37%
P3	5,248	107	5,141	98%
P4	680	11	669	98%
P5	1	-	1	100%
	29,028	14,805	14,223	49%

- Of the 29,028 calls received 49% are diverted of AB911 calls from dispatching.

- These calls can be high risk, so discretion to not attend is limited. However, we continue to work with our partners at Canadian Association of Chiefs of Police & UBCM to reduce the number of false calls.

False Alarm Calls

- In terms of total Alarm calls, 56% are residential, 44% Commercial.
- 59% of Residential alarms attended were false.
- 87% of Commercial alarms attended were false.
- Approximately 11 minutes per member on shift per day is expended on false alarms (commercial and residential).

➢ REDUCING FALSE ALARMS WOULD BE HELPFUL BUT WILL NOT RESULT IN SIGNIFICANT TIME SAVINGS

Alarm Call Locations

- 9% of addresses with 4 or more alarms generated 32% of the total alarm calls.

- Thus, a greater focus on these addresses may be an effective way to reduce the number of false alarms.

Critical Policy Questions

- How fast should first response units respond to calls for service of different priorities?
- How much proactive time should the average GD unit have to work on strategic enforcement, crime prevention and community issues?
- How many units should be free on average to ensure officer safety?

Response Time Performance

	Calls	Dispath	Travel	Response	At Scene	Service
Priority	Dispatched	Delay (1)	Time (2)	Time (1+2)	Time (3)	Time (2+3)
1	2,828	1.5	6.2	7.5	42.1	49.8
2	74,660	3.6	8.1	11.5	34.2	45.4
3	29,657	69.8	25.3	87.6	37.9	52.3
ALL/AVG	107,145	25.0	13.2	35.5	38.0	49.2

- Priority 1 – Emergency response
- Priority 2 – Urgent
- Priority 3 – Routine

Queuing Model Results – Example from Waterloo

Time	Units Fielded	Emergency Response Time	% Problem Solving Time	2 Free Units
1500-1759	34.2	5 min = 45 6 min = 42 7 min = 40 8 min = 28	45% = 84 40% = 69 35% = 57 30% = 49 25% = 44	37

New Approach to General Duty Staffing Analysis

- The RCMP in British Columbia has adopted the Managing Patrol Performance (MPP) computer model for measuring General Duty Officer (GDO) staffing requirements.

- Surrey has been a leader in using MPP to assess GD staffing needs.

Managing Patrol Performance Computer Model - MPP

- Queuing model used for patrol staffing analysis (General Duty first responders).

- Based on formulas developed by Dr. Richard Larson at the Massachusetts Institute of Technology (MIT) in the 1970's.

- Used by major police agencies throughout North America to include Seattle, Los Angeles, Charlotte, Waterloo Regional, Edmonton, Calgary and York Regional.

Benefits of Using Queuing Models

- Models response times based on different performance goals and the number of General Duty fielded units
- Considers the impact of traffic congestion and road networks on response.
- Can help anticipate the impact of growth and development.
- Can be used to ensure equitable service throughout districts.

MPP Input Data

- First response units fielded
- Call rates per hour
- Number of units dispatched
- Travel and at scene time for units dispatched
- Work on tasks other than calls for service
- Priority of calls for service
- Travel time
- Square kilometers

MPP Performance Measures

- Time on calls and non-call for service work
- Proactive time for crime reduction strategies
- Average number of units free
- Percent of the time all units are busy
- Dispatch delay by priority of call
- Travel time by priority of call
- Response time by priority of call

UFV Review - Surrey RCMP in Context

- Crime Rates
- Crime Severity Index
- Workload
- Force Strength

Recommendation Areas

- Human Resources
- Financial Resources
- Technological Resources
- Physical Resources
- Operations/Tactics/Strategies
- Leadership and Communication
- The Role of Research and Evaluation
- Partnerships
- Accountability

Next Steps

- Prepare report by October 6th
- Report will identify staffing needs and recommendations