

AN ANALYSIS OF POLICE OFFICER VEHICLE TIME: The Case of Surrey RCMP Officers



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General duty police officers spend a significant amount of time in their patrol cars. In a recent study for the Surrey RCMP¹ on average, officers spent approximately half (49%) of each shift in their patrol car.² Of the time in their patrol vehicles, members spent nearly half of that time driving (48%) and the remaining portion sitting in the car with it idling. As might be expected, the amount of time a member spent in their car on any given shift varies depending on the size of the area they police and the specific job requirements of the particular shift.

The RCMP divides the City of Surrey into five zones. These zones differ in size so that some members may have to drive further to respond to calls for service. Still, this does not necessarily mean that a member in the largest zone will drive more during a shift than a member in the smallest zone because there may be more members in the larger zone and an officer in a smaller geographic zone may have more calls to respond to. At the end of the day, at least in Surrey, there are not substantial differences across zones in terms of the amount of time officers spend in their cars.³

Of interest was the degree to which the work activity of members was affected by how much time was spent in their patrol cars. In other words, do officers who spend the largest amount of time in their vehicles spend a relatively different amount of time responding to calls or working on their Mobile Data Terminals (MDTs)? On the other hand, is it that when members are in their vehicles, they basically spend the same proportion of their time on the same types of tasks and any differences are simply a function of the volume of work?

To understand what general duty police officers do while in their patrol cars, researchers conducted 441 full shift ride-alongs with 171 general duty members of the RCMP Surrey detachment in the summer of 2009 (Plecas et al., 2010).⁴ As part of this study, researchers recorded the amount of time that members were in their police vehicles, and what they were doing while driving or idling. Additionally, the number

¹ According to their website (www.bc.rcmp.ca), the Surrey Detachment of the RCMP has nearly 600 police (regular and civilian) members and a support staff of over 200 municipal employees. Surrey RCMP is also the second largest municipal police force in the province based on authorized police strength alone.

² There are a number of concerns associated with spending so much time in a police motor vehicle. For information related to officer breaks and nutrition, please see Cohen, Plecas, & McCormick. (2011). Getting a Break in General Duty Police Work: The Case of the Surrey RCMP. Centre for Public Safety and Criminal Justice Research. University of the Fraser Valley, and McCormick, Cohen, & Plecas. (2011). Nutrition and General Duty Police Work: The Case of Surrey RCMP. Centre for Public Safety and Criminal Justice Research. University of the Fraser Valley.

³ The Amount of time that members spent in their cars was also analyzed to determine if there were any substantial differences based on the characteristics of the members, such as gender or age, and on shift characteristics. The results indicated that there were no substantial differences.

⁴ For a detailed description of the study's methodology and general results, please see Plecas, McCormick, & Cohen (2010). RCMP Surrey Ride-Along Study: General Findings. Report Prepared for Surrey RCMP. The results indicated that the representation of general duty officers, in terms of their gender, age, marital status, years of service, and ethnicity, as well as the shift characteristics, such as the distribution of ride-alongs by Watch, zone, day of the week, night-shift vs. day-shift, and shift cycle was both evenly distributed and provided for excellent generalizability to the full detachment.

of kilometers travelled by each officer on each shift was recorded. This data was then categorized into three groups; those shifts in which the member drove the least amount (24% of shifts with an average distance of 57 km), those in which a member drove the most (26% of shifts with an average distance of 159 km), and those who drove somewhere in the middle (50% of shifts with an average distance of 95 km).⁵ Using these groupings, analyses were conducted to determine whether there were any substantial differences when considering the most common activities that members engaged in while in their police vehicles, and the proportion of shift time spent using their MDTs, radios, and cell phones while driving and idling.⁶

As expected, those members who travelled the most spent a greater proportion of their shift in their police vehicles and this additional amount of time was largely spent driving (see Table 1). Specifically, those who travelled the furthest distance spent the most time in their vehicles (53%) and the most time driving (28%) compared to those who travelled the least amount (41% in car and 17% driving).

TABLE 1: PROPORTION OF SHIFT TIME MEMBERS SPENT IN THEIR PATROL CARS (N = 278)

Shifts/Members	Avg. Distance Travelled	% of Shift Driving	% of Shift Idling	% of Shift in Car
Least Amount of Travel	57 km	17%	24%	41%
Moderate Amount of Travel	95 km	24%	27%	51%
Most Amount of Travel	159 km	28%	25%	53%
OVERALL	105 km	23%	26%	49%

When considering the most common activities members were involved with while driving their vehicles, nearly the entire time (88%) was spent on just four activities (see Table 2). In effect, while in their vehicles, members spent approximately half of their time (51%) engaged in general patrolling, one-quarter of their time (26%) responding to calls for service, and less than one-tenth of their time engaged in proactive patrolling (7%) or transporting prisoners (4%). More interesting was the finding that officers spent generally the same proportion of their driving time on each of the activities regardless of the overall amount travelled. For example, officers generally spent half of their driving time conducting general patrols and approximately one-quarter of their driving time responding to calls for service regardless of the amount travelled.

⁵ The average distance travelled for the entire sample was 105 kilometers.

⁶ Analyses were conducted using 278 of the 441 shifts as those shifts had complete travel data.

TABLE 2: PROPORTION OF DRIVING TIME BY MAIN PATROL ACTIVITIES (N = 278)

Shifts/Members	% on General Patrol	% Responding to Calls	% on Proactive Patrol	% Transporting Prisoners	% of All Time in Car Driving
Least Amount of Travel	52%	27%	5%	5%	89%
Moderate Amount of Travel	51%	27%	5%	5%	88%
Most Amount of Travel	51%	25%	11%	2%	89%
OVERALL	51%	26%	7%	4%	88%

Notably, the same general pattern held true when comparing the general trends presented in Table 2 in that there were no substantial differences based on the amount travelled with the one exception that members who travelled the most spent a slightly larger proportion of their idling time also engaged in general patrolling (18% compared to 11% for the other two categories) (see Table 3).

TABLE 3: PROPORTION OF IDLING TIME BY MAIN PATROL ACTIVITIES (N = 278)

Shifts/Members	% on General Patrol	% Responding to Calls	% on Proactive Patrol	% Transporting Prisoners	% of All Time in Car Idling
Least Amount of Travel	11%	4%	1%	1%	18%
Moderate Amount of Travel	11%	4%	1%	1%	17%
Most Amount of Travel	18%	4%	2%	1%	25%
OVERALL	13%	4%	1%	1%	19%

Another analysis focused on members' use of their MDT, radio, and cell phones. Again, there are very few and minor differences across travel groups while officers were either driving (see Table 4) or idling (see Table 5). The only notable difference was related to the use of MDTs while driving for those members who travelled the largest distance during a shift. Here, those who travelled the most spent one-third of their driving time also using their MDT compared to nearly half of the time (42%) for members of the other two groups. One concern is that regardless of the amount of distance travelled, members spend a considerable amount of time multi-tasking with their MDT while driving which places them at greater risk for being involved in a motor vehicle crash (Anderson, Courtney, Plecas, & Chamberlin, 2005; Cohen, Plecas, Mahaffy, & Levine, 2009). Of lesser concern, a much smaller proportion of driving time also had members using their radio (4%) or their personal cell phone (2%).

TABLE 4: PROPORTION OF DRIVING TIME MEMBERS SPENT USING EQUIPMENT (N = 278)

Shifts/Members	% of Driving Time Using MDT	% of Driving Time Using Radio	% of Driving Time Using Cell
Least Amount of Travel	42%	5%	3%
Moderate Amount of Travel	42%	5%	3%
Most Amount of Travel	33%	4%	2%
OVERALL	39%	4%	2%

As expected, the proportion of time a member spent on their MDT was much greater when the vehicle was idling (see Table 5). Still, there was virtually no difference based on the amount of distance travelled during a shift. Instead, on average, members spent slightly more than three-quarters of their idling time (77%) on their MDT.

Table 5: Proportion of Idling Time Members Spent Using Equipment (n = 278)

Shifts/Members	% of Idling Time Using MDT	% of Idling Time Using Radio	% of Idling Time Using Cell
Least Amount of Travel	78%	3%	9%
Moderate Amount of Travel	77%	4%	8%
Most Amount of Travel	74%	3%	8%
OVERALL	77%	3%	8%

As mentioned above, a concern is not just the amount of time members spent on their MDT while driving, but the total amount of time spent in the car using their MDT (59% of the total amount of time members are in their vehicles) (see Table 6). This is a concern because of the ergonomics and the potential damage to the upper and lower back of members wearing a bulletproof vest and their utility belt while using their MDT for so much of their shift. In terms of real time, on average, members used their MDT for approximately 3½ hours per shift. This suggests that members were sitting in a somewhat twisted position for a nearly 30% of their shift. While newly designed patrol cars will assist with this issue by having a swivel seat for the driver, it will not reduce the amount of multi-tasking that members currently engage in or reduce the physical harms associated with this behavior for those operating the current generation of police motor vehicles.

TABLE 6: OVERALL PROPORTION OF TIME MEMBERS SPENT USING EQUIPMENT (N = 278)

Shifts/Members	% of Car Time Using MDT	% of Car Time Using Radio	% of Car Time Using Cell
Least Amount of Travel	63%	4%	7%
Moderate Amount of Travel	61%	4%	5%
Most Amount of Travel	52%	3%	5%
OVERALL	59%	4%	5%

As mentioned above, there were no substantial differences in the issues considered here by the gender, age, or years of service of members. The absence of member characteristic differences or substantial differences by the amount of travelling members do during a typical shift suggests that car activities are generally a function of the volume and nature of the work involved. In other words, members can expect to spend the same proportion of their shift time in their vehicles, the same proportion of their shift time driving and idling, and the same proportion of their shift time engaged in several key activities. What distinguishes zones, watches, and day and night shifts is the volume of police work, not the nature of it.

References

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