BC CENTRE FOR SOCIAL RESPONSIBILITY

Policing Persons under the Influence of Drugs and Alcohol in Vancouver, British Columbia

Amanda V. McCormick, Raymond R. Corrado, Irwin M. Cohen, & Scott Thompson

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Contents

Introduction

Anecdotally, alcohol and drug use contribute to a large proportion of police calls for service; however, limited research is available to identify exactly how much time is spent by police on policing substance-based crime or the effect it has on police resourcing (Andréasson, Nilsson, & Bränström, 2009; Donnelly, Scott, Poynton, Weatherburn, Shanahan, & Hansen, 2007). One method of studying the proportion of police activities involving persons under the influence of alcohol is to identify what proportion of people were incarcerated as a result of alcohol use. With this methodology, Collins and Lapsley (2002, as cited in Donnelly et al., 2007) identified that one in ten (11 per cent) persons in Australia were incarcerated for reasons attributable to alcohol, resulting in an annual cost to police of $648 million. However, as Donnelly and colleagues (2007) noted, this methodology was extremely limited as police encounter many other calls involving alcohol that do not result in incarceration of the person in question. In fact, when looking more generally at whether an individual was drinking at the time of their offence, rather than specifically at whether alcohol was the reason for their offence, the proportion of alcohol-based crime responded to by Australian police increased to nearly one-quarter (23 per cent) (Donnelly et al., 2007).

A second methodology was used in Anchorage, Alaska, where observational reports on police activities were completed by an observer after participating in a ride-along with officers. This data suggested that one-quarter (26 per cent) of all police-citizen encounters were alcohol-related, and that alcohol-related encounters accounted for one of every three minutes (34 per cent of all minutes) the police spent with the public (Mystrol and Langworthy, 2004).

A third methodology was employed by Donnelly and colleagues (2007) in Australia, where police recorded the nature of alcohol-related incidents, as well as the length of time spent on that incident each shift. Overall, slightly more than one-third of all shifts (38 per cent) involved alcohol-based activities; however, as expected, this varied by time and location. Specifically, over half (59 per cent) of shifts occurring predominately overnight had alcohol-related activities, while two-thirds (66 per cent) of shifts over the weekend had alcohol-related activities. In addition, certain areas of Australia were more likely to experience alcohol-based crime than others. In general, the authors calculated that police spent slightly less than one-tenth (8 per cent) of their work hours on alcohol-related activities, corresponding to a cost of approximately AU$50 million per year. However, it is important to note that in addition to responding to alcohol-based crime, alcohol-related activities in this study also involved proactive activities, such as attending meetings related to alcohol use or performing audits or patrols of licenced premises (Donnelly et al., 2007). Thus, this study has limited generalisability in terms of understanding the effect of alcohol-based incidents on police activities. A further study in Australia focused specifically on incidents responded to by the police and found that approximately one-quarter of incidents involved alcohol, while 3% involved drugs (Palk, Davey, & Freeman, 2007). Alcohol-based incidents were most often disturbances or traffic-based calls; however, these offences occurred consistently in metropolitan and non-metropolitan areas suggesting that alcohol had a consistent effect on police resources across jurisdictions.

Alcohol and Other Drug Monitoring Project

The current project originated from a large scale multi-method Centre for Addictions Research British Columbia (CARBC) study for monitoring substance use in British Columbia. The assumption of the multi-disciplinary research team lead by Professor Tim Stockwell, Director of CARBC and Professor in the Department of Psychology at the University of Victoria, after an extensive review of the monitoring literature, was that no single method for monitoring poly-drug use provided valid estimates of the distribution and consumption of alcohol and drugs in British Columbia. The CARBC project, therefore, employed several monitoring methodologies. One method involved utilizing police officers' observations of drug and alcohol use during their daily patrol and beat duties covering the 24-hour day. As there have been no studies utilizing this approach in a Canadian context, the current report summarizes an exploratory project designed to assess the feasibility of a police-based monitoring methodology for the assessment of substance related incidents in Vancouver, British Columbia. This involved the collection of drug and alcohol data directly by Vancouver Police Department (VPD) patrol officers regarding their daily contacts with the general public. Beyond the exploration of the monitoring methodology, the VPD also were interested in its utility to address several related policy concerns. The project was developed through a partnership between the BC Centre for Social Responsibility (BCCSR), led by Dr. Raymond Corrado, Dr. Irwin Cohen, and Amanda McCormick, and the Vancouver Police Department (VPD), coordinated by Inspector Scott Thompson. The project was funded through a grant provided by CARBC.

Policing Persons Under the Influence of Drugs and Alcohol

One of the basic challenges routinely confronting police officers is interacting with individuals under the influence of drugs and alcohol. Substance impairment not only affects the ability of a police officer to obtain basic information from an individual, but it can also increase safety concerns for both the police officer and the impaired person. Current police training, however, is primarily based on a conflict resolution model that assumes most encounters involve individuals who are capable of rational thought and related communication abilities. Yet, if a substantial proportion of a general duty officer's routine contact with the public involves individuals under the influence of drugs or alcohol, adjustments to police education and training protocols might be considered. The adjustments would emphasize both a more informed understanding of the challenges such impairments can cause and the increase in interpersonal skills required to more safely engage an uncooperative, irrational individual in a wide variety of situations, especially those with potential for reactive violence. To date, there is no information about the frequency of police officers daily encounters with alcohol and/or drug impaired persons.

Researchers typically rely on official data, such as charge rates or convictions for substance-related offences, to determine the extent that police contacts involve persons under the influence of substances. However, these official data are methodologically limited, primarily because the absence of mandatory reporting on substance use in police contacts. For example, when updating their General Occurrence reports into police databases, such as PRIME, police are not required to indicate whether alcohol or drugs impaired the individual. In addition, General Occurrence reports

are not completed for all police-public contacts. In effect, official data based estimates of extent of drug and/or alcohol related contacts with police very likely are substantial underestimations.

In addition to official sources, information concerning the types of police substance related contacts with the general public are largely anecdotal. Yet, beyond the obvious and regularly monitored substance users, who are typically already known to the police, it has been difficult, from a policy perspective, to assess quantitatively the extent that drugs or alcohol are challenging issues for police officers during daily patrol functions and routine interactions with the general public. A key VPD policy concern was whether police involvement with the general public regarding drug-related or alcohol-related contacts varied by the four main VPD geographic districts. Very importantly, for example, there has been a longstanding assumption that alcohol/drug use was very high in the downtown entertainment Granville area in District 2 which explained both the disproportionate amount of violence that occurred there and the resulting need for more routine policing resources to protect the general public. A related policy concern was whether welfare cheques issued on "Welfare Wednesday" caused an immediate and substantial increase in alcohol and substance abuse and a sharp increase in related police contacts in District 1. Therefore, this VPD monitoring project, if the methodology was validated, could address specific policy issues, such as the training of officers in dealing with their contacts with the general public regarding substance use and abuse, and the distribution of police resources where and when they are most needed to deal with substance-related issues.

Data Collection

Over a period of many months, and with the contributions and insight of VPD, several revisions to the methodology and the data collection instruments were undertaken. In addition, data collection took place during four different calendar periods. To avoid putting disproportionate responsibilities on only a few officers selected through sampling, all officers working during the eight-day data collection period were asked to participate in data collection. Each officer was provided 15 data collection cards in each of four envelopes to be collected during each of their four shifts.

The data collection card was based on a template of the warrant card used by the VPD in their previous research. As a result of discussions with VPD's Information and Privacy Unit Coordinator, the project monitoring card did not include either personal identifiers, such as the name, date of birth, or residential information of the persons of interest, or any information regarding the officer. Substance related information consisted of: whether the person of interest was suspected or confirmed to be under the influence of alcohol and drugs; and, specifically what substances were present. In addition, reasons for the police contact were recorded using the most common responses recorded on the PRIME system as a guideline.

As well as the type of substance and the reason for contact, the VPD was interested in the presence and degree of violence officers experienced during their contacts with the public. The degree of violence was measured as low, moderate, or high corresponding to the categories of simple or level

one assault, assault causing bodily harm or level two assault, and level three; aggravated assault, a coding system familiar to the police.

Given the essential need to avoid a bulky card that would interfere with officer's ability to both access and complete the card quickly, the card was restricted to four information sections: substance contact demographics (district, time, and date); person of interest demographics (gender, age, residential community); contact information (reason for contact, presence of violence); and substance related information (alcohol or specific type of drug). The back of the card was left blank to allow the recording of additional commentary (see Appendix A for a reproduction of the data collection card).

The VPD is organized into four main districts, plus the downtown core (see Figure 1). Each of the four Districts is composed of five teams (Alpha, Bravo, Charlie, Delta and Echo) which correspond to overlapping 11 hour shifts with the exception of the Delta shift which is 12 hours in duration, with all of the teams working on a four days on/four days off rotation. The Alpha (5:00 AM to 4:00 PM), Charlie (2:00 PM to 1:00 AM), and Echo shifts (7:00 PM to 6:00 AM) consisting of 30 members each were used to in the study in order to provide a 24 hour/8 day coverage for the study period. In addition, there is a specialized team of officers that work exclusively in the Downtown Eastside (DTES) called the Beat Enforcement Team (BET). This consists of four teams each with 12 members.

FIGURE 1: VANCOUVER POLICE DEPARTMENT DISTRICTS

There are substantial variations in these districts not only in the numbers of persons, but the types of persons e.g., intravenous drug users, most likely to have contact with the police. For example,

approximately 94,000 people populate District One during the day; however, during special events, such as the "Celebration of Light" (fireworks), the nighttime population substantially increases. District One is also the area where tourists and non-residents tend to visit, as it consists of the Trade and Convention Centre, several sports centres, and a concentration of bars and pubs, particularly in the Granville Street District, which is noted as having the city's highest concentration of establishments primarily serving liquor.

In District Two, because of the distinctive public protection needs, the extraordinary concentration of residents and visitors with mental health needs, typically related to alcohol/drug use, and the more pervasive homelessness and transiency, each area (Grandview-Woodlands, Hastings Sunrise, and Strathcona) has four community policing offices based on the principles of problem-oriented policing. District Two also has foot and bicycle beat officers, as well as a Waterfront Team. A Beat Enforcement Team (BET) specifically patrols in the Downtown Eastside with the goal of providing high visibility policing. This team focuses on special initiatives, such as seizing, rather than investigating, minor drug possession, with a drug enforcement practice focused primarily on trafficking versus drug possession and targeting violence (VPD, 2010). Cards collected in this District uniquely reflect either the Downtown Eastside (BET District) or the remainder of District Two.

District Three is located in the southeast of Vancouver and has approximately 220,000 residents. Within this district, Neighbourhood Integrated Service Teams, which are in each district, focus on responding to community problems, such as the maintenance of buildings, safety in public, and problem tenants. In addition, there are two community policing offices. District Four is located in the southwest of Vancouver and includes almost half (48 per cent) of the geographical area of Vancouver, with approximately 36% of the city's residents. There are 125 officers working in rotating shifts in this district. The most common police responses with the general public are property-related incidents, such as thefts, house alarms, or break and enter. There are two community policing centres in this region staffed by approximately 90 volunteers. In effect, District 4 and District 3 consist of the largest segments of the population (36% and 35% of Vancouver's population, respectively), it was anticipated that District One would experience many more alcohol-related problems compared to the other Districts, whereas drug-related problems would be concentrated in the BET area.

Regarding project involvement, officers from each District received an information sheet and were briefed about the project and trained on the use of the data collection card by Inspector Scott Thompson during the standard daily briefing sessions. Officers were also instructed that, at the end of their shift, they should indicate on the front of the envelope containing their contact cards the total number of substance related contacts and the total number of contacts overall (including substance and non-substance related) they had in the shift as this would allow for the calculation of the proportion of contacts in a typical shift that involved substances.

Prior to data collection, this project received approval from the VPD and research ethics approval from the University of the Fraser Valley's Research Ethics Board. The data was collected during a pre-test period followed by three periods of data collection (identified as Times 1 through 3). While the eight-day data collection period in the first two actual phases of the project deliberately avoided

Welfare Wednesday to avoid potentially skewing the data, Time 3 specifically occurred over this period. The latter period facilitated an empirical assessment of the above hypothesized relationship between Welfare Wednesday and both the distinctive types and general quantities of substance-related police contacts.

Pre-Test Results

In total, 66 cards were collected from District Two and the BET in the initial pre-test phase in July 2009. Because this phase was a pre-test only designed to assess the reliability concerns regarding the officers filling out the cards in the field, complete data was not collected on the total number of contacts officers had during the shift. Typically, most of the cards were completed at night (89 per cent), usually between 11pm and 2am (68 per cent).

The contact data form this phase indicated that persons of interest reported on the cards were disproportionately male (75 per cent) with an average age of 36 years old (range 15 – 80 years old), and residing in the Vancouver area (79 per cent). At the time of the police contact, these contact persons overwhelmingly were under the influence or in possession of only one substance (89 per cent), most commonly alcohol (58 per cent), followed by crack cocaine (27 per cent) or cocaine (13 per cent). The most common reasons for the contacts with the police were calls regarding: a suspicious person or annoying circumstance/person (21 per cent); a request for assist the public (18 per cent); an assault (17 per cent); mental health issues (11 per cent); and a street check (11 per cent). At the time of the contact, 14% of the persons of interest were coded by the officer as violent with an additional 3% coded as threatening.

The results of this pre-test indicated the need for several changes to the data collection card. Very importantly, several officers noted that certain information categories were missing from the card. As a result, additional categories were added, such as "No Fixed Address" for *Community of Residence* and "Street Check" as an option for *Main Reason for Contact*. Another reliability concern raised was the confusion regarding the District category; some officers working in BET indicated District Two, rather than specifying BET. The card was revised to include BET as a specified option.

Another set of reliability issues involved the instructions regarding the data collection procedures. First, there was some misunderstanding concerning the label on each envelope that asked for the total number of contacts; several officers interpreted the total number of contacts as only substance-related contacts. Instructions and training were enhanced to more explicitly specify that officers record the total number of all contacts during a shift in order to allow for the subsequent calculation of the proportion of substance related contacts per shift.

Second, because several officers filled out the violence section even when the contact was non-violent, officers were subsequently instructed to only record the "level of violence" section when they indicated that the person was violent. This confusion also resulted in some officers indicating both "not violent" and "low violence level" for a single contact in the pre-test data. Third, in approximately one-quarter of cases (n = 15 or 23% of cards), cards were completed when the contact was neither not under the influence nor in possession of drugs or alcohol Again, the

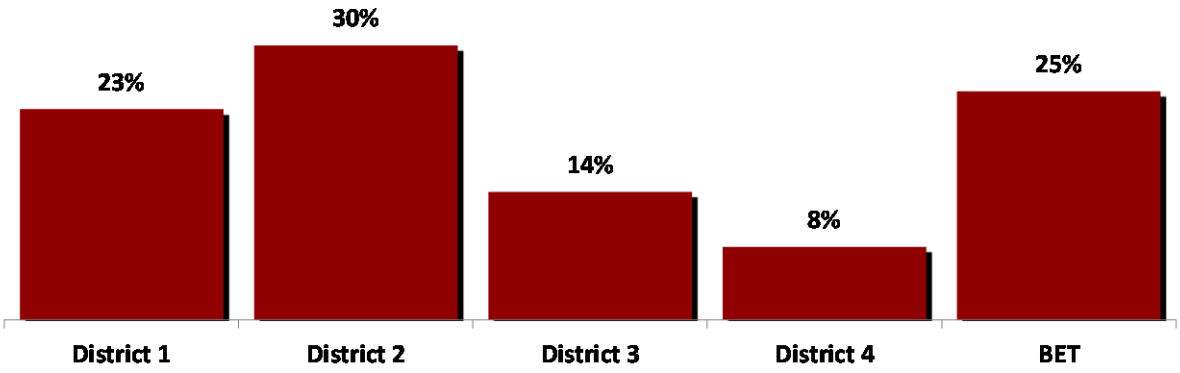
instructions were reworded to indicate to officers that cards were only to be filled out when drug and/or alcohol influence and/or possession were suspected or confirmed, and that violence levels should only be checked off when the person of interest was violent during the contact.

General Study Results

As mentioned above, data was collected during an initial pre-test in July 2009 (n = 66 cards), with three additional data collection periods in August 2009 (n = 303 cards in 76 shifts), November 2009 (n = 294 cards in 84 shifts), and November/December 2010 (n = 430 cards in 136 shifts). However, 91 cards indicated no suspected substance use (Time 1 = 67; Time 2 = 21; Time 3 = 3). It appeared that these cards were filled out for these contacts because officers overwhelmingly suspected or confirmed a mental health issue (n = 85; 93 per cent). Not surprisingly, given that the mental health issues in the BET District population are primarily drug-related, none of these cards were completed in the BET District, but were distributed somewhat evenly in the other three districts; District Two (33 per cent), District Three (29 per cent), District Four (24 per cent), and with the fewest in District One (13 per cent). These contacts were more likely to involve violence (33 per cent) than non-mental, non-substance related contacts (0 per cent); however, they were less likely to involve threatening behaviour (0 per cent) than non-mental health and non-substance related contacts (17 per cent). Because these incidents did not involve alcohol or drugs, these cases were not included in any additional analysis. As a result, the final total of substance-related cards in this study was 936.

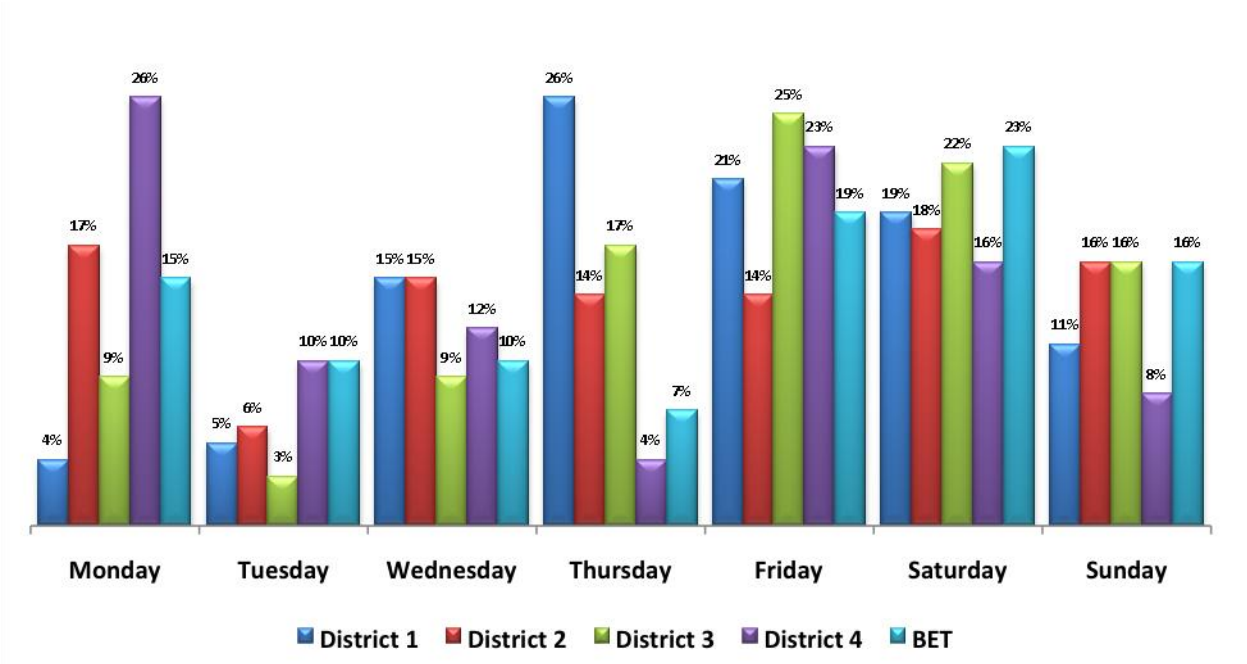
As expected, the majority of substance-related cards were from District Two (30 per cent) including the BET (25 per cent) (see Figure 2). In contrast, very few cards were collected in District Four (8 per cent). Three quarters of the cards were completed during night shifts (75 per cent; between 1800 hours and 0600 hours).

FIGURE 2: PROPORTION OF DATA COLLECTION BY DISTRICT (N = 936)



Cards were most likely filled out on Fridays (19 per cent) and Saturdays (20 per cent), while very few were filled out on Tuesdays (7 per cent).

FIGURE 3: PROPORTION OF CARDS IN DISTRICTS BY DAY OF THE WEEK (N = 936)



Persons of Interest

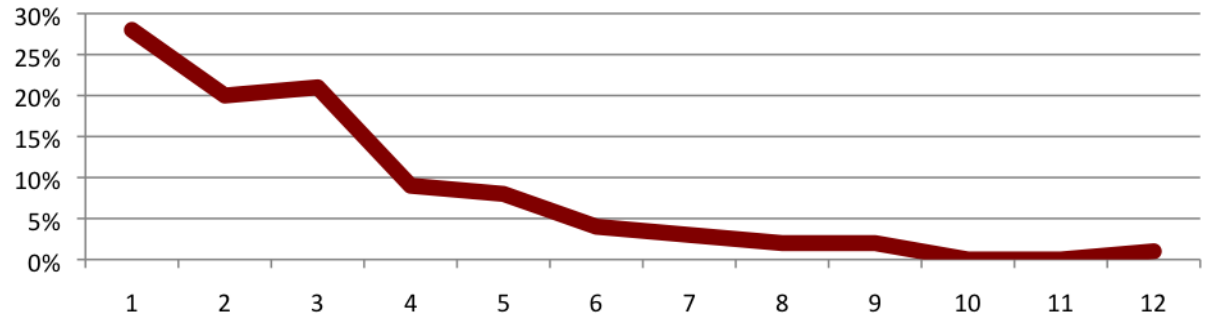
Of the 936 substance-related contacts, approximately three-quarters (74 per cent) involved males, and over three-quarters (78 per cent) involved an individual whose primary residence was the City of Vancouver. The average age of the contacts was 33 years old with a range of 14 years old to 79 years old; the most common age was 25. Less than 5% of the data involved contact with a minor. Generally speaking then, substance-related contacts involved local adult males who lived in Vancouver. Unfortunately, given that the data was anonymous, the number of repeat contacts with the same individual could not be determined.

Substance-Related Findings

Officers were asked to record the number of substance-related contacts, as well as the total number of overall contacts they had during their shift. Officers for 296 different shifts collected cards over the three data collection periods. Nearly all shifts (n = 289; 98%) recorded the total number of substance-related contacts that occurred; this ranged from one substance-related contact to 12 substance-related contacts in a typical 11-hour shift (X = 3) (see Figure 4). It is important to note here that no shifts indicated zero substance-related contacts. However, this does not necessarily mean that all shifts involved at least one substance-related contact; it is possible that officers who

did not experience any substance-related contacts simply did not return their envelopes to the researchers. In contrast, 6% (n = 18) of shifts were missing the total number of overall contacts that occurred on that shift. The remaining shifts indicated that a range of one to 71 contacts occurred on that shift (X = 11).

FIGURE 4: NUMBER OF SUBSTANCE RELATED CONTACTS PER SHIFT



To determine the proportion of contacts in a typical shift that involved substances, a ratio of substance contacts to overall contacts was computed for the 272 shifts where both substance-related contacts and the total number of contacts on that shift were recorded. Overall, approximately half (48 per cent) of all the contacts during the shift involved at least one substance-related contact. However, it is important to note that 59 shifts recorded that all of their contacts in that shift were substance-related. Since it was not possible to determine whether this data was recorded accurately or whether the officer recorded the total number of *substance*-related contacts as opposed to their overall number of contacts on the envelope label, the analysis was repeated after removing these 59 shifts. When the remaining 213 shifts were analyzed, one-third (33 per cent) of all contacts were substance-related.

Of note, although Friday and Saturday shifts resulted in the most cards being completed, the overall proportion of substance related contacts on these two days were among the lowest (X = 30% and X = 29%, respectively), whereas the greatest proportion of substance related contacts occurred on Sundays (X = 39%) and Tuesdays (X = 36%). In contrast with the research literature, this suggests that Friday and Saturday shifts experienced a greater number of contacts overall, but not relatively more substance-related contacts.

However, when based on the analysis of the individual 936 cards, at the time of the police contact, nearly three-quarters of the individuals (71 per cent) were identified as being under the influence of alcohol, while nearly one-third (31 per cent) were coded as under the influence of drugs. Less than one-tenth (7 per cent) was coded as under the influence of both drugs and alcohol. In addition to the officer being certain about the cause of a contact's impairment, nearly one-fifth (17 per cent) of contacts indicated that the officer believed it possible that the contact was under the influence of both alcohol and drugs. In only a very few cases (n= 32, 3 per cent) did the officers indicate that they could not determine the substance used.

Typically, contacts were suspected of being under the influence of only one drug (90 per cent); most commonly, crack (58 per cent). In only a miniscule number of contacts (n = 20), did cards suggest multiple substance use; most commonly cocaine and crack, or cocaine/crack and another drug, such as marijuana or heroin. However, and very importantly, since it is possible that the officer might have been uncertain about what type of drug the contact was using, especially when poly-drug use was suspected, these findings should be interpreted with caution. Still, even with this caution in mind, there was sufficient information to estimate that the majority of drug-influenced contacts were believed to be using only one drug, with one-quarter of these contacts also under the influence of alcohol.

Reasons for Police Contact

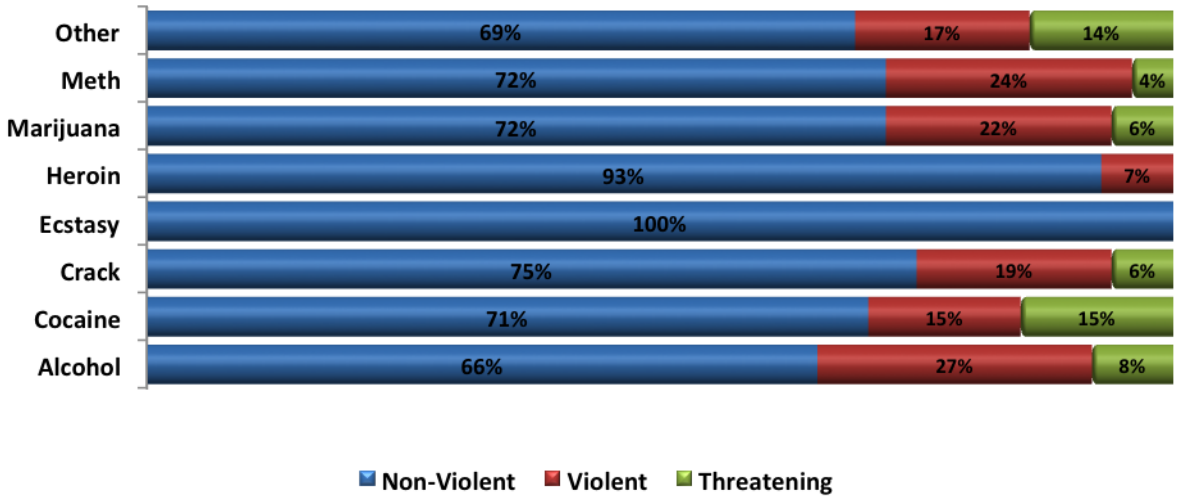
The most common reason for the contact was a Street Check (28 per cent), followed by Assist the Public (13 per cent), Assault (12 per cent), and Suspicious Event/Person or Disturbance/Mischief (11 per cent each). As was reported in the phase one pre-test, a surprisingly small percentage, approximately one-twentieth (6 per cent), of contacts involved a mental health concern. Similarly small percentages were reported for a suspected intoxicated person in public (6 per cent), and a traffic stop (4 per cent). Slightly more than one-tenth (14 per cent) was for another reason; primarily, these contacts were crime-related, such as a theft (n = 5) or a warrant (n = 4).

Nearly one-quarter (23 per cent) of the persons of interest were identified as being violent, and approximately 7% were coded as threatening. Of the violent contacts, half were coded as engaging in low levels of violence (50 per cent), while slightly more than one-third were coded as moderately violent (37 per cent), and slightly more than one-tenth were coded as engaging in a high level of violence (13 per cent). The likelihood for violence did not differ based on whether the contact was believed to be suffering from a mental illness since the same proportion of mental health contacts (24 per cent) and non-mental health contacts (23 per cent) were coded as violent. Violence was much more likely to be characteristic of contacts related to either an assault (52 per cent), a suspicious intoxicated person in public (44 per cent), or a disturbance/mischief (33 per cent).

The expected relationship between violence and alcohol was found; one-quarter of instances with either confirmed alcohol use (26 per cent) or suspected alcohol use (25 per cent) indicated violence, whereas violence was only recorded in 13% of cases without alcohol use.[1] Moreover, of the 200 cards reflecting violence, alcohol use was confirmed for four-fifths (80 per cent). However, a different pattern was evident regarding drug use related contacts and violence; violence was equally evident whether one was under the influence of drugs (20 per cent), possibly under the influence of drugs (23 per cent), or not under the influence of drugs (23 per cent). As indicated in Figure 5, the relationship between the particular suspected type of drug and violent contact/threat of violent contact indicated that individuals were more likely to be under the influence of alcohol, methamphetamine, and marijuana than other substances.

[1] x^2 (4) = 18.3, p = .001

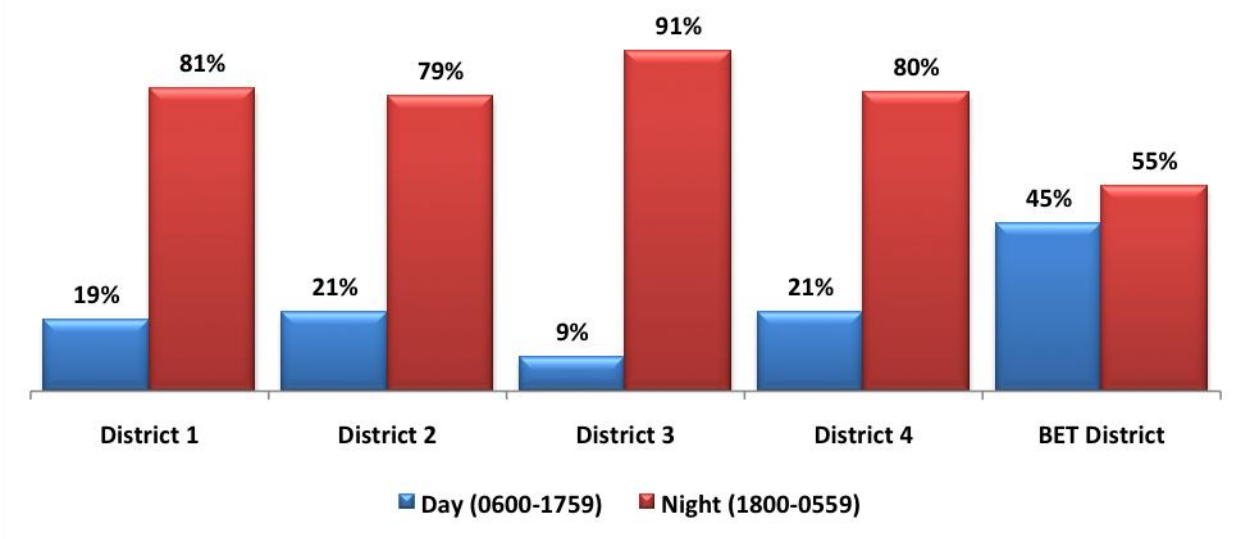
FIGURE 5: THE RELATIONSHIP BETWEEN DRUG TYPE AND VIOLENCE



Variations by District

There were several differences in the time of day a substance-related contact occurred since substantially more such contacts occurred at night. This was most evident for District Three; however, not surprisingly, the BET district was nearly as likely to have substance-related contacts during the day and night (see Figure 6). Again, the BET district includes the Downtown Eastside segment of Vancouver, an area where 24-hour street visible substance use and abuse occurs.

FIGURE 6: TIME OF SUBSTANCE RELATED CONTACT



A resource related question VPD was interested in exploring was whether District 1, the main entertainment district, experienced an increase in substance-based contacts on weekend nights. However, the proportion of substance-based contacts occurring on weekend nights (Fridays and Saturdays from 1800 hours to 0059 hours) did not differ substantially from the figure above. Specifically, 85% of weekend contacts in District 1 occurred during the night, whereas 79% of non-weekend contacts in District 1 also occurred during the night. In other words, Friday and Saturday nights did not appear to have a major effect on the proportion of substance-based contacts in District 1. Somewhat surprisingly, only District 4 experienced a significant variation in the proportion of substance-based contacts between night and day shifts.[2] This was unanticipated since District 4 experienced a substantially higher proportion of substance-based contacts on non-weekend nights (89 per cent) than on weekend nights (66 per cent). In effect, officers working Sunday through Thursday nights in District 4 experienced substantially more substance-based contacts than officers working Friday and Saturdays night in District 4.[3]

Gender and Age Variations of Contacts by District

Interestingly, the gender and age of the contact varied by district. Although males were most predominant (83 per cent) in District One, they comprised approximately three-quarters of the substance-related contacts in District Three (76 per cent), District Four (77 per cent), and the BET District (76 per cent), yet slightly less than two thirds (64 per cent) of the contacts in District Two.[4] Also, contacts were significantly older in the BET District (X = 37 years old) than either Districts

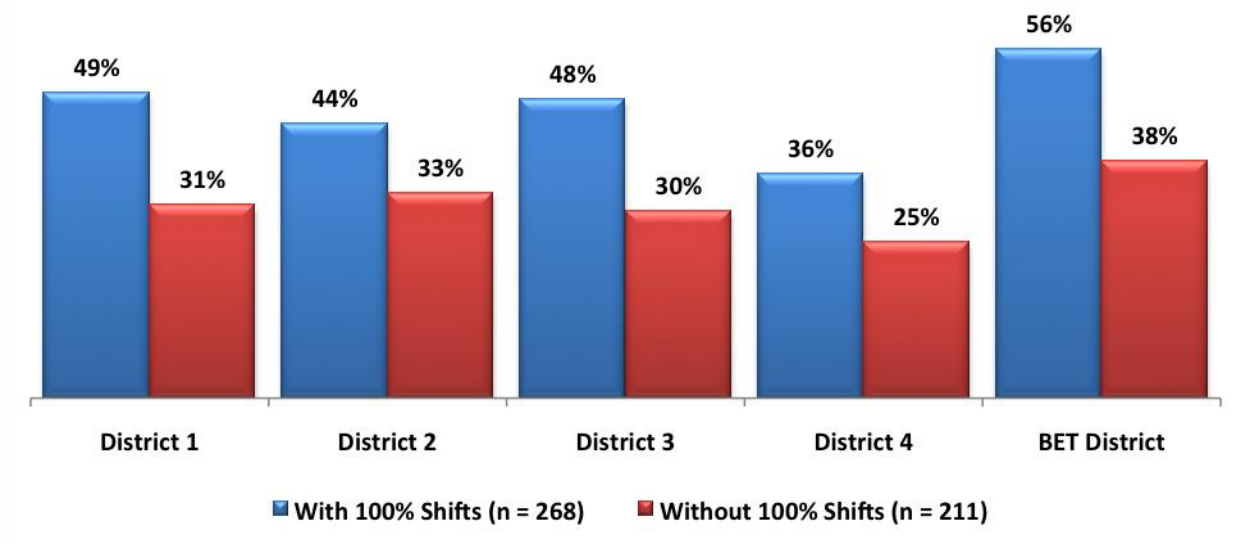
[2] x^2 (1) = 5.7, p = .017
[3] It is possible that officers may have had more time during the weekday nights and Sunday to complete the cards, whereas they may have been busier on Friday and Saturday.
[4] x^2 (4) = 24.7, p < .001

One (X = 31 years old), Two (X = 33 years old), or Three (X = 30 years old).[5] Possibly, the extensive night time focused entertainment establishments in District One attracted a younger male clientele, while the BET has an older permanent and transient population, again, associated with disproportionately high drug and alcohol use.

Alcohol and Drug Related Variations

The proportion of drug or alcohol contacts did not vary substantially by district other than the BET District.[6] The lowest proportion of drug or alcohol contacts occurred in District Four (36 per cent), and, as expected, the highest proportion was in the BET District (56 per cent). As noted above, a substantial proportion of shifts included officers who questionably reported that all of their contacts were drug or alcohol related. Given that this estimate could not be validated, the analysis was repeated dividing the data into those shifts with and without all contacts being substance related. Again, the results were non-significant (see Figure 7). Nonetheless, officers in the BET District reported the highest rate of drug and alcohol contacts (38 per cent), and officers in District Four reported the lowest proportion (25 per cent).

FIGURE 7: PROPORTION OF DRUG OR ALCOHOL CONTACTS BY DISTRICT

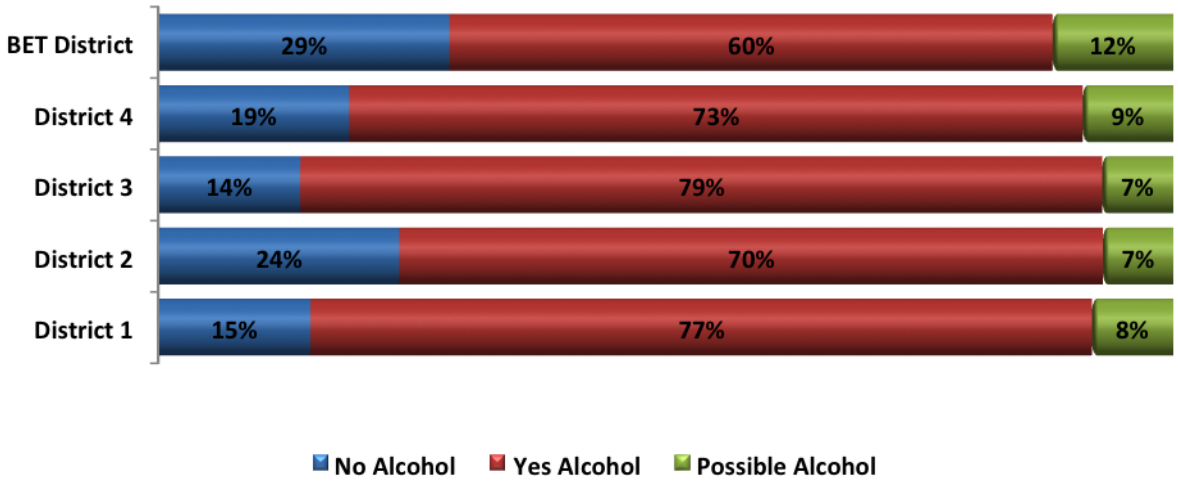


Although the proportion of contacts did not vary substantially by district, there were some interesting differences in the patterns of alcohol and drug contacts when examining the 936 cards. Alcohol use varied by district with District Three the most likely to record contacts under the influence of alcohol and the BET District the least likely (see Figure 8).[7] It was unanticipated that District Three would record the greatest proportion of alcohol-related contacts; instead, District

[5] F (4, 836) = 11.9, p < .001
[6] F (4, 180) = 1.8, p > .05
[7] x^2 (8) = 23.6, p < .01

One was considered most likely to face alcohol-related contacts given the concentration of liquor primary establishments. However, to put these findings in context, it is important to note that District Three had the second lowest proportion of cards collected overall, whereas District One contributed nearly one-quarter (23 per cent) of all substance-related contact cards collected. Therefore, although District Three is the most likely area to experience alcohol-based contacts, in terms of actual numbers, their experience with alcohol-based contacts with the public was much lower (n = 98 alcohol cards) than in the other districts, whereas alcohol-based contacts occurred in greater numbers in District One (n = 150 alcohol cards).

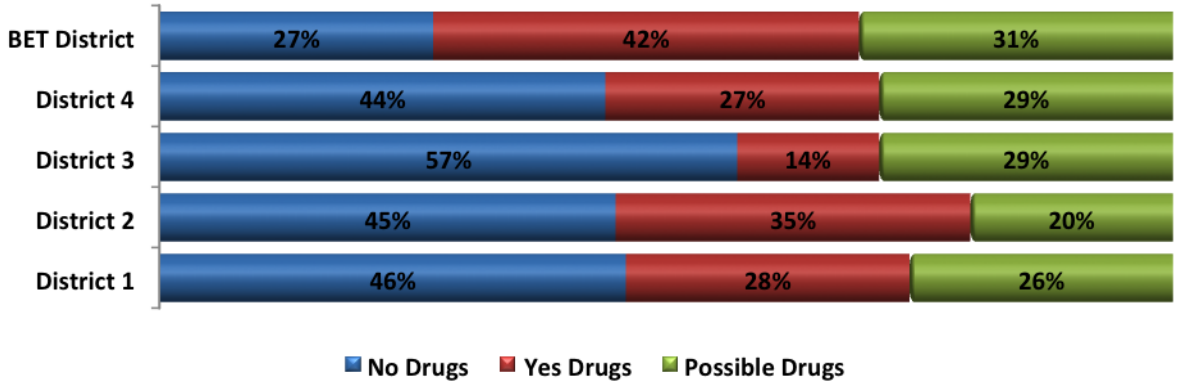
FIGURE 8: ALCOHOL CONTACTS BY DISTRICT



Similarly, drug use varied by district. As demonstrated above, while the BET District had the least recorded alcohol contacts, it had the most frequently confirmed or suspected drug contacts.[8] Conversely, although it had the highest proportion of alcohol contacts, District Three had the least recorded drug contacts. In other words, police officers operating in the more residential communities with more detached and expensive housing in District Three recorded primarily alcohol-related contacts, while BET officers in the Downtown East side with low-income hotels and socially subsidized housing, along with emergency shelters and a large homeless/street population, they were more likely to have contacts with individuals under the influence of drugs (see Figure 9).

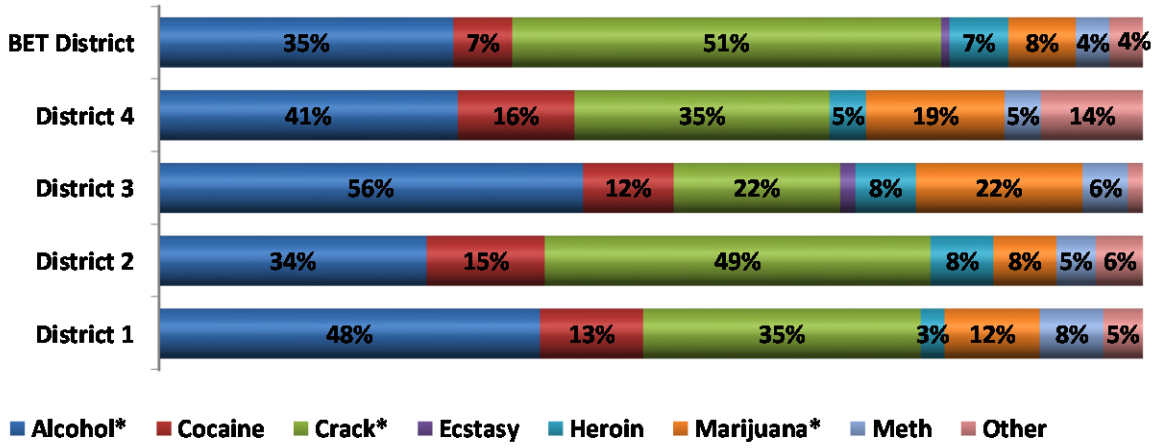
[8] x^2 (8) = 46.5, p < .001

FIGURE 9: DRUG CONTACTS BY DISTRICT



Consistent with this District variation, there were several significant differences among substance-related contacts between districts in the proportion of contacts under the influence or in possession of alcohol,[9] crack,[10] and marijuana[11] (see Figure 10). Again, the BET District and District Two were the least likely to have alcohol-related contacts, and the most likely to have contacts with individuals under the influence or in possession of crack. The most common substance in the other districts was alcohol. Nonetheless, in these other Districts, it was unexpected that after alcohol, when a contact was impaired by a drug or in possession of a drug, the most common substance was crack.

FIGURE 10: TYPE OF DRUG IN DRUG-RELATED CONTACTS BY DISTRICT (N = 473)

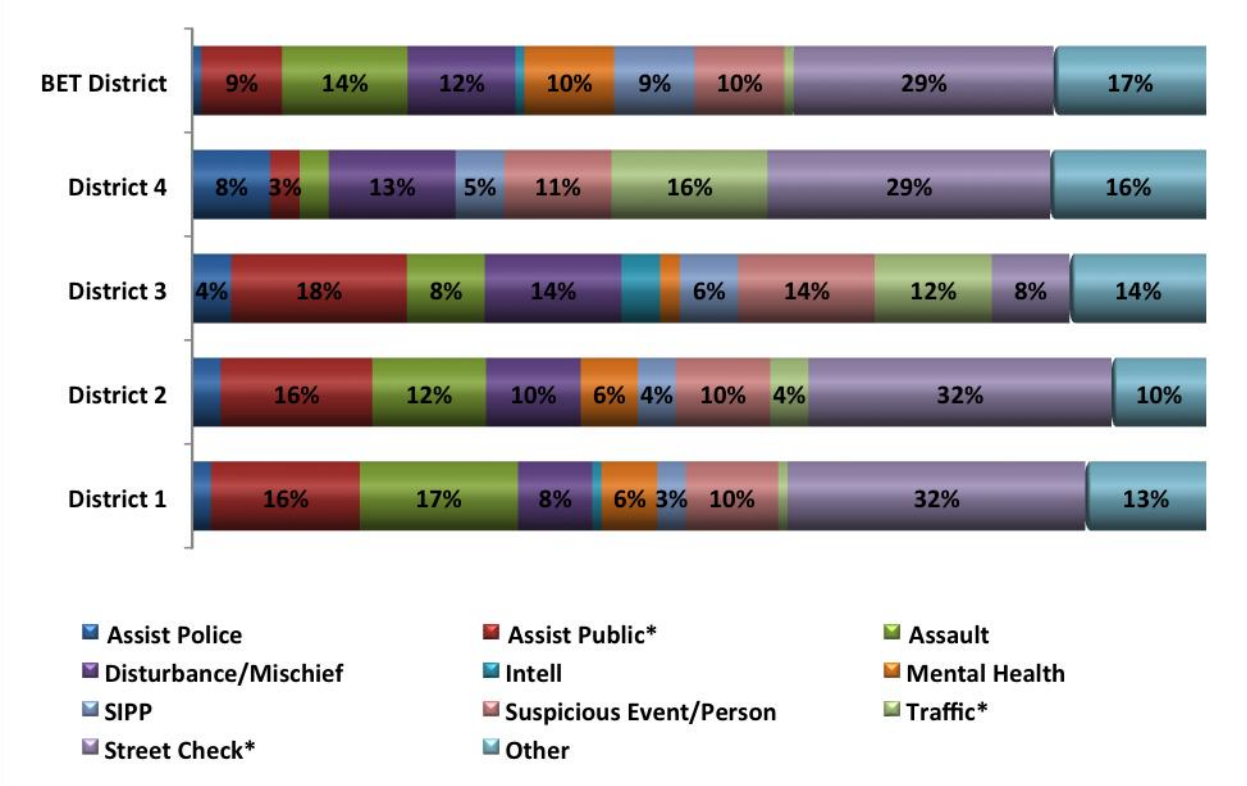


[9] x^2 (4) = 12.0, p <.05
[10] x^2 (4) = 18.3, p = .001
[11] x^2 (4) = 11.0, p < .05

Variations in Reasons for Contact by District

As previously stated, "a street check" was the most common reason for a drug or alcohol related contact. However, the reasons for the contacts varied significantly by District (see Figure 11). First, in Districts One, Two, and Three, police contacts were substantially more likely to occur because of an Assist Public request.[12] Second, contacts resulting from a traffic stop were most likely to occur in District Four and Three.[13] Third, street checks were very unlikely to be the reason for a contact in District Three, but were much more common in the other Districts.[14] In effect, the reason for a police contact varied substantially by district. As discussed above, this was somewhat expected since, in the more residential districts, there are far fewer routine public encounters with the police other than traffic-related incidents, whereas street or other public interactions with the police more routinely occur in Districts One and Two because of entertainment and business locations, as well as the presence of high density housing.

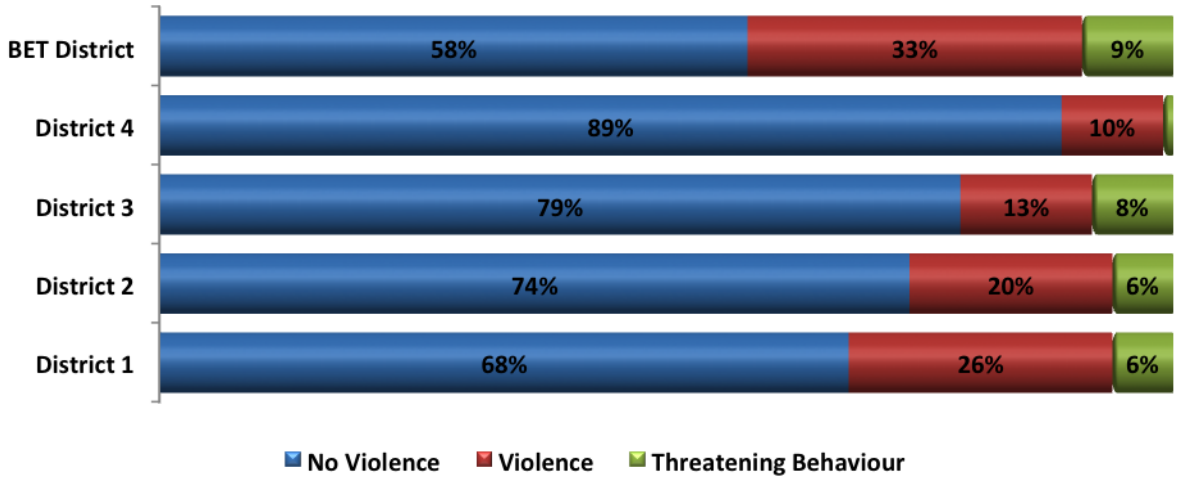
FIGURE 11: REASON FOR POLICE CONTACT BY DISTRICT



[12] x^2 (4) = 9.6, p < .05
[13] x^2 (4) = 29.1, p < .001
[14] x^2 (4) = 11.7, p < .05

The likelihood for a substance related contact to include violence also varied significantly by District.[15] Not surprisingly, violence was the least likely to occur in District 4 and the most likely to occur in the BET District (see Figure 12). This was an interesting finding given that violence appeared to be associated with alcohol use in a previous analysis and alcohol use was less likely to occur in the BET District and most likely to occur in District Three. Moreover, despite having the most alcohol use recorded, District Three had the second lowest level of violence. However, District One was more consistent with the literature, having both the second highest rate of alcohol-related substance contacts and the second highest rate of violence.

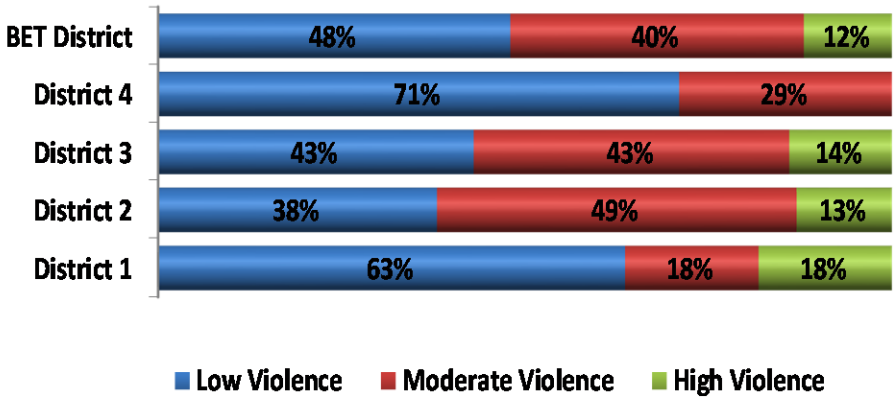
FIGURE 12: LIKELIHOOD OF VIOLENCE BY DISTRICT



In contrast to the significant trends in violence, the degree of violence differed by district, but not significantly.[16] Low levels of violence were most common in District Four and One, whereas moderate levels of violence were more common among the contacts in the other districts (see Figure 13). However, of the incidents of high levels of violence, most occurred in District One, which was also one of the districts with the highest levels of alcohol use among contacts.

[15] x^2 (8) = 37.4, p < .001
[16] x^2 (8) = 13.3, p > .05

FIGURE 13: DEGREES OF VIOLENCE BY DISTRICT



Variations by Data Collection Period

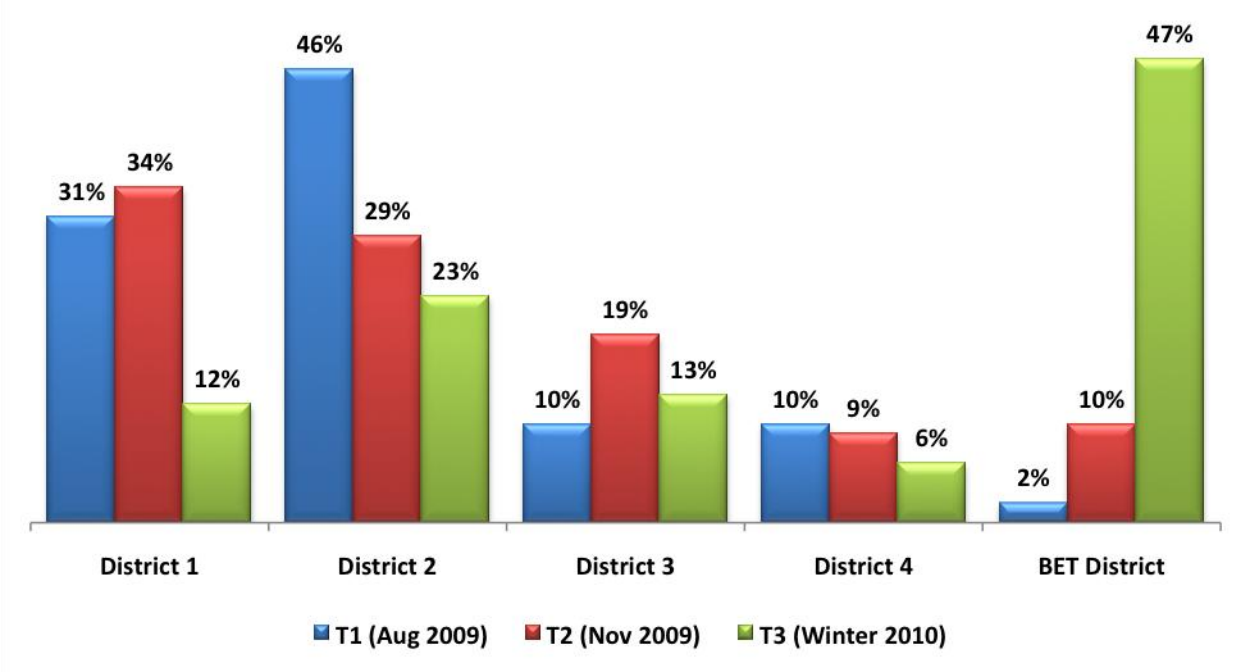
It was important to consider whether the nature or frequency of substance-related calls varied by the data collection periods therefore one of the periods (Time 3) purposefully included "Welfare Wednesday". Of note, substance-related contacts were slightly, but statistically significantly, more likely to occur at night during the Time 2 data collection period (82 per cent) than Time 3 (71 per cent).[17] However, there was far less variation between Time 1 (76 per cent) and Time 3. The more frequent reports of drug and alcohol related contacts during the day in Time 3, as was previously predicted, is very likely explained by the commonly held police hypothesis that there is a causal relationship between the dissemination of welfare cheques to individuals with major mental health problems, including addictions, and the increase in police contacts involving substance use. As expected, there was a statistically significant difference in the proportion of contacts that were substance-related in the cards collected in shifts occurring around Welfare Wednesday (n = 91) and those collected in shifts around non-Welfare periods (n = 122). Specifically, less than one-third (30 per cent) of cards collected in the non-Welfare period shifts were substance-related, compared to 37% of those collected from the Welfare period shifts.[18]

One reliability concern, though, was that the greater number of contacts reported during the third data collection period may have been a result of greater officer familiarity and buy-in with the project. Nonetheless, the comparison of the number of cards collected in each district during the data collection periods supported the Welfare Wednesday hypothesis. For example, in Districts One through Four, fewer contacts with impaired individuals were collected in the Time 3 period in sharp contrast with the BET District which had nearly a five-fold increase in the number of

[17] x^2 (2) = 9.4, p < .01
[18] t (211) = - 2.6, p < .01

impaired contacts (Figure 14).[19] In addition, despite containing the Downtown Eastside of Vancouver, the BET District had a substantially lower number of impaired contacts during the first and second data collection periods, which suggested that substance-related contacts increased substantially around Welfare Wednesday, but was lower than the other districts during other parts of the month. Outside of Welfare Wednesday, it appeared that District Two in particular, followed by District One, had the most contacts with people under the influence of alcohol or drugs.

FIGURE 14: PROPORTION OF SUBSTANCE-RELATED CONTACTS BY DISTRICT AND DATA COLLECTION PERIOD

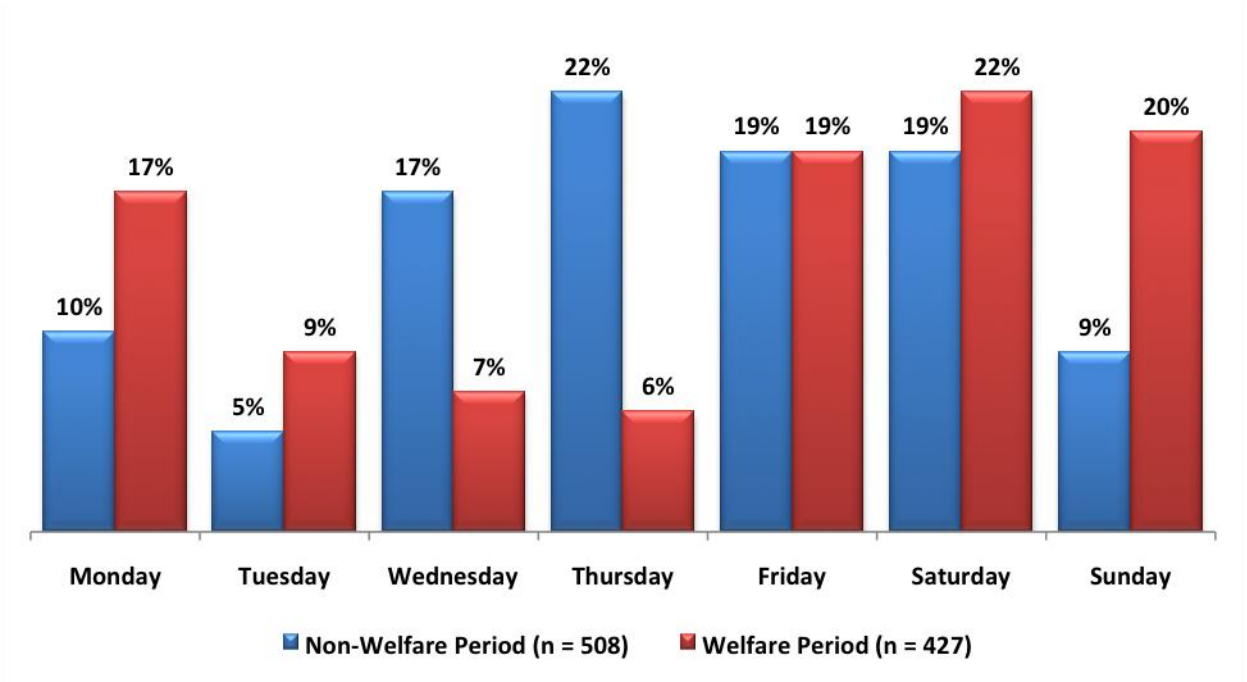


There were interesting findings concerning the day of the week the card was collected. Whereas days on or close to the weekend (i.e. Thursday through Saturday) resulted in the greatest proportion of cards collected during the non-Welfare periods, Sundays and Mondays were the most likely days for cards to be collected during the Welfare periods (Figure 15). It was unexpected that there would be such a substantial drop in the proportion of substance related cards on Wednesday and Thursday shifts in the Welfare periods, as it would be anticipated that more substance related contacts would occur immediately following the distribution of these cheques. A possible explanation for this finding was that during this period of data collection, Vancouver experienced a severe drop in weather with temperatures far below freezing. Anecdotally, an officer participating in the project hypothesized that this abnormal weather resulted in a short-term substantial decrease in typical calls for police service and a reduction in normal police activities, such as street checking members of the public. It would, therefore, be useful to include additional periods of data

[19] x^2 (8) = 235.6, p < .001

collection in the future around Welfare Wednesdays since the findings from this study may have been affected by the weather conditions and may have led to a somewhat inaccurate understanding of the effect of Welfare Wednesday on substance-based contacts.

FIGURE 15: PROPORTION OF SUBSTANCE-RELATED CONTACTS BY WELFARE PERIOD AND DAY OF THE WEEK



Alcohol and Drug Related Variations

The VPD officers experienced a significantly higher rate of substance-related contacts in the Winter 2010 period (56 per cent) compared to the November 2009 period (37 per cent); however, the Winter 2010 period did not differ significantly from August 2009 (45 per cent).[20] This analysis was repeated again without the shifts reflecting 100% substance-related contacts. Although the Winter 2010 data collection period continued to have a slightly higher rate of substance related calls (37 per cent) than the November 2009 period (31 per cent), this difference was no longer significant; however, the Winter 2010 period now differed significantly from the August 2009 period (28 per cent).[21] These differences suggest another period of data collection would be useful to ensure that the data was being collected properly given that the trends suggested that, for some periods, officers might have been recording only the total number of substance related contacts in a shift, rather than the total number of overall contacts and that the proportion of substance-related

[20] $F(2, 143.7) = 9.5, p < .001$
[21] $F(2, 210) = 3.7, p < .05$

contacts in these shifts differed significantly based on whether 100% shifts were or were not included.

Alcohol-based contacts did not vary substantially by data collection period; one-fifth of contacts did not involve alcohol at Time 1 (20 per cent), Time 2 (18 per cent), and Time 3 (23 per cent). In contrast, drug-based contacts did vary; significantly more drug-related contacts were reported in Time 2 (56 per cent) than Time 1 (40 per cent) and Time 3 (35 per cent).[22]

The type of substances that contacts were either suspected or confirmed of being under the influence of was also compared by data collection period; however, there were no differences in the types of substance(s) recorded during the three data collection periods.

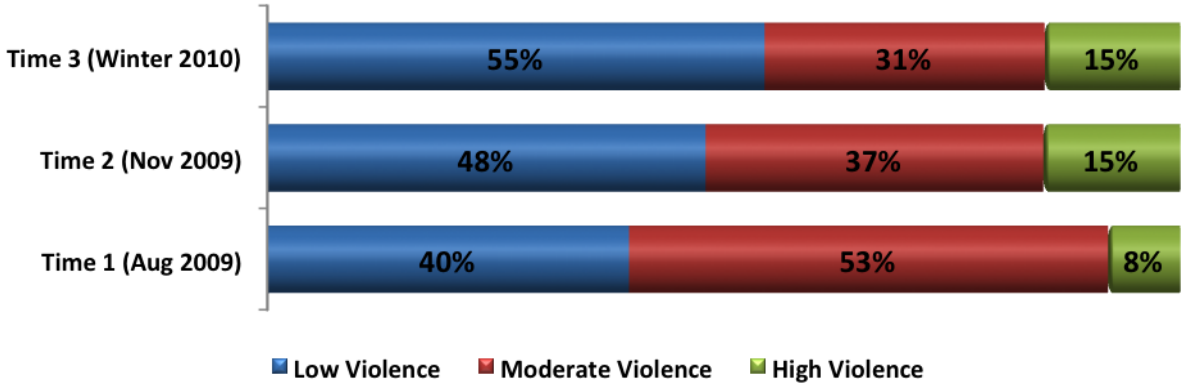
Variations in Reason for Contact by Data Collection Period

Generally, the reasons for the police contact did not differ among the three data collection periods, with the exception of street checks. Although street checks were the most common reason for contact in all three periods, it was far less likely the reason in Time 3 (23 per cent) than in Time 1 (33 per cent) or Time 2 (36 per cent).[23] Again, because Time 3 included Welfare Wednesday, it was not unexpected that another common reason for contact in this period included assist public (15 per cent) and assaults (14 per cent)

Although an absence of violence was more likely to be noted in Times 2 (75 per cent) and 3 (71 per cent) than Time 4 (68 per cent), this was neither a substantial nor a significant difference. In all three time periods, there were very few contacts coded as involving high levels of violence. As well, there were no statistically significant differences between the three coding periods (see Figure 16).[24] This absence of significant differences regarding violence was somewhat surprising given that Time 3 included Welfare Wednesday. While not statistically significant, Time 3 did not have the highest proportion of violent contacts, and had a greater proportion of violent contacts coded as low. As discussed above, Welfare Wednesday was associated with a higher number of contacts and different reasons for the contacts; however, these differences apparently were not associated with significantly higher levels of violent contacts with the police.

[22] x^2 (4) = 27.7, p < .001
[23] x^2 (2) = 8.5, p < .05
[24] x^2 (4) = 6.2, p > .05

FIGURE 16: LEVELS OF VIOLENCE BY DATA COLLECTION PERIOD AMONG VIOLENT CONTACTS (N = 195)



Discussion

This project had several main goals. Firstly, it sought to assess the feasibility of police-based monitoring of substance-related incidents. Despite some difficulties identified with the recording of the total number of alcohol and drug related contacts which reduced the total number of contacts available for some analyses, the general police-based monitoring methodology for estimating alcohol and drug use as an integral part of a multi-methodology approach is supported by this study. First, this police-based component approach provides a 24-hour citywide estimate of alcohol and drug use contacts in the most diverse contexts. Second, the combination of patrol cars and beat foot patrols are better placed in areas where alcohol and drug use is likely to be high, but are not as amenable to being recorded by other methodologies. For example, the police card method is blended into the 24-hour daily police routine and, therefore, does not require the hiring and presence of researchers for the same time period and to cover an enormous geographic area. Certain contexts also raise obvious safety concern for non-police researchers approaching individuals to assess and record alcohol and drug use. Third, police officers, through training and extensive routine contacts with the general public and addicted users, have the expertise to make quick summary assessments of alcohol and drug incidents.

Despite the success in achieving this first goal, there are some recommendations to improve data collection in future studies utilizing this police based methodology. This project benefited from having a pre-test period where some areas of clarification were identified. Several of the more consistent issues throughout this project included completing the label on the cover of the envelope, returning envelopes when shifts had no substance related contacts, and completing the cards for substance-based contacts only. First, it was likely that some officers interpreted the "total number of contacts in shift" to mean substance contacts. In future studies, researchers should consider asking police to complete both the total number of substance contacts and the total number of all contacts to ensure clarity on what information is being recorded. Second, it appeared that officers tended to return their envelopes only when they had at least one substance-based

contact, which meant that the generalizability of the finding that one-third of shift contacts involve substances can only be extended to shifts where at least one substance-based contact occurred. It is possible that, considering all shifts, a much lower proportion of contacts involved substances. Third, there were cards returned to the researchers that were completed, but did not indicate possible or confirmed substance use. It appeared that these cards were collected because the contact involved mental health issues. This suggests a need for further clarity in the instructions provided to the officers. Furthermore, since it was unclear whether only a sub-group of participating officers were completing cards for mental health contacts, the data could not reliably be analyzed to determine what proportion of all calls were mental health-related.

Another limitation of this project was the emphasis of the information collected. This information specifically focused on the type of substance-related contacts with the public; however, mental health-related contacts also anecdotally represented a large proportion of an officer's activities, particularly in certain districts. Thus, future research should consider completing cards for mental health contacts. Regardless of whether the cards collected substance and/or mental health information, measuring the length of time calls take is also of interest; it is possible that one contact could effectively tie an officer up for the duration of their shift. In this regard, contacts in the current project that indicated 100% substance-related contacts in a shift could be valid. However, given the concern with how accurately these labels were filled out for these shifts, it could not be reliably concluded whether some officers did in fact experience only substance-related contacts in their entire shift. Moreover, while it was determined that approximately one-third of all shift contacts were substance-based, the duration of shift time these calls took to complete could not be determined in the current project. Other information limitations concerned the recording of unique identifiers of the persons of interest. It would be interesting to determine whether a small segment of the population is responsible for a large number of substance-related contacts; however, because officers only recorded gender, age, and general city of residence, this analysis could not be conducted.

The second major goal of this project was the policy concerns of the Vancouver Police Department related to the policing of substance-related contacts with the public. As mentioned in the brief literature review, policing alcohol use and abuse are major concerns for police. The prevalence of this type of alcohol contacts was a consistent finding in the current report; with the exception of the Downtown Eastside, officers in the other districts primarily had contacts with subjects under the influence of alcohol.

The Downtown Eastside sub-community of Vancouver was not only the most likely to experience substance-related contacts between police and public, but, as noted above, was the most likely to experience drug specific contacts, typically crack. It was also the district where violence was most likely to be reported, although the severity of that violence was generally low. As well, unlike other districts, substance contacts in this district generally were equally likely to occur in the day and the night. In contrast, in the other districts, substance-based contacts overwhelmingly occurred at night and were more alcohol focused. In effect, this research confirms that this section of Vancouver differs requires a unique policing approach, such as provided by the BET, which specifically patrols in the Downtown Eastside and implements initiatives targeted at the unique needs of the

community. Again, types of contacts varied even within the areas outside of the Downtown Eastside, since District Four (uptown and Kitsilano), despite having the largest proportion of land and population, experienced the fewest substance-related contacts. Also, unlike the other districts, District 4 had fewer substance-related contacts on Friday and Saturday nights and had more on non-weekend evenings.

As mentioned above, in the other Districts, particularly Districts One and Three, alcohol was more characteristic of police-public encounters than were drugs. This finding suggests that police working in these areas of the city may benefit from increased training that considers the unique risks of dealing with intoxicated people. As discussed in the brief literature review in the introduction, there are distinctive challenges for the police when they engage intoxicated individuals, therefore, additional training in alternative methods to control this sub-set of the population and to reduce the risk of violence may be required. In effect, there are substantial differences among districts in the types of police resources that need to be allocated, depending in large part to pattern of encounters with alcohol, drugs, and violence by district.

Conclusion

This police-based methodology of measuring alcohol and drug police-public contacts suggested that approximately one-third of contacts with the police involve substances. The nature of that substance depended on area, with alcohol being a more consistent issue in most parts of the city, whereas drugs were a specific concern in the Downtown Eastside. While this was likely already anecdotally known by many Vancouver police officers, this project provided empirical support for those assertions. Moreover, in addition to providing some baseline data regarding the proportion of police-public contacts that are substance-related, this study also demonstrated the initial validity and feasibility to collect data directly from street-level officers. With a few minor revisions, this methodology can easily be adapted by other communities who wish to map and measure the nature and extent of substance-based police-public contacts in their own jurisdictions with the goal of making recommendations for police training, policies, and practice.

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