



Evaluation of Auckland General Deterrence of Drink- Driving Partnership Operations

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05/02/2025

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Definitions and notes

Main weekend drinking hours are defined for the purposes of this report as the **hours** between 10 PM–2 AM on Fri/Sat evening & Sat/Sun morning. All the breath alcohol test results quoted in this report occurred during those hours.

The unit of measurement mcg means in this context micrograms of alcohol per litre of breath.

DSIs means deaths and serious injuries.

Police means the New Zealand Police, located in Auckland.

Police breath test numbers in this report refer to breath tests where the location of the test has been geocoded. Occasionally a test may not be geocoded due to lack of ability to communicate with the appropriate satellites.

Background

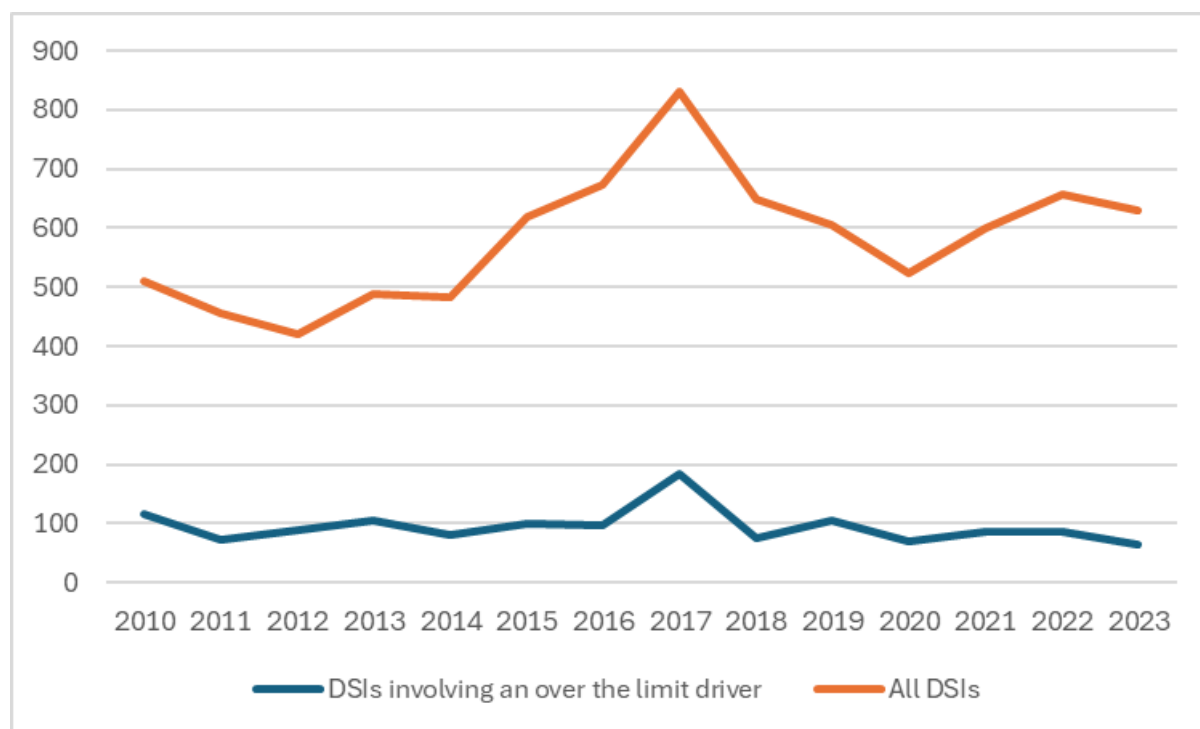
Auckland Transport (AT) and the New Zealand Police, located in Auckland actively work together to reduce road trauma in the Auckland Region. This includes anti-drink driving operations. The aim of the operations is to bring together mass media messaging with enforcement activities to reduce drink driving. The enforcement tools used in the operations are compulsory breath testing at checkpoints (general deterrence) and officer testing when an officer in a patrol car stops a driver and tests their breath for alcohol (specific deterrence). The enforcement is supported by accompanying publicity supplied by both AT and the Police. This report concerns two such operations, Drink Free Summer and Operation Multiplier.

Drink Free Summer ran from Friday 24 November 2023 until the end of February 2024. The communications material was shared via organic media channels without any dedicated budget, which was a considerable constraint. A key learning from Drink Free Summer 23/24 was an inability to get the audience reach sought with only unpaid media.

Operation Multiplier ran from Monday 17 June 2024 to Sunday 4 August 2024. The campaign used some successful creative ideas from Drink Free Summer and further developed and improved them. A key difference was that following on from the Operation Drink Free Summer learnings, \$100,000 was spent on paid marketing.

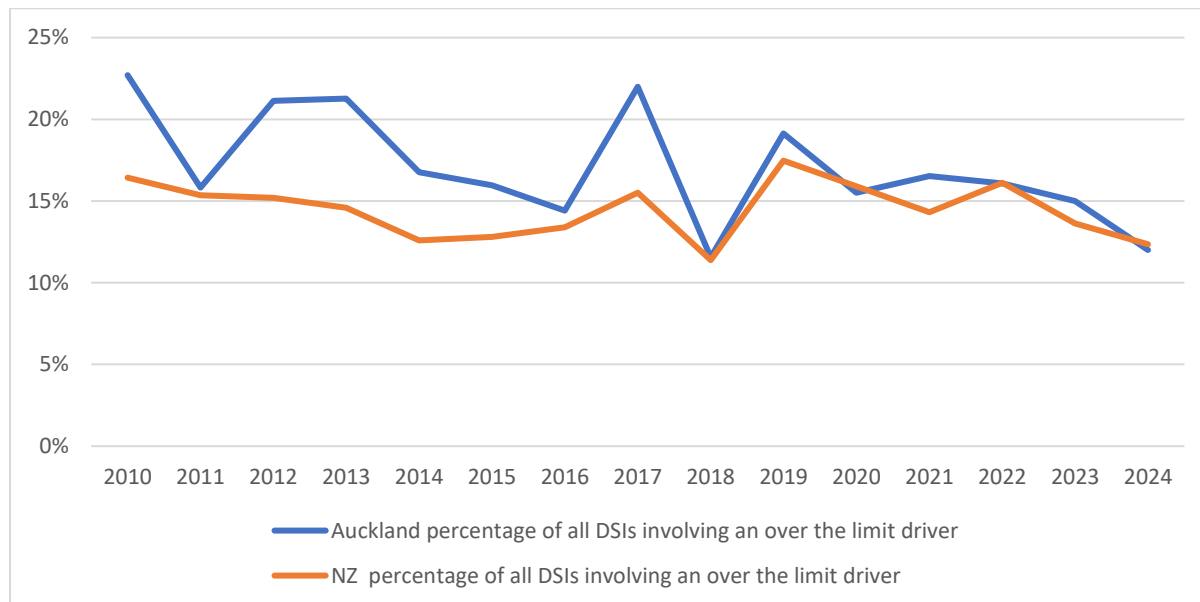
Auckland and New Zealand deaths and serious injuries (DSIs) involving alcohol have reduced since 2017 as have all Auckland DSIs. Auckland DSIs and DSIs from crashes coded on the Traffic Crash Report (TCR) as involving an over the limit driver are illustrated in Figure 1.

Figure 1. All DSIs and DSIs involving an over the limit driver for Auckland



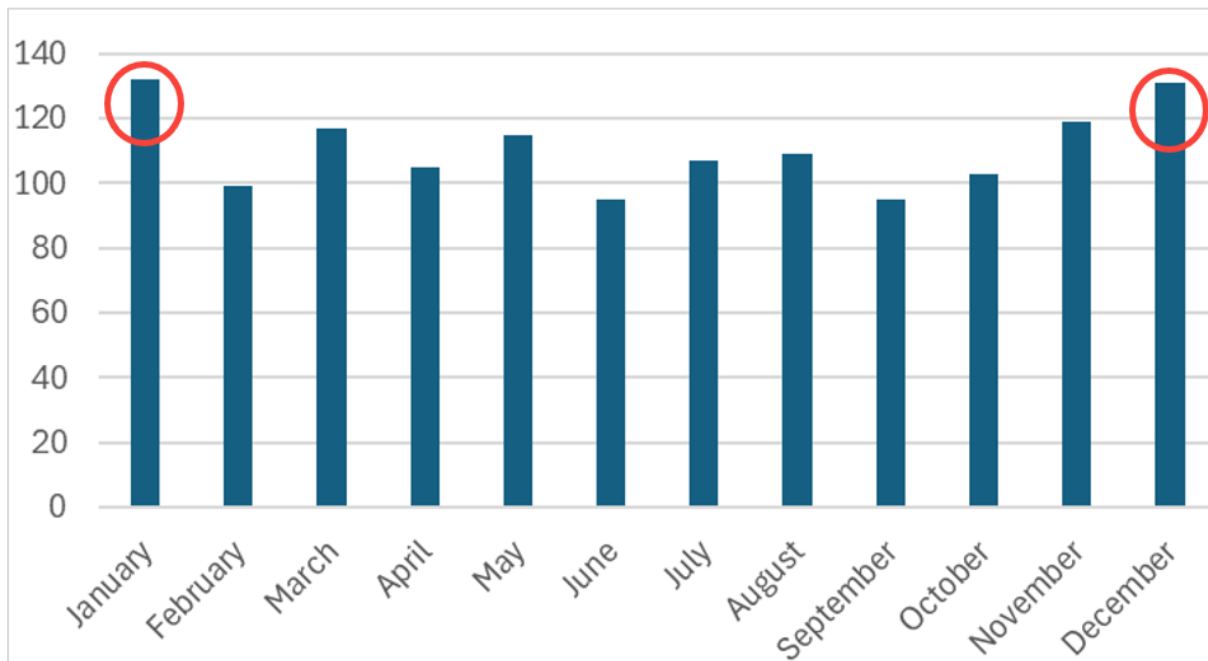
Similarly, the proportion of Auckland and New Zealand DSIs involving drivers over the limit has reduced over the same time span. This is illustrated in Figure 2.

Figure 2. The proportion of DSIs involving over the limit drivers for Auckland and New Zealand as a whole



Alcohol related DSIs are not evenly distributed throughout the year, peaking in December and January. This is illustrated in Figure 3 using data from 2010 to 2023 and provides an excellent rationale for carrying out Drink Free Summer covering those months. Two contiguous months in the mid-year period with relatively high DSIs are July and August, during which Operation Multiplier occurred.

Figure 3. DSIs involving over the limit drivers in Auckland by month of year with campaign times highlighted



Project Description

The operations were monitored for their impacts and enforcement efforts. The impact of the campaigns was monitored by public attitude surveys and the amount of drink driving on the network. The enforcement effort was monitored by looking at the amount and distribution of breath tests undertaken.

Both public attitude surveys monitored were computer assisted online surveys. An essential aspect of these surveys is the way the software navigates respondents through the questionnaire. Variations in the results of the three surveys may stem from differences in the software's execution of these guiding functions.

Key metrics for success

The key metrics of success were obtained from the results of two public attitude surveys, the NZTA Public Attitudes to Road Safety Survey, and the AT Road Satisfaction Survey and the results of Police breath testing. It was decided that a key metric for success would be the public's agreement with the statement:

If someone drinks and drives, they are likely to get caught.

That question was asked using an 8-point Likert scale in both surveys.

A second key metric relates to the chances of a driver being tested in a year. A relevant question asked in both surveys is:

In the last 12 months have you been stopped at an alcohol checkpoint while you have been driving?

A third key metric was the percentage of drivers on the network who tested over the limit during the main weekend drinking hours. These are defined as the period between 10 PM and 2 AM, Friday evening to Saturday morning and Saturday evening to Sunday morning.

Surveys used

These were the AT Road Satisfaction Survey and the NZTA Public Attitudes to Road Safety Survey.

Mass Media Messaging

This was carried out via social media posts, billboards, bus back advertising, radio, press releases and media interviews.

Operation Drink Free Summer

During Operation Drink Free Summer there was one media interview, 16 social media posts, three media releases, two electronic newsletters (one public, one for AT staff), two news stories, and one media briefing. All of this activity was internally generated by AT and NZ Police, as there was no budget for contracting external parties. Most of the activity took place during December 2023. Before, during, and after the campaign the nationwide NZTA “Would You Rather”¹ television anti-drink driving campaign continued. This featured television advertising and messaging on other media including radio, social media, digital, and print. An example is the billboard shown below in Figure 4.

Figure 4. “Would You Rather” billboard example



The AT/Police campaign included some messaging where the reach was measured. Some examples are shown below in Figure 5.

¹ [Drunk-driving campaign: would you rather | NZ Transport Agency Waka Kotahi \(nzta.govt.nz\)](https://nzta.govt.nz/drunk-driving-campaign-would-you-rather)

Figure 5. AT corporate messaging video on LinkedIn

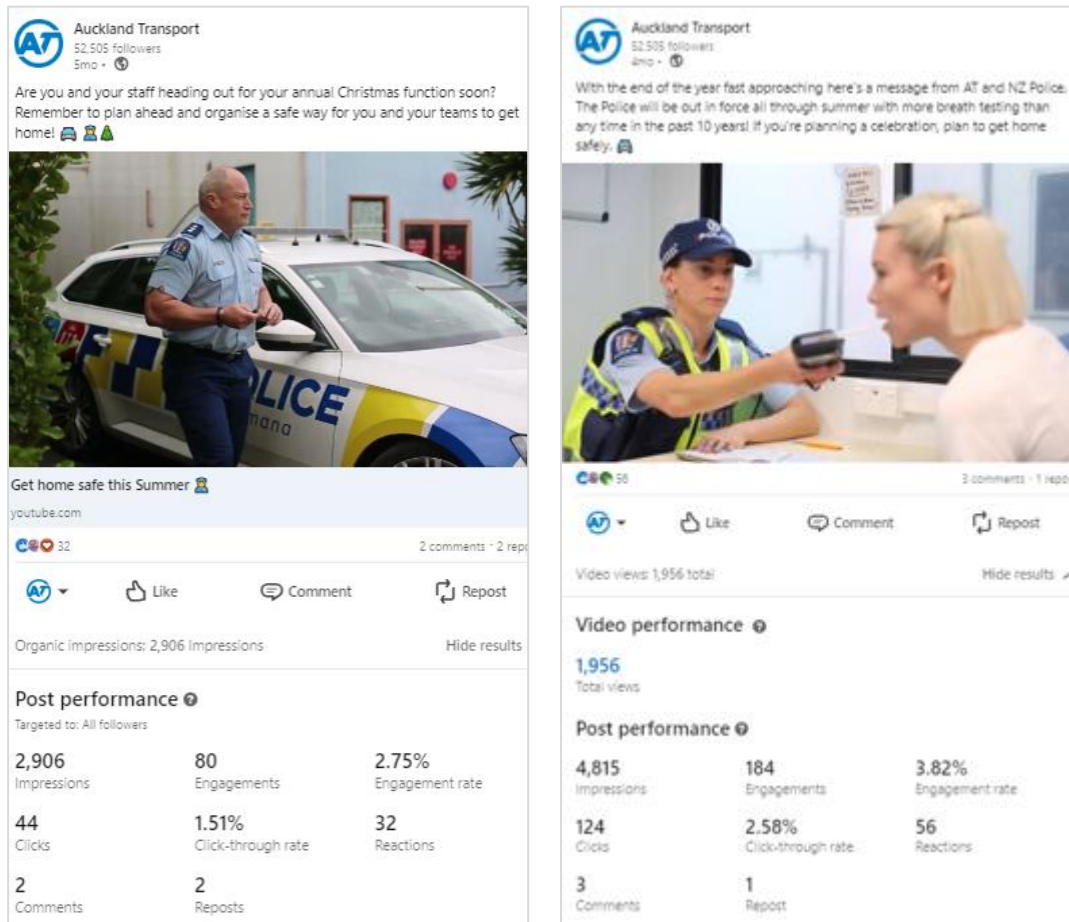
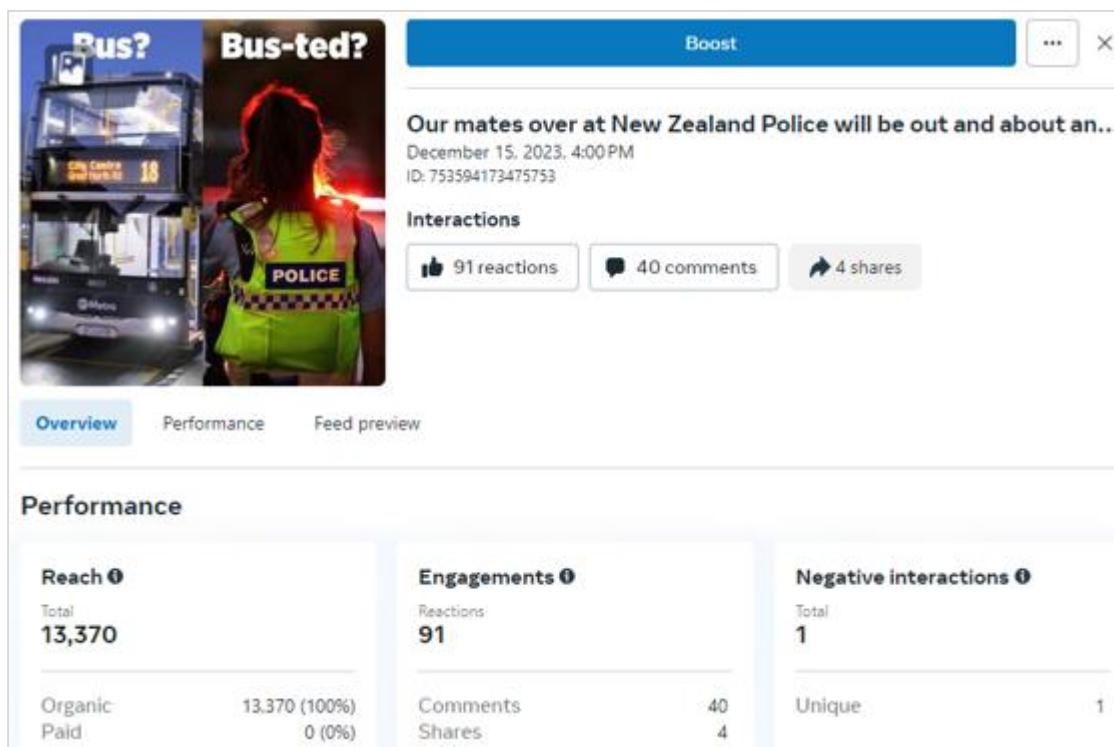


Figure 6. AT Facebook post tagging NZ Police

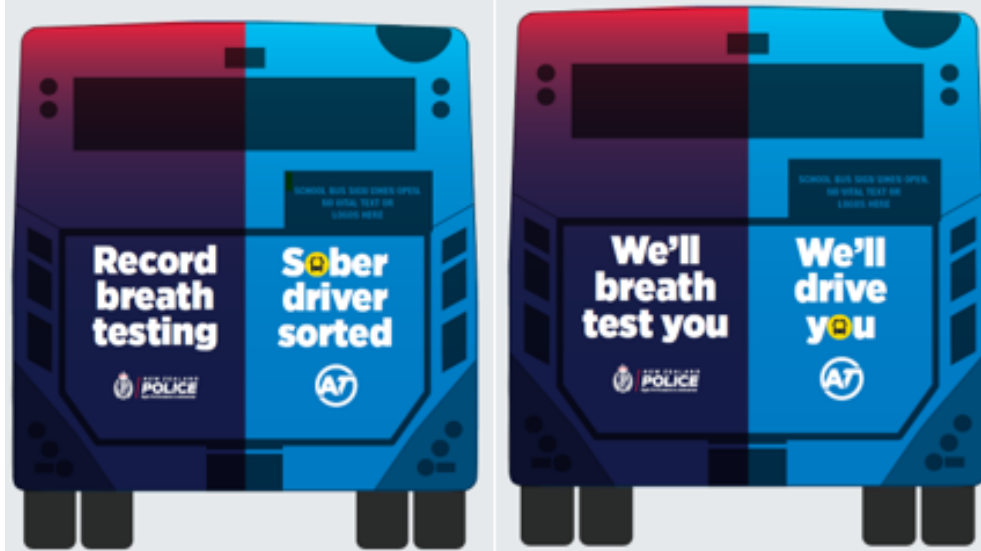


Operation Multiplier

Operation Multiplier was backed up by:

- Forty-one bus backs to target drivers across east, south, central, north and west (Figure 7).

Figure 7. Example of bus backs used in the Operation Multiplier campaign



- Digital billboards across the region in high drive zones (Figure 8).

Figure 8. Example of a digital billboard used in the Operation Multiplier campaign



- Thirty second and 15 second radio ads, plus sponsorship of Time Saver Traffic reports on NZME stations. Sponsors received 8–10 word credits at the start of each report and 15 word credits at the end of each report. These sponsorships are skewed to Thursday–Sunday so that the message is top of mind as people are planning or heading out for their weekends / aligned to the lead up of high alcohol hours.
- Spotify 30 second audio ad — potential weekly reach is 152k Aucklanders 18+.
- Material for Meta & TikTok.



The campaign was assessed using four criteria outlined in the left-most rows of Table 1 below. The nett 45% related to the cut-through score is the percentage of respondents who answered yes to both or one of the questions “Have you heard this ad on radio or Spotify?” and “Have you seen these ads recently?”. The Top 2 Branding related to the connection score is the sum of the agreement percentages for the two questions with the highest agreement percentages. These were “They're quite good at making you remember they were for Auckland Transport” (40%) and “You couldn't help but remember they were for Auckland Transport” (23%) adding up to 63%.

Table 1. Operation Multiplier campaign criteria

Criteria	Response	Key Metric	Score
Cut-through	Do people recognise the creative when they see it?	Recognition	Have you heard this ad on radio or Spotify? 32% Under 35 years 38% Target Segments 35% Have you seen these ads recently? 34% Under 35 years 44% Target Segments 39% Nett : 45% Global Social Benchmark: 16% Global Outdoor Benchmark: 19% Global Radio Benchmark: 20%
Connection	Is there a brand and emotional connection?	Branding Enjoyment (AT benchmark 51%)	You couldn't help but remember they were for Auckland Transport 23% They're quite good at making you remember they were for Auckland Transport 40% They're just okay at making you remember they were for Auckland Transport 21% They could have been for any company 5% They could have been for almost anything 4% Don't know 7% Top 2 Branding: 63% Under 35 years: 69% Global Branding Benchmark: 50%

Communication	Is the intended message getting through?	Message Takeout	Total Under 35 years NZ police are carrying out a record numbers of breath tests in Auckland, anytime and anywhere 76% 73% If someone drinks and drives, they are likely to get caught 64% 56% If you're going out and having a drink, make sure you have a sober driver sorted, or get home safely with AT. 63% 67% There's more than 11,000 public transport services every day around Auckland that can get you home safely 49% 49%
Change	What have we changed as a result?	Impact /Response	Total Under 35 years Make you think again about your transport choices 57% 66% Are the kind of ads you'd like to see more often 57% 54% Tell you something that's interesting to you 45% 52% Make public transport more appealing to you 43% 52% Tell you something new 37% 50% Are the kind of ads you'd talk about with others 33% 42% Are the kind of ads you'd share on social media 24% 29% AT Benchmark 43% 40% 44% 42% 54% 28% 18%

Responses to the statement ‘If someone drinks and drives, they are likely to get caught’

This question was asked in both the AT Road Satisfaction Survey and the nationwide NZTA Public Attitudes to Road Safety Survey which had previously been discontinued and recommenced in 2020.

Overall responses

The AT Road Satisfaction Survey operated in 4 waves:

- The first in December 2023, the first full month of the Drink Free Summer campaign
- In March 2024, after the campaign ended
- In June 2024,
- In September after the end of operation multiplier.

The results for the four waves are shown in Figure 9 and with a movement over time towards greater agreement being a positive result for both campaigns. For all waves, the agreeing percentage is well above the disagreeing percentage which is also a positive finding.

Figure 9. AT Road Satisfaction Survey responses to the statement ‘If someone drinks and drives, they are likely to get caught’ by survey wave

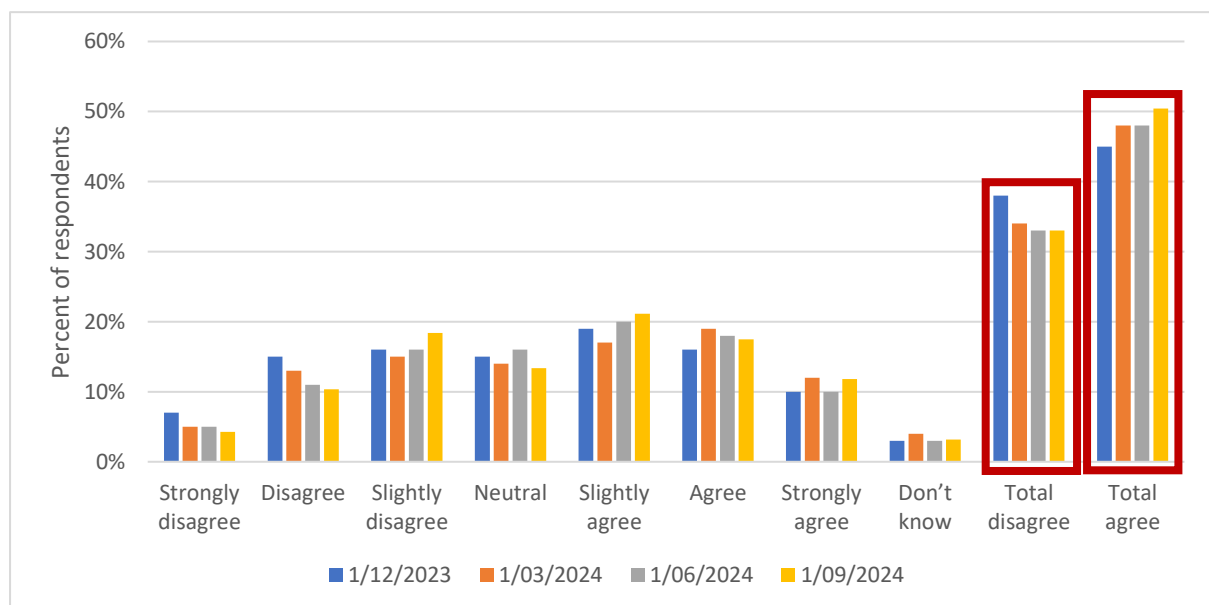
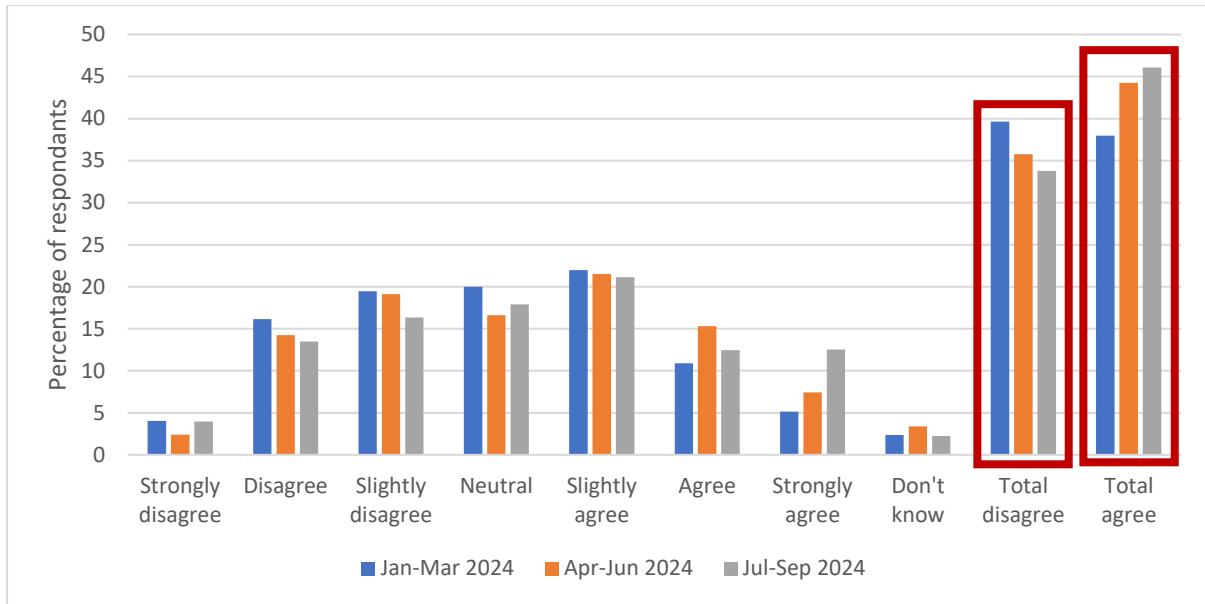


Figure 10 is similar to Figure 9 but for the Auckland responses to the three 2024 waves of the NZTA Public Attitudes to Road Safety Survey.

Figure 10. NZTA Public Attitudes to Road Safety Survey Auckland responses to the statement 'If someone drinks and drives, they are likely to get caught' by survey wave

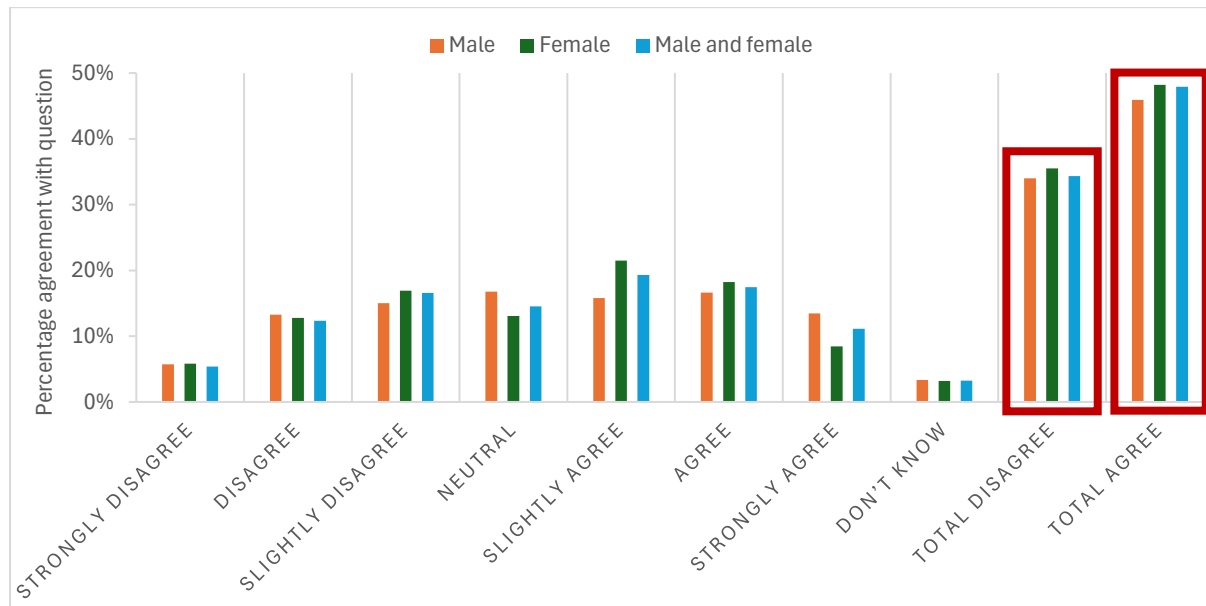


Again, there is a movement towards greater agreement over the period January 2024 to September 2024. This again is positive news for both campaigns.

AT survey responses disaggregated by gender

Figure 11 looks at the AT results aggregated over all 4 waves of responses and disaggregated by gender. Females rate the chances of being caught more highly than males with 48% of females agreeing that if someone drinks and drives, they are likely to get caught compared to 46% of males. However, the disaggregated data indicates that female agreement may be less strong than male agreement. This is because if you split the answers out you see that the females feature more in the slightly agree and agree and less in the strongly agree than the males.

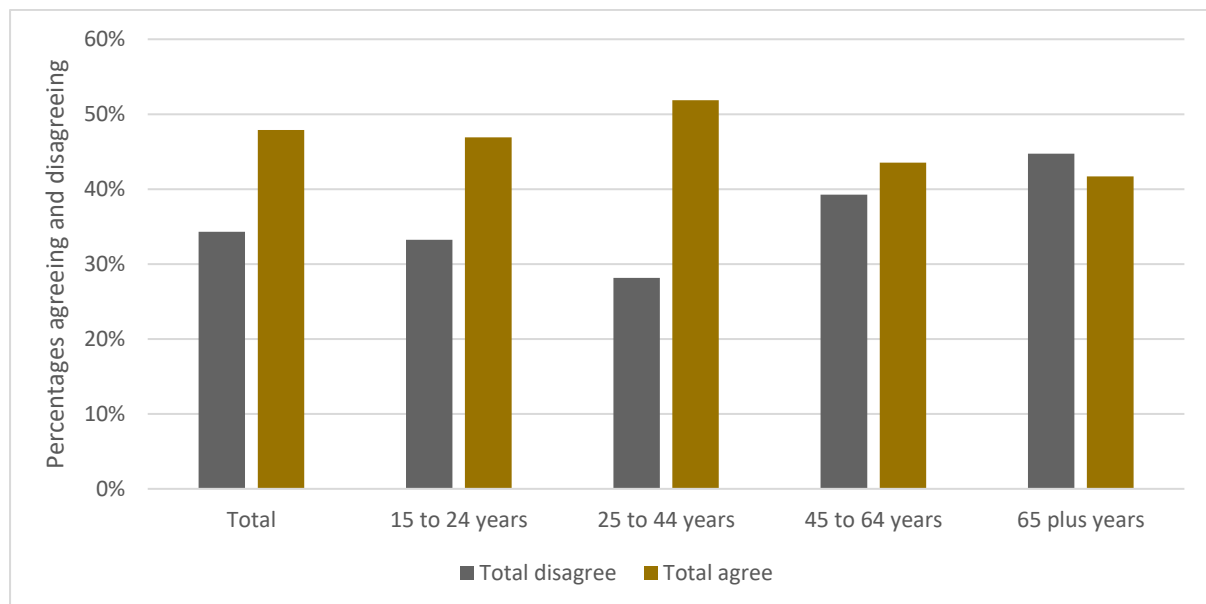
Figure 11. AT Road Satisfaction Survey responses to the statement 'If someone drinks and drives, they are likely to get caught' disaggregated by gender



AT survey responses disaggregated by age of respondent

Figure 12 looks at the responses disaggregated by respondent age. Overall percent agreement is in the high 40s and disagreement in the low 30s. The older age groups tend to agree less and disagree more than the younger age groups.

Figure 12. AT Road Satisfaction Survey responses to the statement 'If someone drinks and drives, they are likely to get caught' disaggregated by age of respondent

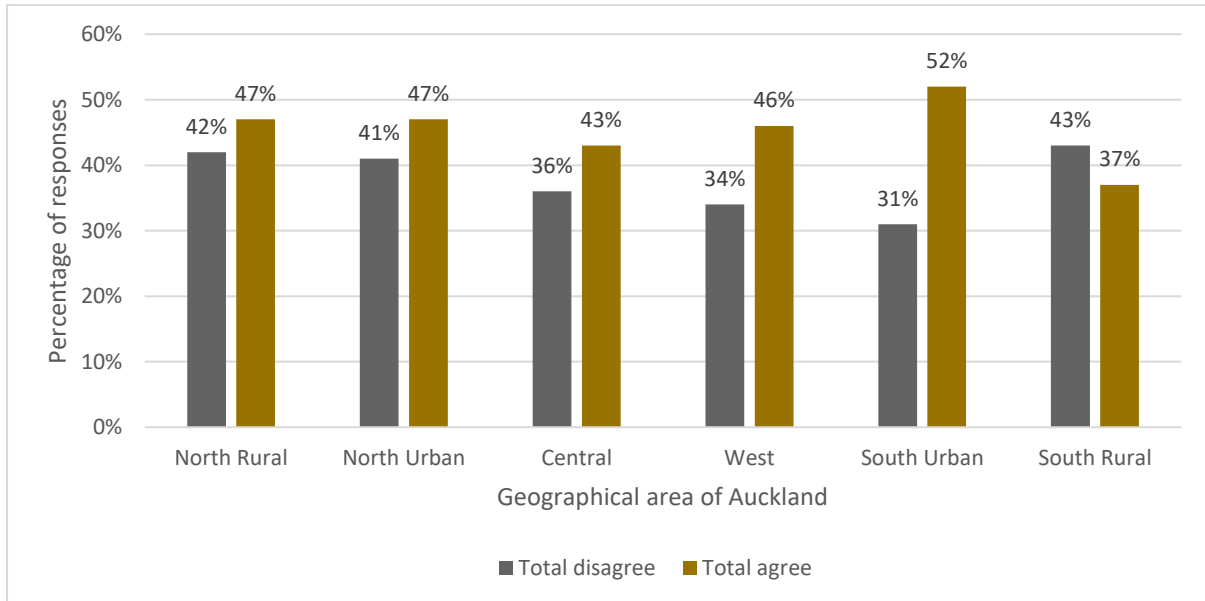


AT survey responses disaggregated by geographical area

Figure 13 looks at the responses disaggregated by geographical area. Most notable is the agreement difference between the southern urban and rural areas related to the relatively low level of agreement in south rural. This may pertain to enforcement methods in the respective areas. Some rural areas may have more mobile patrol car based enforcement than urban areas. Responses in

north urban and rural did not show the same differences, both with a relatively high level of agreement.

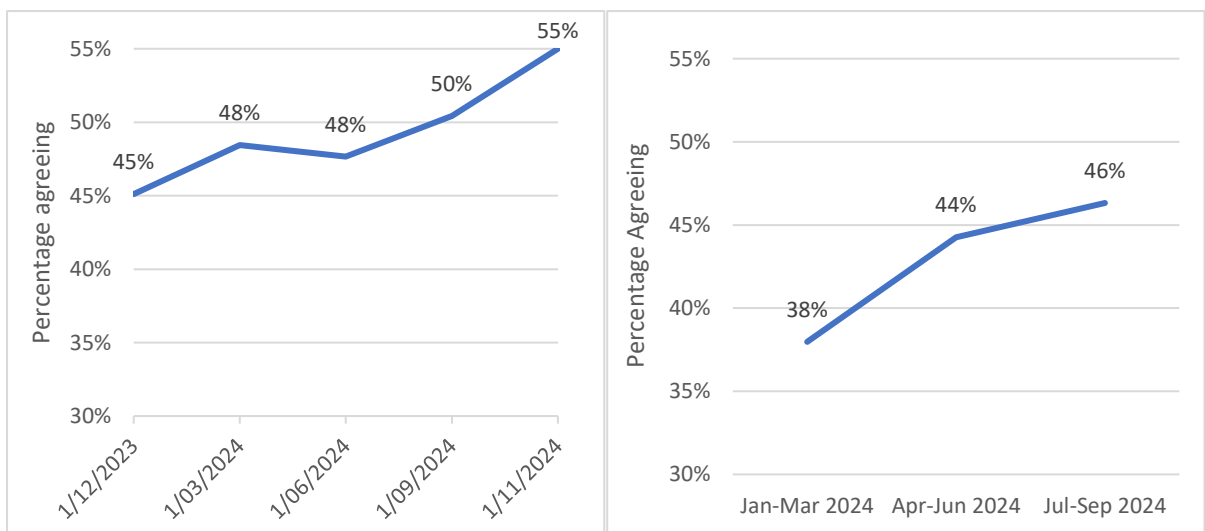
Figure 13. AT Road Satisfaction Survey responses to the statement 'If someone drinks and drives, they are likely to get caught' disaggregated by geographical area



Comparison of Auckland agreement levels between the AT survey and the NZTA Public Attitudes to Road Safety Survey

Figure 14 compares NZTA responses for January to March 2024, April to June 2024 and July to September 2024 with those of the AT surveys from December 2023, March 2024, June 2024, September 2024 and November 2024. Between December 2023 and November 2024 the AT survey percentage has risen from 45% to 55%. while the NZTA survey percentage rose from 38% to 46% between January-March 2024 and July-September 2024.

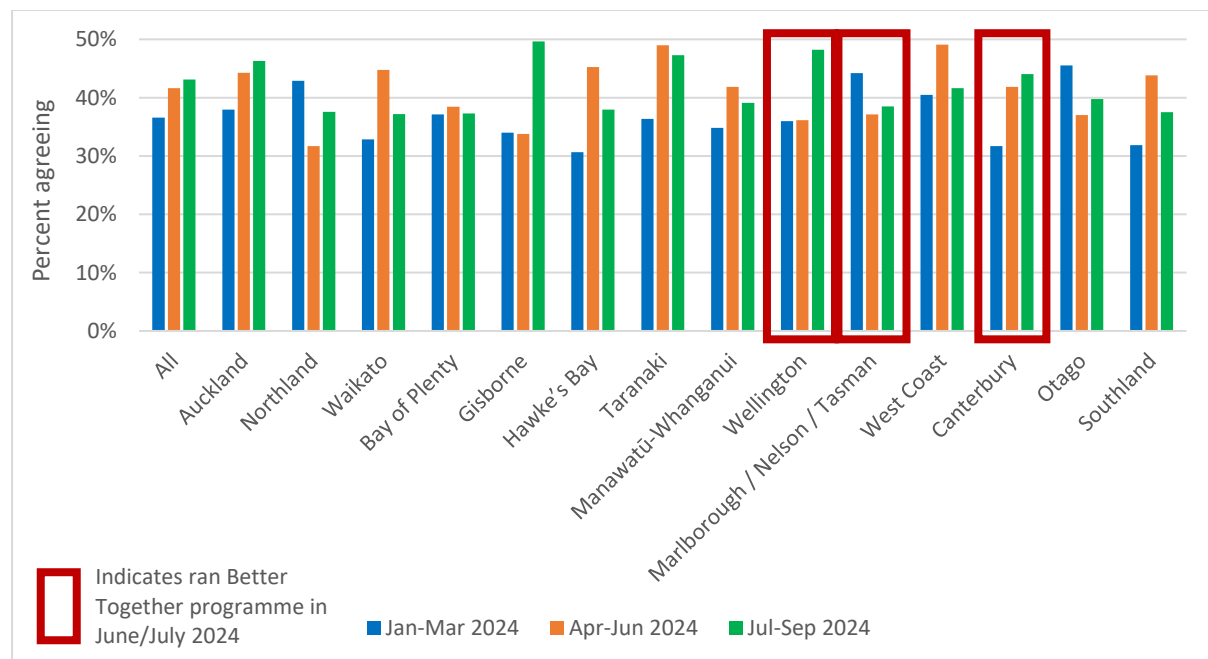
Figure 14. Percentage agreeing with the statement 'If someone drinks and drives, they are likely to get caught', from AT Road Satisfaction Survey (left) and NZTA Public Attitudes to Road Safety Survey (right)



Comparison between Auckland agreement levels and those of other areas and New Zealand as a whole from the NZTA Public Attitudes to Road Safety Survey for likelihood of being caught

Figure 15 depicts the levels of agreement that a driver is likely to get caught for all New Zealand, Auckland and the various regions of New Zealand from the NZTA Public Attitudes to Road Safety Survey. It shows improvements over the period for both Auckland and the rest of New Zealand with Auckland reaching slightly higher levels (46% in July to September). This aligns with an increase in roadside breath testing numbers across the country. Areas which ran the Police/ NZTA Better Together Campaign in June/ July 2024 are denoted by oblong boxes on the chart.

Figure 15. Comparison between Auckland agreement levels that a driver is likely to get caught and those of other areas and New Zealand as a whole from NZTA Public Attitudes to Road Safety Survey



Summary

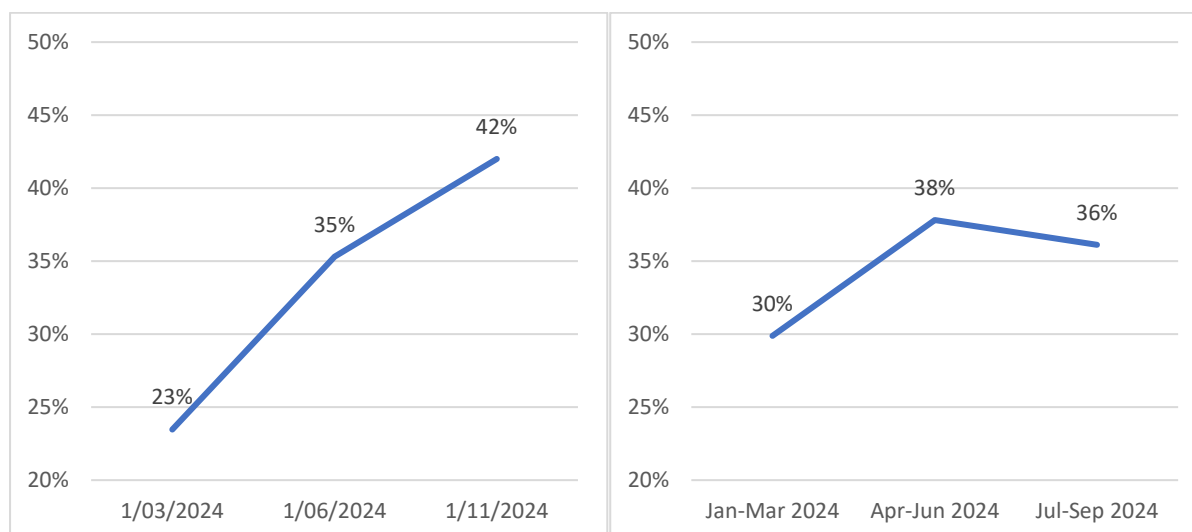
- Women agree more than men, but their agreement is more muted than that of men.
- South rural had a conspicuously low agreement rate.
- Urban dwellers are more affected by general deterrence than rural dwellers.
- Cut through of general deterrence is around 50%. There is still much room to improve.
- Agreement rates are well above disagreement rates.

Responses to the statement “In the last 12 months have you been stopped at an alcohol checkpoint while you have been driving?”

This statement relates to when the Police stop drivers at random to see if they have been drinking.

Figure 16 depicts percentages of Auckland survey respondents who had been stopped at an alcohol checkpoint in the previous year, excluding responses from non-drivers or those who could not remember. AT survey responses are to the left of the figure and NZTA responses to the right.

Figure 16. Percentages of survey respondents who had been stopped at an alcohol checkpoint in the previous year (excluding responses from non-drivers or those who could not remember), from AT Road Satisfaction Survey (left) and NZTA Public Attitudes to Road Safety Survey (right)

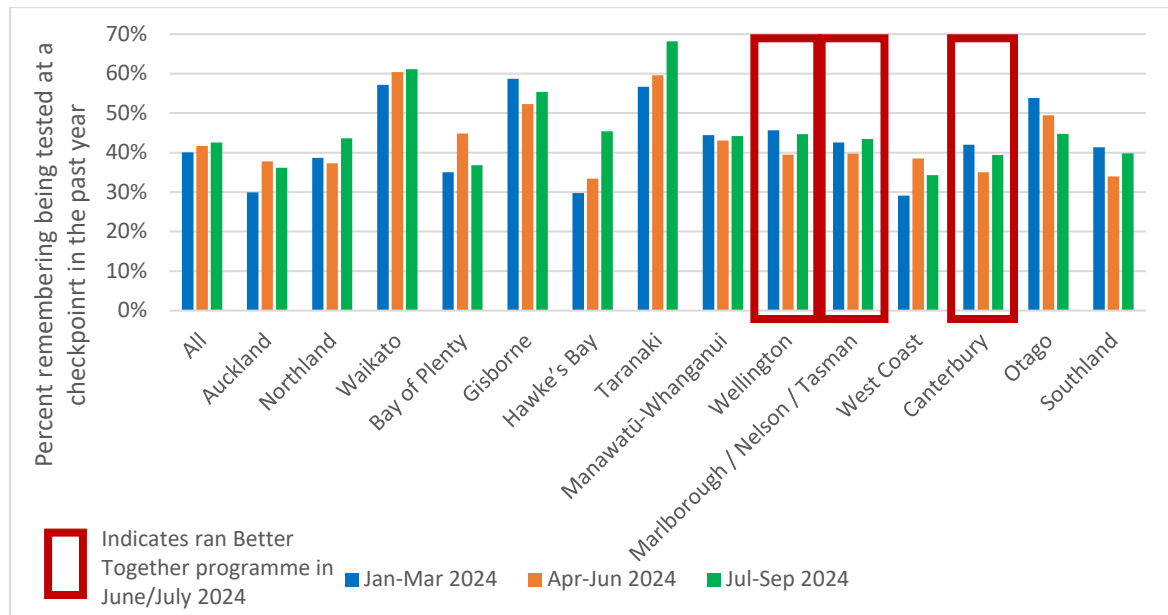


Between March 2024 and November 2024 the AT survey percentage has risen from 23% to 42%, while the NZTA survey percentage rose from 30% to 36% between January-March 2024 and July-September 2024. The AT November 2024 survey also asked the question “How many times have you been stopped at an alcohol checkpoint while you have been driving?” Nineteen percent of drivers remembered being stopped 2 times or more in the last year.

Historically, the benchmark for compulsory breath testing is to test at least one in three drivers every year (Homel 2004, 1993). By June that figure had been reached according to both surveys. However, according to Cameron (2013) diminishing returns may not be reached until well after that percentage, depending on the enforcement tactics used.

Figure 17 compares the percentages of drivers remembering being tested at a checkpoint in the last year for Auckland, other areas, and New Zealand as a whole from NZTA Public Attitudes to Road Safety Survey. Auckland is one of the lower performers on this metric with percentages below 40% with the provincial areas Waikato, Gisborne, and Taranaki all consistently beating 50%. Areas which ran the Police/ NZTA Better Together Campaign in June/ July 2024 are denoted by oblong boxes on the chart.

Figure 17. Comparison between the percentages of drivers remembering being tested at a checkpoint in the last year for Auckland, other areas, and New Zealand as a whole from NZTA Public Attitudes to Road Safety Survey



Summary

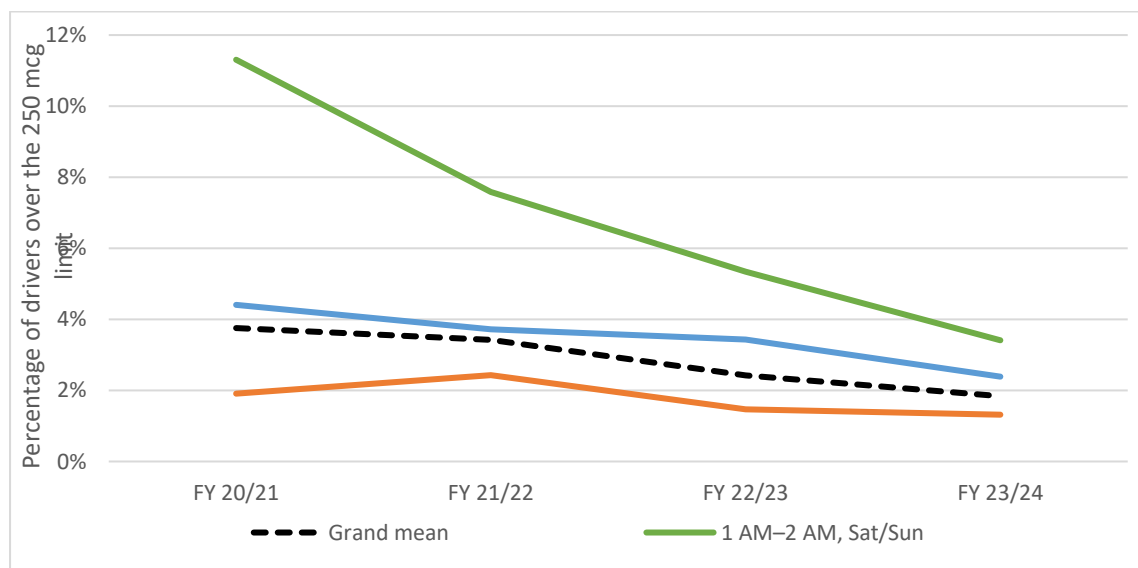
- Both surveys are generally in agreement.
- Women are more affected by general deterrence than men.
- There are large regional variations in drivers' remembrances of being tested in the past year.

Network drink driving during the main weekend drinking hours

Auckland's percentage of drivers with breath alcohol over the 250 mcg limit during different time periods of the main weekend drinking hours

Figure 18 Figure 17 depicts the percentage of drivers in Auckland with breath alcohol over the 250 mcg limit during different time periods of the main weekend drinking hours.

Figure 18. Percentage of Auckland drivers with breath alcohol over the 250 mcg limit during different time periods of the main weekend drinking hours



It is apparent that there has been a dip over the period in question with the grand mean (covering 10 PM to 2 AM) reducing from 3.8% over the limit in FY 20/21 to 1.8% in FY 23/24. Notable is a large drop from 11.3% in FY 20/21 to 3.4% in FY 23/24 for the later 1 AM–2 AM period.

Figure 19 depicts the percentage of drivers in New Zealand with breath alcohol over the 250 mcg limit during different time periods of the main weekend drinking hours. Similarly to the Auckland case, it is apparent that there has been a dip over the period in question with the grand mean reducing from 3.1% in FY 20/21 over the limit to 2.2% in FY 23/24. Notable is a large drop from 7.4% in FY 20/21 to 4.5 in FY 23/24 for the later 1 AM–2 AM period.

Figure 19. Percentage of New Zealand drivers with breath alcohol over the 250 mcg limit during different time periods of the main weekend drinking hours

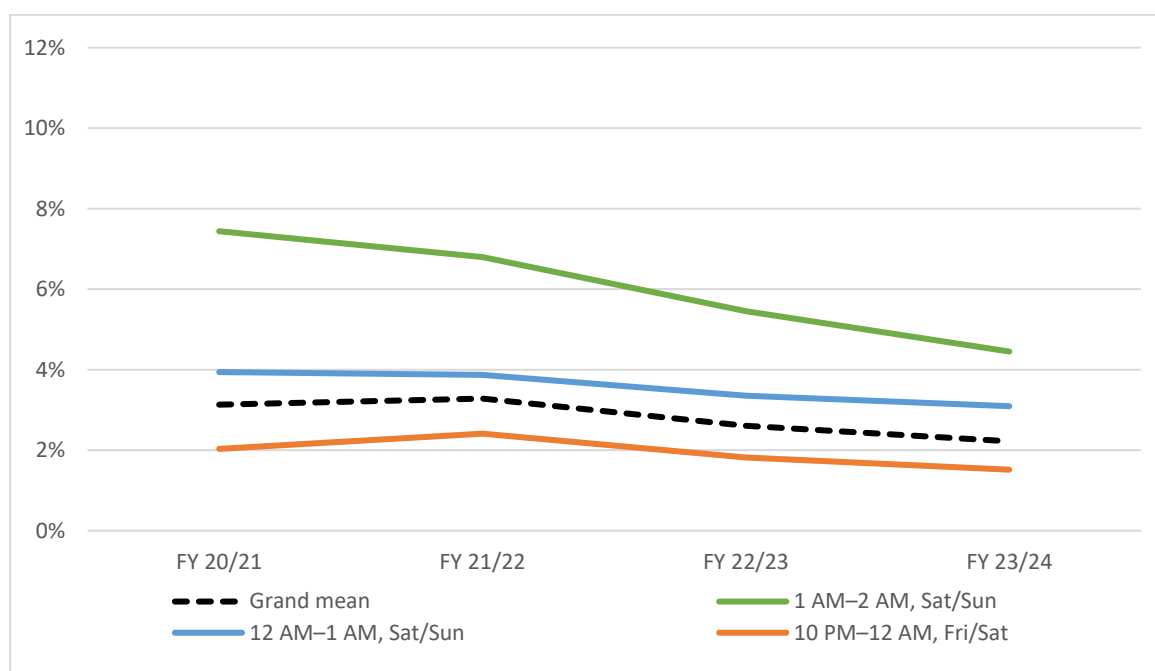
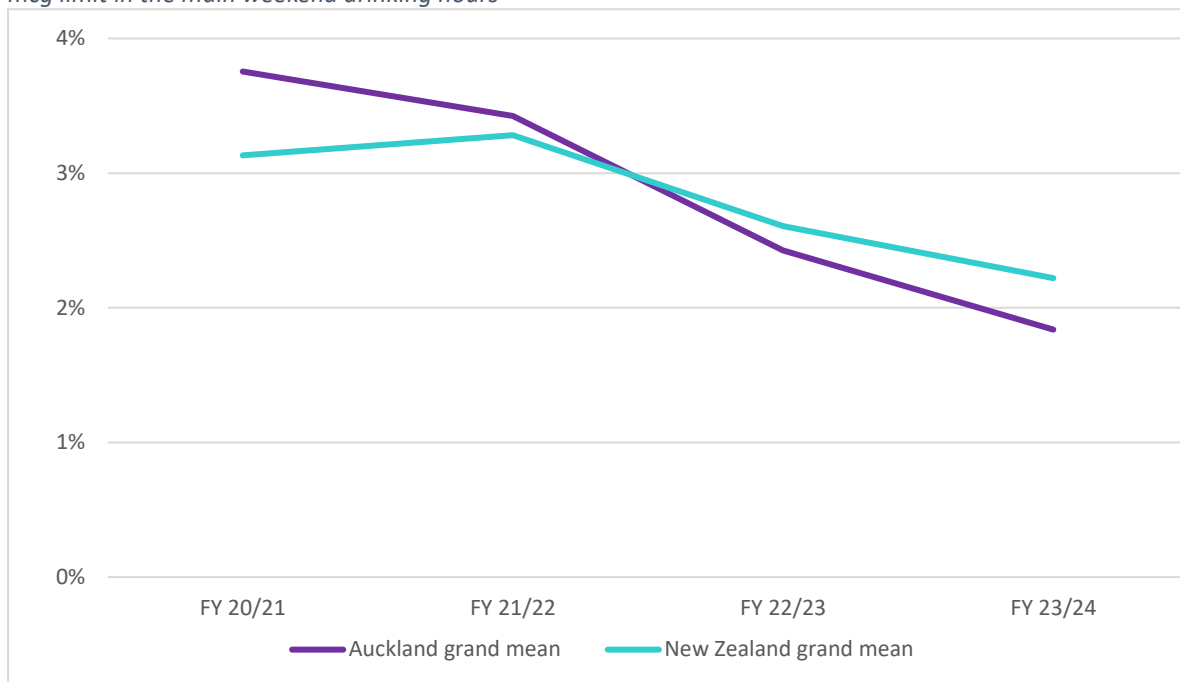


Figure 20 compares the Auckland and New Zealand grand means for drivers with a breath alcohol content over the 250 mcg limit in the main weekend drinking hours. While in FY 20/21 and FY 21/22 Auckland had a slightly higher grand mean compared to the whole of New Zealand, it has dropped below the national grand mean in recent years.

Figure 20. Comparison of Auckland and New Zealand grand means for drivers with breath alcohol over the 250 mcg limit in the main weekend drinking hours



Auckland's percentage over the 400 mcg limit by time period within the main weekend drinking hours and financial year

Figure 21 depicts the percentage of Auckland drivers with breath alcohol over the 400 mcg limit during different time periods of the main weekend drinking hours, while Figure 22 depicts the same for the whole of New Zealand. Not unexpectedly the percentage over the 400 mcg limit shows similar characteristics to the percentage over the 250 mcg limit. In this case the FY 23/24 grand mean is 1.3% and the 1 AM–2 AM period has dropped substantially from 8.7% to 2.1% between FY 20/21 and FY 23/24 in Auckland. Across the country as a whole the FY 23/24 grand mean is 1.4% and the 1 AM–2 AM period has dropped substantially from 5.4% to 3% between FY 20/21 and FY 23/24.

Figure 21. Percentage of Auckland drivers with breath alcohol over 400 mcg during different time periods of the main weekend drinking hours

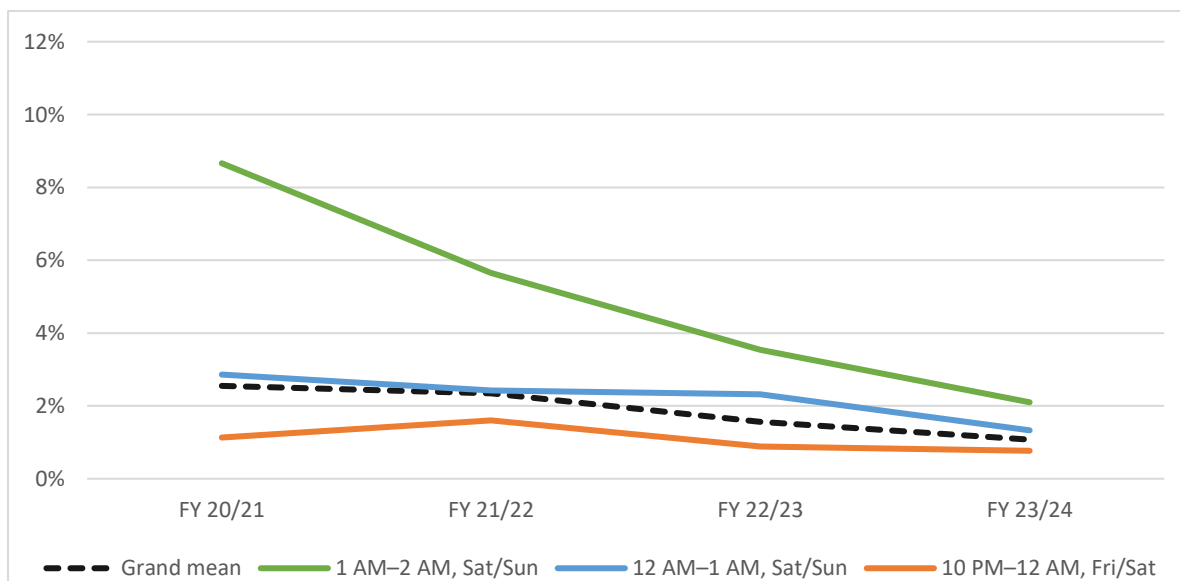


Figure 22. Percentage of New Zealand drivers with breath alcohol over 400 mcg during different time periods of the main weekend drinking hours

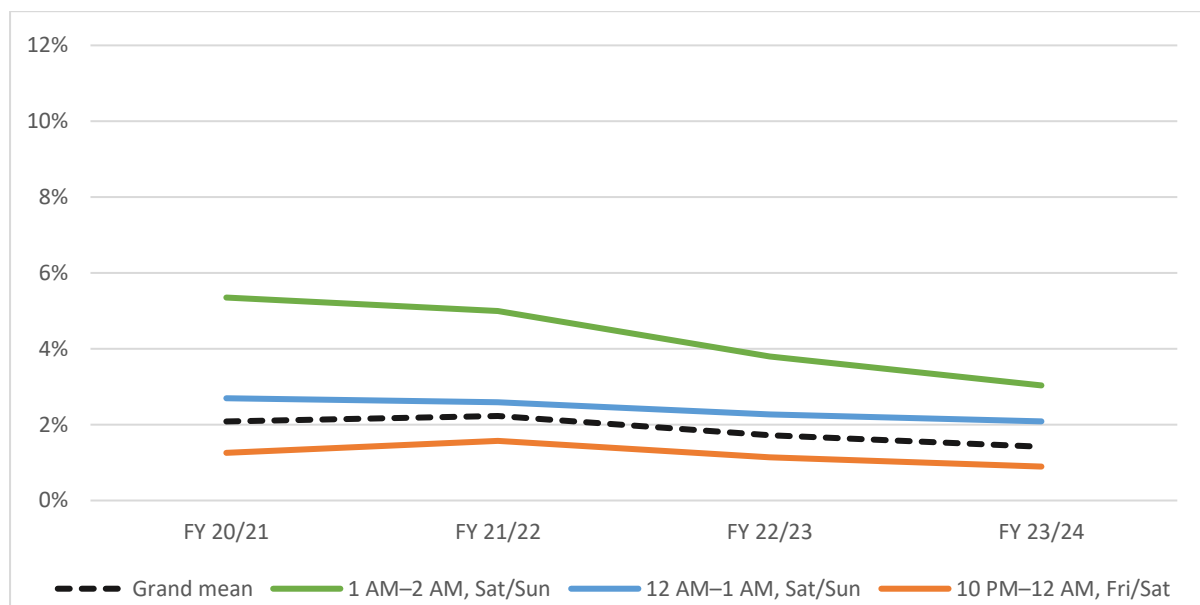
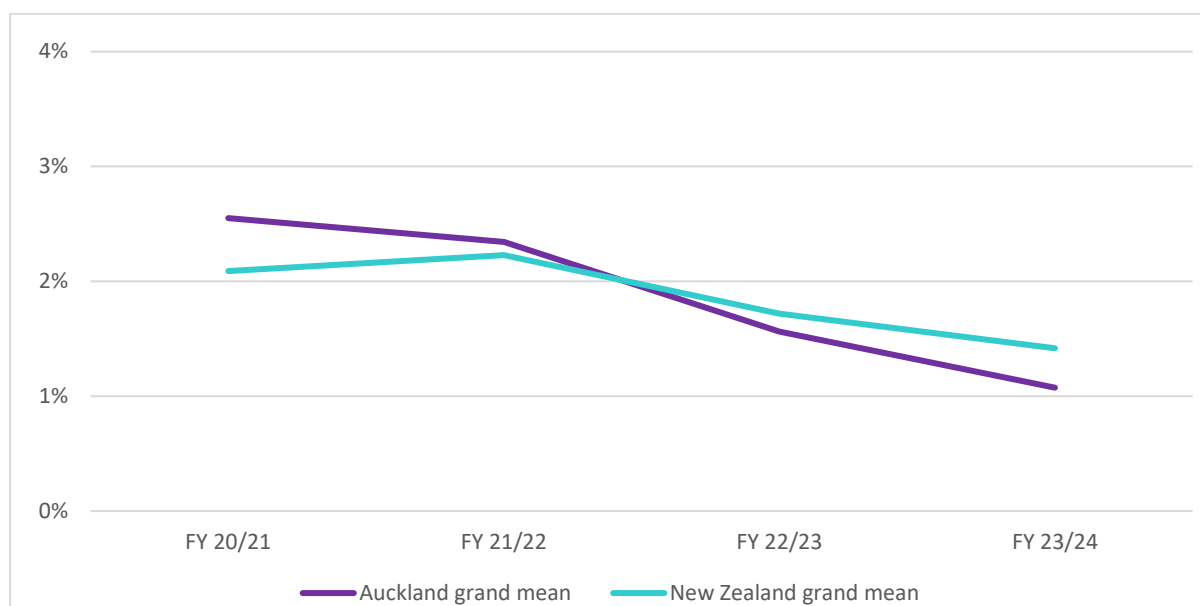


Figure 23 compares the Auckland and New Zealand grand means for drivers with a breath alcohol content over the 400 mcg limit, which shows a similar trend to the grand means for drivers with a breath alcohol content over 250 mcg.

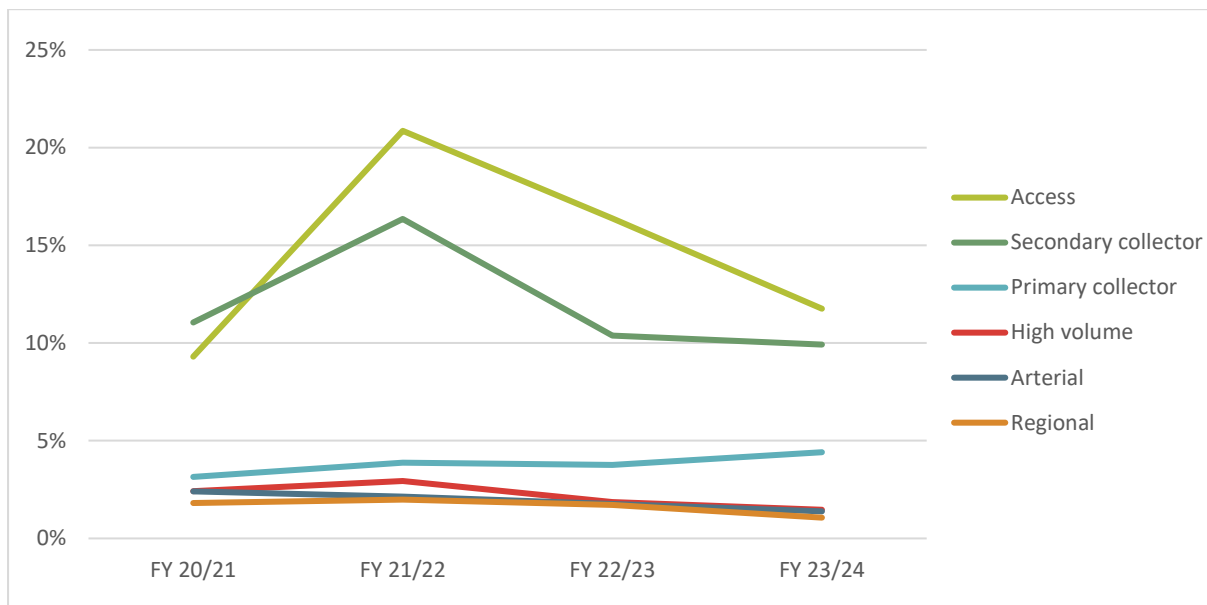
Figure 23. Comparison of Auckland and New Zealand grand means for drivers with breath alcohol over 400 mcg in the main weekend drinking hours



Drink driving during main weekend drinking hours by ONRC road type

Figure 24 depicts the percentage of drivers over the limit (over 250 & over 400) between 10 PM–2 AM on Fri/Sat evening & Sat/Sun morning, by One Network Road Classification (ONRC) road type. Access roads, secondary collectors, and primary collectors are relatively low volume compared with the other road types, with secondary collectors being the highest volume of the three.

Figure 24. Percentage of Auckland drivers over the 250 mcg limit in of the main weekend drinking hours between 10 PM–2 AM on Fri/Sat evening & Sat/Sun morning, by ONRC road type

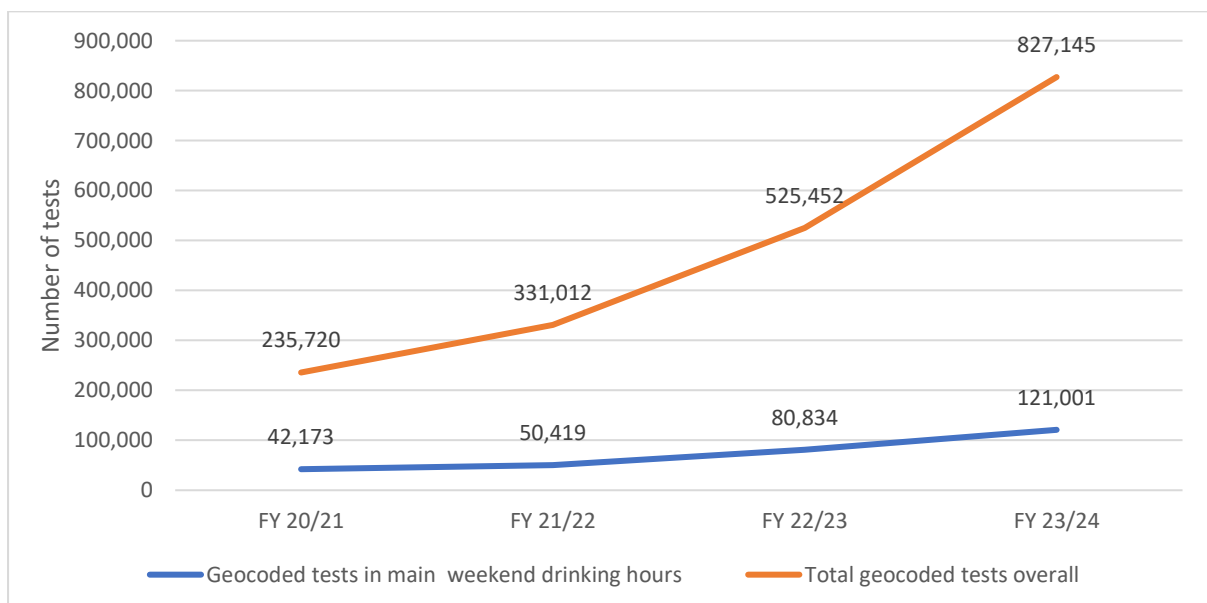


We find that all the lower volume roads have higher percentages over the limit than higher volume roads with the percentages over the limit increasing as traffic volume decreases. Percentages over the limit have dropped for all road types since FY21/22 except for primary collector which has tended to increase since FY20/21. This may relate to a desire by over the limit drivers to bypass checkpoints which are predominantly on the higher volume roads.

Tests carried out overall and in the weekend main drinking hours

Figure 25 depicts total geocoded tests overall and in main weekend drinking hours by financial year.

Figure 25. Total geocoded tests in Auckland overall and in main weekend drinking hours by financial year



Testing overall has increased by 350%. In the main weekend drinking hours, it has increased by 287%. This means that the percentage of tests in the main weekend drinking hours has decreased from 17.9% in FY 20/21 to 14.6% in FY 23/24, as the total number of tests has increased.

Figure 26 compares all geocoded yearly tests to the percentage of drivers over the 250 mcg limit in the main weekend drinking hours. It is apparent that a steep increase in testing has been accompanied by a steep decrease in those over the limit.

Figure 26. All yearly geocoded tests compared to percentage of drivers over the 250 mcg limit in Auckland in the main weekend drinking hours

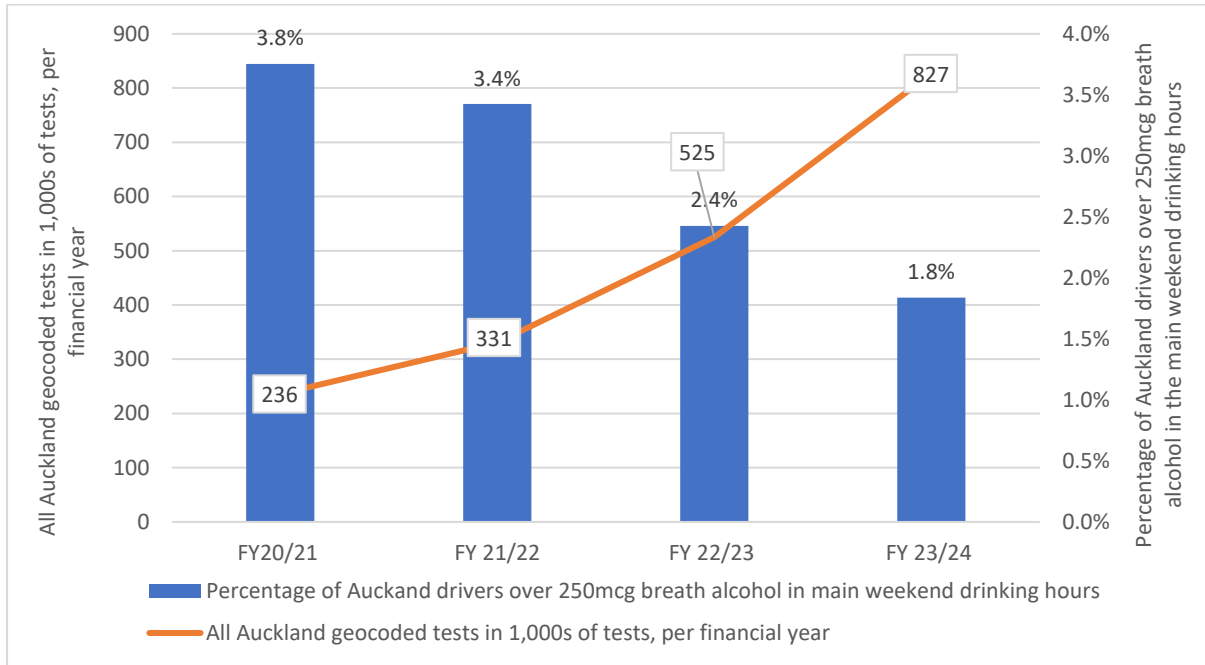


Figure 27 is similar to Figure 26 but relates to tests over the 400 mcg level. The general message is the same with the percentages over the higher limit being, of necessity, smaller.

Figure 27: All yearly geocoded tests compared to percentage of drivers over the 400 mcg limit in Auckland in the main weekend drinking hours

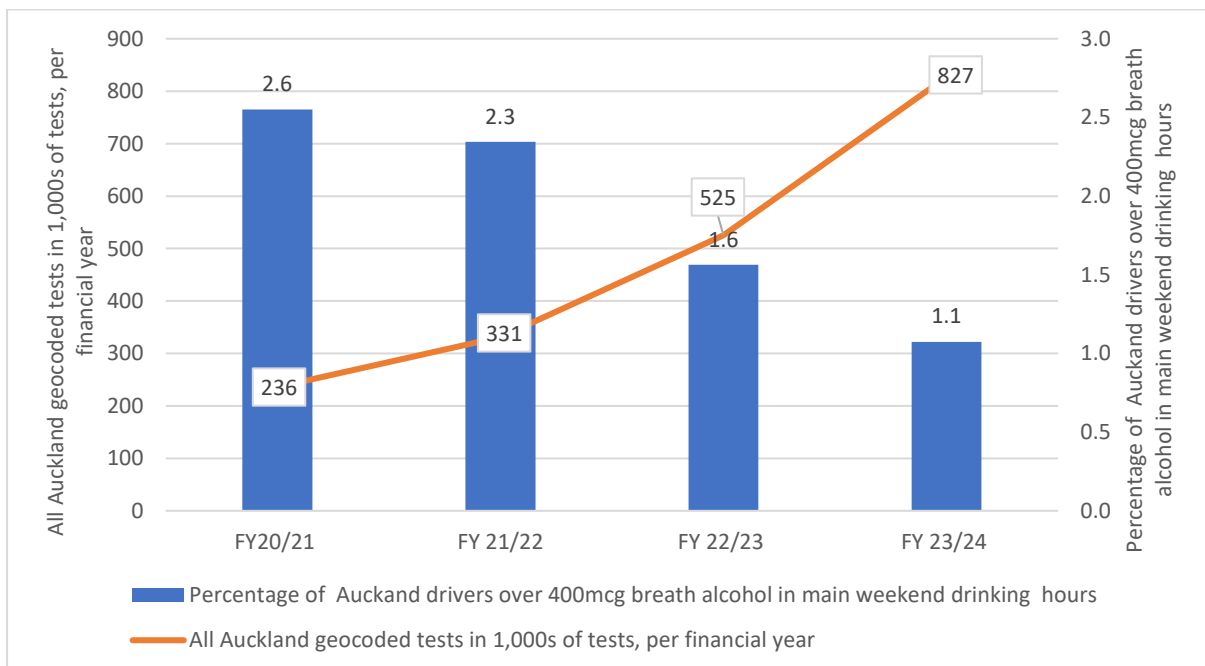


Figure 27 and Figure 29 are similar to Figure 26 and Figure 27 except that they refer to main weekend drinking hours geocoded tests rather than all geocoded tests. The number of tests in the main weekend drinking hours have not increased to the same extent as all tests.

Figure 28: All main weekend drinking hours geocoded tests compared to percentage of drivers over the 250 mcg limit in Auckland in the main weekend drinking hours

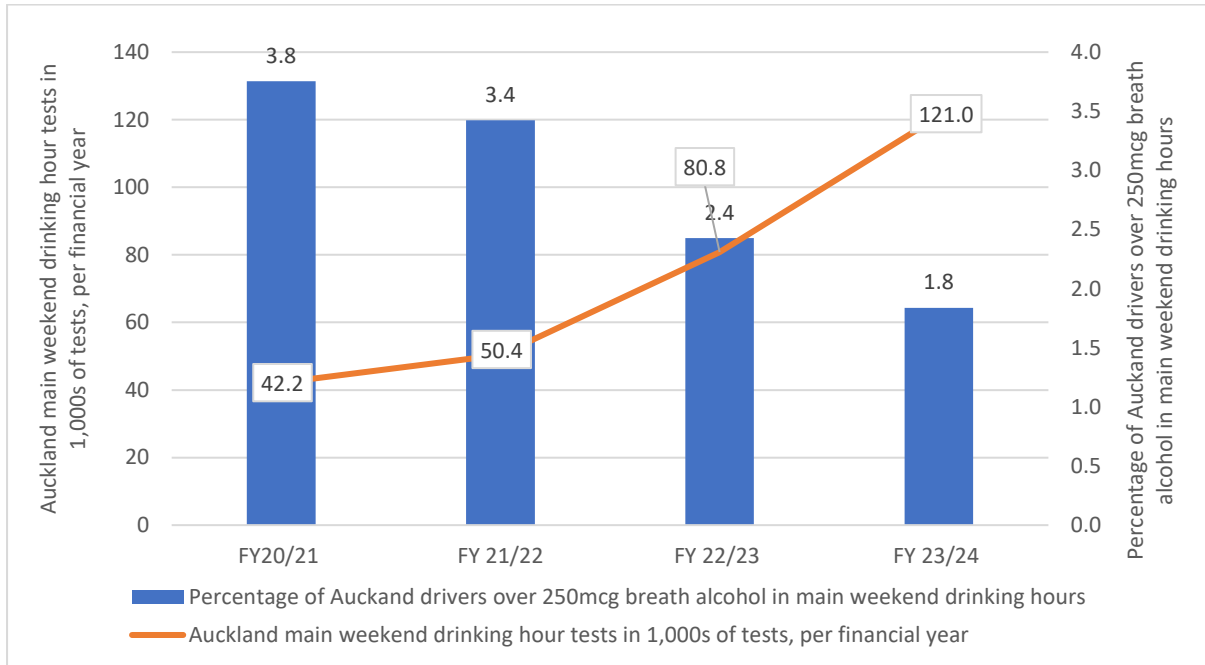
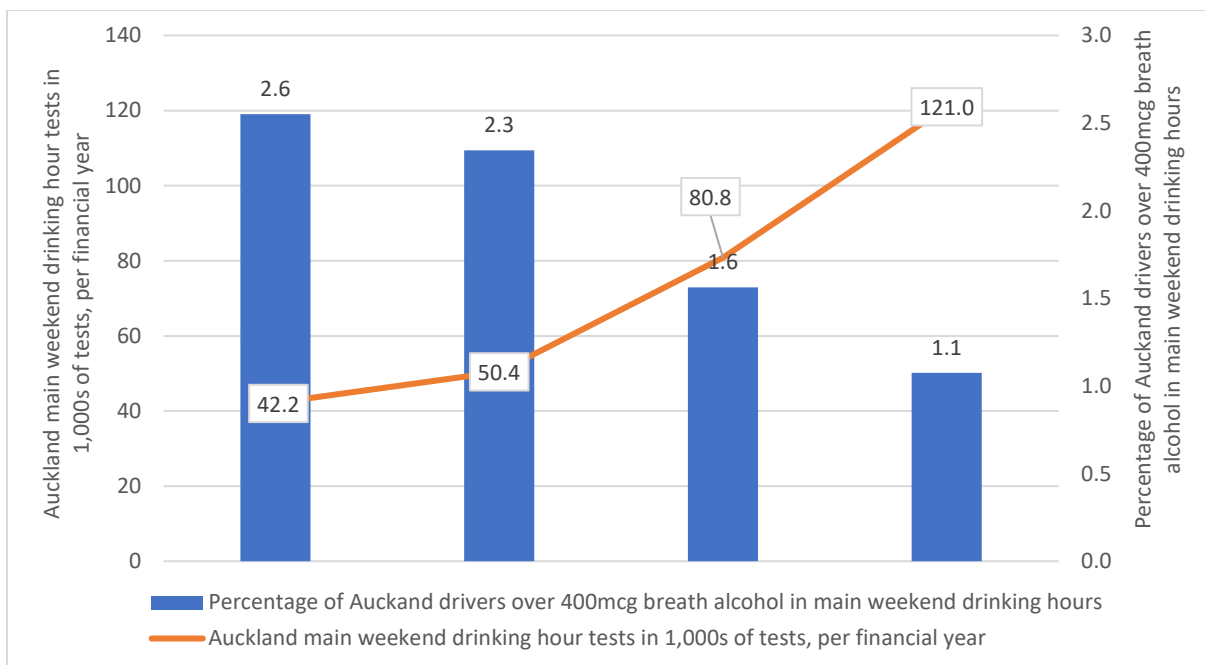


Figure 29: All main weekend drinking hours geocoded tests compared to percentage of drivers over the 400 mcg limit in Auckland in the main weekend drinking hours



Summary

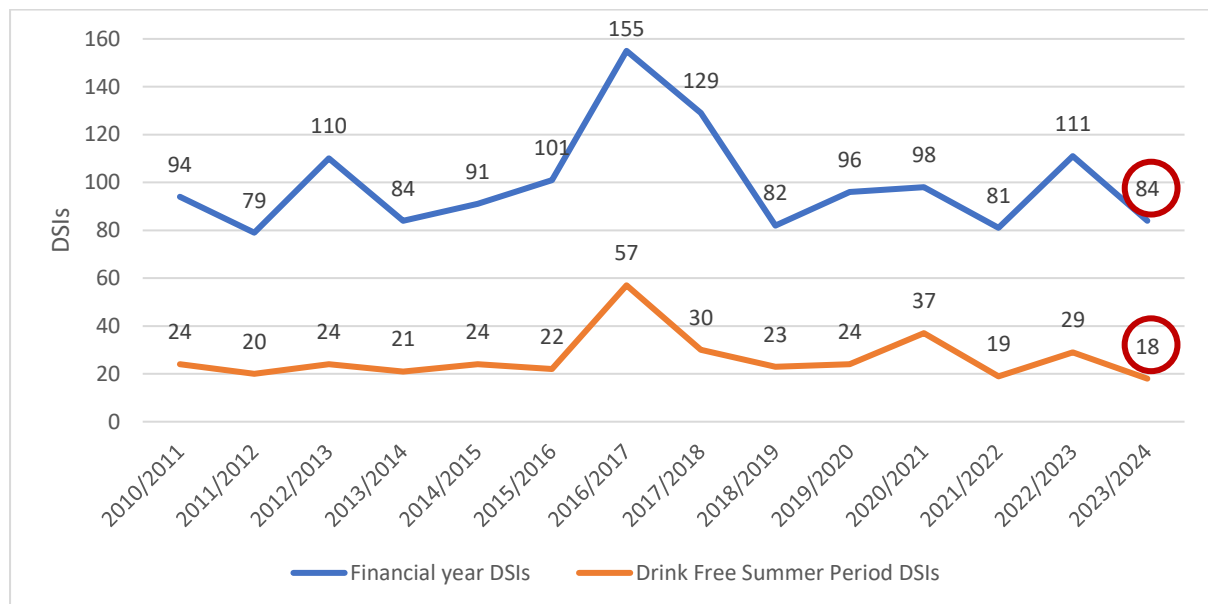
- The percentage of drivers over the limit in main weekend drinking hours had decreased over the last four financial years.
- The percentage over the limit increases as the level of traffic on the road decreases.

- Secondary collectors are the only road types where the percentage over the limit has increased since FY20/21. This may indicate drink drivers trying to evade the police operating on the more highly trafficked roads.
- The percentage over the limit increases as the time moves from 10 PM to 2 AM
- The amount of testing has increased drastically since FY 20/21 with an accompanying decrease in the proportion of tests in the weekend high alcohol hours.
- None of this can be tied specifically to either of the campaigns but the downward trend indicates that steps being taken, including the campaigns are working.

Crash outcomes as they relate to the campaigns

This section relates only to the Drink Free Summer campaign as it is too early to look at crashes as they relate to Operation Multiplier. In terms of historical data, DSIs for the Drink Free Summer period of the year have followed a broadly similar pattern to overall yearly DSIs. This is illustrated in Figure 30 which compares DSIs for Drink Free Summer periods of the year to DSIs for the financial years from 2010/11 until 2023/24.

Figure 30. Alcohol related DSIs for Drink Free Summer periods in Auckland of the year compared to DSIs for succeeding financial years from 2010/11 until 2023/24



It is a positive sign that the 18 DSIs recorded in the 2023/24 Drink Free Summer period was the lowest count since 2010/11 and was also, at 21% the lowest percentage of total financial year DSIs since 2010/11 (Figure 31).

Figure 31. Percent of financial year alcohol related DSIs occurring in the Drink Free Summer period in Auckland

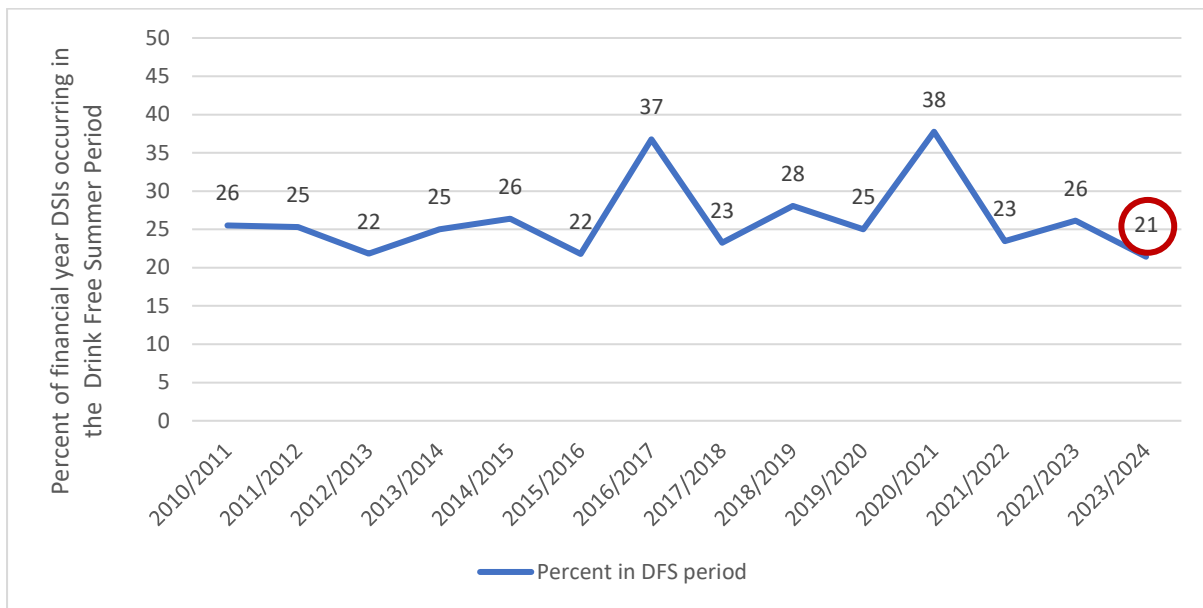
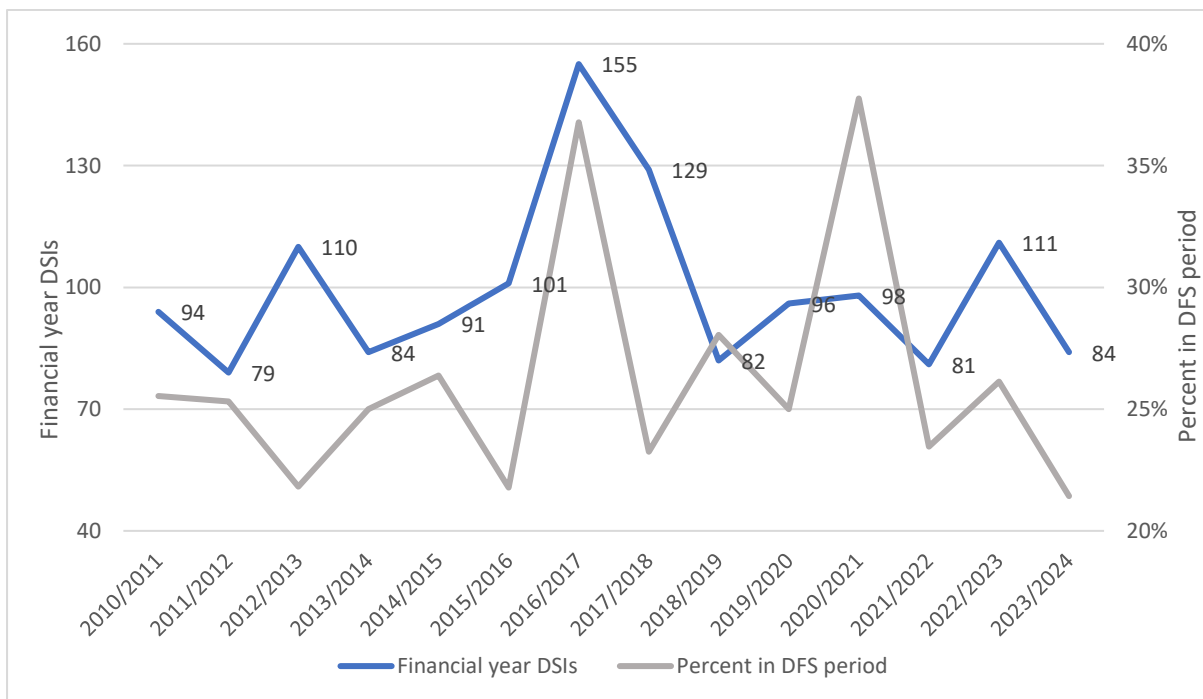


Figure 32 compares financial year DSIs to the percent in the Drink Free Summer (DFS) period which reached a low in 2023/2024 when the actual campaign was conducted.

Figure 32. Financial year DSIs compared to the percent in the Drink Free Summer period



Benefits to road safety

Drink Driving benefits

Over the period FY 20/21 to FY 23/24 increased breath testing combined with supportive publicity has been accompanied by very worthwhile drops in the amount of drink driving on the network. The overall drop in the percentage of drivers over the 250 mcg breath limit in Auckland during the weekend main drinking hours was from 3.8% in FY 20/21 to 1.8% in FY 23/24. Such drops have an important impact on road safety.

New Zealand research shows that the risk of crash increases sharply with increased alcohol levels. The table below derived from Keall, Frith, & Patterson (2004) indicates that, as an example, reducing a teenager's blood alcohol level from 80 mg/100ml (equivalent to 400 mcg/l of breath) would reduce their risk of fatal crash from 86.6 times that of a 30-year-old to 5.3 times that of a 30-year-old.

Table 2. Fatal crash risk by blood alcohol concentration and age (baseline at age 30 set at 1)

BAC (Mg/100ml)	30+ years	20-29 years	15-19 years
0	1	3	5.3
30	2.9	8.7	15
50	5.8	17.5	30.3
80	16.5	50.2	86.6

Therefore, reducing the breath alcohol of drivers who do not comply with the law to levels where they comply with the law will dramatically reduce their risk, and in turn reduce road trauma.

Drugged driving benefits

Drivers who are affected by both drugs and alcohol are a significant problem. The commonly used drugs cannabis, methamphetamine and MDMA (ecstasy) form more dangerous combinations with alcohol than on their own (Frith, 2020). Use of alcohol and cannabis together, while driving is widespread. Starkey et al (2017) report the results of both a telephone survey and an internet survey of drivers where respondents were asked whether they had driven within three hours of taking a combination of drugs (including alcohol). In the telephone survey, 16.6 percent answered in the affirmative. Of these people 15.4% combined alcohol with cannabis and 15.4% combined alcohol with other drugs. In the internet survey 10% answered in the affirmative. Of these people 36.8% combined alcohol with cannabis and 18.4% combined alcohol with other drugs. This means that if these drivers can be deterred from drink driving, the impact of their drug use will be lessened by the absence of alcohol, as the combination of alcohol and a drug is more dangerous than either by itself.

Benefits of increasing the amount of paid publicity

Operation Drink Free Summer was publicised using organic unpaid publicity initiated by AT and the Police. For Operation Multiplier, this was supplemented with \$100,000 of paid publicity. All the publicity used was in support of the Police breath testing operations and was directed specifically at achieving general deterrence.

Operation Drink Free Summer was associated with a 3% increase in the percentage agreeing with the statement 'If someone drinks and drives, they are likely to get caught', from AT Road Satisfaction Survey. Following Operation Multiplier this percentage increased by a further 2% in September, and a further 5% in November, adding up to a 7% increase.

These increases in the agreeing percentage indicate an improvement in general deterrence associated with an increase in general deterrence-based Police support advertising. Given that Police Operations are already at a high level, further improvements in general deterrence are best achieved by increasing the level of general deterrence targeted Police support advertising.

Independent of the improvements associated with the increase in advertising between Operation Drink Free Summer and Operation Multiplier there is a large amount of evidence that increasing General deterrence targeted Police support advertising works. A New Zealand example is a 5-year general deterrence based Supplementary Road Safety Package (SRSP) was developed in New Zealand in 1995/1996 to supplement compulsory breath test (CBT) and speed camera programmes introduced in 1993. This campaign was in support of targeted enforcement to improve high risk driving attitudes and behaviours towards speeding and drink-driving and encourage the use of safety belts. An analysis by Guria and Leung (2003) showed that the package saved over 285 lives over the 5-year period. There was a significant negative relationship between road trauma and the general deterrence based advertising expenditure. This indicates that following increased general deterrence based advertising, road trauma decreased.

Considering the same package Tay (1999) was able to isolate the impact of the increase in advertising on drink driving specifically. His analysis indicates that following the increased general deterrence based advertising there was a significant reduction in the drink-driving behaviour.

Implications for policy and/or practice

This work clearly shows that high numbers of compulsory breath tests in Auckland combined with general deterrence publicity targeted to support the testing were accompanied by a decrease in the breath alcohol levels in the driving population in the weekend high drinking times.

At the same time the percentage of survey participants who agreed with the statement 'If someone drinks and drives, they are likely to get caught' increased after both operation Drink Free Summer and Operation Multiplier. This was in accord with research results suggesting that increases in general deterrence advertising, accompanying a comprehensive breath testing operation, will improve deterrence until a very high saturation level is reached.

The agreement increase which accompanied Operation Multiplier was associated with the allocation of \$100,000 of paid advertising to supplement the entirely organic advertising previously carried out by AT and the Police. This indicates that there is scope for improved deterrence with a higher level of publicity spend.

The network alcohol levels decreased as the numbers of tests taken increased which indicated a dose-response relationship to testing, as carried out by the Police.

It was also found that the breath alcohol levels of drivers on less trafficked roads were higher than that on the higher trafficked roads where the majority of the tests were carried out. This may indicate an element of over the limit drivers hiding from the Police. This finding could be factored by the Police into their enforcement tactics.



Conclusions

Survey results as they relate to the campaigns

The key success indicators derived from the surveys are all pointing in a positive direction indicating positive impacts of the campaigns.

The cumulative improvements in survey results from the two publicity campaigns supports the findings from previous research that increases in general deterrence advertising, accompanying a comprehensive breath testing operation, will improve deterrence. This indicates that there is scope for improved deterrence with a higher level of publicity spend.

Breath testing results as they relate to the campaigns

These are all pointing in a positive direction indicating positive impacts of the campaigns.

The quantum of general deterrence related Police support publicity

Consideration should be given to increasing the quantum of this essential component of the Police operations to reduce drink driving using general deterrence. Crash outcomes as they relate to the campaigns.

These are positive for Drink Free Summer. The relevant data is not yet available for Operation Multiplier.

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