

The Impacts of Liquor Outlets in Manukau City

Summary Report - Revised

Alcohol Advisory Council of New Zealand

JANUARY 2012



ISBN 978-1-877373-89-3 (print)
ISBN 978-1-877373-90-9 (online)

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The views expressed in this report are those of the authors and do not reflect any official position on the part of the Centre or of the Alcohol Advisory Council of New Zealand.

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ABSTRACT

There has been significant recent debate over the impact of liquor outlets on communities in New Zealand. This report summarises the key results from a research project undertaken between 2008 and 2011. Media analysis and research with community stakeholders confirm that the issue is a focus of concern among communities in New Zealand. In Manukau City, off-licence liquor outlets tend to be located in areas of high social deprivation and high population density, while on-licence liquor outlets tend to be located in main centres and areas of high amenity value. Higher off-licence density is associated with lower alcohol prices and longer opening hours. The density of both off-licence and on-licence liquor outlets is associated with a range of social harms, including various police events and motor vehicle accidents. However, these results are context specific and care should be taken in applying them to other locations.

Keywords: liquor outlets, density, impacts, alcohol, Manukau, New Zealand

ACKNOWLEDGEMENTS

This report is a summary output of the research programme, 'Research into the impact of liquor outlets in Manukau City', funded by the Alcohol Advisory Council of New Zealand (ALAC) and supported by Manukau City Council. The authors would particularly like to thank Matthew Roskruge, Tyler Buckley and Lulu Zeng for their valuable research assistance, Associate Professor Lex Chalmers for his timely and astute assistance with data cleaning and visualisation, Margaret Chartres, Cathy Bruce and Craig Gordon of ALAC and Paul Wilson of Manukau City Council for their input at various stages of the project, and Jacques Poot and Phillip McCann for their comments on earlier drafts of the reports. The authors would also like to thank all participants in the community consultations, as well as Timote Vaiioleti for assistance with the community consultations.

LINKS TO OTHER REPORTS

This is the summary report of a series of reports commissioned by ALAC in partnership with Manukau City. The research was undertaken by researchers from the University of Waikato between 2008 and 2011. The five reports in The Impacts of Liquor Outlets series are:

- Report 1 – A review of the international academic literature and New Zealand media reports
- Report 2 – Community stakeholder views on the impacts of liquor outlets in Manukau City
- Report 3 – The spatial and other characteristics of liquor outlets in Manukau City
- Report 4 – A spatial econometric analysis of selected impacts of liquor outlets in Manukau City
- Summary report – The impacts of liquor outlets in Manukau City (revised January 2012) (this report).

The summary report was initially released in March 2010. The report provided short summaries of the content of the main reports cited above. The summary provided for Report 4 contained a preliminary analysis of the impacts. Since the release of the summary report, the authors have presented the preliminary findings at a number of conferences and received additional peer review and feedback on

the methodology. The summary report has been revised and re-released (January 2012) with updated information from Report 4.

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GLOSSARY

Availability theory	A theory where negative social outcomes are linked directly or indirectly to the availability of alcohol. This theory underpins most studies on the association between liquor outlet density and social harms.
Census Area Unit (CAU)	A geographical area for which much statistical data collected by New Zealand agencies is available. CAUs (or simply Area Units) in urban areas correspond roughly to suburbs or communities of interest, with populations of 3000 to 5000 people.
Ecological study	A study that investigates the relationship between one or more variables (in this case social harms), and aggregate measures of other variables (in this case outlet density).
Neighbourhood effects	The effects that the characteristics of neighbouring areas have on the area of interest.
Off-licence outlet	A liquor outlet where alcohol is sold but is consumed elsewhere. Examples include liquor retailers, bottle stores and supermarkets.
On-licence outlet	A liquor outlet where alcohol is sold and consumed on the premises. Examples include bars, clubs, restaurants and cafes.
Outlet density	A measure of the availability of alcohol often used in ecological studies. Outlet density is often expressed as either the number of outlets per unit of area or the number of outlets per unit of population.
Spatial dependence	A situation where observations of variables at different points in space are not independent of each other, because areas in close proximity to each other share similar characteristics. This may occur where the dependent variable is spatially correlated or where the error terms of the model are spatially correlated.
Total police events	A measure of social harm based on the total amount of police activity. Total police events is a measure of the number of police attendances, whether or not those attendances lead to an arrest.

1 BACKGROUND AND RATIONALE

There has been significant recent debate over the impact of liquor outlets on communities in New Zealand. This has arisen in part because of the liberalisation of the sale of alcohol following the Sale of Liquor Act 1989, which allowed the sale of wine in supermarkets and grocery outlets and generated a substantial increase in the number of outlets supplying alcohol.

In February 2008, there were 494 active liquor licences in Manukau City – compared with just 148 in 1990 (refer Table 1). Substantial increases in the number of both on- and off-licence liquor outlets have been matched with an escalation in the level of community unease about alcohol-related harm. Of particular concern are the more vulnerable communities of Manukau City, in which the high density of liquor outlets relative to other parts of the city is a notable feature.¹ The Sale of Liquor Act 1989, while providing local bodies with an opportunity to develop local responses to the supply of alcohol within their boundaries through the district planning process, also served to liberalise the market in which premises that supplied alcohol could operate. This shift is particularly evident in the substantial growth in the number of licences that occurred between 1990 and 1995.

Table 1: Number of Active Liquor Licences in Manukau City 1990-2008

Year	1990	1995	2002	1 May 2007	12 Feb 2008
On-licences	53	131	204	248	247
Off-licences	40	128	168	183	181
Club licences	55	73	75	67	66
Total licences	148	332	447	498	494

Source: Manukau City Council data.

In order for local body planning to address ways to minimise alcohol-related harm effectively, information about the impact of liquor outlets on local areas is needed. This is particularly true if any change in strategy includes changes in the regulations under the Resource Management Act 1991 (RMA). A change under RMA legislation requires a change to the District Plan, with a consequent need to establish a definite link between the land use activity (i.e. a liquor outlet) and any effects of that land use.

Manukau City Council plans to review its alcohol strategy. As part of the review the Council is interested in finding out about liquor outlets – all of which are licensed under the Sale of Liquor Act – and possible links between outlets and alcohol-related harm. Furthermore, this research will inform the current review of the Sale of Liquor Act and the legislative provisions around the licensing of liquor outlets.

This report was commissioned by the Alcohol Advisory Council of New Zealand (ALAC) in partnership with Manukau City Council. It summarises the key results of a research project undertaken by researchers from the University of Waikato between 2008 and 2011. The report proceeds as follows. Section 2 reviews the international literature on the impacts of liquor outlet density. Section 3 reviews

¹ Density can refer either to the number of liquor outlets per unit of land area or the number of liquor outlets per unit of population. Either interpretation is valid in this context.

New Zealand media articles to identify impacts within the local context. Section 4 presents the results of an extensive community consultation process on the impacts of liquor outlets in Manukau City. Section 5 outlines and discusses the spatial and other characteristics of liquor outlets in Manukau City. Section 6 presents estimates developed from spatial econometric models of the impacts of liquor outlet density on selected indicators of harm in Manukau City, and Section 7 provides some overall conclusions.

More detailed information on the research project, detailed descriptions of the research methods employed, results and discussions, and caveats and limitations can be obtained by referring to the following research reports:

Cameron, M.P., Cochrane, W., McNeill, K., Melbourne, P., Morrison, S., & Robertson, N. (2012a). *A review of the international academic literature and New Zealand media reports: The impacts of liquor outlets report no. 1*. Wellington: Alcohol Advisory Council of New Zealand.

McNeill, K., Cameron, M.P., Cochrane, W., Melbourne, P., Morrison, S. L., & Robertson, N. (2012). *Community stakeholder views on the impacts of liquor outlets in Manukau City: The impacts of liquor outlets in Manukau City report no. 2*. Wellington: Alcohol Advisory Council of New Zealand.

Cameron, M.P., Cochrane, W., McNeill, K., Melbourne, P., Morrison, S. L., & Robertson, N. (2012b). *The spatial and other characteristics of liquor outlets in Manukau City: The impacts of liquor outlets report no. 3*. Wellington: Alcohol Advisory Council of New Zealand.

Cameron, M.P., Cochrane, W., McNeill, K., Melbourne, P., Morrison, S. L., & Robertson, N. (2012c). *A spatial econometric analysis of selected impacts of liquor outlet density in Manukau City: The impacts of liquor outlets report no. 4*. Wellington: Alcohol Advisory Council of New Zealand

2 THE IMPACTS OF LIQUOR OUTLET DENSITY – A LITERATURE REVIEW

This section summarises the international and New Zealand literature review from Cameron et al. (2012a).

2.1 METHOD

An extensive database search for research on the impacts of liquor outlets was undertaken, supplemented with additional references found by consulting the reference list in each previously identified publication. In all, 145 articles that provided a quantitative evaluation of the impact of liquor outlet density on some outcome variable or investigated a natural experiment were identified and included in the final literature review.

2.2 REVIEW OF THE INTERNATIONAL LITERATURE ON LIQUOR OUTLET DENSITY

Alcohol-related harm is often linked to the availability of alcohol. Indeed, most studies of the impacts of liquor outlets use ‘availability theory’, where negative social outcomes are linked directly or indirectly to the availability of alcohol (e.g. see Gruenewald et al., 1993). Greater density of liquor outlets may lead to higher consumption of alcohol due to decreases in the ‘delivered price’ of alcohol, which varies by location and socio-economic group. Higher density of outlets increases competition and reduces the monetary price as well as the non-monetary costs (e.g. travel time) associated with purchasing alcohol.

However, there are other potential explanations than the delivered price of alcohol for a causal link between alcohol outlet density and negative social outcomes. For instance, concentrations of alcohol outlets may attract anti-social people or heavy drinkers (Gruenewald, 2007). This process of social selection creates an effect of alcohol outlet density on negative social outcomes independent of the level of alcohol consumption, and may account for part of any observed relationship between outlet density and negative social outcomes.

Considering all potential explanations for the effect of alcohol outlets on social harm, many studies adopt an ecological approach, i.e. they focus on environmental factors (one of which is alcohol outlet density) as an explanation of alcohol-related harm (Gruenewald et al., 2002). One potential problem with ecological studies is that they do not adequately separate the effect of liquor outlet density from other effects. For instance, neighbourhoods with high levels of alcohol consumption (and consequent high levels of alcohol-related harm) will naturally attract liquor outlets looking to profit from local demand for alcohol. This will tend to mask the ‘true’ effect of liquor outlet density on alcohol-related harm, because high levels of alcohol-related harm would be present even without increased liquor outlet density. In other words, ecological studies cannot adequately explain why there may be an observed relationship between liquor outlet density and the outcome variable.

The international academic literature provides mixed results for the relationship between liquor outlet density and a range of outcome variables. There are studies showing that liquor outlet density has

significant positive effects on alcohol consumption, violent and other crime, drink-driving and motor vehicle accidents, child abuse and neglect, drunkenness and property damage, hospitalisations and public health problems. However, other studies show no statistically significant effects, or even significant negative effects. The wide range of results and methodologies employed makes it difficult to arrive at general conclusions about the relationship between liquor outlet density and outcome variables. Further, it is likely that these relationships are highly context specific, as well as varying temporally, spatially and by the type of outlet considered.

2.3 REVIEW OF THE NEW ZEALAND LITERATURE ON LIQUOR OUTLET DENSITY

The New Zealand literature on the impacts of liquor outlets is limited, but has grown recently. Mathieson (2005) looked only at single-vehicle night-time crashes and found that the relationship with liquor outlet density varied substantially between different District Health Board areas: while restaurant density was significant and positive in Waitemata District Health Board and overall, it was negative and significant in Auckland and insignificant in Counties-Manukau; while pub density was significant and positive in Counties-Manukau, it was significant and negative in Auckland and overall and insignificant in Waitemata; and while off-licence density was significant and positive in Auckland and overall, it was significant and negative in Counties-Manukau and insignificant in Waitemata.

Kypri et al. (2008) found a significant positive relationship between outlet density and drinks per typical drinking day among tertiary students at six university campuses, as well as a measure of alcohol-related problems. No significant differences in the effects were noted between Māori and New Zealand Europeans, but the effects were larger for off-licence outlet density than for on-licence density. Huckle et al. (2008) found a significant positive effect of outlet density on how much was consumed on a typical drinking occasion among Aucklanders aged 12-17 years, but no significant effect on either the frequency of drinking or the frequency of intoxication.

As with the international results, it appears that the relationships between liquor outlet density and outcome variables in New Zealand are highly context specific, especially as each of the New Zealand studies noted above focused on a very limited range of social harms.

3 THE IMPACTS OF LIQUOR OUTLETS IN NEW ZEALAND – A MEDIA REVIEW

This section summarises the media review from Cameron et al. (2012a).

3.1 METHOD

A database search of all major national and regional New Zealand newspapers was undertaken to identify articles of interest. Articles were filtered by title and first paragraph, resulting in 438 articles being included in the final analysis. Articles were then reviewed for themes and discourse using the NVIVO 8 qualitative data analysis software package. Common themes and concepts arising in the publications were then collated to provide an overview and general understanding of how the impacts of liquor outlets are represented within media.

3.2 REVIEW OF NEW ZEALAND MEDIA REPORTS ON LIQUOR OUTLETS

The media reports examined in this analysis presented a strongly negative view of alcohol. Many of the reports implicated consumption of excessive amounts of alcohol in a wide range of harms, including disorderly behaviour, traffic accidents, family violence, child abuse and other forms of violence and crime. Less frequently, adverse health impacts were mentioned. Certain widely reported murders have probably contributed to greater media coverage of alcohol-related issues. Sometimes the link between alcohol and the harm under discussion is somewhat tenuous, but even allowing for the possibility that alcohol may be wrongly implicated in some cases, the overall picture is a deeply concerning one.

Binge drinking, particularly among young people, was a focus of concern for many media reports. Frequently mentioned in this regard was the ready availability of relatively cheap alcohol, especially ready-to-drink spirits (RTDs), along with lax observance of age restrictions. Along with young people, gangs and Māori and Pacific people received close attention in media reporting. The image of 'Once Were Warriors' was often invoked in stories portraying the problems as primarily associated with certain sub-cultural groups. On the other hand, a smaller number of stories pointed to a national drinking culture that affects a much wider range of people.

From stories focused on the narrower issues of liquor outlets, three main themes emerged. Firstly, the dominant view was that there were too many outlets, at least in the communities under discussion. Secondly, various concerns were reported about the distribution of outlets: that they are clustered in areas of deprivation; that such clustering promotes price competition and longer opening hours, both of which increase problem drinking; and that locating outlets near schools is particularly problematic. Thirdly, media reports suggested a strong desire for local controls over the granting of liquor licences.

Petitions and protests gave expression to some of these concerns. These are unreliable indicators of how widely held the views expressed are, but the one systematic survey reported in our collection of stories indicated that a large majority of people support the general idea of controlling the number of liquor outlets in suburban areas.

4 COMMUNITY STAKEHOLDER VIEWS OF IMPACTS OF LIQUOR OUTLETS IN MANUKAU CITY

This section summarises McNeill et al. (2012).

4.1 METHOD

An initial database of organisations and key individuals within three stakeholder groups (agencies and service providers, community groups, and organisations with a Māori, Pacific peoples or youth focus) was developed by conducting an electronic search of community directories, service provider directories, and the Manukau City Council website. All organisations were then screened on the basis of their suitability for recruitment, resulting in a final recruitment database consisting of 234 contactable organisations, all of which were approached to contribute to the research.

A variety of approaches were applied to gather qualitative information from stakeholder groups in Manukau City over a period of six weeks in November and December 2008. Data collection took place in focus groups, face-to-face semi-structured interviews and community meetings, and through a survey questionnaire that was delivered in both postal and electronic forms. In all, 20 interviews were carried out, six focus groups were held, five community meetings were attended by members of the research team, and 11 completed surveys were returned.

Interviews, focus groups and meetings were digitally recorded, and field notes were also taken by the researchers. Sound recordings of the research activities were reviewed against an analysis framework using critical listening and selective transcription of indicative quotes. From this review, an analysis of emergent themes was undertaken and, where possible, sub-themes were also identified.

Approval to conduct research on human subjects was obtained from the University of Waikato Faculty of Social Sciences Human Research Ethics Committee prior to the conduct of the research, and the research team also entered into an agreement with Te Toi Awa o te Ora to uphold community-developed principles of ethical research.

4.2 COMMUNITY STAKEHOLDER VIEWS

There was general agreement among respondents that the extent of alcohol-related harm was mediated by the location of consumption (on- or off-licence), the type of off-licence from which alcohol was purchased, and the general socio-economic context within which the consumption of alcohol occurred. With respect to the first of these, on-licence consumption was perceived as being less problematic than off-licence consumption due to the regulation of consumption by proprietors of premises and due to the higher price of alcohol consumed in on-licensed premises.

Respondents differentiated between three predominant types of off-licence: small, stand-alone enterprises, stores that were part of large chains of liquor outlets, and supermarkets. Of these, the larger chains were perceived as least negative in their effects due to better business practices, particularly the absence of single can or bottle sales in the case of RTD products and non-premium beers, and more stringent checks on the ages of purchasers. Supermarket sales were seen as an exacerbating factor, through two channels. First, the nature and scale of supermarket operations

allowed these outlets to offer beer and wine at loss-leading prices that were substantially less than prices found in other outlet types. Loss-leading practices also contributed to price competition and increased consumption. Second, the availability of alcohol alongside other commonplace commodities normalised its purchase for minors who might otherwise not have been exposed to the routine purchase of alcohol.

The most problematic outlet type was believed to be the smaller stand-alone outlets. Their role in increasing the incidence of alcohol-related harm in the community was attributed to a variety of factors that can be summarised as relating to three main themes:

1. Density – which increases the availability of alcohol and concentrates alcohol-related harm in certain areas or locations.
2. Co-location – liquor outlets were observed to be located in areas with vulnerable populations, particularly in areas of lower socioeconomic status. In addition, some respondents felt that behaviours that were not directly related to the consumption of alcohol but were undesirable on some dimension, such as the prevalence of street prostitution, increased in areas of high outlet density.
3. Unscrupulous business practices – a number of respondents pointed to a widespread incidence of dubious business practices among small outlets, perhaps driven by competitive pressure in areas of high alcohol outlet density. These practices included the sale of alcohol to minors and the granting of credit to vulnerable persons.

Different views were expressed by respondents in terms of the nature of harms resulting from liquor outlets, although there was a clear consensus that such harm was widespread and at an appreciable level in Manukau City. Most concern was expressed about the impact of problematic alcohol consumption on families and youth, be it through increases in the incidence of family violence, worsening of economic deprivation, or the collapse of social structures among vulnerable populations. This is not to say that matters such as the general health impacts of alcohol were not considered important, but rather that the issues that had immediate impacts tended to take precedence over those that played out over longer time horizons.

Despite the differing opinions of respondents about the specifics of causation and magnitude, there was near unanimity concerning potential policy responses to limit alcohol-related harm in the community. Three main aspects were identified: (i) reducing the number of outlets; (ii) restricting and controlling the hours of operation of licensed premises; and (iii) implementing planning measures that restricted the number of outlets in a particular location, or the areas in which outlets could be operated.

However, there was concern that these approaches might have a number of unanticipated consequences. In particular, respondents noted the potential for increased incidence of drink-driving as people who were already under the influence of alcohol travelled by car to obtain more when an outlet was no longer within walking proximity. Secondly, unlicensed, illegal backyard bars and alcohol supply outlets were thought to be common in the Manukau area, and were frequently associated with

highly dubious practices surrounding the granting of credit, debt recovery and the supply of alcohol to minors. Further regulation of legitimate, although perhaps poorly regulated, outlets could merely result in the proliferation of illegal, unlicensed outlets that would worsen the current situation.

Finally, although policy changes could support the community's desire to mitigate social harm, there is a notable need for policy initiatives to partner with other approaches to changing social behaviours and attitudes around alcohol use.

5 THE SPATIAL AND OTHER CHARACTERISTICS OF LIQUOR OUTLETS IN MANUKAU CITY

This section summarises Cameron et al. (2012b).

5.1 METHOD

An initial database of liquor licensees was obtained from Manukau City Council in January 2009. This database contained basic geographical and contact information (address and contact telephone numbers), as well as a crude indicator of outlet type (on-licence, off-licence and club). Additional fieldwork was undertaken in order to provide fine details on the characteristics of off-licence outlets, which have significant variations that are not typically observed among clubs and on-licence outlets. A telephone survey, supplemented by additional field visits, was employed to collect data on operating hours and indicative prices of beer and RTD products.

After outlets that had ceased selling alcohol or closed (despite holding current liquor licences) were excluded, this resulted in a final database of 476 outlets. The distribution of the database by type of outlet is summarised in Table 2. The largest number of licences was held by restaurants, cafes, function centres and other on-licence outlets (40.3 percent of the total), followed by liquor stores (18.9 percent). Dairies and superettes held only a small minority of the total number of liquor licences (4.4 percent).

Table 2: Active Liquor Licences in Manukau City by Outlet type, 31 January 2009

Outlet type	Number of active licences on 31 January 2009
Restaurants/Cafes/Function centres/other on-licence	192
Pubs/Bars/Taverns/Night clubs	60
Clubs	69
Liquor stores	90
Dairies/Superettes	21
Supermarkets	22
Other off-licence ²	22
TOTAL	476

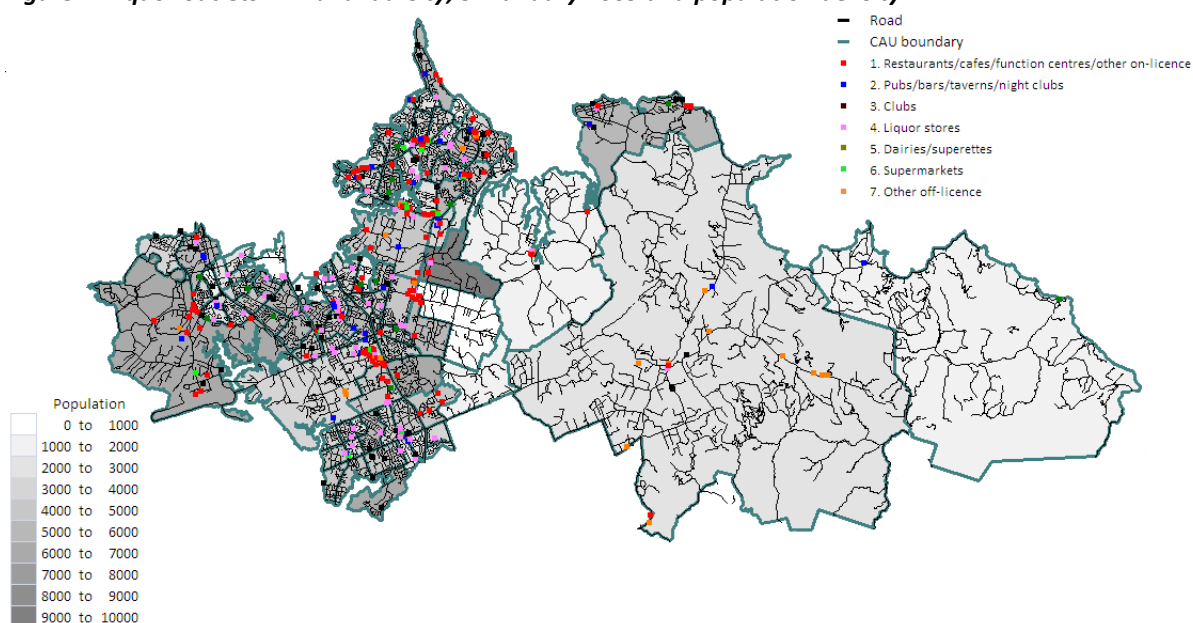
In order to compare prices at off-licence outlets across different spatial areas, a price index was created for each Census Area Unit (CAU) in Manukau City. Summary measures were also derived for the average total operating hours per outlet in each CAU, and the average Friday/Saturday night closing time in each CAU.

² 'Other off-licence' includes gift shops, florists, specialty stores and vineyards. The characteristics of liquor sales from these off-licence outlets are quite different from those of other off-licence outlets, and as such they are excluded from the analysis of off-licence outlet density in the remainder of this report.

5.2 THE SPATIAL AND OTHER CHARACTERISTICS OF LIQUOR OUTLETS IN MANUKAU CITY³

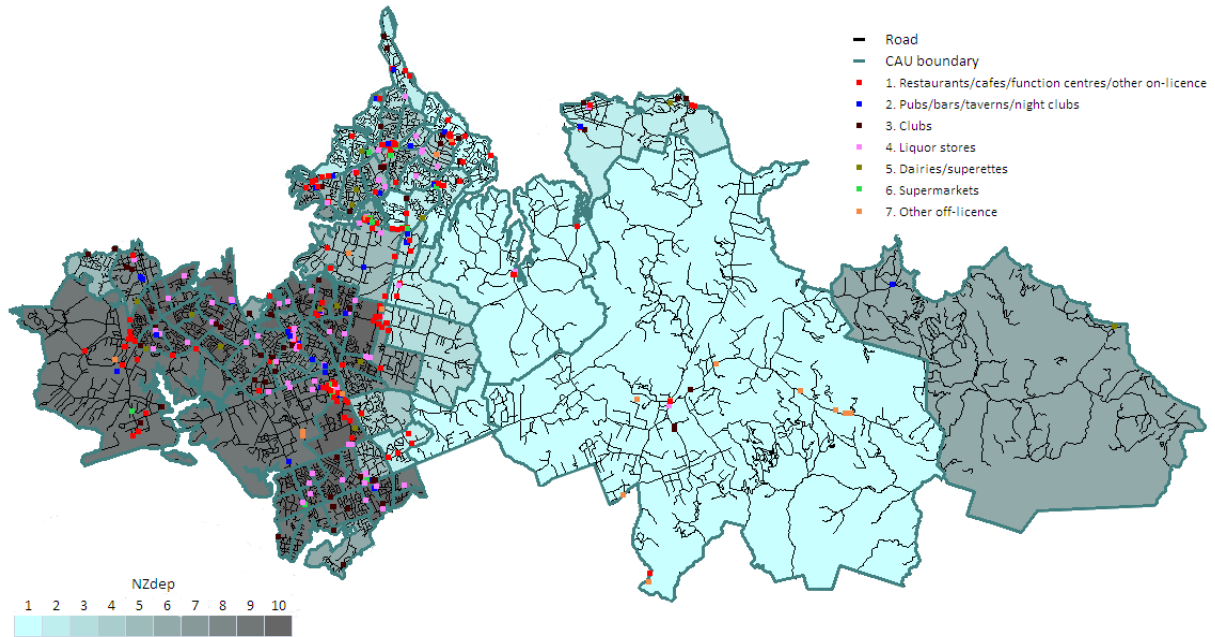
Several key results were found relating to the characteristics of alcohol sales in Manukau City. First, on-licence outlets are most dense in areas with good transport links, such as town centres, and in areas with high amenity value. This is because these outlets cater to consumers who are looking for a destination at which to drink, or where drinking is incidental to some other activity such as eating a meal. Second, off-licence outlet density is related to population density (a higher population density is associated with a higher density of off-licence outlets) and to relative deprivation (higher relative deprivation is associated with a higher density of off-licence outlets). Further, off-licence outlets are not typically gathered together in clusters. Rather, they are distributed throughout the area in order to reduce local competition. These results are illustrated by Figure 1 (population density) and Figure 2 (deprivation).

Figure 1: Liquor outlets in Manukau City, 31 January 2009 and population density



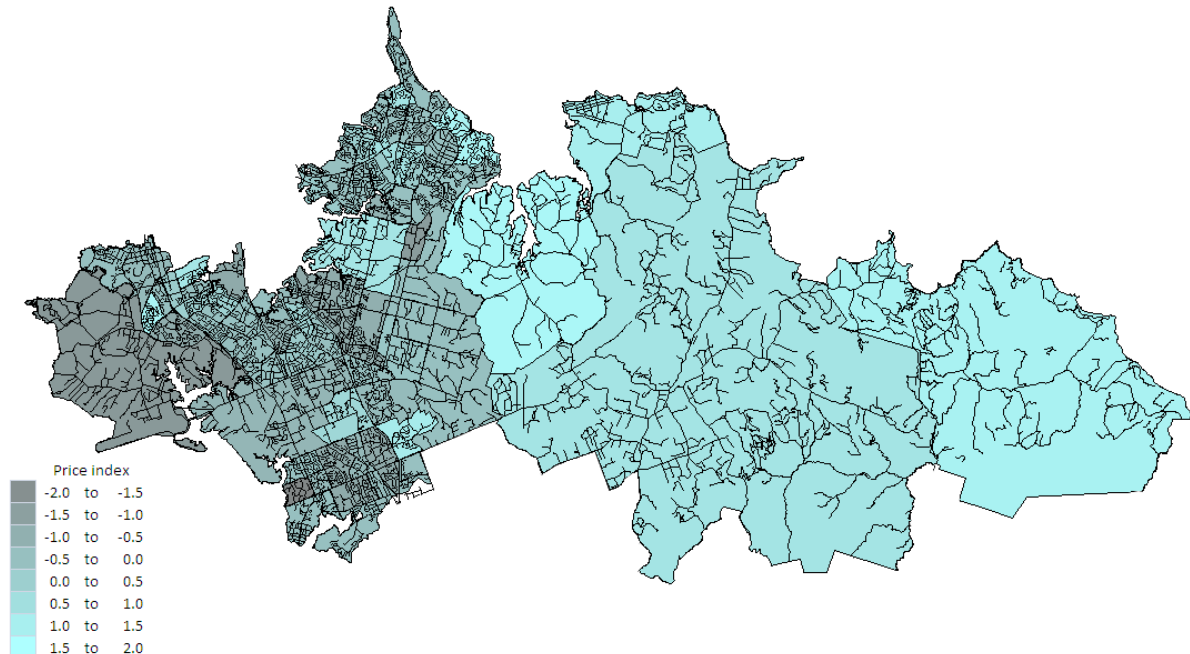
³ Full-colour A4 versions of the maps in this section can be obtained from ALAC (contact details are available on the inside cover of this report).

Figure 2: Liquor outlets in Manukau City, 31 January 2009 and deprivation⁴



Finally, price and availability of alcohol at off-licence outlets are related to off-licence outlet density, as shown in Figures 3, 4 and 5. Areas with a higher density of off-licence outlets, as shown in Figures 1 and 2, have higher competition among those outlets, leading to lower prices, longer operating hours and later weekend closing times.

Figure 3: Alcohol price index, by CAU



⁴ As measured by NZDep2006 - higher values represent higher levels of social deprivation, i.e. lower socio-economic status. Available at <http://www.uow.otago.ac.nz/academic/dph/research/socialindicators.html>

Figure 4: Average total opening hours per off-licence outlet, by CAU⁵

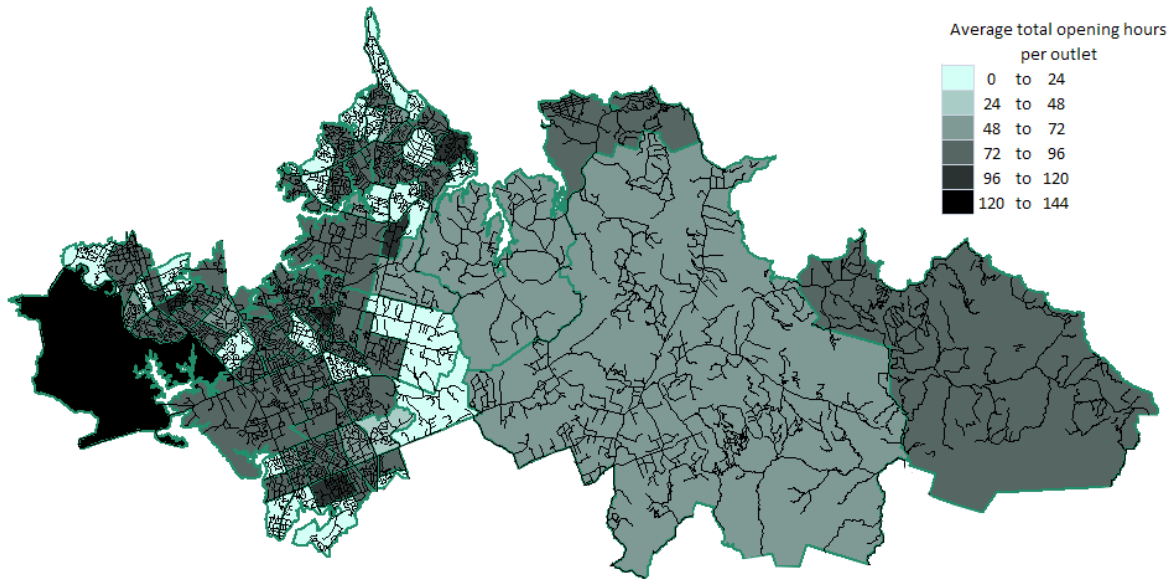
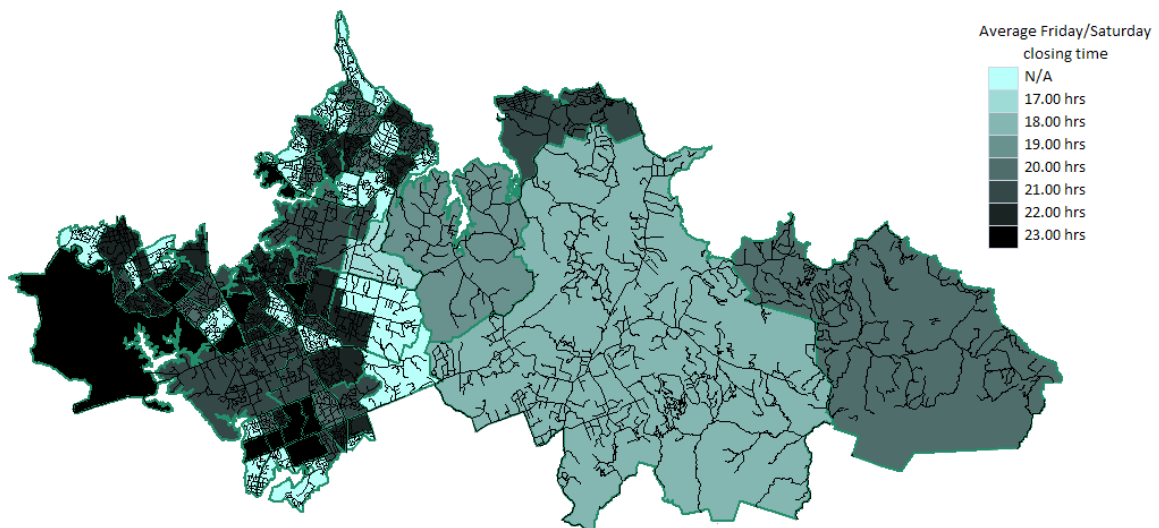


Figure 5: Average Friday and Saturday night closing time for off-licence outlets, by CAU⁶



⁵ Average total opening hours per off-licence outlet are calculated on a weekly basis, i.e. a value of 20 means that on average outlets in that CAU are open for 20 hours each week. This is a measure of alcohol availability, because in areas with longer opening hours, alcohol is by definition more available.

⁶ This is another measure of the availability of alcohol.

6 SELECTED IMPACTS OF LIQUOR OUTLET DENSITY IN MANUKAU CITY

This section summarises Cameron et al. (2009) and Cameron et al. (2012c).

6.1 METHOD

In addition to the data on liquor outlets describe in Section 5, data for selected indicators of social harm was obtained from the NZ Transport Agency (traffic crashes), Counties Manukau District Health Board (accident and emergency event data, and alcohol-related admissions to Middlemore Hospital), and New Zealand Police (police attendances) for the period 1 July 2008 to 30 June 2009. Police attendances were further broken down into categories including, anti-social behaviour, dishonesty offences, drug and alcohol offences, family violence, property abuses, property damage, sexual offences, traffic offences and violent crime. Data on liquor outlets was obtained from an administrative database and was supplemented by additional field research to obtain an accurate assessment of liquor outlet density as at 31 January 2009. All variables were converted to rates per 10,000 people per year calculated at the CAU level.

This data was used initially to construct simple models of the possible relationship between liquor outlet density, for off-licence and on-licence premises (clubs/bars, and restaurants/cafes), and each outcome variable, based on a common specification. These models were then tested for spatial dependence, where the dependent variable is spatially correlated or where error terms of the model are spatially correlated. As spatial dependence was found for many of these simple models, alternative approaches, using spatial Durbin models and spatial seemingly unrelated regression models were then investigated. Both direct effects of liquor outlet density and neighbourhood effects were investigated.

6.2 SELECTED IMPACTS OF LIQUOR OUTLET DENSITY IN MANUKAU CITY

All model specifications resulted in qualitatively and quantitatively similar results which suggest that the results are relatively robust. The preferred model included the different categories of police events and motor vehicle accidents.

Across the range of model specifications (both single equation and seemingly unrelated regression models), an additional off-licence outlet is associated with 10.4 to 25.3 additional police events and 2.0 to 3.8 additional motor vehicle accidents. An additional club/bar is associated with 40.4 to 54.0 additional police events and 2.9 to 3.6 additional motor vehicle accidents. An additional restaurant/cafe is associated with 45.3 to 47.1 additional police events and 4.5 to 4.8 motor vehicle accidents.

Holding all other variables constant, the preferred model specification showed that off-licence density is significantly associated with higher levels of violent offences, sexual offences, and drug and alcohol offences. Density of clubs/bars is significantly associated with higher levels of violent offences, drug and alcohol offences, property damage, property abuses, anti-social behaviour, dishonesty offences, and traffic offences. Density of restaurants/cafes is significantly associated with higher levels of

violent offences, family violence, property damage, property abuses, anti-social behaviour, dishonesty offences, traffic offences and motor vehicle accidents.

These results show associations between liquor outlet density and selected social harms, but they do not imply cause. In addition, because the literature shows that the alcohol-related impacts of liquor outlet density shows is context specific care should be taken in applying these findings to other regions of New Zealand or elsewhere. Nevertheless the findings show that a range of alcohol-related harm is positively associated with increasing liquor outlet density for both off-licence and on-licence premises.

7 CONCLUSIONS

The impact of liquor outlets on communities in New Zealand is a significant area of concern, as shown by media interest and the views of a wide range of community stakeholders. International research has shown that the impacts of liquor outlets are likely to be highly context specific, and that ecological studies are insufficient to determine causality firmly.

In Manukau City, off-licence liquor outlets tend to locate in areas of high social deprivation and high population density, while on-licence liquor outlets tend to locate in main centres and areas of high amenity value. Price and non-price competition leads to lower alcohol prices and longer opening hours in areas where the density of off-licence liquor outlets is higher.

On-licence density and off-licence densities of clubs and bars, and restaurants and cafes, were associated with a range of indicators of social harm. However, due to the context specificity found across other studies care should be taken in applying them to other regions of New Zealand or elsewhere. However, this research represents an examination of the effects of liquor outlet density on a wider range of alcohol-related harms than those considered in the extant New Zealand literature. Further research should be undertaken to analyse the effects of liquor outlet density across all of New Zealand. The approach described in this report is easily transferable to investigate the relationships in other parts of the country.

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